HITACHI

SERVICE MANUAL

NTSC | AP02 Chassis

PA | No. 0128

43GX01B

R/C: CLU-573TSI

This addendum gives the parts list of AP02 chassis model. For any other information, see the AP92 and AP92R chassis Service Manual PA No. 0114 issued in APRIL 1999 and PA No. 0125 issued in JANUARY 2000.

CAUTION: Before servicing this chassis, it is important that the service technician read the "Safety Precaution" and "Product Safety Notices" in Service Manual PA No. 0114 and No. 0125

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health and Safety Code, Section 25249.5).

When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale smoke or fumes produced.

REPLACEMENT PARTS LIST

The following pages are the whole Replacement Parts List for the AP02 chassis.

Parts Info Change

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

PROJECTION COLOR TELEVISION

MARCH 2000 **HHEA-MANUFACTURING DIVISION**

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

ABBREVIATIONS

Capacitors:

CD: Ceramic Disc
PF: Polyester Film
EL: Electrolytic
PP: Polypropylene
PR: Paper
TA: Tantalum
TM: Trimmer
MC: Mylar

Resistors:

CF: Carbon Film
CC: Carbon Composition
MF: Metal Oxide Film
VR: Variable Resistor
WW: Wire Wound
FR: Fuse Resistor
MG: Metal Glaze

Semiconductors:

TR: Transistor
DI: Diode
ZD: Zener Diode
VA: Varistor
TH: Thermistor
IC: Integrated Circuit

SYMBOL NO.	PART NO.	PART DESCRIPTION
SIGNAL PWB ASSEMBLY: CAPACITORS		
C002	0228758R	CAP 2125 CHIP 150PFJSL50V TAPE
C003	0246464R	CAP.-CERAMIC 100PF-J CH 50V TAPE
C004	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V
C005	0893031R	CAP 2125CHIP 1000PFKB 50V TAPE
C015	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C016	0228042R	CAP 2125CHIP 33PFJCH 50V TAPE
C017	0890121R	CAP.-CERAMIC 33PF-J CH 50V
C018	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C019	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V
C025	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C026	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C029	0228758R	CAP 2125 CHIP 150PFJSL50V TAPE
C030	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V
C031	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C032	0800324R	CAP.-ELECTRO. 100UF-M(SMG) 6.3V
C033	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
C034	0228756R	CAP2125CHIP 120PFJSL 50V TAPE
C035	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C036	0800358R	CAP.-ELECTRO. 1000UF-M 6.3V
C037	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C040	0800353R	CAP.-ELECTRO.470UF-M 16V
C041	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C042	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C043	0800351R	CAP.-ELECTRO. 470UF-M 6.3V
C044	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
C045	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C046	0893048R	CAP2125CHIP 22000PFKB 50V TAPE
C053	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C054	0800326R	CAP.-ELECTRO. 100UF-M 16V
C057	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C061	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C064	0800326R	CAP.-ELECTRO. 100UF-M 16V
C065	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C067	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C068	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
C070	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C071	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C075	0893031R	CAP 2125CHIP 1000PFKB 50V TAPE
C076	0228756R	CAP2125CHIP 120PFJSL 50V TAPE
C101	0800326R	CAP.-ELECTRO. 100UF-M 16V
C102	0800326R	CAP.-ELECTRO. 100UF-M 16V
C103	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
C104	0800358R	CAP.-ELECTRO. 1000UF-M 6.3V
C105	0800361N	CAP.-ELECTRO 1000UF 16V
C106	0800358R	CAP.-ELECTRO. 1000UF-M 6.3V
C107	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
C108	0800361N	CAP.-ELECTRO 1000UF 16V
C109	0800361N	CAP.-ELECTRO 1000UF 16V
C110	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C111	0800326R	CAP.-ELECTRO. 100UF-M 16V
C112	AN00624R	CAP.POLY 0.01UF 50V TAPE
C113	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C114	0800359R	CAP.-ELECTRO. 1000UF-M 10V
C115	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C116	0800361N	CAP.-ELECTRO 1000UF 16V
C119	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C11A	0228770R	CAPACITOR MINI-CHIP 470PF-J SL 50V TAPE
C120	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C121	0228756R	CAP2125CHIP 120PFJSL 50V TAPE
C122	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
C123	0800324R	CAP.-ELECTRO. 100UF-M(SMG) 6.3V
C124	0800324R	CAP.-ELECTRO. 100UF-M(SMG) 6.3V
C125	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
C126	0228746R	CAP 2125 CHIP 47PFJSL 50V TAPE

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
C127	0228038R	CAP 2125CHIP 22PFJCH 50V TAPE
C128	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C132	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
C136	0800326R	CAP.-ELECTRO. 100UF-M 16V
C137	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
C138	0228770R	CAPACITOR MINI-CHIP 470PF-J SL 50V TAPE
C139	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C140	0800361N	CAP.-ELECTRO 1000UF 16V
C141	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C142	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C143	0890084R	CAP.-CERAMIC 560PF-K 50V
C1C1	0800288R	CAP.-ELECTRO. 4.7UF-M(SMG) 50V
C3A2	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C3A3	AN00624R	CAP.POLY 0.01UF 50V TAPE
C401	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C402	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V
C403	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V
C404	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C405	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C406	0893031R	CAP 2125CHIP 1000PFKB 50V TAPE
C407	0893031R	CAP 2125CHIP 1000PFKB 50V TAPE
C408	0800318R	CAP.-ELECTRO. 47UF-M 25V
C409	0800318R	CAP.-ELECTRO. 47UF-M 25V
C410	0800327R	CAP.-ELECTRO. 100UF-M 25V
C411	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C412	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C413	0800327R	CAP.-ELECTRO. 100UF-M 25V
C414	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
C415	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C416	0284824F	CAP.-ELECTRO. 2200UF 35V SMG
C417	0880198R	CAP.-PLOY. 0.22UF-J 50V
C418	0880198R	CAP.-PLOY. 0.22UF-J 50V
C419	0284824F	CAP.-ELECTRO. 2200UF 35V SMG
C420	0284824F	CAP.-ELECTRO. 2200UF 35V SMG
C424	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C426	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C427	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C428	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C451	0880198R	CAP.-PLOY. 0.22UF-J 50V
C456	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C457	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C458	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C459	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
POWER DEFLECTION PWB ASSEMBLY: CAPACITORS		
C601	AN00626R	CAP.POLYESTER 0.015UF 50V TAPE
C602	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C603	AL01326R	ALUMINIUM ELECT. CAPACITOR PW(4.7UF 50V)
C604	0800326R	CAP.-ELECTRO. 100UF-M 16V
C605	AN00619R	CAP.POLYESTER 0.0047UF 50V TAPE
C606	AN00624R	CAP.POLY 0.01UF 50V TAPE
C607	0880198R	CAP.-PLOY. 0.22UF-J 50V
C608	0244501R	CAP.-CERAMIC 1000PF-K 500V
C609	0244501R	CAP.-CERAMIC 1000PF-K 500V

SYMBOL NO.	PART NO.	PART DESCRIPTION
C610	0800345R	CAP.-ELECTRO. 330UF-M(SMG) 25V
C611	AN00631R	CAP.POLYESTER 0.033UF 50V TAPE
C613	AL01157R	CAP.ELECTROLYTIC 1UF-M(YXF)50V
C614	0800347N	CAP.-ELECTRO. 330UF-M(SMG) 50V
C615	AL01143S	CAP.ELECTROLYTIC 2200UF-M(YXF)25V
C616	AL01336R	ALUMINIUM ELECT. CAPACITOR PW(10UF 16V)
C617	AL01297R	ALUMINIUM ELECT. CAPACITOR PW(1UF 50V)
C619	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
C620	AN00624R	CAP.POLY 0.01UF 50V TAPE
C621	0298261R	CAP.-TANTALUM 1MF-J 35V
C622	0800347N	CAP.-ELECTRO. 330UF-M(SMG) 50V
C632	AN00624R	CAP.POLY 0.01UF 50V TAPE
C633	0279693R	CAP.-POLYESTER FLM 0.1UF
C641	0244105R	CAP.-CERAMIC 2200PF-K 50V TAPE
C701	0251771	CAP.-ELECTRO 220UF-M 160V
C702	0299926F	CAPACITOR-POLYESTER FILM 0.1UF-K 200V
C703	0890028M	CAP.-CERAMIC 330PF-K B 50V CYLINDRICAL
C704	0244109R	CAPACITOR-CERAMIC 4700PF-KB 50V
C705	0243507R	CAP.-CERAMIC 330PF-K 500V TAPE
C706	0244501R	CAP.-CERAMIC 1000PF-K 500V
⚠ C707	AJ00134	CAPACITOR CERAMIC 1000P DC2K-R
⚠ C708	AN01128F	METALLIZ PP FILM CAPACITOR0.0047UF
⚠ C709	AN01134F	METALLIZ PP FILM CAPACITOR0.0075UF
C710	0299932F	CAP.-POLYPRO. 0.33UF-K 200V
C711	0299932F	CAP.-POLYPRO. 0.33UF-K 200V
⚠ C712	0299707F	CAP.-POLYESTOR 0.015UF-K 630V
C713	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C714	AN00628R	CAP.POLYESTER 0.022UF 50V TAPE
C715	AJ00134	CAPACITOR CERAMIC 1000P DC2K-R
C717	0243503R	CAP.-CERAMIC 150PF-K B 500V
C718	AL00042	CAP.ELECTRO 33UF 350V
C721	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE
C722	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE
C723	AN01137F	METALLIZ POLYPROPYLENE FILM CAPACITOR0.01UF
C724	0279693R	CAP.-POLYESTER FLM 0.1UF
C725	0890087R	CAP.-CERAMIC 1000PF-K 50V
C726	0243508R	CAPACITOR-CERAMIC 390PF-K 500V
C727	0244501R	CAP.-CERAMIC 1000PF-K 500V
C729	0259471	CAP.-ELECTRO 6.8UF-M (BP) 50V
C730	0244109R	CAPACITOR-CERAMIC 4700PF-KB 50V
C731	0800329R	CAP.-ELECTRO. 100UF-M(SMG) 50V
C740	0284667R	CAP.-ELECTRO. 47UF-MBPR(SME)16V
C750	0284634R	CAP.-ELECTRO 4.7UF-SME(BP) 50V
C771	0890084R	CAP.-CERAMIC 560PF-K 50V
⚠ C901	AN01445S	ACROSS CAPA 0.22UF 250V RE224
⚠ C902	AN01443S	ACROSS CAPA 0.1UF 250V RE104
C903	AJ00195F	CAPACITOR CERAMIC 4700P 250V F
C904	AJ00195F	CAPACITOR CERAMIC 4700P 250V F
C905	0284296	CAP.ELECTRO 680UF-M 250V(KMH)
C906	0284296	CAP.ELECTRO 680UF-M 250V(KMH)
C907	0800328R	CAP. ELECTRO. 100UF-M 35V
C908	0890087R	CAP.-CERAMIC 1000PF-K 50V
C909	0800332N	CAP.-ELECTRO. 100UF-M 100V
C910	0299977F	CAPACITOR-POLYPROPYLENE FILM 0.0047UF-F 630V

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked w ith a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
C912	0890085R	CAP.-CERAMIC 680PF-K 50V
C913	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V
C914	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C915	AL01153S	CAP.ELECTR.1000UF-M(YXF)35V
C916	AN00624R	CAP.POLY 0.01UF 50V TAPE
C917	0244105R	CAP.-CERAMIC 2200PF-K 50V TAPE
C918	AL01153S	CAP.ELECTR.1000UF-M(YXF)35V
C919	0880198R	CAP.-PLOY. 0.22UF-J 50V
C920	0800328R	CAP. ELECTRO. 100UF-M 35V
C921	0800328R	CAP. ELECTRO. 100UF-M 35V
C922	0800326R	CAP.-ELECTRO. 100UF-M 16V
C923	0800328R	CAP. ELECTRO. 100UF-M 35V
C924	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V
C925	AL01153S	CAP.ELECTR.1000UF-M(YXF)35V
C926	0880198R	CAP.-PLOY. 0.22UF-J 50V
C927	AL01153S	CAP.ELECTR.1000UF-M(YXF)35V
C928	AL01153S	CAP.ELECTR.1000UF-M(YXF)35V
C929	0251703	CAP.ELECTRO 390UF-M 160V(KMH)
C930	AL01129S	CAP.ELECTROLYTIC 1000UF-M(YXF)16V
C931	0800353R	CAP.-ELECTRO.470UF-M 16V
C935	0800355N	CAP.ELECTRO. 470UF-M 35V
C937	AL01118S	CAP.ELECTROLYTIC 2200UF-M(YXF)10V
C939	0800328R	CAP. ELECTRO. 100UF-M 35V
C940	0800353R	CAP.-ELECTRO.470UF-M 16V
C941	0880198R	CAP.-PLOY. 0.22UF-J 50V
C942	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
C943	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C945	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C948	AL01107S	CAP.ELECTROLYTIC 3300UF-M(YXF)6.3V
C949	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C952	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C954	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C955	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C956	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C957	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V
⚠ C958	AJ00157R	CAPACITOR CERAMIC 1000P 400V B
⚠ C959	AJ00163R	CAPACITOR CERAMIC 2200P 400V E
C962	0800326R	CAP.-ELECTRO. 100UF-M 16V
C963	0800303R	CAP.-ELECTRO. 22UF-M 50V
C964	0800361N	CAP.-ELECTRO 1000UF 16V
C965	0800308R	CAP.-ELECTRO. 33UF-M(SMG) 16V
C966	0880198R	CAP.-PLOY. 0.22UF-J 50V
C967	0243509R	CAPACITOR-CERAMIC 470PF-K 500V TAPE
C968	0243509R	CAPACITOR-CERAMIC 470PF-K 500V TAPE
C969	0244109R	CAPACITOR-CERAMIC 4700PF-KB 50V
C971	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE
C974	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE
C975	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE
CF01	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CF02	AL01296R	ALUMINIUM ELECT. CAPACITOR PW(0.47UF 350V)
CF03	AN01111F	METALLIZ POLYPROPYLENE FILM CAPACITOR0.001U
CF04	AN00614R	CAP.POLYESTER 0.0018UF 50V TAPE
CF05	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CF06	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CF07	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CF08	AN00624R	CAP.POLY 0.01UF 50V TAPE
CF09	0880196R	CAP.-POLYESTER 0.15UF 50V HFT
CF10	0880197R	CAP.POLYESTER 0.18UF 50V
CF12	0800326R	CAP.-ELECTRO. 100UF-M 16V
CF13	AN00624R	CAP.POLY 0.01UF 50V TAPE
CF14	0259151F	CAP.-ELECTRO. 100UF 160V
CF15	0880198R	CAP.-PLOY. 0.22UF-J 50V
CF16	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CF17	0244109R	CAPACITOR-CERAMIC 4700PF-KB 50V
CF18	0245158	CAPACITOT CERAMIC 68PF/2KV
CF19	0245156	CAPACITOT CERAMIC 22PF/2KV
CF20	0800326R	CAP.-ELECTRO. 100UF-M 16V
CF21	AN00624R	CAP.POLY 0.01UF 50V TAPE
CK01	0800353R	CAP.-ELECTRO.470UF-M 16V
CK02	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V
CK03	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V
CK04	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CK05	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V
CK06	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CK07	0800326R	CAP.-ELECTRO. 100UF-M 16V
CK08	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CK09	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CK10	0800326R	CAP.-ELECTRO. 100UF-M 16V
CK12	0890076R	CAP.CERAMIC 150PF-K 50V
CK13	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CK14	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CK15	AN00611R	CAP.POLYSTYLENE 0.001UF 50V TAPE
CK16	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CK17	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CK18	AN00624R	CAP.POLY 0.01UF 50V TAPE
CK19	AN00624R	CAP.POLY 0.01UF 50V TAPE
CK20	0890076R	CAP.CERAMIC 150PF-K 50V
CK21	0890076R	CAP.CERAMIC 150PF-K 50V
CK22	0890076R	CAP.CERAMIC 150PF-K 50V
CK23	0890076R	CAP.CERAMIC 150PF-K 50V
CK24	0890076R	CAP.CERAMIC 150PF-K 50V
CK25	0890076R	CAP.CERAMIC 150PF-K 50V
CK27	0800356N	CAP.-ELECTRO. 470UF-M 50V
CK28	0800356N	CAP.-ELECTRO. 470UF-M 50V
CK29	0890076R	CAP.CERAMIC 150PF-K 50V
CK30	0890076R	CAP.CERAMIC 150PF-K 50V
CK31	0890076R	CAP.CERAMIC 150PF-K 50V
CK32	0890076R	CAP.CERAMIC 150PF-K 50V
CK33	0890076R	CAP.CERAMIC 150PF-K 50V
CK34	0890076R	CAP.CERAMIC 150PF-K 50V
CK60	AN00624R	CAP.POLY 0.01UF 50V TAPE
CN01	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CN02	0800288R	CAP.-ELECTRO. 4.7UF-M(SMG) 50V
CN03	AN00631R	CAP.POLYESTER 0.033UF 50V TAPE
CN04	0890084R	CAP.-CERAMIC 560PF-K 50V
CN05	0800326R	CAP.-ELECTRO. 100UF-M 16V
CN06	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V

TERMINAL PWB ASSEMBLY: CAPACITORS

C201	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
C504	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V	CA06	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C507	0228048R	CAPACITOR MINI-CHIP 56PF-J CH 50V TAPE	CA07	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C508	0893044R	CAP2125CHIP 10000PFKB 50V TAPE	CA08	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C509	0890058R	CAP.-CERAMIC 8PF-50V	CA26	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C510	0800326R	CAP.-ELECTRO. 100UF-M 16V	CA27	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C511	0228708R	CAPACITOR MINI-CHIP 8PF-C SL 50V TAPE	CA28	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C512	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	CA29	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C513	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	CA34	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C514	0893044R	CAP2125CHIP 10000PFKB 50V TAPE	CA37	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C515	0893044R	CAP2125CHIP 10000PFKB 50V TAPE	CA38	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
C516	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	CA40	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C517	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	CA41	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C518	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	CA68	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V
C519	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V	CA69	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C520	0228032R	CAP 2125CHIP 12PFJCH 50V TAPE	CA73	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V
C521	AN00615R	CAP.POLYESTER 0.0022UF 50V TAPE	CA74	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C522	0800273R	CAP.-ELECTRO 0.22UF-M 50V	CA75	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C523	0800326R	CAP.-ELECTRO. 100UF-M 16V	CA76	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C524	0800326R	CAP.-ELECTRO. 100UF-M 16V	CA82	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C525	0893044R	CAP2125CHIP 10000PFKB 50V TAPE	CA83	0800286R	CAP.-ELECTRO. 4.7UF-M(SMG) 25V
C526	0893044R	CAP2125CHIP 10000PFKB 50V TAPE	CC02	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C527	0800326R	CAP.-ELECTRO. 100UF-M 16V	CC03	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C528	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V	CE01	0800354R	CAP.-ELECTRO. 470UF-M 25V
C529	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V	CE02	AN00624R	CAP.POLY 0.01UF 50V TAPE
C530	0893044R	CAP2125CHIP 10000PFKB 50V TAPE	CE03	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
C531	0893044R	CAP2125CHIP 10000PFKB 50V TAPE	CE04	0890076R	CAP.CERAMIC 150PF-K 50V
C532	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	CE05	0800326R	CAP.-ELECTRO. 100UF-M 16V
C533	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	CE06	0890064R	CAP.-CERAMIC 18PF-J SL 50V
C534	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	CE08	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C535	0800353R	CAP.-ELECTRO.470UF-M 16V	CE09	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C536	AN00628R	CAP.POLYESTER 0.022UF 50V TAPE	CE10	0800321R	CAP.-ELECTRO. 47UF-M 50V
C537	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	CE11	0890074R	CAP.-CERAMIC 100PF-J 50V
C538	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V	CE12	0244541F	CAPACITOR-CERAMIC 0.01MF-K B 500V
C539	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	CE13	0244541F	CAPACITOR-CERAMIC 0.01MF-K B 500V
C540	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	CE14	AL00009R	ALU.ELEC.CAP. 47UF 160V
C541	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	CE15	0247848R	CAP.-CERAMIC 56PF-J SL 500V
C542	0893044R	CAP2125CHIP 10000PFKB 50V TAPE	CE16	AL00007R	ALUMINIUM ELECTROLYTIC CAPACITOR(220UF160V)
C543	0893044R	CAP2125CHIP 10000PFKB 50V TAPE	CE17	0244509R	CAP.-CERAMIC 4700PF-KB B 500V
C544	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V	CE18	0890074R	CAP.-CERAMIC 100PF-J 50V
C545	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	CE19	AL00009R	ALU.ELEC.CAP. 47UF 160V
C546	0800326R	CAP.-ELECTRO. 100UF-M 16V	CE20	AL00009R	ALU.ELEC.CAP. 47UF 160V
C547	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE	CE21	0890079R	CAP.-CERAMIC 270PF-K 50V
C548	0228754R	CAP2125CHIP 100PFJSL 50V TAPE	CE23	0890079R	CAP.-CERAMIC 270PF-K 50V
C549	0228754R	CAP2125CHIP 100PFJSL 50V TAPE	CX01	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
C550	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	CX02	0228040R	CAP 2125CHIP 27PFJCH 50V TAPE
C551	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	CX03	0228008R	CAP 2125 CHIP 8PF-C CH 50V TAPE
C552	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	CX04	0228034R	CAP 2125 CHIP 15PF-J CH 50V TAPE
C553	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	CX24	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C554	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	CX25	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C555	0800326R	CAP.-ELECTRO. 100UF-M 16V	CX26	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C556	0893044R	CAP2125CHIP 10000PFKB 50V TAPE	CX27	0800286R	CAP.-ELECTRO. 4.7UF-M(SMG) 25V
C557	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	CX28	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C558	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	CX29	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
CA01	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	CX30	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CA02	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	CX31	0228060R	CAP 2125 CHIP 180PF-J CH 50V TAPE
CA05	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	CX32	0893044R	CAP2125CHIP 10000PFKB 50V TAPE

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
CX33	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX34	0800325R	CAP.-ELECTRO. 100UF-M 10V
CX35	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX36	0800325R	CAP.-ELECTRO. 100UF-M 10V
CX37	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX38	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX39	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX40	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX41	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX42	0800334R	CAP.-ELECTRO. 220UF 10V
CX45	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CX46	0800326R	CAP.-ELECTRO. 100UF-M 16V
CX47	0800326R	CAP.-ELECTRO. 100UF-M 16V
CX48	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX49	0800326R	CAP.-ELECTRO. 100UF-M 16V
CX50	0800325R	CAP.-ELECTRO. 100UF-M 10V
CX52	0800325R	CAP.-ELECTRO. 100UF-M 10V
CX53	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX54	0284647R	CAP.-ELECTRO.22UF-SME(BP) 16V
CX55	0228042R	CAP 2125CHIP 33PFJCH 50V TAPE
CX56	0228042R	CAP 2125CHIP 33PFJCH 50V TAPE
CX57	0228048R	CAPACITOR MINI-CHIP 56PF-J CH 50V TAPE
CX58	0228048R	CAPACITOR MINI-CHIP 56PF-J CH 50V TAPE
CY01	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
CY04	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V
CY05	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V
CY06	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V
CY07	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V
CY08	0800326R	CAP.-ELECTRO. 100UF-M 16V
CY09	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
CY10	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
CY11	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CY12	0800326R	CAP.-ELECTRO. 100UF-M 16V
CY13	0893033R	CAP 2125CHIP 1500PFKB 50V TAPE
CY14	0800353R	CAP.-ELECTRO.470UF-M 16V
CY17	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
CY18	0800326R	CAP.-ELECTRO. 100UF-M 16V
CY19	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
CY20	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
CY30	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CY31	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CY32	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CY33	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CY34	0800326R	CAP.-ELECTRO. 100UF-M 16V
CY37	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
CY38	0800353R	CAP.-ELECTRO.470UF-M 16V
CY39	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CY50	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V
CY75	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
SP. MATRIX PWB ASSEMBLY: CAPACITORS		
CM01	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V
CM02	AN00624R	CAP.POLY 0.01UF 50V TAPE
CM03	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CM04	AN00624R	CAP.POLY 0.01UF 50V TAPE
CM05	AN00624R	CAP.POLY 0.01UF 50V TAPE
CM06	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CM14	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CS38	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CS39	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V
CS60	0284634R	CAP.-ELECTRO 4.7UF-SME(BP) 50V
CS62	0800288R	CAP.-ELECTRO. 4.7UF-M(SMG) 50V
CS63	0800288R	CAP.-ELECTRO. 4.7UF-M(SMG) 50V
CS64	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS65	0890087R	CAP.-CERAMIC 1000PF-K 50V
CS66	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS67	0890087R	CAP.-CERAMIC 1000PF-K 50V
CS68	AN00631R	CAP.POLYESTER 0.033UF 50V TAPE
CS69	AN00621R	CAP.POLYESTER 0.0056UF 50V TAPE
CS70	AN00621R	CAP.POLYESTER 0.0056UF 50V TAPE
CS71	AN00631R	CAP.POLYESTER 0.033UF 50V TAPE
CS72	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CS73	0800326R	CAP.-ELECTRO. 100UF-M 16V
CS74	0800326R	CAP.-ELECTRO. 100UF-M 16V
CS75	0800326R	CAP.-ELECTRO. 100UF-M 16V
CS76	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS77	0800288R	CAP.-ELECTRO. 4.7UF-M(SMG) 50V
CS78	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS79	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS93	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS94	0284634R	CAP.-ELECTRO 4.7UF-SME(BP) 50V
CPT PWB ASSEMBLY: CAPACITORS		
C801	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
C802	0800326R	CAP.-ELECTRO. 100UF-M 16V
C804	AJ00559	CAPACITOT CERAMIC 2200PF2KV
C805	0800326R	CAP.-ELECTRO. 100UF-M 16V
C807	0890087R	CAP.-CERAMIC 1000PF-K 50V
C808	0890084R	CAP.-CERAMIC 560PF-K 50V
C810	AN00624R	CAP.POLY 0.01UF 50V TAPE
C831	AL00037R	ALUMINIUM ELECTROLYTIC CAPACITOR(33UF350V)
C834	AJ00559	CAPACITOT CERAMIC 2200PF2KV
C835	0800326R	CAP.-ELECTRO. 100UF-M 16V
C837	0890087R	CAP.-CERAMIC 1000PF-K 50V
C838	0890084R	CAP.-CERAMIC 560PF-K 50V
C839	0890071R	CAP.-CERAMIC 56PF-J 50V
C840	AN00624R	CAP.POLY 0.01UF 50V TAPE
C864	AJ00559	CAPACITOT CERAMIC 2200PF2KV
C865	0800326R	CAP.-ELECTRO. 100UF-M 16V
C867	0890087R	CAP.-CERAMIC 1000PF-K 50V
C868	0890083R	CAP.-CERAMIC 470PF-K 50V
C870	AN00624R	CAP.POLY 0.01UF 50V TAPE
SIGNAL PWB ASSEMBLY: DIODES		
D005	CH02021M	DIODE 1SS133 T-72
D013	CH02021M	DIODE 1SS133 T-72
D015	2331827M	ZD HZ-9 TAPE (C1) SI 500MW 9.3V
D024	CH02021M	DIODE 1SS133 T-72
D025	CH02021M	DIODE 1SS133 T-72
D026	2348212M	DIO-MTZ-J15BTA
D027	2348212M	DIO-MTZ-J15BTA
D028	2348212M	DIO-MTZ-J15BTA

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
D029	2348212M	DIO-MTZ-J15BTA
D030	2348212M	DIO-MTZ-J15BTA
D031	CH02021M	DIODE 1SS133 T-72
D040	CH02021M	DIODE 1SS133 T-72
D041	CH02021M	DIODE 1SS133 T-72
D044	CH02021M	DIODE 1SS133 T-72
D045	2348102M	ZENER MTZJ-5.1B TA
D046	2348212M	DIO-MTZ-J15BTA
D048	CH02021M	DIODE 1SS133 T-72
D053	CH02021M	DIODE 1SS133 T-72
D055	CH02001M	DIODE 1SR139-400
D057	CH02021M	DIODE 1SS133 T-72
D058	CH02021M	DIODE 1SS133 T-72
D059	CH02021M	DIODE 1SS133 T-72
D101	2348212M	DIO-MTZ-J15BTA
D106	CH02021M	DIODE 1SS133 T-72
D107	CH02021M	DIODE 1SS133 T-72
D111	CH02021M	DIODE 1SS133 T-72
D112	CH02021M	DIODE 1SS133 T-72
D113	2348123M	ZENER MTZJ-6.2C TA
D116	2331815M	ZENER HZ7-B2
D117	2335991M	ZENER HZ-T33 (02 TP)
D118	2335991M	ZENER HZ-T33 (02 TP)
D301	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
D401	CH02021M	DIODE 1SS133 T-72
D402	CH02021M	DIODE 1SS133 T-72
D404	CH02021M	DIODE 1SS133 T-72
D405	CH02021M	DIODE 1SS133 T-72
D406	CH02021M	DIODE 1SS133 T-72
D407	CH02021M	DIODE 1SS133 T-72
POWER DEFLECTION PWB ASSEMBLY: DIODES		
D602	CH02021M	DIODE 1SS133 T-72
D603	CH02011M	DIODE 1SR153-400
D604	CH02011M	DIODE 1SR153-400
D605	CH02021M	DIODE 1SS133 T-72
D606	CH02021M	DIODE 1SS133 T-72
D607	2334243M	ZENER RD16E (B2 T2/TP/TA) SI 10MA 16.51V
D609	CH02001M	DIODE 1SR139-400
D610	CH02001M	DIODE 1SR139-400
D611	CH02001M	DIODE 1SR139-400
D612	2331154M	ZENER HZ-12 (A1-3 B1-3.TA) SI 200MA 14.3V
D613	CH02021M	DIODE 1SS133 T-72
D614	CH02011M	DIODE 1SR153-400
D615	CH02021M	DIODE 1SS133 T-72
D616	2334305M	ZENER RD30E (B4 T2/TP/TA) SI 5MA 30.51V
D701	CH02021M	DIODE 1SS133 T-72
⚠ D702	2348511G	DIODE RS3FS LF-U1(014-201)
⚠ D703	CH00891S	DIODE UF5406 (600V)
⚠ D704	CH00891S	DIODE UF5406 (600V)
D705	CH02021M	DIODE 1SS133 T-72
D706	CH02021M	DIODE 1SS133 T-72
D708	CH02021M	DIODE 1SS133 T-72
⚠ D709	2335042M	ZENER HZ-22 (2L TP) SI 200MA 400MW
D710	CH02001M	DIODE 1SR139-400
⚠ D711	CH00031M	DIODE AU02V1(280V)
⚠ D712	CH00031M	DIODE AU02V1(280V)
D713	CH00041M	DIODE ES1FV1 (1500V)
D714	CH00041M	DIODE ES1FV1 (1500V)
D715	CH02011M	DIODE 1SR153-400
D716	2348231M	ZD MTZ-18A TA
D717	2348041M	DIODE MTZ-J3.0 ATA
D718	CH02021M	DIODE 1SS133 T-72
D719	CH02001M	DIODE 1SR139-400
D720	2334305M	ZENER RD30E (B4 T2/TP/TA) SI 5MA 30.51V
D721	2348193M	ZD MTZJ-12C TA
D722	2348151M	ZENER MTZ-J8.2ATA
D723	CH02021M	DIODE 1SS133 T-72
D724	2348123M	ZENER MTZJ-6.2C TA
D725	CH02021M	DIODE 1SS133 T-72
D777	2334243M	ZENER RD16E (B2 T2/TP/TA) SI 10MA 16.51V
D778	2334305M	ZENER RD30E (B4 T2/TP/TA) SI 5MA 30.51V
⚠ D901	2338313	DIODE RBV-406M (60V) SI 0.1USEC
D902	CH02001M	DIODE 1SR139-400
D903	CH02001M	DIODE 1SR139-400
D904	CH02011M	DIODE 1SR153-400
D905	CH02011M	DIODE 1SR153-400
D906	2348253M	ZENER MTZ-J22CTA
D907	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
D908	CH02011M	DIODE 1SR153-400
D910	2331844M	ZENER HZ12-B1
D911	2331844M	ZENER HZ12-B1
D912	CH00183R	LIGHT EMITTING DIODE (SLZ-981C-06-T1)
D913	2336615	DIODE RU3YX (LF-A1)
D914	2337952S	DIODE RU4YX(LF015-302)
D915	2337952S	DIODE RU4YX(LF015-302)
D916	2337952S	DIODE RU4YX(LF015-302)
D917	CH02001M	DIODE 1SR139-400
D918	2348271M	ZENER MTZ-J27ATA
D919	2348213M	ZD MTZJ-15C TA
D920	CH02021M	DIODE 1SS133 T-72
D921	2348121M	ZENER MTZJ-6.2A TA
D922	2348283M	ZD MTZJ-30C TA
D923	CH02021M	DIODE 1SS133 T-72
D924	2348042M	ZENER MTZ-J3.0BTA
D925	2348264M	ZD MTZJ-24D TA
D926	CH02011M	DIODE 1SR153-400
D928	CH01042M	DIODE RK34 (40V)
D929	CH01061F	DIODE RU4AM(600V)
D931	2348283M	ZD MTZJ-30C TA
D932	CH02021M	DIODE 1SS133 T-72
D933	2348132M	ZENER MTZ-J6.8BTA
D936	2348193M	ZD MTZJ-12C TA
D937	CH02021M	DIODE 1SS133 T-72
D938	CH00921M	DIODE SB140 40V 1A
D939	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)
D940	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)
D941	CH02021M	DIODE 1SS133 T-72
D942	2348132M	ZENER MTZ-J6.8BTA
D943	CH02021M	DIODE 1SS133 T-72
D944	CH02021M	DIODE 1SS133 T-72
D945	CH02011M	DIODE 1SR153-400

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
D946	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)
D947	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)
D948	CH02021M	DIODE 1SS133 T-72
D951	2348092M	ZENER MTZ-J4.7BTA
D952	CH02021M	DIODE 1SS133 T-72
D956	CH02021M	DIODE 1SS133 T-72
D957	2348213M	ZD MTZJ-15C TA
D958	CH02021M	DIODE 1SS133 T-72
D959	CH02021M	DIODE 1SS133 T-72
D960	CH02021M	DIODE 1SS133 T-72
D961	CH02021M	DIODE 1SS133 T-72
D962	CH02021M	DIODE 1SS133 T-72
D963	CH02021M	DIODE 1SS133 T-72
D964	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)
D966	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)
D967	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)
D969	2348102M	ZENER MTZJ-5.1B TA
D971	2348143M	DIODE MTZ-J7.5CTA
D973	CH02011M	DIODE 1SR153-400
D974	2348111M	ZENER MTZ-J5.6ATA
D975	CH02021M	DIODE 1SS133 T-72
DF01	CH02021M	DIODE 1SS133 T-72
DF02	CH02021M	DIODE 1SS133 T-72
DF03	CH02021M	DIODE 1SS133 T-72
DF04	2338531M	DIODE EG-01C (V) SI 0.5A
DF05	CH02021M	DIODE 1SS133 T-72
DF07	CH02021M	DIODE 1SS133 T-72
DF08	CH02021M	DIODE 1SS133 T-72
DF09	CH02021M	DIODE 1SS133 T-72
DK01	2339551M	DIODE ED14(V1) SI 5MA 45V
DK04	CH02011M	DIODE 1SR153-400
DK05	CH02011M	DIODE 1SR153-400
DK06	CH02021M	DIODE 1SS133 T-72
DK16	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
DK17	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
DK18	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
DK19	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
DK20	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
DK21	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
DK22	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
DK23	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
DK24	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
DK25	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
DK26	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
DK27	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
DK40	2331806M	ZD HZ-6 TAPE (B3) SI 500MW
DK41	2331806M	ZD HZ-6 TAPE (B3) SI 500MW
DK42	2331806M	ZD HZ-6 TAPE (B3) SI 500MW
DK43	2331806M	ZD HZ-6 TAPE (B3) SI 500MW
DK44	2331806M	ZD HZ-6 TAPE (B3) SI 500MW
DN01	CH02021M	DIODE 1SS133 T-72
DN02	CH02021M	DIODE 1SS133 T-72
DN03	CH02021M	DIODE 1SS133 T-72
DN04	CH02021M	DIODE 1SS133 T-72
DN05	2348071M	ZD MTZJ-3.9A TA
DN06	CH02021M	DIODE 1SS133 T-72
DN07	CH02021M	DIODE 1SS133 T-72
DN08	CH02001M	DIODE 1SR139-400
DN09	2348212M	DIO-MTZ-J15BTA
DN10	CH02021M	DIODE 1SS133 T-72
DN11	CH02021M	DIODE 1SS133 T-72
TERMINAL PWB ASSEMBLY: DIODES		
D502	CH02021M	DIODE 1SS133 T-72
D503	CH02021M	DIODE 1SS133 T-72
D504	CH02021M	DIODE 1SS133 T-72
D505	2348163M	ZENER MTZJ-9.1C TA
D507	CH02021M	DIODE 1SS133 T-72
D508	CH02021M	DIODE 1SS133 T-72
D509	2348163M	ZENER MTZJ-9.1C TA
D510	2348163M	ZENER MTZJ-9.1C TA
D511	2348163M	ZENER MTZJ-9.1C TA
D513	CH02021M	DIODE 1SS133 T-72
D515	2348163M	ZENER MTZJ-9.1C TA
D516	2348163M	ZENER MTZJ-9.1C TA
D517	2348163M	ZENER MTZJ-9.1C TA
DA01	CH02021M	DIODE 1SS133 T-72
DA02	CH02021M	DIODE 1SS133 T-72
DA03	2348031M	DIO-MTZ-J2.7ATA
DA04	2348031M	DIO-MTZ-J2.7ATA
DA11	CH02021M	DIODE 1SS133 T-72
DA12	CH02021M	DIODE 1SS133 T-72
DA19	CH02021M	DIODE 1SS133 T-72
DE03	CH02021M	DIODE 1SS133 T-72
DE04	CH02001M	DIODE 1SR139-400
DE05	CH02001M	DIODE 1SR139-400
DE06	CH02001M	DIODE 1SR139-400
DE07	CH02001M	DIODE 1SR139-400
DY01	CH02021M	DIODE 1SS133 T-72
DY05	2348163M	ZENER MTZJ-9.1C TA
DY06	2348163M	ZENER MTZJ-9.1C TA
DY07	2348163M	ZENER MTZJ-9.1C TA
SP. MATRIX PWB ASSEMBLY: DIODES		
DM01	CH02021M	DIODE 1SS133 T-72
DM02	CH02021M	DIODE 1SS133 T-72
DM03	CH00231	LED SLH-56VC3F
DM04	2348212M	DIO-MTZ-J15BTA
DM05	2348212M	DIO-MTZ-J15BTA
DM11	2348212M	DIO-MTZ-J15BTA
DS05	CH02001M	DIODE 1SR139-400
CPT PWB ASSEMBLY: DIODES		
D802	CH02021M	DIODE 1SS133 T-72
D803	CH02021M	DIODE 1SS133 T-72
D804	CH02021M	DIODE 1SS133 T-72
D805	CH02021M	DIODE 1SS133 T-72
D832	CH02021M	DIODE 1SS133 T-72
D833	CH02021M	DIODE 1SS133 T-72
D862	CH02021M	DIODE 1SS133 T-72

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
D863	CH02021M	DIODE 1SS133 T-72
POWER DEFLECTION PWB ASSEMBLY: PROTECTORS, FUSE		
⚠ E701	AZ00107M	PROTECTOR CRXT491004
⚠ E991	AZ00109M	PROTECTOR CRXT491007
⚠ E994	AZ00104M	PROTECTOR(CRXT491002)
⚠ E995	AZ00109M	PROTECTOR CRXT491007
⚠ E996	AZ00109M	PROTECTOR CRXT491007
⚠ E997	AZ00109M	PROTECTOR CRXT491007
⚠ E999	AZ00109M	PROTECTOR CRXT491007
⚠ F901	2722358	FUSE AC05A
MAIN CHASSIS ASSEMBLY: COMPOUND COMPONENT		
EANT	HP00771	ANT SW
SIGNAL PWB ASSEMBLY: COMPOUND COMPONENT		
U002	HP00094	PINP UNIT KC-010S
U101	HC00311	Main Tuner
U102	HC00401	PiP Tuner
POWER DEFLECTION PWB ASSEMBLY: COMPOUND COMPONENT		
⚠ H901	2793312	CP-EXN-471P365L
UKDG	CS00441	DCU Assy
SP. MATRIX PWB ASSEMBLY: COMPOUND COMPONENT		
HM01	CZ00523	R/C Receiver
FINAL ASSEMBLY: COMPOUND COMPONENT		
⚠ UFPK	AZ00006	CRX FOCUS PACK
SIGNAL PWB ASSEMBLY: IC		
I001	CP06616U	IC MN1876478HE1 Main Microprocessor
I004	CP05272U	E2PROM M24C16-BN6
I006	CK07131R	ANALOG MONO. IC (MC14053BFEL)
I007	2000541	IC M51951BSL
I008	2020342	IC MM1115XS
I102	CP05243U	Z9035612PSCR_4297
I103	2000541	IC M51951BSL
I105	2015495R	IC HD74HC32FPEL
I106	CP05571	IC BA17805
I401	2004751	IC TA8200AH
POWER DEFLECTION PWB ASSEMBLY: IC		
I601	2003541	IC LA7838
I602	CP06351U	ANALOG MONOLITHIC IC BA10393
⚠ I901	CZ00451	HYBRID IC (STR-M6811A)
⚠ I902	2000465	IC PS2501-1 (KC/LC)
⚠ I903	2000465	IC PS2501-1 (KC/LC)
⚠ I904	2000465	IC PS2501-1 (KC/LC)
⚠ I905	2381349	HYBRID IC (SE120N:+B CONT.)
I908	CP05573	IC BA17812
I909	1360891	IC-NJM7912FA
⚠ I910	CP03912F	ANALOG MONOLITHIC IC (SI-8402L)
I912	CP03923F	ANALOG MONOLITHIC IC (SI-8090S)
I913	CP03922F	ANALOG MONOLITHIC IC (SI-8050S)
IK01	CP05571	IC BA17805
IK02	CP01631R	ICL-PST9142
IK03	CP05571	IC BA17805
IK04	CZ00431	HYBRID IC (STK392-110)
IK05	CZ00431	HYBRID IC (STK392-110)
TERMINAL PWB ASSEMBLY: IC		
I501	CP03552U	IC TA1222BN
I503	CK08951R	MM1389XFBE
IX01	CP06911U	ANALOG MONOLITHIC IC (TC90A53N)
IY01	2020452	ANALOG MONOLITHIC IC (CXA1545AS)
IY02	2003423	IC UPC7893AHF ICL
SP. MATRIX PWB ASSEMBLY: IC		
IS05	2020001	IC TDA9860
IS12	CP02601	AN5285K
SIGNAL PWB ASSEMBLY: COILS		
L002	2123781R	FILTER COIL 101K
L003	2123781R	FILTER COIL 101K
L004	BH00697R	COIL 100UH
L101	BH00697R	COIL 100UH
L102	BH00697R	COIL 100UH
L103	2123781R	FILTER COIL 101K
L104	2123781R	FILTER COIL 101K
L105	2123781R	FILTER COIL 101K
L106	2123781R	FILTER COIL 101K
L107	2123781R	FILTER COIL 101K
L110	2123781R	FILTER COIL 101K
L111	2123781R	FILTER COIL 101K
L114	BH00214R	FILTER COIL 100UH
L401	BH01341M	COIL FERRITE BEADS 0.8UH
L402	BH01341M	COIL FERRITE BEADS 0.8UH
L403	BH01341M	COIL FERRITE BEADS 0.8UH
POWER DEFLECTION PWB ASSEMBLY: COILS		
L601	BZ00845	CHOKE COIL 680UH SL1720
L602	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L701	BH00212R	FILTER COIL 68UH
L702	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L703	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L704	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L705	BZ00846	CHOKE COIL 1000UH SL1720
L706	BH00217R	FILTER COIL 180UH
L708	BH00205R	FILTER COIL 22UH
L709	BZ00317	LINEARITY COIL 140UH-W
L710	BZ00318	LINEARITY COIL 50UH-W
L720	BH00229R	COIL 472K-1T7608A
⚠ L901	BZ01841	LX-LINE FILTER(102)
⚠ L902	BZ01831	LX-LINE FILTER(382)
⚠ L903	BZ01841	LX-LINE FILTER(102)
L905	BH00201R	FILTER COIL 10UH
L906	BH00201R	FILTER COIL 10UH
L907	BH00214R	FILTER COIL 100UH
L909	BV00901	PL-CHOPPER COIL 200UH/2A
L910	BH00212R	FILTER COIL 68UH
L911	BV00901	PL-CHOPPER COIL 200UH/2A
L912	BH00214R	FILTER COIL 100UH
L913	BH00214R	FILTER COIL 100UH

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
L914	BH00214R	FILTER COIL 100UH
L917	BH00214R	FILTER COIL 100UH
L921	2161152	FILTER COIL
L922	BH00214R	FILTER COIL 100UH
L924	2123469M	FERRITE BEADS CORE 2.3UH
L925	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L926	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L927	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L930	2123469M	FERRITE BEADS CORE 2.3UH
L931	2123469M	FERRITE BEADS CORE 2.3UH
L932	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LF01	BH00229R	COIL 472K-1T7608A
LF02	BH00229R	COIL 472K-1T7608A
LK01	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LK02	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LK03	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LK04	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LK05	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LK06	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LK07	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LK08	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LK09	2123469M	FERRITE BEADS CORE 2.3UH
LK10	2123469M	FERRITE BEADS CORE 2.3UH
LK11	2123469M	FERRITE BEADS CORE 2.3UH
LK12	2123469M	FERRITE BEADS CORE 2.3UH
TERMINAL PWB ASSEMBLY: COILS		
L503	BH00697R	COIL 100UH
L504	BH00697R	COIL 100UH
L505	BH00697R	COIL 100UH
L506	BH00697R	COIL 100UH
L507	BH00697R	COIL 100UH
L508	2123112M	COIL-AXIAL 47UH-K
L509	BH00697R	COIL 100UH
LA02	BH00697R	COIL 100UH
LE01	2123097M	LAL02 TYPE AXIAL COIL 3.9UH-K
LE02	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LE03	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LE04	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LX01	2123105M	LAL02 AXIAL COIL 15UH-K
LX05	BH00697R	COIL 100UH
LX06	BH00697R	COIL 100UH
LX07	BH00697R	COIL 100UH
LX08	BH00697R	COIL 100UH
LX09	BH00697R	COIL 100UH
LX10	BH00697R	COIL 100UH
LX11	2123109M	COIL-AXIAL 33UH-K
LX12	2123107M	LAL02 AXIAL COIL 22UH-K
LX13	2123107M	LAL02 AXIAL COIL 22UH-K
LY01	BH00697R	COIL 100UH
LY04	BH00697R	COIL 100UH
LY05	BH00697R	COIL 100UH
LY06	2123781R	FILTER COIL 101K
LY07	BH00697R	COIL 100UH

SYMBOL NO.	PART NO.	PART DESCRIPTION	
SP. MATRIX PWB ASSEMBLY: COIL			
LS03	BH00697R	COIL 100UH	
CPT PWB ASSEMBLY: COILS			
L803	BH00699R	COIL 150UH	
L833	BH00699R	COIL 150UH	
L863	BH00699R	COIL 150UH	
SIGNAL PWB ASSEMBLY: TRANSISTORS			
Q001	2325691R	TRS CHIP(2SC2412KQ/R)	
Q002	2325691R	TRS CHIP(2SC2412KQ/R)	
Q004	2325691R	TRS CHIP(2SC2412KQ/R)	
Q005	2325691R	TRS CHIP(2SC2412KQ/R)	
Q006	CA11271R	TRS 2SA1037AK T146 RS	
Q007	2325691R	TRS CHIP(2SC2412KQ/R)	
Q008	2325691R	TRS CHIP(2SC2412KQ/R)	
Q009	2325691R	TRS CHIP(2SC2412KQ/R)	
Q011	2325691R	TRS CHIP(2SC2412KQ/R)	
Q013	2325691R	TRS CHIP(2SC2412KQ/R)	
Q014	CA11271R	TRS 2SA1037AK T146 RS	
Q015	2325691R	TRS CHIP(2SC2412KQ/R)	
Q016	2325691R	TRS CHIP(2SC2412KQ/R)	
Q017	2325691R	TRS CHIP(2SC2412KQ/R)	
Q018	2325691R	TRS CHIP(2SC2412KQ/R)	
Q019	2325691R	TRS CHIP(2SC2412KQ/R)	
Q024	2325691R	TRS CHIP(2SC2412KQ/R)	
Q026	2312171	TRS. 2SC3852	
Q027	2325691R	TRS CHIP(2SC2412KQ/R)	
Q028	2325691R	TRS CHIP(2SC2412KQ/R)	
Q030	2325691R	TRS CHIP(2SC2412KQ/R)	
Q032	2325691R	TRS CHIP(2SC2412KQ/R)	
Q101	2325691R	TRS CHIP(2SC2412KQ/R)	
Q102	2325691R	TRS CHIP(2SC2412KQ/R)	
Q103	2326021M	TRS. 2SC1741S P/R/Q (TP)	250MHZ 300MW
Q106	2325691R	TRS CHIP(2SC2412KQ/R)	
Q107	2325691R	TRS CHIP(2SC2412KQ/R)	
Q108	2325691R	TRS CHIP(2SC2412KQ/R)	
Q109	2325691R	TRS CHIP(2SC2412KQ/R)	
Q110	2325691R	TRS CHIP(2SC2412KQ/R)	
Q111	2325691R	TRS CHIP(2SC2412KQ/R)	
Q112	2325691R	TRS CHIP(2SC2412KQ/R)	
Q113	2325691R	TRS CHIP(2SC2412KQ/R)	
Q114	2325691R	TRS CHIP(2SC2412KQ/R)	
Q115	2325691R	TRS CHIP(2SC2412KQ/R)	
Q401	2325691R	TRS CHIP(2SC2412KQ/R)	
Q402	2325691R	TRS CHIP(2SC2412KQ/R)	
Q403	2325691R	TRS CHIP(2SC2412KQ/R)	
Q404	2325691R	TRS CHIP(2SC2412KQ/R)	
POWER DEFLECTION PWB ASSEMBLY: TRANSISTORS			
Q602	2325702M	TRS.2SA854S TAPE (Q/R)	SI 200MHZ300MW
Q603	2325702M	TRS.2SA854S TAPE (Q/R)	SI 200MHZ300MW
Q604	2326021M	TRS. 2SC1741S P/R/Q (TP)	250MHZ 300MW
Q605	2325702M	TRS.2SA854S TAPE (Q/R)	SI 200MHZ300MW
Q606	CF00611	TRS. 2SC3969(AB) 400V	
Q607	2325702M	TRS.2SA854S TAPE (Q/R)	SI 200MHZ300MW

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
Q609	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW	Q503	2325691R	TRS CHIP(2SC2412KQ/R)
Q701	2326216	TRS. 2SC3116 (S/T)	Q504	2325691R	TRS CHIP(2SC2412KQ/R)
Q702	2325725M	TRS.2SC1740 Q/R TZ	Q505	2325691R	TRS CHIP(2SC2412KQ/R)
Q703	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW	Q506	CA11264R	PHOTO TRANSISTOR(DTC114EKA)
Q705	2325725M	TRS.2SC1740 Q/R TZ	Q509	2325691R	TRS CHIP(2SC2412KQ/R)
Q710	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW	Q510	2325691R	TRS CHIP(2SC2412KQ/R)
Q711	2325725M	TRS.2SC1740 Q/R TZ	Q511	2325691R	TRS CHIP(2SC2412KQ/R)
Q712	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW	Q512	2325691R	TRS CHIP(2SC2412KQ/R)
⚠ Q777	CF01542F	TRS.2SC5124(LF702)	Q513	2325691R	TRS CHIP(2SC2412KQ/R)
Q901	2312171	TRS. 2SC3852	Q515	CA11271R	TRS 2SA1037AK T146 RS
Q902	2312171	TRS. 2SC3852	Q516	CA11271R	TRS 2SA1037AK T146 RS
Q903	CF02281R	TRS. 2SA821S	Q517	CA11271R	TRS 2SA1037AK T146 RS
Q905	2325725M	TRS.2SC1740 Q/R TZ	Q519	2325691R	TRS CHIP(2SC2412KQ/R)
Q906	2325725M	TRS.2SC1740 Q/R TZ	Q520	CA11271R	TRS 2SA1037AK T146 RS
Q907	CF02251R	2SC3415S TP	Q521	CA11271R	TRS 2SA1037AK T146 RS
Q908	2325725M	TRS.2SC1740 Q/R TZ	QA01	2325691R	TRS CHIP(2SC2412KQ/R)
Q909	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW	QA02	CA11271R	TRS 2SA1037AK T146 RS
Q912	2325725M	TRS.2SC1740 Q/R TZ	QA03	2325691R	TRS CHIP(2SC2412KQ/R)
Q913	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW	QA04	CA11271R	TRS 2SA1037AK T146 RS
⚠ Q914	2323782R	THYRISTOR 03P2M(TA)	QA05	2325691R	TRS CHIP(2SC2412KQ/R)
Q916	2325725M	TRS.2SC1740 Q/R TZ	QA06	2325691R	TRS CHIP(2SC2412KQ/R)
Q917	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW	QA74	2325691R	TRS CHIP(2SC2412KQ/R)
Q918	2325725M	TRS.2SC1740 Q/R TZ	QA75	2325691R	TRS CHIP(2SC2412KQ/R)
QF01	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW	QA80	2325691R	TRS CHIP(2SC2412KQ/R)
QF03	2326021M	TRS. 2SC1741S P/R/Q (TP) 250MHZ 300MW	QE01	2325725M	TRS.2SC1740 Q/R TZ
QF04	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW	QE02	2325725M	TRS.2SC1740 Q/R TZ
QF05	2326021M	TRS. 2SC1741S P/R/Q (TP) 250MHZ 300MW	QE03	2325725M	TRS.2SC1740 Q/R TZ
QF06	CF00821F	TRS. 2SC4686A 1200V	QE04	2325725M	TRS.2SC1740 Q/R TZ
QF07	CF00821F	TRS. 2SC4686A 1200V	QE05	2325725M	TRS.2SC1740 Q/R TZ
QF08	CF00821F	TRS. 2SC4686A 1200V	QE06	2326021M	TRS. 2SC1741S P/R/Q (TP) 250MHZ 300MW
QF09	2325725M	TRS.2SC1740 Q/R TZ	QE07	CF10833R	TRS. 2SA933AS S TP
QF10	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW	QE08	CF00531	TRS. 2SA1964 160V
QF11	2326021M	TRS. 2SC1741S P/R/Q (TP) 250MHZ 300MW	QE09	CF00541	TRS. 2SC5248 160V
QF12	2325725M	TRS.2SC1740 Q/R TZ	QE10	2325725M	TRS.2SC1740 Q/R TZ
QF13	2325725M	TRS.2SC1740 Q/R TZ	QE11	2325725M	TRS.2SC1740 Q/R TZ
QF14	2325725M	TRS.2SC1740 Q/R TZ	QE12	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW
QF15	2325725M	TRS.2SC1740 Q/R TZ	QX01	2325691R	TRS CHIP(2SC2412KQ/R)
QF16	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW	QX02	2325691R	TRS CHIP(2SC2412KQ/R)
QF17	CF10852R	TRS. DTC144ESA-T	QX05	2325691R	TRS CHIP(2SC2412KQ/R)
QK01	2312171	TRS. 2SC3852	QX06	2325691R	TRS CHIP(2SC2412KQ/R)
QK02	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW	QX07	CA11271R	TRS 2SA1037AK T146 RS
QK03	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW	QX08	2325691R	TRS CHIP(2SC2412KQ/R)
QK04	2325725M	TRS.2SC1740 Q/R TZ	QX09	2325691R	TRS CHIP(2SC2412KQ/R)
QK06	2325725M	TRS.2SC1740 Q/R TZ	QX10	2325691R	TRS CHIP(2SC2412KQ/R)
QK07	2325725M	TRS.2SC1740 Q/R TZ	QX11	CA11271R	TRS 2SA1037AK T146 RS
QK08	2325725M	TRS.2SC1740 Q/R TZ	QX12	2325691R	TRS CHIP(2SC2412KQ/R)
QN01	2325725M	TRS.2SC1740 Q/R TZ	QY01	2325691R	TRS CHIP(2SC2412KQ/R)
QN02	2325725M	TRS.2SC1740 Q/R TZ	QY02	2325691R	TRS CHIP(2SC2412KQ/R)
QN03	2325725M	TRS.2SC1740 Q/R TZ	QY03	CA11271R	TRS 2SA1037AK T146 RS
QN04	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW	QY04	2325691R	TRS CHIP(2SC2412KQ/R)
QN05	2325725M	TRS.2SC1740 Q/R TZ	QY05	CA11264R	PHOTO TRANSISTOR(DTC114EKA)
QN06	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW	QY06	2325691R	TRS CHIP(2SC2412KQ/R)
			QY07	2326021M	TRS. 2SC1741S P/R/Q (TP) 250MHZ 300MW
TERMINAL PWB ASSEMBLY: TRANSISTORS			QY08	2325691R	TRS CHIP(2SC2412KQ/R)
Q500	2325691R	TRS CHIP(2SC2412KQ/R)	QY10	2325691R	TRS CHIP(2SC2412KQ/R)
Q501	CA00171R	TRS.CHIP IMT5 25V TAPE	QY11	CA11271R	TRS 2SA1037AK T146 RS
Q502	2328072R	TRS.CHIP FMW2 40V TAPE	QY12	2326021M	TRS. 2SC1741S P/R/Q (TP) 250MHZ 300MW

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
QY13	2326021M	TRS. 2SC1741S P/R/Q (TP) 250MHZ 300MW
QY51	CA11271R	TRS 2SA1037AK T146 RS
QY57	2325691R	TRS CHIP(2SC2412KQ/R)
QY58	2325691R	TRS CHIP(2SC2412KQ/R)
QY59	CA11271R	TRS 2SA1037AK T146 RS
QY60	2325691R	TRS CHIP(2SC2412KQ/R)
QY61	2325691R	TRS CHIP(2SC2412KQ/R)
QY62	CA11271R	TRS 2SA1037AK T146 RS
QY63	2325691R	TRS CHIP(2SC2412KQ/R)
SP. MATRIX PWB ASSEMBLY: TRANSISTORS		
QM01	2325725M	TRS.2SC1740 Q/R TZ
QM02	2312992	PHOTO TRS. RPT-38PT3F (M)
CPT PWB ASSEMBLY: TRANSISTORS		
Q801	2312372F	TRS-2SC3942
Q802	2320663M	TRS. 2SC1213A (C)
Q803	2325725M	TRS.2SC1740 Q/R TZ
Q804	2325725M	TRS.2SC1740 Q/R TZ
Q805	2325725M	TRS.2SC1740 Q/R TZ
Q806	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW
Q831	2312372F	TRS-2SC3942
Q832	2320663M	TRS. 2SC1213A (C)
Q833	2325725M	TRS.2SC1740 Q/R TZ
Q861	2312372F	TRS-2SC3942
Q862	2320663M	TRS. 2SC1213A (C)
Q863	2325725M	TRS.2SC1740 Q/R TZ
SIGNAL PWB ASSEMBLY: RESISTORS		
R001	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R002	0195947R	RES.2125 CHIP 1/10W 82KJ TAPE
R003	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
R005	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R007	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
R008	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
R009	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R010	0195916R	RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE
R011	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R012	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R013	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R014	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R015	0195927R	RES 2125 CHIP 1/16W 12KJ TAPE
R016	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
R021	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R022	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R023	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R025	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R026	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R029	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R034	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R035	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R036	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R037	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R038	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R040	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R042	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
R043	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R044	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R045	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R046	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R047	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R048	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R049	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R050	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R051	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R055	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R056	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R059	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R060	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R061	0195891R	RES 2125 CHIP 1/16W 470J TAPE
R062	0195891R	RES 2125 CHIP 1/16W 470J TAPE
R063	0195891R	RES 2125 CHIP 1/16W 470J TAPE
R064	0195891R	RES 2125 CHIP 1/16W 470J TAPE
R066	0700027M	RES.-CARBON FLM 1/16W 100-JB
R067	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
R068	0700027M	RES.-CARBON FLM 1/16W 100-JB
R069	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R070	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
R071	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R072	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R073	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R074	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
R075	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
R076	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R078	0700027M	RES.-CARBON FLM 1/16W 100-JB
R081	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
R082	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R083	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R086	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R087	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R088	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R089	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R090	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R099	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R0A2	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R0A5	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R0A6	0195893R	RES 2125 CHIP 1/16W 560J TAPE
R0A7	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R0A8	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R0A9	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R0C1	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R0C3	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R0C4	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R0C5	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R0C6	0700027M	RES.-CARBON FLM 1/16W 100-JB
R0C7	0195929R	RES 2125 CHIP 1/16W 15KJ TAPE

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
R0E2	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R0E3	0188127M	RES.-CARBON FLM 560-JB 1/2W
R0E4	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R0E5	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R0E6	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
R0E7	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R0E8	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R0F7	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R0F8	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R0F9	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
R0G1	0100123M	RES.-CARBON FLM 1/8W 270K-JB
R0G5	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R0G6	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R0G7	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R0G8	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R0G9	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R0H1	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R0H2	0195916R	RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE
R0H3	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R0H4	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R0H5	0195916R	RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE
R0H6	0195881R	RES 2125 CHIP 1/16W 180J TAPE
R0H7	0195947R	RES.2125 CHIP 1/10W 82KJ TAPE
R0H8	0700064M	RES.-CARBON FLM 1/16W 56K-JB
R0L5	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R0L6	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R0L8	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R0M2	0195916R	RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE
R0M3	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R0M4	AW00074	TRIMMER RESISTOR
R0M5	0700032M	RES.-CARBON FLM 1/16W 220-JB
R0M6	AW00074	TRIMMER RESISTOR
R0M7	0700032M	RES.-CARBON FLM 1/16W 220-JB
R0M8	AW00074	TRIMMER RESISTOR
R0M9	0700032M	RES.-CARBON FLM 1/16W 220-JB
R0N2	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R0N4	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R0P3	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R0P5	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
R0P6	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R0P8	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R0P9	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R0R1	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R0R3	0700027M	RES.-CARBON FLM 1/16W 100-JB
R0R4	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R0R5	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R0R6	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R0R7	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R0R8	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R0S1	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R0S2	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R0T1	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R0T2	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R0T4	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R0T5	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R0T6	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R0T7	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R0T8	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R0T9	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R0U1	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R0U3	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R0U4	0700027M	RES.-CARBON FLM 1/16W 100-JB
R0U5	0700027M	RES.-CARBON FLM 1/16W 100-JB
R101	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R102	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R103	0195895R	RES.2125 CHIP 1/10W 680J TAPE
R104	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R105	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R106	0195895R	RES.2125 CHIP 1/10W 680J TAPE
R107	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R109	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R110	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R111	0700027M	RES.-CARBON FLM 1/16W 100-JB
R112	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R113	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
R114	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R115	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R116	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R118	0100059M	RES.-CARBON FLM 1/8W 560-JB
R119	0100059M	RES.-CARBON FLM 1/8W 560-JB
R121	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R122	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R123	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R124	0700027M	RES.-CARBON FLM 1/16W 100-JB
R125	0700027M	RES.-CARBON FLM 1/16W 100-JB
R127	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R128	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R129	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R132	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R133	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R134	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R135	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R141	0195893R	RES 2125 CHIP 1/16W 560J TAPE
R142	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R144	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R146	0700027M	RES.-CARBON FLM 1/16W 100-JB
R147	0700027M	RES.-CARBON FLM 1/16W 100-JB
R148	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R149	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R150	0195893R	RES 2125 CHIP 1/16W 560J TAPE
R151	0195891R	RES 2125 CHIP 1/16W 470J TAPE
R152	0195891R	RES 2125 CHIP 1/16W 470J TAPE
R153	0195891R	RES 2125 CHIP 1/16W 470J TAPE
R154	0700036M	RES.-CARBON FLM 1/16W 470-JB
R155	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R156	0700065M	RES.-CARBON FLM 1/16W 68K-JB
R157	AT03694M	RES.MTL GRAZD FLM 1W 10M
R158	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R159	0700027M	RES.-CARBON FLM 1/16W 100-JB
R160	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R163	0700027M	RES.-CARBON FLM 1/16W 100-JB
R167	0195883R	RES 2125 CHIP 1/16W 220J TAPE

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
R168	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R169	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R173	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R174	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R175	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R176	0100041M	RES.-CARBON FLM 1/8W 100-JB
R177	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R178	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R179	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R180	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R181	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R182	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R183	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R184	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R185	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R186	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R187	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R196	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
R197	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
R198	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
R1A2	0700023M	RES.-CARBON FLM 1/16W 47-J
R1A3	0700027M	RES.-CARBON FLM 1/16W 100-JB
R1A9	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R1B2	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R1C1	0195893R	RES 2125 CHIP 1/16W 560J TAPE
R312	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R3A4	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R3A5	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R3A6	0700032M	RES.-CARBON FLM 1/16W 220-JB
R3A7	0700032M	RES.-CARBON FLM 1/16W 220-JB
R3A8	0700032M	RES.-CARBON FLM 1/16W 220-JB
R3C3	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB
R3C4	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R3E1	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3E2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R3E3	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3E4	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3E5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R3E6	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3E7	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R3E8	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R3F1	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3F3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R3F4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R3F5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R3F6	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R3F7	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3F8	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R3F9	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3G1	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3G2	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3G3	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3G4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R3G6	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3G7	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3G8	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3G9	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3H1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R3H2	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3H4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R3H7	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3H8	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R3H9	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3J4	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3J5	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3J6	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R3J7	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R3J8	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3J9	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3K1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R3K2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R3K3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R3K4	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3K5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R3K6	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3K8	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3K9	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3L1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R3L2	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3L6	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3L7	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R3L8	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3L9	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R3M1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R3M2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R3M3	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3M7	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3M8	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3M9	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3P1	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3P4	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB
R402	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R404	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R405	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
R406	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
R407	0700037M	RES.-CARBON FLM 1/16W 560-JB
R408	0700037M	RES.-CARBON FLM 1/16W 560-JB
R411	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R412	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R413	0700067M	RES.-CARBON FLM 1/16W 100K-JB
R414	0700036M	RES.-CARBON FLM 1/16W 470-JB
R415	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R416	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R417	AT01549S	METAL FILM RESISTOR(2.2OHM 1W)
R418	AT01549S	METAL FILM RESISTOR(2.2OHM 1W)
R419	0700065M	RES.-CARBON FLM 1/16W 68K-JB
R420	0700065M	RES.-CARBON FLM 1/16W 68K-JB
R421	0188131M	RES.-CARBON FLM 1/4W 1K-JB
R422	0188131M	RES.-CARBON FLM 1/4W 1K-JB
POWER DEFLECTION PWB ASSEMBLY: RESISTORS		
R602	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
R603	AW00126	TRIMMER RESISTOR
R604	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
R605	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R606	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R607	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R608	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R609	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R610	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB
R611	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R612	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R613	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R614	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R615	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R616	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R617	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB
R618	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R619	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R620	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R621	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R622	0113725M	RESISTOR CARBON FILM SRD1/2P-B 100-J
R623	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R624	0700059M	RES.-CARBON FLM 1/16W 27K-JB
R625	0700044M	RES.-CARBON FLM 1/16W 1.8K-JB
R626	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R627	0100063M	RES.-CARBON FLM 1/8W 820-JB
R628	0100065M	RES.-CARBON FLM 1/8W 1K-JB
R629	0700064M	RES.-CARBON FLM 1/16W 56K-JB
R630	AW00128	TRIMMER RESISTOR
R635	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R636	0700061M	RES.-CARBON FLM 1/16W 33K-JB
R637	0700065M	RES.-CARBON FLM 1/16W 68K-JB
R638	0700038M	RES.-CARBON FLM 1/16W 680-JB
R639	0700064M	RES.-CARBON FLM 1/16W 56K-JB
R640	0100045M	RES.-CARBON FLM 1/8W 150-JB
R641	0119722M	RES.-METAL OXIDE FILM 1.0-JB/W
R642	0119722M	RES.-METAL OXIDE FILM 1.0-JB/W
R643	0700067M	RES.-CARBON FLM 1/16W 100K-JB
R644	0700067M	RES.-CARBON FLM 1/16W 100K-JB
R645	0119731M	RES.-MTL 0X1DE 1W R68-K TAPE
R646	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R647	0700059M	RES.-CARBON FLM 1/16W 27K-JB
R648	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R649	0100053M	RES.-CARBON FLM 1/8W 330-JB
R651	0188119M	RES.-CARBON FLM 150-J 1/2W
R652	0700014M	RES.-CARBON FLM 1/16W 10-J
R660	0113725M	RESISTOR CARBON FILM SRD1/2P-B 100-J
R661	0113725M	RESISTOR CARBON FILM SRD1/2P-B 100-J
R671	0113725M	RESISTOR CARBON FILM SRD1/2P-B 100-J
R672	0113766M	RESISTOR CARBON FILM SRD1/2P-B 4.7K-J
R673	AT03242S	METAL OX. 100OHM 1W
R675	0700061M	RES.-CARBON FLM 1/16W 33K-JB
R701	AT03599S	METAL OX. 2.7KOHM 3W
R702	AT03595S	METAL OX. 1.8KOHM 3W
R704	0100031M	RES.-CARBON FLM 1/8W 39-JB
R705	0700034M	RES.-CARBON FLM 1/16W 330-JB
R706	0700032M	RES.-CARBON FLM 1/16W 220-JB
R707	0113770M	RESISTOR CARBON FILM SRD1/2P-B 6.8K-J
R708	0700066M	RES.-CARBON FLM 1/16W 82K-JB
R709	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB
R710	0187068M	RES.-CARBON FLM 1/16W 1.3K-JB
R711	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB
R712	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB
R713	0113727M	RESISTOR CARBON FILM SRD1/2P-B 120-J
R714	AT03219S	METAL OX. 15.0OHM 1W
⚠ R715	0700062M	RES.-CARBON FLM 1/16W 39K-JB
⚠ R716	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R717	0113709M	RESISTOR CARBON FILM SRD1/2P-B 22-J
R718	0113785M	RESISTOR CARBON FILM SRD1/2P-B 27K-J
R719	0113791M	RES.-CARBON FLM 1/2W 47K-JB
R720	AT03411S	METAL OX. 220OHM 2W
R721	0188122M	RES.-CARBON FLM 220-J 1/2W
R722	0700067M	RES.-CARBON FLM 1/16W 100K-JB
R723	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R725	AT03611S	METAL OX. 6.8KOHM 3W
R726	0188143M	RES.-CARBON FLM 1/4W 8.2K-JB
R727	0100091M	RES.-CARBON FLM 1/8W 12K-JB
R728	0100081M	RES.-CARBON FLM 1/8W 4.7K-JB
R729	0188127M	RES.-CARBON FLM 560-JB 1/2W
R730	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R731	0100127M	RES.-CARBON FLM 1/8W 390K-JB
R732	AT03251S	METAL OX. 220OHM 1W
R733	AT03251S	METAL OX. 220OHM 1W
R734	0100127M	RES.-CARBON FLM 1/8W 390K-JB
R737	0188104M	RES.-CARBON FLM 1/2W 10-JB
R740	0100117M	RES.-CARBON FLM 1/8W 150K-JB
R750	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB
R751	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB
R752	0700067M	RES.-CARBON FLM 1/16W 100K-JB
R753	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
R760	AT03417S	METAL OX. 390OHM 2W
R761	0188139M	RES.-CARBON FLM 4.7K-J 1/2W
R770	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R771	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
R772	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R773	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
R901	AT03665M	RES.MTL GRAZD FLM 1/2W 1M
R902	0147060	RES.-WIRE WOUND 2W 33-K
R903	0188157M	RES.-CARBON FLM 100K-JB 1/2W
⚠ R904	0147802	RES.-WIRE WOUND 15W 0.62-KM
R905	0113772M	RES.-CARBON FLM SRD1/2P-B
R906	0113772M	RES.-CARBON FLM SRD1/2P-B
R907	0100023M	RES.-CARBON FLM 1/8W 18-JB
R908	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB
R909	0700038M	RES.-CARBON FLM 1/16W 680-JB
R910	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB
R911	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R912	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
R913	0700023M	RES.-CARBON FLM 1/16W 47-J
R914	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R915	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
R916	0700038M	RES.-CARBON FLM 1/16W 680-JB
R917	AT01531S	METAL FILM RESISTOR(0.1OHM1/2W)

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked w ith a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
R918	0100091M	RES.-CARBON FLM 1/8W 12K-JB
R919	0100089M	RES.-CARBON FLM 1/8W 10K-JB
R920	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
R921	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
R922	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R923	0700057M	RES.-CARBON FLM 1/16W 18K-JB
R925	0113746M	RES.-CARBON FLM 1/2W 680-JB
R926	0700057M	RES.-CARBON FLM 1/16W 18K-JB
R929	0700028M	RES.-CARBON FLM 1/16W 120-JB
R930	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R931	0119695M	RES.-MTL OXIDE FLM 1W 0.47-F
R932	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R933	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R934	0113797M	RES.-CARBON FLM 1/2W 82K-JB
R935	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R937	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
R940	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R941	0700018M	RES.-CARBON FLM 1/16W 22-J
R942	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
R943	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB
R944	0113793M	RESISTOR CARBON FILM SRD1/2P-B 56K-J
R945	0113793M	RESISTOR CARBON FILM SRD1/2P-B 56K-J
R946	0188146M	RES.-CARBON FLM 1/4W 15K-JB
R948	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R949	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB
R950	0700039M	RES.-CARBON FLM 1/16W 820-JB
R952	0700032M	RES.-CARBON FLM 1/16W 220-JB
R954	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R955	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R957	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
R958	0700057M	RES.-CARBON FLM 1/16W 18K-JB
R959	0113750M	RES.-CARBON FLM 1/2W 1K-JB
R960	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R962	0700067M	RES.-CARBON FLM 1/16W 100K-JB
R963	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
R968	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R969	0700067M	RES.-CARBON FLM 1/16W 100K-JB
R970	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
R971	0700037M	RES.-CARBON FLM 1/16W 560-JB
R972	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R974	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
R975	AT03419S	METAL OX. 470 OHM 2W
R976	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
R977	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R979	0113762M	RESISTOR CARBON FILM SRD1/2P-B 3.3K-J
R980	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R981	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R982	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB
R983	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R985	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R986	AT01531S	METAL FILM RESISTOR(0.1OHM1/2W)
R987	AT01531S	METAL FILM RESISTOR(0.1OHM1/2W)
R988	0113744M	RESISTOR CARBON FILM SRD1/2P-B 560-J
R989	0700036M	RES.-CARBON FLM 1/16W 470-JB
R990	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R992	AT03608S	METAL OX. 5.6KOHM 3W
R993	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RF01	0700058M	RES.-CARBON FLM 1/16W 22K-JB
RF02	0700059M	RES.-CARBON FLM 1/16W 27K-JB
RF03	0700036M	RES.-CARBON FLM 1/16W 470-JB
RF04	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
RF07	0700067M	RES.-CARBON FLM 1/16W 100K-JB
RF08	0700056M	RES.-CARBON FLM 1/16W 15K-JB
RF09	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RF10	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
RF11	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
RF12	0700067M	RES.-CARBON FLM 1/16W 100K-JB
RF13	0700056M	RES.-CARBON FLM 1/16W 15K-JB
RF14	0700025M	RES.-CARBON FLM 1/16W 68-J
RF15	AT03659M	RES.MTL GRAZD FLM 1/2W 390K
RF16	AT03659M	RES.MTL GRAZD FLM 1/2W 390K
RF17	AT03659M	RES.MTL GRAZD FLM 1/2W 390K
RF18	AT03662M	RES.MTL GRAZD FLM 1/2W 560K
RF19	AT03662M	RES.MTL GRAZD FLM 1/2W 560K
RF20	0700027M	RES.-CARBON FLM 1/16W 100-JB
RF21	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
RF22	0700057M	RES.-CARBON FLM 1/16W 18K-JB
RF23	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RF25	AT03662M	RES.MTL GRAZD FLM 1/2W 560K
RF26	AT03662M	RES.MTL GRAZD FLM 1/2W 560K
RF27	AT03661M	RES.MTL GRAZD FLM 1/2W 470K
RF28	0700062M	RES.-CARBON FLM 1/16W 39K-JB
RF29	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB
RF30	0100103M	RES.-CARBON FLM 1/8W 39K-JB
RF31	0700044M	RES.-CARBON FLM 1/16W 1.8K-JB
RF33	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RF34	0187100M	RES.-CARBON FLM 1/16W 30K-JB
RF35	0187074M	RES.-CARBON FLM 1/16W 2.4K-JB
RF36	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RF37	0700039M	RES.-CARBON FLM 1/16W 820-JB
RF40	AT03241S	METAL OX. 91.0OHM 1W
RF41	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RF42	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB
RF43	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RF44	0700061M	RES.-CARBON FLM 1/16W 33K-JB
RF45	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
RF46	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RF47	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RK01	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RK02	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RK03	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RK04	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RK05	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RK06	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RK07	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RK08	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RK09	0100057M	RES.-CARBON FLM 1/8W 470-JB
RK10	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
RK12	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK13	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK14	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB
RK15	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
RK16	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
RK17	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RK18	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB
RK19	0100125M	RES.-CARBON FLM 1/8W 330K-JB
RK22	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK23	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
RK24	0700044M	RES.-CARBON FLM 1/16W 1.8K-JB
RK25	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RK26	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RK27	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RK28	0700027M	RES.-CARBON FLM 1/16W 100-JB
RK29	0700027M	RES.-CARBON FLM 1/16W 100-JB
RK30	0700027M	RES.-CARBON FLM 1/16W 100-JB
RK31	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK32	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK33	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK34	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RK35	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RK36	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RK37	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RK38	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RK39	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RK40	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RK42	AT03199S	METAL OX. 2.7OHM 1W
RK43	AT03571S	METAL OX. 220OHM 3W
RK44	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RK46	AT03197S	METAL OX. 2.2OHM 1W
RK47	AT03566S	METAL OX. 150OHM 3W
RK48	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RK50	AT03202S	METAL OX. 3.3OHM 1W
RK51	AT03571S	METAL OX. 220OHM 3W
RK52	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RK54	AT03197S	METAL OX. 2.2OHM 1W
RK55	AT03566S	METAL OX. 150OHM 3W
RK56	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RK58	AT03204S	METAL OX. 3.9OHM 1W
RK59	AT03571S	METAL OX. 220OHM 3W
RK60	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RK62	AT03202S	METAL OX. 3.3OHM 1W
RK63	AT03566S	METAL OX. 150OHM 3W
RK64	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RK90	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RK99	0113698M	RES.-CARBON FLM 1/2W 8.2-J
RN01	0700057M	RES.-CARBON FLM 1/16W 18K-JB
RN02	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RN03	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RN04	0100113M	RES.-CARBON FLM 1/8W 100K-JB
RN05	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB
RN06	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RN07	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
RN08	0700044M	RES.-CARBON FLM 1/16W 1.8K-JB
RN09	0700061M	RES.-CARBON FLM 1/16W 33K-JB
RN10	0700057M	RES.-CARBON FLM 1/16W 18K-JB
RN11	0700058M	RES.-CARBON FLM 1/16W 22K-JB
RN12	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
RN13	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RN14	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RN15	0700064M	RES.-CARBON FLM 1/16W 56K-JB
RN16	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RN17	0700059M	RES.-CARBON FLM 1/16W 27K-JB
RN18	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
TERMINAL PWB ASSEMBLY: RESISTORS		
R503	0195920R	RES 2125 CHIP 1/16W 6.8KJ TAPE
R504	0700032M	RES.-CARBON FLM 1/16W 220-JB
R505	0700032M	RES.-CARBON FLM 1/16W 220-JB
R506	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R508	0195879R	RES 2125 CHIP 1/16W 150J TAPE
R509	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R510	0195906R	RESISTOR MINI-CHIP RMC1/16 1.8K-J TAPE
R511	0195914R	RES 2125 CHIP 1/16W 3.9KJ TAPE
R516	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R517	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R518	0195904R	RESISTOR 2125 CHIP 1/16W 1.5KJ TAPE
R519	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R520	0195904R	RESISTOR 2125 CHIP 1/16W 1.5KJ TAPE
R521	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
R522	0195910R	RES.2125 CHIP 1/16W 2.7KJ TAPE
R523	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R524	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R525	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R526	0195908R	RES.2125 CHIP 1/10W 2.2KJ TAPE
R527	0195891R	RES 2125 CHIP 1/16W 470J TAPE
R528	0195891R	RES 2125 CHIP 1/16W 470J TAPE
R529	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R530	0195879R	RES 2125 CHIP 1/16W 150J TAPE
R531	0195927R	RES 2125 CHIP 1/16W 12KJ TAPE
R532	0195889R	RES.2125 CHIP 1/10W 390J TAPE
R533	0195889R	RES.2125 CHIP 1/10W 390J TAPE
R534	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R535	0195929R	RES 2125 CHIP 1/16W 15KJ TAPE
R536	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R537	0195927R	RES 2125 CHIP 1/16W 12KJ TAPE
R538	0195870R	RES.2125 CHIP 1/10W 68J TAPE
R539	0195870R	RES.2125 CHIP 1/10W 68J TAPE
R540	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R541	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R542	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R545	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R547	0195908R	RES.2125 CHIP 1/10W 2.2KJ TAPE
R548	0195912R	RES 2125 CHIP 1/16W 3.3KJ TAPE
R549	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R550	0195922R	RES 2125 CHIP 1/16W 8.2KJ TAPE
R551	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R552	0195931R	RES 2125 CHIP 1/16W 18KJ TAPE
R553	0195879R	RES 2125 CHIP 1/16W 150J TAPE
R555	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R556	0195910R	RES.2125 CHIP 1/16W 2.7KJ TAPE
R557	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R558	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R559	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R561	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
R562	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R563	0195889R	RES.2125 CHIP 1/10W 390J TAPE
R564	0195885R	RESISTOR 2125 CHIP 1/16W 270J TAPE
R566	0188118M	RES.-CARBON FLM 1/2W 120-JB
R567	0195908R	RES.2125 CHIP 1/10W 2.2KJ TAPE
R568	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R569	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R570	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R571	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R572	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
R573	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
R574	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R575	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R576	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R577	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R578	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R579	0188125M	RES.-CARBON FLM 390-J 1/2W
R580	0188125M	RES.-CARBON FLM 390-J 1/2W
R581	0188125M	RES.-CARBON FLM 390-J 1/2W
R582	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R583	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R584	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R586	0700044M	RES.-CARBON FLM 1/16W 1.8K-JB
R588	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R590	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R591	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R592	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R593	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R595	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R597	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R598	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R5A0	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R5A1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R5A2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R5A3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R5A4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R5A5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R5A6	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R5A8	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R5A9	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R5C0	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R5C3	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R5C4	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R5C5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R5C6	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R5C7	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R5C8	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R5C9	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R5D0	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R5D1	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R5D2	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R5D3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R5D4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R5D5	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R5D6	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R5D7	0700027M	RES.-CARBON FLM 1/16W 100-JB
R5D8	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R5E2	0700027M	RES.-CARBON FLM 1/16W 100-JB
R5E3	0700027M	RES.-CARBON FLM 1/16W 100-JB
R5E4	0700027M	RES.-CARBON FLM 1/16W 100-JB
R5E5	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R5E6	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R5E7	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R5E8	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R5E9	0700027M	RES.-CARBON FLM 1/16W 100-JB
R5F1	0195895R	RES.2125 CHIP 1/10W 680J TAPE
R5F2	0195891R	RES 2125 CHIP 1/16W 470J TAPE
R5F3	0195904R	RESISTOR 2125 CHIP 1/16W 1.5KJ TAPE
R5F4	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R5F6	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R5F7	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R5F8	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R5F9	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R5G1	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R5G4	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R5G5	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R5G7	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R5G9	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R5H1	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R5H2	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R5H3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R5H4	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R5H5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R5H7	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R5J4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R5K2	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB
RA01	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
RA02	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
RA05	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
RA06	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
RA07	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
RA08	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
RA09	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RA10	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RA11	0700027M	RES.-CARBON FLM 1/16W 100-JB
RA12	0700027M	RES.-CARBON FLM 1/16W 100-JB
RA13	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RA14	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RA15	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RA16	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RA17	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RA18	0195939R	RES.2125 CHIP 1/16W 39KJ TAPE
RA19	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RA20	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RA21	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RA22	0195887R	RES 2125 CHIP 1/16W 330J TAPE
RA23	0195883R	RES 2125 CHIP 1/16W 220J TAPE
RA24	0195939R	RES.2125 CHIP 1/16W 39KJ TAPE
RA25	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RA26	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RA27	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RA28	0195887R	RES 2125 CHIP 1/16W 330J TAPE

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
RA29	0195883R	RES 2125 CHIP 1/16W 220J TAPE
RA30	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RA31	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RA32	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RA33	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RA34	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RA35	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RA36	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RA37	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RA40	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RA41	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RA42	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RA43	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RA50	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RA51	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RA52	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RA53	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RA58	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RA59	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RA60	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RA61	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RA64	0195960R	RES.MINI-CHIP RMC1/16 270K-J TAPE
RA65	0195960R	RES.MINI-CHIP RMC1/16 270K-J TAPE
RA66	0195960R	RES.MINI-CHIP RMC1/16 270K-J TAPE
RA67	0195960R	RES.MINI-CHIP RMC1/16 270K-J TAPE
RA68	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RA69	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RA70	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RA75	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RA76	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RA77	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RA78	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RA79	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RA80	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RA81	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RA82	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RA83	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RA84	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RA85	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RA86	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RA91	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RA92	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RA93	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RA94	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RA99	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RAA1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RAA2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RAA3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RAA4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RAA5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RAA6	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RAA7	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RAD8	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RAD9	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RAE1	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RAE2	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
RAE3	0195960R	RES.MINI-CHIP RMC1/16 270K-J TAPE
RC02	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RC14	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RC16	0195871R	RMC73S-2A750JR
RC18	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RC19	0195871R	RMC73S-2A750JR
RC63	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RC89	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RC98	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RE01	AT03584S	METAL OX. 680OHM 3W
RE02	0700066M	RES.-CARBON FLM 1/16W 82K-JB
RE03	0700057M	RES.-CARBON FLM 1/16W 18K-JB
RE04	0700035M	RES.-CARBON FLM 1/16W 390-JB
RE05	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
RE06	0700031M	RES.-CARBON FLM 1/16W 180-JB
RE07	0700065M	RES.-CARBON FLM 1/16W 68K-JB
RE08	0700059M	RES.-CARBON FLM 1/16W 27K-JB
RE09	0700039M	RES.-CARBON FLM 1/16W 820-JB
RE10	0700033M	RES.-CARBON FLM 1/16W 270-JB
RE11	0700033M	RES.-CARBON FLM 1/16W 270-JB
RE12	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
RE13	0700058M	RES.-CARBON FLM 1/16W 22K-JB
RE14	0700067M	RES.-CARBON FLM 1/16W 100K-JB
RE15	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RE16	0113742M	RES.-CARBON FLM 1/2W 470-JB
RE18	0700036M	RES.-CARBON FLM 1/16W 470-JB
RE19	0700067M	RES.-CARBON FLM 1/16W 100K-JB
RE20	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RE21	0100065M	RES.-CARBON FLM 1/8W 1K-JB
RE22	0700027M	RES.-CARBON FLM 1/16W 100-JB
RE23	0113701M	RESISTOR CARBON FILM SRD1/2P-B 10-J
RE24	0100039M	RES.-CARBON FLM 1/8W 82-JB
RE25	0188133M	RES.-CARBON FLM 1/2W 1.5K-JB
RE26	0188132M	RES.-CARBON FLM 1.2K-J 1/2W
RE27	0188155M	RES.-CARBON FLM 68K-JB
RE28	0188155M	RES.-CARBON FLM 68K-JB
RE29	0113776M	RESISTOR CARBON FILM SRD1/2P-B 12K-J
RE30	0100039M	RES.-CARBON FLM 1/8W 82-JB
RE31	0100069M	RES.-CARBON FLM 1/8W 1.5K-JB
RE32	0100067M	RES.-CARBON FLM 1/8W 1.2K-JB
RE33	0113704M	RESISTOR CARBON FILM SRD1/2P-B 13-J
RE34	AT03571S	METAL OX. 220OHM 3W
RE35	0113686M	RES.-CARBON FLM 1/2W 2.7-J
RE36	0113686M	RES.-CARBON FLM 1/2W 2.7-J
RE37	0113704M	RESISTOR CARBON FILM SRD1/2P-B 13-J
RE38	AT03254S	METAL OX. 300OHM 1W
RE39	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RE40	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RE41	0700035M	RES.-CARBON FLM 1/16W 390-JB
RE43	0700039M	RES.-CARBON FLM 1/16W 820-JB
RE45	0700027M	RES.-CARBON FLM 1/16W 100-JB
RE46	0113746M	RES.-CARBON FLM 1/2W 680-JB
RE47	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RX01	0195935R	RES 2125 CHIP 1/16W 27K-J TAPE
RX02	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RX03	0195875R	RES 2125 CHIP 1/16W 100J TAPE

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
RX04	0195897R	RES 2125 CHIP 1/16W 820J TAPE	RY20	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RX05	0195893R	RES 2125 CHIP 1/16W 560J TAPE	RY21	0195914R	RES 2125 CHIP 1/16W 3.9KJ TAPE
RX06	0195904R	RESISTOR 2125 CHIP 1/16W 1.5KJ TAPE	RY22	0195887R	RES 2125 CHIP 1/16W 330J TAPE
RX07	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RY23	0195872R	RES 2125 CHIP 1/10W 82-J TAPE
RX08	0195897R	RES 2125 CHIP 1/16W 820J TAPE	RY24	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RX22	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RY25	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RX26	0195967R	RESISTOR MINI-CHIP RMC1/16 510K-J TAPE	RY26	0195904R	RESISTOR 2125 CHIP 1/16W 1.5KJ TAPE
RX27	0195912R	RES 2125 CHIP 1/16W 3.3KJ TAPE	RY27	0195915R	RESISTOR MINI-CHIP RMC1/16 4.3K-J TAPE
RX28	0195897R	RES 2125 CHIP 1/16W 820J TAPE	RY28	0195920R	RES 2125 CHIP 1/16W 6.8KJ TAPE
RX29	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RY29	0195912R	RES 2125 CHIP 1/16W 3.3KJ TAPE
RX30	0195897R	RES 2125 CHIP 1/16W 820J TAPE	RY30	0700027M	RES.-CARBON FLM 1/16W 100-JB
RX31	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RY31	0195871R	RMC73S-2A750JR
RX32	0195897R	RES 2125 CHIP 1/16W 820J TAPE	RY32	0195871R	RMC73S-2A750JR
RX33	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RY33	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
RX34	0195931R	RES 2125 CHIP 1/16W 18KJ TAPE	RY34	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
RX35	0195943R	RES.2125 CHIP 1/16W 56KJ TAPE	RY35	0195871R	RMC73S-2A750JR
RX36	0195891R	RES 2125 CHIP 1/16W 470J TAPE	RY39	0195887R	RES 2125 CHIP 1/16W 330J TAPE
RX37	0195889R	RES.2125 CHIP 1/10W 390J TAPE	RY40	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RX38	0195887R	RES 2125 CHIP 1/16W 330J TAPE	RY41	0195870R	RES.2125 CHIP 1/10W 68J TAPE
RX39	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	RY42	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RX40	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RY43	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RX41	0195897R	RES 2125 CHIP 1/16W 820J TAPE	RY44	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RX42	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RY46	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RX43	0195893R	RES 2125 CHIP 1/16W 560J TAPE	RY48	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RX45	0195939R	RES.2125 CHIP 1/16W 39KJ TAPE	RY50	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RX46	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	RY51	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RX47	0195891R	RES 2125 CHIP 1/16W 470J TAPE	RY52	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
RX48	0195887R	RES 2125 CHIP 1/16W 330J TAPE	RY53	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
RX49	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RY55	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RX50	0195897R	RES 2125 CHIP 1/16W 820J TAPE	RY56	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RX51	0195912R	RES 2125 CHIP 1/16W 3.3KJ TAPE	RY57	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RX52	0195927R	RES 2125 CHIP 1/16W 12KJ TAPE	RY61	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RX53	0195922R	RES 2125 CHIP 1/16W 8.2KJ TAPE	RY62	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RX55	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RY64	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RX57	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	RY65	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RX58	0195952R	RMC73S-2A124JR	RY69	0700032M	RES.-CARBON FLM 1/16W 220-JB
RX59	0195922R	RES 2125 CHIP 1/16W 8.2KJ TAPE	RY70	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RX60	0195914R	RES 2125 CHIP 1/16W 3.9KJ TAPE	RY71	0700027M	RES.-CARBON FLM 1/16W 100-JB
RX62	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RY72	0700027M	RES.-CARBON FLM 1/16W 100-JB
RX63	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RY73	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RY01	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RY74	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RY05	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RY75	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RY06	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RY77	0195960R	RES.MINI-CHIP RMC1/16 270K-J TAPE
RY07	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RY78	0195960R	RES.MINI-CHIP RMC1/16 270K-J TAPE
RY08	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RY79	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RY09	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RY81	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RY10	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RY83	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RY11	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RY84	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RY12	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RY85	0195871R	RMC73S-2A750JR
RY13	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RY86	0195871R	RMC73S-2A750JR
RY14	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RY87	0195871R	RMC73S-2A750JR
RY15	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RY88	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RY16	0195908R	RES.2125 CHIP 1/10W 2.2KJ TAPE	RY89	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RY17	0195912R	RES 2125 CHIP 1/16W 3.3KJ TAPE	RY90	0195943R	RES.2125 CHIP 1/16W 56KJ TAPE
RY18	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	RY91	0195937R	RES.2125 CHIP 1/16W 33KJ TAPE
RY19	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RY96	0195875R	RES 2125 CHIP 1/16W 100J TAPE

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
RY98	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RY99	0195943R	RES.2125 CHIP 1/16W 56KJ TAPE
RYA1	0195937R	RES.2125 CHIP 1/16W 33KJ TAPE
RYA2	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RYA3	0195891R	RES 2125 CHIP 1/16W 470J TAPE
RYA4	0195891R	RES 2125 CHIP 1/16W 470J TAPE
RYA5	0195885R	RESISTOR 2125 CHIP 1/16W 270J TAPE
RYA6	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RYA7	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RYA8	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RYA9	0195943R	RES.2125 CHIP 1/16W 56KJ TAPE
RYC1	0195937R	RES.2125 CHIP 1/16W 33KJ TAPE
RYC2	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RYC3	0195891R	RES 2125 CHIP 1/16W 470J TAPE
RYC4	0195891R	RES 2125 CHIP 1/16W 470J TAPE
RYC5	0195889R	RES.2125 CHIP 1/10W 390J TAPE
RYC6	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RYC7	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RYC8	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RYC9	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RYE2	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RYE3	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RYE4	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RYE5	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RYE6	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RYE7	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RYE8	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RYE9	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RYF1	0700025M	RES.-CARBON FLM 1/16W 68-J
RYF2	0195870R	RES.2125 CHIP 1/10W 68J TAPE
RYF3	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RYF4	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RYG1	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYG4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYG5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYG6	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYG7	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYG8	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYG9	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYH1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYH2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYH3	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYH4	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYH5	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYH6	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYH7	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYH8	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYH9	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYJ1	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RYJ2	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RYJ3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYJ4	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYJ5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYJ6	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYJ7	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYJ8	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYJ9	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYK1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYK2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
SP. MATRIX PWB ASSEMBLY: RESISTORS		
RM01	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RM02	0700058M	RES.-CARBON FLM 1/16W 22K-JB
RM03	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
RM04	0100065M	RES.-CARBON FLM 1/8W 1K-JB
RM05	0100065M	RES.-CARBON FLM 1/8W 1K-JB
RM06	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RM07	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB
RM08	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RM09	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
RM10	0100129M	RES.-CARBON FLM 1/8W 470K-JB
RM11	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RM12	0100125M	RES.-CARBON FLM 1/8W 330K-JB
RM13	0100073M	RES.-CARBON FLM 1/8W 2.2K-JB
RM14	0100125M	RES.-CARBON FLM 1/8W 330K-JB
RM15	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RM38	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RM40	0700067M	RES.-CARBON FLM 1/16W 100K-JB
RS12	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
RS13	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
RS14	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
RS15	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
RS32	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
RS33	0700056M	RES.-CARBON FLM 1/16W 15K-JB
RS34	AT03665M	RES.MTL GRAZD FLM 1/2W 1M
RS35	AT03666M	RES.MTL GRAZD FLM 1/2W 1.2M
RS42	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RS47	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RS48	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RSH4	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RZ09	0147152	RES.-WIRE WOUND 3W 27-JA CEMENTED
CPT PWB ASSEMBLY: RESISTORS		
R801	0140326S	RES. WIRE WOUND 5.6K-J 5W
R803	0113744M	RESISTOR CARBON FILM SRD1/2P-B 560-J
R806	0113815M	RESISTOR CARBON FILM SRD1/2P-B 470K-J
R810	0100051M	RES.-CARBON FLM 1/8W 270-JB
R811	0100057M	RES.-CARBON FLM 1/8W 470-JB
R812	0100045M	RES.-CARBON FLM 1/8W 150-JB
R815	0100063M	RES.-CARBON FLM 1/8W 820-JB
R817	0100041M	RES.-CARBON FLM 1/8W 100-JB
R818	0100049M	RES.-CARBON FLM 1/8W 220-JB
R821	0100063M	RES.-CARBON FLM 1/8W 820-JB
R822	0100049M	RES.-CARBON FLM 1/8W 220-JB
R823	0100065M	RES.-CARBON FLM 1/8W 1K-JB
R825	0100021M	RES.-CARBON FLM 1/8W 15-JB
R827	0100065M	RES.-CARBON FLM 1/8W 1K-JB
R831	0140326S	RES. WIRE WOUND 5.6K-J 5W
R833	0113744M	RESISTOR CARBON FILM SRD1/2P-B 560-J
R836	0113815M	RESISTOR CARBON FILM SRD1/2P-B 470K-J
R840	0100051M	RES.-CARBON FLM 1/8W 270-JB
R841	0100057M	RES.-CARBON FLM 1/8W 470-JB

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
R842	0100033M	RES.-CARBON FLM 1/8W 47-JB
R843	0150001	RESISTOR-VARIABLE CARBON RV08 200-B
R855	0100021M	RES.-CARBON FLM 1/8W 15-JB
R861	0140326S	RES. WIRE WOUND 5.6K-J 5W
R863	0113744M	RESISTOR CARBON FILM SRD1/2P-B 560-J
R866	0113815M	RESISTOR CARBON FILM SRD1/2P-B 470K-J
R870	0100051M	RES.-CARBON FLM 1/8W 270-JB
R871	0100057M	RES.-CARBON FLM 1/8W 470-JB
R872	0100033M	RES.-CARBON FLM 1/8W 47-JB
R873	0150001	RESISTOR-VARIABLE CARBON RV08 200-B
R885	0100021M	RES.-CARBON FLM 1/8W 15-JB
POWER DEFLECTION PWB ASSEMBLY: SWITCH		
SK01	FE00061	1P TACT SWITCH
SP. MATRIX PWB ASSEMBLY: SWITCHES		
SM01	FE00001R	PUSH SWITCH
SM02	FE00001R	PUSH SWITCH
SM03	FE00001R	PUSH SWITCH
SM04	FE00001R	PUSH SWITCH
SM05	FE00001R	PUSH SWITCH
SM06	FE00001R	PUSH SWITCH
SM07	FE00001R	PUSH SWITCH
SM09	FE00091	SWP01N01-EVQQKH08Q
SZ01	FD00041	SLIDE SWITCH
POWER DEFLECTION PWB ASSEMBLY: TRANSFORMERS		
⚠ T701	2260291U	HORIZONTAL DRIVE TRANS.
⚠ T702	BW00632	HFL1735YP-RC
⚠ T703	2272762	TRANS.-SATURBLE
⚠ T901	BT00801	POWER TRANSFORMER EE49F17U-AP73F
SIGNAL PWB ASSEMBLY: CRYSTAL		
X001	2168831	CRYSTAL CSA12.0MTZ
X100	BP00771	OSXR032X121TA252E00
TERMINAL PWB ASSEMBLY: CRYSTAL		
X501	2791501	CRYSTAL HC-49/U
X502	2168771	X'TAL CSB503F30
MAIN CHASSIS ASSEMBLY: MISCELLANEOUS		
#111	PH06854	TERMINAL HOLDER AP92 SASSY
#121	PH06314	TERMINAL HOLDER AP9X/ZP9* PS
#131	PH06754	DECO. PLATE AV AP92 PVC
#147	4159423	SCR NO 3X12 FL/FLT
#151	NA21011	SP PWB SUPPORT BRKT AP74 A SECC20/20E
#153	4159423	SCR NO 3X12 FL/FLT
#161	3813121	LEAD CLAMPER 2135 PA
#165	NA20931	SUB PWB SUPPORT BRKT AP74 SECC20/20E
#172	4522901	6 NUT (F) BSBM
EB	2997977	1J MINI CONNE. L=910
EPP	2901351	3J MINI CONNE.L=300
EST	2908776	7J PH CONNE L=160
ETU1	2979173	PLUG WITH COAXIAL CABLE
ETU2	2979172	MINI PLUG WITH COAXIAL CABLE

SYMBOL NO.	PART NO.	PART DESCRIPTION
SIGNAL PWB ASSEMBLY: MISCELLANEOUS		
EAN	2974056S	3J CONNE SEH UL1007 L=160
N1	MD03052	SHIELD CASE AP7X B TC-30
N2	MD03062	SHIELD PLATE AP9X A TC-30
N401	3442022	SOUND HEAT SINK 2CH
N401A	4520883	3*12 SCREW WITH WASHER
P001	2663821	2P SUB MINI PLUG PIN
PCB	ED00572	CP-TAC-L15X-A1
PCC	ED00576	CP-TAC-L20X-A1
PCD	ED00576	CP-TAC-L20X-A1
PCX	ED00572	CP-TAC-L15X-A1
PFJ	2902268	PLUG PIN SUB MINI 9P
PP	2903543	3P PLUG PIN WITH BASE
PSD1	ED01471U	PLUG 07BP1R2HUTWGP-A1
PSD2	ED01472U	PLUG 11BP1R2HUTWGP-A1
PSD3	ED01472U	PLUG 11BP1R2HUTWGP-A1
PSD4	ED01473U	PLUG 13BP1R2HUTWGP-A1
PSD5	ED01471U	PLUG 07BP1R2HUTWGP-A1
PSI1	ED00575	CP-TAC-L18X-A1
PSI2	ED00575	CP-TAC-L18X-A1
PSU1	ED00576	CP-TAC-L20X-A1
PVM1	ED00566	CP-TAC-L10X-A1
PVM2	ED00566	CP-TAC-L10X-A1
WJ01	9374575	UL CSA1007-24HP CODE GREEN
WJ02	9374575	UL CSA1007-24HP CODE GREEN
WJ04	9374575	UL CSA1007-24HP CODE GREEN
WJ05	9374575	UL CSA1007-24HP CODE GREEN
POWER DEFLECTION PWB ASSEMBLY: MISCELLANEOUS		
⚠ E901	EV00901	AC Cord
E92F	3446473	HEATSINK H30 P10
E93F	MA01271	HEAT SINK TC30 H=25 TC-30
E98F	MC00104	HEAT SINK P10 H45 19 A6063S-75
E99F	MC00104	HEAT SINK P10 H45 19 A6063S-75
E9A	MA00842	POWER HEAT SINK AP73B A1100P-H14
E9DW	4269926	WASHER PL-1252
E9QF	MC00104	HEAT SINK P10 H45 19 A6063S-75
ED94	EY00791	PJX-LEAD-PLUGPIN
ED95	EY00791	PJX-LEAD-PLUGPIN
ED99	EY00791	PJX-LEAD-PLUGPIN
EF91	FP00031R	FUSE HOLDER TP00351-51
⚠ G701	CJ00071R	SEMICONDUCTOR AG15PC-152FS-K2M
⚠ GF01	CJ00072R	SEMICONDUCTOR 252FB-K2M
N160	3733243	NP3 LEAD CRAMP (V0)
N601	3442081	HEAT SINK (V) A2
N701	MA00851	HEAT SINK AP73 (H)A1100P-H14
N703	NT00981	FBT HOLDER AP74 PS(HI=100%)
N711	NA03111	CHASSIS PWB BRKT AP5 CL1 SECC20/20E
N715	NA20921	CHASSIS PWB BKT AP7X L1 SECC20/20E
N721	4491082	CHASSIS PWB BKT FB2 SECC20/20E
N725	NA03131	CHASSIS PWB BRKT AP5 BB1 SECC20/20E
N745	2781697	YC20A INSULATION WASHER
N901	3782714	PCB SUPPORT 10S NYLON
NK01	MA01271	HEAT SINK TC30 H=25 TC-30
NK02	MA01271	HEAT SINK TC30 H=25 TC-30
NK05	MC00192	CONV.HEAT SINK AP73B A6063S-T5

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
NK08	NA20781	CONV. IC SUPPORT BRKT AP74 SECC20/20E
P901	ED01851	PLUG 5289-2A
PB	2661756	1P PLUG PIN WITH BASE
PCB	2903544	4P PLUG PIN WITH BASE
PCG	2903544	4P PLUG PIN WITH BASE
PCR	2903544	4P PLUG PIN WITH BASE
PDC	ED00565	CP-TAC-L09X-A1
PDG	ED00572	CP-TAC-L15X-A1
PDS	ED00565	CP-TAC-L09X-A1
PFT	ED01596U	PLUG CP-04BP5R0VU-TBL#2,3N
PMB	ED01597U	PLUG CP-06BP5R0VU-TBL#3,5N
PMG	ED01597U	PLUG CP-06BP5R0VU-TBL#3,5N
PMR	ED01597U	PLUG CP-06BP5R0VU-TBL#3,5N
PSD1	ED01491U	CONNECTOR 07BS1R2VUTWGX-A1
PSD2	ED01492U	CONNECTOR 11BS1R2VUTWGX-A1
PSD3	ED01492U	CONNECTOR 11BS1R2VUTWGX-A1
PSD4	ED01493U	CONNECTOR 13BS1R2VUTWGX-A1
PSD5	ED01491U	CONNECTOR 07BS1R2VUTWGX-A1
PY2	2902263	PLUG PIN SUB MINI 4P
W901	2964863	2J-CONNECTOR
ZH91	9451140	UL CSA TUBE AWG NO12 CLEAR
TERMINAL PWB ASSEMBLY: MISCELLANEOUS		
JY01	ES00182	JACK 3S-14US AP92
NE01	3446473	HEATSINK H30 P10
PB	2661756	1P PLUG PIN WITH BASE
PCB	ED00512	CP-TAC-L15P-A1
PCC	ED00516	CP-TAC-L20P-A1
PCD	ED00516	CP-TAC-L20P-A1
PCX	ED00512	CP-TAC-L15P-A1
PSI1	ED00515	CP-TAC-L18P-A1
PSI2	ED00515	CP-TAC-L18P-A1
PST	2675286	PH CONNE. 7P
PVM1	ED00506	CP-TAC-L10P-A1
PVM2	ED00506	CP-TAC-L10P-A1
PVMC	2902262	PLUG PIN SUB MINI 3P
PY1	2675285	PIN POST (PH 6P)
WJ01	9374575	UL CSA1007-24HP CODE GREEN
SP. MATRIX PWB ASSEMBLY: MISCELLANEOUS		
EFC	2974086S	CONNE 4P L=160
JZ01	ER00121	2L4P LEVER TERMINAL
NM71	3816161	G9 EE HOLDER (S)
NM72	NJ01171	LED HOLDER A5WS
PFC	2902263	PLUG PIN SUB MINI 4P
PFJ	2902248	PLUG PIN SUB MINI9P
PL	2903545	5P PLUG PIN WITH BASE
PP	2903543	3P PLUG PIN WITH BASE
PR	2903544	4P PLUG PIN WITH BASE
PSU1	ED00516	CP-TAC-L20P-A1
CPT PWB ASSEMBLY: MISCELLANEOUS		
⚠ E801	EY00941	CRT-SOCKET HPS1600-016409
⚠ E831	EY00941	CRT-SOCKET HPS1600-016409
⚠ E861	EY00941	CRT-SOCKET HPS1600-016409
EBG1	EF08271	CO-06B-B2R5-301

SYMBOL NO.	PART NO.	PART DESCRIPTION
EBG2	2966821	4J CONNE. L=300
EGR1	EF08381	CO-05B-B2R5-301
EGR2	2966821	4J CONNE. L=300
⚠ G801	CJ00071R	SEMICONDUCTOR AG15PC-152FS-K2M
⚠ G802	CJ00071R	SEMICONDUCTOR AG15PC-152FS-K2M
⚠ G831	CJ00071R	SEMICONDUCTOR AG15PC-152FS-K2M
⚠ G832	CJ00071R	SEMICONDUCTOR AG15PC-152FS-K2M
⚠ G861	CJ00071R	SEMICONDUCTOR AG15PC-152FS-K2M
⚠ G862	CJ00071R	SEMICONDUCTOR AG15PC-152FS-K2M
N801	3763751	SK BINDER
N802	3446473	HEATSINK H30 P10
P801	2961141	2P PLUG PIN WITH BASE
P802	2661756	1P PLUG PIN WITH BASE
P831	2961141	2P PLUG PIN WITH BASE
P832	2661756	1P PLUG PIN WITH BASE
P861	2961141	2P PLUG PIN WITH BASE
P862	2661756	1P PLUG PIN WITH BASE
PP31	2661751	2P PLUG PIN WITH BASE
PTS	2663821	2P SUB MINI PLUG PIN
PY1	2959055	CONNECTOR-6P(PH)
PY2	2902263	PLUG PIN SUB MINI 4P
W811	2692464	CO-01C-N0R0-821FOCUS
W812	EK00062	WIRE (PROCESSED) FOR SCREEN
W841	2692463	CONNECTOR FOR FOCUS
W842	EK00061	WIRE (PROCESSED)
W871	2692463	CONNECTOR FOR FOCUS
W872	EK00061	WIRE (PROCESSED)
FINAL ASSEMBLY: SPEAKERS		
⚠ U401	GK00481	SP-12CMM EAST12PL17A
⚠ U402	GK00481	SP-12CMM EAST12PL17A
FINAL ASSEMBLY: MISCELLANEOUS		
#011	UE05586	AP02 LENS CRT CHASSIS B.ASY
#018	NA47421	43" GRIP METAL SECC20/20E
#021	UE06993	AP02 CONTROL B.ASY
#031	QG01191	43GX** REAR COVER ASY
#041	NT01681	43GX** FRAME ASY
#051	QD08861	43GX01B CABINET ASSY
#111	33010368	BARRIER BOARD 43"
#114	55020074	FRONT BOARD ASSY 43"
#210	HW91595	PRINT SPEC PTV SCREEN
#210A	H462111	LABEL 125-64
#215	HXW98011	FLOOR CAUTION LABEL
#260	3487427	HITACHI BADGE 55
#318	HXW98028	FLOOR CAUTION LABEL (FRENCH)
#347	HXW98004	CAUTION LABEL PRINT SPEC'S
#422	ML00801	DUAL LOCK SJ-3463
#425	62010058	VELCRO 25*50
#428	3727972	POWER CORD HANGER
#432	H512267	LOWER REAR BOARD 43"
#451	PH08301	SPEAKER GRILL 43"
E002	2169513	COIL LX-ZCAT2032
EFJ	2973897S	CONNE. 9P L=1000
EFS	2958151	CONNECTOR RE01X-X3239A901
EFT	EF05941	4P CONNECTOR (L=1000 N.C#2,3)

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
ESL	EF05933	CO-05C-F5R0-152#345NC
ESR	EF05953	CO-04C-F5R0-152#34NC
EVMC	EF01202	3P EH CONNECTOR (L=820)
EY1	2908764	CONNE. 6P L=750
EY2	2973744S	4J CONNE. L=750
N003	3700342	WIRE CLAMP V0
N004	3876031	WIRE CLAMP W 13-20 PA
N005	3728273	PURSE LOCK (8)
N006	3785502	V LOCK 11.5
N007	3785522	V LOCK 20
N101	HXW98038	WARNING LABEL PRINT SPEC Y2K MODELS
N102	HW91589	PRINT SPEC-H.V. BOX
N104	HW91590	PRINT SPEC-BOARD MAP LABEL
N105	4966346	CONV WARNING LABEL AP53
N107	H461651	CABLE COMPATBLE LABEL
NPF1	9451138	UL FR-1 TUBE NO.3
NPF2	3763751	SK BINDER
OWNER'S ASSEMBLY		
E201	FQ00021	BATTERY(R6P-AA)
E301	HL00728	RCT CLU-436UI Remote Control
N201	QR43621	43GX01B INST.E
N201	QR43631	43GX01B INST.BOOK(FRN)#1
N202	H462163	PTV WARRANTY CARD
N202	H462271	FRENCH WARRANTY CARD
N203	H462673	V-CHIP GUIDE PTV (E & F)
LENS CRT CHASSIS B. ASSEMBLY		
#005	NA03234	LENS CRT METAL
#005	NA48901	LENS/CRT METAL 43 SECC20/20E
#036	UE07781	CPD-LTG 43 LC B.ASY(R)
#036L		
#037	UE07782	CPD-LTG 43 LC B.ASY(G)
#037L		
#038	UE07783	CPD-LTG 43 LC B.ASY(B)
#038L		
#231	35200045	HOLE COVER 97UX
#232	4524911	HEX FLANGE HEAD B T-S 4*12 SWCH16A
#240	3876031	WIRE CLAMP W 13-20 PA
#250	3744172	CLAMP 20
E10B	2776543	MAG-VM(C-C)2/4P1.8UH
E10G	2776543	MAG-VM(C-C)2/4P1.8UH
E10R	2776543	MAG-VM(C-C)2/4P1.8UH
⚠ E12B	BY01101	DY-V80-7.0SS3.0L AKME
⚠ E12G	BY01101	DY-V80-7.0SS3.0L AKME
⚠ E12R	BY01101	DY-V80-7.0SS3.0L AKME
N200B	KQ00811	CPD38 LENS AB ASS'Y
N200G	KQ00811	CPD38 LENS AB ASS'Y
N200R	KQ00811	CPD38 LENS AB ASS'Y
LENS CRT B. ASSEMBLY		
E2B	EZ01321	COD-ANODE COVER ASY 2K
E2G	EZ01321	COD-ANODE COVER ASY 2K
E2R	EZ01321	COD-ANODE COVER ASY 2K
E3B	2958351	CONN. W/WIRE MINI 2J
E3G	2958351	CONN. W/WIRE MINI 2J
E3R	2958351	CONN. W/WIRE MINI 2J
N010	W200026	4
N101B	ND00311	BRKT R/B 43"
N101G	ND00054	CPD BRKT G4
N101R	ND00311	BRKT R/B 43"
N111B	3810112	HP BELLOWS STAY
N111G	3810112	HP BELLOWS STAY
N111R	3810112	HP BELLOWS STAY
N121B	4738241	ORING PRTX
N121G	4738241	ORING PRTX
N121R	4738241	ORING PRTX
N123B	KX00062	CP LENS SEAL
N123G	KX00062	CP LENS SEAL
N123R	KX00062	CP LENS SEAL
N125B	4621121	BELLOWS R EPDM
N125G	4621121	BELLOWS R EPDM
N125R	4621121	BELLOWS R EPDM
N127B	4618311	O RING (P9) FLUORO RUBBER
N127G	4618311	O RING (P9) FLUORO RUBBER
N127R	4618311	O RING (P9) FLUORO RUBBER
N129B	4618321	PAD RUBBER CHLOROPRENE RU
N129G	4618321	PAD RUBBER CHLOROPRENE RU
N129R	4618321	PAD RUBBER CHLOROPRENE RU
N131B	NA02922	CPC LENS FIX METAL
N131G	NA02922	CPC LENS FIX METAL
N131R	NA02922	CPC LENS FIX METAL
N134B	4491972	PRT METAL (AP74)
N134G	4491972	PRT METAL (AP74)
N134R	4491972	PRT METAL (AP74)
N153B	MJ01462	PRT SCREW H810222
N153G	MJ01462	PRT SCREW H810222
N153R	MJ01462	PRT SCREW H810222
N154B	KL00981	PRT SPRING H830091
N154G	KL00981	PRT SPRING H830091
N154R	KL00981	PRT SPRING H830091
N157B	4524913	HEX FLANGE HEAD B-TIGHT TN E RED SWCH16A
N157G	4524913	HEX FLANGE HEAD B-TIGHT TN E RED SWCH16A
N157R	4524913	HEX FLANGE HEAD B-TIGHT TN E RED SWCH16A
N165G	4621681	SEALING CUSHION
N203B	KQ00821	DELTA 38 C-ELEMENT B
N203G	KQ00822	DELTA 38 C-ELEMENT G
N203R	KQ00823	DELTA 38 C-ELEMENT R
N406B	3335321	GROUNDING SPRING
N406G	3335321	GROUNDING SPRING
N406R	3335321	GROUNDING SPRING
N426B	3875441	LEAD CLAMPER
N426G	3875441	LEAD CLAMPER
N426R	3875441	LEAD CLAMPER
⚠ V1B	DE01913	CRT P16LTG00 BMB
⚠ V1G	DE01912	CRT P16LTG00 HHA
⚠ V1R	DE01911	CRT P16LTG00 RFA
CABINET ASSEMBLY		
#100	61010063	STEEL COUNTER WEIGHT
#110	62010058	VELCRO 25*50

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
REAR COVER ASSEMBLY					
#10	QD08991	43" BACK COVER			
See Below					
#30	NA47451	H. MIRROR METAL 43" SECC20/20E			
#40	NA47441	CENTRAL METAL RIGHT SECC20/20E			
#45	NA47442	CENTRAL METAL LEFT			
FRAME ASSEMBLY					
# 10	QD08981	43" FRAME			
# 20	NA47171	H. SCREEN METAL			
# 30	NA47181	V. SCREEN METAL			
# 40	4524911	HEX FLANGE HEAD B T-S 4*12 SWCH16A			
SCREEN ASSEMBLY					
	KR01461	SCREEN ASSY			
N530A	KR01575	ULTRASHIELD 43"			
Z560	9542216	GAUZE			
CONTROL B. ASSEMBLY					
#110	H311515	CONTROL PANEL BOX (UX/H)			
#120C	PH08414	CONTROL PANEL ASSY			
#130	H311531	CONTROL DOOR			
#135	3875771	LATCH 4T02 NYLON			
#140	H311541	SELECT BUTTONS			
#150	H311522	RC POWER LENS			
#160C	3827878	INDOOR PLATE			
#190	4613658	CUSHION BACK COVER RUBBER FOAM			
#20	KS02022	43" Mirror Glass for Serial Numbers Less than V0E002684			
#20	KS02024	43" Mirror Glass for Serial Numbers Greater than V0E002684			

HITACHI

HITACHI

PA | No. 0125

46FX01B 46GX01B
50GX10B 50GX20B

SERVICE MANUAL

NTSC | AP92R Chassis

R/C: CLU-436UI

This addendum gives differences between AP92R and AP92 chassis models. For any other information, see the 50GX49B Service Manual PA No. 0114 issued in April 1999.

CONTENTS

SAFETY PRECAUTIONS 3
SERVICING PRECAUTIONS 6
TECHNICAL CAUTIONS 10
SPECIFICATIONS 11
CIRCUIT PROTECTION 11
GENERAL INFORMATION 12
CUSTOMIZED PICTURE AND SOUND ADJUSTMENTS 13
CAUTIONS WHEN CONNECTING/DISCONNECTING THE HV CONNECTOR 16
SERVICE ADJUSTMENTS 17
IC USE LIST 31
TROUBLESHOOTING 32
PROTECTION CIRCUIT BLOCK DIAGRAM 39
BLOCK DIAGRAM 41
WIRING DIAGRAM 43
EXPLODED VIEW 45
REPLACEMENT PARTS LIST 46

CAUTION: Before servicing this chassis, it is important that the service technician read the "Safety Precaution" and "Product Safety Notices" in this service manual.

SAFETY NOTICE
USE ISOLATION TRANSFORMER WHEN SERVICING

Components having special safety characteristics are identified by a ⚠ on the schematics and on the parts list in this Service Data and its supplements and bulletins. Before servicing the chassis, it is important that the service technician read and follow the "Safety Precautions" and "Product Safety Notices" in this Service Manual.

*For continued x-radiation protection, replace picture tube with original type or Hitachi approved equivalent type.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

PROJECTION COLOR TELEVISION

JANUARY 2000 HHEA-MANUFACTURING DIVISION

SAFETY NOTICE
USE ISOLATION TRANSFORMER WHEN SERVICING

Components having special safety characteristics are identified by a ⚠ on the schematics and on the parts list in this service manual and its supplements and bulletins. Before servicing this chassis, it is important that the service technician read and follow the "Safety Precautions" and the "Product Safety Notices" in this Service Manual.

For continued X-Radiation protection, replace picture tube with original type or Hitachi approved equivalent type.

This Service Manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health and Safety Code, Section 25249.5).

When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with solder. Also, when soldering do not inhale any smoke or fumes produced.

This television receiver provides display of television closed captioning in accordance with section 15.119 of the FCC rules.

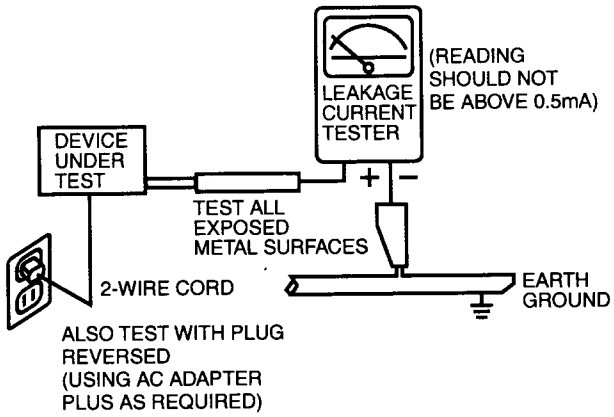
SAFETY PRECAUTIONS

1. Before returning an instrument to the customer, always make a safety check of the entire instrument, including but not limited to the following items.
   a. Be sure that no built-in protective devices are defective and/or have been deleted during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including but not limited to, nonmetallic control knobs, insulating fishpaper, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning. Servicers who defeat safety features or fail to perform safety checks may be liable for any resulting damage.**

   b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to (1) spacing between the picture tube and cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.

   c. **Antenna Cold Check** – With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input, exposed terminal screw and, if applicable, to the coaxial connector. If the measured resistance is less than 1.0 megohms or greater than 5.2 megohms, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.

   d. **Leakage Current Hot Check** – With the instrument completely reassembled, plug the AC line cord directly into a 120V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.0 Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal waterpipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle bracket, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milliamps. Reverse the instrument power cord plug in the outlet and repeat test.



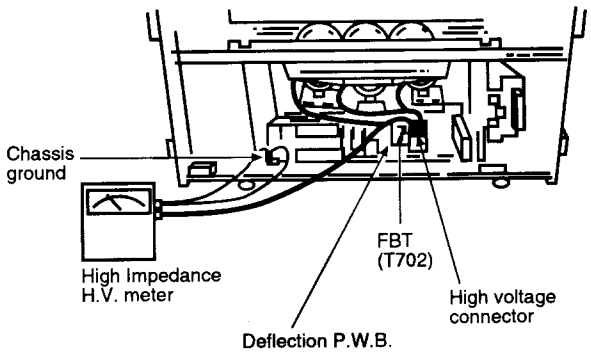
AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR BEFORE CONNECTING THE ANTENNA OR ACCESSORIES.

e. **High Voltage** – This receiver is provided with a hold down circuit for clearly indicating that voltage has increased in excess of a predetermined value. Comply will all notes described in this Service Manual regarding this hold down circuit when servicing, so that this hold down circuit may correctly be operated.

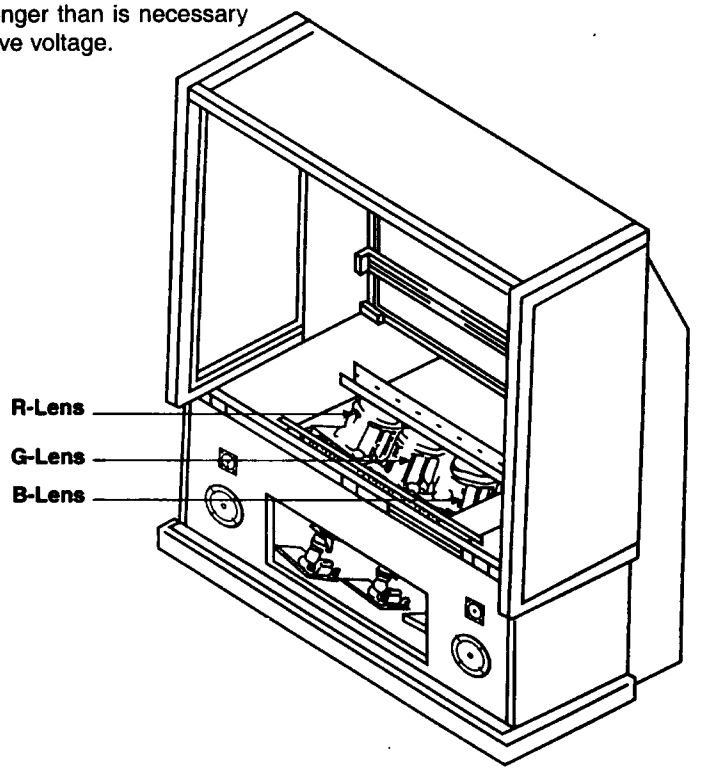
f. **Service Warning** – With maximum contrast, operating high voltage in this receiver is lower than **31.5 kV.** In case any component having influence on high voltage is replaced, confirm that the high voltage with maximum contrast is lower than **31.5 kV.**
To measure H.V. use a high impedance H.V. meter. Connect (-) to chassis earth and (+) to the CRT anode button. (See the following connection diagram.)

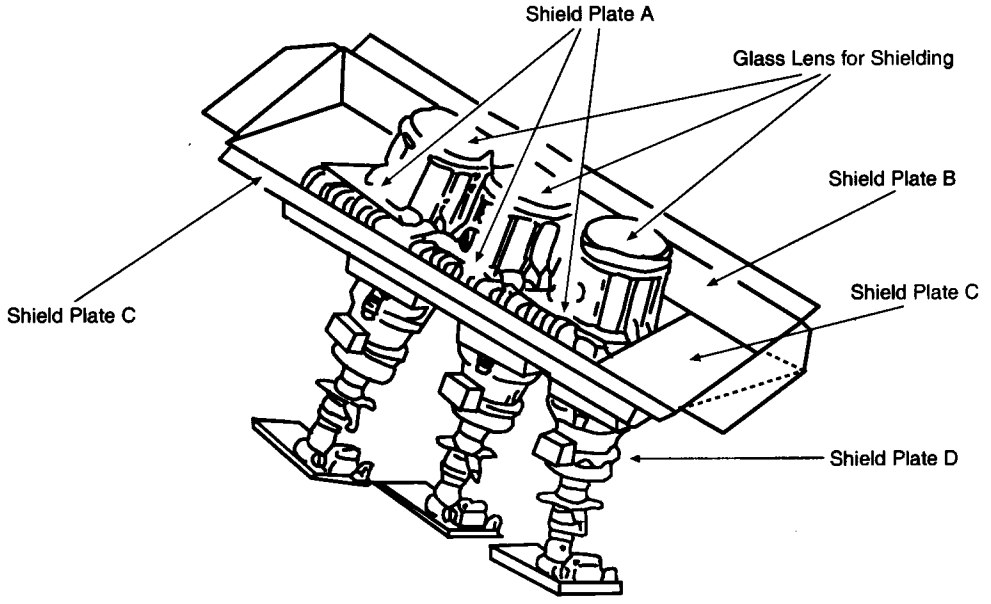
Note: Turn power switch off without fail before the connection to the anode button is made.



g. **X-radiation – TUBE:** The primary source of X-radiation in this receiver is the picture tube. The tube utilized for the above mentioned function in this chassis is specially constructed to limit X-radiation emissions.
For continued X-radiation protection, the replacement tube must be the same type as the original, Hitachi approved type.
When troubleshooting and making test measurements in a receiver with a problem of excessive high voltage, avoid being unnecessarily close to the picture tube and the high voltage component.
Do not operate the chassis longer than is necessary to locate the cause of excessive voltage.

h. **X-radiation Shield –**
1. This receiver is provided with X-ray shield plates for protection against X-radiation. Do not remove X-ray shield plates A, B, C, or D shown in Fig. 1 unnecessarily, when troubleshooting and/or making test measurements.
2. To prevent X-radiation, after replacement of picture tube and lens, confirm these components to be fixed correctly to bracket and cabinet, and not to be taken off easily.





Detailing X-radiation shield

Fig. 1. Detailing X-radiation Shield

2. Read and comply with all caution and safety-related notes on or inside the receiver cabinet, on the receiver chassis, or on the picture tube.

3. **Design Alteration Warning** – Do not alter or add to the mechanical or electrical design of this TV receiver. Design alterations and additions including but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connectors, might alter the safety characteristics of this receiver and create a hazard to the user. Any design alterations or additions may void the manufacturer's warranty and may make you, the servicer, responsible for personal injury or property damage resulting therefrom.

4. **Picture Tube Implosion Protection Warning** – The picture tube in this receiver employs integral implosion protection. For continued implosion protection, replace the picture tube only with one of the same type number. Do not remove, install, or otherwise handle the picture tube in any manner without first putting on shatterproof goggles equipped with side shields. People not so equipped must be kept safely away while picture tubes are handled. Keep the picture tube away from your body. Do not handle the picture tube by its neck.

5. **Hot Chassis Warning – a.** Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord and may be safely serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. Confirm that the AC power plug is inserted correctly with an AC voltmeter by measuring between the chassis and a known earth ground. If a voltage reading in excess of 1.0V is obtained, remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground. **b.** Some TV receiver chassis normally have 85V AC (RMS) between chassis and earth ground regardless of the AC plug polarity. These chassis can be safely serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection. c. Some TV receiver chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulating material that must not be defeated or altered.

6. Observe original lead dress. Take extra care to assure correct lead dress in the following areas: **a.** near sharp edges, **b.** near thermally hot parts – be sure that leads and components do not touch thermally hot parts, **c.** the AC supply, **d.** high voltage and **e.** antenna wiring. Always inspect in all areas for pinched, out-of-plate, or frayed wiring. Do not change spacing between components and the printed circuit board. Check AC power cord for damage.

7. Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.

8. **PRODUCT SAFETY NOTICE** – Many TV electrical and mechanical parts have special safety-related characteristics some of which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified in Hitachi service data by shading on schematics and by a ⚠ in the parts list. Use of substitute replacement that does not have the same safety characteristics as the recommended replacement part in Hitachi service data parts list might create shock, fire, and/or other hazards. Product safety is under review continuously and new instructions are issued whenever appropriate. For the latest information, always consult the appropriate current Hitachi service literature. A subscription to, or additional copies of service literature may be obtained at a nominal charge from Hitachi.

SERVICING PRECAUTIONS

CAUTION: Before servicing instruments covered by this service data and its supplements and addenda, read and follow the SAFETY PRECAUTIONS on page 3 of this publication.

NOTE: If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions on page 3 of this publication, always follow the safety precautions. Remember: Safety First.

General Servicing Guidelines

1. Always unplug the instrument AC power cord from the AC power source before:
   a. Removing or reinstalling any component, circuit board, module, or any other instrument assembly.

   b. Disconnecting or reconnecting any instrument electrical plug or other electrical connection.

   c. Connecting a test substitute in parallel with an electrolytic capacitor in the instrument.
      CAUTION: A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.

   d. Discharging the picture tube anode.

2. Test high voltage only by measuring it with an appropriate high voltage meter or other voltage measuring device (DVM, FETVOM, etc.) equipped with a suitable high voltage probe. Do not test high voltage by "drawing an arc." The H.V. Distribution Box has an internal 400MΩ resistor (bleeder resistor) connected from the high voltage to ground. After power is removed from the instrument the high voltage will discharge through the high voltage bleeder resistor. If the tubes have high voltage after power is removed, then the bleeder resistor is defective or the bleeder ground is disconnected.

3. Discharge the picture tube's anode at any of the R, G, or B outputs on the H.V. Distribution Box only by (a) first connecting one end of an insulated clip lead to the degaussing or kine aquadag grounding system shield at the point where the picture tube socket ground lead is connected, and then (b) touch the other end of the insulated clip lead to the picture tube high voltage distribution box R, G, or B output, using an insulated handle to avoid personal contact with high voltage.

4. Do not spray chemicals on or near this instrument or any of its assemblies.

5. Unless specified otherwise in these service data, clean electrical contracts by applying the following mixture to the contacts with a pipe cleaner, cotton-tipped stick or comparable nonabrasive applicator: 10% (by volume) Acetone and 90% (by volume) isopropyl alcohol (90%-99% strength).
   CAUTION: This is a flammable mixture. Unless specified otherwise in these service data, lubrication of contacts is not required.

6. Do not defeat any plug/socket B+ voltage interlocks with which instruments covered by this service data might be equipped.

7. Do not apply AC power to this instrument and/or any of its electrical assemblies unless all solid-state device heat-sinks are correctly installed.

8. Always connect the test instrument ground lead to the appropriate instrument chassis ground before connecting the test instrument positive lead. Always remove the test instrument ground lead last.

9. Use with this instrument only the test fixtures specified in this service data.
   CAUTION: Do not connect the test fixture ground strap to any heatsink in this instrument.

Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.

2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.

3. Use only a grounded-tip soldering iron to solder or desolder ES devices.

4. Use only can anti-static type solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES device.

5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.

6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material.)

7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
   CAUTION: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

General Soldering Guidelines

1. Use a grounded-tip, low-wattage soldering iron and appropriate tip size and shape that will maintain tip temperature within the range 500°F to 600°F.

2. Use an appropriate gauge of resin-core solder composed of 60 parts tin/40 parts lead.

3. Keep the soldering iron tip clean and well-tinned.

4. Thoroughly clean the surfaces to be soldered. Use a small wire-bristle (0.5 inch or 1.25 cm) brush with a metal handle. Do not use freon-propelled spray-on cleaners.

5. Use the following desoldering technique.
   a. Allow the soldering iron tip to reach normal temperature (500°F to 600°F).

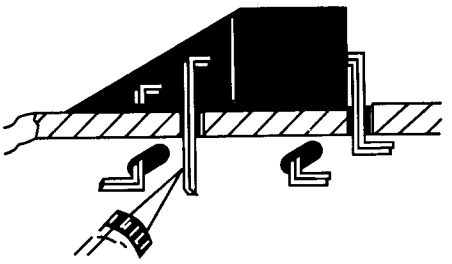
   b. Heat the component lead until the solder melts. Quickly draw away the melted solder with an anti-static, suction-type solder removal device or with solder braid.
      CAUTION: Work quickly to avoid overheating the circuit board printed foil.

6. Use the following soldering technique.
   a. Allow the soldering iron tip to reach normal temperature (500°F to 600°F).

   b. First, hold the soldering iron tip and solder strand against the component lead until the solder melts.

   c. Quickly move the soldering iron tip to the junction of the component lead and the printed circuit foil, and hold it there only until the solder flows onto and around both the component lead and the foil.
      CAUTION: Work quickly to avoid overheating the circuit board printed foil or components.

   d. Closely inspect the solder area and remove any excess or splashed solder with a small wire-bristle brush.



Use Solding Iron to Pry Leads

IC Removal/Replacement

Some Hitachi unitized chassis circuit boards have slotted holes (oblong) through which the IC leads are inserted and then bent flat against the circuit foil. When holes are the slotted type, the following technique should be used to remove and replace the IC. When working with boards using the familiar round hole, use the standard technique as outlined in paragraphs 5 and 6 above.

Removal

1. Desolder and straighten each IC lead in one operation by gently prying up on the lead with the soldering iron tip as the solder melts.

2. Draw away the melted solder with an anti-static suction-type solder removal device (or with solder braid) before removing the IC.

Replacement

1. Carefully insert the replacement IC in the circuit board.

2. Carefully bend each IC lead against the circuit foil pad and solder it.

3. Clean the soldered areas with a small wire-bristle brush. (It is not necessary to reapply acrylic coating to areas.)

"Small-signal" Discrete Transistor Removal/Replacement

1. Remove the defective transistor by clipping its leads as close as possible to the component body.

2. Bend into a "U" shape the end of each of three leads remaining on the circuit board.

3. Bend into a "U" shape the replacement transistor leads.

4. Connect to replacement transistor leads to the corresponding leads extending from the circuit board and crimp the "U" with long nose pliers to insure metal to metal contact, then solder each connection.

Power Output Transistor Devices Removal/Replacements

1. Heat and remove all solder from around the transistor leads.

2. Remove the heatsink mounting screw (if so equipped).

3. Carefully remove the transistor from the circuit board.

4. Insert new transistor in circuit board.

5. Solder each transistor lead, and clip off excess lead.

6. Replace heatsink.

Diode Removal/Replacement

1. Remove defective diode by clipping its leads as close as possible to diode body.

2. Bend the two remaining leads perpendicularly to the circuit board.

3. Observing diode polarity, wrap each lead of the new diode around the corresponding lead on the circuit board.

4. Securely crimp each connection and solder it.

5. Inspect (on the circuit board copper side) the solder joints of the two "original leads". If they are not shiny, reheat them and, if necessary, apply additional solder.

Fuses and Conventional Resistor Removal/Replacement

1. Clip each fuse or resistor lead at top of circuit board hollow stake.

2. Securely crimp leads of replacement component around stake 1/8 inch from top.

3. Solder the connections.
   CAUTION: Maintain original spacing between the replaced component and adjacent components and the circuit board, to prevent excessive component temperatures.

Circuit Board Foil Repair

Excessive heat applied to the copper foil of any printed circuit board will weaken the adhesive that bonds the foil to the circuit board, causing the foil to separate from, or "lift-off," the board. The following guidelines and procedures should be followed whenever this condition is encountered.

In Critical Copper Pattern Areas

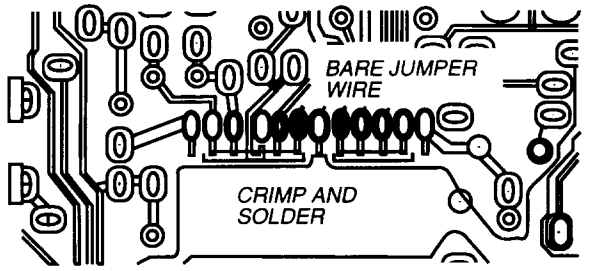
High component/copper pattern density and/or special voltage/current characteristics make the spacing and integrity of copper pattern in some circuit board areas more critical than in others. The circuit foil in these areas is designated as Critical Copper Pattern. Because Critical Copper Pattern requires special soldering techniques to ensure the maintenance of reliability and safety standards, contact your Hitachi personnel.

At IC Connections

To repair defective copper pattern at IC connections, use the following procedure to install a jumper wire on the copper pattern side of the circuit board. (Use this technique only on IC connections.)

1. Carefully remove the damaged copper pattern with a sharp knife. (Remove only as much copper as absolutely necessary.)

2. Carefully scratch away the solder resist and acrylic coating (if used) from the end of the remaining copper pattern.



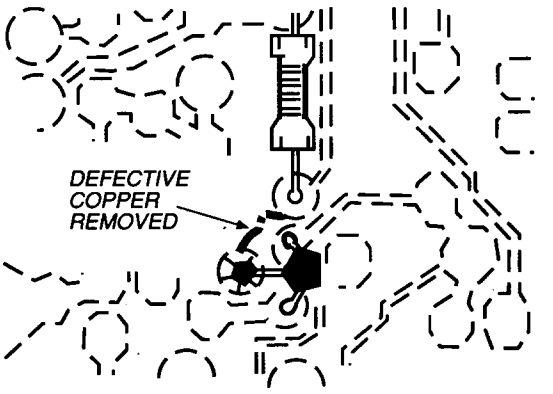
Install Jumper Wire and Solder

3. Bend a small "U" in one end of a small-gauge jumper wire and carefully crimp it around the IC pin. Solder the IC connection.

4. Route the jumper wire along the path of the cut-away copper pattern and let it overlap the previously scraped end of the good copper pattern. Solder the overlapped area, and clip off any excess jumper wire.

At Other Connections

Use the following technique to repair defective copper pattern at connections other than IC Pins. This technique involves the installation of a jumper wire on the component side of the circuit board.



Insulated Jumper Wire

1. Remove the defective copper pattern with a sharp knife. Remove at least 1/4 inch of copper, to ensure hazardous condition will not exist if the jumper wire opens.

2. Trace along the copper pattern from both wire sides of the pattern break and locate the nearest component directly connected to the affected copper pattern.

3. Connect insulated 20-gauge jumper wire from the nearest component on one side of the pattern break to the lead of the nearest component on the other side. Carefully crimp and solder the connections.
   CAUTION: Be sure the insulated jumper wire is dressed so that it does not touch components or sharp edges.

Frequency Synthesis (FS) Tuning Systems

1. Always unplug the instrument AC power cord before disconnecting or reconnecting FS tuning system cables and before removing or inserting FS tuning system modules.

2. The FS tuner must never be disconnected from the FS tuning control module while power is applied to the instrument.

3. When troubleshooting intermittent problems that might be caused by defective cable connection(s) to the FS tuning system, remove the instrument AC power as soon as the defective connector is found and finish confirming the bad connection with a continuity test. This procedure will reduce the probability of electrical overstress of the FS system semi-conductor components.

NOTE: ***These components are affixed with glue. Be careful not to break or damage any foil under the component or at the pins of the ICs when removing. Usually applying heat to the component for a short time while twisting with tweezers will break the component loose.***

Leadless Chip Components (surface mount)

Chip components must be replaced with identical chips due to critical foil track spacing. There are no holes in the board to mount standard transistors or diodes. Some chip capacitor or resistor board solder pads may have holes through the board, however the hole diameter limits standard resistor replacement to 1/8 watt. Standard capacitors may also be limited for the same reason. It is recommended that identical chip components be used. .

Chip resistors have a three digit numerical resistance code -1st and 2nd significant digits and a multiplier. Example: 162 = 1600 or 1.6K resistor, 0 = 0 (jumper).

Chip capacitors generally do not have the value indicated on the capacitor. The color of the component indicates the general range of the capacitance.

Chip transistors are identified by a two letter code. The first letter indicates the type and the second letter, the grade of transistor.

Chip diodes have a two letter identification code as per the code chart and are a dual diode pack with either common anode or common cathode. Check the parts list for correct diode number.

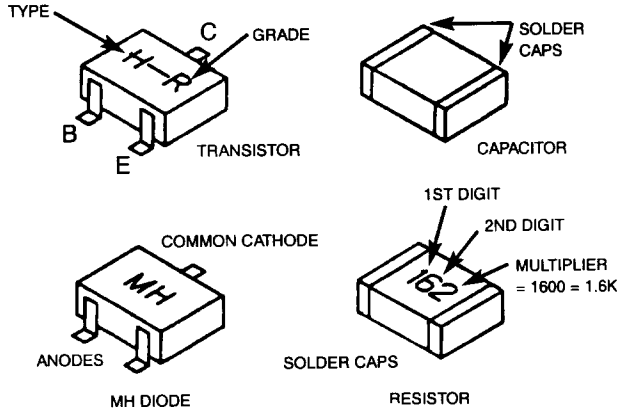
Component Removal

1. Use solder wick to remove solder from component end caps or terminals.
2. Without pulling up, carefully twist the component with tweezers to break the adhesive.
3. Do not reuse removed leadless or chip components since they are subject to stress fracture during removal .

Chip Component Installation

1. Put a small amount of solder on the board soldering pads.
2. Hold the chip component against the soldering pads with tweezers or with a miniature alligator clip and apply heat to the pad area with a 30 watt iron until solder flows. Do not apply heat for more than 3 seconds

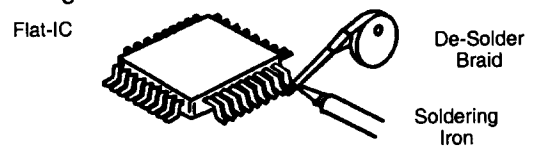
Chip Components



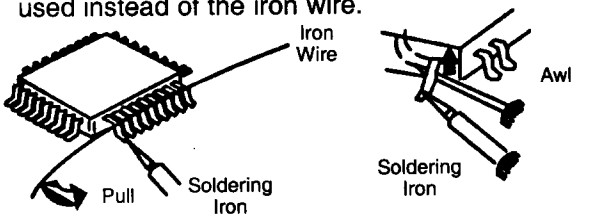
How to Replace Flat-IC —Required Tools—

- Soldering iron
- De-solder braids
- iron wire or small awl
- Magnifier

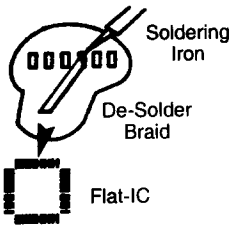
1. Remove the solder from all of the pins of a Flat-IC by using a de-solder braid.



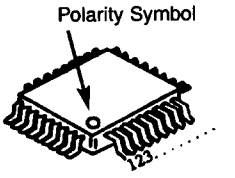
2. Put the iron wire under the pins of the Flat-IC and pull it in the direction indicated while heating the pins using a soldering iron. A small awl can be used instead of the iron wire.



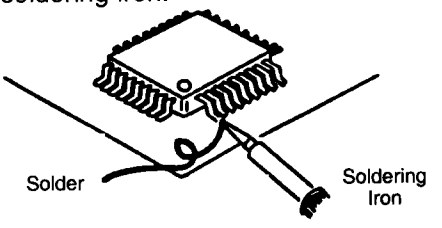
3. Remove the solder from all of the pads of the Fiat-IC by using a de-solder braid.



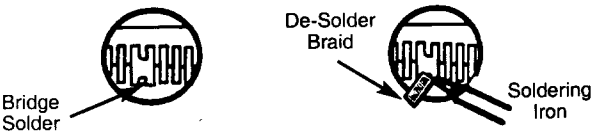
4. Position the new Flat-IC in place (apply the pins of the Flat-IC to the soldering pads where the pins need to be soldered). Properly determine the positions of the soldering pads and pins by correctly aligning the polarity symbol.



5. Solder all pins to the soldering pads using a fine tipped soldering iron.



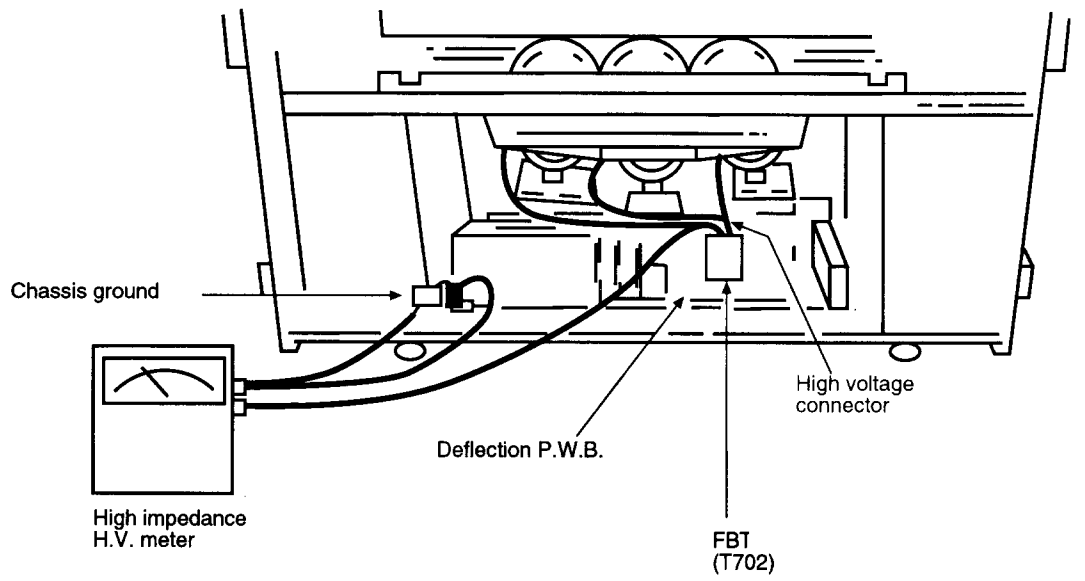
6. Check with a magnifier for solder bridge between the pins or for dry joint between pins and soldering pads. To remove a solder bridge, use a de-solder braid as shown in the figure below.



TECHNICAL CAUTIONS

High Voltage limiter circuit operation check.

1. Turn off TV and connect jig as shown in Figure 2. Adjust jig fully counter-clockwise for minimum resistance.
2. Set the AC input to 120V AC and turn on TV.
3. Confirm test pattern on CRT is a usable picture, then slowly adjust jig until the picture disappears and TV shuts down.
4. When the limiter circuit is operating properly, High Voltage will be less than 36.5 kV at 0.6mA when TV shuts down.
5. Turn off set immediately after checking circuit operation.
6. Unplug set for one minute to reset shutdown circuit. Remove jig and voltmeter.



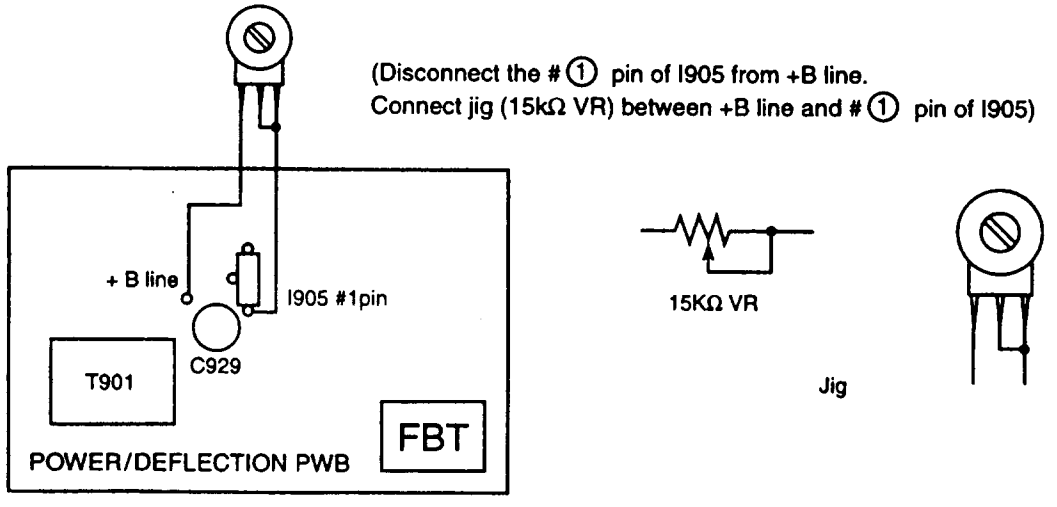


Fig. 2. Deflection/Power P.C.B.

SPECIFICATIONS

Model:	46FX01B 46GX01B 50GX10B 50GX20B
Cathode-Ray Tube:	R=180DLB22R G=180DLB22G B=180DLB22B
Power Input:	120 volts AC, 60 Hz
Power Consumption:	184 Watts - Maximum 152 Watts - Operating
Antenna Impedance:	75 ohm Unbalanced VHF / UHF / CATV
Receiving Channel:	BAND CH VHF 2~13 UHF 14~69 EXT. Mid (A-5)~(A-1), 4+ CATV Mid. A~I CATV Super J~W CATV Hyper (W+1)~(W+28)
Intermediate Frequency:	Picture I-F Carrier 45.75 MHz Sound I-F Carrier 41.25 MHz Color Sub Carrier 42.17 MHz
Video Input:	1 Volt p-p, 75 Ohm 1 Volt p-p, 75 Ohm (Y) 0.7 Volt p-p, 75 Ohm, (Cb, Cr)
Video Output:	1 Volt p-p, 75 ohm

Audio Input:	470 mVrms, 47 k Ohm
Stereo Audio Output:	470 mVrms, 1 k Ohm
Audio Output Power:	Front – 12 watts at 10% distortion, 8 ohm Impedance Max output – 24 watts
Anode Voltage:	35.0 ± 1.5kv (contrast, brightness=max)

Brightness:	46FX01B/46GX01B	50GX10B/50GX20B
	235 cd/m^2	205 cd/m^2
	(white screen)	(white screen)

Speakers:	2 Woofers - 5 inch (12 cm) round

Dimension:	46FX01B/46GX01B	50GX10B/50GX20B
Height (in.)	49 3/4	51 7/8
Width (in.)	40 1/4	45 1/2
Depth (in.)	22 7/8	23 3/4
Weight (lbs.)	130	185

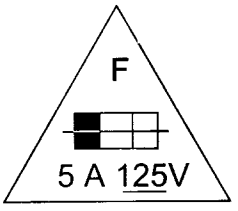
Circuit Board Assemblies:

C.P.T. (B) P.W.B.	Terminal P.W.B.
C.P.T. (G) P.W.B.	VM P.W.B.
C.P.T. (R) P.W.B.	SP Matrix P.W.B.
Signal P.W.B.	Power/Deflection P.W.B.
Signal Sub P.W.B.	Control P.W.B.

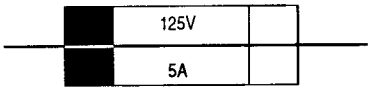
CIRCUIT PROTECTION

CAUTION: Below is an EXAMPLE only. See Replacement Parts List for details. The following symbol near the fuse indicates fast operation fuse (to be replaced). Fuse ratings appear within the symbol.

Example:



"RISK OF FIRE - REPLACE FUSE AS MARKED"



F901

The rating of fuse F901 is 5.0A - 125V.
Replace with the same type fuse for continued protection against fire.

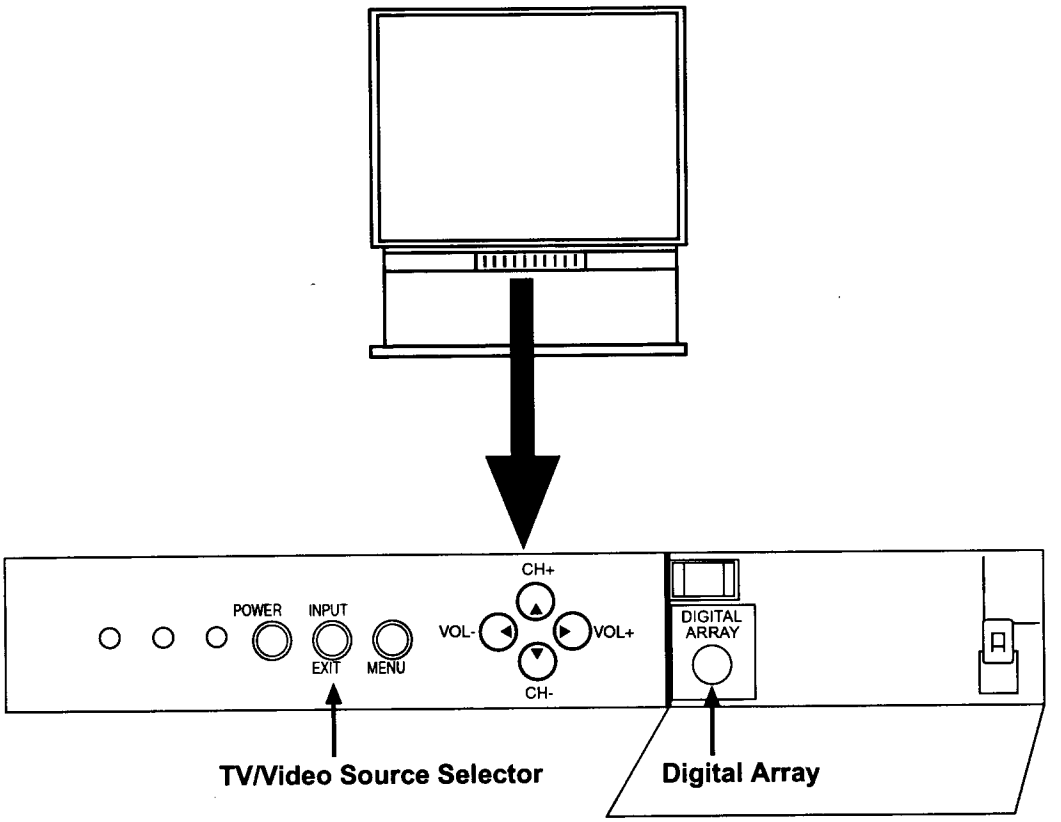


Fig. 3. Control Panel

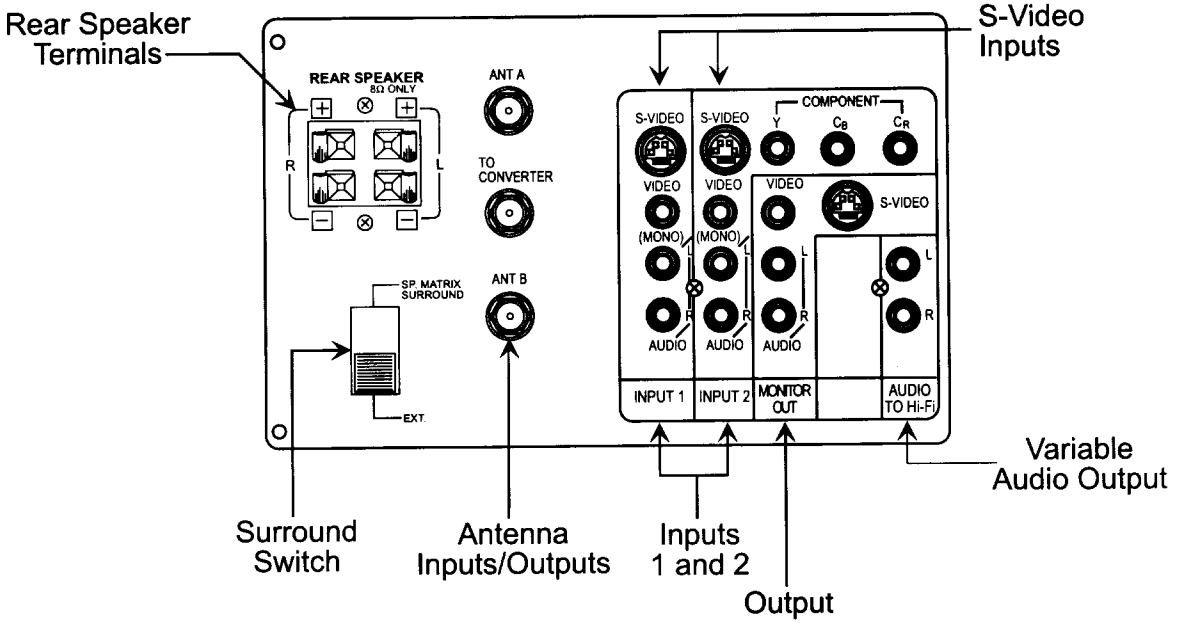
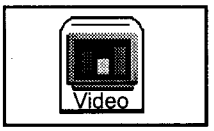
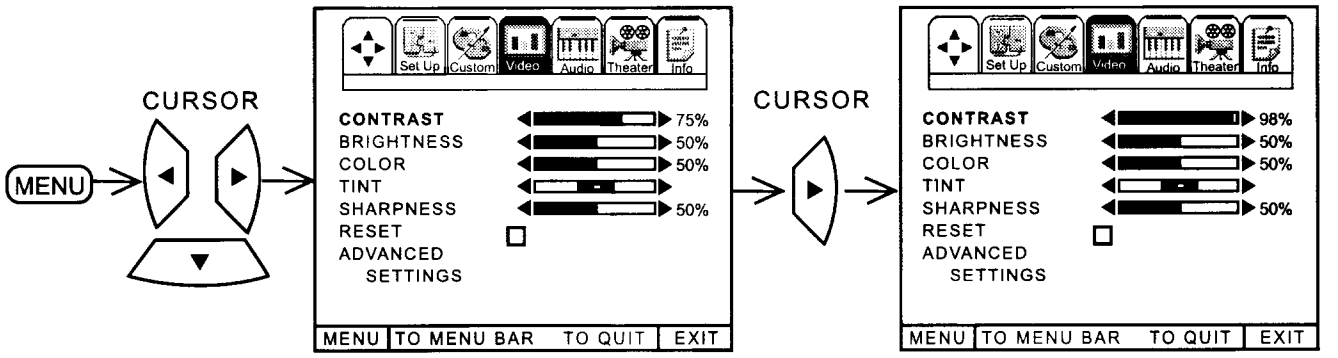


Fig. 4. Rear Connections Panel

CUSTOMIZED PICTURE AND SOUND ADJUSTMENTS



Select VIDEO to adjust picture settings and improve picture quality.



Use the CURSOR ▲ or ▼ buttons to highlight the function to be adjusted.
Press the CURSOR ◀ or ▶ buttons to adjust the function.
Press EXIT to quit menu.

NOTE:
- If CONTRAST is selected, you are adjusting CONTRAST. The additional menu items BRIGHTNESS, COLOR, TINT, and SHARPNESS can be selected and adjusted in the same manner.
- Contrast and Brightness adjustments will affect only the main picture. These adjustments will not affect the sub-picture (PIP).

CONTRAST — Use this function to change the contrast between black and white levels in the picture. This adjustment will only affect the picture when ADVANCED SETTINGS ULTRA AI is OFF.

BRIGHTNESS — Use this function to adjust overall picture brightness.

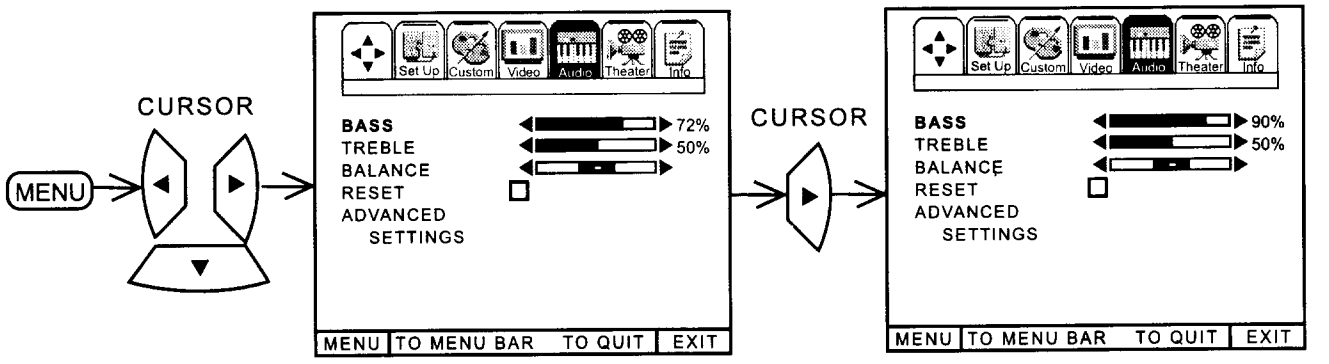
COLOR — Use this function to adjust the level of color in the picture.

TINT — Use this function to adjust flesh tones so they appear natural. (It may be necessary to adjust TINT to obtain optimum picture quality when using the COMPONENT: Y-C_BC_R Input 2 jacks).

SHARPNESS — Use this function to adjust the amount of fine detail in the picture.

RESET — When RESET is selected, press CURSOR ▶ to return video adjustments to factory preset conditions.

Select AUDIO SETTINGS to adjust the TV to your preference and to improve the sound quality.

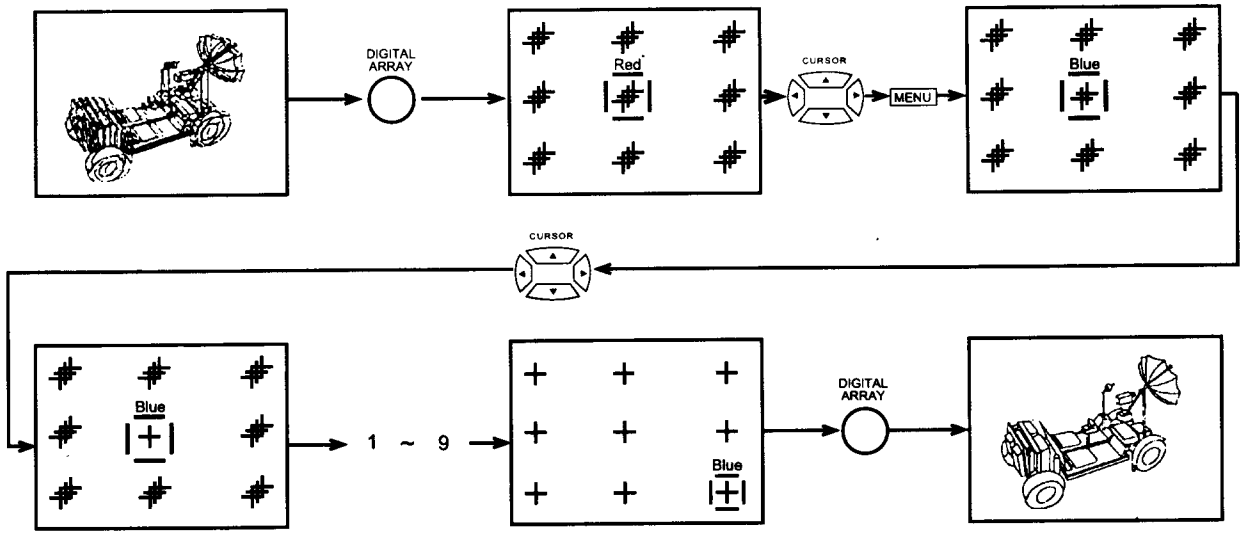


Use CURSOR ▲ or ▼ to highlight the function to be adjusted.
Press CURSOR ◀ or ▶ to adjust the function.
Press EXIT to quit menu.

NOTE: If BASS is selected, you are adjusting BASS. The additional menu items TREBLE and BALANCE can be selected and adjusted in the same manner.

BASS	This function controls the low frequency audio to all speakers.
TREBLE	This function controls the high frequency audio to all speakers.
BALANCE	This function will control the left to right balance of the TV internal speakers and the AUDIO TO HI FI output.
RESET	When RESET is selected, press CURSOR ▶ to return audio adjustments to factory preset conditions.

DIGITAL ARRAY



Use the number buttons to select which point to adjust: ① - Upper Left, ② - Upper Middle, ③ - Upper Right, ④ - Center Left, ⑤ - Center, ⑥ - Center Right, ⑦ - Bottom Left, ⑧ - Bottom Middle, ⑨ - Bottom Right.

Four lines surrounding a crosshatch indicate the point being adjusted. the color of these surrounding lines indicates the color being adjusted.

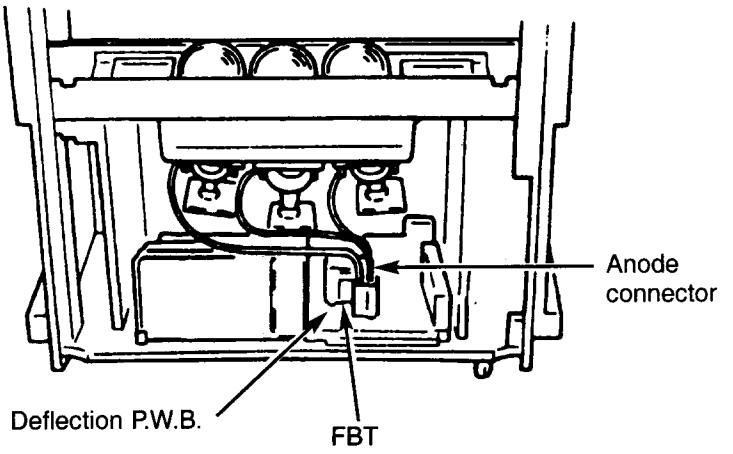
Press the CURSOR buttons to move the displayed color up, down, left or right.

Press MENU to change the color you want to adjust (Red or Blue).

Press the front panel DIGITAL ARRAY button or the remote control MOVE button when adjustment is done. This will save your adjustment into memory.

CAUTIONS WHEN CONNECTING / DISCONNECTING THE HV CONNECTOR

Perform the following when the HV connector (anode connector) is removed or inserted for CPT replacement, etc.



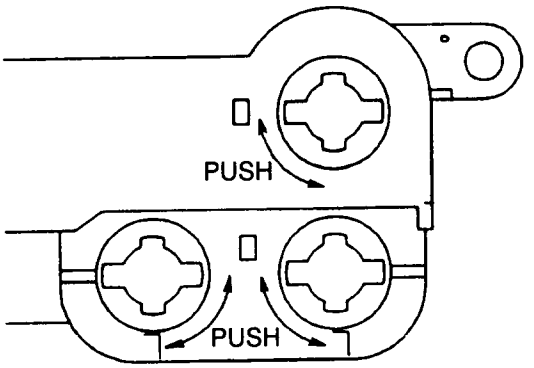


Fig. A

During Removal

1. Roll out silicon cover from FBT's contact area slowly.
2. While turning the connector about 90 degrees following the arrow (0 position), push the connector slightly towards the case. (Fig. A)
3. Remove the connector slowly by pulling it away from the case.

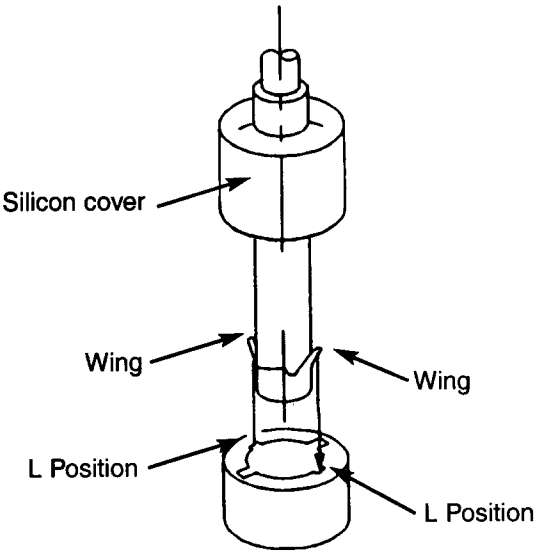


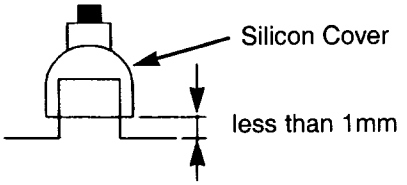
Fig. B

During Insertion

1. Please refer to direction for insertion as shown in Fig. B (L position). Insert connector until "CLICK" sound is heard.
2. Make sure the connector is pressed right in, so that it has a good contact with the spring.
3. Confirm the contact by pulling the connector slightly. (Don't pull hard because it may damage the connector).
4. Cover the high voltage output by carefully pushing silicon cover onto it. (Don't turn the connector).

(REMARK)

1. Make sure the silicon cover is covering the high voltage output.



SERVICE ADJUSTMENTS

1. ASSEMBLED P.W.B. ADJUSTMENT **18**
1-1. Memory Initialization 18
1-2. Comb Filter Operation Check 18
1-3. Sub Picture (PIP) Position Adjustment 18

2. FINAL ASSEMBLY ADJUSTMENT **19**
2-1. Focus Adjustment 19
2-2. White Balance Adjustment 20
2-3. Sub Brightness Adjustment 20
2-4. Sub Picture White Balance Adjustment 21
2-5. SP Matrix Check 21
2-6 Raster Inclination Adjustment (Deflection Yoke) 21
2-7. Raster Position Adjustment 22
2-8. Vertical Size Adjustment (R630) 22
2-9. Horizontal Size Adjustment (R603) 23
2-10. Beam Alignment 23
2-11. Beam Shape Adjustment 23
2-12. Static Focus Adjustment 24
2-13. Blue Defocus Adjustment 24
2-14. Digital Convergence Adjustment 24
2-14-1. Phase Adjustment (service mode) 25
2-14-2. Raster Position Adjustment 25
2-14-3. Convergence Point Adjustment 26
2-14-4. Digital Convergence Remote Control 26

3. ADJUSTMENT POINT **27**
3-1. CRT (R)(G)(B), Cabinet Locations 27
3-2. Main Chassis (Signal P.W.B.) 28
3-3. Main Chassis (Power/Deflection P.W.B.) 29
3-4. CPT (R)(G)(B), Focus Pack, Control P.W.B. 30

1. ASSEMBLED P.W.B. ADJUSTMENT

1.1 Memory Initialization

Adjustment procedure

(1) Press INPUT key on Control Panel and then Power On to access Video Chroma adjustment mode.

(2) Receive signal on main picture.

(3) Check the OSD according to table below, using ▲▼ buttons on Remote Control.

	P.01	AP92R
	SERVICE	0
	SUB CONT	1F
	SUB COLOR	1A
	SUB TINT	40
	SUB SHARP	38
	EXT RGB BRIGHT	40
	EXT RGB CONT	60
	BRIGHTNESS	80
	YHCOR	0
*	SUB BRIGHT ADJ.□	
	INITIAL SET □	

P.02	AP92R
G DRIVE GAIN	47
B DRIVE GAIN	3A
H POSITION	12
AFC G	0
H BLK END PHASE	0
V BLK PHASE	0
V FREQUENCY	1
V POSITION	0
R-Y PHASE	3
R-Y LEVEL	0
G-Y LEVEL	0
GPPHS	1

P.03	AP92R
S-TRAC	1
YA	0
Y DL	0
TXACL	1
COLOR A	0
CTL	0
CDE	1
C TRAP	0
TOF FO	0
TOF Q	0
COLOR SYSTEM	0
DY GAIN	9

P.04	AP92R
DC T.C. POINT	0
DC T.C. RATIO	0
DC T.C. LIMIT	0
B.E P. LIMIT	0
B.E. P. POINT1	5
B.E. P. POINT2	0
B.L.S.	0
B.L.C.	1
B.S.G.	0
B.D.L.	0
BEARE	0
DC GAIN	6

P.05	AP92R
WPDL	1
HI BRT	1
OSACL	0
APACON PEAK FO	0
WHITE PEAK	0
D. ABL POINT	0
D. ABL GAIN	7
ABL POINT	5
ABL GAIN	6
	(00)
YC VAPINV	0B
YC VAPGAIN	5

P.06	AP92R
POLLING	F
TIME OUT	55
CONT STATUS	02
FUNCTION	1
USER RATING TV	User set
USER RATING MPAA	User set
PIP RATING MPAA	00
PIP RATING TV	00
MAIN RATING MPAA	00
MAIN RATING TV	00

	P.07	AP92R
*	H POSI (CENT)	04
*	V POSI (CENT)	07
	H DLY OSD	A
	V POSI OSD	29
	1 ST L AFTER V	5
	H DLY VBI	2
	VIDEO FIELD	1
	CLAMP DELAY	34
	INITIAL SET □	-

*: Adjustable data
Others: Fixed data (be careful not to change)

(4) Press MENU key to exit VIDEO CHROMA ADJUST mode.

NOTE: (1) If there is a different value than shown in table above, for fixed data, adjust it using ◀ ▶ buttons (only in this case).

(2) When exchanging microprocessor and TV is turned on for first time, it requires initialization of VIDEO CHROMA ADJ on P1 and P7.

(3) Should be changed to OFF for FIRST TIME TOUR at first Power ON by pressing MENU key during FIRST TIME TOUR running.

1.2 Comb filter operation check

Adjustment preparation

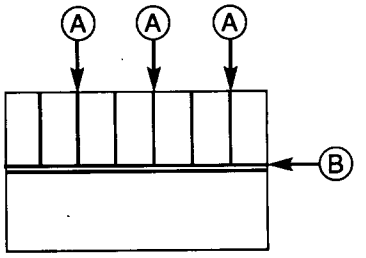
(1) Receive the color bar signal at the regular tuning point.

(2) Set the CONTRAST control to MAX and the other controls to center.

(3) Set the AI to OFF.

Adjustment procedure

(1) Check that between the color bars there are line dots every second color bar as shown in the drawing.



Check Ⓐ and Ⓑ line dots.

LINE	DOTS
Ⓐ	X
Ⓑ	None

1.3 Sub-picture (PIP) position adjustment

Adjustment preparation

(1) Select signal on main picture.

(2) Video settings have to be at normal condition.

Adjustment procedure

(1) Press the INPUT and POWER button on Control Panel at same time to access VIDEO CHROMA ADJUST mode.

(2) Select H POSI and V POSI using ▲▼ buttons.

(3) Adjust the H POSI (HORIZONTAL) and V POSI (VERTICAL) position using ◀ ▶ buttons.

(4) Press MENU button to exit VIDEO CHROMA ADJUST mode.

(5) Select single PINP mode and move the sub picture, using the MOVE button. Distance between PINP and edge of screen should be equal when moved. If it is not, repeat (1) ~ (5).

NOTE: Check the position of MULTI PINP mode. Check the right edge of the sub pictures for MV-4 to make sure there is no separation between the MULTI PINP and the edge of the screen.

2. FINAL ASSEMBLY ADJUSTMENT

2.1 Focus adjustment

Adjustment preparation

(1) The set can face in any direction: west, east, north or south.

(2) Receive the cross-hatch pattern signal.
CONTRAST : HALF
BRIGHTNESS : MINIMUM

(3) The electrical focus adjustment should have been completed.

(4) The centering DY inclination should have been adjusted.

Adjustment procedure

(1) Loosen the fixing screw on the lens cylinder so that the lens cylinder can be turned. (Be careful not to loosen too much. If it is loosened too much, rattling when tightening becomes greater and the focus may drift). After completing steps (5), (6) and (7) below, tighten the fixing screws for each lens with a torque of 12~17 Kgf cm.

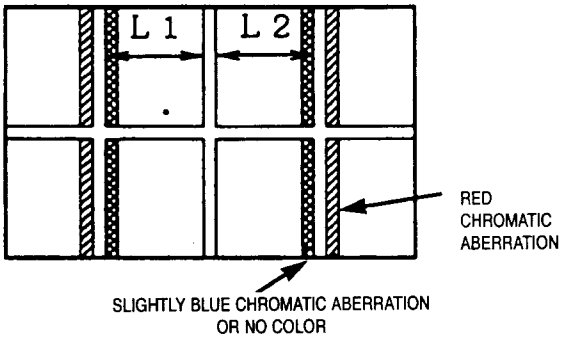
(2) Apply covers to 2 of R, G and B lenses, and project a single color on the screen and adjust in sequence.
(The adjustment order of R, G and B is only an example.)

(3) For each of the R, G and B lenses, observe the color abberation generated on the outer circumference of the cross-hatch bright line at the center section ±3 pitches vertically and horizontally from the center.

(4) If the lens adjustment knob is turned clockwise, viewed from the front, the color aberration changes as follows.

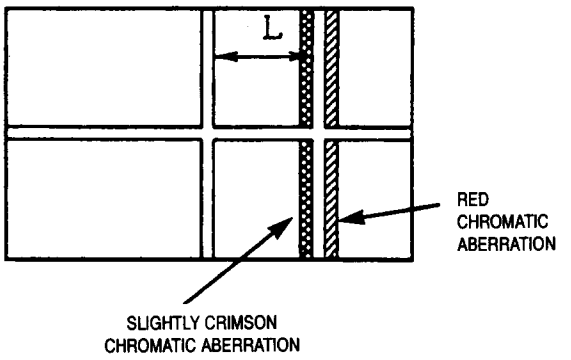
Lens	Change of color aberration
R lens	Red → Crimson
G lens	Blue → Red
B lens	Purple → Green

(5) In case of G lens, set to the point where the chromatic aberration switches from blue to red. If the chromatic aberration appearing all over the screen is not the same, observe the vertical bright line at the center of the screen and set to the position where red chromatic aberration slightly appears inside and blue outside (reference value: 1~3mm) within the cross-hatch pitches specified in next table. When the red chromatic aberration appearing at both sides of the bright line is not equal, observe the side with larger chromatic aberration when adjusting.



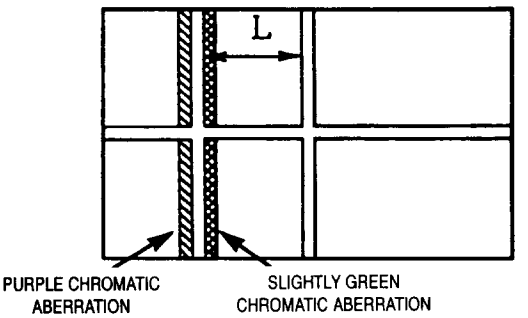
Set Size	Pitch between L
46"	3.0 cross-hatch pitches
50"	3.0 cross-hatch pitches

(6) In case of R lens, set to the position where the chromatic aberration changes from red to crimson. As shown below, observe the vertical bright line at the center and set to the position where the crimson chromatic aberration slightly appears inside and red outside (reference value: 1~3mm) within the cross-hatch pitches specified in next table.



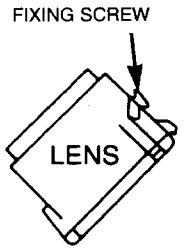
Set Size	Pitch between L
46"	3.0 cross-hatch pitches
50"	3.0 cross-hatch pitches

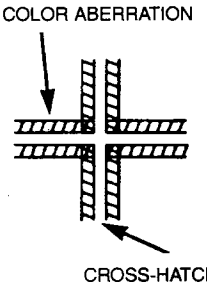
(7) In case of B lens, set to the position where the chromatic aberration changes from purple to green. As shown below, observe the vertical bright line at the center and set to the position where green chromatic aberration slightly appears inside and purple outside (reference value: 1~3mm) within the cross-hatch pitches specified in next table.



Set Size	Pitch between L
46"	3.0 cross-hatch pitches
50"	3.0 cross-hatch pitches

Notes: (1) Fixing screw (2) Color aberration





(3) Since the G light is very important for picture quality and performance, pay special attention in its adjustment.

Note: Be careful not to touch the lens with your fingers when adjusting.

(4) For red, setting to the center between red and crimson is optimum.

(5) For blue, setting to the center between purple and green is optimum.

2.2 White balance adjustment

(1) Screen adjustment
(2) High brightness white balance.
(3) Low brightness balance.

Screen adjustment VRs	Drive adjustment VRs
Red: on FOCUS PACK	Red: R873 on CPT P.W.B.
Green: on FOCUS PACK	Green: R843 on CPT P.W.B.
Blue: on FOCUS PACK	

Adjustment preparation

(1) Start adjustment 20 minutes or more after the power is turned on.
(2) The vertical incident illumination on the screen should be 20 lux or less.
(3) Set the video settings (CONTRAST: MAX, others: center) to standard condition.
(4) For low brightness white balance adjustment, input a white raster signal level of 0.145 Vp-p (Video input level).
(5) For high brightness white balance adjustment, input a white raster signal level of 0.715Vp-p (Video input level).
(6) Set the drive adjustment VRs (red and green) to 12 - 2 o'clock position.
(7) Turn the screen adjustment VRs (red, green and blue) fully counterclockwise.
(8) Set video advanced setting white control to COOL position.

Adjustment procedure

(1) Go to VIDEO CHROMA ADJUST mode by pressing INPUT and Power button on Control Panel at the same time.
(2) In "SERVICE" mode push ▶ button and screen turns to black. Gradually turn the screen adjustment VRs (red, green, blue) clockwise and set them where the red, green and blue slightly bright lines just appear evenly on the screen.
(3) Push the ▶ button again to return to "Normal" side.
(4) Press "MENU" button to exit VIDEO CHROMA ADJUST.
(5) Select the input signal for high brightness (Video level = 0.715Vpp).
(6) Adjust the high brightness white balance using the drive adjustment VRs (red, green).
(7) Select the signal for low brightness (Video level = 0.145Vpp)
(8) Adjust the low brightness white balance using the screen adjustment VRs (red, green, blue). (Visually adjust).
(9) Check that high brightness white balance is obtained. If it does not, return to step (7).

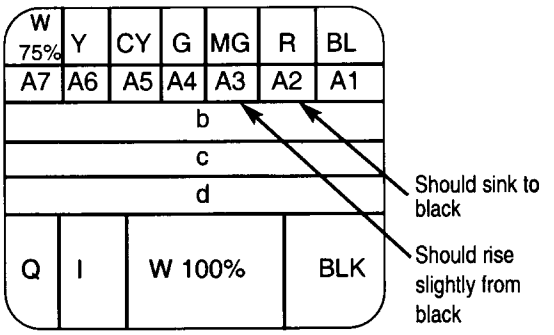
NOTE: Before adjusting the White Balance, check that the screen adjustment VRs are turned fully counterclockwise. Since the phosphorescent surface of the CRT is likely to be burned, be careful.

White balance = 9300° K ± 0MPCD
Color coordinate = x 0.285
y 0.295

2.3 Sub brightness adjustment

Adjustment preparation

(1) Start adjustment 20 minutes or more after the power is turned ON. Receive the color bar signal.
(2) Set the contrast and color controls to minimum.
(3) The vertical incident illumination on the screen should be 20 lux or less.



Adjustment procedure

(1) Go to "Sub Brightness" adjustment in VIDEO CHROMA ADJUST mode (press Input and Power button on Control panel at same time), using ▲▼ buttons and then ▶ button.
(2) Then adjust "Sub Brightness" using ◀▶ buttons to increase or decrease the value, according to figure. (Visually adjust).
(3) After adjustment, press MENU button to exit VIDEO CHROMA ADJUST mode. (Data is stored in memory).

Note: When selecting SUB-BRIGHTNESS mode the microprocessor sets the CONTRAST and COLOR to MIN. automatically, but make sure that the other conditions are center. Directly observe the screen by eye without using a mirror.

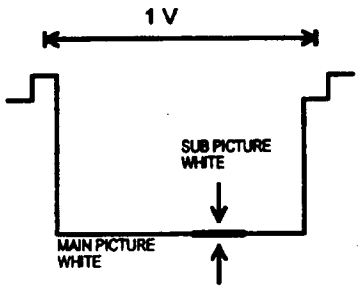
2.4 Sub picture white balance adjustment (R0M4, R0M6, R0M8)

Adjustment preparation

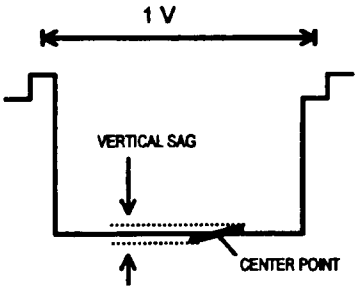
(1) Start adjustment after power is ON for 20 minutes.
(2) Use a white raster signal for adjustment.
(3) Press "FREEZE" on the remote control and select "SINGLE" freeze mode to display the sub picture.
(4) Set CONTRAST to Maximum, Other conditions to center.

Adjustment procedure

(1) Connect oscilloscope to P802 and adjust R0M8 to match blue level of main and sub pictures.
(2) Repeat for P832 and R0M6 Green, P862 and R0M4 for Red.



Note: If the sub picture has a signal sag, adjust level at center point.

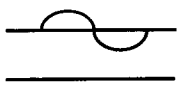


2.5 SP Matrix Check

Adjustment preparation

(1) Input the following audio signals to the audio input of the VIDEO INPUT terminals, when checking SP Matrix:

① R ch: 435mVrms
② L ch: no signal



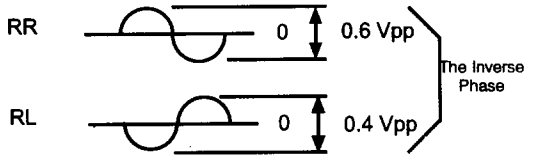
- Set the AUDIO ADVANCED SETTING for INT. SPEAKERS: ON, LOUDNESS: OFF and PERFECT VOLUME: OFF.
- Set the volume control of FRONT to 20 step.
- Set the BALANCE, TREBLE and BASS to Normal.

Note: Front waveform: front speaker output of the set.

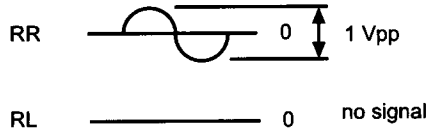
Adjustment procedure

(1) Check that the waveforms shown below are obtained (Input signal ① and ②), at rear SP Terminal Out.

(a) SP MATRIX mode



(b) EXT mode



2.6 Raster Inclination adjustment (Deflection Yoke)

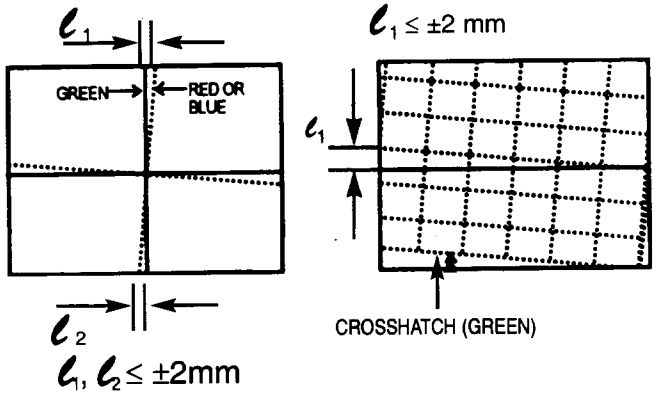
Adjustment preparation

(1) The set can face east or west.
(2) Input the single cross test signal.
(3) Set video conditions to factory reset.
(4) The lens focus adjustment should have been completed.
(5) The electric focus should have been coarse adjusted.
(6) The digital convergence RAM should be cleared (uncorrected state). With the TV set off, press and hold the service switch located on the Power/Deflection PWB and then press the power button.
(7) Start adjustment 20 minutes or more after TV is turned on.

Adjustment procedure

(1) Apply covers to the R and B lenses and project only green light.
(2) Turn the G deflection yoke and adjust the vertical raster inclination.
(3) Then, remove the cover of R or B lens and project red or blue light and green light together on the screen.

(4) Turn the deflection yoke of R or B and set so that the inclination of R or B with respect to the green light is as shown below on the top and bottom sides.
(5) After raster inclination adjustment, fixing screw of DY should be screwed with 12±2kg-cm torque.



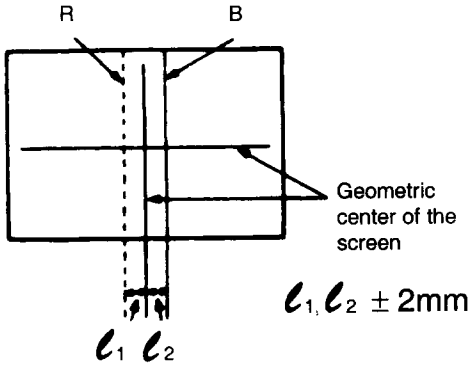
Notes: (1) If internal cross-hatch does not appear after clearing RAM data, press service switch again, on POWER/DEFLECTION PWB.
(2) To restore old RAM data, turn TV off and on.

2.7 Raster position adjustment

Adjustment preparation
(1) The set can face east or west.
(2) Input the single cross test signal.
(3) Set video conditions to factory reset.
(4) The lens focus adjustment should have been completed.
(5) The electric focus should have been coarse adjusted.
(6) The digital convergence RAM should be cleared (uncorrected state). With the TV set off, press and hold the service switch located on the Power/Deflection PWB and then press the power button.
(7) Start adjustment 20 minutes or more after TV is turned on.

Adjustment procedure
(1) Turn the centering magnets for red, green, and blue to satisfy the condition below. The red and blue horizontal lines should match with green.

Size	ℓ1 (RED)	ℓ2 (BLUE)
46"	10mm	30mm
50"	10mm	30mm



NOTES: (1) If internal cross-hatch does not appear after clearing RAM data, press service switch again.
(2) To restore old RAM data, turn TV off and on.

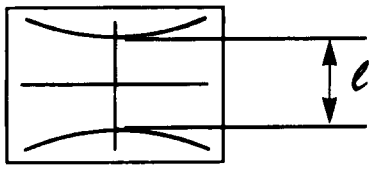
2.8 Vertical size adjustment (R630)

Adjustment preparation
(1) The set can face east or west.
(2) Input the single cross test signal.
(3) Set video conditions to factory reset.
(4) The lens focus adjustment should have been completed.
(5) The electric focus should have been coarse adjusted.
(6) The digital convergence RAM should be cleared (uncorrected state) . With the TV set off, press and hold the service switch located on the POWER/DEFLECTION PWB and then press the power button.
(7) Start adjustment 20 minutes or more after TV is turned on.

Adjustment procedure
(1) Turn only the green by applying covers to the red and blue lens or shorting the 2 pin TS connectors on the red and blue CPT P.W.B.
(2) Count the vertical lines of the DCU cross hatch. If the number of vertical lines is 9, go to step (3). If the number of vertical lines is 8, push "HELP" key and then "5" key on the R/C so the number of vertical lines becomes "9".
(3) Turn vertical amplitude adjustment VR (R630) so that the distance between the top and bottom horizontal lines is equal to the size shown in the table.

Size	ℓ
46"	600 ± 5mm
50"	650 ± 5mm

Note: (1) If internal cross-hatch does not appear after clearing RAM data, press service switch again (on POWER/DEFLECTION PWB).
(2) To restore old RAM data, turn TV off and on.



2.9 Horizontal size adjustment (R603)

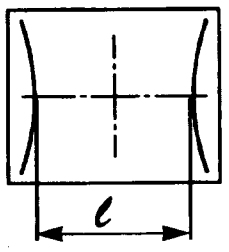
Adjustment preparation

(1) The set can face east or west.
(2) Input the single cross test signal.
(3) Set video conditions to factory reset.
(4) The lens focus adjustment should have been completed.
(5) The electric focus should have been coarse adjusted.
(6) The digital convergence RAM should be cleared (uncorrected state). With the TV set off, press and hold the service switch located on the POWER/DEFLECTION PWB and then press the power button.
(7) Start adjustment 20 minutes or more after TV is turned on.

Adjustment procedure

(1) Project only green, the same as Vertical size adjustment.
(2) Turn horizontal amplitude adjustment VR (R603) so distance between the left and right vertical lines is equal to the size shown in the table.

Size	ℓ
46"	875 ± 5mm
50"	950 ± 5mm



Note: (1) If internal cross-hatch does not appear after clearing RAM data, press service switch again.
(2) To restore old RAM data, turn TV off and on.

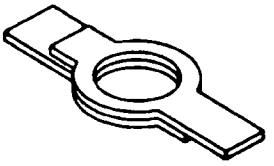
2.10 Beam alignment

Adjustment preparation

(1) Adjust at least 30 minutes after turning on power switch.
(2) Raster inclination, centering, horizontal and vertical amplitudes and optical focus adjustment should be completed.
(3) Set video conditions to factory reset.
(4) Receive cross-hatch signals. (Use of internal cross-hatch signals allowed.)
(5) Short-circuit all metal parts (metal fittings, centering magnet) installed on the projection tubes to GND's of the projection tubes.
Since metal parts are charged with electricity, shocks may be caused if they are not short circuited.

Adjustment procedure

(1) Green (G) tube beam alignment adjustment. Short-circuit 2P subminiature connector plug pins of Red (R) and Blue (B) on the CPT boards and project only Green (G) tube.
(2) Put Green (G) tube beam alignment magnet to the cancel state as shown below.



(3) Turn the Green (G) static focus (Focus Pack) counterclockwise all the way and make sure of position of cross-hatch center on screen. (Halo state.)
(4) Turn the Green (G) static focus (Focus Pack) clockwise all the way. (Blooming state.)
(5) Turn two magnets forming alignment magnet in any desired direction and move cross-hatch center to position found in (3).
(6) If image position does not shift when Green (G) static focus (Focus Pack) is turned. Green (G) beam alignment has been completed.
(7) If image position shifts when Green (G) static focus (Focus Pack) is turned, repeat (2)-(6).
(8) Conduct beam alignment for red (R) focus: Focus Pack UFPK, Blue (B) focus: Focus Pack UFPK.
(9) Upon completion of adjustment, fix beam alignment magnets with white paint.

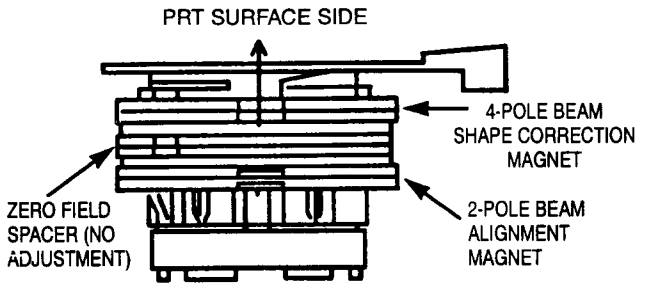
2.11 Beam shape adjustment

Adjustment preparation

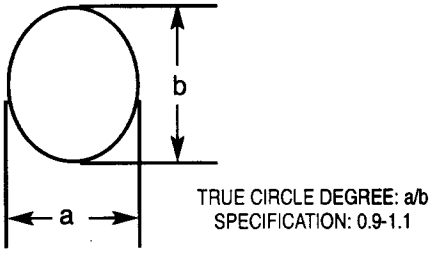
(1) The beam alignment should have been completed.
(2) The raster inclination, centering, horizontal/vertical amplitude and optical focus adjustments should have been completed.
(3) Set video conditions to factory reset.
(4) Input the dot signal.

Adjustment procedure

(1) Green PRT beam shape adjustment. Short-circuit 2P sub-mini connectors on Red and Blue CPT P.W.B.s to project only the Green beam.
(2) Turn the green static focus fully clockwise. (Blooming.)
(3) Make the dot at the screen center a true circle using the 4-pole magnet as shown below.
(4) Also adjust the Red and Blue PRT beam shapes according to the steps (1) to (3).
(5) After the adjustment has been completed, return R, G and B static VRs to the just focus point.



TRUE CIRCLE SPECIFICATION



2.12 Static focus adjustment

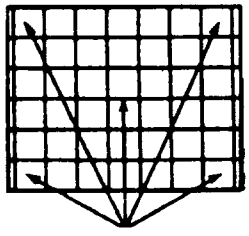
Adjustment preparation

(1) The raster inclination, centering, horizontal/vertical amplitude and optical/electrical focus beam alignment should have been adjusted.
(2) The static convergence data should be cleared.
(3) Set video conditions to factory reset.
(4) Receive the cross-hatch pattern signal.
(5) Apply covers to the lenses of colors other than the color to be adjusted and project a single color.

Adjustment procedure

(1) Red (R), Green (G) and Blue (B) static focus adjustment. Vary the static focus VR (focus pack UFPK) and make the center of the cross-hatch pattern clearest.
(2) Observe the corners of the picture and check that the focus does not get conspicuously worse.

OBSERVING POINTS OF THE CORNER OF THE PICTURE



OBSERVING POINTS

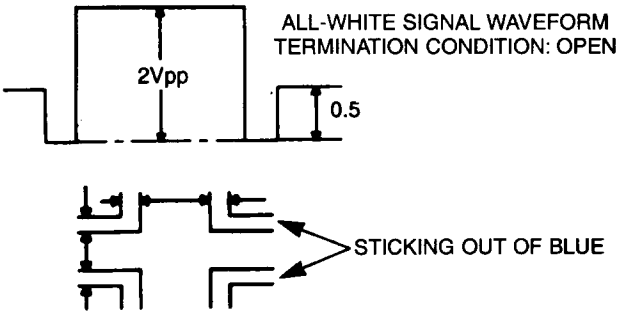
2.13 Blue defocus adjustment

Adjustment Preparation

(1) Optical and electrical focus adjustment should have been completed.
(2) The convergence adjustment should have been completed.
(3) Set Video conditions to factory reset.

Adjustment procedure

(1) Input an all-white signal shown below to VIDEO input.
(2) Short-circuit 2P sub-mini connectors on the red and green CPT P.W.Bs. to display only the blue beam.
(3) Turn the B Focus VR (Focus Pack) fully clockwise.
(4) Measure the brightness at the center of the screen and turn the B FOCUS VR (Focus Pack) counterclockwise to adjust the brightness of blue.
(5) After the adjustment is completed, if blue exceeds the specification, turn and adjust focus so that the sticking out part of blue satisfies the specification.



Defocus sticking out specification

Screen Size	Blue sticking out
46"	1.0mm
50"	1.0mm

Condition: User controls are set to the initial set positions (for shipment) Measuring point Screen center.

Cautions: Correct the brightness gauge and amplitude of the all-white signal periodically. The aperture angle of the brightness gauge is 1°.

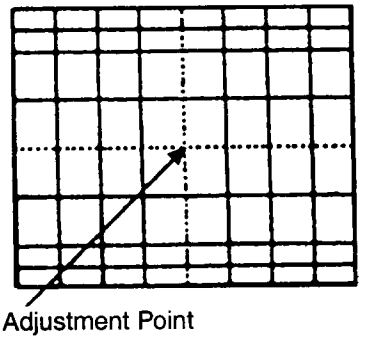
Use a cross-hatch pattern to check.

2.14 Digital convergence adjustment

Adjustment preparation

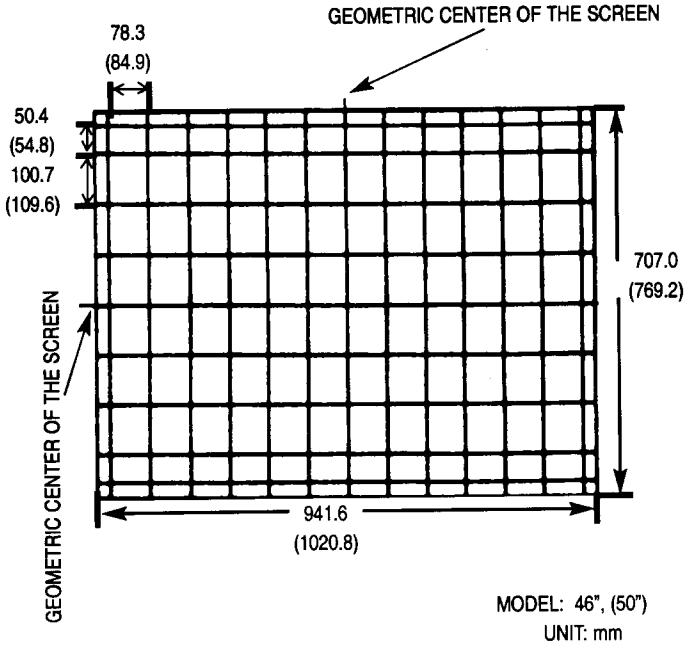
(1) Receive an RF or video signal.
(2) Set controls to factory preset.
(3) Install jig screen on the set.
(4) Note the center of the video pattern displayed. This is necessary to match dotted lines (adjustment point viewed) and actual point that is adjusted and displayed by the video signal.

(5) Press the service only switch (on POWER/DEFLECTION PWB). The pattern displayed is now the digital convergence mode.
(6) When performing a complete digital convergence adjustment CLEAR DATA in RAM. See 2.6. (1) - (7).



Adjustment Point

JIG SCREEN SPECIFICATION



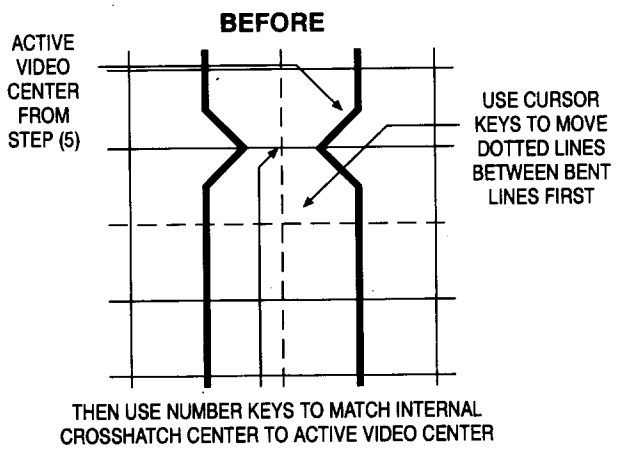
MODEL: 46", (50")
UNIT: mm

Note: If only minor adjustments to convergence are needed, the jig screen is not necessary. Use digital data stored in memory and one color as a reference (red, green, or blue). DO NOT CLEAR DATA and WRITE to ROM memory.

2.14.1 Phase adjustment (service mode)

Adjustment preparation
(1) PHASE adjustment - This is to match the digital convergence cursor position to the video image displayed, and to match the digital convergence cursor position (dotted lines) to digital convergence data position (bent lines).

Adjustment procedure
(1) Press the HELP button on the remote to select phase adjustment. (Only Green displayed).
(2) Identify the bent lines and use the cursor buttons to move the dotted lines in between as shown.
(3) Press HELP to exit PHASE mode.
(4) Display external signal.
(5) Identify center of active video, then return to internal cross-hatch.
(6) Press HELP (phase adj.), and use 2, 4, 5 and 6 to position internal cross-hatch center on active video center identified in step (5).
(7) Press HELP to exit PHASE mode.



2.14.2 Raster position adjustment

Adjustment preparation
(1) Position adjustment - This will move an entire color. Use this adjustment to match colors at the center of the screen. (Active video center from external signal and physical screen center should now match from phase adj. 2.15.1.).
(2) Use the buttons below to switch color to adjust.
"RECALL" - Green
"0" - Red
"INPUT" - Blue

Adjustment procedure
(1) Press the FRZ button. Extra horizontal lines appear to confirm raster position mode.
(2) Use the cursor buttons to adjust position.
(3) Press FRZ again to exit raster position mode.

Notes: (1) Other functions cannot be accessed when in raster position adjustment mode. Press FRZ and confirm extra horizontal lines disappear to exit raster position mode.
(2) Press MENU to switch between all colors displayed or adjustment color and Green only.

2.14.3 Convergence point adjustment

Adjustment preparation

(1) Select color to adjust.
"RECALL" - Green
"0" - Red
"INPUT" - Blue

(2) Use 4, 6, 2, and 5 to move the cursor position (dotted lines).

(3) Use cursor buttons to move the convergence point.

(4) Three adjustment modes are available:
1. (3x3) Press "RECALL" 5 times
2. (7x5) Press "0" 5 times
3. (13x9) Press "INPUT" 5 times

NOTE: 3 x 3 mode can only be accessed at start of adjustment from clear data in ram adj. mode.

For touch-up, only the (13x9) mode is necessary. This will adjust every cross-hatch intersection point on the screen.

For complete adjustment, start with (3x3) mode. This will adjust center point and eight edge points only, but will greatly reduce adjustment time. Then use (7x5) mode, and finally (13x9) mode to finish convergence.

If "S" distortion appears between cross-hatch lines repeat (7x5) mode to change calculation process while adjusting to remove distortion, then return to (13x9) mode to finish touch-up convergence.

Adjustment procedure

(1) Start adjustment at the center of the screen.

(2) Continue adjustment at next closest position.

(3) Adjust center area first, ending with edge sections.

(4) When convergence is acceptable, press MOVE to write data to ROM memory. ROM WRITE? is displayed to alarm system that ROM will be overwritten with new data. Press the MOVE button again to write displayed data to ROM.

(5) DATA WRITE TO ROM will take approximately 20 seconds and no picture will be displayed.

(6) Green dots will be displayed when operation is complete.

(7) Press MUTE to return to convergence pattern, then confirm again convergence is acceptable.

Notes: (1) Display only green for easier adjustment and match to jig screen. Press "MENU", THEN PRESS "RECALL".

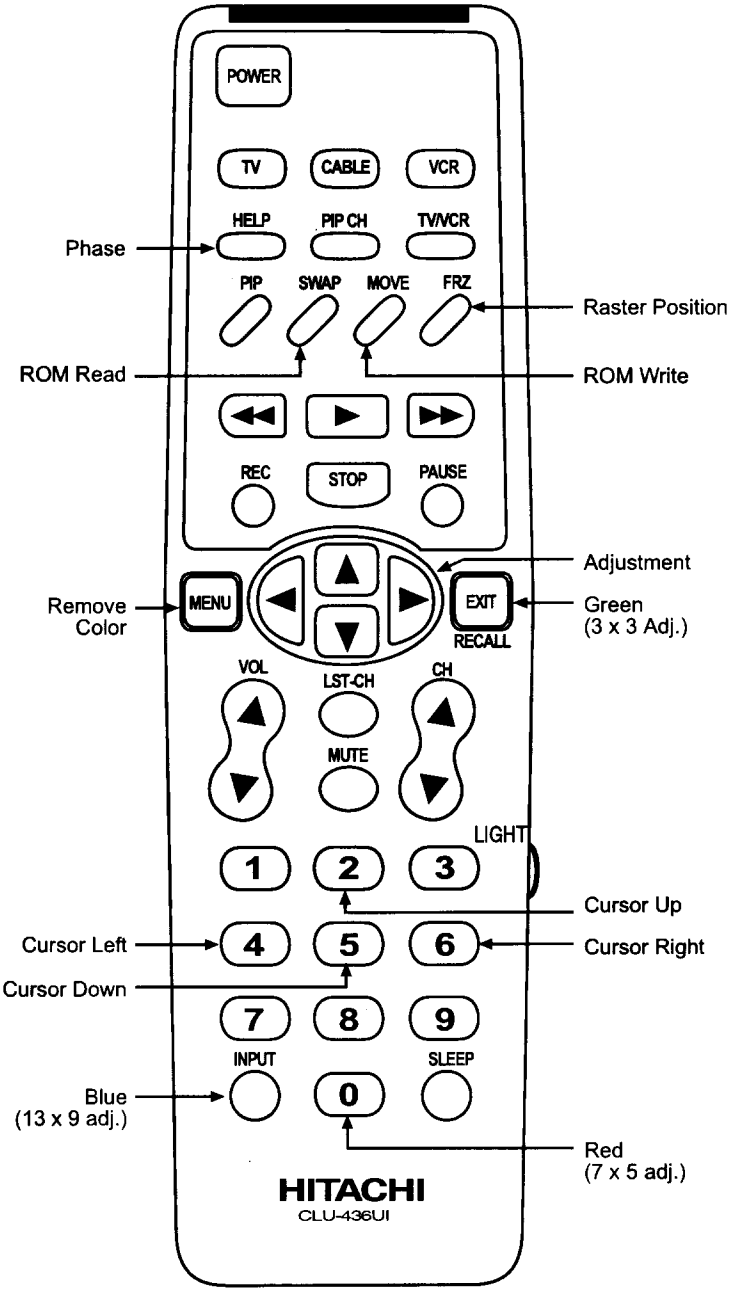
(2) Write data to ROM after green adjustment. Once green has been confirmed to match jig screen, the jig screen can be removed. Do not readjust the green color after jig screen has been removed. This is now your reference color.

(3) Display green and red only and match red to green.

(4) Display all colors and match blue to green and red. Touch-up red color if necessary.

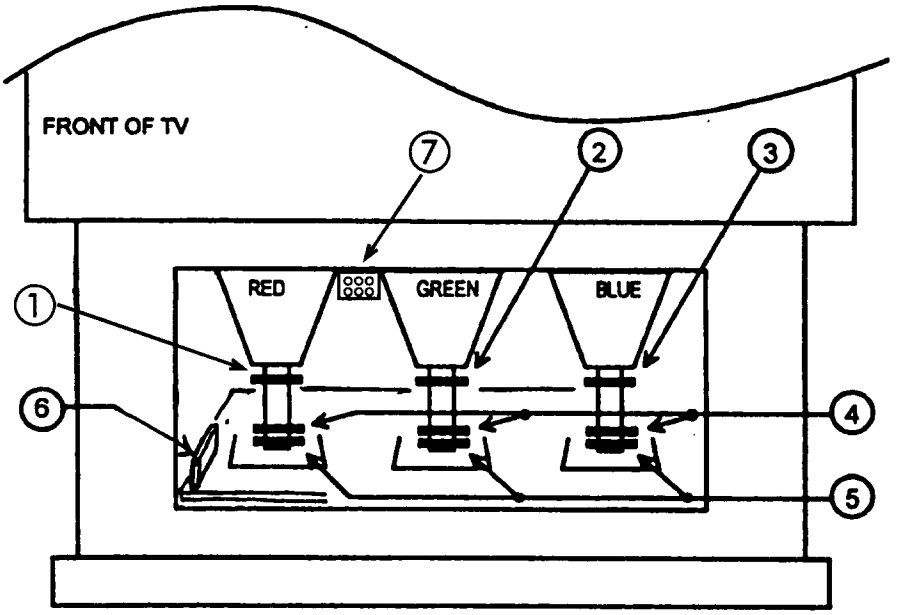
(5) Existing DATA in ROM can be read by pressing the SWAP button 2 times. This data can be used after replacing a component (CRT, DY, etc.) Where complete convergence adjustment is not necessary be careful not to overwrite this data.
DO NOT write cleared RAM data into ROM or a complete convergence adjustment will be necessary.

2.14.4 Digital Convergence Remote Control



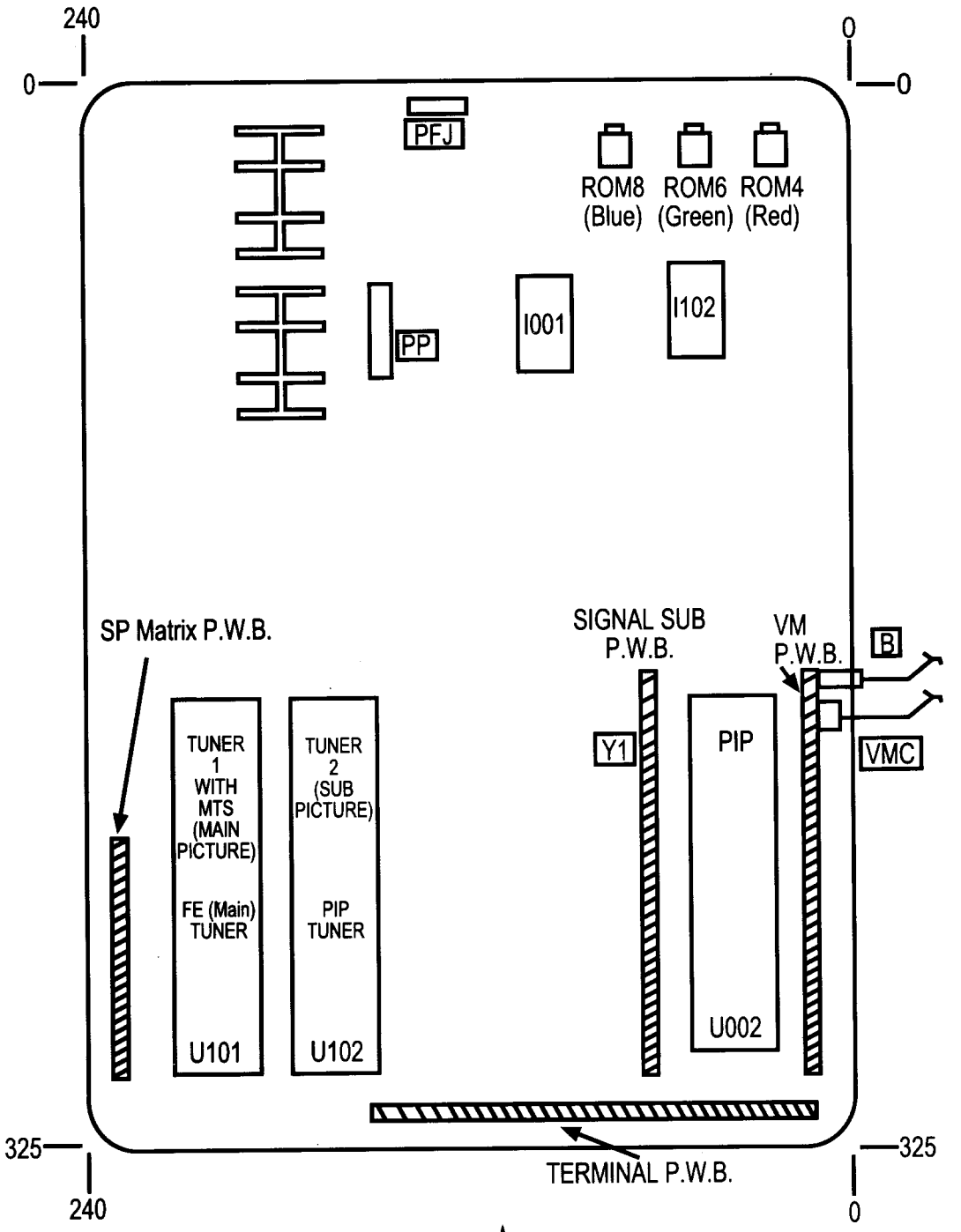
3. ADJUSTMENT POINT

3.1 CRT, cabinet locations



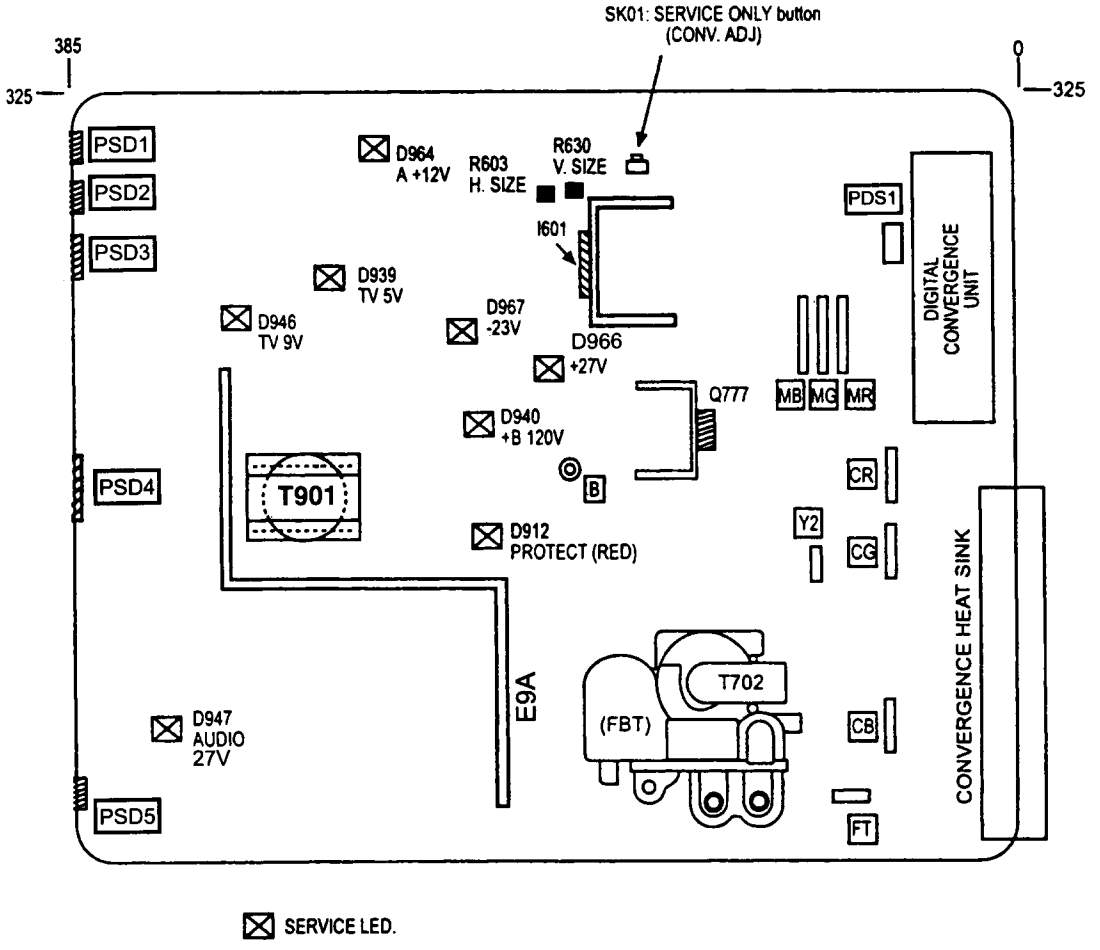
1. CENTERING MAGNET FOR RED PRT
2. CENTERING MAGNET FOR GREEN PRT
3. CENTERING MAGNET FOR BLUE PRT
4. 4-POLE MAGNET FOR BEAM FORM ADJUSTMENT
5. BEAM ALIGNMENT MAGNET
6. DIGITAL CONVERGENCE MODULE (On Power/Deflection Board)
7. FOCUS PACK (Top Adjustments for SCREEN, Bottom for FOCUS)

3.2 MAIN CHASSIS
(Signal P.W.B.)



Rear View

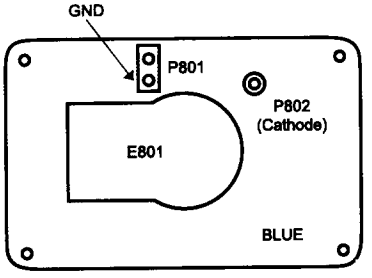
3.3 MAIN CHASSIS
(Power/Deflection P.W.B.)



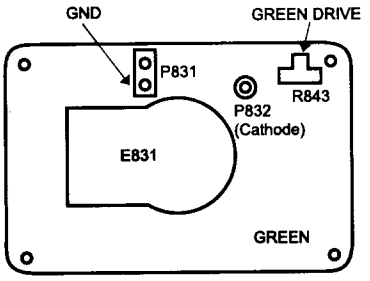
Rear View

3.3 CPT (R) (G) (B), Focus Pack, Control P.W.B.

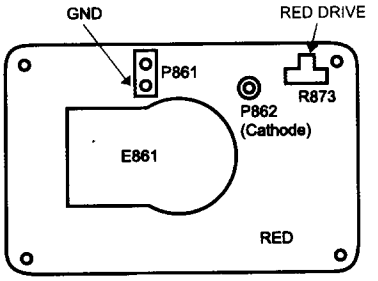
CPT (B)



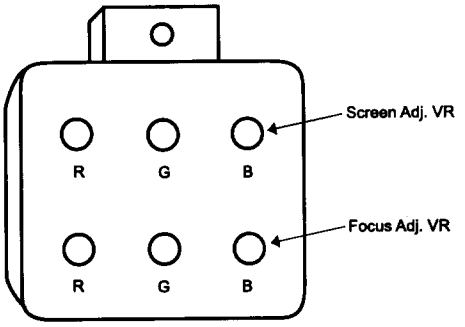
CPT (G)



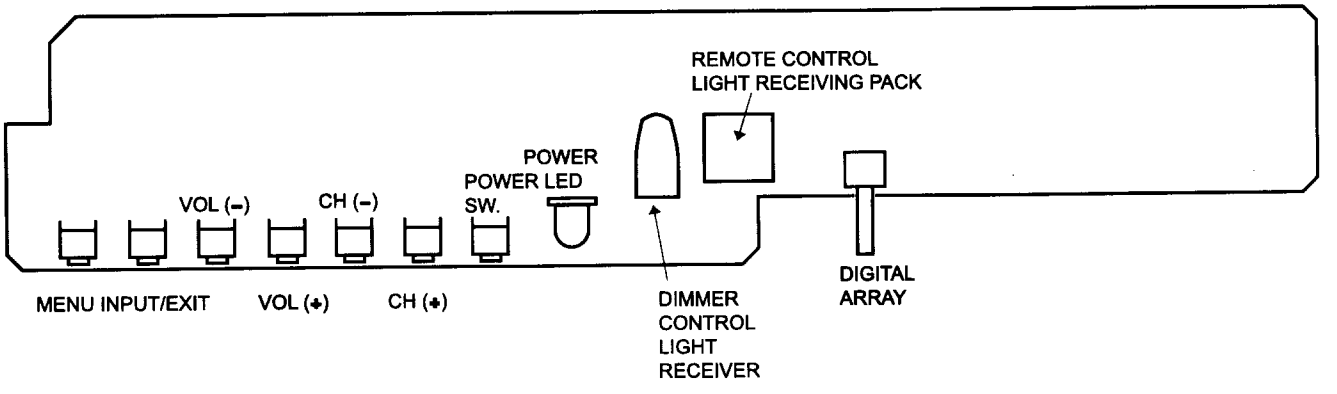
CPT (R)



Focus Pack (UFPK)



Control P.W.B.

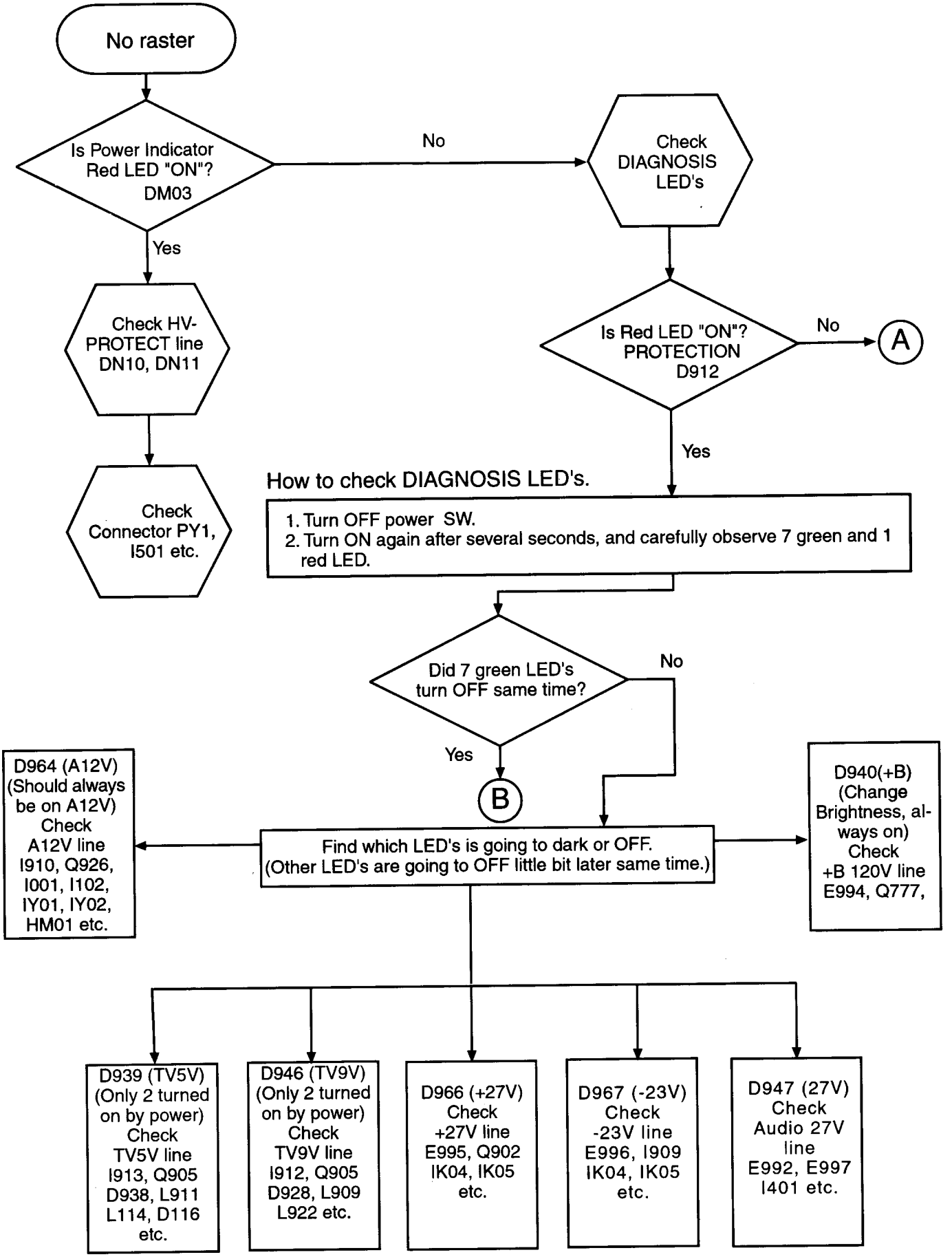


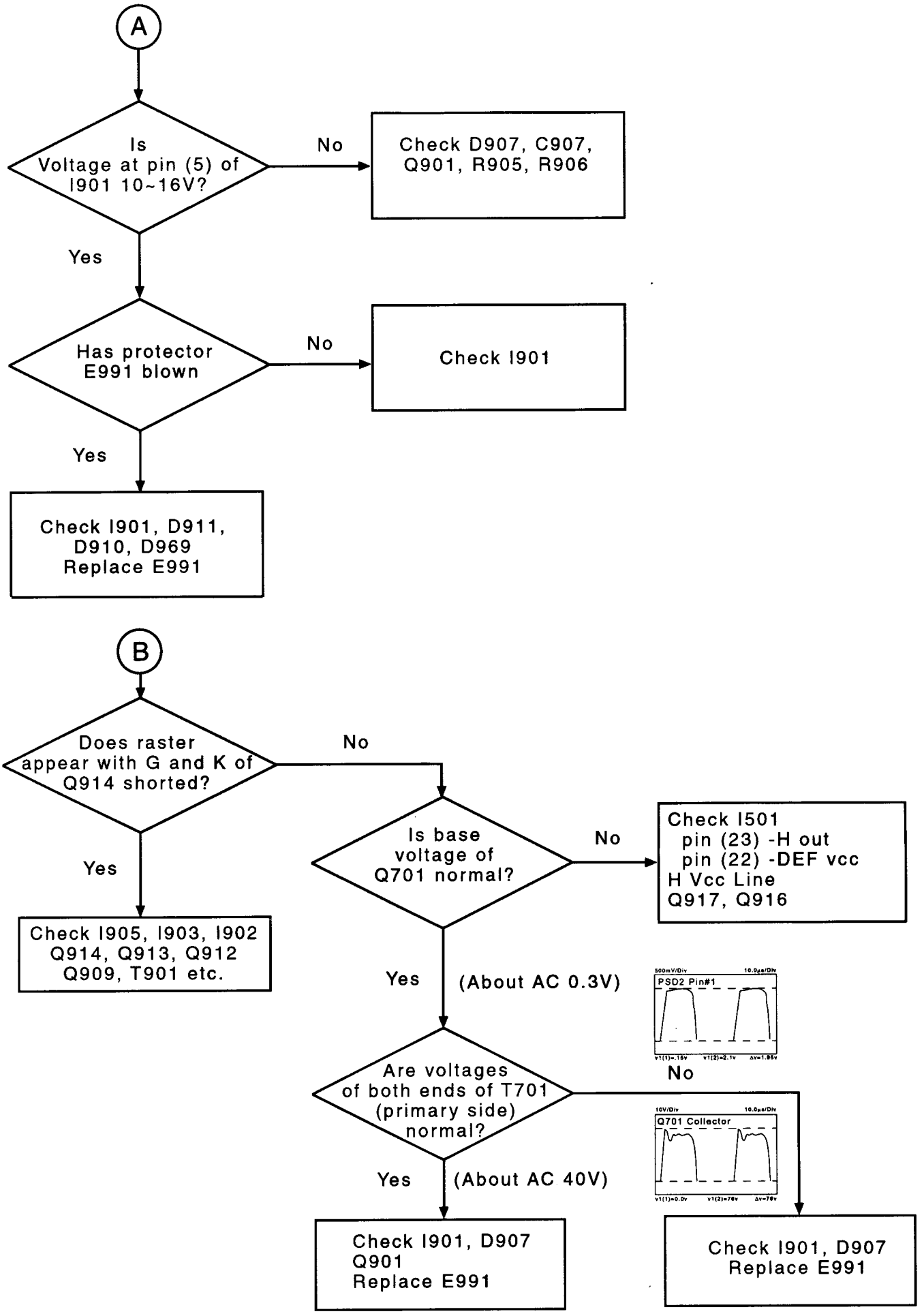
IC Use List

No.	CIR No.	Part #	DESCRIPTION	FUNCTION	PWB
1	I001	CP06616U	MN1876478HE1	TV uP	SIGNAL
2	I004	CP05272U	M24C16-BN6	E2PROM	SIGNAL
3	I006	CK07131R	MC14053BFEL	OSD SELECT	SIGNAL
4	I007	2000541	M51951BSL	RESET	SIGNAL
5	I008	2020342	MM1115XS	VIDEO SELECT	SIGNAL
6	I102	CP05243U	Z9035612PSCR_B	OSD uP	SIGNAL
7	I103	2000541	M51951BSL	RESET	SIGNAL
8	I105	2015495R	HD74HC32FPEL	OSD SELECT	SIGNAL
9	I106	CP05571	BA17805	+5V REG.	SIGNAL
10	I401	2004751	TA8200AH	L/R AUDIO OUT	SIGNAL
11	IK01	CP05571	BA17805	+5V REG.	POW/DEF
12	IK02	CP01631R	PST9142	RESET	POW/DEF
13	IK03	CP05571	BA17805	+5V REG.	POW/DEF
14	IK04	CZ00431	STK392-110	CONV. AMP.	POW/DEF
15	IK05	CZ00431	STK392-110	CONV. AMP.	POW/DEF
16	I601	2003541	LA7838	VER. DEF. OUT	POW/DEF
17	I602	CP06351U	BA10393	HOR. DEF. SIZE	POW/DEF
18	I901	CZ00451	STR-M6811A	POW SWITCH CONT.	POW/DEF
19	I902	2000465	PS2501-01 (KC/LC)	PROTECT	POW/DEF
20	I903	2000465	PS2501-01 (KC/LC)	ERROR DETECT	POW/DEF
21	I904	2000465	PS2501-01 (KC/LC)	AC CLOCK	POW/DEF
22	I905	2381349	SE120N	+B CONTROL	POW/DEF
23	I908	CP05573	IC BA17812	+12V REG.	POW/DEF
24	I909	1360891	NJM7912FA	-12V REG.	POW/DEF
25	I910	CP03912F	SI-8402L	STAND BY +12V REG.	POW/DEF
26	I912	CP03923F	SI-8090S	+9V REG.	POW/DEF
27	I913	CP03922F	SI-8050S	+5V REG.	POW/DEF
28	IX01	CP06911U	TC90A13N	D 3LINE COMB	3 LINE COMB
29	IY01	2020452	CXA1545AS	A/V SELECT	TERMINAL
30	IY02	2003423	UPC7893AHF	+9V REG.	TERMINAL
31	I501	CP03552U	TA1222BN	VIDEO/CHROMA	VID/CHROMA
32	I503	CK08951R	MM1389XFBE	Y-u-v SW	VID/CHROMA
33	IS05	2020001	TDA9860	AUDIO CONTROL	SP. MATRIX
34	IS12	CP02601	AN5285K	PERFECT VOL. CONT.	SP. MATRIX
35	HM01	CZ00523	SBX1981-52P	IR RECEIVER	CONTROL
36	U002	HP00094	KC-010S	PINP UNIT	SIGNAL
37	U101	HC00311	V6-A30FT	1st TUNER	SIGNAL
38	U102	HC00401	V8-A68FT	2nd TUNER	SIGNAL
39	UKDG	CS00441	HC2131	DCU	POW/DEF
40	EANT	HP00771	ANT SW	ANT SW BOX	MAIN CHASS

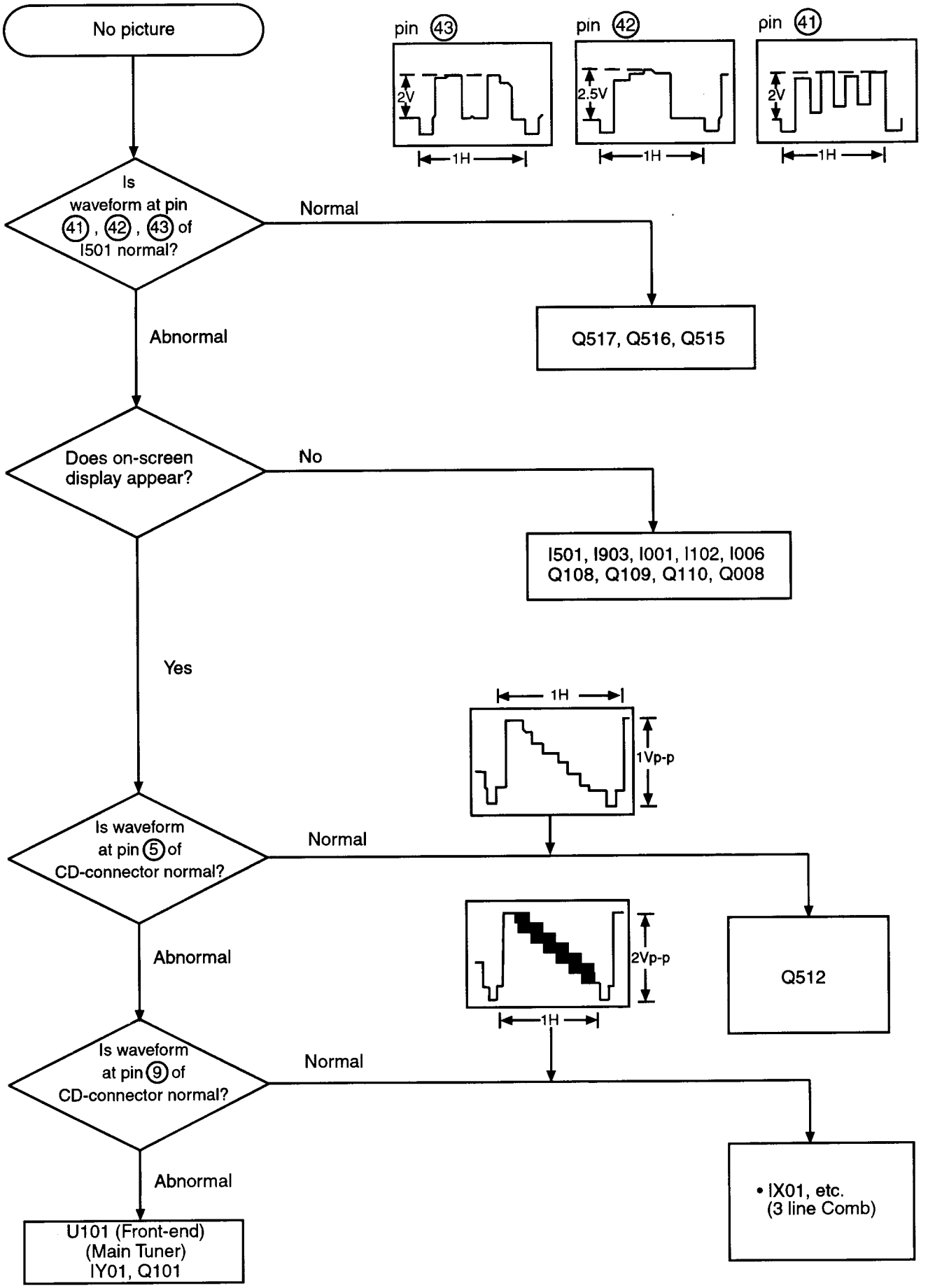
TROUBLESHOOTING

1. No Raster and No Power (REPAIR METHOD)



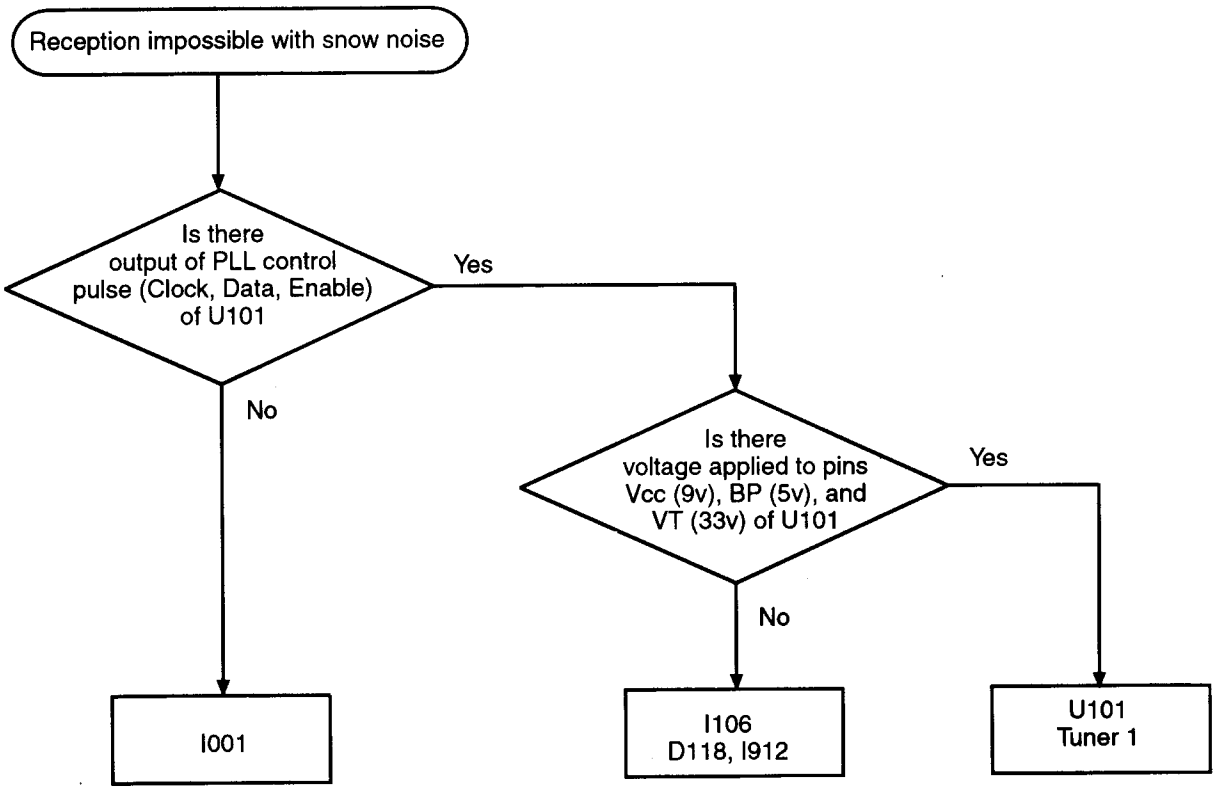

A
Is Voltage at pin (5) of I901 10~16V?
No
Check D907, C907, Q901, R905, R906
Yes
Has protector E991 blown
No
Check I901
Yes
Check I901, D911, D910, D969 Replace E991
B
Does raster appear with G and K of Q914 shorted?
No
Yes
Check I905, I903, I902 Q914, Q913, Q912 Q909, T901 etc.
Is base voltage of Q701 normal?
No
Check I501
pin (23) -H out
pin (22) -DEF vcc
H Vcc Line
Q917, Q916
Yes
(About AC 0.3V)
PSD2 Pin#1
No
Are voltages of both ends of T701 (primary side) normal?
Q701 Collector
Yes
(About AC 40V)
Check I901, D907 Q901 Replace E991
Check I901, D907 Replace E991

2. No Picture

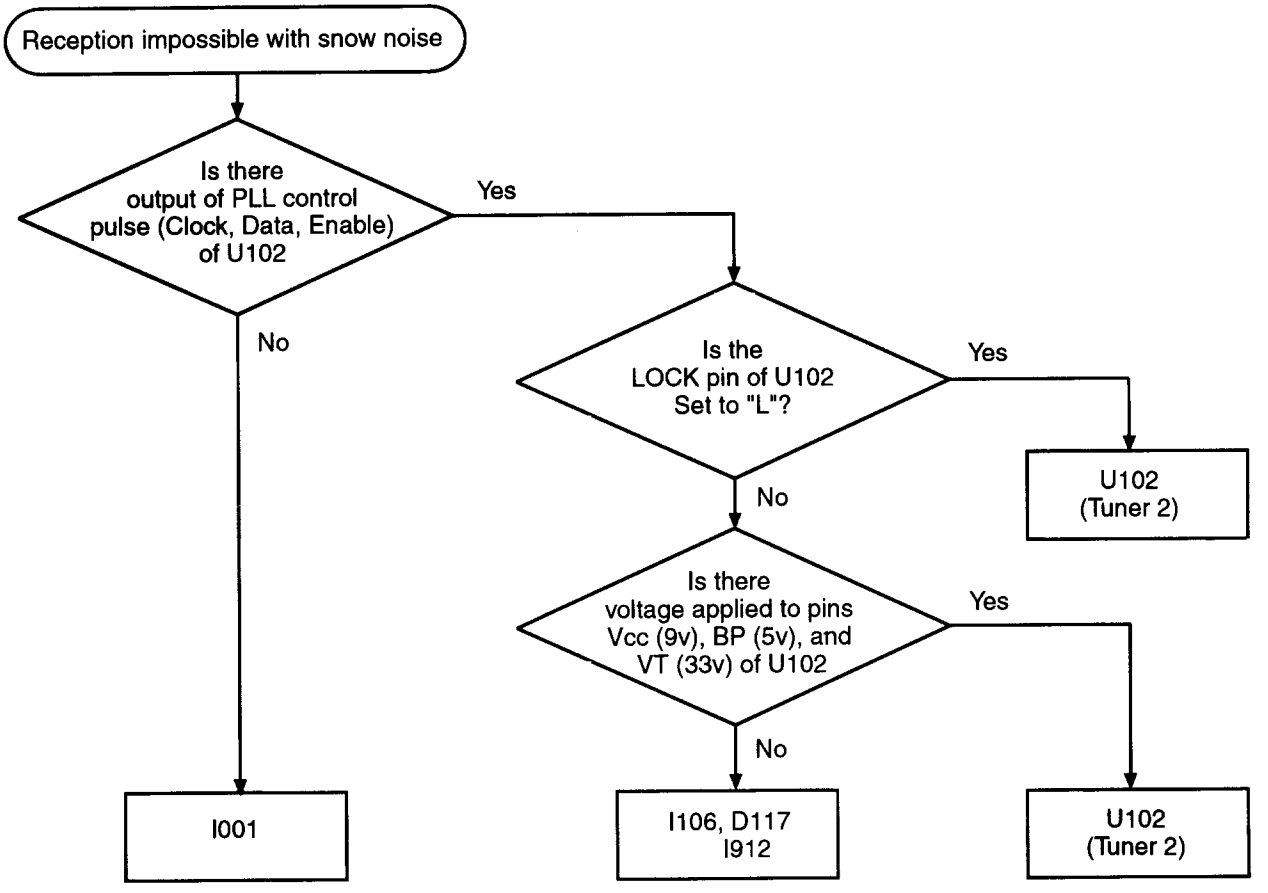

No picture
pin (43)
2V
1H
pin (42)
2.5V
1H
pin (41)
2V
1H
Is waveform at pin (41), (42), (43) of I501 normal?
Normal
Q517, Q516, Q515
Abnormal
Does on-screen display appear?
No
I501, I903, I001, I102, I006
Q108, Q109, Q110, Q008
Yes
1H
1Vp-p
Is waveform at pin (5) of CD-connector normal?
Normal
Q512
Abnormal
2Vp-p
1H
Is waveform at pin (9) of CD-connector normal?
Normal
• IX01, etc.
(3 line Comb)
Abnormal
U101 (Front-end)
(Main Tuner)
IY01, Q101

3. Reception Impossible with Snow Noise

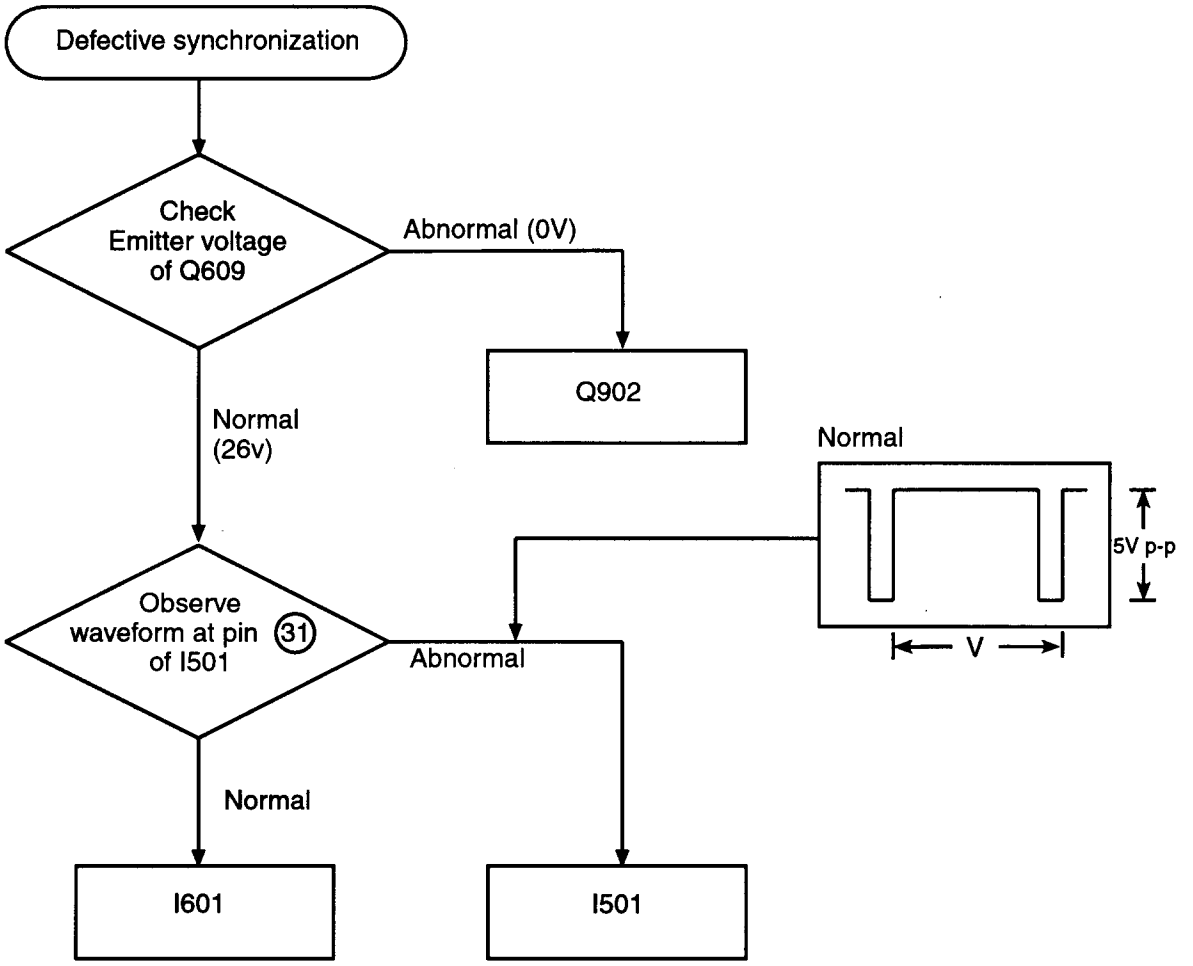
Main Picture



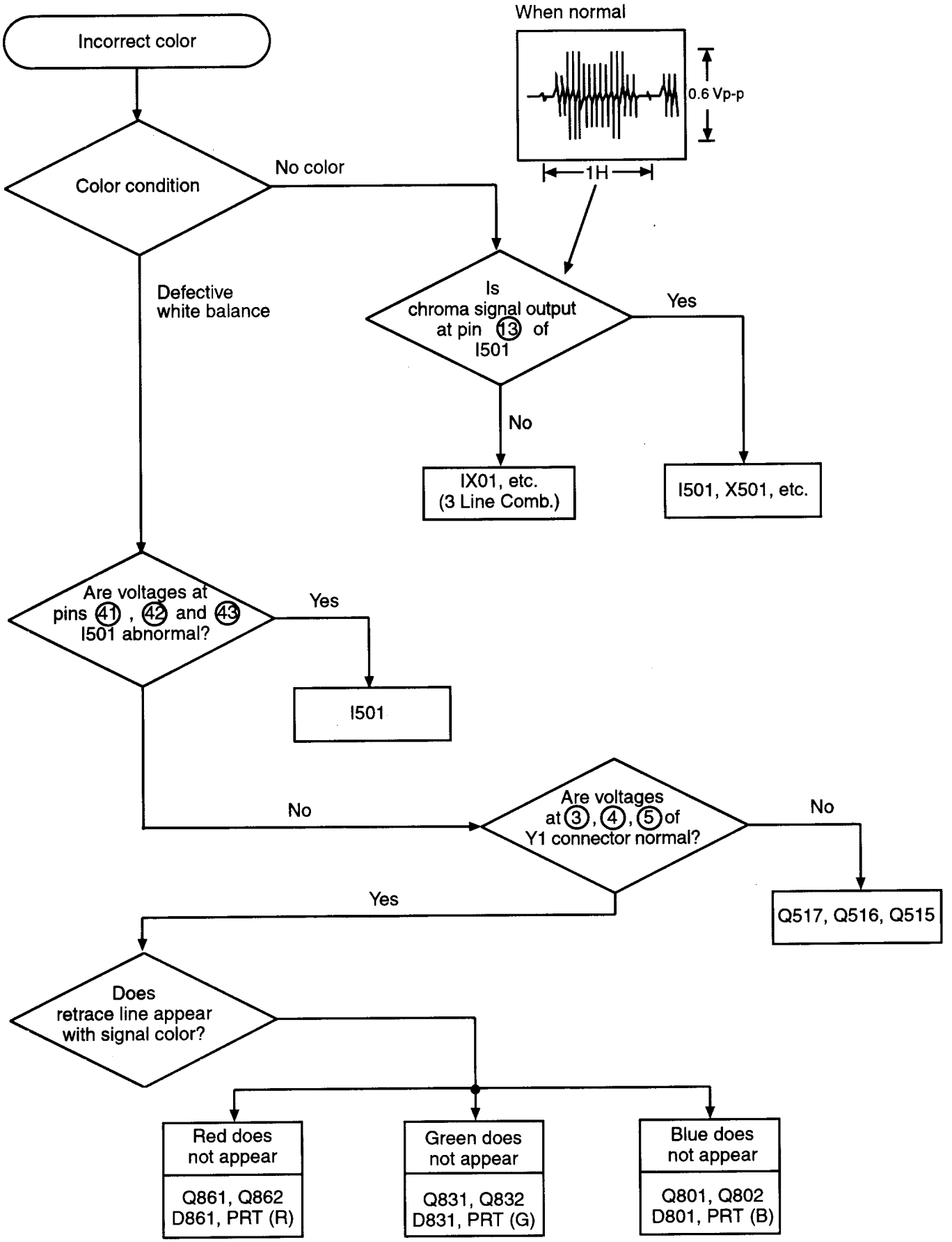
Sub Picture (PIP)



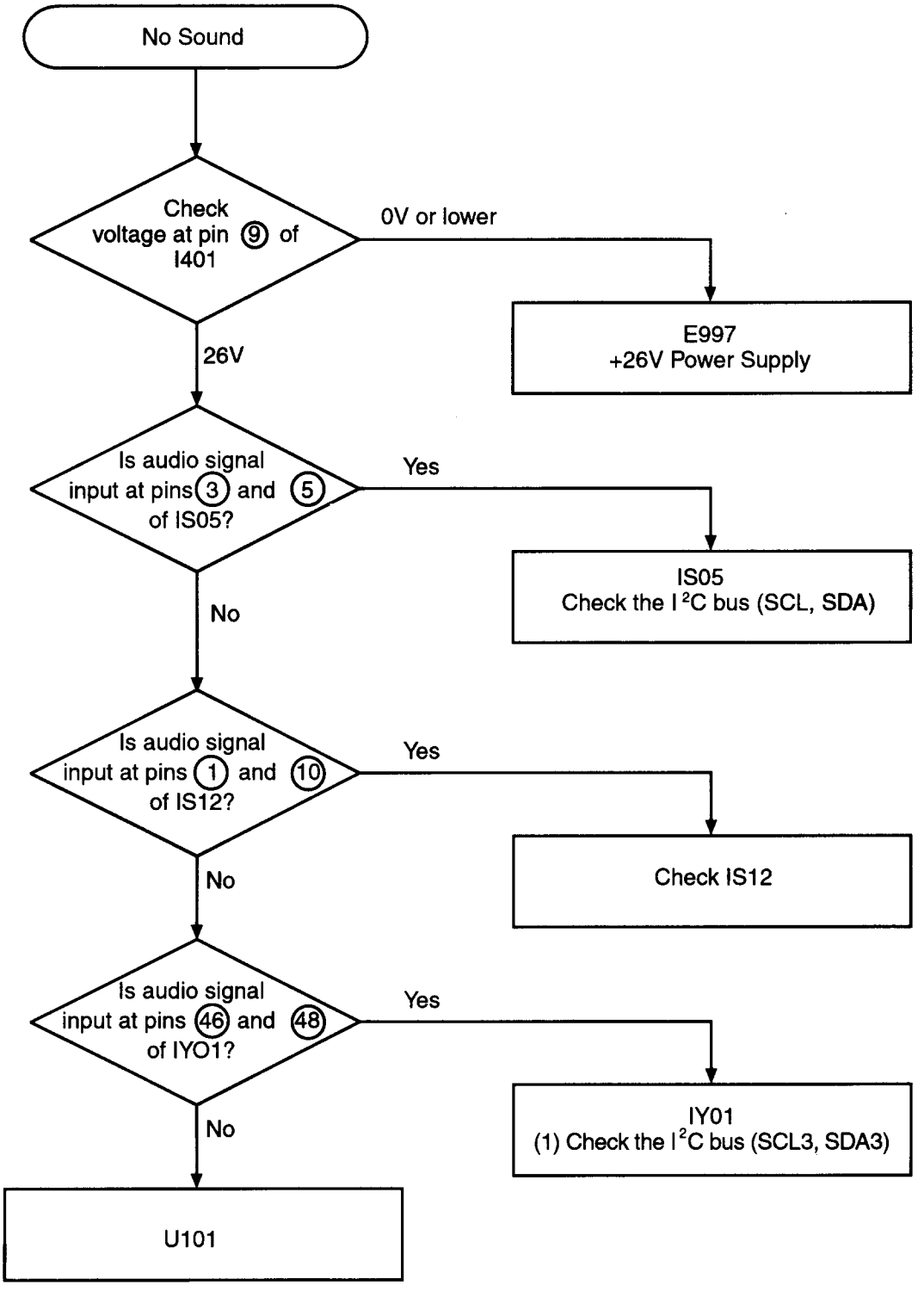
4. Defective Synchronization

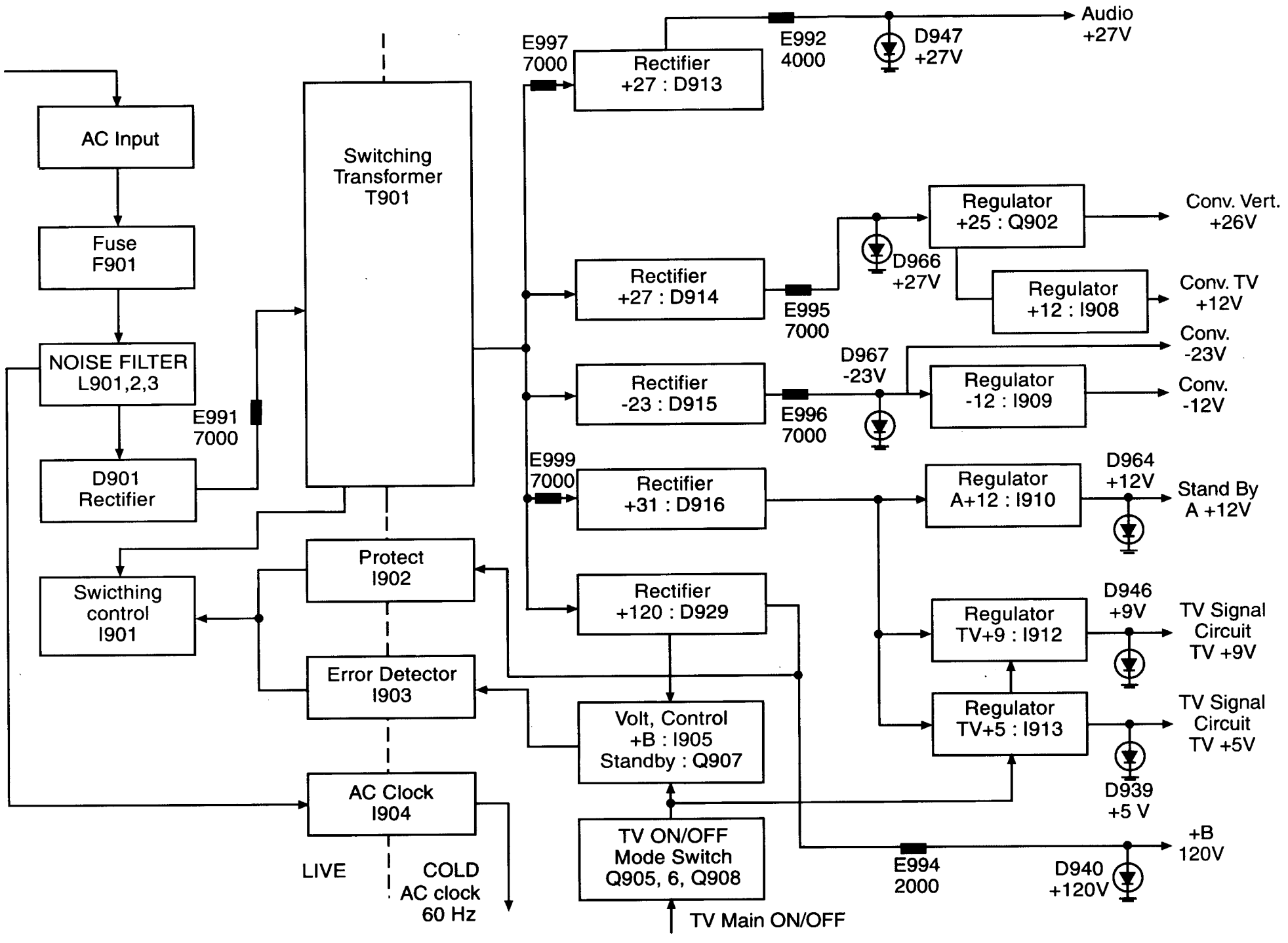


5. Incorrect Color



6. No Sound

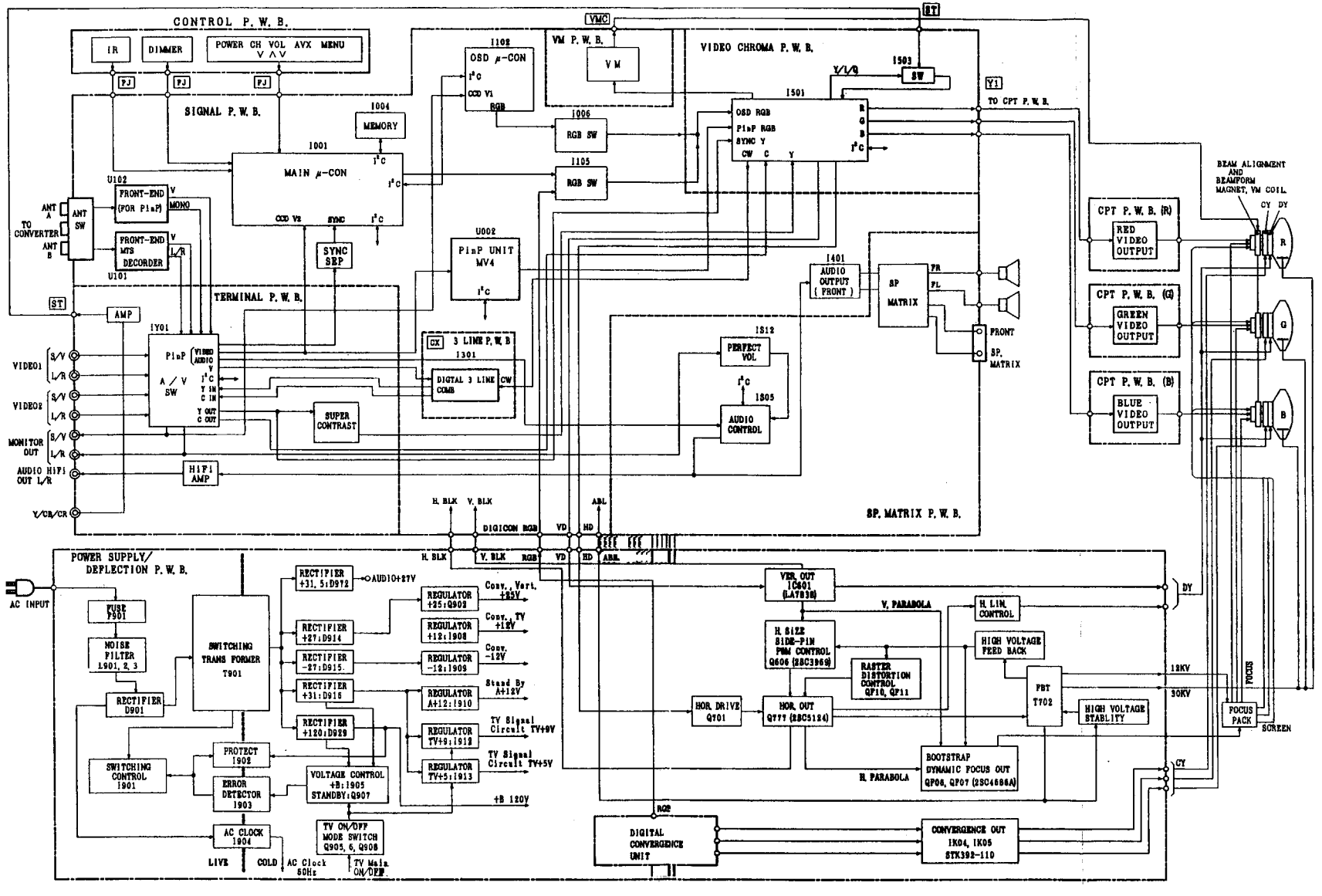

No Sound
Check voltage at pin ⑨ of I401
0V or lower
E997 +26V Power Supply
26V
Is audio signal input at pins ③ and ⑤ of IS05?
Yes
IS05 Check the I²C bus (SCL, SDA)
No
Is audio signal input at pins ① and ⑩ of IS12?
Yes
Check IS12
No
Is audio signal input at pins ㊻ and ㊽ of IYO1?
Yes
IY01 (1) Check the I²C bus (SCL3, SDA3)
No
U101



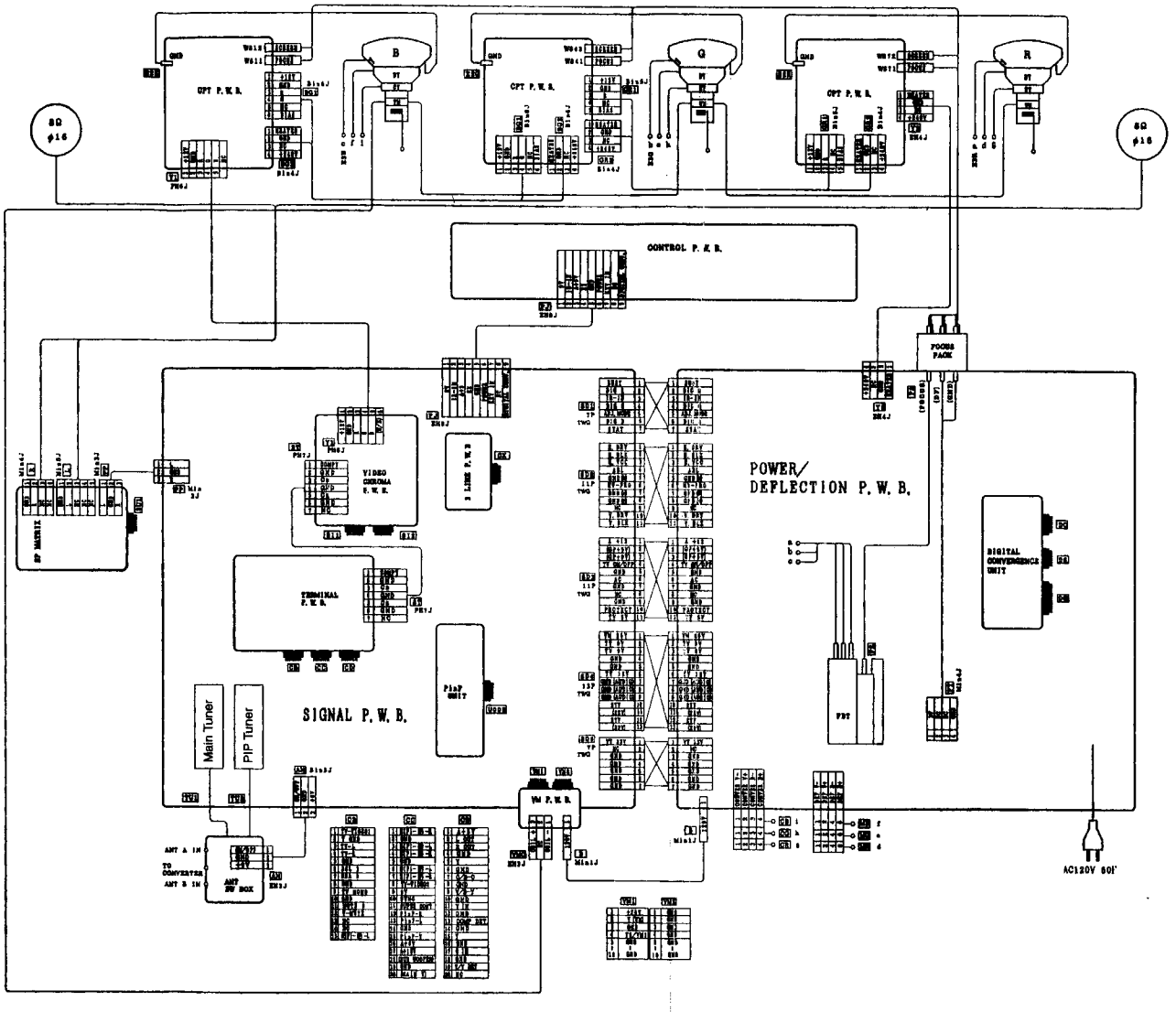
PROTECTION CIRCUIT BLOCK DIAGRAM

NOTES:

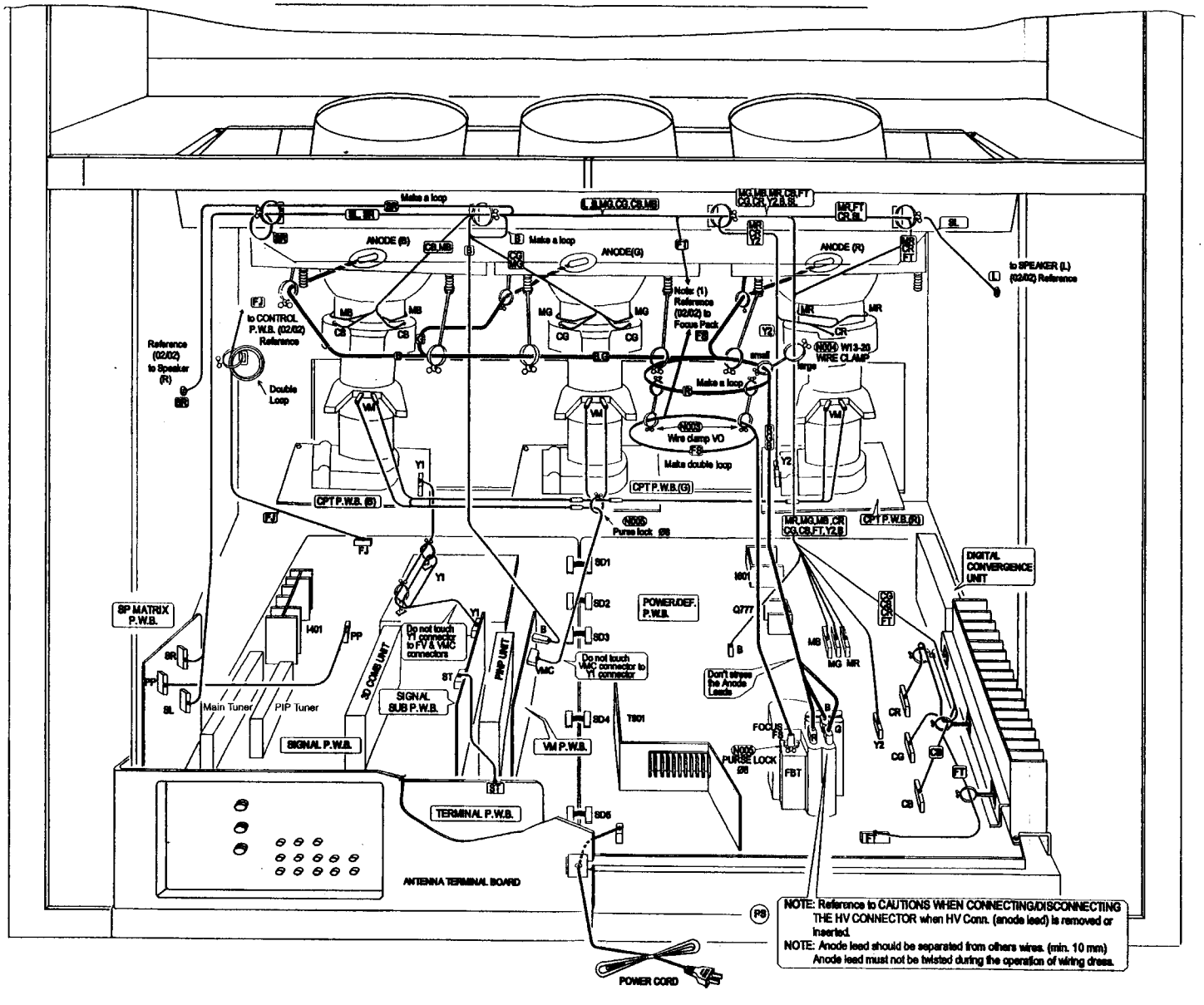
BLOCK DIAGRAM



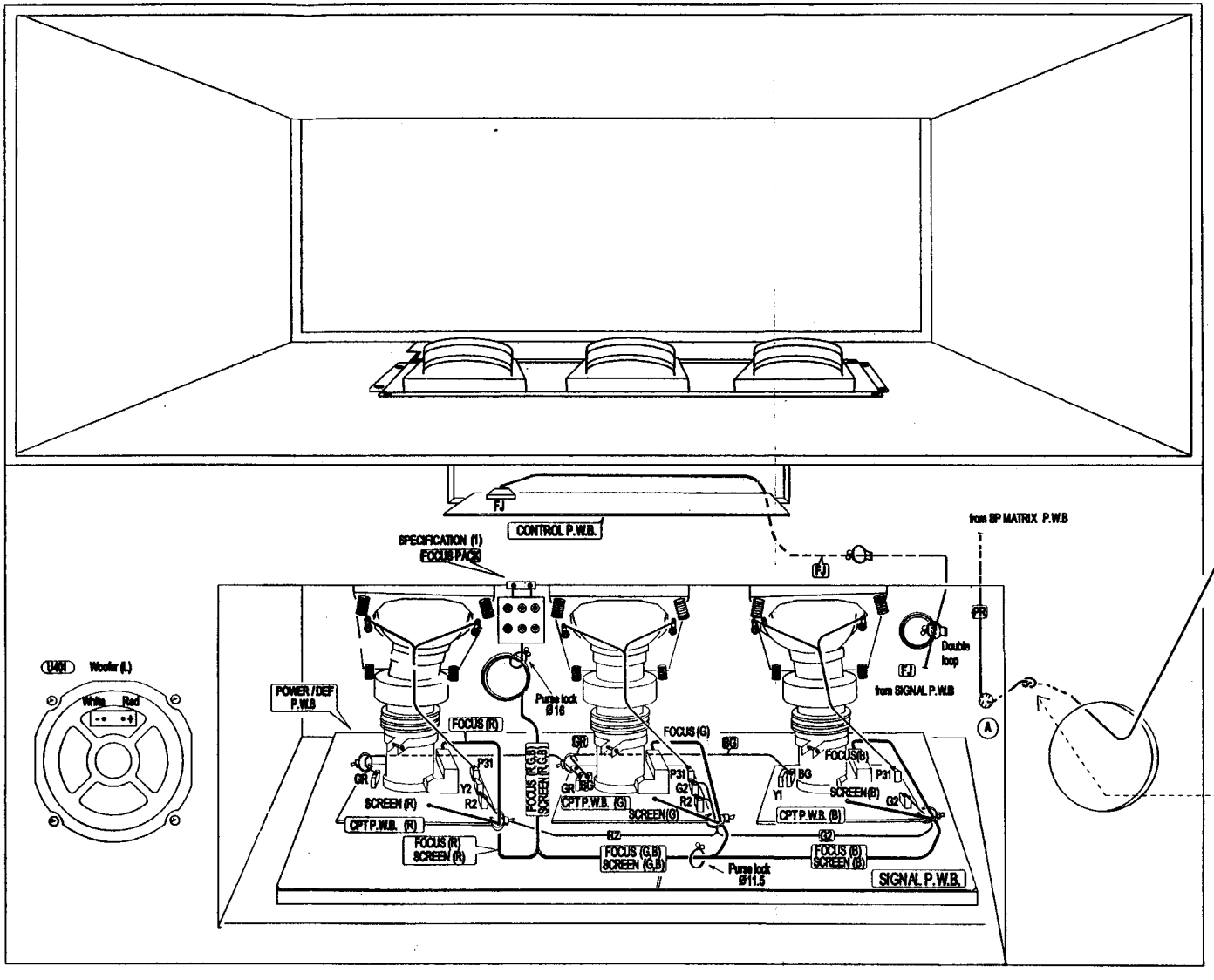
WIRING CONNECTION DIAGRAM



WIRING DRAWING

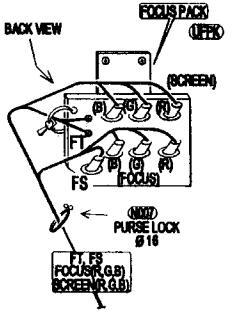


WIRING DRAWING

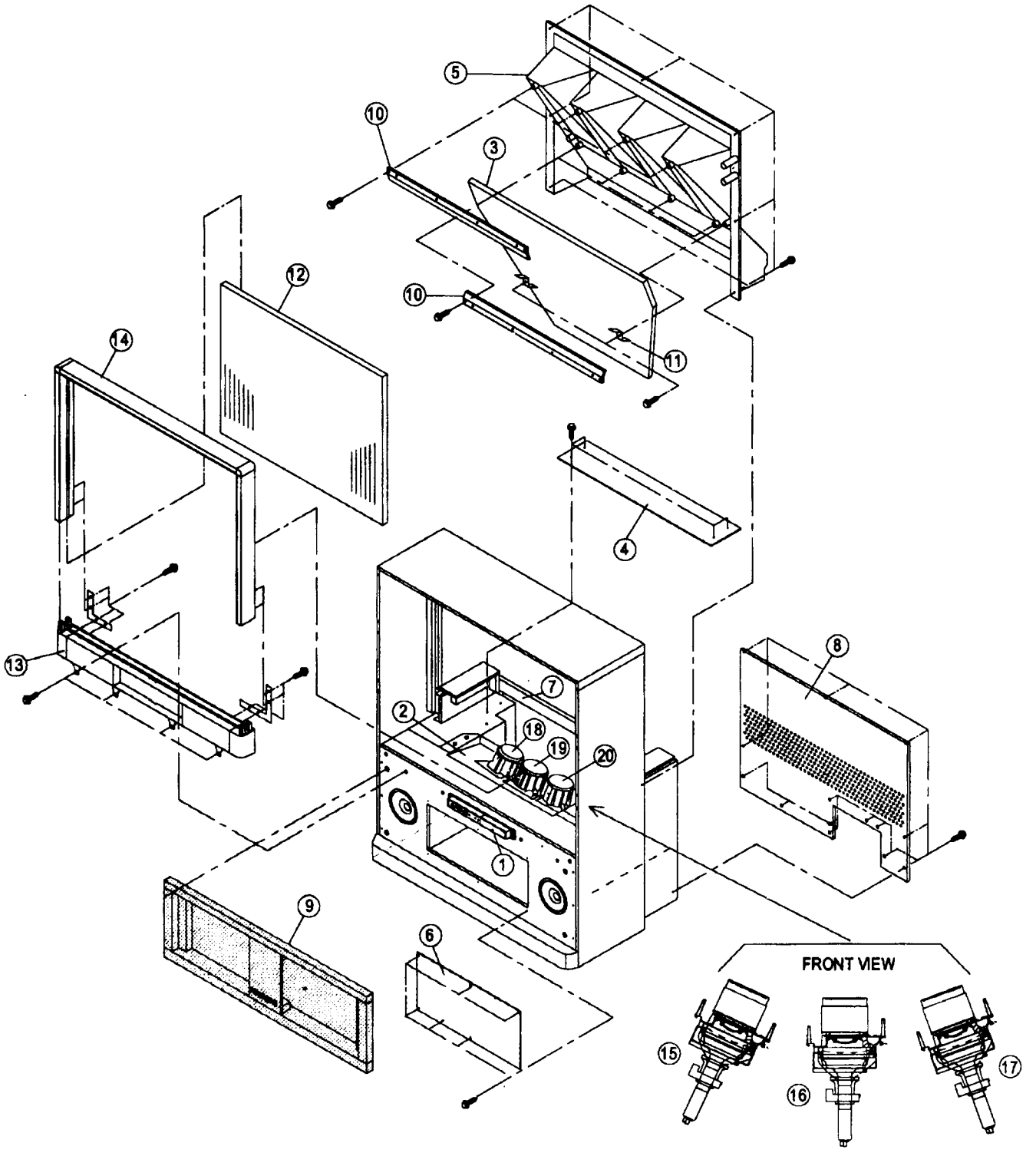


SPECIFICATION

(1) Refer to figure below about assembly of FOCUS PACK leads.



EXPLODED VIEW



NOTE: Refer to page 66 for description and parts list. Some parts may appear different than those shown in the Exploded View. When ordering, refer to the Replacement Parts List for correct part number. Since this Service Manual covers several models, use care to select the correct part for the model being serviced.

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

ABBREVIATIONS

Capacitors:

CD: Ceramic Disc
PF: Polyester Film
EL: Electrolytic
PP: Polypropylene
PR: Paper
TA: Tantalum
TM: Trimmer
MC: Mylar

Resistors:

CF: Carbon Film
CC: Carbon Composition
MF: Metal Oxide Film
VR: Variable Resistor
WW: Wire Wound
FR: Fuse Resistor
MG: Metal Glaze

Semiconductors:

TR: Transistor
DI: Diode
ZD: Zener Diode
VA: Varistor
TH: Thermistor
IC: Integrated Circuit

SYMBOL NO.	PART NO.	PART DESCRIPTION
		CAPACITORS
C002	0228758R	CAP 2125 CHIP 150PFJSL50V TAPE
C003	0246464R	CAP.-CERAMIC 100PF-J CH 50V TAPE
C004	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V
C005	0893031R	CAP 2125CHIP 1000PFKB 50V TAPE
C015	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C016	0228042R	CAP 2125CHIP 33PFJCH 50V TAPE
C017	0890121R	CAP.-CERAMIC 33PF-J CH 50V
C018	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C019	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V
C025	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C026	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C029	0228758R	CAP 2125 CHIP 150PFJSL50V TAPE
C030	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V
C031	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C032	0800324R	CAP.-ELECTRO. 100UF-M(SMG) 6.3V
C033	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
C034	0228756R	CAP2125CHIP 120PFJSL 50V TAPE
C035	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C036	0800358R	CAP.-ELECTRO. 1000UF-M 6.3V
C037	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C040	0800353R	CAP.-ELECTRO.470UF-M 16V
C041	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C042	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C043	0800351R	CAP.-ELECTRO. 470UF-M 6.3V
C044	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
C045	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C046	0893048R	CAP2125CHIP 22000PFKB 50V TAPE
C053	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C054	0800326R	CAP.-ELECTRO. 100UF-M 16V
C057	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C061	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C064	0800326R	CAP.-ELECTRO. 100UF-M 16V
C065	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C067	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C068	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
C070	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C071	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C075	0893031R	CAP 2125CHIP 1000PFKB 50V TAPE
C076	0228756R	CAP2125CHIP 120PFJSL 50V TAPE
C101	0800326R	CAP.-ELECTRO. 100UF-M 16V
C102	0800326R	CAP.-ELECTRO. 100UF-M 16V
C103	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
C104	0800358R	CAP.-ELECTRO. 1000UF-M 6.3V
C105	0800361N	CAP.-ELECTRO 1000UF 16V
C106	0800358R	CAP.-ELECTRO. 1000UF-M 6.3V
C107	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
C108	0800361N	CAP.-ELECTRO 1000UF 16V
C109	0800361N	CAP.-ELECTRO 1000UF 16V
C110	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C111	0800326R	CAP.-ELECTRO. 100UF-M 16V
C112	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
C113	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C114	0800359R	CAP.-ELECTRO. 1000UF-M 10V
C115	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C116	0800361N	CAP.-ELECTRO 1000UF 16V
C119	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C11A	0228770R	CAPACITOR MINI-CHIP 470PF-J SL 50V TAPE
C120	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C121	0228756R	CAP2125CHIP 120PFJSL 50V TAPE
C122	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
C123	0800324R	CAP.-ELECTRO. 100UF-M(SMG) 6.3V
C124	0800324R	CAP.-ELECTRO. 100UF-M(SMG) 6.3V
C125	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
C126	0228746R	CAP 2125 CHIP 47PFJSL 50V TAPE

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
C127	0228038R	CAP 2125CHIP 22PFJCH 50V TAPE	C517	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C128	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	C518	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C132	0893053R	CAP2125CHIP 47000PFKB 50V TAPE	C519	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V
C136	0800326R	CAP.-ELECTRO. 100UF-M 16V	C520	0228032R	CAP 2125CHIP 12PFJCH 50V TAPE
C137	0893053R	CAP2125CHIP 47000PFKB 50V TAPE	C521	AN00615R	CAP.POLYESTER 0.0022UF 50V TAPE
C138	0228770R	CAPACITOR MINI-CHIP 470PF-J SL 50V TAPE	C522	0800273R	CAP.-ELECTRO 0.22UF-M 50V
C139	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE	C523	0800326R	CAP.-ELECTRO. 100UF-M 16V
C140	0800361N	CAP.-ELECTRO 1000UF 16V	C524	0800326R	CAP.-ELECTRO. 100UF-M 16V
C141	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	C525	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C142	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE	C526	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C143	0890084R	CAP.-CERAMIC 560PF-K 50V	C527	0800326R	CAP.-ELECTRO. 100UF-M 16V
C1C1	0800288R	CAP.-ELECTRO. 4.7UF-M(SMG) 50V	C528	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
C3A2	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	C529	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V
C3A3	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE	C530	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C401	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	C531	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C402	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V	C532	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C403	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V	C533	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C404	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	C534	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C405	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	C535	0800353R	CAP.-ELECTRO.470UF-M 16V
C406	0893031R	CAP 2125CHIP 1000PFKB 50V TAPE	C536	AN00628R	CAP.POLYESTER 0.022UF 50V TAPE
C407	0893031R	CAP 2125CHIP 1000PFKB 50V TAPE	C537	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C408	0800318R	CAP.-ELECTRO. 47UF-M 25V	C538	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V
C409	0800318R	CAP.-ELECTRO. 47UF-M 25V	C539	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C410	0800327R	CAP.-ELECTRO. 100UF-M 25V	C540	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C411	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	C541	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C412	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	C542	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C413	0800327R	CAP.-ELECTRO. 100UF-M 25V	C543	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C414	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V	C544	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V
C415	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	C545	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C416	0284824F	CAP.-ELECTRO. 2200UF 35V SMG	C546	0800326R	CAP.-ELECTRO. 100UF-M 16V
C417	0880198R	CAP.-PLOY. 0.22UF-J 50V	C547	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C418	0880198R	CAP.-PLOY. 0.22UF-J 50V	C548	0228754R	CAP2125CHIP 100PFJSL 50V TAPE
C419	0284824F	CAP.-ELECTRO. 2200UF 35V SMG	C549	0228754R	CAP2125CHIP 100PFJSL 50V TAPE
C420	0284824F	CAP.-ELECTRO. 2200UF 35V SMG	C550	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C424	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	C551	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C426	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	C552	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C427	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	C553	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C428	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE	C554	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C451	0880198R	CAP.-PLOY. 0.22UF-J 50V	C555	0800326R	CAP.-ELECTRO. 100UF-M 16V
C456	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE	C556	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C457	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE	C557	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C458	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE	C558	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C459	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE	C601	AN00626R	CAP.POLYESTER 0.015UF 50V TAPE
C504	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V	C602	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C507	0228048R	CAPACITOR MINI-CHIP 56PF-J CH 50V TAPE	C603	AL01326R	ALUMINIUM ELECT. CAPACITOR PW(4.7UF 50V)
C508	0893044R	CAP2125CHIP 10000PFKB 50V TAPE	C604	0800326R	CAP.-ELECTRO. 100UF-M 16V
C509	0890058R	CAP.-CERAMIC 8PF-50V	C605	AN00619R	CAP.POLYESTER 0.0047UF 50V TAPE
C510	0800326R	CAP.-ELECTRO. 100UF-M 16V	C606	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
C511	0228708R	CAPACITOR MINI-CHIP 8PF-C SL 50V TAPE	C607	0880198R	CAP.-PLOY. 0.22UF-J 50V
C512	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	C608	0244501R	CAP.-CERAMIC 1000PF-K 500V
C513	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	C609	0244501R	CAP.-CERAMIC 1000PF-K 500V
C514	0893044R	CAP2125CHIP 10000PFKB 50V TAPE	C610	0800345R	CAP.-ELECTRO. 330UF-M(SMG) 25V
C515	0893044R	CAP2125CHIP 10000PFKB 50V TAPE	C611	AN00631R	CAP.POLYESTER 0.033UF 50V TAPE
C516	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	C613	AL01157R	ALUM. ELECTROLYTIC CAP.(1UF 50V)

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked w ith a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
C614	0800347N	CAP.-ELECTRO. 330UF-M(SMG) 50V	C864	AJ00559	CAPACITOT CERAMIC 2200PF2KV
C615	AL01143S	ALUMINIUM ELECTRO. CAP.(2200UF 25V)	C865	0800326R	CAP.-ELECTRO. 100UF-M 16V
C616	AL01336R	ALUMINIUM ELECT. CAPACITOR PW(10UF 16V)	C867	0890087R	CAP.-CERAMIC 1000PF-K 50V
C617	AL01297R	ALUMINIUM ELECT. CAPACITOR PW(1UF 50V)	C868	0890083R	CAP.-CERAMIC 470PF-K 50V
C619	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V	C870	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
C620	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE	⚠ C901	AN01445S	ACROSS CAPA 0.22UF 250V RE224
C621	0298261R	CAP.-TANTALUM 1MF-J 35V	⚠ C902	AN01443S	ACROSS CAPA 0.1UF 250V RE104
C622	0800347N	CAP.-ELECTRO. 330UF-M(SMG) 50V	C903	AJ00195F	CAPACITOR CERAMIC 4700P 250V F
C632	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE	C904	AJ00195F	CAPACITOR CERAMIC 4700P 250V F
C633	0279693R	CAP.-POLYESTER FLM 0.1UF	C905	0284296	CAP.ELECTRO 680UF-M 250V(KMH)
C641	0244105R	CAP.-CERAMIC 2200PF-K 50V TAPE	C906	0284296	CAP.ELECTRO 680UF-M 250V(KMH)
C701	0251771	CAP.-ELECTRO 220UF-M 160V	C907	0800328R	CAP. ELECTRO. 100UF-M 35V
C702	0299926F	CAPACITOR-POLYESTER FILM 0.1UF-K 200V	C908	0890087R	CAP.-CERAMIC 1000PF-K 50V
C703	0890028M	CAP.-CERAMIC 330PF-K B 50V CYLINDRICAL	C909	0800332N	CAP.-ELECTRO. 100UF-M 100V
C704	0244109R	CAPACITOR-CERAMIC 4700PF-KB 50V	C910	0299977F	CAPACITOR-POLYPRO. FILM 0.0047UF-F 630V
C705	0243507R	CAP.-CERAMIC 330PF-K 500V TAPE	C912	0890085R	CAP.-CERAMIC 680PF-K 50V
C706	0244501R	CAP.-CERAMIC 1000PF-K 500V	C913	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V
C707	AJ00134	CAPACITOR CERAMIC 1000P DC2K-R	C914	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
⚠ C708	AN01128F	METALLIZ POLYPRO. FILM CAPACITOR0.0047UF	C915	AL01153S	ALUM. ELECTROLYTIC CAP.(1000UF 35V)
⚠ C709	AN01134F	METALLIZ POLYPRO. FILM CAPACITOR0.0075UF	C916	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
C710	0299932F	CAP.-POLYPRO. 0.33UF-K 200V	C917	0244105R	CAP.-CERAMIC 2200PF-K 50V TAPE
C711	0299932F	CAP.-POLYPRO. 0.33UF-K 200V	C918	AL01153S	ALUM. ELECTROLYTIC CAP.(1000UF 35V)
⚠ C712	0299707F	CAP.-POLYESTOR 0.015UF-K 630V	C919	0880198R	CAP.-PLOY. 0.22UF-J 50V
C713	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	C920	0800328R	CAP. ELECTRO. 100UF-M 35V
C714	AN00628R	CAP.POLYESTER 0.022UF 50V TAPE	C921	0800328R	CAP. ELECTRO. 100UF-M 35V
C715	AJ00134	CAPACITOR CERAMIC 1000P DC2K-R	C922	0800326R	CAP.-ELECTRO. 100UF-M 16V
C717	0243503R	CAP.-CERAMIC 150PF-K B 500V	C923	0800328R	CAP. ELECTRO. 100UF-M 35V
C718	AL00042	CAP.ELECTRO 33UF 350V	C924	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V
C721	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE	C925	AL01153S	ALUM. ELECTROLYTIC CAP.(1000UF 35V)
C722	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE	C926	0880198R	CAP.-PLOY. 0.22UF-J 50V
C723	AN01137F	METALLIZ POLYPRO. FILM CAPACITOR0.01UF	C927	AL01153S	ALUM. ELECTROLYTIC CAP.(1000UF 35V)
C724	0279693R	CAP.-POLYESTER FLM 0.1UF	C928	AL01153S	ALUM. ELECTROLYTIC CAP.(1000UF 35V)
C725	0890087R	CAP.-CERAMIC 1000PF-K 50V	C929	0251703	CAP.ELECTRO 390UF-M 160V(KMH)
C726	0243508R	CAPACITOR-CERAMIC 390PF-K 500V	C930	AL01129S	ALUM. ELECTROLYTIC CAP.(1000UF 16V)
C727	0244501R	CAP.-CERAMIC 1000PF-K 500V	C931	0800353R	CAP.-ELECTRO.470UF-M 16V
C729	0259471	CAP.-ELECTRO 6.8UF-M (BP) 50V	C935	0800355N	CAP.ELECTRO. 470UF-M 35V
C730	0244109R	CAPACITOR-CERAMIC 4700PF-KB 50V	C937	AL01118S	ALUM. ELECTROLYTIC CAP.(2200UF 10V)
C731	0800329R	CAP.-ELECTRO. 100UF-M(SMG) 50V	C939	0800328R	CAP. ELECTRO. 100UF-M 35V
C740	0284667R	CAP.-ELECTRO. 47UF-MBPR(SME)16V	C940	0800353R	CAP.-ELECTRO.470UF-M 16V
C750	0284634R	CAP.-ELECTRO 4.7UF-SME(BP) 50V	C941	0880198R	CAP.-PLOY. 0.22UF-J 50V
C771	0890084R	CAP.-CERAMIC 560PF-K 50V	C942	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
C801	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V	C943	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C802	0800326R	CAP.-ELECTRO. 100UF-M 16V	C945	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C804	AJ00559	CAPACITOT CERAMIC 2200PF2KV	C948	AL01107S	ALUM. ELECTROLYTIC CAP.(3300UF6.3V)
C805	0800326R	CAP.-ELECTRO. 100UF-M 16V	C949	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C807	0890087R	CAP.-CERAMIC 1000PF-K 50V	C952	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C808	0890084R	CAP.-CERAMIC 560PF-K 50V	C954	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C810	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE	C955	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C831	AL00037R	ALUM. ELECTROLYTIC CAP.(33UF350V)	C956	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C834	AJ00559	CAPACITOT CERAMIC 2200PF2KV	C957	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V
C835	0800326R	CAP.-ELECTRO. 100UF-M 16V	⚠ C958	AJ00157R	CAPACITOR CERAMIC 1000P 400V B
C837	0890087R	CAP.-CERAMIC 1000PF-K 50V	⚠ C959	AJ00163R	CAPACITOR CERAMIC 2200P 400V E
C838	0890084R	CAP.-CERAMIC 560PF-K 50V	C962	0800326R	CAP.-ELECTRO. 100UF-M 16V
C839	0890071R	CAP.-CERAMIC 56PF-J 50V	C963	0800303R	CAP.-ELECTRO. 22UF-M 50V
C840	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE	C964	0800361N	CAP.-ELECTRO 1000UF 16V

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
C965	0800308R	CAP.-ELECTRO. 33UF-M(SMG) 16V	CF03	AN01111F	METALLIZ POLYPRO. FILM CAP 0.001UF
C966	0880198R	CAP.-PLOY. 0.22UF-J 50V	CF04	AN00614R	CAP.POLYESTER 0.0018UF 50V TAPE
C967	0243509R	CAPACITOR-CERAMIC 470PF-K 500V TAPE	CF05	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C968	0243509R	CAPACITOR-CERAMIC 470PF-K 500V TAPE	CF06	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C969	0244109R	CAPACITOR-CERAMIC 4700PF-KB 50V	CF07	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C971	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE	CF08	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
C974	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE	CF09	0880196R	CAP.-POLYESTER 0.15UF 50V HFT
C975	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE	CF10	0880197R	CAP.POLYESTER 0.18UF 50V
CA01	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	CF12	0800326R	CAP.-ELECTRO. 100UF-M 16V
CA02	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	CF13	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
CA05	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	CF14	0259151F	CAP.-ELECTRO. 100UF 160V
CA06	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	CF15	0880198R	CAP.-PLOY. 0.22UF-J 50V
CA07	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	CF16	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CA08	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	CF17	0244109R	CAPACITOR-CERAMIC 4700PF-KB 50V
CA26	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	CF18	0245158	CAPACITOT CERAMIC 68PF/2KV
CA27	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	CF19	0245156	CAPACITOT CERAMIC 22PF/2KV
CA28	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	CF20	0800326R	CAP.-ELECTRO. 100UF-M 16V
CA29	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	CF21	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
CA34	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	CK01	0800353R	CAP.-ELECTRO.470UF-M 16V
CA37	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	CK02	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V
CA38	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V	CK03	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V
CA40	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	CK04	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CA41	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	CK05	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V
CA68	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V	CK06	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CA69	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE	CK07	0800326R	CAP.-ELECTRO. 100UF-M 16V
CA73	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V	CK08	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CA74	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE	CK09	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CA75	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	CK10	0800326R	CAP.-ELECTRO. 100UF-M 16V
CA76	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	CK12	0890076R	CAP.CERAMIC 150PF-K 50V
CA82	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	CK13	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CA83	0800286R	CAP.-ELECTRO. 4.7UF-M(SMG) 25V	CK14	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CC02	0893044R	CAP2125CHIP 10000PFKB 50V TAPE	CK15	AN00611R	CAP.POLYSTYLENE 0.001UF 50V TAPE
CC03	0893044R	CAP2125CHIP 10000PFKB 50V TAPE	CK16	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CE01	0800354R	CAP.-ELECTRO. 470UF-M 25V	CK17	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CE02	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE	CK18	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
CE03	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V	CK19	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
CE04	0890076R	CAP.CERAMIC 150PF-K 50V	CK20	0890076R	CAP.CERAMIC 150PF-K 50V
CE05	0800326R	CAP.-ELECTRO. 100UF-M 16V	CK21	0890076R	CAP.CERAMIC 150PF-K 50V
CE06	0890064R	CAP.-CERAMIC 18PF-J SL 50V	CK22	0890076R	CAP.CERAMIC 150PF-K 50V
CE08	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	CK23	0890076R	CAP.CERAMIC 150PF-K 50V
CE09	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	CK24	0890076R	CAP.CERAMIC 150PF-K 50V
CE10	0800321R	CAP.-ELECTRO. 47UF-M 50V	CK25	0890076R	CAP.CERAMIC 150PF-K 50V
CE11	0890074R	CAP.-CERAMIC 100PF-J 50V	CK27	0800356N	CAP.-ELECTRO. 470UF-M 50V
CE12	0244541F	CAPACITOR-CERAMIC 0.01MF-K B 500V	CK28	0800356N	CAP.-ELECTRO. 470UF-M 50V
CE13	0244541F	CAPACITOR-CERAMIC 0.01MF-K B 500V	CK29	0890076R	CAP.CERAMIC 150PF-K 50V
CE14	AL00009R	ALU.ELEC.CAP. 47UF 160V	CK30	0890076R	CAP.CERAMIC 150PF-K 50V
CE15	0247848R	CAP.-CERAMIC 56PF-J SL 500V	CK31	0890076R	CAP.CERAMIC 150PF-K 50V
CE16	AL00007R	ALUM. ELECTROLYTIC CAP.(220UF160V)	CK32	0890076R	CAP.CERAMIC 150PF-K 50V
CE17	0244509R	CAP.-CERAMIC 4700PF-KB B 500V	CK33	0890076R	CAP.CERAMIC 150PF-K 50V
CE18	0890074R	CAP.-CERAMIC 100PF-J 50V	CK34	0890076R	CAP.CERAMIC 150PF-K 50V
CE19	AL00009R	ALU.ELEC.CAP. 47UF 160V	CK60	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
CE20	AL00009R	ALU.ELEC.CAP. 47UF 160V	CM01	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V
CE21	0890079R	CAP.-CERAMIC 270PF-K 50V	CM02	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
CE23	0890079R	CAP.-CERAMIC 270PF-K 50V	CM03	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CF01	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	CM04	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
CF02	AL01296R	ALUM. ELECTRO. CAP. PW(0.47UF 350V)	CM05	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
CM06	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CM14	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CN01	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CN02	0800288R	CAP.-ELECTRO. 4.7UF-M(SMG) 50V
CN03	AN00631R	CAP.POLYESTER 0.033UF 50V TAPE
CN04	0890084R	CAP.-CERAMIC 560PF-K 50V
CN05	0800326R	CAP.-ELECTRO. 100UF-M 16V
CN06	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
CS38	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CS39	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V
CS60	0284634R	CAP.-ELECTRO 4.7UF-SME(BP) 50V
CS62	0800288R	CAP.-ELECTRO. 4.7UF-M(SMG) 50V
CS63	0800288R	CAP.-ELECTRO. 4.7UF-M(SMG) 50V
CS64	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS65	0890087R	CAP.-CERAMIC 1000PF-K 50V
CS66	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS67	0890087R	CAP.-CERAMIC 1000PF-K 50V
CS68	AN00631R	CAP.POLYESTER 0.033UF 50V TAPE
CS69	AN00621R	CAP.POLYESTER 0.0056UF 50V TAPE
CS70	AN00621R	CAP.POLYESTER 0.0056UF 50V TAPE
CS71	AN00631R	CAP.POLYESTER 0.033UF 50V TAPE
CS72	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CS73	0800326R	CAP.-ELECTRO. 100UF-M 16V
CS74	0800326R	CAP.-ELECTRO. 100UF-M 16V
CS75	0800326R	CAP.-ELECTRO. 100UF-M 16V
CS76	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS77	0800288R	CAP.-ELECTRO. 4.7UF-M(SMG) 50V
CS78	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS79	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS93	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS94	0284634R	CAP.-ELECTRO 4.7UF-SME(BP) 50V
CX01	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
CX02	0228040R	CAP 2125CHIP 27PFJCH 50V TAPE
CX03	0228008R	CAP 2125 CHIP 8PF-C CH 50V TAPE
CX04	0228034R	CAP 2125 CHIP 15PF-J CH 50V TAPE
CX24	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX25	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX26	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX27	0800286R	CAP.-ELECTRO. 4.7UF-M(SMG) 25V
CX28	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX29	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
CX30	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX31	0228060R	CAP 2125 CHIP 180PF-J CH 50V TAPE
CX32	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX33	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX34	0800325R	CAP.-ELECTRO. 100UF-M 10V
CX35	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX36	0800325R	CAP.-ELECTRO. 100UF-M 10V
CX37	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX38	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX39	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX40	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX41	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX42	0800334R	CAP.-ELECTRO. 220UF 10V
CX45	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CX46	0800326R	CAP.-ELECTRO. 100UF-M 16V
CX47	0800326R	CAP.-ELECTRO. 100UF-M 16V
CX48	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX49	0800326R	CAP.-ELECTRO. 100UF-M 16V
CX50	0800325R	CAP.-ELECTRO. 100UF-M 10V
CX52	0800325R	CAP.-ELECTRO. 100UF-M 10V
CX53	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX54	0284647R	CAP.-ELECTRO.22UF-SME(BP) 16V
CX55	0228042R	CAP 2125CHIP 33PFJCH 50V TAPE
CX56	0228042R	CAP 2125CHIP 33PFJCH 50V TAPE
CX57	0228048R	CAPACITOR MINI-CHIP 56PF-J CH 50V TAPE
CX58	0228048R	CAPACITOR MINI-CHIP 56PF-J CH 50V TAPE
CY01	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
CY04	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V
CY05	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V
CY06	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V
CY07	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V
CY08	0800326R	CAP.-ELECTRO. 100UF-M 16V
CY09	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
CY10	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
CY11	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CY12	0800326R	CAP.-ELECTRO. 100UF-M 16V
CY13	0893033R	CAP 2125CHIP 1500PFKB 50V TAPE
CY14	0800353R	CAP.-ELECTRO.470UF-M 16V
CY17	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
CY18	0800326R	CAP.-ELECTRO. 100UF-M 16V
CY19	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
CY20	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
CY30	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CY31	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CY32	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CY33	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CY34	0800326R	CAP.-ELECTRO. 100UF-M 16V
CY37	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
CY38	0800353R	CAP.-ELECTRO.470UF-M 16V
CY39	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CY50	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V
CY75	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
		DIODES
D005	CH02021M	DIODE 1SS133 T-72
D013	CH02021M	DIODE 1SS133 T-72
D015	2331827M	ZENER DIODE HZ-9 TAPE (C1) SI 500MW 9.3V
D024	CH02021M	DIODE 1SS133 T-72
D025	CH02021M	DIODE 1SS133 T-72
D026	2348212M	DIO-MTZ-J15BTA
D027	2348212M	DIO-MTZ-J15BTA
D028	2348212M	DIO-MTZ-J15BTA
D029	2348212M	DIO-MTZ-J15BTA
D030	2348212M	DIO-MTZ-J15BTA
D031	CH02021M	DIODE 1SS133 T-72
D040	CH02021M	DIODE 1SS133 T-72
D041	CH02021M	DIODE 1SS133 T-72
D044	CH02021M	DIODE 1SS133 T-72
D045	2348102M	ZENER MTZJ-5.1B TA
D046	2348212M	DIO-MTZ-J15BTA
D048	CH02021M	DIODE 1SS133 T-72

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
D053	CH02021M	DIODE 1SS133 T-72	D710	CH02001M	DIODE 1SR139-400
D055	CH02001M	DIODE 1SR139-400	⚠ D711	CH00031M	DIODE AU02V1(280V)
D057	CH02021M	DIODE 1SS133 T-72	⚠ D712	CH00031M	DIODE AU02V1(280V)
D058	CH02021M	DIODE 1SS133 T-72	D713	CH00041M	DIODE ES1FV1 (1500V)
D059	CH02021M	DIODE 1SS133 T-72	D714	CH00041M	DIODE ES1FV1 (1500V)
D101	2348212M	DIO-MTZ-J15BTA	D715	CH02011M	DIODE 1SR153-400
D106	CH02021M	DIODE 1SS133 T-72	D716	2348231M	ZENER DIODE MTZ-18A TA
D107	CH02021M	DIODE 1SS133 T-72	D717	2348041M	DIODE MTZ-J3.0 ATA
D111	CH02021M	DIODE 1SS133 T-72	D718	CH02021M	DIODE 1SS133 T-72
D112	CH02021M	DIODE 1SS133 T-72	D719	CH02001M	DIODE 1SR139-400
D113	2348123M	ZENER MTZJ-6.2C TA	D720	2334305M	ZENER RD30E (B4 T2/TP/TA) SI 5MA 30.51V
D116	2331815M	ZENER HZ7-B2	D721	2348193M	ZENER DIODE MTZJ-12C TA
D117	2335991M	ZENER HZ-T33 (02 TP)	D722	2348151M	ZENER MTZ-J8.2ATA
D118	2335991M	ZENER HZ-T33 (02 TP)	D723	CH02021M	DIODE 1SS133 T-72
D301	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V	D724	2348123M	ZENER MTZJ-6.2C TA
D401	CH02021M	DIODE 1SS133 T-72	D725	CH02021M	DIODE 1SS133 T-72
D402	CH02021M	DIODE 1SS133 T-72	D777	2334243M	ZENER RD16E (B2 T2/TP/TA) SI 10MA 16.51V
D404	CH02021M	DIODE 1SS133 T-72	D778	2334305M	ZENER RD30E (B4 T2/TP/TA) SI 5MA 30.51V
D405	CH02021M	DIODE 1SS133 T-72	D802	CH02021M	DIODE 1SS133 T-72
D406	CH02021M	DIODE 1SS133 T-72	D803	CH02021M	DIODE 1SS133 T-72
D407	CH02021M	DIODE 1SS133 T-72	D804	CH02021M	DIODE 1SS133 T-72
D502	CH02021M	DIODE 1SS133 T-72	D805	CH02021M	DIODE 1SS133 T-72
D503	CH02021M	DIODE 1SS133 T-72	D832	CH02021M	DIODE 1SS133 T-72
D504	CH02021M	DIODE 1SS133 T-72	D833	CH02021M	DIODE 1SS133 T-72
D505	2348163M	ZENER MTZJ-9.1C TA	D862	CH02021M	DIODE 1SS133 T-72
D507	CH02021M	DIODE 1SS133 T-72	D863	CH02021M	DIODE 1SS133 T-72
D508	CH02021M	DIODE 1SS133 T-72	⚠ D901	2338313	DIODE RBV-406M (60V) SI 0.1USEC
D509	2348163M	ZENER MTZJ-9.1C TA	D902	CH02001M	DIODE 1SR139-400
D510	2348163M	ZENER MTZJ-9.1C TA	D903	CH02001M	DIODE 1SR139-400
D511	2348163M	ZENER MTZJ-9.1C TA	D904	CH02011M	DIODE 1SR153-400
D513	CH02021M	DIODE 1SS133 T-72	D905	CH02011M	DIODE 1SR153-400
D515	2348163M	ZENER MTZJ-9.1C TA	D906	2348253M	ZENER MTZ-J22CTA
D516	2348163M	ZENER MTZJ-9.1C TA	D907	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
D517	2348163M	ZENER MTZJ-9.1C TA	D908	CH02011M	DIODE 1SR153-400
D602	CH02021M	DIODE 1SS133 T-72	D910	2331844M	ZENER HZ12-B1
D603	CH02011M	DIODE 1SR153-400	D911	2331844M	ZENER HZ12-B1
D604	CH02011M	DIODE 1SR153-400	D912	CH00183R	LIGHT EMITTING DIODE (SLZ-981C-06-T1)
D605	CH02021M	DIODE 1SS133 T-72	D913	2336615	DIODE RU3YX (LF-A1)
D606	CH02021M	DIODE 1SS133 T-72	D914	2337952S	DIODE RU4YX(LF015-302)
D607	2334243M	ZENER RD16E (B2 T2/TP/TA) SI 10MA 16.51V	D915	2337952S	DIODE RU4YX(LF015-302)
D609	CH02001M	DIODE 1SR139-400	D916	2337952S	DIODE RU4YX(LF015-302)
D610	CH02001M	DIODE 1SR139-400	D917	CH02001M	DIODE 1SR139-400
D611	CH02001M	DIODE 1SR139-400	D918	2348271M	ZENER MTZ-J27ATA
D612	2331154M	ZENER HZ-12 (A1-3 B1-3.TA) SI 200MA 14.3V	D919	2348213M	ZENER DIODE MTZJ-15C TA
D613	CH02021M	DIODE 1SS133 T-72	D920	CH02021M	DIODE 1SS133 T-72
D614	CH02011M	DIODE 1SR153-400	D921	2348121M	ZENER MTZJ-6.2A TA
D615	CH02021M	DIODE 1SS133 T-72	D922	2348283M	ZENER DIODE MTZJ-30C TA
D616	2334305M	ZENER RD30E (B4 T2/TP/TA) SI 5MA 30.51V	D923	CH02021M	DIODE 1SS133 T-72
D701	CH02021M	DIODE 1SS133 T-72	D924	2348042M	ZENER MTZ-J3.0BTA
⚠ D702	2348511G	DIODE RS3FS LF-U1(014-201)	D925	2348264M	ZENER DIODE MTZJ-24D TA
⚠ D703	CH00891S	DIODE UF5406 (600V)	D926	CH02011M	DIODE 1SR153-400
⚠ D704	CH00891S	DIODE UF5406 (600V)	D928	CH01042M	DIODE RK34 (40V)
D705	CH02021M	DIODE 1SS133 T-72	D929	CH01061F	DIODE RU4AM(600V)
D706	CH02021M	DIODE 1SS133 T-72	D931	2348283M	ZENER DIODE MTZJ-30C TA
D708	CH02021M	DIODE 1SS133 T-72	D932	CH02021M	DIODE 1SS133 T-72
⚠ D709	2335042M	ZENER HZ-22 (2L TP) SI 200MA 400MW	D933	2348132M	ZENER MTZ-J6.8BTA

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
D936	2348193M	ZENER DIODE MTZJ-12C TA	DK16	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
D937	CH02021M	DIODE 1SS133 T-72	DK17	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
D938	CH00921M	DIODE SB140 40V 1A	DK18	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
D939	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)	DK19	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
D940	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)	DK20	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
D941	CH02021M	DIODE 1SS133 T-72	DK21	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
D942	2348132M	ZENER MTZ-J6.8BTA	DK22	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
D943	CH02021M	DIODE 1SS133 T-72	DK23	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
D944	CH02021M	DIODE 1SS133 T-72	DK24	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
D945	CH02011M	DIODE 1SR153-400	DK25	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
D946	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)	DK26	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
D947	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)	DK27	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
D948	CH02021M	DIODE 1SS133 T-72	DK40	2331806M	ZENER DIODE HZ-6 TAPE (B3) SI 500MW
D951	2348092M	ZENER MTZ-J4.7BTA	DK41	2331806M	ZENER DIODE HZ-6 TAPE (B3) SI 500MW
D952	CH02021M	DIODE 1SS133 T-72	DK42	2331806M	ZENER DIODE HZ-6 TAPE (B3) SI 500MW
D956	CH02021M	DIODE 1SS133 T-72	DK43	2331806M	ZENER DIODE HZ-6 TAPE (B3) SI 500MW
D957	2348213M	ZENER DIODE MTZJ-15C TA	DK44	2331806M	ZENER DIODE HZ-6 TAPE (B3) SI 500MW
D958	CH02021M	DIODE 1SS133 T-72	DM01	CH02021M	DIODE 1SS133 T-72
D959	CH02021M	DIODE 1SS133 T-72	DM02	CH02021M	DIODE 1SS133 T-72
D960	CH02021M	DIODE 1SS133 T-72	DM03	CH00231	LED SLH-56VC3F
D961	CH02021M	DIODE 1SS133 T-72	DM04	2348212M	DIO-MTZ-J15BTA
D962	CH02021M	DIODE 1SS133 T-72	DM05	2348212M	DIO-MTZ-J15BTA
D963	CH02021M	DIODE 1SS133 T-72	DM11	2348212M	DIO-MTZ-J15BTA
D964	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)	DN01	CH02021M	DIODE 1SS133 T-72
D966	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)	DN02	CH02021M	DIODE 1SS133 T-72
D967	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)	DN03	CH02021M	DIODE 1SS133 T-72
D969	2348102M	ZENER MTZJ-5.1B TA	DN04	CH02021M	DIODE 1SS133 T-72
D971	2348143M	DIODE MTZ-J7.5CTA	DN05	2348071M	ZENER DIODE MTZJ-3.9A TA
D973	CH02011M	DIODE 1SR153-400	DN06	CH02021M	DIODE 1SS133 T-72
D974	2348111M	ZENER MTZ-J5.6ATA	DN07	CH02021M	DIODE 1SS133 T-72
D975	CH02021M	DIODE 1SS133 T-72	DN08	CH02001M	DIODE 1SR139-400
DA01	CH02021M	DIODE 1SS133 T-72	DN09	2348212M	DIO-MTZ-J15BTA
DA02	CH02021M	DIODE 1SS133 T-72	DN10	CH02021M	DIODE 1SS133 T-72
DA03	2348031M	DIO-MTZ-J2.7ATA	DN11	CH02021M	DIODE 1SS133 T-72
DA04	2348031M	DIO-MTZ-J2.7ATA	DS05	CH02001M	DIODE 1SR139-400
DA11	CH02021M	DIODE 1SS133 T-72	DY01	CH02021M	DIODE 1SS133 T-72
DA12	CH02021M	DIODE 1SS133 T-72	DY05	2348163M	ZENER MTZJ-9.1C TA
DA19	CH02021M	DIODE 1SS133 T-72	DY06	2348163M	ZENER MTZJ-9.1C TA
DE03	CH02021M	DIODE 1SS133 T-72	DY07	2348163M	ZENER MTZJ-9.1C TA
DE04	CH02001M	DIODE 1SR139-400			
DE05	CH02001M	DIODE 1SR139-400			**FUSES**
DE06	CH02001M	DIODE 1SR139-400	⚠ E701	AZ00107M	PROTECTOR CRXT491004
DE07	CH02001M	DIODE 1SR139-400	⚠ E991	AZ00109M	PROTECTOR CRXT491007
DF01	CH02021M	DIODE 1SS133 T-72	⚠ E994	AZ00104M	PROTECTOR(CRXT491002)
DF02	CH02021M	DIODE 1SS133 T-72	⚠ E995	AZ00109M	PROTECTOR CRXT491007
DF03	CH02021M	DIODE 1SS133 T-72	⚠ E996	AZ00109M	PROTECTOR CRXT491007
DF04	2338531M	DIODE EG-01C (V) SI 0.5A	⚠ E997	AZ00109M	PROTECTOR CRXT491007
DF05	CH02021M	DIODE 1SS133 T-72	⚠ E999	AZ00109M	PROTECTOR CRXT491007
DF07	CH02021M	DIODE 1SS133 T-72	⚠ F901	2722358	FUSE AC05A
DF08	CH02021M	DIODE 1SS133 T-72			
DF09	CH02021M	DIODE 1SS133 T-72			**COMPOUND COMPONENTS**
DK01	2339551M	DIODE ED14(V1) SI 5MA 45V	EANT	HP00771	ANT SWITCH
DK04	CH02011M	DIODE 1SR153-400	⚠ H901	2793312	CP-EXN-471P365L (CAPRISTOR)
DK05	CH02011M	DIODE 1SR153-400	HM01	CZ00523	SBX1981-52P (R/C RECEIVER)
DK06	CH02021M	DIODE 1SS133 T-72	U002	HP00094	PINP UNIT KC-010S

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
U101	HC00311	TUNER UNIT V6-A30FT (MAIN)
U102	HC00401	FRONT-END V8-A68CT (PIP)
UKDG	CS00441	DIGITAL CONV. UNIT (HC2141)
⚠ UFPK	AZ00006	CRX FOCUS PACK
		INTEGRATED CIRCUITS
I001	CP06616U	IC MN1876478HE1
I004	CP05272U	E2PROM M24C16-BN6
I006	CK07131R	ANALOG MONO. IC (MC14053BFEL)
I007	2000541	IC M51951BSL
I008	2020342	IC MM1115XS
I102	CP05243U	Z9035612PSCR_4297
I103	2000541	IC M51951BSL
I105	2015495R	IC HD74HC32FPEL
I106	CP05571	IC BA17805
I401	2004751	IC TA8200AH
I501	CP03552U	IC TA1222BN
I503	CK08951R	MM1389XFBE
I601	2003541	IC LA7838
I602	CP06351U	ANALOG MONOLITHIC IC BA10393
⚠ I901	CZ00451	HYBRID IC (STR-M6811A)
⚠ I902	2000465	IC PS2501-1 (KC/LC)
⚠ I903	2000465	IC PS2501-1 (KC/LC)
⚠ I904	2000465	IC PS2501-1 (KC/LC)
⚠ I905	2381349	HYBRID IC (SE120N:+B CONT.)
I908	CP05573	IC BA17812
I909	1360891	IC-NJM7912FA
⚠ I910	CP03912F	ANALOG MONOLITHIC IC (SI-8402L)
I912	CP03923F	ANALOG MONOLITHIC IC (SI-8090S)
I913	CP03922F	ANALOG MONOLITHIC IC (SI-8050S)
IK01	CP05571	IC BA17805
IK02	CP01631R	ICL-PST9142
IK03	CP05571	IC BA17805
IK04	CZ00431	HYBRID IC (STK392-110)
IK05	CZ00431	HYBRID IC (STK392-110)
IS05	2020001	IC TDA9860
IS12	CP02601	AN5285K
IX01	CP06911U	ANALOG MONOLITHIC IC (TC90A53N)
IY01	2020452	ANALOG MONOLITHIC IC (CXA1545AS)
IY02	2003423	IC UPC7893AHF ICL
		COILS
L002	2123781R	FILTER COIL 101K
L003	2123781R	FILTER COIL 101K
L004	BH00697R	COIL 100UH
L101	BH00697R	COIL 100UH
L102	BH00697R	COIL 100UH
L103	2123781R	FILTER COIL 101K
L104	2123781R	FILTER COIL 101K
L105	2123781R	FILTER COIL 101K
L106	2123781R	FILTER COIL 101K
L107	2123781R	FILTER COIL 101K
L110	2123781R	FILTER COIL 101K
L111	2123781R	FILTER COIL 101K
L114	BH00214R	FILTER COIL 100UH
L401	BH01341M	COIL FERRITE BEADS 0.8UH
L402	BH01341M	COIL FERRITE BEADS 0.8UH
L403	BH01341M	COIL FERRITE BEADS 0.8UH
L503	BH00697R	COIL 100UH
L504	BH00697R	COIL 100UH
L505	BH00697R	COIL 100UH
L506	BH00697R	COIL 100UH
L507	BH00697R	COIL 100UH
L508	2123112M	COIL-AXIAL 47UH-K
L509	BH00697R	COIL 100UH
L601	BZ00845	CHOKE COIL 680UH SL1720
L602	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L701	BH00212R	FILTER COIL 68UH
L702	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L703	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L704	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L705	BZ00846	CHOKE COIL 1000UH SL1720
L706	BH00217R	FILTER COIL 180UH
L708	BH00205R	FILTER COIL 22UH
L709	BZ00317	LINEARITY COIL 140UH-W
L710	BZ00318	LINEARITY COIL 50UH-W
L720	BH00228R	COIL 332K-1T7608A
L803	BH00699R	COIL 150UH
L833	BH00699R	COIL 150UH
L863	BH00699R	COIL 150UH
⚠ L901	BZ01841	LX-LINE FILTER(102)
⚠ L902	BZ01831	LX-LINE FILTER(382)
⚠ L903	BZ01841	LX-LINE FILTER(102)
L905	BH00201R	FILTER COIL 10UH
L906	BH00201R	FILTER COIL 10UH
L907	BH00214R	FILTER COIL 100UH
L909	BV00901	PL-CHOPPER COIL 200UH/2A
L910	BH00212R	FILTER COIL 68UH
L911	BV00901	PL-CHOPPER COIL 200UH/2A
L912	BH00214R	FILTER COIL 100UH
L913	BH00214R	FILTER COIL 100UH
L914	BH00214R	FILTER COIL 100UH
L917	BH00214R	FILTER COIL 100UH
L921	2161152	FILTER COIL
L922	BH00214R	FILTER COIL 100UH
L924	2123469M	FERRITE BEADS CORE 2.3UH
L925	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L926	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L927	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L930	2123469M	FERRITE BEADS CORE 2.3UH
L931	2123469M	FERRITE BEADS CORE 2.3UH
L932	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LA02	BH00697R	COIL 100UH
LE01	2123097M	LAL02 TYPE AXIAL COIL 3.9UH-K
LE02	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LE03	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LE04	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LF01	BH00229R	COIL 472K-1T7608A
LF02	BH00229R	COIL 472K-1T7608A
LK01	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LK02	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LK03	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LK04	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LK05	2123468M	FERRITE BEADS CORE LEAD 0.8MH

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
LK06	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LK07	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LK08	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LK09	2123469M	FERRITE BEADS CORE 2.3UH
LK10	2123469M	FERRITE BEADS CORE 2.3UH
LK11	2123469M	FERRITE BEADS CORE 2.3UH
LK12	2123469M	FERRITE BEADS CORE 2.3UH
LS03	BH00697R	COIL 100UH
LX01	2123105M	LAL02 AXIAL COIL 15UH-K
LX05	BH00697R	COIL 100UH
LX06	BH00697R	COIL 100UH
LX07	BH00697R	COIL 100UH
LX08	BH00697R	COIL 100UH
LX09	BH00697R	COIL 100UH
LX10	BH00697R	COIL 100UH
LX11	2123109M	COIL-AXIAL 33UH-K
LX12	2123107M	LAL02 AXIAL COIL 22UH-K
LX13	2123107M	LAL02 AXIAL COIL 22UH-K
LY01	BH00697R	COIL 100UH
LY04	BH00697R	COIL 100UH
LY05	BH00697R	COIL 100UH
LY06	2123781R	FILTER COIL 101K
LY07	BH00697R	COIL 100UH
		TRANSISTORS
Q001	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q002	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q004	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q005	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q006	CA11271R	TRS 2SA1037AK T146 RS
Q007	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q008	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q009	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q011	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q013	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q014	CA11271R	TRS 2SA1037AK T146 RS
Q015	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q016	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q017	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q018	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q019	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q024	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q026	2312171	TRS. 2SC3852
Q027	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q028	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q030	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q032	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q101	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q102	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q103	2326021M	TRS. 2SC1741S P/R/Q (TP) 250MHZ 300MW
Q106	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q107	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q108	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q109	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q110	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q111	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q112	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q113	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q114	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q115	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q401	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q402	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q403	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q404	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q500	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q501	CA00171R	TRS.CHIP IMT5 25V TAPE
Q502	2328072R	TRS.CHIP FMW2 40V TAPE
Q503	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q504	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q505	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q506	CA11264R	PHOTO TRANSISTOR(DTC114EKA)
Q509	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q510	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q511	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q512	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q513	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q515	CA11271R	TRS 2SA1037AK T146 RS
Q516	CA11271R	TRS 2SA1037AK T146 RS
Q517	CA11271R	TRS 2SA1037AK T146 RS
Q519	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q520	CA11271R	TRS 2SA1037AK T146 RS
Q521	CA11271R	TRS 2SA1037AK T146 RS
Q602	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW
Q603	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW
Q604	2326021M	TRS. 2SC1741S P/R/Q (TP) 250MHZ 300MW
Q605	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW
Q606	CF00611	TRS. 2SC3969(AB) 400V
Q607	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW
Q609	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW
Q701	2326216	TRS. 2SC3116 (S/T)
Q702	2325725M	TRS.2SC1740 Q/R TZ
Q703	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW
Q705	2325725M	TRS.2SC1740 Q/R TZ
Q710	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW
Q711	2325725M	TRS.2SC1740 Q/R TZ
Q712	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW
⚠ Q777	CF01542F	TRS.2SC5124(LF702)
Q801	2312372F	TRS-2SC3942
Q802	2320663M	TRS. 2SC1213A (C)
Q803	2325725M	TRS.2SC1740 Q/R TZ
Q804	2325725M	TRS.2SC1740 Q/R TZ
Q805	2325725M	TRS.2SC1740 Q/R TZ
Q806	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW
Q831	2312372F	TRS-2SC3942
Q832	2320663M	TRS. 2SC1213A (C)
Q833	2325725M	TRS.2SC1740 Q/R TZ
Q861	2312372F	TRS-2SC3942
Q862	2320663M	TRS. 2SC1213A (C)
Q863	2325725M	TRS.2SC1740 Q/R TZ
Q901	2312171	TRS. 2SC3852
Q902	2312171	TRS. 2SC3852
Q903	CF02281R	TRS. 2SA821S

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
Q905	2325725M	TRS.2SC1740 Q/R TZ	QM01	2325725M	TRS.2SC1740 Q/R TZ
Q906	2325725M	TRS.2SC1740 Q/R TZ	QM02	2312992	PHOTO TRS. RPT-38PT3F (M)
Q907	CF02251R	2SC3415S TP	QN01	2325725M	TRS.2SC1740 Q/R TZ
Q908	2325725M	TRS.2SC1740 Q/R TZ	QN02	2325725M	TRS.2SC1740 Q/R TZ
Q909	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW	QN03	2325725M	TRS.2SC1740 Q/R TZ
Q912	2325725M	TRS.2SC1740 Q/R TZ	QN04	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW
Q913	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW	QN05	2325725M	TRS.2SC1740 Q/R TZ
⚠ Q914	2323782R	THYRISTOR 03P2M(TA)	QN06	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW
Q916	2325725M	TRS.2SC1740 Q/R TZ	QX01	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q917	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW	QX02	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q918	2325725M	TRS.2SC1740 Q/R TZ	QX05	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QA01	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)	QX06	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QA02	CA11271R	TRS 2SA1037AK T146 RS	QX07	CA11271R	TRS 2SA1037AK T146 RS
QA03	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)	QX08	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QA04	CA11271R	TRS 2SA1037AK T146 RS	QX09	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QA05	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)	QX10	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QA06	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)	QX11	CA11271R	TRS 2SA1037AK T146 RS
QA74	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)	QX12	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QA75	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)	QY01	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QA80	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)	QY02	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QE01	2325725M	TRS.2SC1740 Q/R TZ	QY03	CA11271R	TRS 2SA1037AK T146 RS
QE02	2325725M	TRS.2SC1740 Q/R TZ	QY04	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QE03	2325725M	TRS.2SC1740 Q/R TZ	QY05	CA11264R	PHOTO TRANSISTOR(DTC114EKA)
QE04	2325725M	TRS.2SC1740 Q/R TZ	QY06	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QE05	2325725M	TRS.2SC1740 Q/R TZ	QY07	2326021M	TRS. 2SC1741S P/R/Q (TP) 250MHZ 300MW
QE06	2326021M	TRS. 2SC1741S P/R/Q (TP) 250MHZ 300MW	QY08	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QE07	CF10833R	TRS. 2SA933AS S TP	QY10	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QE08	CF00531	TRS. 2SA1964 160V	QY11	CA11271R	TRS 2SA1037AK T146 RS
QE09	CF00541	TRS. 2SC5248 160V	QY12	2326021M	TRS. 2SC1741S P/R/Q (TP) 250MHZ 300MW
QE10	2325725M	TRS.2SC1740 Q/R TZ	QY13	2326021M	TRS. 2SC1741S P/R/Q (TP) 250MHZ 300MW
QE11	2325725M	TRS.2SC1740 Q/R TZ	QY51	CA11271R	TRS 2SA1037AK T146 RS
QE12	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW	QY57	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QF01	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW	QY58	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QF03	2326021M	TRS. 2SC1741S P/R/Q (TP) 250MHZ 300MW	QY59	CA11271R	TRS 2SA1037AK T146 RS
QF04	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW	QY60	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QF05	2326021M	TRS. 2SC1741S P/R/Q (TP) 250MHZ 300MW	QY61	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QF06	CF00821F	TRS. 2SC4686A 1200V	QY62	CA11271R	TRS 2SA1037AK T146 RS
QF07	CF00821F	TRS. 2SC4686A 1200V	QY63	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QF08	CF00821F	TRS. 2SC4686A 1200V			
QF09	2325725M	TRS.2SC1740 Q/R TZ			**RESISTORS**
QF10	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW	R001	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
QF11	2326021M	TRS. 2SC1741S P/R/Q (TP) 250MHZ 300MW	R002	0195947R	RES.2125 CHIP 1/10W 82KJ TAPE
QF12	2325725M	TRS.2SC1740 Q/R TZ	R003	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
QF13	2325725M	TRS.2SC1740 Q/R TZ	R005	0700063M	RES.-CARBON FLM 1/16W 47K-JB
QF14	2325725M	TRS.2SC1740 Q/R TZ	R007	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
QF15	2325725M	TRS.2SC1740 Q/R TZ	R008	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
QF16	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW	R009	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
QF17	CF10852R	TRS. DTC144ESA-T	R010	0195916R	RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE
QK01	2312171	TRS. 2SC3852	R011	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
QK02	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW	R012	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
QK03	2325702M	TRS.2SA854S TAPE (Q/R) SI 200MHZ300MW	R013	0700054M	RES.-CARBON FLM 1/16W 10K-JB
QK04	2325725M	TRS.2SC1740 Q/R TZ	R014	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
QK06	2325725M	TRS.2SC1740 Q/R TZ	R015	0195927R	RES 2125 CHIP 1/16W 12KJ TAPE
QK07	2325725M	TRS.2SC1740 Q/R TZ	R016	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
QK08	2325725M	TRS.2SC1740 Q/R TZ	R021	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R022	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R0A8	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R023	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE	R0A9	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R025	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0C1	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R026	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	R0C3	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R029	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R0C4	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R034	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	R0C5	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R035	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE	R0C6	0700027M	RES.-CARBON FLM 1/16W 100-JB
R036	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R0C7	0195929R	RES 2125 CHIP 1/16W 15KJ TAPE
R037	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE	R0E2	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R038	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R0E3	0188127M	RES.-CARBON FLM 560-JB 1/2W
R040	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R0E4	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R042	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE	R0E5	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R043	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R0E6	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
R044	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE	R0E7	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R045	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0E8	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R046	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE	R0F7	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R047	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0F8	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R048	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE	R0F9	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
R049	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0G1	0100123M	RES.-CARBON FLM 1/8W 270K-JB
R050	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE	R0G5	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R051	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0G6	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R055	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R0G7	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R056	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R0G8	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R059	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE	R0G9	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R060	0700054M	RES.-CARBON FLM 1/16W 10K-JB	R0H1	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R061	0195891R	RES 2125 CHIP 1/16W 470J TAPE	R0H2	0195916R	RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE
R062	0195891R	RES 2125 CHIP 1/16W 470J TAPE	R0H3	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R063	0195891R	RES 2125 CHIP 1/16W 470J TAPE	R0H4	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R064	0195891R	RES 2125 CHIP 1/16W 470J TAPE	R0H5	0195916R	RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE
R066	0700027M	RES.-CARBON FLM 1/16W 100-JB	R0H6	0195881R	RES 2125 CHIP 1/16W 180J TAPE
R067	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB	R0H7	0195947R	RES.2125 CHIP 1/10W 82KJ TAPE
R068	0700027M	RES.-CARBON FLM 1/16W 100-JB	R0H8	0700064M	RES.-CARBON FLM 1/16W 56K-JB
R069	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0L5	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R070	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE	R0L6	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R071	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0L8	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R072	0700058M	RES.-CARBON FLM 1/16W 22K-JB	R0M2	0195916R	RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE
R073	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0M3	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R074	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE	R0M4	AW00074	TRIMMER RESISTOR
R075	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE	R0M5	0700032M	RES.-CARBON FLM 1/16W 220-JB
R076	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R0M6	AW00074	TRIMMER RESISTOR
R078	0700027M	RES.-CARBON FLM 1/16W 100-JB	R0M7	0700032M	RES.-CARBON FLM 1/16W 220-JB
R081	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE	R0M8	AW00074	TRIMMER RESISTOR
R082	0195883R	RES 2125 CHIP 1/16W 220J TAPE	R0M9	0700032M	RES.-CARBON FLM 1/16W 220-JB
R083	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R0N2	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R086	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R0N4	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R087	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0P3	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R088	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0P5	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
R089	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R0P6	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R090	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R0P8	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R099	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0P9	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R0A2	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0R1	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R0A5	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R0R3	0700027M	RES.-CARBON FLM 1/16W 100-JB
R0A6	0195893R	RES 2125 CHIP 1/16W 560J TAPE	R0R4	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R0A7	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R0R5	0195875R	RES 2125 CHIP 1/16W 100J TAPE

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R0R6	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R148	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R0R7	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE	R149	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R0R8	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R150	0195893R	RES 2125 CHIP 1/16W 560J TAPE
R0S1	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE	R151	0195891R	RES 2125 CHIP 1/16W 470J TAPE
R0S2	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE	R152	0195891R	RES 2125 CHIP 1/16W 470J TAPE
R0T1	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	R153	0195891R	RES 2125 CHIP 1/16W 470J TAPE
R0T2	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	R154	0700036M	RES.-CARBON FLM 1/16W 470-JB
R0T4	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R155	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R0T5	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE	R156	0700065M	RES.-CARBON FLM 1/16W 68K-JB
R0T6	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R157	AT03694M	RES.MTL GRAZD FLM 1W 10M
R0T7	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R158	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R0T8	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R159	0700027M	RES.-CARBON FLM 1/16W 100-JB
R0T9	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	R160	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R0U1	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R163	0700027M	RES.-CARBON FLM 1/16W 100-JB
R0U3	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R167	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R0U4	0700027M	RES.-CARBON FLM 1/16W 100-JB	R168	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R0U5	0700027M	RES.-CARBON FLM 1/16W 100-JB	R169	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R101	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R173	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R102	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R174	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R103	0195895R	RES.2125 CHIP 1/10W 680J TAPE	R175	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R104	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R176	0100041M	RES.-CARBON FLM 1/8W 100-JB
R105	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R177	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R106	0195895R	RES.2125 CHIP 1/10W 680J TAPE	R178	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R107	0700054M	RES.-CARBON FLM 1/16W 10K-JB	R179	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R109	0700063M	RES.-CARBON FLM 1/16W 47K-JB	R180	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R110	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R181	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R111	0700027M	RES.-CARBON FLM 1/16W 100-JB	R182	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R112	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	R183	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R113	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE	R184	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R114	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R185	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R115	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R186	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R116	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R187	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R118	0100059M	RES.-CARBON FLM 1/8W 560-JB	R196	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
R119	0100059M	RES.-CARBON FLM 1/8W 560-JB	R197	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
R121	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R198	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
R122	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R1A2	0700023M	RES.-CARBON FLM 1/16W 47-J
R123	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R1A3	0700027M	RES.-CARBON FLM 1/16W 100-JB
R124	0700027M	RES.-CARBON FLM 1/16W 100-JB	R1A9	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R125	0700027M	RES.-CARBON FLM 1/16W 100-JB	R1B2	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R127	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R1C1	0195893R	RES 2125 CHIP 1/16W 560J TAPE
R128	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R312	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R129	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R3A4	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R132	0700063M	RES.-CARBON FLM 1/16W 47K-JB	R3A5	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R133	0700063M	RES.-CARBON FLM 1/16W 47K-JB	R3A6	0700032M	RES.-CARBON FLM 1/16W 220-JB
R134	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R3A7	0700032M	RES.-CARBON FLM 1/16W 220-JB
R135	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R3A8	0700032M	RES.-CARBON FLM 1/16W 220-JB
R141	0195893R	RES 2125 CHIP 1/16W 560J TAPE	R3C3	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB
R142	0700054M	RES.-CARBON FLM 1/16W 10K-JB	R3C4	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R144	0700054M	RES.-CARBON FLM 1/16W 10K-JB	R3E1	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R146	0700027M	RES.-CARBON FLM 1/16W 100-JB	R3E2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R147	0700027M	RES.-CARBON FLM 1/16W 100-JB	R3E3	0195250R	RES 2125 CHIP 1/16W 000 TAPE

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R3E4	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R402	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R3E5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R404	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R3E6	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R405	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
R3E7	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R406	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
R3E8	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R407	0700037M	RES.-CARBON FLM 1/16W 560-JB
R3F1	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R408	0700037M	RES.-CARBON FLM 1/16W 560-JB
R3F3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R411	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R3F4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R412	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R3F5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R413	0700067M	RES.-CARBON FLM 1/16W 100K-JB
R3F6	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R414	0700036M	RES.-CARBON FLM 1/16W 470-JB
R3F7	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R415	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R3F8	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R416	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R3F9	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R417	AT01549S	METAL FILM RESISTOR(2.2OHM 1W)
R3G1	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R418	AT01549S	METAL FILM RESISTOR(2.2OHM 1W)
R3G2	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R419	0700065M	RES.-CARBON FLM 1/16W 68K-JB
R3G3	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R420	0700065M	RES.-CARBON FLM 1/16W 68K-JB
R3G4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R421	0188131M	RES.-CARBON FLM 1/4W 1K-JB
R3G6	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R422	0188131M	RES.-CARBON FLM 1/4W 1K-JB
R3G7	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R503	0195920R	RES 2125 CHIP 1/16W 6.8KJ TAPE
R3G8	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R504	0700032M	RES.-CARBON FLM 1/16W 220-JB
R3G9	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R505	0700032M	RES.-CARBON FLM 1/16W 220-JB
R3H1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R506	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R3H2	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R508	0195879R	RES 2125 CHIP 1/16W 150J TAPE
R3H4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R509	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3H7	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R510	0195906R	RESISTOR MINI-CHIP RMC1/16 1.8K-J TAPE
R3H8	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R511	0195914R	RES 2125 CHIP 1/16W 3.9KJ TAPE
R3H9	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R516	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R3J4	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R517	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R3J5	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R518	0195904R	RESISTOR 2125 CHIP 1/16W 1.5KJ TAPE
R3J6	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R519	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R3J7	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R520	0195904R	RESISTOR 2125 CHIP 1/16W 1.5KJ TAPE
R3J8	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R521	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
R3J9	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R522	0195910R	RES.2125 CHIP 1/16W 2.7KJ TAPE
R3K1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R523	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R3K2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R524	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R3K3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R525	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R3K4	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R526	0195908R	RES.2125 CHIP 1/10W 2.2KJ TAPE
R3K5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R527	0195891R	RES 2125 CHIP 1/16W 470J TAPE
R3K6	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R528	0195891R	RES 2125 CHIP 1/16W 470J TAPE
R3K8	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R529	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R3K9	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R530	0195879R	RES 2125 CHIP 1/16W 150J TAPE
R3L1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R531	0195927R	RES 2125 CHIP 1/16W 12KJ TAPE
R3L2	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R532	0195889R	RES.2125 CHIP 1/10W 390J TAPE
R3L6	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R533	0195889R	RES.2125 CHIP 1/10W 390J TAPE
R3L7	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R534	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R3L8	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R535	0195929R	RES 2125 CHIP 1/16W 15KJ TAPE
R3L9	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R536	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R3M1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R537	0195927R	RES 2125 CHIP 1/16W 12KJ TAPE
R3M2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R538	0195870R	RESISTOR MINI-CHIP RMC1/10 68-J TAPE
R3M3	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R539	0195870R	RESISTOR MINI-CHIP RMC1/10 68-J TAPE
R3M7	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R540	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R3M8	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R541	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R3M9	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R542	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R3P1	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R545	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R3P4	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB	R547	0195908R	RES.2125 CHIP 1/10W 2.2KJ TAPE

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R548	0195912R	RES 2125 CHIP 1/16W 3.3KJ TAPE	R5C6	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R549	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE	R5C7	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R550	0195922R	RES 2125 CHIP 1/16W 8.2KJ TAPE	R5C8	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R551	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R5C9	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R552	0195931R	RES 2125 CHIP 1/16W 18KJ TAPE	R5D0	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R553	0195879R	RES 2125 CHIP 1/16W 150J TAPE	R5D1	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R555	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R5D2	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R556	0195910R	RES.2125 CHIP 1/16W 2.7KJ TAPE	R5D3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R557	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	R5D4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R558	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R5D5	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R559	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	R5D6	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R561	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R5D7	0700027M	RES.-CARBON FLM 1/16W 100-JB
R562	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R5D8	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R563	0195889R	RES.2125 CHIP 1/10W 390J TAPE	R5E2	0700027M	RES.-CARBON FLM 1/16W 100-JB
R564	0195885R	RESISTOR 2125 CHIP 1/16W 270J TAPE	R5E3	0700027M	RES.-CARBON FLM 1/16W 100-JB
R566	0188118M	RES.-CARBON FLM 1/2W 120-JB	R5E4	0700027M	RES.-CARBON FLM 1/16W 100-JB
R567	0195908R	RES.2125 CHIP 1/10W 2.2KJ TAPE	R5E5	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R568	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R5E6	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R569	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	R5E7	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R570	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R5E8	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R571	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R5E9	0700027M	RES.-CARBON FLM 1/16W 100-JB
R572	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE	R5F1	0195895R	RES.2125 CHIP 1/10W 680J TAPE
R573	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE	R5F2	0195891R	RES 2125 CHIP 1/16W 470J TAPE
R574	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R5F3	0195904R	RESISTOR 2125 CHIP 1/16W 1.5KJ TAPE
R575	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R5F4	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R576	0195883R	RES 2125 CHIP 1/16W 220J TAPE	R5F6	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R577	0195883R	RES 2125 CHIP 1/16W 220J TAPE	R5F7	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R578	0195883R	RES 2125 CHIP 1/16W 220J TAPE	R5F8	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R579	0188125M	RES.-CARBON FLM 390-J 1/2W	R5F9	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R580	0188125M	RES.-CARBON FLM 390-J 1/2W	R5G1	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R581	0188125M	RES.-CARBON FLM 390-J 1/2W	R5G4	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R582	0195883R	RES 2125 CHIP 1/16W 220J TAPE	R5G5	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R583	0195883R	RES 2125 CHIP 1/16W 220J TAPE	R5G7	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R584	0195883R	RES 2125 CHIP 1/16W 220J TAPE	R5G9	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R586	0700044M	RES.-CARBON FLM 1/16W 1.8K-JB	R5H1	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R588	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R5H2	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R590	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R5H3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R591	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R5H4	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R592	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R5H5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R593	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R5H7	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R595	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R5J4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R597	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R5K2	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB
R598	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R602	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R5A0	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R603	AW00126	TRIMMER RESISTOR
R5A1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R604	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
R5A2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R605	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R5A3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R606	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R5A4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R607	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R5A5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R608	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R5A6	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R609	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R5A8	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R610	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB
R5A9	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R611	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R5C0	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R612	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R5C3	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	R613	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R5C4	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	R614	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R5C5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R615	0700054M	RES.-CARBON FLM 1/16W 10K-JB

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked w ith a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
R616	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R617	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB
R618	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R619	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R620	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R621	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R622	0113725M	RESISTOR CARBON FILM SRD1/2P-B 100-J
R623	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R624	0700059M	RES.-CARBON FLM 1/16W 27K-JB
R625	0700044M	RES.-CARBON FLM 1/16W 1.8K-JB
R626	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R627	0100063M	RES.-CARBON FLM 1/8W 820-JB
R628	0100065M	RES.-CARBON FLM 1/8W 1K-JB
R629	0700064M	RES.-CARBON FLM 1/16W 56K-JB
R630	AW00128	TRIMMER RESISTOR
R635	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R636	0700061M	RES.-CARBON FLM 1/16W 33K-JB
R637	0700065M	RES.-CARBON FLM 1/16W 68K-JB
R638	0700038M	RES.-CARBON FLM 1/16W 680-JB
R639	0700064M	RES.-CARBON FLM 1/16W 56K-JB
R640	0100045M	RES.-CARBON FLM 1/8W 150-JB
R641	0119722M	RES.-METAL OXIDE FILM 1.0-JB/W
R642	0119722M	RES.-METAL OXIDE FILM 1.0-JB/W
R643	0700067M	RES.-CARBON FLM 1/16W 100K-JB
R644	0700067M	RES.-CARBON FLM 1/16W 100K-JB
R645	0119731M	RES.-MTL 0X1DE 1W R68-K TAPE
R646	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R647	0700059M	RES.-CARBON FLM 1/16W 27K-JB
R648	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R649	0100053M	RES.-CARBON FLM 1/8W 330-JB
R651	0188119M	RES.-CARBON FLM 150-J 1/2W
R652	0700014M	RES.-CARBON FLM 1/16W 10-J
R660	0113725M	RESISTOR CARBON FILM SRD1/2P-B 100-J
R661	0113725M	RESISTOR CARBON FILM SRD1/2P-B 100-J
R671	0113725M	RESISTOR CARBON FILM SRD1/2P-B 100-J
R672	0113766M	RESISTOR CARBON FILM SRD1/2P-B 4.7K-J
R673	AT03242S	METAL OX. 100OHM 1W
R675	0700061M	RES.-CARBON FLM 1/16W 33K-JB
R701	AT03599S	METAL OX. 2.7KOHM 3W
R702	AT03595S	METAL OX. 1.8KOHM 3W
R704	0100031M	RES.-CARBON FLM 1/8W 39-JB
R705	0700034M	RES.-CARBON FLM 1/16W 330-JB
R706	0700032M	RES.-CARBON FLM 1/16W 220-JB
R707	0113770M	RESISTOR CARBON FILM SRD1/2P-B 6.8K-J
R708	0700066M	RES.-CARBON FLM 1/16W 82K-JB
R709	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB
R710	0187068M	RES.-CARBON FLM 1/16W 1.3K-JB
R711	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB
R712	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB
R713	0113727M	RESISTOR CARBON FILM SRD1/2P-B 120-J
R714	AT03219S	METAL OX. 15.0OHM 1W
⚠ R715	0700062M	RES.-CARBON FLM 1/16W 39K-JB
⚠ R716	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R717	0113709M	RESISTOR CARBON FILM SRD1/2P-B 22-J
R718	0113785M	RESISTOR CARBON FILM SRD1/2P-B 27K-J
R719	0113791M	RES.-CARBON FLM 1/2W 47K-JB
R720	AT03411S	METAL OX. 220OHM 2W
R721	0188122M	RES.-CARBON FLM 220-J 1/2W
R722	0700067M	RES.-CARBON FLM 1/16W 100K-JB
R723	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R725	AT03611S	METAL OX. 6.8KOHM 3W
R726	0188143M	RES.-CARBON FLM 1/4W 8.2K-JB
R727	0100091M	RES.-CARBON FLM 1/8W 12K-JB
R728	0100081M	RES.-CARBON FLM 1/8W 4.7K-JB
R729	0188127M	RES.-CARBON FLM 560-JB 1/2W
R730	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R731	0100127M	RES.-CARBON FLM 1/8W 390K-JB
R732	AT03251S	METAL OX. 220OHM 1W
R733	AT03251S	METAL OX. 220OHM 1W
R734	0100127M	RES.-CARBON FLM 1/8W 390K-JB
⚠ R737	0188104M	RES.-CARBON FLM 1/2W 10-JB
R740	0100117M	RES.-CARBON FLM 1/8W 150K-JB
R750	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB
R751	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB
R752	0700067M	RES.-CARBON FLM 1/16W 100K-JB
R753	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
R760	AT03417S	METAL OX. 390OHM 2W
R761	0188139M	RES.-CARBON FLM 4.7K-J 1/2W
R770	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R771	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
R772	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R773	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
R801	0140326S	RES. WIRE WOUND 5.6K-J 5W
R803	0113744M	RESISTOR CARBON FILM SRD1/2P-B 560-J
R806	0113815M	RESISTOR CARBON FILM SRD1/2P-B 470K-J
R810	0100051M	RES.-CARBON FLM 1/8W 270-JB
R811	0100057M	RES.-CARBON FLM 1/8W 470-JB
R812	0100045M	RES.-CARBON FLM 1/8W 150-JB
R815	0100063M	RES.-CARBON FLM 1/8W 820-JB
R817	0100041M	RES.-CARBON FLM 1/8W 100-JB
R818	0100049M	RES.-CARBON FLM 1/8W 220-JB
R821	0100063M	RES.-CARBON FLM 1/8W 820-JB
R822	0100049M	RES.-CARBON FLM 1/8W 220-JB
R823	0100065M	RES.-CARBON FLM 1/8W 1K-JB
R825	0100021M	RES.-CARBON FLM 1/8W 15-JB
R827	0100065M	RES.-CARBON FLM 1/8W 1K-JB
R831	0140326S	RES. WIRE WOUND 5.6K-J 5W
R833	0113744M	RESISTOR CARBON FILM SRD1/2P-B 560-J
R836	0113815M	RESISTOR CARBON FILM SRD1/2P-B 470K-J
R840	0100051M	RES.-CARBON FLM 1/8W 270-JB
R841	0100057M	RES.-CARBON FLM 1/8W 470-JB
R842	0100033M	RES.-CARBON FLM 1/8W 47-JB
R843	0150001	RESISTOR-VARIABLE CARBON RV08 200-B
R855	0100021M	RES.-CARBON FLM 1/8W 15-JB
R861	0140326S	RES. WIRE WOUND 5.6K-J 5W
R863	0113744M	RESISTOR CARBON FILM SRD1/2P-B 560-J
R866	0113815M	RESISTOR CARBON FILM SRD1/2P-B 470K-J
R870	0100051M	RES.-CARBON FLM 1/8W 270-JB
R871	0100057M	RES.-CARBON FLM 1/8W 470-JB
R872	0100033M	RES.-CARBON FLM 1/8W 47-JB
R873	0150001	RESISTOR-VARIABLE CARBON RV08 200-B
R885	0100021M	RES.-CARBON FLM 1/8W 15-JB

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R901	AT03665M	RES.MTL GRAZD FLM 1/2W 1M	R972	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R902	0147060	RES.-WIRE WOUND 2W 33-K	R974	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
R903	0188157M	RES.-CARBON FLM 100K-JB 1/2W	R975	AT03419S	METAL OX. 470 OHM 2W
⚠ R904	0147802	RES.-WIRE WOUND 15W 0.62-KM	R976	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
R905	0113772M	RES.-CARBON FLM SRD1/2P-B	R977	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R906	0113772M	RES.-CARBON FLM SRD1/2P-B	R979	0113762M	RESISTOR CARBON FILM SRD1/2P-B 3.3K-J
R907	0100023M	RES.-CARBON FLM 1/8W 18-JB	R980	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R908	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB	R981	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R909	0700038M	RES.-CARBON FLM 1/16W 680-JB	R982	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB
R910	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB	R983	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R911	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	R985	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R912	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	R986	AT01531S	METAL FILM RESISTOR(0.1OHM1/2W)
R913	0700023M	RES.-CARBON FLM 1/16W 47-J	R987	AT01531S	METAL FILM RESISTOR(0.1OHM1/2W)
R914	0700054M	RES.-CARBON FLM 1/16W 10K-JB	R988	0113744M	RESISTOR CARBON FILM SRD1/2P-B 560-J
R915	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB	R989	0700036M	RES.-CARBON FLM 1/16W 470-JB
R916	0700038M	RES.-CARBON FLM 1/16W 680-JB	R990	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R917	AT01531S	METAL FILM RESISTOR(0.1OHM1/2W)	R992	AT03608S	METAL OX. 5.6KOHM 3W
R918	0100091M	RES.-CARBON FLM 1/8W 12K-JB	R993	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R919	0100089M	RES.-CARBON FLM 1/8W 10K-JB	RA01	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
R920	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RA02	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
R921	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RA05	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
R922	0700058M	RES.-CARBON FLM 1/16W 22K-JB	RA06	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
R923	0700057M	RES.-CARBON FLM 1/16W 18K-JB	RA07	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
R925	0113746M	RES.-CARBON FLM 1/2W 680-JB	RA08	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
R926	0700057M	RES.-CARBON FLM 1/16W 18K-JB	RA09	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R929	0700028M	RES.-CARBON FLM 1/16W 120-JB	RA10	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R930	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RA11	0700027M	RES.-CARBON FLM 1/16W 100-JB
R931	0119695M	RES.-MTL OXIDE FLM 1W 0.47-F	RA12	0700027M	RES.-CARBON FLM 1/16W 100-JB
R932	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RA13	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R933	0700058M	RES.-CARBON FLM 1/16W 22K-JB	RA14	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R934	0113797M	RES.-CARBON FLM 1/2W 82K-JB	RA15	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R935	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	RA16	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R937	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RA17	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R940	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RA18	0195939R	RMC73S-2A393JR
R941	0700018M	RES.-CARBON FLM 1/16W 22-J	RA19	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R942	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB	RA20	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R943	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB	RA21	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R944	0113793M	RESISTOR CARBON FILM SRD1/2P-B 56K-J	RA22	0195887R	RES 2125 CHIP 1/16W 330J TAPE
R945	0113793M	RESISTOR CARBON FILM SRD1/2P-B 56K-J	RA23	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R946	0188146M	RES.-CARBON FLM 1/4W 15K-JB	RA24	0195939R	RMC73S-2A393JR
R948	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RA25	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
⚠ R949	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB	RA26	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
⚠ R950	0700039M	RES.-CARBON FLM 1/16W 820-JB	RA27	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R952	0700032M	RES.-CARBON FLM 1/16W 220-JB	RA28	0195887R	RES 2125 CHIP 1/16W 330J TAPE
R954	0700058M	RES.-CARBON FLM 1/16W 22K-JB	RA29	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R955	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RA30	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R957	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RA31	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R958	0700057M	RES.-CARBON FLM 1/16W 18K-JB	RA32	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R959	0113750M	RES.-CARBON FLM 1/2W 1K-JB	RA33	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R960	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RA34	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R962	0700067M	RES.-CARBON FLM 1/16W 100K-JB	RA35	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R963	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB	RA36	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R968	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RA37	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R969	0700067M	RES.-CARBON FLM 1/16W 100K-JB	RA40	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R970	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB	RA41	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R971	0700037M	RES.-CARBON FLM 1/16W 560-JB	RA42	0195250R	RES 2125 CHIP 1/16W 000 TAPE

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
RA43	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RA50	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RA51	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RA52	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RA53	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RA58	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RA59	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RA60	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RA61	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RA64	0195960R	RESISTOR MINI-CHIP RMC1/16 270K-J TAPE
RA65	0195960R	RESISTOR MINI-CHIP RMC1/16 270K-J TAPE
RA66	0195960R	RESISTOR MINI-CHIP RMC1/16 270K-J TAPE
RA67	0195960R	RESISTOR MINI-CHIP RMC1/16 270K-J TAPE
RA68	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RA69	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RA70	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RA75	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RA76	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RA77	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RA78	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RA79	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RA80	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RA81	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RA82	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RA83	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RA84	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RA85	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RA86	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RA91	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RA92	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RA93	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RA94	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RA99	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RAA1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RAA2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RAA3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RAA4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RAA5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RAA6	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RAA7	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RAD8	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RAD9	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RAE1	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RAE2	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
RAE3	0195960R	RESISTOR MINI-CHIP RMC1/16 270K-J TAPE
RC02	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RC14	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RC16	0195871R	RMC73S-2A750JR
RC18	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RC19	0195871R	RMC73S-2A750JR
RC63	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RC89	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RC98	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RE01	AT03584S	METAL OX. 680OHM 3W
RE02	0700066M	RES.-CARBON FLM 1/16W 82K-JB
RE03	0700057M	RES.-CARBON FLM 1/16W 18K-JB
RE04	0700035M	RES.-CARBON FLM 1/16W 390-JB
RE05	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
RE06	0700031M	RES.-CARBON FLM 1/16W 180-JB
RE07	0700065M	RES.-CARBON FLM 1/16W 68K-JB
RE08	0700059M	RES.-CARBON FLM 1/16W 27K-JB
RE09	0700039M	RES.-CARBON FLM 1/16W 820-JB
RE10	0700033M	RES.-CARBON FLM 1/16W 270-JB
RE11	0700033M	RES.-CARBON FLM 1/16W 270-JB
RE12	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
RE13	0700058M	RES.-CARBON FLM 1/16W 22K-JB
RE14	0700067M	RES.-CARBON FLM 1/16W 100K-JB
RE15	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RE16	0113742M	RES.-CARBON FLM 1/2W 470-JB
RE18	0700036M	RES.-CARBON FLM 1/16W 470-JB
RE19	0700067M	RES.-CARBON FLM 1/16W 100K-JB
RE20	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RE21	0100065M	RES.-CARBON FLM 1/8W 1K-JB
RE22	0700027M	RES.-CARBON FLM 1/16W 100-JB
RE23	0113701M	RESISTOR CARBON FILM SRD1/2P-B 10-J
RE24	0100039M	RES.-CARBON FLM 1/8W 82-JB
RE25	0188133M	RES.-CARBON FLM 1/2W 1.5K-JB
RE26	0188132M	RES.-CARBON FLM 1.2K-J 1/2W
RE27	0188155M	RES.-CARBON FLM 68K-JB
RE28	0188155M	RES.-CARBON FLM 68K-JB
RE29	0113776M	RESISTOR CARBON FILM SRD1/2P-B 12K-J
RE30	0100039M	RES.-CARBON FLM 1/8W 82-JB
RE31	0100069M	RES.-CARBON FLM 1/8W 1.5K-JB
RE32	0100067M	RES.-CARBON FLM 1/8W 1.2K-JB
RE33	0113704M	RESISTOR CARBON FILM SRD1/2P-B 13-J
RE34	AT03571S	METAL OX. 220OHM 3W
RE35	0113686M	RES.-CARBON FLM 1/2W 2.7-J
RE36	0113686M	RES.-CARBON FLM 1/2W 2.7-J
RE37	0113704M	RESISTOR CARBON FILM SRD1/2P-B 13-J
RE38	AT03254S	METAL OX. 300OHM 1W
RE39	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RE40	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RE41	0700035M	RES.-CARBON FLM 1/16W 390-JB
RE43	0700039M	RES.-CARBON FLM 1/16W 820-JB
RE45	0700027M	RES.-CARBON FLM 1/16W 100-JB
RE46	0113746M	RES.-CARBON FLM 1/2W 680-JB
RE47	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RF01	0700058M	RES.-CARBON FLM 1/16W 22K-JB
RF02	0700059M	RES.-CARBON FLM 1/16W 27K-JB
RF03	0700036M	RES.-CARBON FLM 1/16W 470-JB
RF04	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
RF07	0700067M	RES.-CARBON FLM 1/16W 100K-JB
RF08	0700056M	RES.-CARBON FLM 1/16W 15K-JB
RF09	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RF10	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
RF11	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
RF12	0700067M	RES.-CARBON FLM 1/16W 100K-JB
RF13	0700056M	RES.-CARBON FLM 1/16W 15K-JB
RF14	0700025M	RES.-CARBON FLM 1/16W 68-J
RF15	AT03659M	RES.MTL GRAZD FLM 1/2W 390K
RF16	AT03659M	RES.MTL GRAZD FLM 1/2W 390K
RF17	AT03659M	RES.MTL GRAZD FLM 1/2W 390K

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
RF18	AT03662M	RES.MTL GRAZD FLM 1/2W 560K	RK34	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RF19	AT03662M	RES.MTL GRAZD FLM 1/2W 560K	RK35	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RF20	0700027M	RES.-CARBON FLM 1/16W 100-JB	RK36	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RF21	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	RK37	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RF22	0700057M	RES.-CARBON FLM 1/16W 18K-JB	RK38	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RF23	0700063M	RES.-CARBON FLM 1/16W 47K-JB	RK39	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RF25	AT03662M	RES.MTL GRAZD FLM 1/2W 560K	RK40	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RF26	AT03662M	RES.MTL GRAZD FLM 1/2W 560K	RK42	AT03199S	METAL OX. 2.7OHM 1W
RF27	AT03661M	RES.MTL GRAZD FLM 1/2W 470K	RK43	AT03571S	METAL OX. 220OHM 3W
RF28	0700062M	RES.-CARBON FLM 1/16W 39K-JB	RK44	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RF29	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB	RK46	AT03197S	METAL OX. 2.2OHM 1W
RF30	0100103M	RES.-CARBON FLM 1/8W 39K-JB	RK47	AT03566S	METAL OX. 150OHM 3W
RF31	0700044M	RES.-CARBON FLM 1/16W 1.8K-JB	RK48	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RF33	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RK50	AT03202S	METAL OX. 3.3OHM 1W
RF34	0187100M	RES.-CARBON FLM 1/16W 30K-JB	RK51	AT03571S	METAL OX. 220OHM 3W
RF35	0187074M	RES.-CARBON FLM 1/16W 2.4K-JB	RK52	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RF36	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RK54	AT03197S	METAL OX. 2.2OHM 1W
RF37	0700039M	RES.-CARBON FLM 1/16W 820-JB	RK55	AT03566S	METAL OX. 150OHM 3W
RF40	AT03241S	METAL OX. 91.0OHM 1W	RK56	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RF41	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RK58	AT03204S	METAL OX. 3.9OHM 1W
RF42	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB	RK59	AT03571S	METAL OX. 220OHM 3W
RF43	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RK60	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RF44	0700061M	RES.-CARBON FLM 1/16W 33K-JB	RK62	AT03202S	METAL OX. 3.3OHM 1W
RF45	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	RK63	AT03566S	METAL OX. 150OHM 3W
RF46	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RK64	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RF47	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RK90	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RK01	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RK99	0113698M	RES.-CARBON FLM 1/2W 8.2-J
RK02	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RM01	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK03	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RM02	0700058M	RES.-CARBON FLM 1/16W 22K-JB
RK04	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RM03	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
RK05	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RM04	0100065M	RES.-CARBON FLM 1/8W 1K-JB
RK06	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RM05	0100065M	RES.-CARBON FLM 1/8W 1K-JB
RK07	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RM06	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK08	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RM07	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB
RK09	0100057M	RES.-CARBON FLM 1/8W 470-JB	RM08	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RK10	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB	RM09	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
RK12	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RM10	0100129M	RES.-CARBON FLM 1/8W 470K-JB
RK13	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RM11	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK14	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB	RM12	0100125M	RES.-CARBON FLM 1/8W 330K-JB
RK15	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RM13	0100073M	RES.-CARBON FLM 1/8W 2.2K-JB
RK16	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	RM14	0100125M	RES.-CARBON FLM 1/8W 330K-JB
RK17	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RM15	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RK18	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB	RM38	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK19	0100125M	RES.-CARBON FLM 1/8W 330K-JB	RM40	0700067M	RES.-CARBON FLM 1/16W 100K-JB
RK22	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RN01	0700057M	RES.-CARBON FLM 1/16W 18K-JB
RK23	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB	RN02	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK24	0700044M	RES.-CARBON FLM 1/16W 1.8K-JB	RN03	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK25	0700063M	RES.-CARBON FLM 1/16W 47K-JB	RN04	0100113M	RES.-CARBON FLM 1/8W 100K-JB
RK26	0700063M	RES.-CARBON FLM 1/16W 47K-JB	RN05	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB
RK27	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RN06	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RK28	0700027M	RES.-CARBON FLM 1/16W 100-JB	RN07	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
RK29	0700027M	RES.-CARBON FLM 1/16W 100-JB	RN08	0700044M	RES.-CARBON FLM 1/16W 1.8K-JB
RK30	0700027M	RES.-CARBON FLM 1/16W 100-JB	RN09	0700061M	RES.-CARBON FLM 1/16W 33K-JB
RK31	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RN10	0700057M	RES.-CARBON FLM 1/16W 18K-JB
RK32	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RN11	0700058M	RES.-CARBON FLM 1/16W 22K-JB
RK33	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RN12	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
RN13	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RX58	0195952R	RMC73S-2A124JR
RN14	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RX59	0195922R	RES 2125 CHIP 1/16W 8.2KJ TAPE
RN15	0700064M	RES.-CARBON FLM 1/16W 56K-JB	RX60	0195914R	RES 2125 CHIP 1/16W 3.9KJ TAPE
RN16	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RX62	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RN17	0700059M	RES.-CARBON FLM 1/16W 27K-JB	RX63	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RN18	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RY01	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RS12	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB	RY05	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RS13	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	RY06	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RS14	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB	RY07	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RS15	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	RY08	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RS32	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	RY09	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RS33	0700056M	RES.-CARBON FLM 1/16W 15K-JB	RY10	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RS34	AT03665M	RES.MTL GRAZD FLM 1/2W 1M	RY11	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RS35	AT03666M	RES.MTL GRAZD FLM 1/2W 1.2M	RY12	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RS42	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RY13	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RS47	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RY14	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RS48	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RY15	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RSH4	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RY16	0195908R	RES.2125 CHIP 1/10W 2.2KJ TAPE
RX01	0195935R	RES 2125 CHIP 1/16W 27K-J TAPE	RY17	0195912R	RES 2125 CHIP 1/16W 3.3KJ TAPE
RX02	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE	RY18	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RX03	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RY19	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RX04	0195897R	RES 2125 CHIP 1/16W 820J TAPE	RY20	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RX05	0195893R	RES 2125 CHIP 1/16W 560J TAPE	RY21	0195914R	RES 2125 CHIP 1/16W 3.9KJ TAPE
RX06	0195904R	RESISTOR 2125 CHIP 1/16W 1.5KJ TAPE	RY22	0195887R	RES 2125 CHIP 1/16W 330J TAPE
RX07	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RY23	0195872R	RES 2125 CHIP 1/10W 82-J TAPE
RX08	0195897R	RES 2125 CHIP 1/16W 820J TAPE	RY24	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RX22	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RY25	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RX26	0195967R	RESISTOR MINI-CHIP RMC1/16 510K-J TAPE	RY26	0195904R	RESISTOR 2125 CHIP 1/16W 1.5KJ TAPE
RX27	0195912R	RES 2125 CHIP 1/16W 3.3KJ TAPE	RY27	0195915R	RESISTOR MINI-CHIP RMC1/16 4.3K-J TAPE
RX28	0195897R	RES 2125 CHIP 1/16W 820J TAPE	RY28	0195920R	RES 2125 CHIP 1/16W 6.8KJ TAPE
RX29	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RY29	0195912R	RES 2125 CHIP 1/16W 3.3KJ TAPE
RX30	0195897R	RES 2125 CHIP 1/16W 820J TAPE	RY30	0700027M	RES.-CARBON FLM 1/16W 100-JB
RX31	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RY31	0195871R	RMC73S-2A750JR
RX32	0195897R	RES 2125 CHIP 1/16W 820J TAPE	RY32	0195871R	RMC73S-2A750JR
RX33	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RY33	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
RX34	0195931R	RES 2125 CHIP 1/16W 18KJ TAPE	RY34	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
RX35	0195943R	RES.2125 CHIP 1/16W 56KJ TAPE	RY35	0195871R	RMC73S-2A750JR
RX36	0195891R	RES 2125 CHIP 1/16W 470J TAPE	RY39	0195887R	RES 2125 CHIP 1/16W 330J TAPE
RX37	0195889R	RES.2125 CHIP 1/10W 390J TAPE	RY40	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RX38	0195887R	RES 2125 CHIP 1/16W 330J TAPE	RY41	0195870R	RESISTOR MINI-CHIP RMC1/10 68-J TAPE
RX39	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	RY42	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RX40	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RY43	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RX41	0195897R	RES 2125 CHIP 1/16W 820J TAPE	RY44	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RX42	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RY46	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RX43	0195893R	RES 2125 CHIP 1/16W 560J TAPE	RY48	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RX45	0195939R	RMC73S-2A393JR	RY50	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RX46	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	RY51	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RX47	0195891R	RES 2125 CHIP 1/16W 470J TAPE	RY52	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
RX48	0195887R	RES 2125 CHIP 1/16W 330J TAPE	RY53	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
RX49	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RY55	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RX50	0195897R	RES 2125 CHIP 1/16W 820J TAPE	RY56	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RX51	0195912R	RES 2125 CHIP 1/16W 3.3KJ TAPE	RY57	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RX52	0195927R	RES 2125 CHIP 1/16W 12KJ TAPE	RY61	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RX53	0195922R	RES 2125 CHIP 1/16W 8.2KJ TAPE	RY62	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RX55	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RY64	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RX57	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	RY65	0195250R	RES 2125 CHIP 1/16W 000 TAPE

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
RY69	0700032M	RES.-CARBON FLM 1/16W 220-JB
RY70	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RY71	0700027M	RES.-CARBON FLM 1/16W 100-JB
RY72	0700027M	RES.-CARBON FLM 1/16W 100-JB
RY73	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RY74	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RY75	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RY77	0195960R	RESISTOR MINI-CHIP RMC1/16 270K-J TAPE
RY78	0195960R	RESISTOR MINI-CHIP RMC1/16 270K-J TAPE
RY79	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RY81	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RY83	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RY84	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RY85	0195871R	RMC73S-2A750JR
RY86	0195871R	RMC73S-2A750JR
RY87	0195871R	RMC73S-2A750JR
RY88	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RY89	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RY90	0195943R	RES.2125 CHIP 1/16W 56KJ TAPE
RY91	0195937R	RES.2125 CHIP 1/16W 33KJ TAPE
RY96	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RY98	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RY99	0195943R	RES.2125 CHIP 1/16W 56KJ TAPE
RYA1	0195937R	RES.2125 CHIP 1/16W 33KJ TAPE
RYA2	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RYA3	0195891R	RES 2125 CHIP 1/16W 470J TAPE
RYA4	0195891R	RES 2125 CHIP 1/16W 470J TAPE
RYA5	0195885R	RESISTOR 2125 CHIP 1/16W 270J TAPE
RYA6	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RYA7	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RYA8	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RYA9	0195943R	RES.2125 CHIP 1/16W 56KJ TAPE
RYC1	0195937R	RES.2125 CHIP 1/16W 33KJ TAPE
RYC2	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RYC3	0195891R	RES 2125 CHIP 1/16W 470J TAPE
RYC4	0195891R	RES 2125 CHIP 1/16W 470J TAPE
RYC5	0195889R	RES.2125 CHIP 1/10W 390J TAPE
RYC6	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RYC7	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RYC8	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RYC9	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RYE2	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RYE3	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RYE4	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RYE5	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RYE6	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RYE7	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RYE8	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RYE9	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RYF1	0700025M	RES.-CARBON FLM 1/16W 68-J
RYF2	0195870R	RESISTOR MINI-CHIP RMC1/10 68-J TAPE
RYF3	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RYF4	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RYG1	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYG4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYG5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYG6	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYG7	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYG8	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYG9	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYH1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYH2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYH3	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYH4	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYH5	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYH6	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYH7	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYH8	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYH9	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYJ1	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RYJ2	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RYJ3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYJ4	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYJ5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYJ6	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYJ7	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYJ8	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYJ9	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYK1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYK2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RZ09	0147152	RES.-WIRE WOUND 3W 27-JA CEMENTED
		SWITCHES
SK01	FE00061	1P TACT SWITCH
SM01	FE00001R	PUSH SWITCH
SM02	FE00001R	PUSH SWITCH
SM03	FE00001R	PUSH SWITCH
SM04	FE00001R	PUSH SWITCH
SM05	FE00001R	PUSH SWITCH
SM06	FE00001R	PUSH SWITCH
SM07	FE00001R	PUSH SWITCH
SM09	FE00091	SWP01N01-EVQQKH08Q
SZ01	FD00041	SLIDE SWITCH
		TRANSFORMERS
⚠ T701	2260291U	HORIZONTAL DRIVE TRANS.
⚠ T702	BW00632	HFL1735YP-RC
⚠ T703	2272762	TRANS.-SATURBLE
⚠ T901	BT00801	POWER TRANS. EE49F17U-AP73F

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
		EXPLODED VIEW PARTS			
1	PH08411	CONTROL PANEL ASS'Y			
2	NA11703	SB LENS CRT METAL (BLACK)			
3	KS00044A	46" MIRROR			
3	KS00169	50" MIRROR			
4	33010339	BARRIER BOARD			
5	QG00223	REAR COVER ASSY (46")			
5	QD01532	46" REAR COVER			
5	QG00812	REAR COVER ASSY (50")			
5	QD03841	50" REAR COVER			
6	55010199	FRONT DOOR			
7	33200070	BACK CENTER BAR			
8	H512261	LOWER REAR BOARD			
9	32110071	SPEAKER GRILL ASSY (46")			
9	32110072	SPEAKER GRILL ASSY (50")			
10	H420673	46" MIRROR METAL A			
10	NA11681	50" MIRROR METAL A			
11	H420682	46" MIRROR METAL B			
11	NA11691	50" MIRROR METAL B			
12	KR00271	46FX01B SCREEN ASSY			
12	KR00272	50GX10B SCREEN ASSY			
12	KR01471	50GX20B SCREEN ASSY			
12	KR01472	46GX01B SCREEN ASSY			
13	QD08771	46" DECO FRAME (GX)			
13	QD08771	46" DECO FRAME (FX)			
13	H311404	50" DECO FRAME (50GX10B)			
13	H311405	50" DECO FRAME (50GX20B)			
14	NT01401	50GX10B FRAME ASSY			
14	NT01402	50GX20B FRAME ASY			
14	NT01403	46GX01B FRAME ASSY			
14	NT01404	46FX01B FRAME ASY			
⚠ 15	DE01081	CRT 180DLB22(RED)			
⚠ 16	DE01084	CRT 180DLB22 (GREEN)			
⚠ 17	DE01083	CRT 180DLB22 (BLUE)			
18	KQ00823	DELTA 38 C-ELEMENT (RED)			
19	KQ00822	DELTA 38 C-ELEMENT (GREEN)			
20	KQ00821	DELTA 38 C-ELEMENT (BLUE)			

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
		MISCELLANEOUS
#	UE06994	AP92R CONTROL B.ASY
#015	H312101	DRIPPING TRAY
#016	4520771	HEX HEAD TAPPING SCREW 4*18
#110	H311511	CONTROL PANEL BOX
#111	PH06854	TERMINAL HOLDER ASSY
#121	PH06314	TERMINAL HOLDER AP9X/ZP9* PS
#130	H311531	CONTROL DOOR
#131	PH06754	DECO. PLATE AV AP92 PVC
#135	3875771	LATCH 4T02 NYLON
#140	H311541	SELECT BUTTONS
#141	4519511	4X12 B TAPPING SCREW
#146	4519503	3X12 B TAPPING SCREW SWCH15A
#147	4159423	SCR NO 3X12 FL/FLT
#150	H311522	RC POWER LENS
#151	NA21011	SP PWB SUPPORT BRACKET
#160C	3827878	INDOOR PLATE
#161	3813121	LEAD CLAMPER 2135 PA
#163	3813121	LEAD CLAMPER 2135 PA
#165	NA20931	SUB PWB SUPPORT BRACKET
#167	4520881	M3*8 SCREW WITH WASHER
#170	4517512	3*16 T-NE WITH WASHER SWCH16A
#171	4329271	WASHER (F) C2720R
#172	4522901	6 NUT (F) BSBM
#175	H810211	SCREW-M4X14 P.H CROSS RECESS
#178	4517511	SCREW 3X14 TAPPING W/WASHER
#180	61010047	WASHER
#222	4524911	HEX FLANGE HEAD B T-S 4*12 SWCH16A
#240	3876031	WIRE CLAMP W 13-20 PA
#240	4159411	SCREW 3*8 KNURLED TAPPING
#250	3744172	CLAMP 20
#310	4527821	BOLT M6X20 WITH WASHER SWRM12A
#330	4520772	HEX HEAD TAPPING SCREW 4*14
#350	81481100	DRYWALL SCREW NO.8X1"
#392A	H810181	SCREW 4.1X16 CROSS HEAD WOOD
#394	81180138	NO. 8X13/8 H.H.S.
#428	3727972	POWER CORD HANGER
E002	2169513	COIL LX-ZCAT2032
E10B	2776543	MAG-VM(C-C)2/4P1.8UH
E10G	2776543	MAG-VM(C-C)2/4P1.8UH
E10R	2776543	MAG-VM(C-C)2/4P1.8UH
⚠ E12B	BY01101	DY-V80-7.0SS3.0L AKME
⚠ E12G	BY01101	DY-V80-7.0SS3.0L AKME
⚠ E12R	BY01101	DY-V80-7.0SS3.0L AKME
E201	FQ00021	BATTERY(2-AA)
E301	HL00728	RCT CLU-436UI
E3B	2958351	CONN. W/WIRE MINI 2J
E3G	2958351	CONN. W/WIRE MINI 2J
E3R	2958351	CONN. W/WIRE MINI 2J
⚠ E801	EY00941	CRT-SOCKET
⚠ E831	EY00941	CRT-SOCKET
⚠ E861	EY00941	CRT-SOCKET
⚠ E901	EV00901	COD-AP9X-B-160
E92F	3446473	HEATSINK H30 P10
E92N	4520883	3*12 SCREW WITH WASHER
E93F	3446473	HEATSINK H30 P10
E98F	MC00104	HEAT SINK P10 H45 19 A6063S-75
E99F	MC00104	HEAT SINK P10 H45 19 A6063S-75
E9A	MA00842	POWER HEAT SINK AP73B A1100P-H14
E9DW	4269926	WASHER PL-1252
E9QF	MC00104	HEAT SINK P10 H45 19 A6063S-75
EAN	2974056S	3J CONNE SEH UL1007 L=160
EB	2997977	1J MINI CONNE. L=910
EBG1	EF08271	CO-06B-B2R5-301
EBG2	2966821	4J CONNE. L=300
ED94	EY00791	PJX-LEAD-PLUGPIN
ED95	EY00791	PJX-LEAD-PLUGPIN
ED99	EY00791	PJX-LEAD-PLUGPIN
EF91	FP00031R	FUSE HOLDER TP00351-51
EFC	2974086S	CONNE 4P L=160
EFJ	2973897S	CONNE. 9P L=1000
EFS	2958151	CONNECTOR RE01X-X3239A901
EFT	EF05941	4P CONNECTOR (L=1000 N.C#2,3)
EGR1	EF08381	CO-05B-B2R5-301
EGR2	2966821	4J CONNE. L=300
EPP	2901351	3J MINI CONNE.L=300
ESL	2993567	CONN. W/WIRE MINI 5J (L1500) W/FASTON
ESL	EF05933	CO-05C-F5R0-152#345NC (46")
ESR	2993557	CONN. W/WIRE MINI 4J (L1500) W/FASTON
ESR	EF05953	CO-04C-F5R0-152#34NC (46")
EST	2908776	7J PH CONNE L=160
ETU1	2979173	PLUG WITH COAXIAL CABLE
ETU2	2979172	MINI PLUG WITH COAXIAL CABLE
EVMC	EF01202	3P EH CONNECTOR (L=820)
EY1	2908764	CONNE. 6P L=750
EY2	2973744S	4J CONNE. L=750
⚠ G701	CJ00071R	SEMICONDUCTOR AG15PC-152FS-K2M
⚠ G801	CJ00071R	SEMICONDUCTOR AG15PC-152FS-K2M
⚠ G802	CJ00071R	SEMICONDUCTOR AG15PC-152FS-K2M
⚠ G831	CJ00071R	SEMICONDUCTOR AG15PC-152FS-K2M
⚠ G832	CJ00071R	SEMICONDUCTOR AG15PC-152FS-K2M
⚠ G861	CJ00071R	SEMICONDUCTOR AG15PC-152FS-K2M
⚠ G862	CJ00071R	SEMICONDUCTOR AG15PC-152FS-K2M
⚠ GF01	CJ00072R	SEMICONDUCTOR 252FB-K2M
JY01	ES00182	JACK 3S-14US AP92
JZ01	ER00121	2L4P LEVER TERMINAL
N003	3700342	WIRE CLAMP V0
N004	3876031	WIRE CLAMP W 13-20 PA
N005	3728273	PURSE LOCK (8)
N006	3785502	V LOCK 11.5
N007	3785522	V LOCK 20
N1	MD03052	SHIELD CASE
N160	3733243	NP3 LEAD CLAMP (V0)
N2	MD03062	SHIELD PLATE
N200B	KQ00811	CPD38 LENS AB ASS'Y
N200G	KQ00811	CPD38 LENS AB ASS'Y
N200R	KQ00811	CPD38 LENS AB ASS'Y
N201	QR43642	AP92R INST.BOOK
N202	H462163	PTV WARRANTY CARD
N203	H462673	V-CHIP GUIDE PTV
N401	3442022	SOUND HEAT SINK 2CH

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
N426B	3875441	LEAD CLAMPER
N426G	3875441	LEAD CLAMPER
N426R	3875441	LEAD CLAMPER
N601	3442081	HEAT SINK (V) A2
N701	MA00851	HEAT SINK AP73 (H)A1100P-H14
N703	NT00981	FBT HOLDER
N704	4159425	3X16 TAPPING WITH WASHER
N711	NA03111	CHASSIS PWB BRACKET
N715	NA20921	CHASSIS PWB BKT
N721	4491082	CHASSIS PWB BKT FB2 SECC20/20E
N725	NA03131	CHASSIS PWB BRACKET
N730	4159427	3X10 SCREW WITH WASHER
N740	4531761	SCREEN 3X16 TAPPING W/S-WASHER
N745	2781697	YC20A INSULATION WASHER
N801	3763751	SK BINDER
N802	3446473	HEATSINK H30 P10
N901	3782714	PCB SUPPORT 10S NYLON
NE01	3446473	HEATSINK H30 P10
NK01	3446473	HEATSINK H30 P10
NK02	3446473	HEATSINK H30 P10
NK05	MC00192	CONV.HEAT SINK A6063S-T5
NK06	4520885	3*16 SCREW WITH WASHER
NK08	NA20781	CONV. IC SUPPORT BRACKET
NPF2	3763751	SK BINDER
P001	2663821	2P SUB MINI PLUG PIN
P801	2961141	2P PLUG PIN WITH BASE
P802	2661756	1P PLUG PIN WITH BASE
P831	2961141	2P PLUG PIN WITH BASE
P832	2661756	1P PLUG PIN WITH BASE
P861	2961141	2P PLUG PIN WITH BASE
P862	2661756	1P PLUG PIN WITH BASE
⚠ P901	ED01851	PLUG 5289-2A
PB	2661756	1P PLUG PIN WITH BASE
PCB	2903544	4P PLUG PIN WITH BASE
PCB	ED00512	CP-TAC-L15P-A1
PCB	ED00572	CP-TAC-L15X-A1
PCC	ED00516	CP-TAC-L20P-A1
PCC	ED00576	CP-TAC-L20X-A1
PCD	ED00516	CP-TAC-L20P-A1
PCD	ED00576	CP-TAC-L20X-A1
PCG	2903544	4P PLUG PIN WITH BASE
PCR	2903544	4P PLUG PIN WITH BASE
PCX	ED00512	CP-TAC-L15P-A1
PCX	ED00572	CP-TAC-L15X-A1
PDC	ED00565	CP-TAC-L09X-A1
PDG	ED00572	CP-TAC-L15X-A1
PFC	2902263	PLUG PIN SUB MINI 4P
PFJ	2902248	PLUG PIN SUB MINI9P
PFJ	2902268	PLUG PIN SUB MINI 9P
PFT	ED01596U	PLUG CP-04BP5R0VU-TBL#2,3N
PL	2903545	5P PLUG PIN WITH BASE
PMB	ED01597U	PLUG CP-06BP5R0VU-TBL#3,5N
PMG	ED01597U	PLUG CP-06BP5R0VU-TBL#3,5N
PMR	ED01597U	PLUG CP-06BP5R0VU-TBL#3,5N
PP	2903543	3P PLUG PIN WITH BASE
PP31	2661751	2P PLUG PIN WITH BASE
PR	2903544	4P PLUG PIN WITH BASE
PSD1	ED01471U	PLUG 07BP1R2HUTWGP-A1
PSD1	ED01491U	CONNECTOR 07BS1R2VUTWGX-A1
PSD2	ED01472U	PLUG 11BP1R2HUTWGP-A1
PSD2	ED01492U	CONNECTOR 11BS1R2VUTWGX-A1
PSD3	ED01472U	PLUG 11BP1R2HUTWGP-A1
PSD3	ED01492U	CONNECTOR 11BS1R2VUTWGX-A1
PSD4	ED01473U	PLUG 13BP1R2HUTWGP-A1
PSD4	ED01493U	CONNECTOR 13BS1R2VUTWGX-A1
PSD5	ED01471U	PLUG 07BP1R2HUTWGP-A1
PSD5	ED01491U	CONNECTOR 07BS1R2VUTWGX-A1
PSI1	ED00515	CP-TAC-L18P-A1
PSI1	ED00575	CP-TAC-L18X-A1
PSI2	ED00515	CP-TAC-L18P-A1
PSI2	ED00575	CP-TAC-L18X-A1
PST	2675286	PH CONNE. 7P
PSU1	ED00516	CP-TAC-L20P-A1
PSU1	ED00576	CP-TAC-L20X-A1
PTS	2663821	2P SUB MINI PLUG PIN
PVM1	ED00506	CP-TAC-L10P-A1
PVM1	ED00566	CP-TAC-L10X-A1
PVM2	ED00506	CP-TAC-L10P-A1
PVM2	ED00566	CP-TAC-L10X-A1
PVMC	2902262	PLUG PIN SUB MINI 3P
PY1	2675285	PIN POST (PH 6P)
PY1	2959055	CONNECTOR-6P(PH)
PY2	2902263	PLUG PIN SUB MINI 4P
⚠ U401	2412921	SPEAKER 160DG (50")
⚠ U401	GK00481	SP-12CMM EAST12PL17A (46")
⚠ U402	2412921	SPEAKER 160DG (50")
⚠ U402	GK00481	SP-12CMM EAST12PL17A (46")
W811	2692464	CO-01C-N0R0-821FOCUS
W812	EK00062	WIRE (PROCESSED) FOR SCREEN
W841	2692463	CONNECTOR FOR FOCUS
W842	EK00061	WIRE (PROCESSED)
W871	2692463	CONNECTOR FOR FOCUS
W872	EK00061	WIRE (PROCESSED)
W901	2964863	2J-CONNECTOR
X001	2168831	CRYSTAL CSA12.0MTZ
X100	BP00771	OSXR032X121TA252E00
X501	2791501	CRYSTAL HC-49/U
X502	2168771	X'TAL CSB503F30

HITACHI

HITACHI

PA | No. 0114

SERVICE MANUAL

50GX49B

NTSC | AP92 Chassis

R/C: CLU-435UI

CONTENTS

SAFETY PRECAUTIONS 3
SERVICING PRECAUTIONS 6
TECHNICAL CAUTIONS 10
SPECIFICATIONS 11
CIRCUIT PROTECTION 11
GENERAL INFORMATION 12
CUSTOMIZED PICTURE AND SOUND ADJUSTMENTS 13
CAUTIONS WHEN CONNECTING/DISCONNECTING THE HV CONNECTOR 16
SERVICE ADJUSTMENTS 17
TROUBLESHOOTING 31
PROTECTION CIRCUIT BLOCK DIAGRAM 38
BASIC CIRCUIT DIAGRAM 39
PRINTED CIRCUIT BOARDS 53
BLOCK DIAGRAM 56
WIRING DIAGRAM 57
EXPLODED VIEW 61
REPLACEMENT PARTS LIST 62

CAUTION: Before servicing this chassis, it is important that the service technician read the "Safety Precaution" and "Product Safety Notices" in this service manual.

SAFETY NOTICE
USE ISOLATION TRANSFORMER WHEN SERVICING

Components having special safety characteristics are identified by a ⚠ on the schematics and on the parts list in this Service Data and its supplements and bulletins. Before servicing the chassis, it is important that the service technician read and follow the "Safety Precautions" and "Product Safety Notices" in this Service Manual.

*For continued x-radiation protection, replace picture tube with original type of Hitachi approved equivalent type.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

PROJECTION COLOR TELEVISION

APRIL 1999 **HHEA-MANUFACTURING DIVISION**

SAFETY NOTICE
USE ISOLATION TRANSFORMER WHEN SERVICING

Components having special safety characteristics are identified by a ⚠ on the schematics and on the parts list in this service manual and its supplements and bulletins. Before servicing this chassis, it is important that the service technician read and follow the "Safety Precautions" and the "Product Safety Notices" in this Service Manual.

For continued X-Radiation protection, replace picture tube with original type or Hitachi approved equivalent type.

This Service Manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health and Safety Code, Section 25249.5).

When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with solder. Also, when soldering do not inhale any smoke or fumes produced.

This television receiver provides display of television closed captioning in accordance with section 15.119 of the FCC rules.

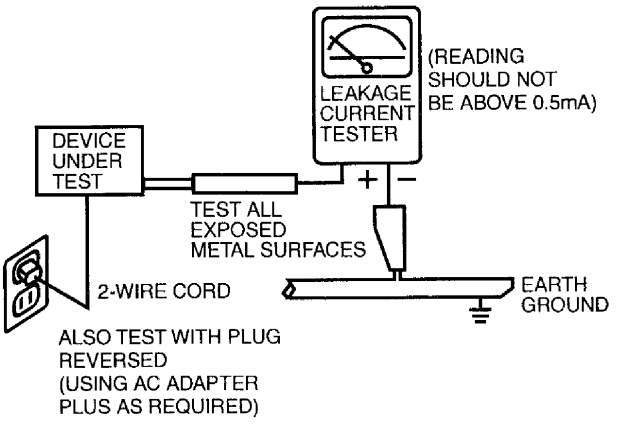
SAFETY PRECAUTIONS

1. Before returning an instrument to the customer, always make a safety check of the entire instrument, including but not limited to the following items.
   a. Be sure that no built-in protective devices are defective and/or have been deleted during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including but not limited to, nonmetallic control knobs, insulating fishpaper, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning. Servicers who defeat safety features or fail to perform safety checks may be liable for any resulting damage.**

   b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to (1) spacing between the picture tube and cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.

   c. **Antenna Cold Check** – With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input, exposed terminal screw and, if applicable, to the coaxial connector. If the measured resistance is less than 1.0 megohms or greater than 5.2 megohms, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.

   d. **Leakage Current Hot Check** – With the instrument completely reassembled, plug the AC line cord directly into a 120V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.0 Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal waterpipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle bracket, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milliamps. Reverse the instrument power cord plug in the outlet and repeat test.



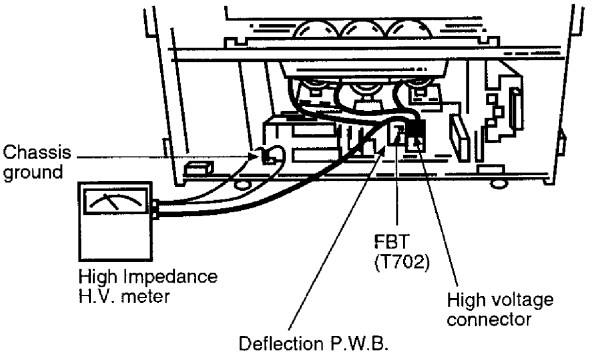
AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR BEFORE CONNECTING THE ANTENNA OR ACCESSORIES.

   e. **High Voltage** – This receiver is provided with a hold down circuit for clearly indicating that voltage has increased in excess of a predetermined value. Comply will all notes described in this Service Manual regarding this hold down circuit when servicing, so that this hold down circuit may correctly be operated.

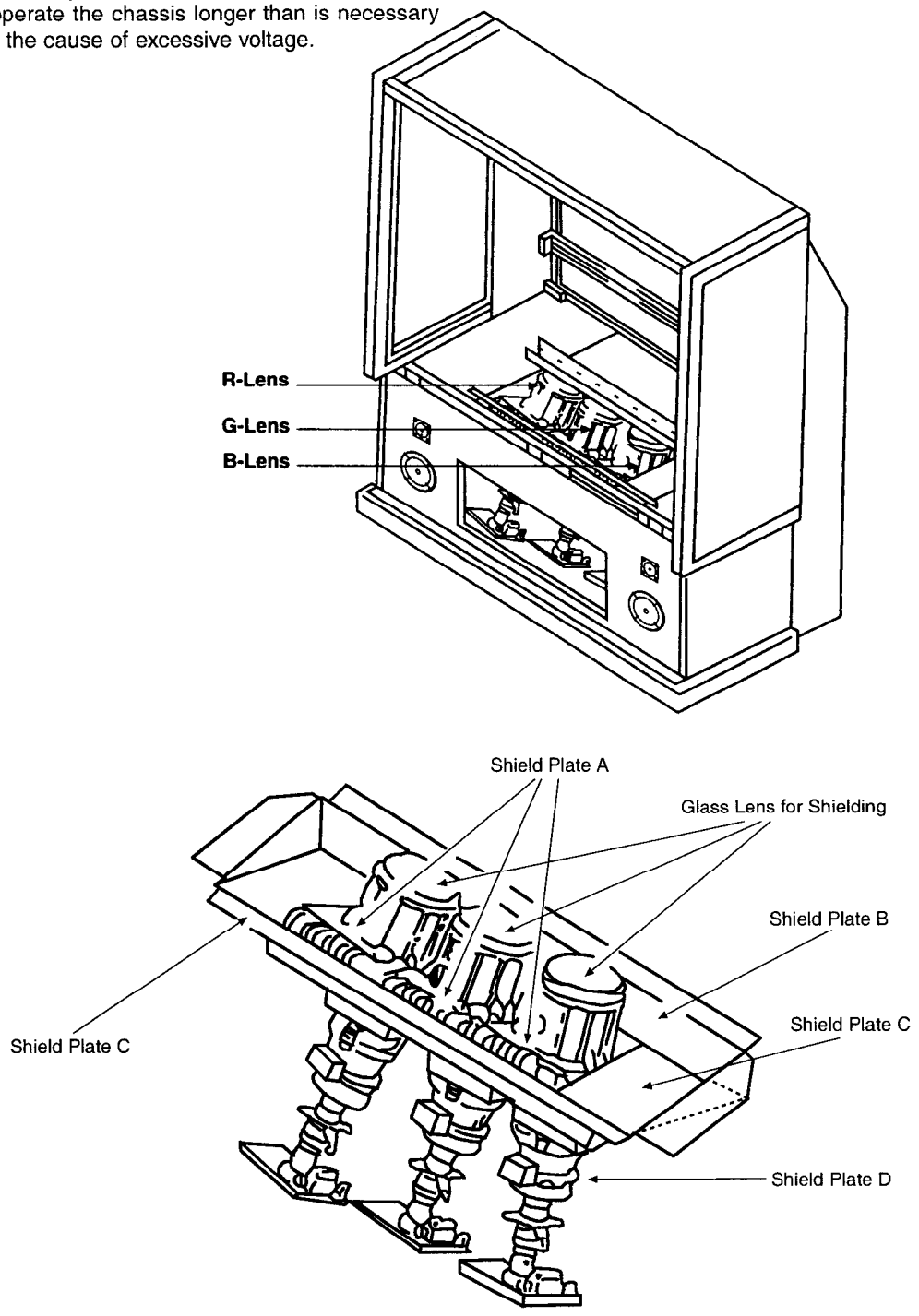
   f. **Service Warning** – With maximum contrast, operating high voltage in this receiver is lower than **31.5 kV.** In case any component having influence on high voltage is replaced, confirm that the high voltage with maximum contrast is lower than **31.5 kV.**
   To measure H.V. use a high impedance H.V. meter. Connect (-) to chassis earth and (+) to the CRT anode button. (See the following connection diagram.)

   Note: Turn power switch off without fail before the connection to the anode button is made.



g. **X-radiation – TUBE:** The primary source of X-radiation in this receiver is the picture tube. The tube utilized for the above mentioned function in this chassis is specially constructed to limit X-radiation emissions.
For continued X-radiation protection, the replacement tube must be the same type as the original, Hitachi approved type.
When troubleshooting and making test measurements in a receiver with a problem of excessive high voltage, avoid being unnecessarily close to the picture tube and the high voltage component.
Do not operate the chassis longer than is necessary to locate the cause of excessive voltage.

h. **X-radiation Shield –**
1. This receiver is provided with X-ray shield plates for protection against X-radiation. Do not remove X-ray shield plates A, B, C, or D shown in Fig. 1 unnecessarily, when troubleshooting and/or making test measurements.
2. To prevent X-radiation, after replacement of picture tube and lens, confirm these components to be fixed correctly to bracket and cabinet, and not to be taken off easily.



Detailing X-radiation shield

Fig. 1. Detailing X-radiation Shield

2. Read and comply with all caution and safety-related notes on or inside the receiver cabinet, on the receiver chassis, or on the picture tube.

3. **Design Alteration Warning** – Do not alter or add to the mechanical or electrical design of this TV receiver. Design alterations and additions including but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connectors, might alter the safety characteristics of this receiver and create a hazard to the user. Any design alterations or additions may void the manufacturer's warranty and may make you, the servicer, responsible for personal injury or property damage resulting therefrom.

4. **Picture Tube Implosion Protection Warning** – The picture tube in this receiver employs integral implosion protection. For continued implosion protection, replace the picture tube only with one of the same type number. Do not remove, install, or otherwise handle the picture tube in any manner without first putting on shatterproof goggles equipped with side shields. People not so equipped must be kept safely away while picture tubes are handled. Keep the picture tube away from your body. Do not handle the picture tube by its neck.

5. **Hot Chassis Warning** – **a.** Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord and may be safely serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. Confirm that the AC power plug is inserted correctly with an AC voltmeter by measuring between the chassis and a known earth ground. If a voltage reading in excess of 1.0V is obtained, remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground. **b.** Some TV receiver chassis normally have 85V AC (RMS) between chassis and earth ground regardless of the AC plug polarity. These chassis can be safely serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection. c. Some TV receiver chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulating material that must not be defeated or altered.

6. Observe original lead dress. Take extra care to assure correct lead dress in the following areas: **a.** near sharp edges, **b.** near thermally hot parts – be sure that leads and components do not touch thermally hot parts, **c.** the AC supply, **d.** high voltage and **e.** antenna wiring. Always inspect in all areas for pinched, out-of-plate, or frayed wiring. Do not change spacing between components and the printed circuit board. Check AC power cord for damage.

7. Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.

8. **PRODUCT SAFETY NOTICE** – Many TV electrical and mechanical parts have special safety-related characteristics some of which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified in Hitachi service data by shading on schematics and by a ⚠ in the parts list. Use of substitute replacement that does not have the same safety characteristics as the recommended replacement part in Hitachi service data parts list might create shock, fire, and/or other hazards. Product safety is under review continuously and new instructions are issued whenever appropriate. For the latest information, always consult the appropriate current Hitachi service literature. A subscription to, or additional copies of service literature may be obtained at a nominal charge from Hitachi.

SERVICING PRECAUTIONS

CAUTION: Before servicing instruments covered by this service data and its supplements and addenda, read and follow the SAFETY PRECAUTIONS on page 3 of this publication.

NOTE: If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions on page 3 of this publication, always follow the safety precautions. Remember: Safety First.

General Servicing Guidelines

1. Always unplug the instrument AC power cord from the AC power source before:
   a. Removing or reinstalling any component, circuit board, module, or any other instrument assembly.

   b. Disconnecting or reconnecting any instrument electrical plug or other electrical connection.

   c. Connecting a test substitute in parallel with an electrolytic capacitor in the instrument.
      CAUTION: A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.

   d. Discharging the picture tube anode.

2. Test high voltage only by measuring it with an appropriate high voltage meter or other voltage measuring device (DVM, FETVOM, etc.) equipped with a suitable high voltage probe. Do not test high voltage by "drawing an arc." The H.V. Distribution Box has an internal 400MΩ resistor (bleeder resistor) connected from the high voltage to ground. After power is removed from the instrument the high voltage will discharge through the high voltage bleeder resistor. If the tubes have high voltage after power is removed, then the bleeder resistor is defective or the bleeder ground is disconnected.

3. Discharge the picture tube's anode at any of the R, G, or B outputs on the H.V. Distribution Box only by (a) first connecting one end of an insulated clip lead to the degaussing or kine aquadag grounding system shield at the point where the picture tube socket ground lead is connected, and then (b) touch the other end of the insulated clip lead to the picture tube high voltage distribution box R, G, or B output, using an insulated handle to avoid personal contact with high voltage.

4. Do not spray chemicals on or near this instrument or any of its assemblies.

5. Unless specified otherwise in these service data, clean electrical contracts by applying the following mixture to the contacts with a pipe cleaner, cotton-tipped stick or comparable nonabrasive applicator: 10% (by volume) Acetone and 90% (by volume) isopropyl alcohol (90%-99% strength).
   CAUTION: This is a flammable mixture. Unless specified otherwise in these service data, lubrication of contacts is not required.

6. Do not defeat any plug/socket B+ voltage interlocks with which instruments covered by this service data might be equipped.

7. Do not apply AC power to this instrument and/or any of its electrical assemblies unless all solid-state device heat-sinks are correctly installed.

8. Always connect the test instrument ground lead to the appropriate instrument chassis ground before connecting the test instrument positive lead. Always remove the test instrument ground lead last.

9. Use with this instrument only the test fixtures specified in this service data.
   CAUTION: Do not connect the test fixture ground strap to any heatsink in this instrument.

Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.

2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.

3. Use only a grounded-tip soldering iron to solder or desolder ES devices.

4. Use only can anti-static type solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES device.

5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.

6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material.)

7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
   CAUTION: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

General Soldering Guidelines

1. Use a grounded-tip, low-wattage soldering iron and appropriate tip size and shape that will maintain tip temperature within the range 500°F to 600°F.

2. Use an appropriate gauge of resin-core solder composed of 60 parts tin/40 parts lead.

3. Keep the soldering iron tip clean and well-tinned.

4. Thoroughly clean the surfaces to be soldered. Use a small wire-bristle (0.5 inch or 1.25 cm) brush with a metal handle. Do not use freon-propelled spray-on cleaners.

5. Use the following desoldering technique.
   a. Allow the soldering iron tip to reach normal temperature (500°F to 600°F).

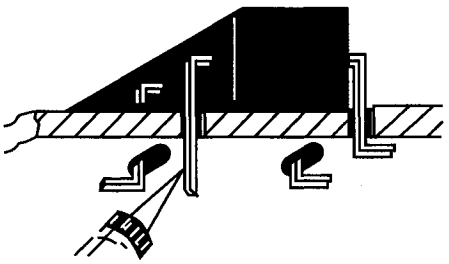
   b. Heat the component lead until the solder melts. Quickly draw away the melted solder with an anti-static, suction-type solder removal device or with solder braid.
   CAUTION: Work quickly to avoid overheating the circuit board printed foil.

6. Use the following soldering technique.
   a. Allow the soldering iron tip to reach normal temperature (500°F to 600°F).

   b. First, hold the soldering iron tip and solder strand against the component lead until the solder melts.

   c. Quickly move the soldering iron tip to the junction of the component lead and the printed circuit foil, and hold it there only until the solder flows onto and around both the component lead and the foil.
   CAUTION: Work quickly to avoid overheating the circuit board printed foil or components.

   d. Closely inspect the solder area and remove any excess or splashed solder with a small wire-bristle brush.



Use Solding Iron to Pry Leads

IC Removal/Replacement

Some Hitachi unitized chassis circuit boards have slotted holes (oblong) through which the IC leads are inserted and then bent flat against the circuit foil. When holes are the slotted type, the following technique should be used to remove and replace the IC. When working with boards using the familiar round hole, use the standard technique as outlined in paragraphs 5 and 6 above.

Removal

1. Desolder and straighten each IC lead in one operation by gently prying up on the lead with the soldering iron tip as the solder melts.2. Draw away the melted solder with an anti-static suction-type solder removal device (or with solder braid) before removing the IC.

Replacement

1. Carefully insert the replacement IC in the circuit board.

2. Carefully bend each IC lead against the circuit foil pad and solder it.

3. Clean the soldered areas with a small wire-bristle brush. (It is not necessary to reapply acrylic coating to areas.)

"Small-signal" Discrete Transistor Removal/Replacement

1. Remove the defective transistor by clipping its leads as close as possible to the component body.

2. Bend into a "U" shape the end of each of three leads remaining on the circuit board.

3. Bend into a "U" shape the replacement transistor leads.

4. Connect to replacement transistor leads to the corresponding leads extending from the circuit board and crimp the "U" with long nose pliers to insure metal to metal contact, then solder each connection.

Power Output Transistor Devices Removal/Replacements

1. Heat and remove all solder from around the transistor leads.

2. Remove the heatsink mounting screw (if so equipped).

3. Carefully remove the transistor from the circuit board.

4. Insert new transistor in circuit board.

5. Solder each transistor lead, and clip off excess lead.

6. Replace heatsink.

Diode Removal/Replacement

1. Remove defective diode by clipping its leads as close as possible to diode body.

2. Bend the two remaining leads perpendicularly to the circuit board.

3. Observing diode polarity, wrap each lead of the new diode around the corresponding lead on the circuit board.

4. Securely crimp each connection and solder it.

5. Inspect (on the circuit board copper side) the solder joints of the two "original leads". If they are not shiny, reheat them and, if necessary, apply additional solder.

Fuses and Conventional Resistor Removal/Replacement

1. Clip each fuse or resistor lead at top of circuit board hollow stake.

2. Securely crimp leads of replacement component around stake 1/8 inch from top.

3. Solder the connections.
   CAUTION: Maintain original spacing between the replaced component and adjacent components and the circuit board, to prevent excessive component temperatures.

Circuit Board Foil Repair

Excessive heat applied to the copper foil of any printed circuit board will weaken the adhesive that bonds the foil to the circuit board, causing the foil to separate from, or "lift-off," the board. The following guidelines and procedures should be followed whenever this condition is encountered.

In Critical Copper Pattern Areas

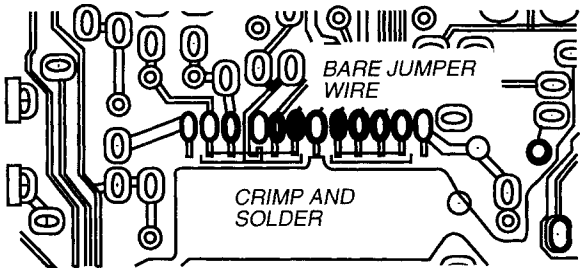
High component/copper pattern density and/or special voltage/current characteristics make the spacing and integrity of copper pattern in some circuit board areas more critical than in others. The circuit foil in these areas is designated as Critical Copper Pattern. Because Critical Copper Pattern requires special soldering techniques to ensure the maintenance of reliability and safety standards, contact your Hitachi personnel.

At IC Connections

To repair defective copper pattern at IC connections, use the following procedure to install a jumper wire on the copper pattern side of the circuit board. (Use this technique only on IC connections.)

1. Carefully remove the damaged copper pattern with a sharp knife. (Remove only as much copper as absolutely necessary.)

2. Carefully scratch away the solder resist and acrylic coating (if used) from the end of the remaining copper pattern.



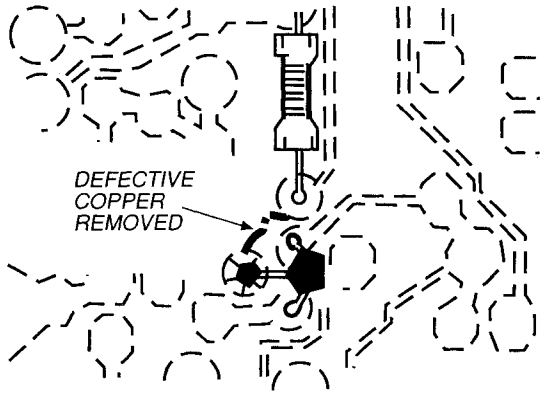
Install Jumper Wire and Solder

3. Bend a small "U" in one end of a small-gauge jumper wire and carefully crimp it around the IC pin. Solder the IC connection.

4. Route the jumper wire along the path of the cut-away copper pattern and let it overlap the previously scraped end of the good copper pattern. Solder the overlapped area, and clip off any excess jumper wire.

At Other Connections

Use the following technique to repair defective copper pattern at connections other than IC Pins. This technique involves the installation of a jumper wire on the component side of the circuit board.



Insulated Jumper Wire

1. Remove the defective copper pattern with a sharp knife. Remove at least 1/4 inch of copper, to ensure hazardous condition will not exist if the jumper wire opens.

2. Trace along the copper pattern from both wire sides of the pattern break and locate the nearest component directly connected to the affected copper pattern.

3. Connect insulated 20-gauge jumper wire from the nearest component on one side of the pattern break to the lead of the nearest component on the other side. Carefully crimp and solder the connections.
   CAUTION: Be sure the insulated jumper wire is dressed so that it does not touch components or sharp edges.

Frequency Synthesis (FS) Tuning Systems

1. Always unplug the instrument AC power cord before disconnecting or reconnecting FS tuning system cables and before removing or inserting FS tuning system modules.

2. The FS tuner must never be disconnected from the FS tuning control module while power is applied to the instrument.

3. When troubleshooting intermittent problems that might be caused by defective cable connection(s) to the FS tuning system, remove the instrument AC power as soon as the defective connector is found and finish confirming the bad connection with a continuity test. This procedure will reduce the probability of electrical overstress of the FS system semi-conductor components.

NOTE: ***These components are affixed with glue. Be careful not to break or damage any foil under the component or at the pins of the ICs when removing. Usually applying heat to the component for a short time while twisting with tweezers will break the component loose.***

Leadless Chip Components (surface mount)

Chip components must be replaced with identical chips due to critical foil track spacing. There are no holes in the board to mount standard transistors or diodes. Some chip capacitor or resistor board solder pads may have holes through the board, however the hole diameter limits standard resistor replacement to 1/8 watt. Standard capacitors may also be limited for the same reason. It is recommended that identical chip components be used. .

Chip resistors have a three digit numerical resistance code -1st and 2nd significant digits and a multiplier. Example: 162 = 1600 or 1.6K resistor, 0 = 0 (jumper).

Chip capacitors generally do not have the value indicated on the capacitor. The color of the component indicates the general range of the capacitance.

Chip transistors are identified by a two letter code. The first letter indicates the type and the second letter, the grade of transistor.

Chip diodes have a two letter identification code as per the code chart and are a dual diode pack with either common anode or common cathode. Check the parts list for correct diode number.

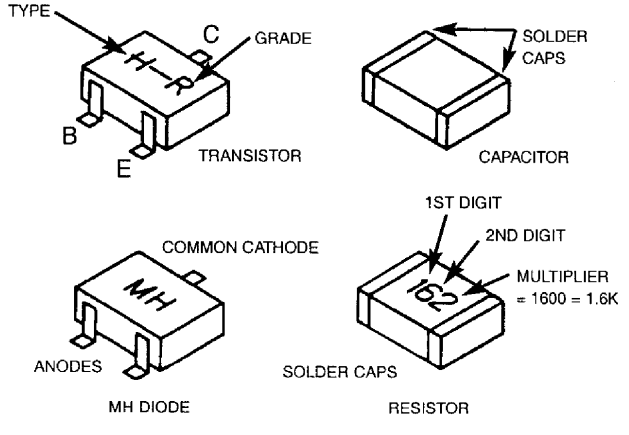
Component Removal

1. Use solder wick to remove solder from component end caps or terminals.
2. Without pulling up, carefully twist the component with tweezers to break the adhesive.
3. Do not reuse removed leadless or chip components since they are subject to stress fracture during removal .

Chip Component Installation

1. Put a small amount of solder on the board soldering pads.
2. Hold the chip component against the soldering pads with tweezers or with a miniature alligator clip and apply heat to the pad area with a 30 watt iron until solder flows. Do not apply heat for more than 3 seconds

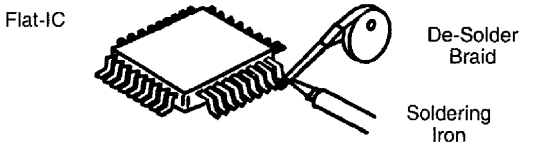
Chip Components



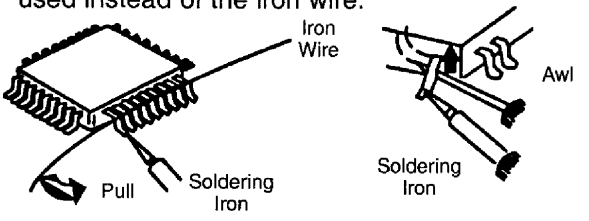
How to Replace Flat-IC —Required Tools—

- Soldering iron
- De-solder braids
- iron wire or small awl
- Magnifier

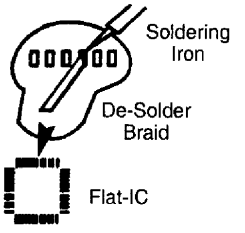
1. Remove the solder from all of the pins of a Flat-IC by using a de-solder braid.



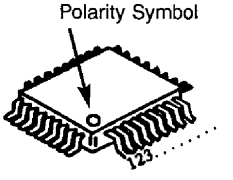
2. Put the iron wire under the pins of the Flat-IC and pull it in the direction indicated while heating the pins using a soldering iron. A small awl can be used instead of the iron wire.



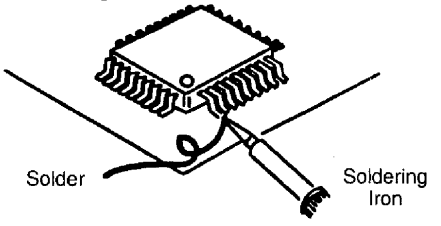
3. Remove the solder from all of the pads of the Fiat-IC by using a de-solder braid.



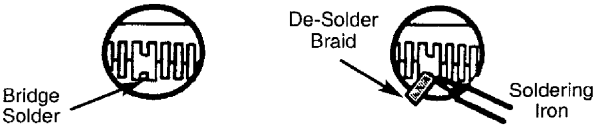
4. Position the new Flat-IC in place (apply the pins of the Flat-IC to the soldering pads where the pins need to be soldered). Properly determine the positions of the soldering pads and pins by correctly aligning the polarity symbol.



5. Solder all pins to the soldering pads using a fine tipped soldering iron.



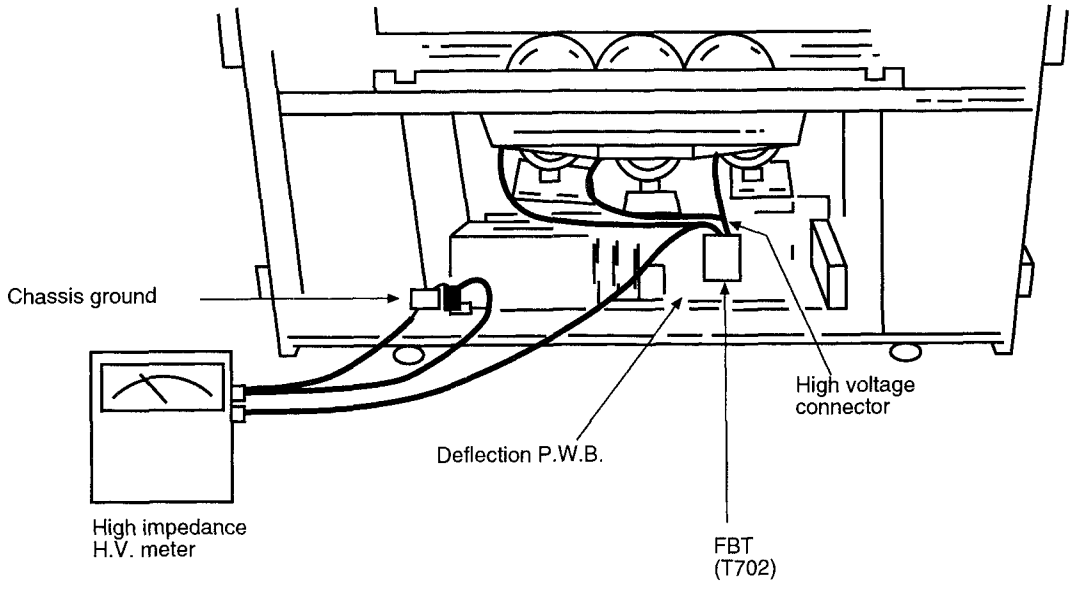
6. Check with a magnifier for solder bridge between the pins or for dry joint between pins and soldering pads. To remove a solder bridge, use a de-solder braid as shown in the figure below.



TECHNICAL CAUTIONS

High Voltage limiter circuit operation check.

1. Turn off TV and connect jig as shown in Figure 2. Adjust jig fully counter-clockwise for minimum resistance.
2. Set the AC input to 120V AC and turn on TV.
3. Confirm test pattern on CRT is a usable picture, then slowly adjust jig until the picture disappears and TV shuts down.
4. When the limiter circuit is operating properly, High Voltage will be less than 36.5 kV at 0.6mA when TV shuts down.
5. Turn off set immediately after checking circuit operation.
6. Unplug set for one minute to reset shutdown circuit. Remove jig and voltmeter.



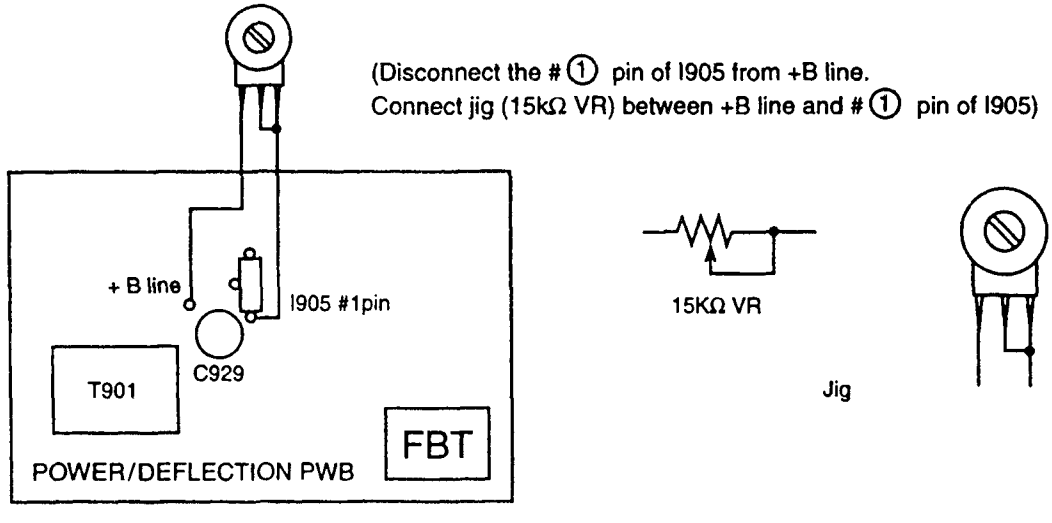


Fig. 2. Deflection/Power P.C.B.

SPECIFICATIONS

Model:	50GX49B
Cathode-Ray Tube:	R=180DLB22R G=180DLB22G B=180DLB22B
Power Input:	120 volts AC, 60 Hz
Power Consumption:	184 Watts - Maximum 152 Watts - Operating
Antenna Impedance:	75 ohm Unbalanced VHF / UHF / CATV
Receiving Channel:	BAND CH VHF 2~13 UHF 14~69 EXT. Mid (A-5)~(A-1), 4+ CATV Mid. A~I CATV Super J~W CATV Hyper (W+1)~(W+28)
Intermediate Frequency:	Picture I-F Carrier 45.75 MHz Sound I-F Carrier 41.25 MHz Color Sub Carrier 42.17 MHz
Video Input:	1 Volt p-p, 75 Ohm 1 Volt p-p, 75 Ohm (Y) 0.7 Volt p-p, 75 Ohm, (Cb, Cr)
Video Output:	1 Volt p-p, 75 ohm

Audio Input:	470 mVrms, 47 k Ohm
Stereo Audio Output:	470 mVrms, 1 k Ohm
Audio Output Power:	Front – 12 watts at 10% distortion, 8 ohm Impedance Max output – 24 watts
Anode Voltage:	35.0 ± 1.5kv (contrast, brightness=max)
Brightness:	205 cd/m^2 (white screen)
Speakers:	2 Woofers - 5 inch (12 cm) round
Dimension:	50GX49B
Height (in.)	51 $^{7}/_{8}$
Width (in.)	43 $^{1}/_{2}$
Depth (in.)	23 $^{3}/_{4}$
Weight (lbs.)	185

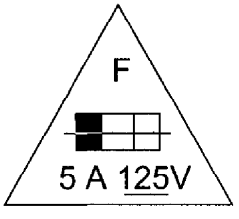
Circuit Board Assemblies:

C.P.T. (B) P.W.B.	Terminal P.W.B.
C.P.T. (G) P.W.B.	VM P.W.B.
C.P.T. (R) P.W.B.	SP Matrix P.W.B.
Signal P.W.B.	Power/Deflection P.W.B.
Signal Sub P.W.B.	Control P.W.B.

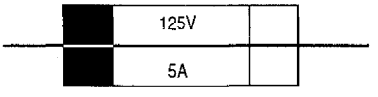
CIRCUIT PROTECTION

CAUTION: Below is an EXAMPLE only. See Replacement Parts List for details. The following symbol near the fuse indicates fast operation fuse (to be replaced). Fuse ratings appear within the symbol.

Example:



"RISK OF FIRE - REPLACE FUSE AS MARKED"



F901

The rating of fuse F901 is 5.0A - 125V.
Replace with the same type fuse for continued protection against fire.

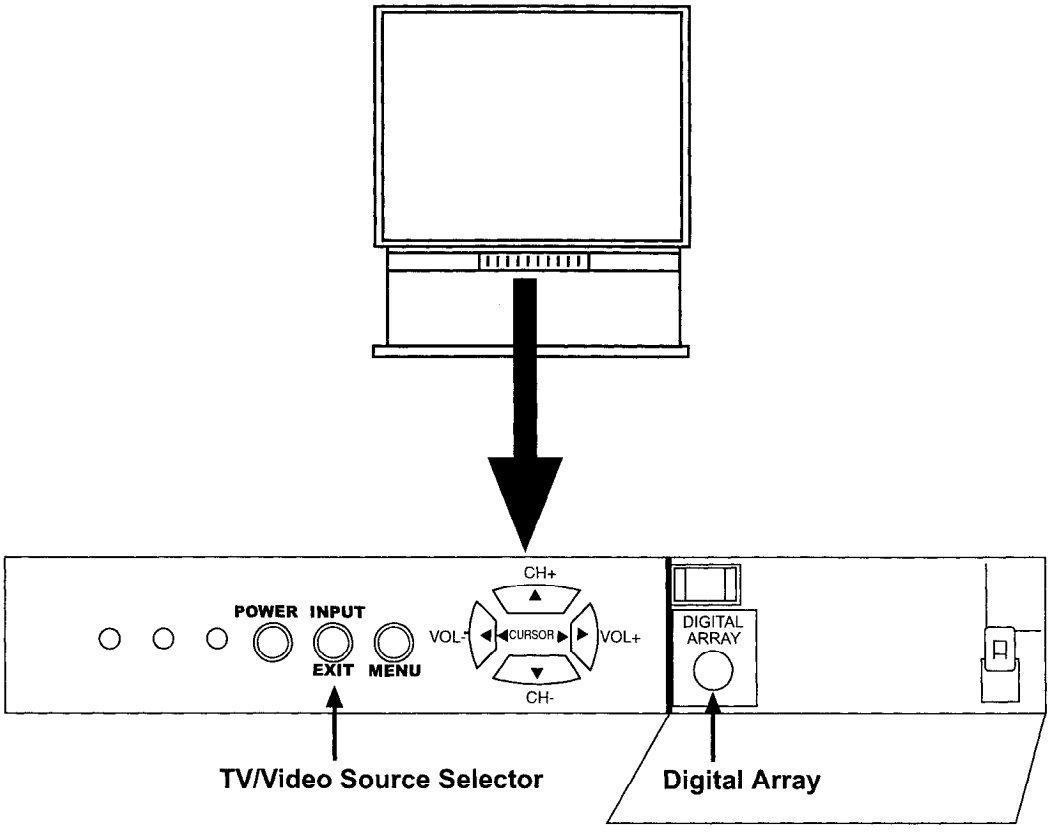


Fig. 3. Control Panel

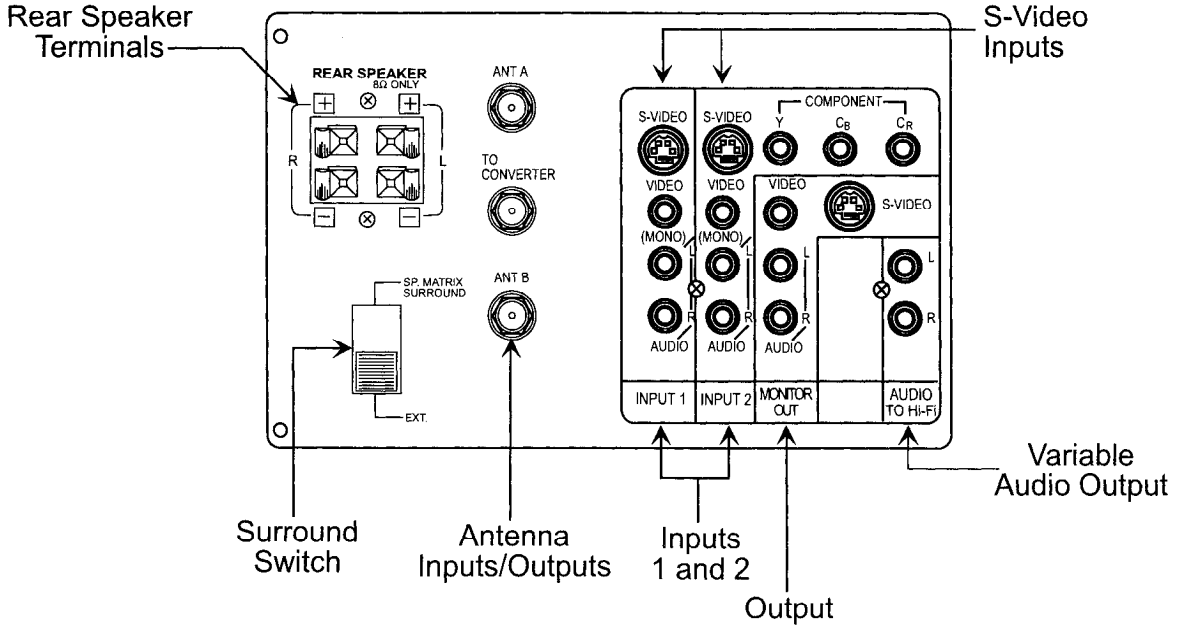
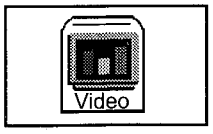
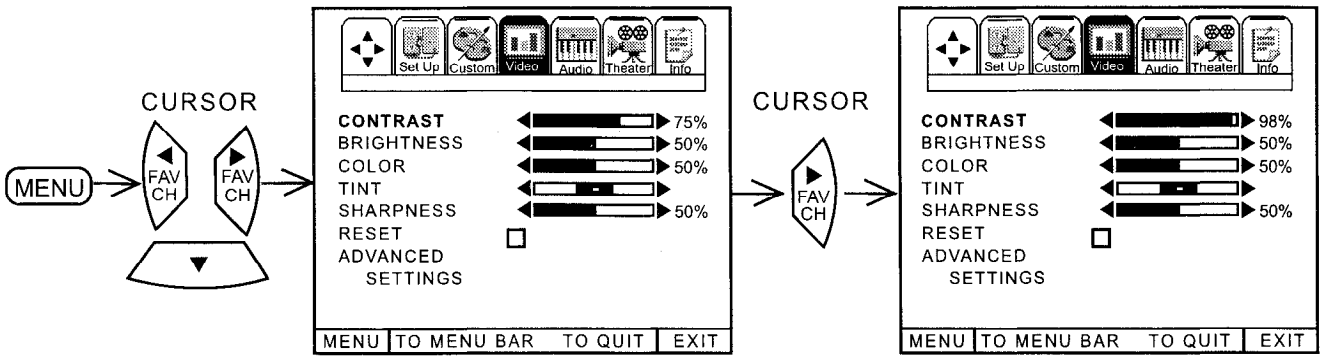


Fig. 4. Rear Connections Panel

CUSTOMIZED PICTURE AND SOUND ADJUSTMENTS



Select VIDEO to adjust picture settings and improve picture quality.



Use the CURSOR ▲ or ▼ buttons to highlight the function to be adjusted.
Press the CURSOR ◀ or ▶ buttons to adjust the function.
Press EXIT to quit menu.

NOTE:
- If CONTRAST is selected, you are adjusting CONTRAST. The additional menu items BRIGHTNESS, COLOR, TINT, and SHARPNESS can be selected and adjusted in the same manner.
- Contrast and Brightness adjustments will affect only the main picture. These adjustments will not affect the sub-picture (PIP).

CONTRAST — Use this function to change the contrast between black and white levels in the picture. This adjustment will only affect the picture when ADVANCED SETTINGS ULTRA AI is OFF.

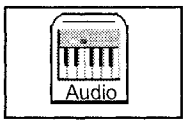
BRIGHTNESS — Use this function to adjust overall picture brightness.

COLOR — Use this function to adjust the level of color in the picture.

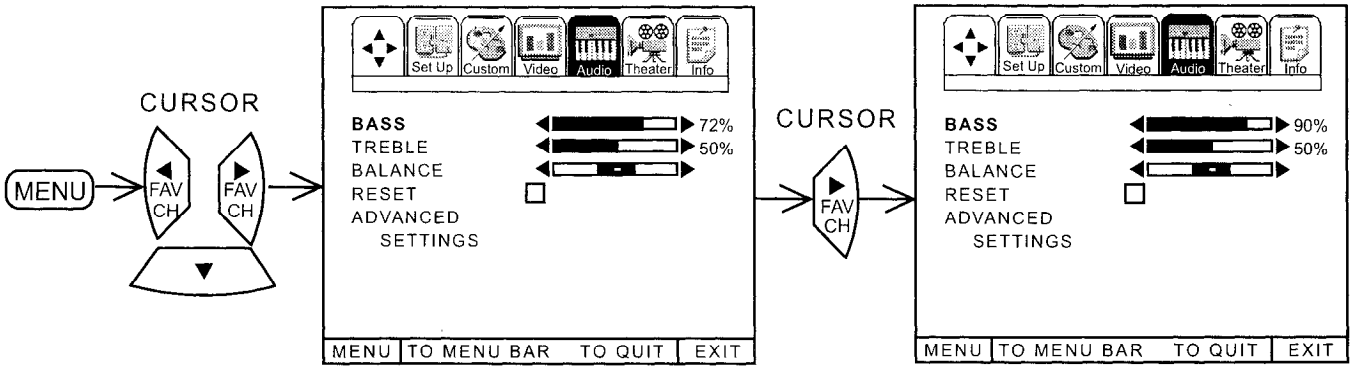
TINT — Use this function to adjust flesh tones so they appear natural. (It may be necessary to adjust TINT to obtain optimum picture quality when using the COMPONENT: Y-C_BC_R Input 2 jacks).

SHARPNESS — Use this function to adjust the amount of fine detail in the picture.

RESET — When RESET is selected, press CURSOR ▶ to return video adjustments to factory preset conditions.



Select AUDIO SETTINGS to adjust the TV to your preference and to improve the sound quality.

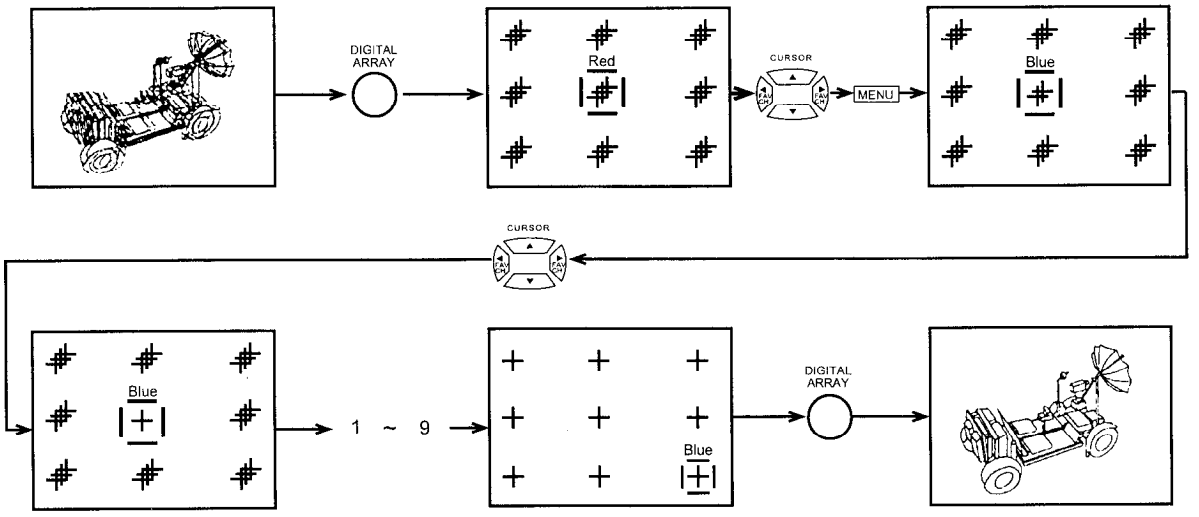


Use CURSOR ▲ or ▼ to highlight the function to be adjusted.
Press CURSOR ◄ or ► to adjust the function.
Press EXIT to quit menu.

NOTE: If BASS is selected you are adjusting BASS. The additional menu items TREBLE and BALANCE can be selected and adjusted in the same manner.

BASS	This function controls the low frequency audio to all speakers.
TREBLE	This function controls the high frequency audio to all speakers.
BALANCE	This function will control the left to right balance of the TV internal speakers, the AUDIO TO HI FI output.
RESET	When RESET is selected, press CURSOR ► to return audio adjustments to factory preset conditions.

DIGITAL ARRAY



Use the number buttons to select which point to adjust: ① - Upper Left, ② - Upper Middle, ③ - Upper Right, ④ - Center Left, ⑤ - Center, ⑥ - Center Right, ⑦ - Bottom Left, ⑧ - Bottom Middle, ⑨ - Bottom Right.

Four lines surrounding a crosshatch indicate the point being adjusted. the color of these surrounding lines indicates the color being adjusted.

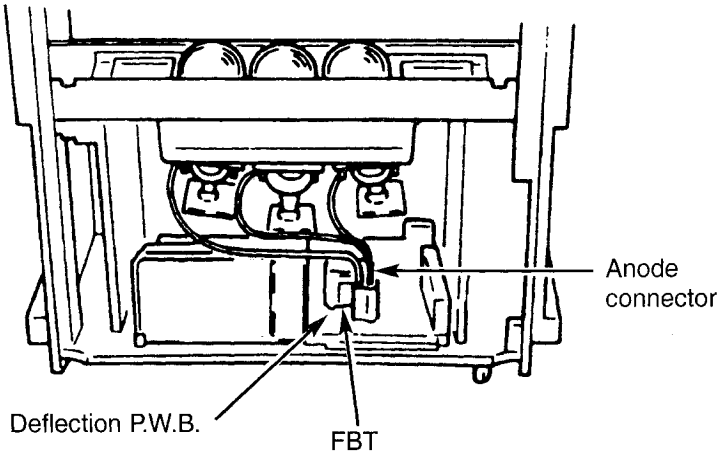
Press the CURSOR buttons to move the displayed color up, down, left or right.

Press MENU to change the color you want to adjust (Red or Blue).

Press the front panel DIGITAL ARRAY button or the remote control MOVE button when adjustment is done. This will save your adjustment into memory.

CAUTIONS WHEN CONNECTING / DISCONNECTING THE HV CONNECTOR

Perform the following when the HV connector (anode connector) is removed or inserted for CPT replacement, etc.



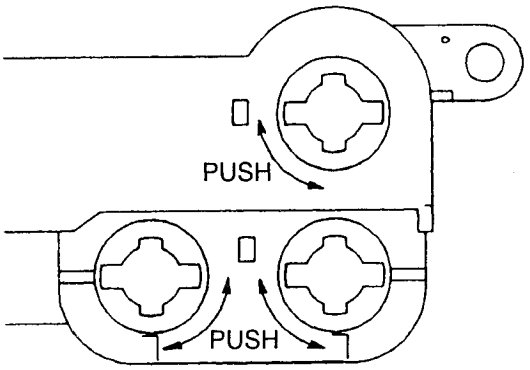


Fig. A

During Removal

1. Roll out silicon cover from FBT's contact area slowly.
2. While turning the connector about 90 degrees following the arrow (0 position), push the connector slightly towards the case. (Fig. A)
3. Remove the connector slowly by pulling it away from the case.

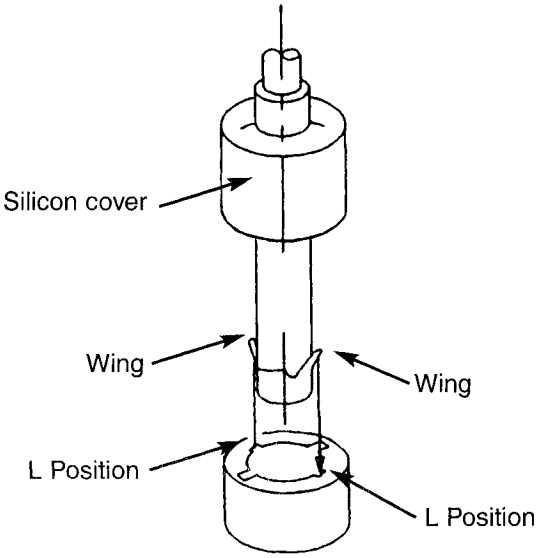


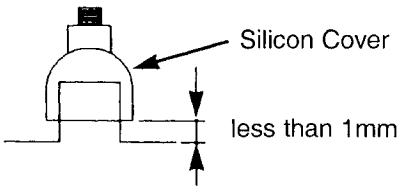
Fig. B

During Insertion

1. Please refer to direction for insertion as shown in Fig. B (L position). Insert connector until "CLICK" sound is heard.
2. Make sure the connector is pressed right in, so that it has a good contact with the spring.
3. Confirm the contact by pulling the connector slightly. (Don't pull hard because it may damage the connector).
4. Cover the high voltage output by carefully pushing silicon cover onto it. (Don't turn the connector).

(REMARK)

1. Make sure the silicon cover is covering the high voltage output.



SERVICE ADJUSTMENTS

1. ASSEMBLED P.W.B. ADJUSTMENT **18**
1-1. Memory Initialization 18
1-2. Comb Filter Operation Check 18
1-3. Sub Picture (PIP) Position Adjustment 18

2. FINAL ASSEMBLY ADJUSTMENT **19**
2-1. Focus Adjustment 19
2-2. White Balance Adjustment 20
2-3. Sub Brightness Adjustment 20
2-4. Sub Picture White Balance Adjustment 21
2-5. SP Matrix Check 21
2-6 Raster Inclination Adjustment (Deflection Yoke) 21
2-7. Raster Position Adjustment 22
2-8. Vertical Size Adjustment (R630) 22
2-9. Horizontal Size Adjustment (R603) 23
2-10. Beam Alignment 23
2-11. Beam Shape Adjustment 23
2-12. Static Focus Adjustment 24
2-13. Blue Defocus Adjustment 24
2-14. Digital Convergence Adjustment 24
2-14-1. Phase Adjustment (service mode) 25
2-14-2. Raster Position Adjustment 25
2-14-3. Convergence Point Adjustment 26
2-14-4 Digital Convergence Remote Control 26

3. ADJUSTMENT POINT **27**
3-1. CRT (R)(G)(B), Cabinet Locations 27
3-2. Main Chassis (Signal P.W.B.) 28
3-3. Main Chassis (Power/Deflection P.W.B.) 29
3-4. CPT (R)(G)(B), Focus Pack, Control P.W.B. 30

1. ASSEMBLED P.W.B. ADJUSTMENT

1.1 Memory Initialization

Adjustment procedure

(1) Press INPUT key on Control Panel and then Power On to access Video Chroma adjustment mode.

(2) Receive signal on main picture.

(3) Check the OSD according to table below, using ▲▼ buttons on Remote Control.

P.01	AP92
SERVICE	0
SUB CONT	1F
SUB COLOR	1A
SUB TINT	40
SUB SHARP	38
EXT RGB BRIGHT	40
EXT RGB CONT	60
BRIGHTNESS	80
* SUB BRIGHT ADJ. □	
INITIAL SET □	

P.02	AP92
G DRIVE GAIN	47
B DRIVE GAIN	3A
H POSITION	12
AFC G	0
H BLK END PHASE	0
V BLK PHASE	0
V FREQUENCY	1
V POSITION	0
R-Y POSITION	3
R-Y LEVEL	0
G-Y LEVEL	0
GPPHS	1

P.03	AP92
S-TRAC	1
YA	0
Y DL	0
TXACL	1
COLOR A	0
CTL	0
CDE	1
C TRAP	0
TOF FQ	0
TOF Q	0
COLOR SYSTEM	0
DY GAIN	9

P.04	AP92
DC T.C. POINT	0
DC T.C. RATIO	0
DC T.C. LIMIT	0
B.E P. LIMIT	0
B.E. P. POINT1	5
B.E. P. POINT2	0
B.L.S.	0
B.L.C.	1
B.S.G.	0
B.D.L.	0
BEARE	0
DC GAIN	6

P.05	AP92
WPDL	1
HI BRT	1
OSACL	0
APACON PEAK FO	0
WHITE PEAK	0
D. ABL POINT	0
D. ABL GAIN	7
ABL POINT	5
ABL GAIN	6
(BLANK)	(00)
VAPINV	0B
VAPGAIN	5

P.06	AP92	
H POSI (CENT)	04	*
V POSI (CENT)	07	*
H DLY OSD	A	
V POSI (CENT)	5	
1 ST L AFTER V	29	
H DLY VBI	2	
VIDEO FIELD	1	
CLAMP DELAY	34	
INITIAL SET □	-	

*: Adjustable data

Others: Fixed data (be careful not to change)

(4) Press MENU key to exit VIDEO CHROMA ADJUST mode.

NOTE: (1) If there is a different value than shown in table above, for fixed data, adjust it using ◀ ▶ buttons (only in this case).

(2) When exchanging microprocessor and TV is turned on for first time, it requires initialization of VIDEO CHROMA ADJ on P1 and P6.

(3) Should be changed to OFF for FIRST TIME TOUR at first Power ON by pressing MENU key during FIRST TIME TOUR running.

1.2 Comb filter operation check

Adjustment preparation

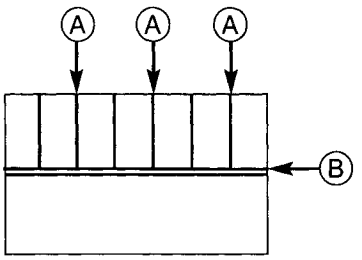
(1) Receive the color bar signal at the regular tuning point.

(2) Set the CONTRAST control to MAX and the other controls to center.

(3) Set the AI to OFF.

Adjustment procedure

(1) Check that between the color bars there are line dots every second color bar as shown in the drawing.



Check (A) and (B) line dots.

LINE	DOTS
(A)	X
(B)	None

1.3 Sub-picture (PIP) position adjustment

Adjustment preparation

(1) Select signal on main picture.

(2) Video settings have to be at normal condition.

Adjustment procedure

(1) Press the INPUT and POWER button on Control Panel at same time to access VIDEO CHROMA ADJUST mode.

(2) Select H POSI and V POSI using ▲▼ buttons.

(3) Adjust the H POSI (HORIZONTAL) and V POSI (VERTICAL) position using ◀ ▶ buttons.

(4) Press MENU button to exit VIDEO CHROMA ADJUST mode.

(5) Select single PINP mode and move the sub picture, using the MOVE button. Distance between PINP and edge of screen should be equal when moved. If it is not, repeat (1) ~ (5).

NOTE: Check the position of MULTI PINP mode. Check the right edge of the sub pictures for MV-4 to make sure there is no separation between the MULTI PINP and the edge of the screen.

2. FINAL ASSEMBLY ADJUSTMENT

2.1 Focus adjustment

Adjustment preparation

(1) The set can face in any direction: west, east, north or south.

(2) Receive the cross-hatch pattern signal.
CONTRAST : HALF
BRIGHTNESS : MINIMUM

(3) The electrical focus adjustment should have been completed.

(4) The centering DY inclination should have been adjusted.

Adjustment procedure

(1) Loosen the fixing screw on the lens cylinder so that the lens cylinder can be turned. (Be careful not to loosen too much. If it is loosened too much, rattling when tightening becomes greater and the focus may drift). After completing steps (5), (6) and (7) below, tighten the fixing screws for each lens with a torque of 12~17 Kgf cm.

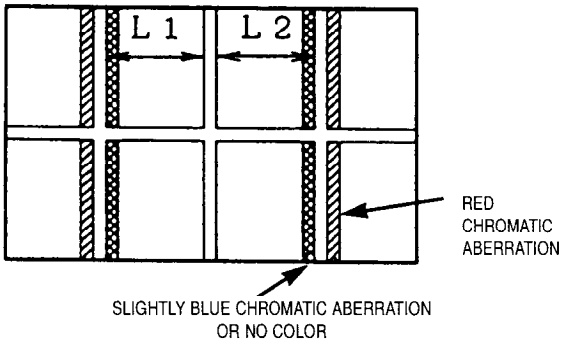
(2) Apply covers to 2 of R, G and B lenses, and project a single color on the screen and adjust in sequence.
(The adjustment order of R, G and B is only an example.)

(3) For each of the R, G and B lenses, observe the color abberation generated on the outer circumference of the cross-hatch bright line at the center section ±3 pitches vertically and horizontally from the center.

(4) If the lens adjustment knob is turned clockwise, viewed from the front, the color aberration changes as follows.

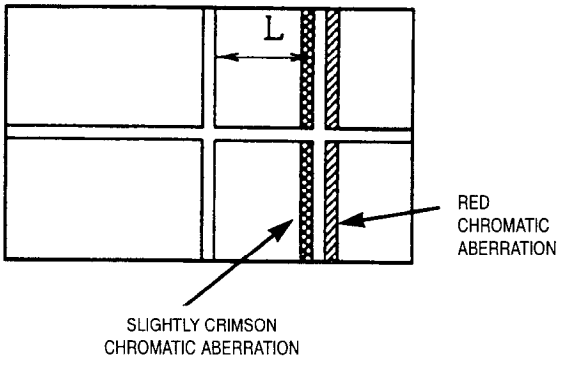
Lens	Change of color aberration
R lens	Red → Crimson
G lens	Blue → Red
B lens	Purple → Green

(5) In case of G lens, set to the point where the chromatic aberration switches from blue to red. If the chromatic aberration appearing all over the screen is not the same, observe the vertical bright line at the center of the screen and set to the position where red chromatic aberration slightly appears inside and blue outside (reference value: 1~3mm) within the cross-hatch pitches specified in next table. When the red chromatic aberration appearing at both sides of the bright line is not equal, observe the side with larger chromatic aberration when adjusting.



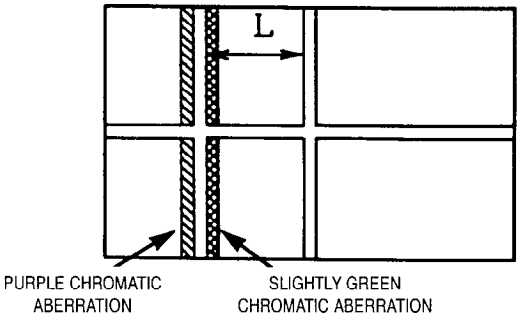
Set Size	Pitch between L1 & L2
50"	3.0 cross-hatch pitches

(6) In case of R lens, set to the position where the chromatic aberration changes from red to crimson. As shown below, observe the vertical bright line at the center and set to the position where the crimson chromatic aberration slightly appears inside and red outside (reference value: 1~3mm) within the cross-hatch pitches specified in next table.



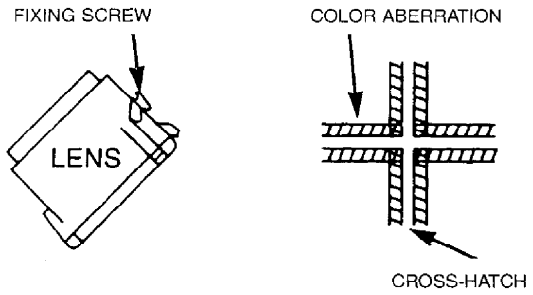
Set Size	Pitch between L
50"	3.0 cross-hatch pitches

(7) In case of B lens, set to the position where the chromatic aberration changes from purple to green. As shown below, observe the vertical bright line at the center and set to the position where green chromatic aberration slightly appears inside and purple outside (reference value: 1~3mm) within the cross-hatch pitches specified in next table.



Set Size	Pitch between L
50"	3.0 cross-hatch pitches

Notes: (1) Fixing screw (2) Color aberration



(3) Since the G light is very important for picture quality and performance, pay special attention in its adjustment.

Note: Be careful not to touch the lens with your fingers when adjusting.

(4) For red, setting to the center between red and crimson is optimum.

(5) For blue, setting to the center between purple and green is optimum.

2.2 White balance adjustment

(1) Screen adjustment
(2) High brightness white balance.
(3) Low brightness balance.

Screen adjustment VRs	Drive adjustment VRs
Red: on FOCUS PACK	Red: R873 on CPT P.W.B.
Green: on FOCUS PACK	Green: R843 on CPT P.W.B.
Blue: on FOCUS PACK	

Adjustment preparation

(1) Start adjustment 20 minutes or more after the power is turned on.
(2) The vertical incident illumination on the screen should be 20 lux or less.
(3) Set the video settings (CONTRAST: MAX, others: center) to standard condition.
(4) For low brightness white balance adjustment, input a white raster signal level of 0.145 Vp-p (Video input level).
(5) For high brightness white balance adjustment, input a white raster signal level of 0.715Vp-p (Video input level).
(6) Set the drive adjustment VRs (red and green) to 12 - 2 o'clock position.
(7) Turn the screen adjustment VRs (red, green and blue) fully counterclockwise.
(8) Set video advanced setting white control to COOL position.

Adjustment procedure

(1) Go to VIDEO CHROMA ADJUST mode by pressing INPUT and Power button on Control Panel at the same time.
(2) In "SERVICE" mode push ▶ button and screen turns to black. Gradually turn the screen adjustment VRs (red, green, blue) clockwise and set them where the red, green and blue slightly bright lines just appear evenly on the screen.
(3) Push the ▶ button again to return to "Normal" side.
(4) Press "MENU" button to exit VIDEO CHROMA ADJUST.
(5) Select the input signal for high brightness (Video level = 0.715Vpp).
(6) Adjust the high brightness white balance using the drive adjustment VRs (red, green).
(7) Select the signal for low brightness (Video level = 0.145Vpp)
(8) Adjust the low brightness white balance using the screen adjustment VRs (red, green, blue). (Visually adjust).
(9) Check that high brightness white balance is obtained. If it does not, return to step (7).

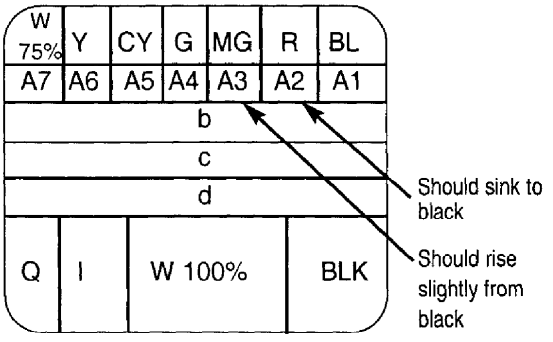
NOTE: Before adjusting the White Balance, check that the screen adjustment VRs are turned fully counterclockwise. Since the phosphorescent surface of the CRT is likely to be burned, be careful.

White balance = 9300° K ± 0MPCD
Color coordinate = x 0.285
y 0.295

2.3 Sub brightness adjustment

Adjustment preparation

(1) Start adjustment 20 minutes or more after the power is turned ON. Receive the color bar signal.
(2) Set the contrast and color controls to minimum.
(3) The vertical incident illumination on the screen should be 20 lux or less.



Adjustment procedure

(1) Go to "Sub Brightness" adjustment in VIDEO CHROMA ADJUST mode (press Input and Power button on Control panel at same time), using ▲ ▼ buttons and then ▶ button.
(2) Then adjust "Sub Brightness" using ◀ ▶ buttons to increase or decrease the value, according to figure. (Visually adjust).
(3) After adjustment, press MENU button to exit VIDEO CHROMA ADJUST mode. (Data is stored in memory).

Note: When selecting SUB-BRIGHTNESS mode the microprocessor sets the CONTRAST and COLOR to MIN. automatically, but make sure that the other conditions are center. Directly observe the screen by eye without using a mirror.

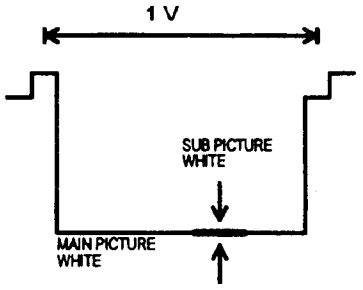
2.4 Sub picture white balance adjustment (R0M4, R0M6, R0M8)

Adjustment preparation

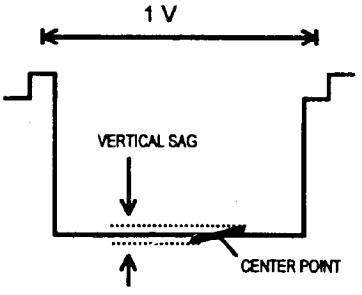
(1) Start adjustment after power is ON for 20 minutes.
(2) Use a white raster signal for adjustment.
(3) Press "FREEZE" on the remote control and select "SINGLE" freeze mode to display the sub picture.
(4) Set CONTRAST to Maximum, Other conditions to center.

Adjustment procedure

(1) Connect oscilloscope to P802 and adjust R0M8 to match blue level of main and sub pictures.
(2) Repeat for P832 and R0M6 Green, P862 and R0M4 for Red.



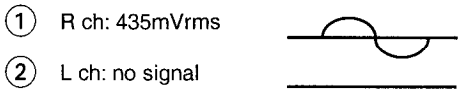
Note: If the sub picture has a signal sag, adjust level at center point.



2.5 SP Matrix Check

Adjustment preparation

(1) Input the following audio signals to the audio input of the VIDEO INPUT terminals, when checking SP Matrix:



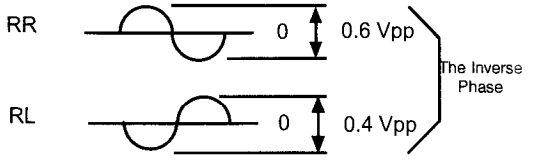
- Set the AUDIO ADVANCED SETTING for INT. SPEAKERS: ON, LOUDNESS: OFF and PERFECT VOLUME: OFF.
- Set the volume control of FRONT to 20 step.
- Set the BALANCE, TREBLE and BASS to Normal.

Note: Front waveform: front speaker output of the set.

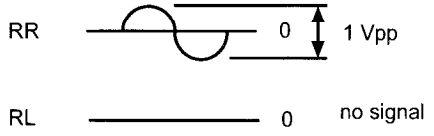
Adjustment procedure

(1) Check that the waveforms shown below are obtained (Input signal ① and ②), at rear SP Terminal Out.

(a) SP MATRIX mode



(b) EXT mode



2.6 Raster Inclination adjustment (Deflection Yoke)

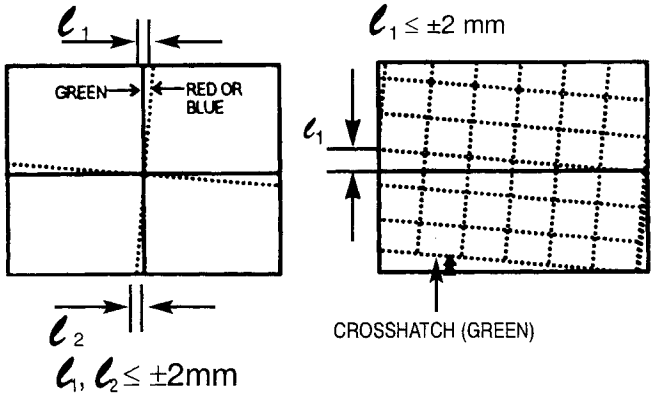
Adjustment preparation

(1) The set can face east or west.
(2) Input the single cross test signal.
(3) Set video conditions to factory reset.
(4) The lens focus adjustment should have been completed.
(5) The electric focus should have been coarse adjusted.
(6) The digital convergence RAM should be cleared (uncorrected state). With the TV set off, press and hold the service switch located on the Power/Deflection PWB and then press the power button.
(7) Start adjustment 20 minutes or more after TV is turned on.

Adjustment procedure

(1) Apply covers to the R and B lenses and project only green light.
(2) Turn the G deflection yoke and adjust the vertical raster inclination.
(3) Then, remove the cover of R or B lens and project red or blue light and green light together on the screen.

(4) Turn the deflection yoke of R or B and set so that the inclination of R or B with respect to the green light is as shown below on the top and bottom sides.
(5) After raster inclination adjustment, fixing screw of DY should be screwed with 12±2kg-cm torque.



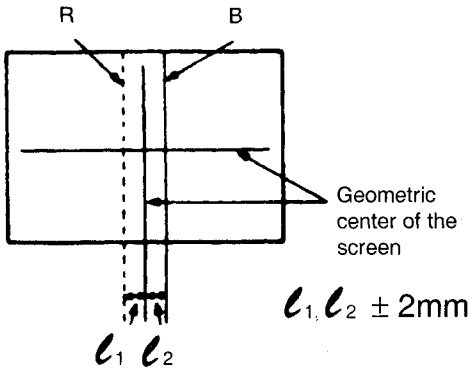
Notes: (1) If internal cross-hatch does not appear after clearing RAM data, press service switch again, on POWER/DEFLECTION PWB.
(2) To restore old RAM data, turn TV off and on.

2.7 Raster position adjustment

Adjustment preparation
(1) The set can face east or west.
(2) Input the single cross test signal.
(3) Set video conditions to factory reset.
(4) The lens focus adjustment should have been completed.
(5) The electric focus should have been coarse adjusted.
(6) The digital convergence RAM should be cleared (uncorrected state). With the TV set off, press and hold the service switch located on the Power/Deflection PWB and then press the power button.
(7) Start adjustment 20 minutes or more after TV is turned on.

Adjustment procedure
(1) Turn the centering magnets for red, green, and blue to satisfy the condition below. The red and blue horizontal lines should match with green.

Size	ℓ1 (RED)	ℓ2 (BLUE)
50"	10mm	30mm



NOTES: (1) If internal cross-hatch does not appear after clearing RAM data, press service switch again.
(2) To restore old RAM data, turn TV off and on.

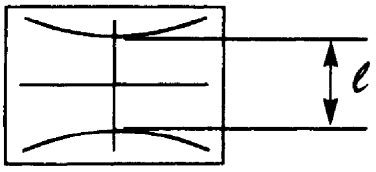
2.8 Vertical size adjustment (R630)

Adjustment preparation
(1) The set can face east or west.
(2) Input the single cross test signal.
(3) Set video conditions to factory reset.
(4) The lens focus adjustment should have been completed.
(5) The electric focus should have been coarse adjusted.
(6) The digital convergence RAM should be cleared (uncorrected state) . With the TV set off, press and hold the service switch located on the POWER/DEFLECTION PWB and then press the power button.
(7) Start adjustment 20 minutes or more after TV is turned on.

Adjustment procedure
(1) Turn only the green by applying covers to the red and blue lens or shorting the 2 pin TS connectors on the red and blue CPT P.W.B.
(2) Count the vertical lines of the DCU cross hatch. If the number of vertical lines is 9, go to step (3). If the number of vertical lines is 8, push "HELP" key and then "5" key on the R/C so the number of vertical lines becomes "9".
(3) Turn vertical amplitude adjustment VR (R630) so that the distance between the top and bottom horizontal lines is equal to the size shown in the table.

Size	ℓ
50"	650 ± 5mm

Note: (1) If internal cross-hatch does not appear after clearing RAM data, press service switch again (on POWER/DEFLECTION PWB).
(2) To restore old RAM data, turn TV off and on.



2.9 Horizontal size adjustment (R603)

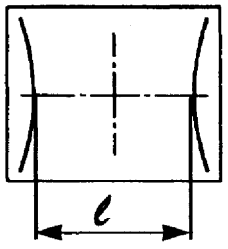
Adjustment preparation

(1) The set can face east or west.
(2) Input the single cross test signal.
(3) Set video conditions to factory reset.
(4) The lens focus adjustment should have been completed.
(5) The electric focus should have been coarse adjusted.
(6) The digital convergence RAM should be cleared (uncorrected state). With the TV set off, press and hold the service switch located on the POWER/DEFLECTION PWB and then press the power button.
(7) Start adjustment 20 minutes or more after TV is turned on.

Adjustment procedure

(1) Project only green, the same as Vertical size adjustment.
(2) Turn horizontal amplitude adjustment VR (R603) so distance between the left and right vertical lines is equal to the size shown in the table.

Size	ℓ
50"	950 ± 5mm



Note: (1) If internal cross-hatch does not appear after clearing RAM data, press service switch again.
(2) To restore old RAM data, turn TV off and on.

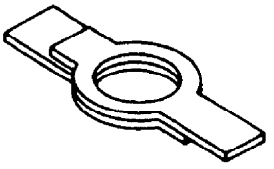
2.10 Beam alignment

Adjustment preparation

(1) Adjust at least 30 minutes after turning on power switch.
(2) Raster inclination, centering, horizontal and vertical amplitudes and optical focus adjustment should be completed.
(3) Set video conditions to factory reset.
(4) Receive cross-hatch signals. (Use of internal cross-hatch signals allowed.)
(5) Short-circuit all metal parts (metal fittings, centering magnet) installed on the projection tubes to GND's of the projection tubes.
Since metal parts are charged with electricity, shocks may be caused if they are not short circuited.

Adjustment procedure

(1) Green (G) tube beam alignment adjustment. Short-circuit 2P subminiature connector plug pins of Red (R) and Blue (B) on the CPT boards and project only Green (G) tube.
(2) Put Green (G) tube beam alignment magnet to the cancel state as shown below.



(3) Turn the Green (G) static focus (Focus Pack) counterclockwise all the way and make sure of position of cross-hatch center on screen. (Halo state.)
(4) Turn the Green (G) static focus (Focus Pack) clockwise all the way. (Blooming state.)
(5) Turn two magnets forming alignment magnet in any desired direction and move cross-hatch center to position found in (3).
(6) If image position does not shift when Green (G) static focus (Focus Pack) is turned. Green (G) beam alignment has been completed.
(7) If image position shifts when Green (G) static focus (Focus Pack) is turned, repeat (2)-(6).
(8) Conduct beam alignment for red (R) focus: Focus Pack UFPK, Blue (B) focus: Focus Pack UFPK.
(9) Upon completion of adjustment, fix beam alignment magnets with white paint.

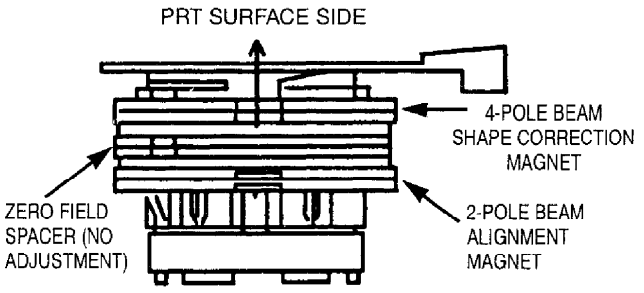
2.11 Beam shape adjustment

Adjustment preparation

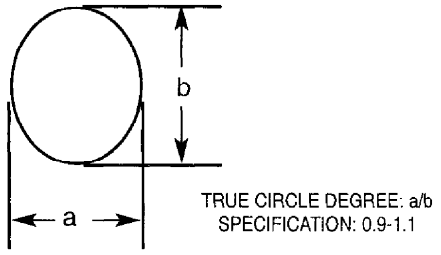
(1) The beam alignment should have been completed.
(2) The raster inclination, centering, horizontal/vertical amplitude and optical focus adjustments should have been completed.
(3) Set video conditions to factory reset.
(4) Input the dot signal.

Adjustment procedure

(1) Green PRT beam shape adjustment. Short-circuit 2P sub-mini connectors on Red and Blue CPT P.W.B.s to project only the Green beam.
(2) Turn the green static focus fully clockwise. (Blooming.)
(3) Make the dot at the screen center a true circle using the 4-pole magnet as shown below.
(4) Also adjust the Red and Blue PRT beam shapes according to the steps (1) to (3).
(5) After the adjustment has been completed, return R, G and B static VRs to the just focus point.



TRUE CIRCLE SPECIFICATION



2.12 Static focus adjustment

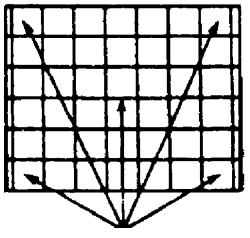
Adjustment preparation

(1) The raster inclination, centering, horizontal/vertical amplitude and optical/electrical focus beam alignment should have been adjusted.
(2) The static convergence data should be cleared.
(3) Set video conditions to factory reset.
(4) Receive the cross-hatch pattern signal.
(5) Apply covers to the lenses of colors other than the color to be adjusted and project a single color.

Adjustment procedure

(1) Red (R), Green (G) and Blue (B) static focus adjustment. Vary the static focus VR (focus pack UFPK) and make the center of the cross-hatch pattern clearest.
(2) Observe the corners of the picture and check that the focus does not get conspicuously worse.

OBSERVING POINTS OF THE CORNER OF THE PICTURE



OBSERVING POINTS

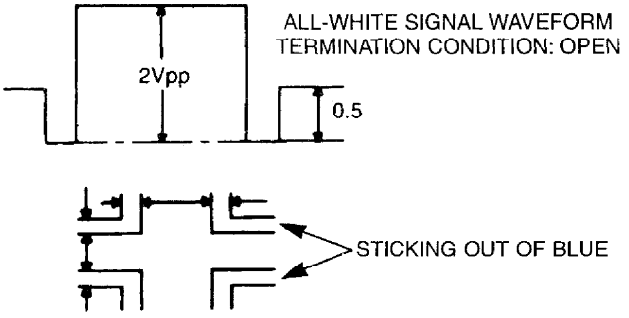
2.13 Blue defocus adjustment

Adjustment Preparation

(1) Optical and electrical focus adjustment should have been completed.
(2) The convergence adjustment should have been completed.
(3) Set Video conditions to factory reset.

Adjustment procedure

(1) Input an all-white signal shown below to VIDEO input.
(2) Short-circuit 2P sub-mini connectors on the red and green CPT P.W.Bs. to display only the blue beam.
(3) Turn the B Focus VR (Focus Pack) fully clockwise.
(4) Measure the brightness at the center of the screen and turn the B FOCUS VR (Focus Pack) counterclockwise to adjust the brightness of blue as shown in Table.
(5) After the adjustment is completed, if blue exceeds the specification, turn and adjust focus so that the sticking out part of blue satisfies the specification.



Defocus sticking out specification

Screen Size	Blue sticking out
50"	1.0mm

Condition: User controls are set to the initial set positions (for shipment) Measuring point Screen center.

Cautions: Correct the brightness gauge and amplitude of the all-white signal periodically. The aperture angle of the brightness gauge is 1°.

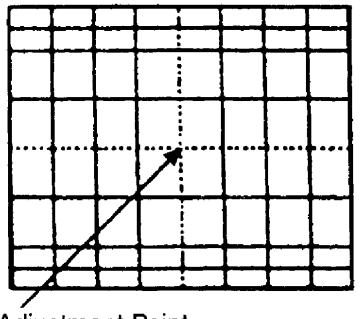
Use a cross-hatch pattern to check.

2.14 Digital convergence adjustment

Adjustment preparation

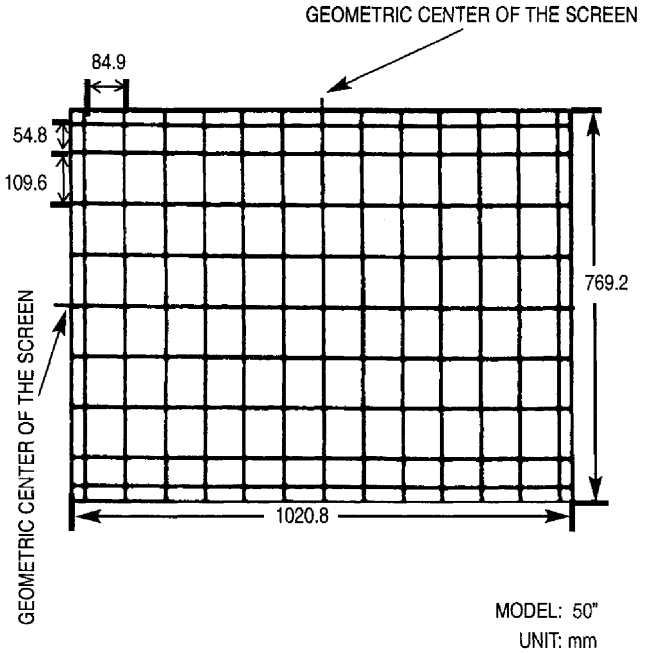
(1) Receive an RF or video signal.
(2) Set controls to factory preset.
(3) Install jig screen on the set.
(4) Note the center of the video pattern displayed. This is necessary to match dotted lines (adjustment point viewed) and actual point that is adjusted and displayed by the video signal.

(5) Press the service only switch (on POWER/DEFLECTION PWB). The pattern displayed is now the digital convergence mode.
(6) When performing a complete digital convergence adjustment CLEAR DATA in RAM. See 2.6. (1) - (7).



Adjustment Point

JIG SCREEN SPECIFICATION



MODEL: 50"
UNIT: mm

Note: If only minor adjustments to convergence are needed, the jig screen is not necessary. Use digital data stored in memory and one color as a reference (red, green, or blue). DO NOT CLEAR DATA and WRITE to ROM memory.

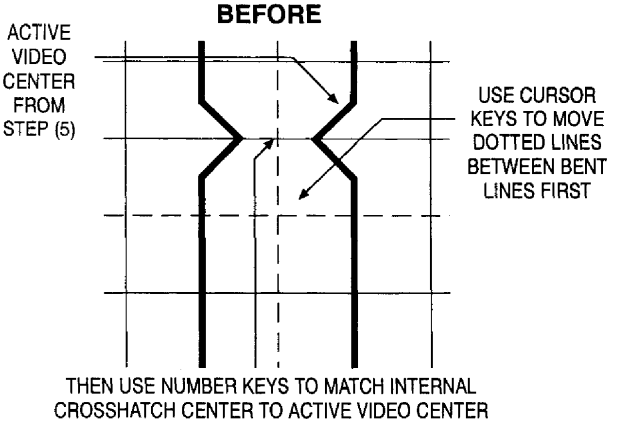
2.14.1 Phase adjustment (service mode)

Adjustment preparation

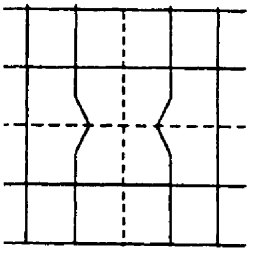
(1) PHASE adjustment - This is to match the digital convergence cursor position to the video image displayed, and to match the digital convergence cursor position (dotted lines) to digital convergence data position (bent lines).

Adjustment procedure

(1) Press the HELP button on the remote to select phase adjustment. (Only Green displayed).
(2) Identify the bent lines and use the cursor buttons to move the dotted lines in between as shown.
(3) Press HELP to exit PHASE mode.
(4) Press EXIT 5 times to display external signal.
(5) Identify center of active video, then press EXIT 5 times to return to internal cross-hatch.
(6) Press HELP (phase adj.), and use 2, 4, 5 and 6 to position internal cross-hatch center on active video center identified in step (5).
(7) Press HELP to exit PHASE mode.



AFTER



2.14.2 Raster position adjustment

Adjustment preparation

(1) Position adjustment - This will move an entire color. Use this adjustment to match colors at the center of the screen. (Active video center from external signal and physical screen center should now match from phase adj. 2.15.1.).
(2) Use the buttons below to switch color to adjust.
"RECALL" - Green
"0" - Red
"INPUT" - Blue

Adjustment procedure

(1) Press the FRZ button. Extra horizontal lines appear to confirm raster position mode.
(2) Use the cursor buttons to adjust position.
(3) Press FRZ again to exit raster position mode.

Notes: (1) Other functions cannot be accessed when in raster position adjustment mode. Press FRZ and confirm extra horizontal lines disappear to exit raster position mode.
(2) Press MENU to switch between all colors displayed or adjustment color and Green only.

2.14.3 Convergence point adjustment

Adjustment preparation

(1) Select color to adjust.
"RECALL" - Green
"0" - Red
"INPUT" - Blue

(2) Use 4, 6, 2, and 5 to move the cursor position (dotted lines).

(3) Use cursor buttons to move the convergence point.

(4) Three adjustment modes are available:
1. (3x3) Press "RECALL" 5 times
2. (7x5) Press "0" 5 times
3. (13x9) Press "INPUT" 5 times

NOTE: 3 x 3 mode can only be accessed at start of adjustment from clear data in ram adj. mode.

For touch-up, only the (13x9) mode is necessary. This will adjust every cross-hatch intersection point on the screen.

For complete adjustment, start with (3x3) mode. This will adjust center point and eight edge points only, but will greatly reduce adjustment time. Then use (7x5) mode, and finally (13x9) mode to finish convergence.

If "S" distortion appears between cross-hatch lines repeat (7x5) mode to change calculation process while adjusting to remove distortion, then return to (13x9) mode to finish touch-up convergence.

Adjustment procedure

(1) Start adjustment at the center of the screen.

(2) Continue adjustment at next closest position.

(3) Adjust center area first, ending with edge sections.

(4) When convergence is acceptable, press MOVE to write data to ROM memory. ROM WRITE? is displayed to alarm system that ROM will be overwritten with new data. Press the MOVE button again to write displayed data to ROM.

(5) DATA WRITE TO ROM will take approximately 20 seconds and no picture will be displayed.

(6) Green dots will be displayed when operation is complete.

(7) Press MUTE to return to convergence pattern, then confirm again convergence is acceptable.

Notes: (1) Display only green for easier adjustment and match to jig screen. Press "MENU", THEN PRESS "RECALL".

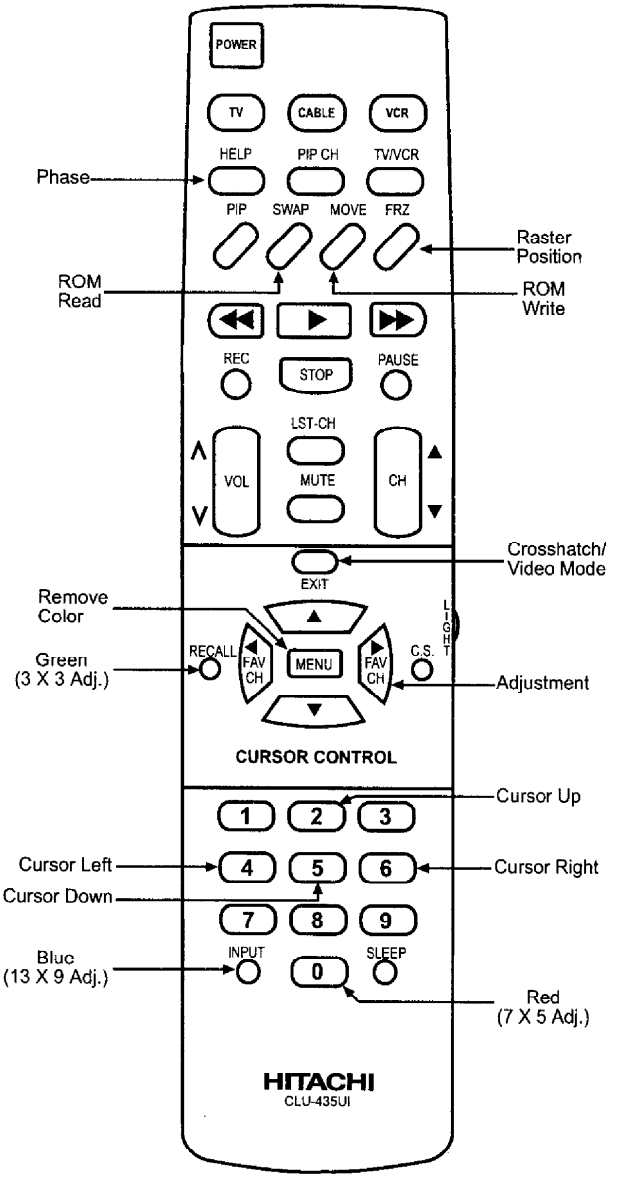
(2) Write data to ROM after green adjustment. Once green has been confirmed to match jig screen, the jig screen can be removed. Do not readjust the green color after jig screen has been removed. This is now your reference color.

(3) Display green and red only and match red to green.

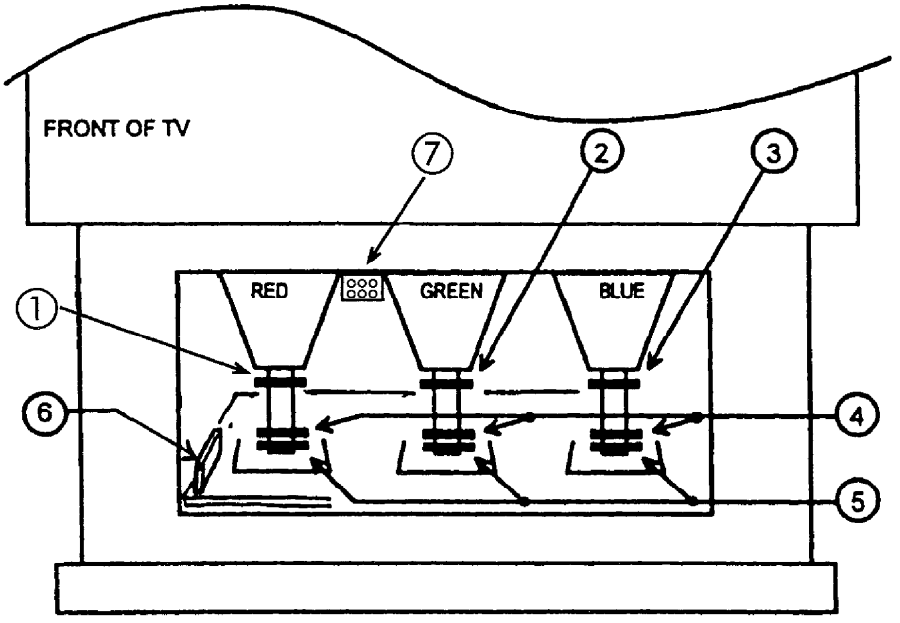
(4) Display all colors and match blue to green and red. Touch-up red color if necessary.

(5) Existing DATA in ROM can be read by pressing the SWAP button 2 times. This data can be used after replacing a component (CRT, DY, etc.) Where complete convergence adjustment is not necessary be careful not to overwrite this data.
DO NOT write cleared RAM data into ROM or a complete convergence adjustment will be necessary.

2.14.4 Digital Convergence Remote Control

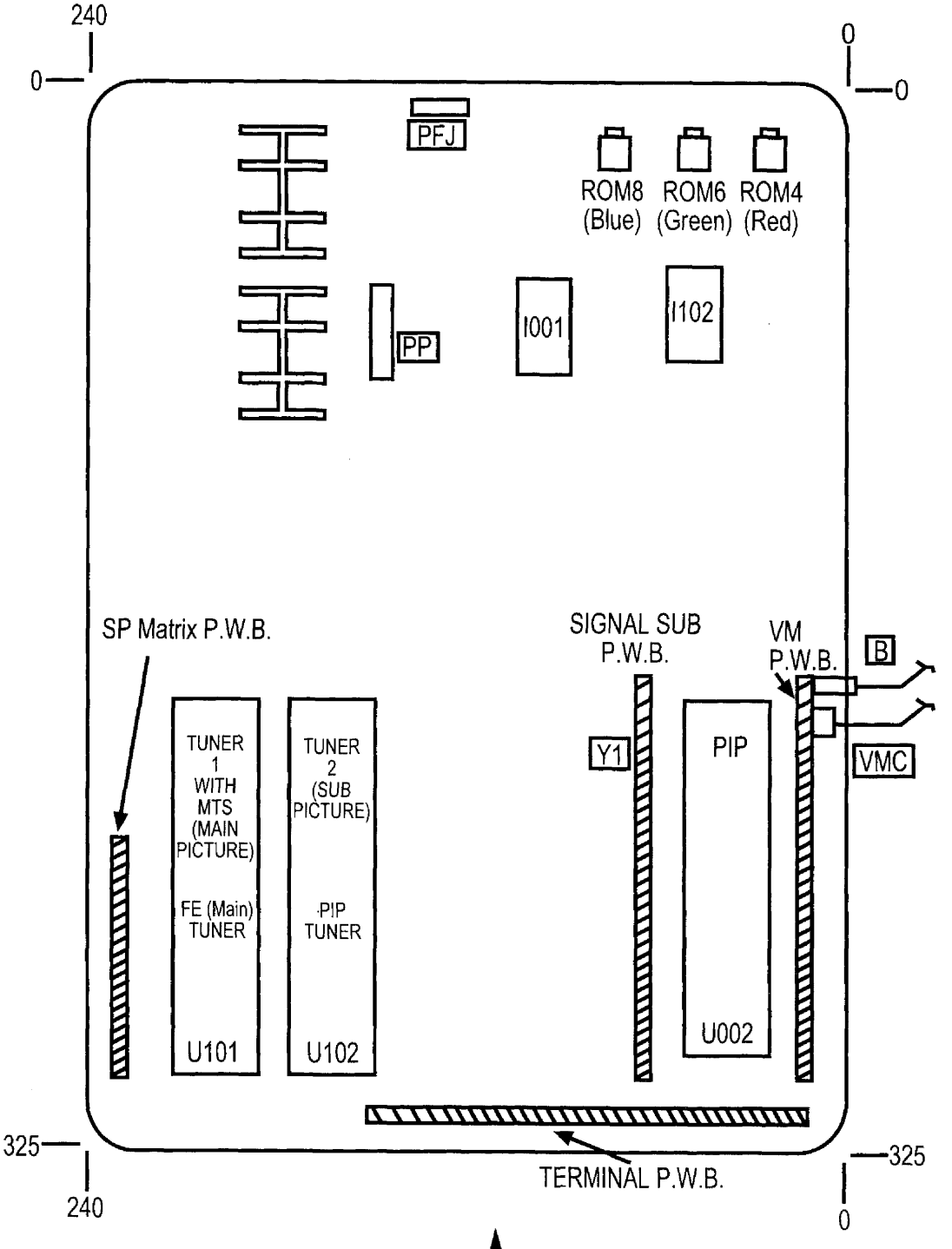


3. ADJUSTMENT POINT
3.1 CRT, cabinet locations



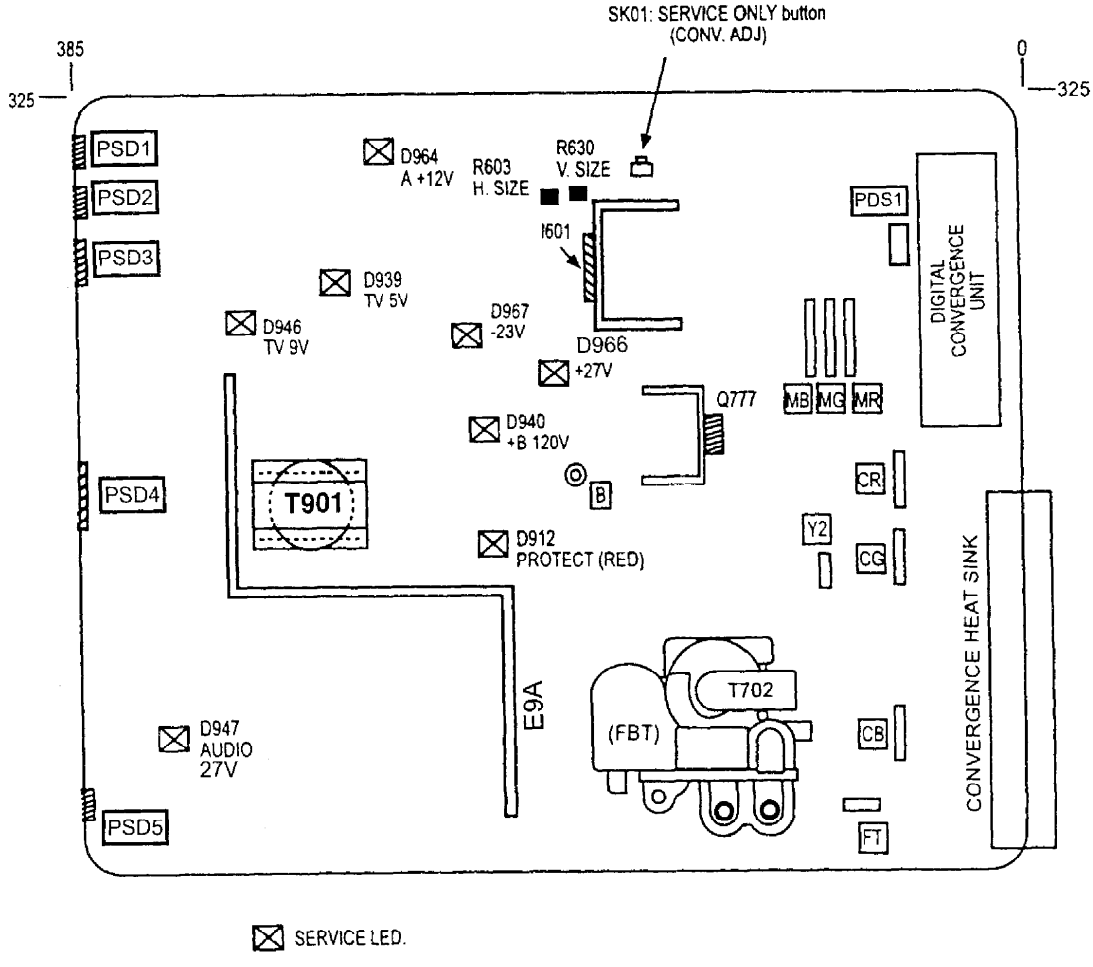
1. CENTERING MAGNET FOR RED PRT
2. CENTERING MAGNET FOR GREEN PRT
3. CENTERING MAGNET FOR BLUE PRT
4. 4-POLE MAGNET FOR BEAM FORM ADJUSTMENT
5. BEAM ALIGNMENT MAGNET
6. DIGITAL CONVERGENCE MODULE (On Power/Deflection Board)
7. FOCUS PACK (Top Adjustments for SCREEN, Bottom for FOCUS)

3.2 MAIN CHASSIS
(Signal P.W.B.)



Rear View

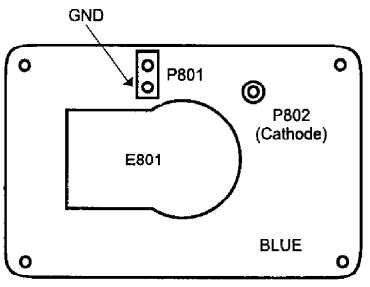
3.3 MAIN CHASSIS
(Power/Deflection P.W.B.)



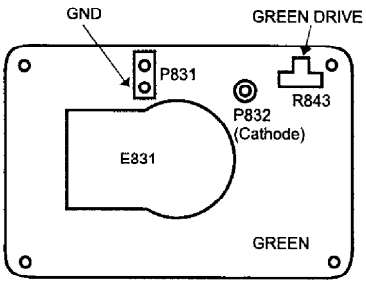
Rear View

3.3 CPT (R) (G) (B), Focus Pack, Control P.W.B.

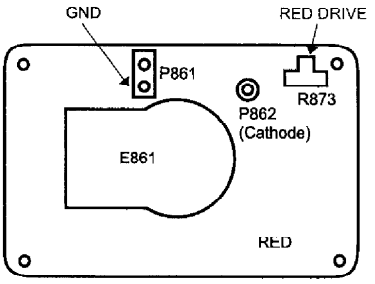
CPT (B)



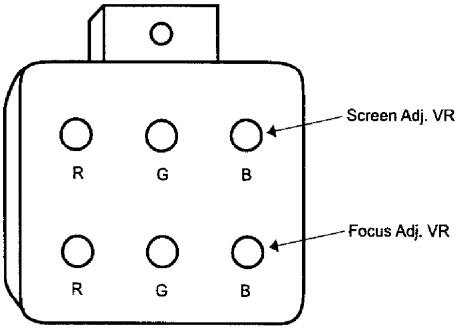
CPT (G)



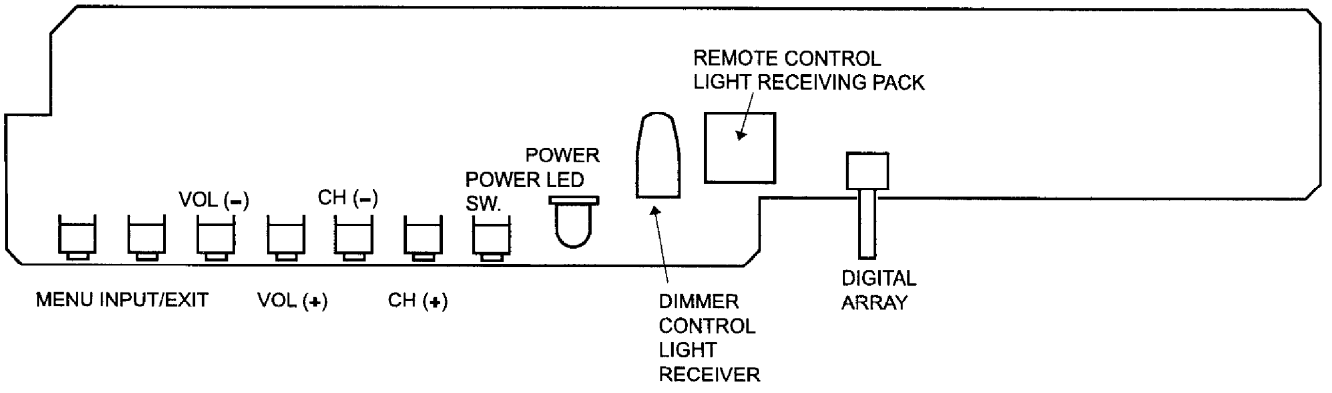
CPT (R)



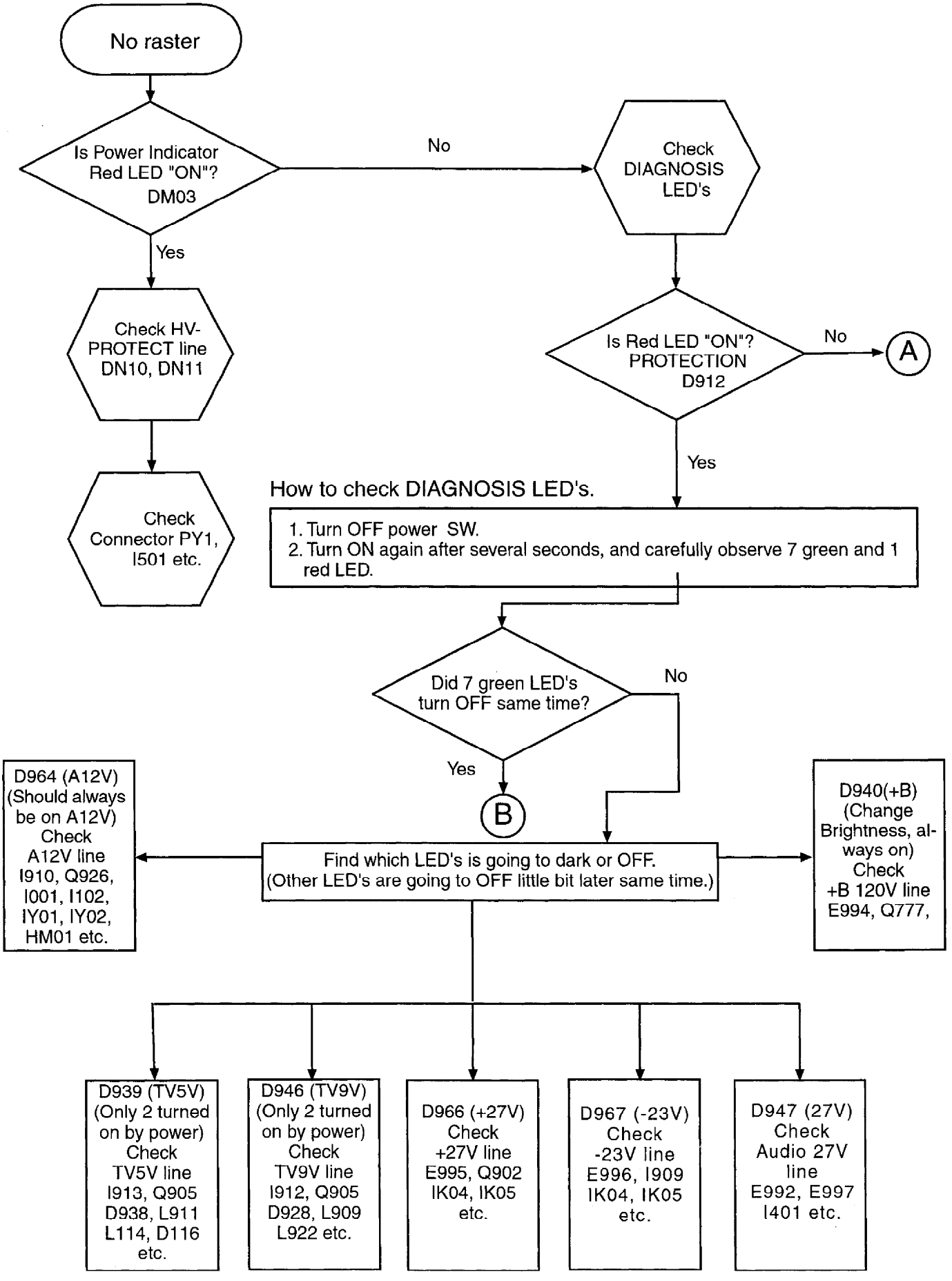
Focus Pack (UFPK)

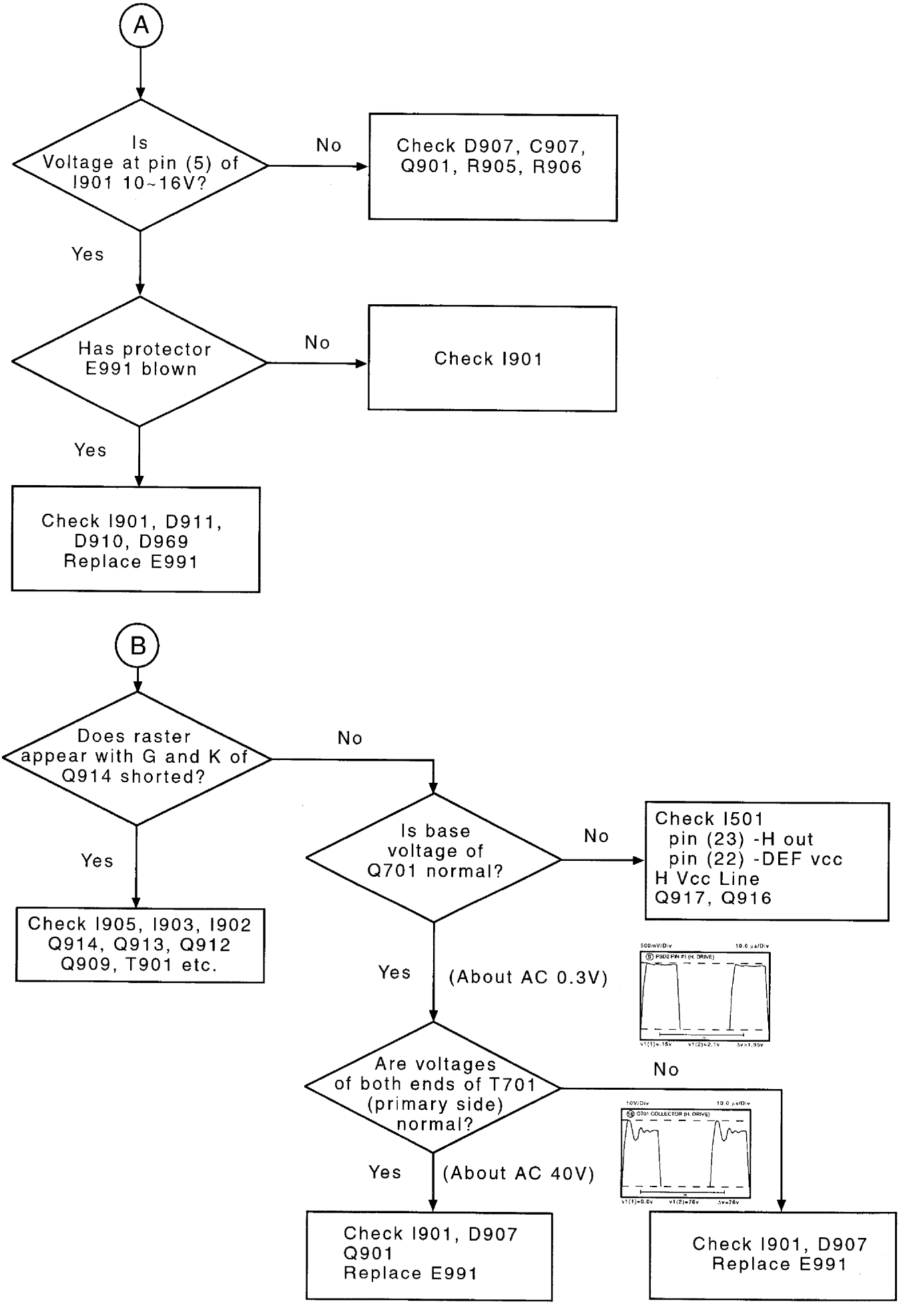


Control P.W.B.

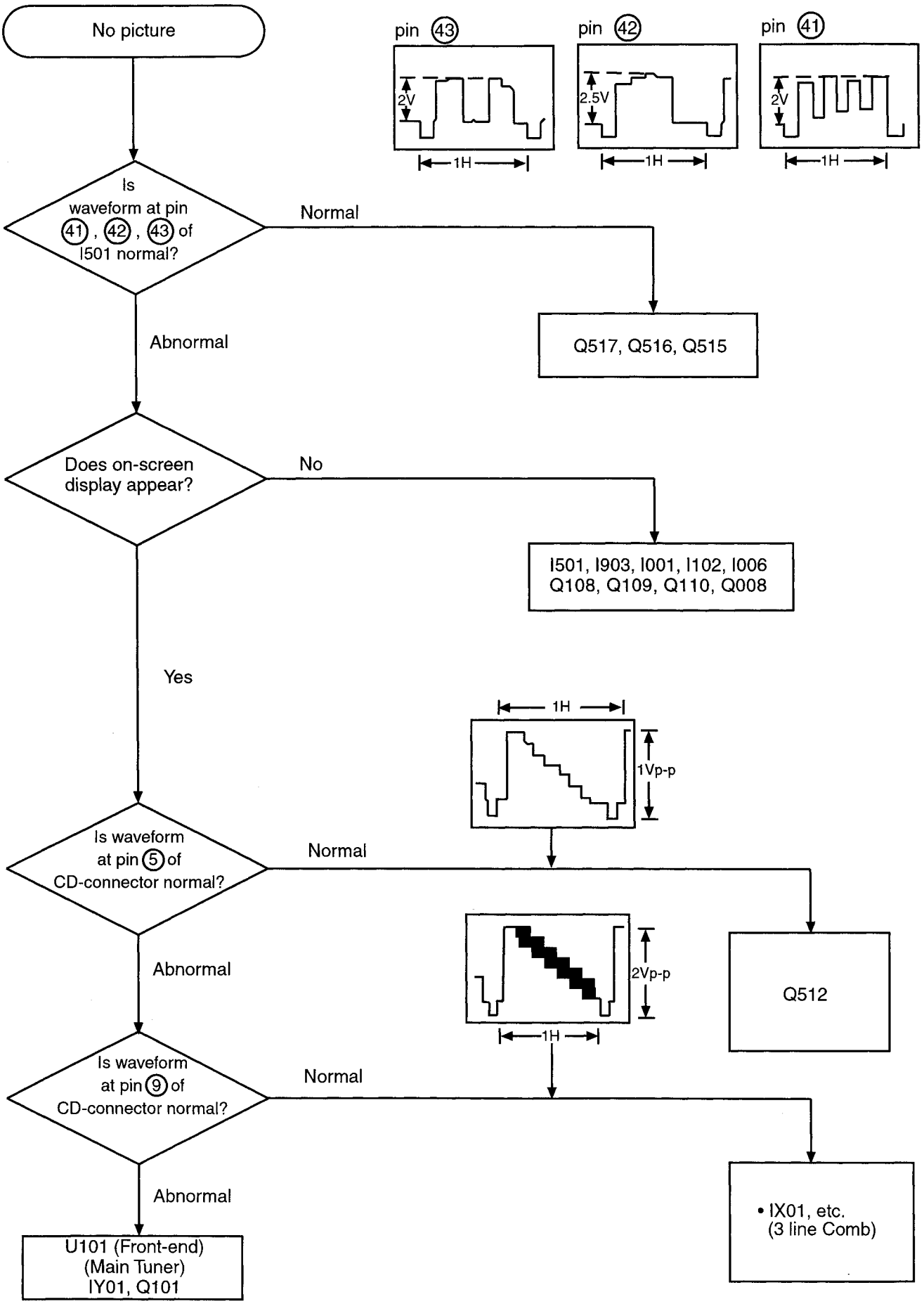


1. No Raster and No Power (REPAIR METHOD)



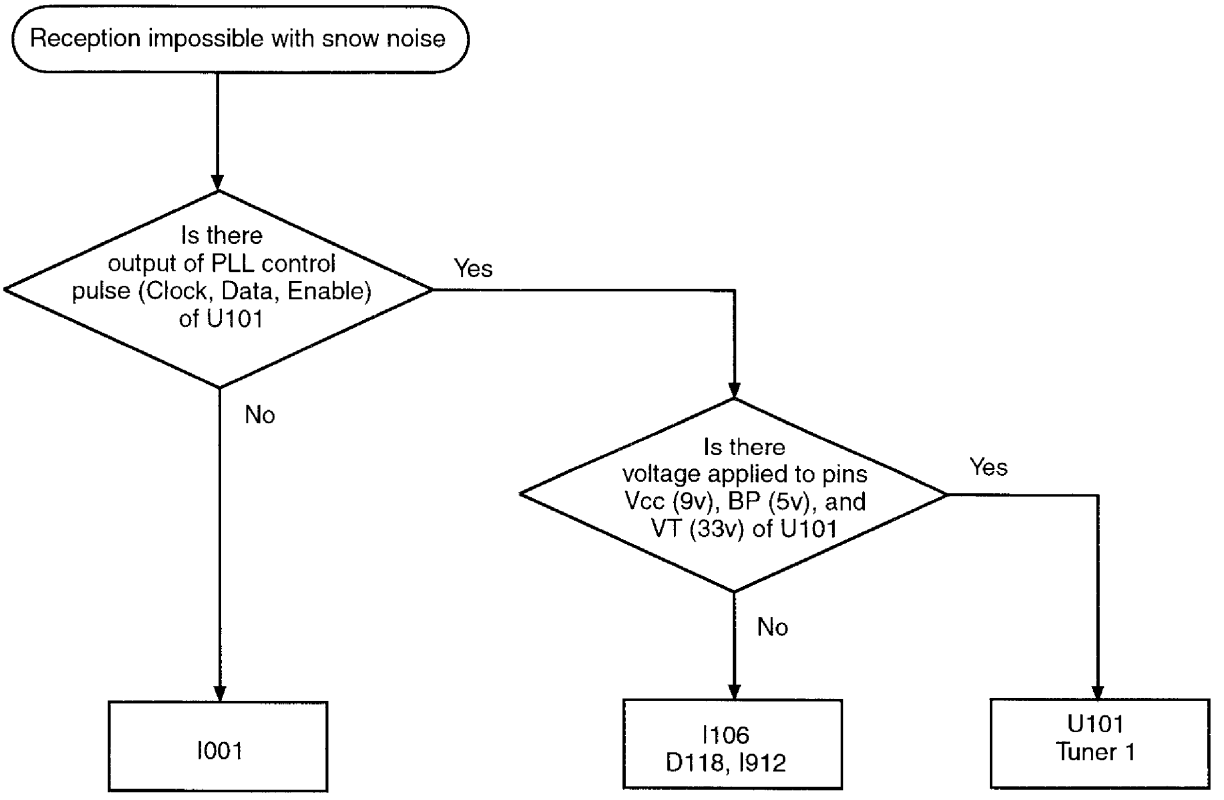

A
Is Voltage at pin (5) of I901 10~16V?
No
Check D907, C907, Q901, R905, R906
Yes
Has protector E991 blown
No
Check I901
Yes
Check I901, D911, D910, D969 Replace E991
B
Does raster appear with G and K of Q914 shorted?
No
Yes
Check I905, I903, I902 Q914, Q913, Q912 Q909, T901 etc.
Is base voltage of Q701 normal?
No
Check I501
pin (23) -H out
pin (22) -DEF vcc
H Vcc Line
Q917, Q916
Yes
(About AC 0.3V)
Are voltages of both ends of T701 (primary side) normal?
No
Yes
(About AC 40V)
Check I901, D907 Q901 Replace E991
Check I901, D907 Replace E991

2. No Picture

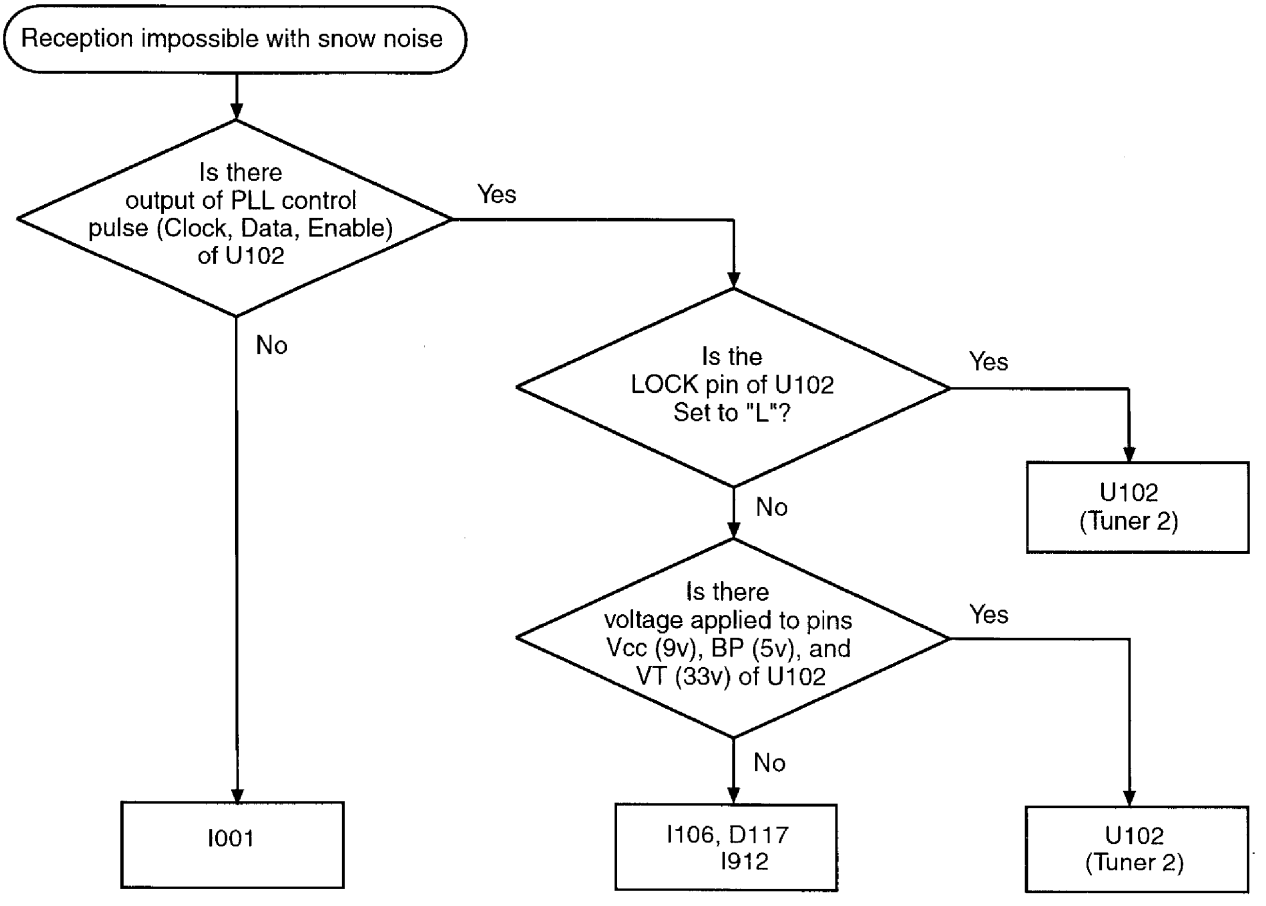

No picture
pin (43)
pin (42)
pin (41)
2V
2.5V
2V
1H
1H
1H
Is waveform at pin (41), (42), (43) of I501 normal?
Normal
Q517, Q516, Q515
Abnormal
Does on-screen display appear?
No
I501, I903, I001, I102, I006
Q108, Q109, Q110, Q008
Yes
1H
1Vp-p
Is waveform at pin (5) of CD-connector normal?
Normal
Q512
Abnormal
2Vp-p
1H
Is waveform at pin (9) of CD-connector normal?
Normal
• IX01, etc.
(3 line Comb)
Abnormal
U101 (Front-end)
(Main Tuner)
IY01, Q101

3. Reception Impossible with Snow Noise

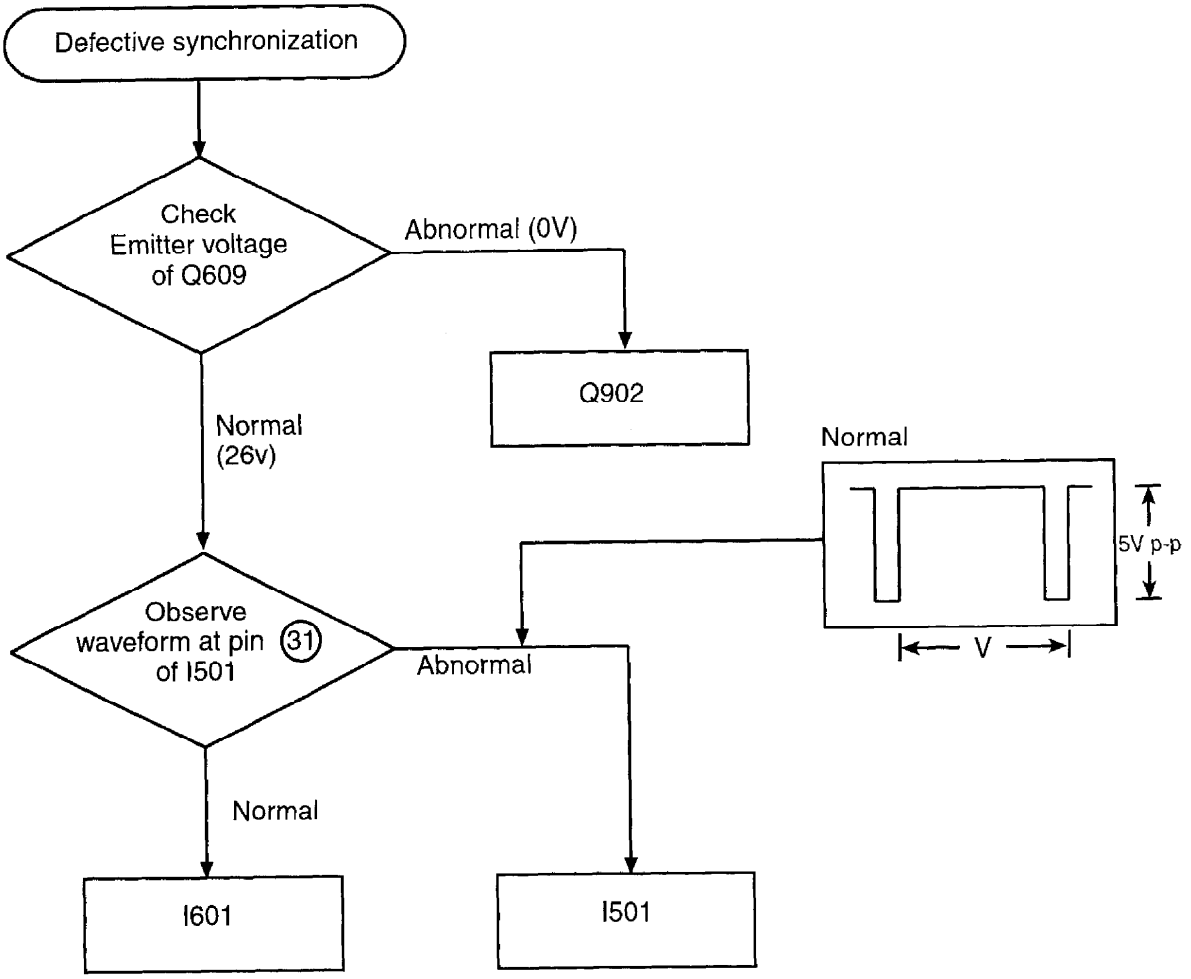
Main Picture



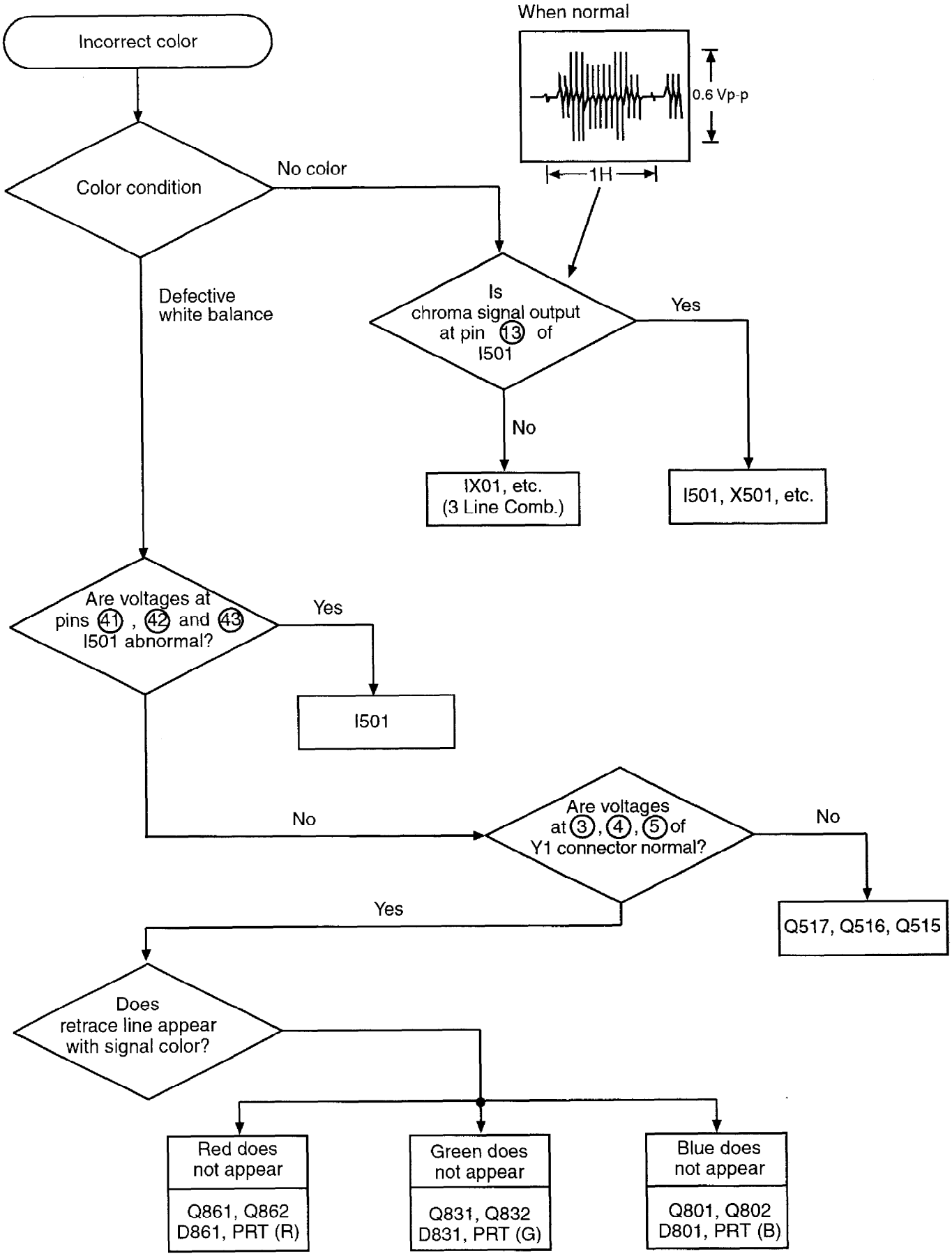
Sub Picture (PIP)



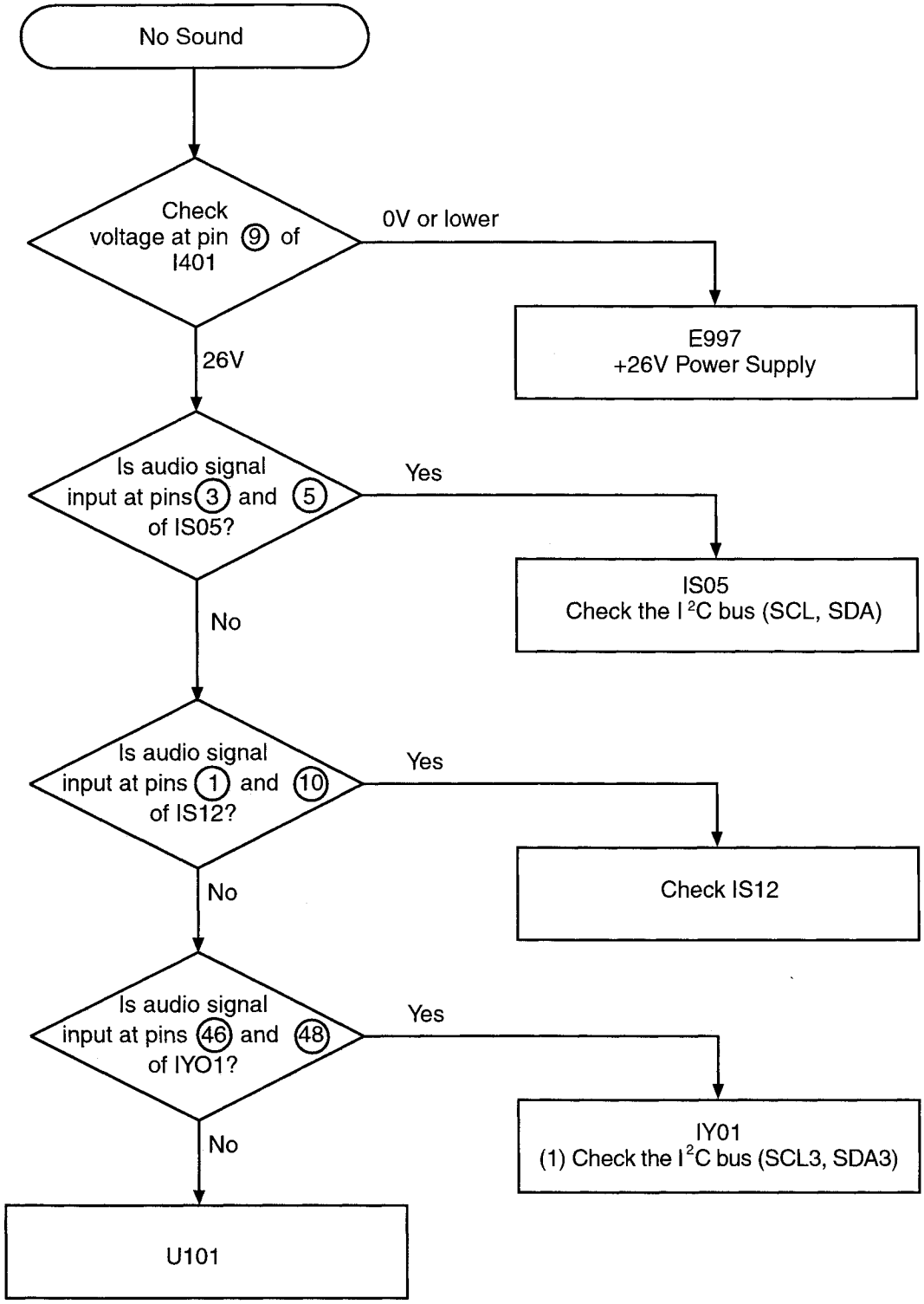
4. Defective Synchronization

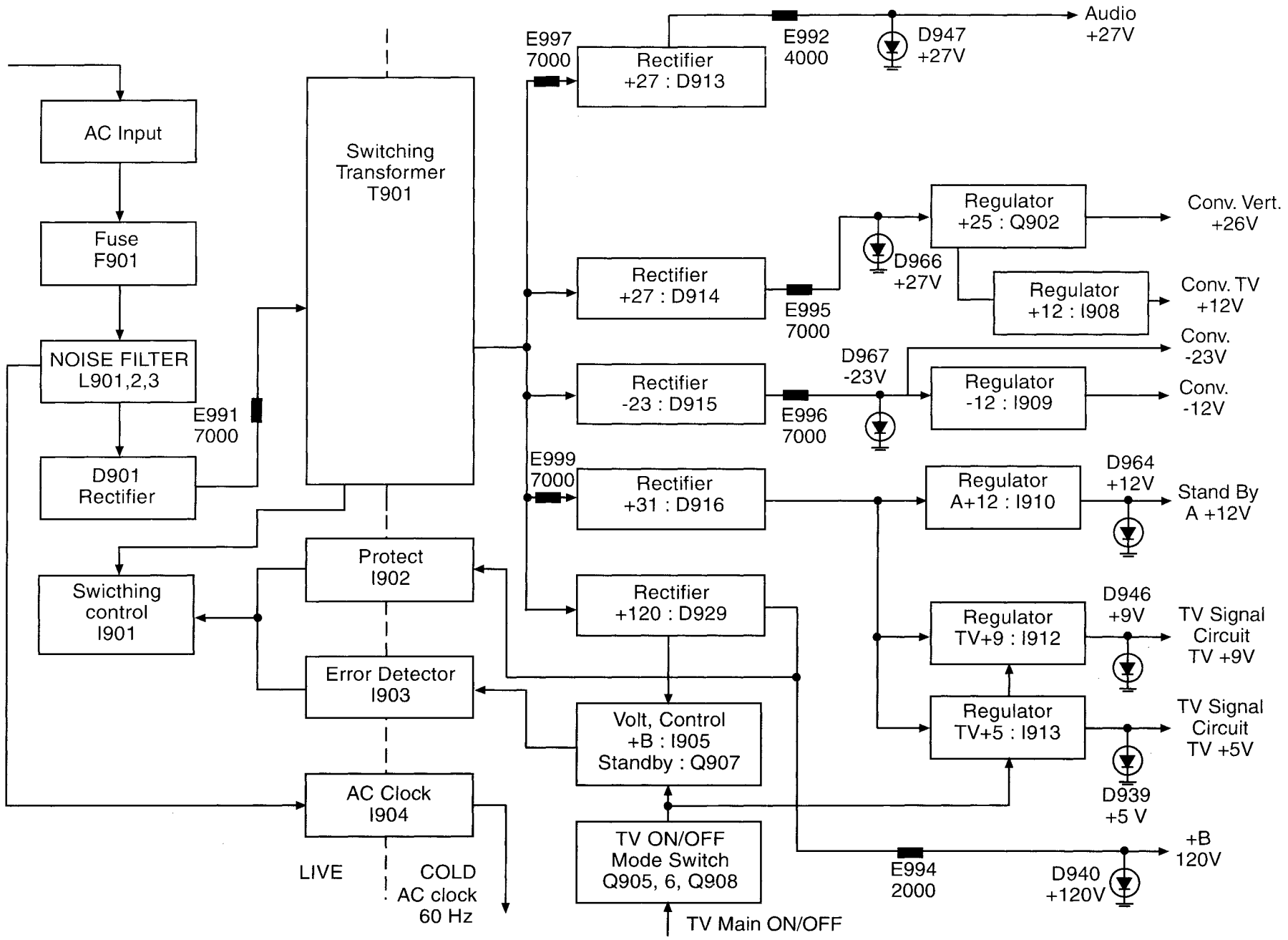


5. Incorrect Color



6. No Sound


No Sound
Check voltage at pin ⑨ of I401
0V or lower
E997 +26V Power Supply
26V
Is audio signal input at pins ③ and ⑤ of IS05?
Yes
IS05 Check the I²C bus (SCL, SDA)
No
Is audio signal input at pins ① and ⑩ of IS12?
Yes
Check IS12
No
Is audio signal input at pins ㊻ and ㊽ of IYO1?
Yes
IY01 (1) Check the I²C bus (SCL3, SDA3)
No
U101



PROTECTION CIRCUIT BLOCK DIAGRAM

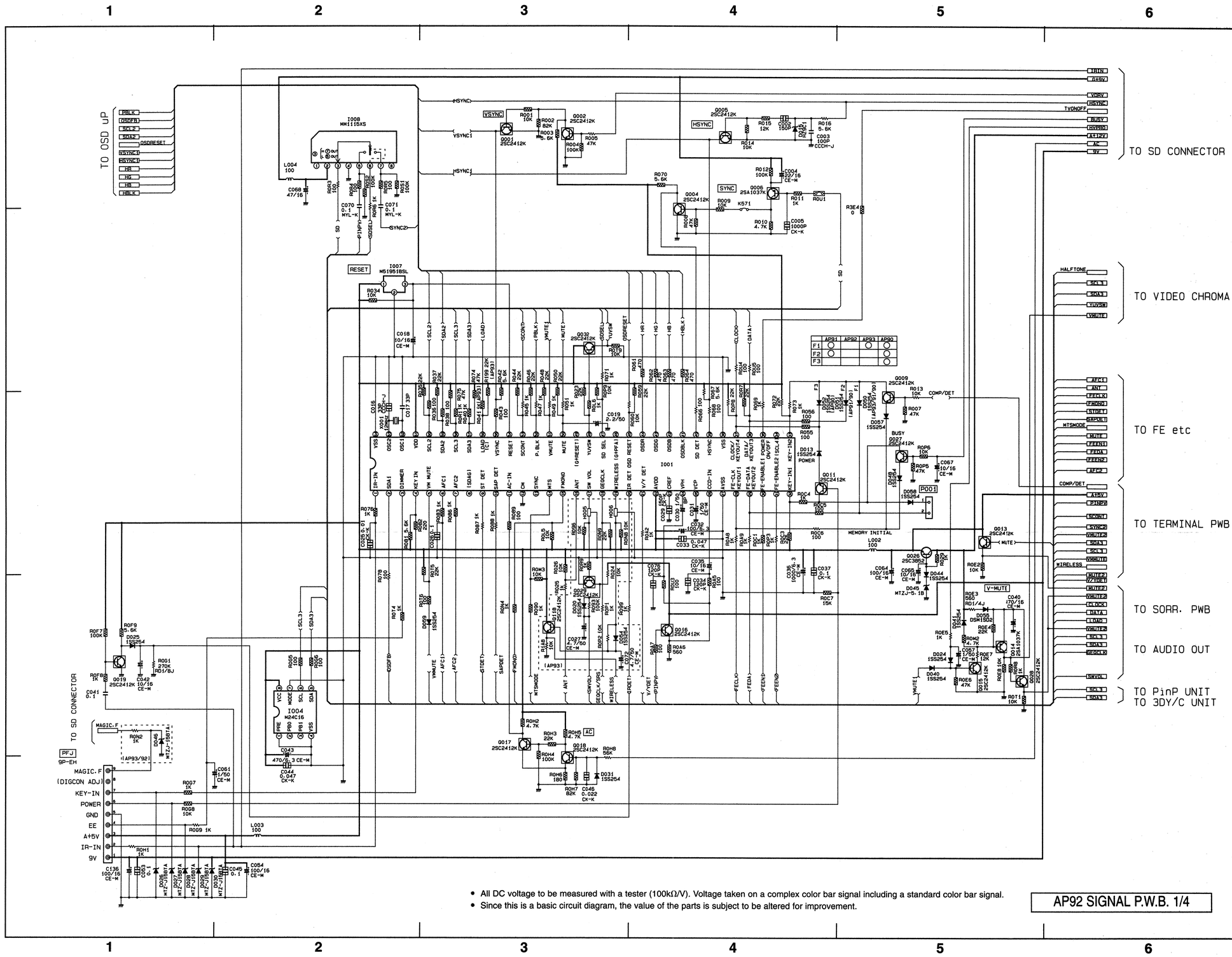
PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM

Circuit No.	Pin No.	Voltage DC
I001	1	0
	2	0
	3	3
	4	5.2
	5	0
	6	3.5
	7	1.9
	8	0
	9	0
	10	0
	11	2.4
	12	0
	13	2.4
	14	4.8
	15	4.8
	16	5.2
	17	0
	18	0
	19	0
	20	0
	21	0
	22	5.2
	23	0
	24	2.8
	25	1.2
	26	2.2
	27	0
	28	4.9
	29	4.9
	30	0.2
	31	0
	32	5.2
	33	5.1
	34	0
	35	5.1
	36	5.1
I001	37	5.1
	38	0
	39	4.6
	40	4.4
	41	0
	42	0
	43	0
	44	0
	45	0
	46	5.2
	47	3.5
	48	0
	49	0
	50	0
	51	0
	52	0
	53	2.2
	54	2.8
	55	5.0
	56	0
	57	4.9
	58	4.9
	59	5.2
	60	5.2
	61	5.2
	62	2.4
	63	2.3
	64	0
I004	1	0
	2	0
	3	0
	4	0
	5	4.9
	6	4.9
	7	0
	8	5.2

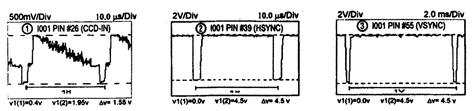
Circuit No.	Pin No.	Voltage DC
I007	1	5.2
	2	0
	3	5.2
I008	1	0
	2	9.3
	3	2.7
	4	0
	5	3.5
	6	2.9
	7	3.4
	8	0

Circuit No.	Pin Name	Voltage DC
Q001	E	0
	B	0
	C	4.9
Q002	E	0.5
	B	0
	C	0.2
Q004	E	0
	B	0.1
	C	4.7
Q005	E	0
	B	0
	C	4.5
Q006	E	2.5
	B	2.6
	C	0.4
Q009	E	0
	B	0
	C	5.3
Q011	E	0
	B	0
	C	5.1
Q013	E	0
	B	0
	C	5.2
Q014	E	11.9
	B	11.7
	C	0
Q015	E	0
	B	0
	C	1.6
Q016	E	4.6
	B	5.2
	C	9.3
Q017	E	0.2
	B	0.6
	C	2.4
Q018	E	0.2
	B	0.4
	C	2.6
Q019	E	0
	B	0.7
	C	0
Q026	E	5.2
	B	5.7
	C	11.8
Q027	E	0
	B	0
	C	5.1
Q028	E	0
	B	0
	C	11.7
Q032	E	0
	B	0
	C	5.3



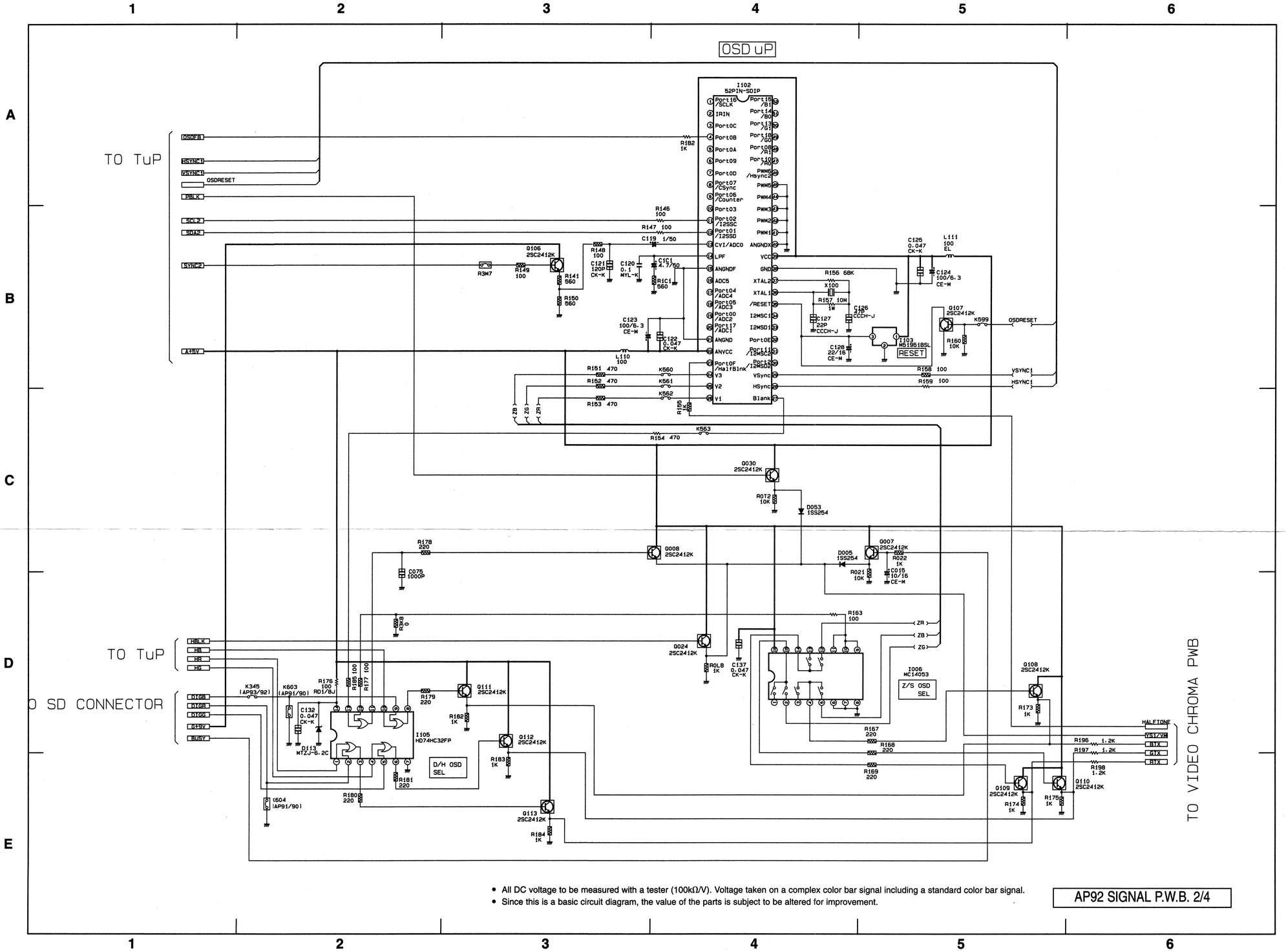
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

AP92 SIGNAL P.W.B. 1/4



BASIC CIRCUIT DIAGRAM

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.



- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

AP92 SIGNAL P.W.B. 2/4

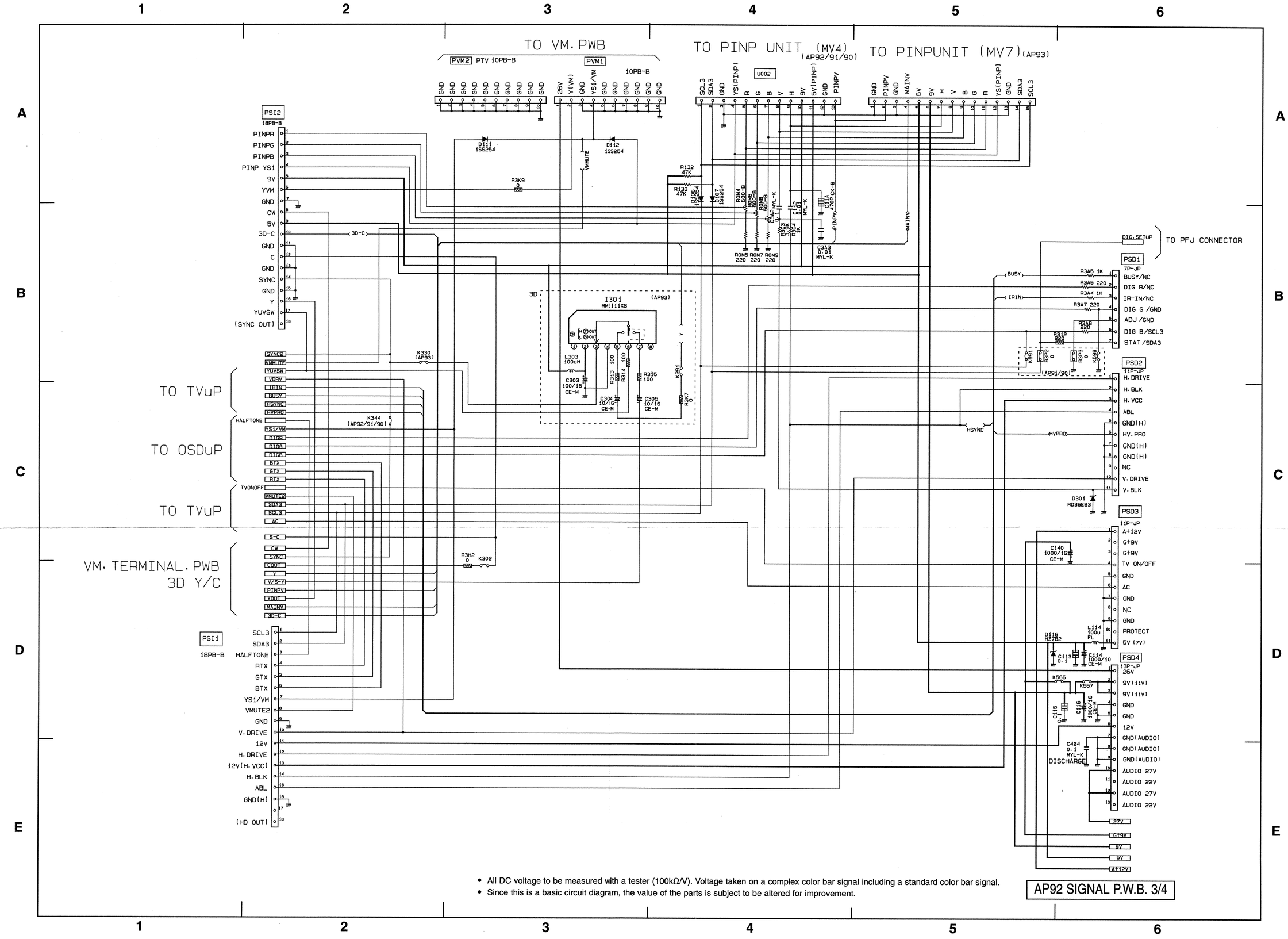
Circuit No.	Pin No.	Voltage DC
I006	1	0
	2	0
	3	0
	4	0
	5	0
	6	0
	7	0
	8	0
	9	0
	10	0
	11	0
	12	0
	13	0
	14	0
	15	0
	16	5.2
I102	1	0
	2	0
	3	0
	4	0
	5	0
	6	0
	7	0
	8	0
	9	0
	10	0
	11	5.2
	12	5.2
	13	2.2
	14	1.2
	15	0
	16	1.8
	17	0
	18	0
I102	19	0
	20	0
	21	0
	22	5.2
	23	0
	24	0
	25	0
	26	0
	27	3.2
	28	4.6
	29	5.1
	30	0
	31	0
	32	0
	33	0
	34	0
	35	5.1
	36	1.6
	37	2.2
	38	0
	39	5.1
	40	0
	41	0
	42	0
	43	0
	44	0
	45	0
	46	0
	47	0
	48	0
	49	0
	50	0
	51	0
	52	0

Circuit No.	Pin No.	Voltage DC
I103	1	5.2
	2	0
	3	5.1
I105	1	0
	2	0
	3	0
	4	0
	5	0
	6	0
	7	0
	8	0
	9	0
	10	0
	11	0
	12	0
	13	0
	14	5.2

Circuit No.	Pin Name	Voltage DC
Q007	E	0
	B	0
	C	5.2
Q008	E	0
	B	0
	C	5.2
Q024	E	0
	B	0
	C	5.2
Q030	E	0
	B	0
	C	5.2
Q106	E	4.6
	B	5.2
	C	9.3
Q107	E	0
	B	0
	C	5.1
Q108	E	0
	B	0
	C	5.2
Q110	E	0
	B	0
	C	5.2
Q111	E	0
	B	0
	C	5.2
Q112	E	0
	B	0
	C	5.2
Q113	E	0
	B	0
	C	5.2

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM



- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

AP92 SIGNAL P.W.B. 3/4

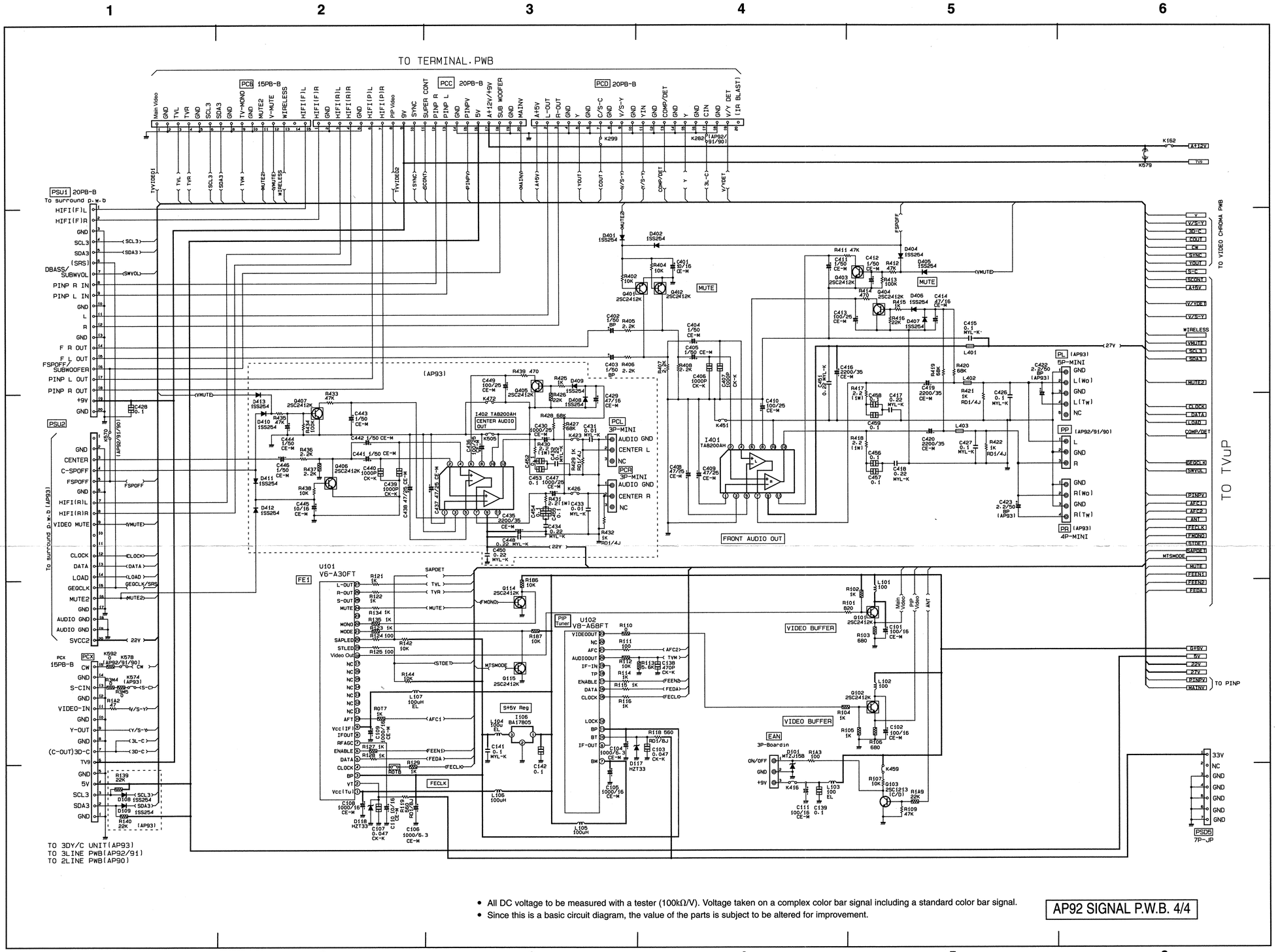
SIGNAL 3/4
SIGNAL 4/4

BASIC CIRCUIT DIAGRAM

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

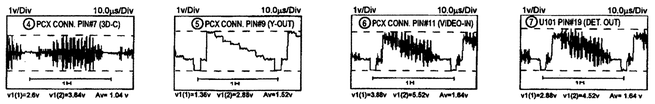
Circuit No.	Pin No.	Voltage DC
I106	1	9.3
	2	0
	3	5.1
Circuit No.	Pin No.	Voltage DC
I401	1	1.5
	2	0
	3	0
	4	0
	5	1.5
	6	9.3
	7	12.9
	8	5.2
	9	27.5
	10	0
	11	4.4
	12	12.5

Circuit No.	Pin Name	Voltage DC
Q101	E	6.4
	B	7.1
	C	9.2
Q102	E	1.7
	B	2.3
	C	9.2
Q103	E	0
	B	0.6
	C	0
Q114	E	0
	B	0.7
	C	0
Q115	E	0
	B	0.7
	C	0
Circuit No.	Pin Name	Voltage DC
Q401	E	0
	B	0
	C	0
Q402	E	0
	B	0
	C	0
Q403	E	0
	B	0
	C	4.3



- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

AP92 SIGNAL P.W.B. 4/4

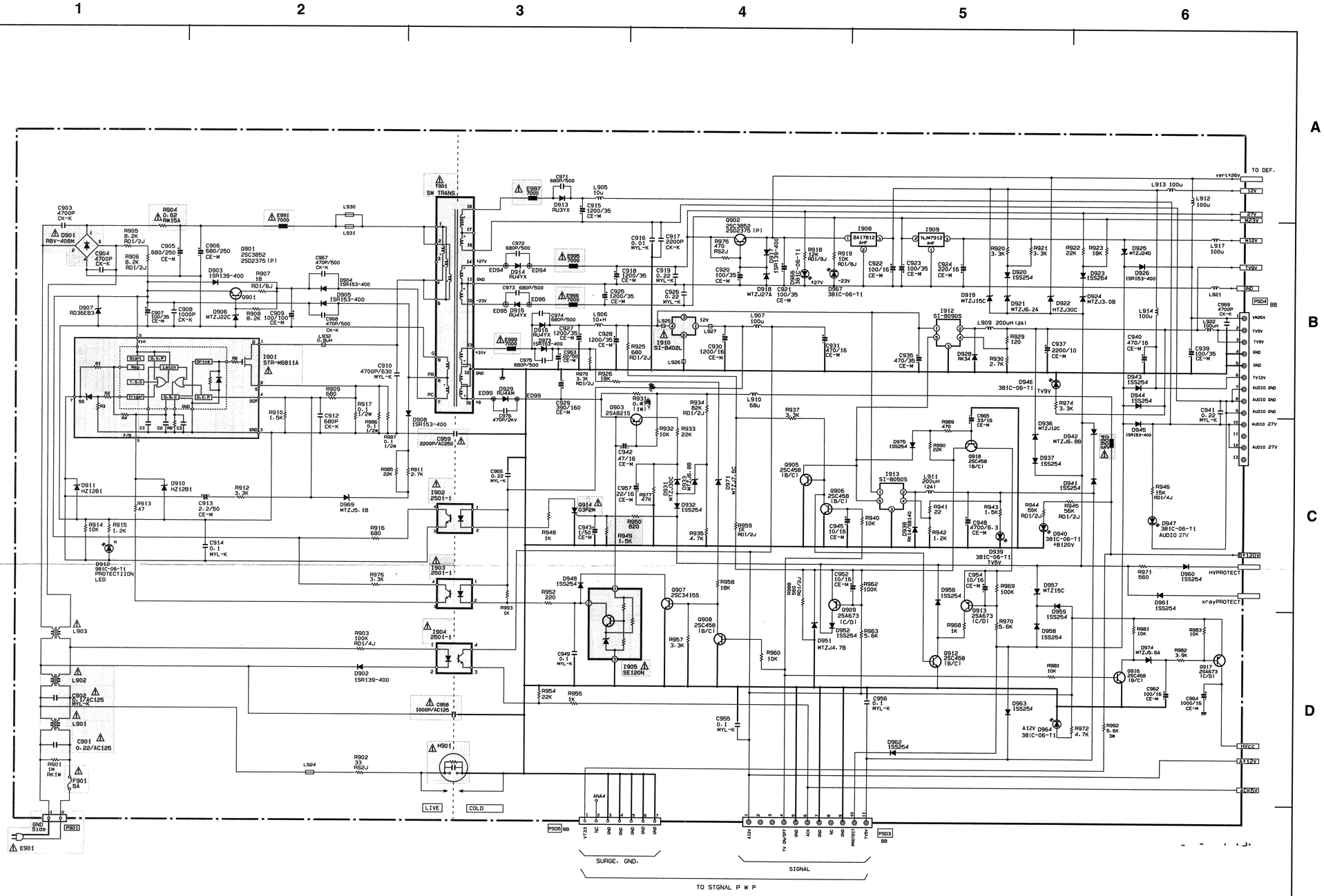


PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM

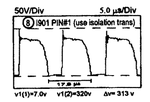
Circuit No.	Pin No.	Voltage DC
I901	1	155.4
	2	0
	3	0
	4	1.6
	5	24.2
	6	0.2
	7	2.0
I902	1	12.0
	2	11.3
	3	1.9
	4	24.2
I903	1	12.0
	2	11.0
	3	0
	4	23.4
I904	1	8.0
	2	8.4
	3	4.6
	4	11.8
I905	1	119.0
	2	10.9
	3	0
I908	1	25.1
	2	0
	3	25.2
I909	1	0
	2	-22.7
	3	-12.2
I910	1	12.0
	2	0
	3	12.2
	4	31.2
I912	1	31.2
	2	9.7
	3	0
	4	9.1
	5	2.5
I913	1	31.2
	2	5.2
	3	0
	4	5.1
	5	2.5

Circuit No.	Pin Name	Voltage DC
Q901	E	24.2
	B	22.0
	C	51.5
Q902	E	25.1
	B	25.7
	C	27.5
Q903	E	119.1
	B	118.5
	C	0.9
Q905	E	0
	B	0
	C	2.5
Q906	E	0
	B	0.7
	C	0
Q907	E	0
	B	0
	C	10.8
Q908	E	0
	B	0.7
	C	0
Q909	E	4.6
	B	10.5
	C	0
Q912	E	0
	B	0
	C	0
Q913	E	2.6
	B	2.6
	C	0
	G	0
Q914	A	11.3
	K	0
Q916	E	0
	B	0.7
	C	0
Q917	E	11.9
	B	11.1
	C	11.8
Q918	E	2.6
	B	3.0
	C	4.6



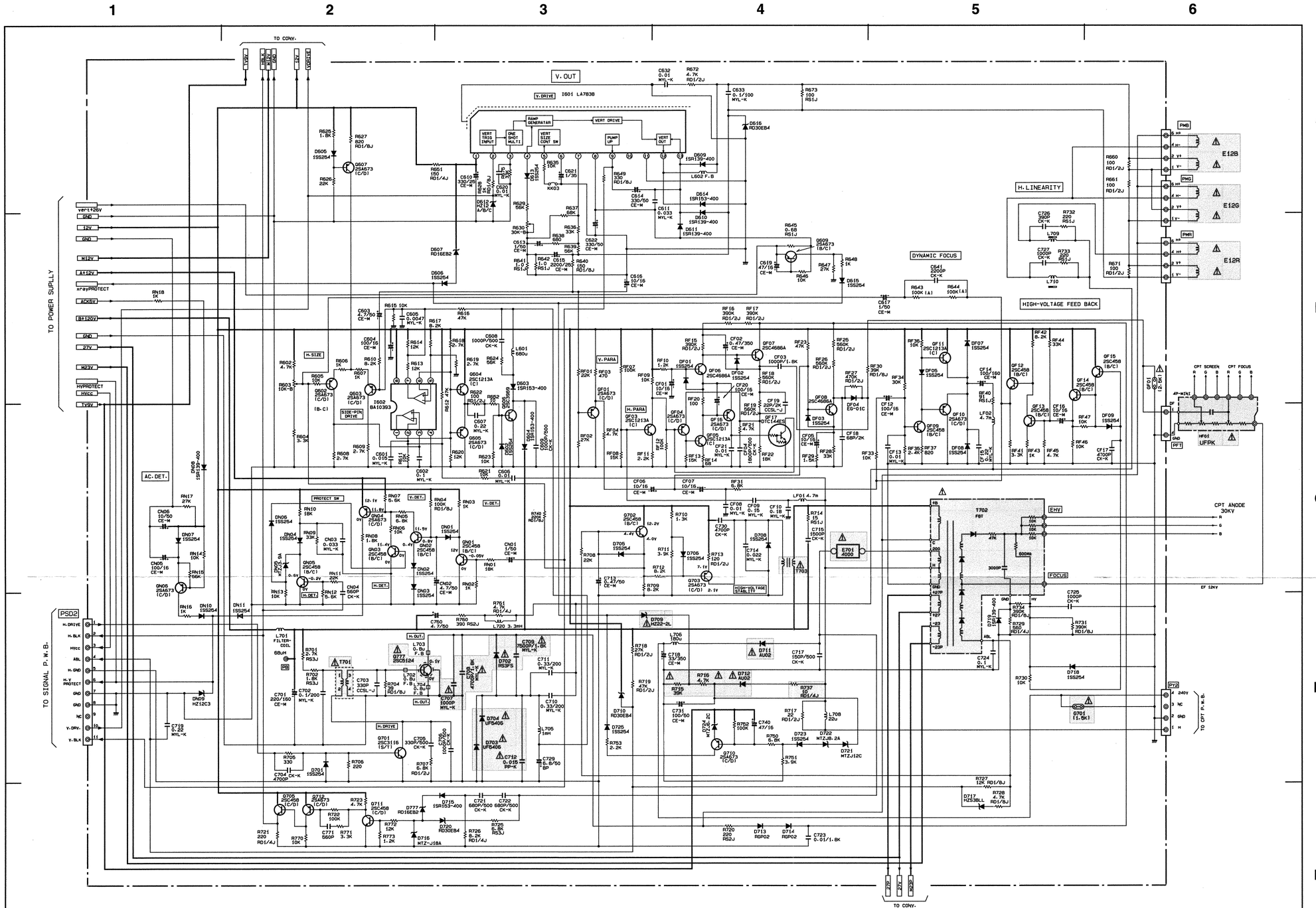
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

AP92 POWER SUPPLY P.W.B.



BASIC CIRCUIT DIAGRAM

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.



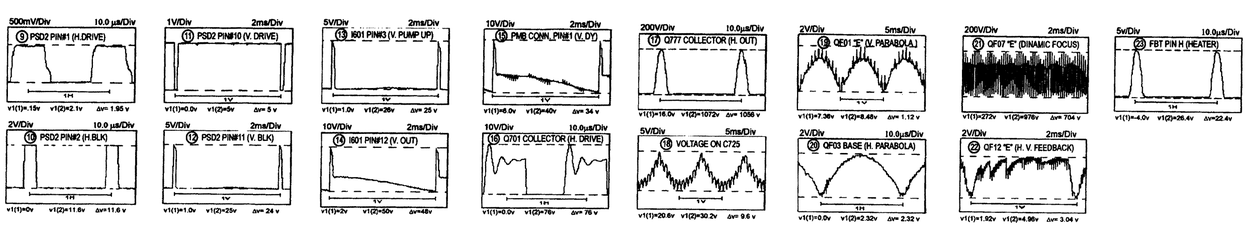
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

AP92 DEFLECTION P.W.B.

Circuit No.	Pin No.	Voltage DC
I601	1	11.3
	2	4.8
	3	5.4
	4	5.6
	5	0
	6	5.1
	7	5.5
	8	25.0
	9	1.6
	10	1.3
	11	0
	12	12.8
	13	24.7
I602	1	4.8
	2	2.1
	3	2.2
	4	0
	5	2.9
	6	4.8
	7	2.4
	8	11.7

Circuit No.	Pin Name	Voltage DC
Q602	E	5.4
	B	4.8
	C	2.1
Q603	E	5.9
	B	5.3
	C	0.5
Q604	E	4.6
	B	4.8
	C	11.7
Q605	E	4.6
	B	4.8
	C	0
Q606	E	0
	B	0
	C	48.7
Q607	E	11.2
	B	10.3
	C	6.1
Q609	E	25.1
	B	24.8
	C	0
Q701	E	0
	B	0.4
	C	27.8
Q702	E	3.4
	B	3.1
	C	11.7
Q703	E	9.2
	B	8.6
	C	1.7
Q705	E	1.8
	B	2.0
	C	12.0
Q710	E	4.7
	B	5.0
	C	0
Q711	E	0
	B	0.0
	C	10.0

Circuit No.	Pin Name	Voltage DC
Q712	E	12.0
	B	17.0
	C	2.0
Q777	E	0
	B	0
	C	119.0
QF01	E	8.1
	B	7.5
	C	0
QF03	E	0.9
	B	1.5
	C	6.9
QF04	E	7.3
	B	6.9
	C	0.7
QF05	E	0.1
	B	0.7
	C	11.4
QF06	E	11.1
	B	12.1
	C	432.1
QF07	E	552.2
	B	448.5
	C	1096
QF08	E	11.1
	B	11.4
	C	638.5
QF09	E	0.2
	B	0.9
	C	7.9
QF10	E	8.2
	B	7.9
	C	0
QF11	E	8.2
	B	8.4
	C	11.7
QF12	E	4.2
	B	4.8
	C	11.7
QF13	E	0.8
	B	1.4
	C	4.8
QF14	E	8.8
	B	9.4
	C	11.7
QF15	E	9.4
	B	9.7
	C	11.7
QF16	E	11.6
	B	11.4
	C	0
QF17	E	0
	B	0
	C	6.9
QN01	E	0
	B	0
	C	11.8
QN02	E	0.5
	B	0.9
	C	11.8
QN03	E	0
	B	0.4
	C	11.8
QN04	E	11.8
	B	11.8
	C	0
QN05	E	0
	B	0
	C	0.6
QN06	E	9.1
	B	9.1
	C	0



PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM

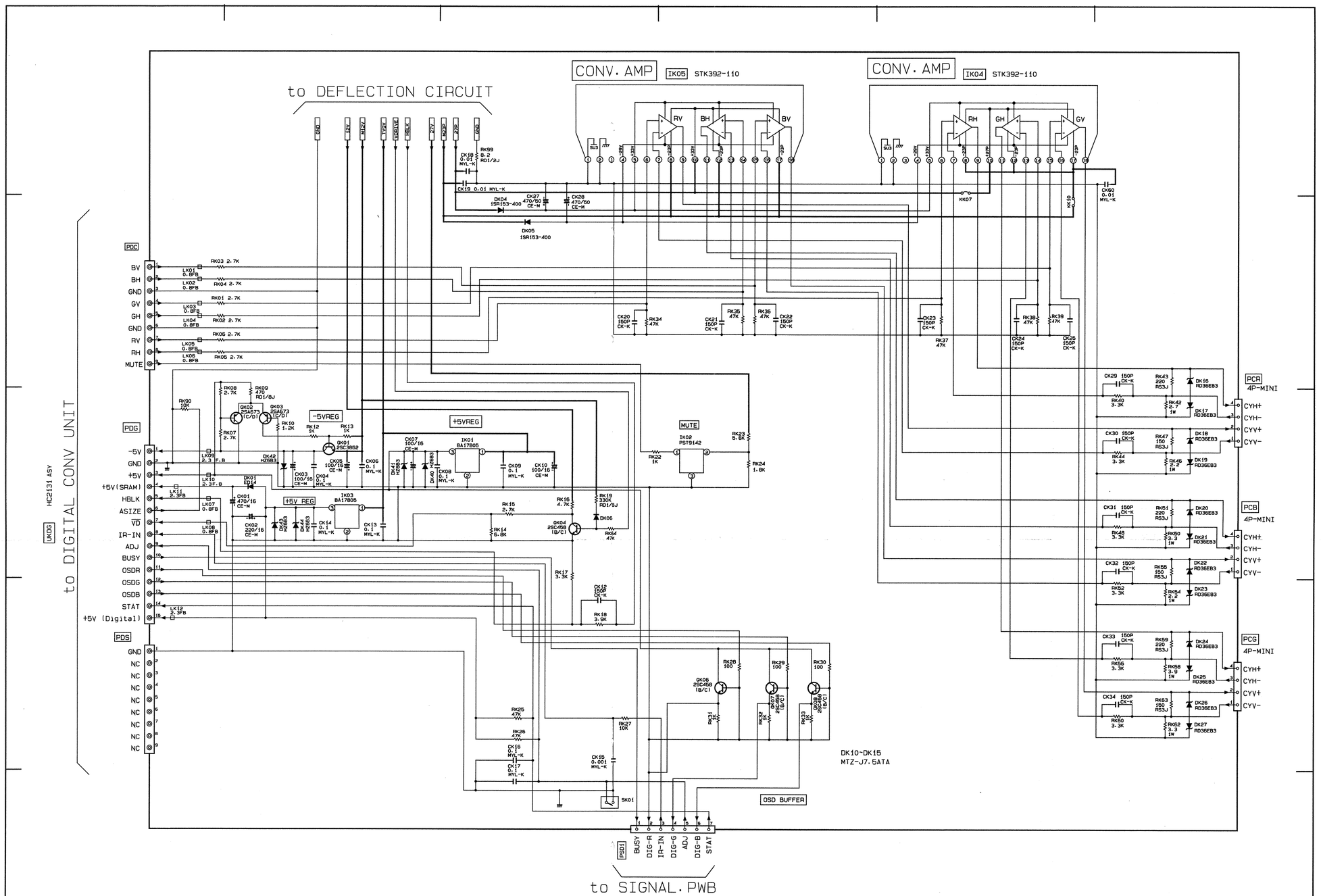
CONVERGENCE TERMINAL

Circuit No.	Pin No.	Voltage DC
IK01	1	9.5
	2	0
	3	5.0
IK02	1	4.6
	2	6.8
	3	0
IK03	1	9.5
	2	0
	3	5.0

Circuit No.	Pin No.	Voltage DC
IK04	1	0
	2	0
	3	-29.5
	4	-30.6
	5	35.2
	6	0
	7	0
	8	-22.4
	9	0
	10	27.4
	11	0
	12	-22.9
	13	0
	14	0
	15	0
	16	0
	17	-22.5
	18	0

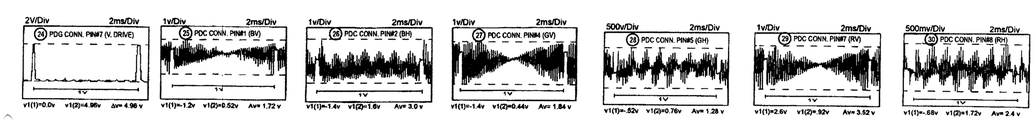
Circuit No.	Pin No.	Voltage DC
IK05	1	0
	2	0
	3	-29.5
	4	-30.7
	5	35.2
	6	0
	7	-0.8
	8	-22.47
	9	-0.5
	10	27.4
	11	-0.6
	12	-22.5
	13	-0.5
	14	-0.5
	15	-0.3
	16	-0.3
	17	-22.5
	18	-0.2

Circuit No.	Pin Name	Voltage DC
QK01	E	-12.1
	B	-11.6
	C	-5.3
QK02	E	0.6
	B	-0.1
	C	0
QK03	E	0.6
	B	0
	C	-10.9
QK04	E	0
	B	0.6
	C	0.3
QK06	E	0
	B	0
	C	5.0
QK07	E	0
	B	0
	C	5.0
QK08	E	0
	B	0
	C	5.0



- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

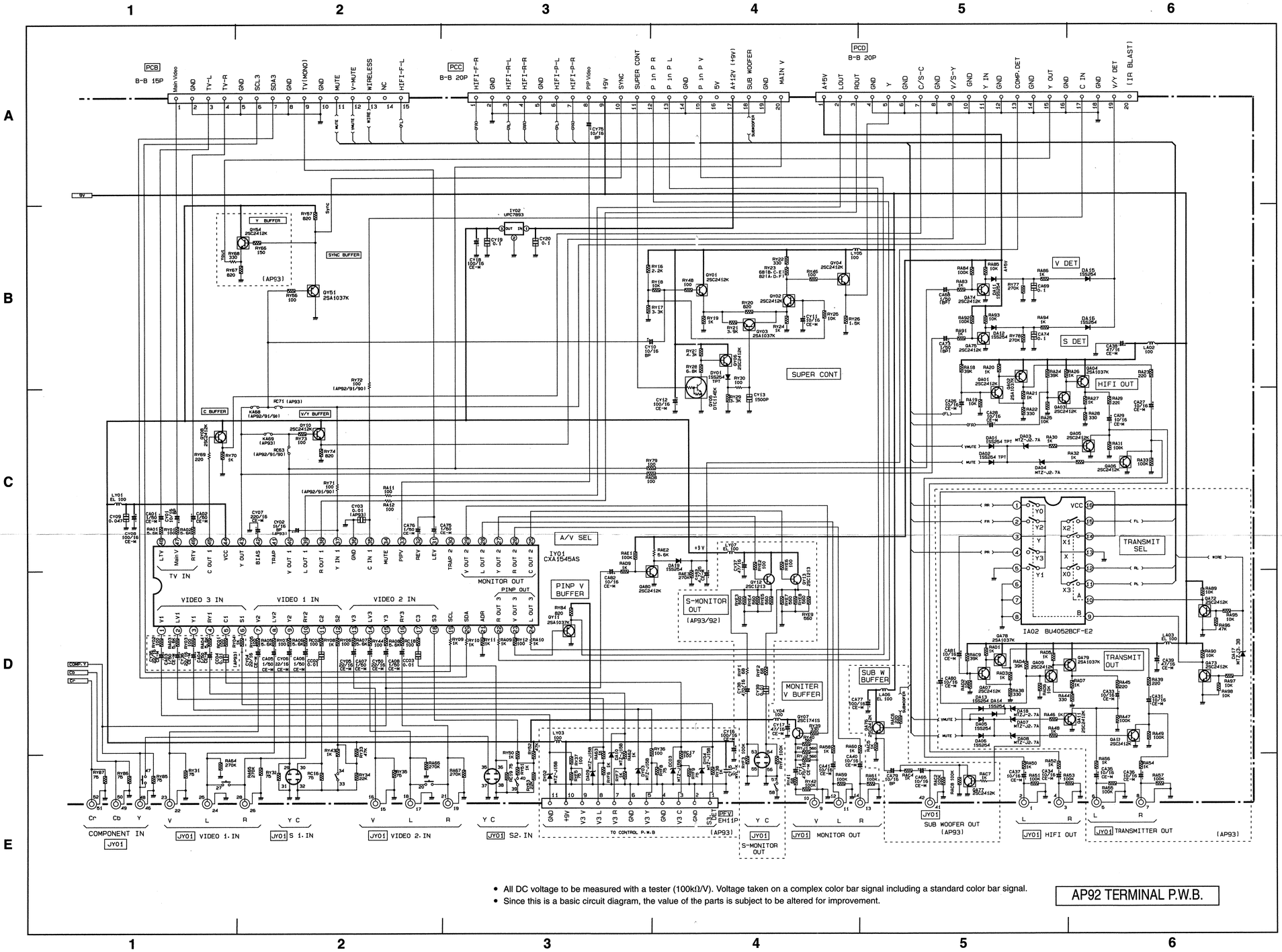
AP92 CONVERGENCE P.W.B.



CONVERGENCE TERMINAL

BASIC CIRCUIT DIAGRAM

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.



- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

AP92 TERMINAL P.W.B.

Circuit No.	Pin No.	Voltage DC
IY01	1	4.7
	2	4.7
	3	4.7
	4	4.7
	5	4.7
	6	0.5
	7	4.7
	8	4.7
	9	4.7
	10	4.7
	11	4.7
	12	2.3
	13	4.7
	14	4.7
	15	4.7
	16	4.7
	17	4.7
	18	2.3
	19	4.9
	20	4.9
	21	4.7
	22	4.7
	23	4.6
	24	4.7
	25	4.7
	26	4.7
	27	4.7
	28	4.7
	29	4.7
	30	4.7
	31	4.7
	32	4.7
	33	4.7
	34	0
	35	4.7
	36	0
	37	4.7
	38	4.7
	39	4.7
	40	4.7
	41	4.7
	42	4.7
	43	4.6
	44	9.1
	45	4.6
	46	4.7
	47	4.7
	48	4.7

Circuit No.	Pin Name	Voltage DC
QA01	E	1.2
	B	1.8
	C	8.6
QA02	E	9.3
	B	8.6
	C	4.3
QA03	E	1.2
	B	1.8
	C	0
QA04	E	9.3
	B	8.6
	C	4.2
QA05	E	0
	B	0
	C	0
QA06	E	0
	B	0
	C	0
QA74	E	0
	B	0
	C	3.3
QA75	E	0
	B	0.6
	C	0
QA80	E	0
	B	0.5
	C	0
QY01	E	4.5
	B	5.1
	C	9.2
QY02	E	4.5
	B	5.1
	C	7.5
QY03	E	4.5
	B	4.5
	C	4.5
QY04	E	6.8
	B	7.5
	C	9.3
QY05	E	0
	B	2.1
	C	0
QY06	E	5.1
	B	5.7
	C	9.3
QY07	E	3.9
	B	4.6
	C	9.1
QY08	E	3.9
	B	4.6
	C	9.2
QY10	E	3.9
	B	4.6
	C	9.2
QY11	E	5.3
	B	4.7
	C	0
QY51	E	3.2
	B	2.6
	C	0

Circuit No.	Pin Name	Voltage DC
QY57	E	2.5
	B	3.1
	C	9.4
QY58	E	2.8
	B	3.4
	C	8.7
QY59	E	9.4
	B	8.7
	C	9.4
QY60	E	
	B	3.4
	C	9.4
QY61	E	2.8
	B	3.4
	C	8.7
QY62	E	9.4
	B	8.7
	C	3.9
QY63	E	
	B	
	C	9.

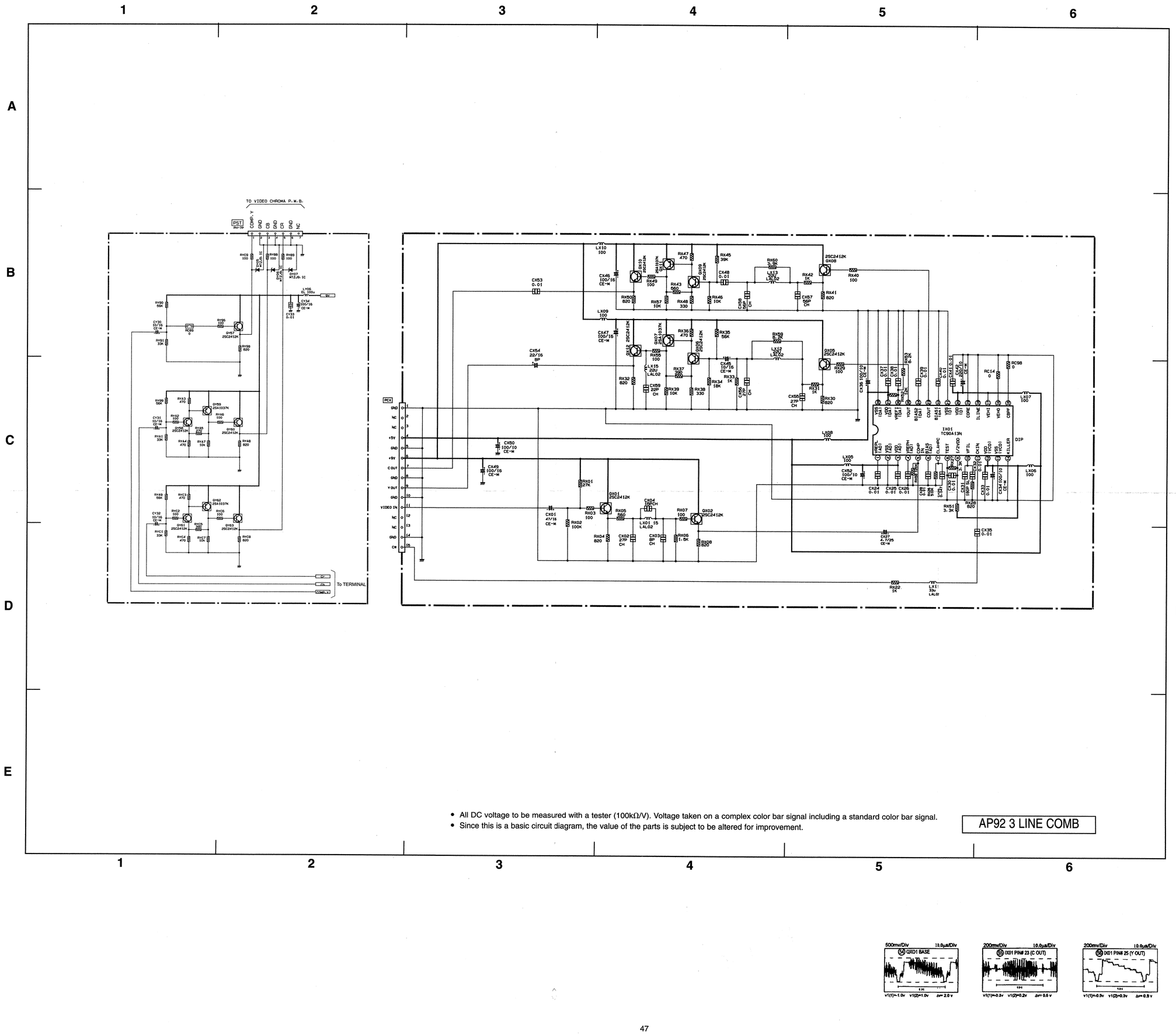
Circuit No.	Pin Name	Voltage DC
QM01	E	0
	B	0.7
	C	0.1
QM02	E	1.4
	B	-
	C	9.3

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM

Circuit No.	Pin Name	Voltage DC
QX01	E	5.5
	B	6.2
	C	9.4
QX02	E	3.3
	B	4.1
	C	9.4
QX05	E	3.7
	B	4.4
	C	9.3
QX06	E	1.5
	B	2.2
	C	8.6
QX07	E	9.3
	B	8.6
	C	5.9
QX08	E	3.6
	B	4.3
	C	9.3
QX09	E	1.2
	B	1.8
	C	8.7
QX10	E	4.8
	B	5.5
	C	9.3
QX11	E	9.3
	B	8.7
	C	5.5
QX12	E	5.2
	B	5.9
	C	9.3

Circuit No.	Pin No.	Voltage DC
IX01	21	0
	22	3.5
	23	4.3
	24	0
	25	4.4
	26	3.6
	27	4.9
	28	0
IX01	1	1.5
	2	0
	3	4.9
	4	3.4
	5	2.6
	6	1.3
	7	3.3
	8	0
	9	2.5
	10	0
	11	0
	12	5.1
	13	0
	14	0
	15	0
	16	0
	17	4.9
	18	0
	19	0
	20	4.9

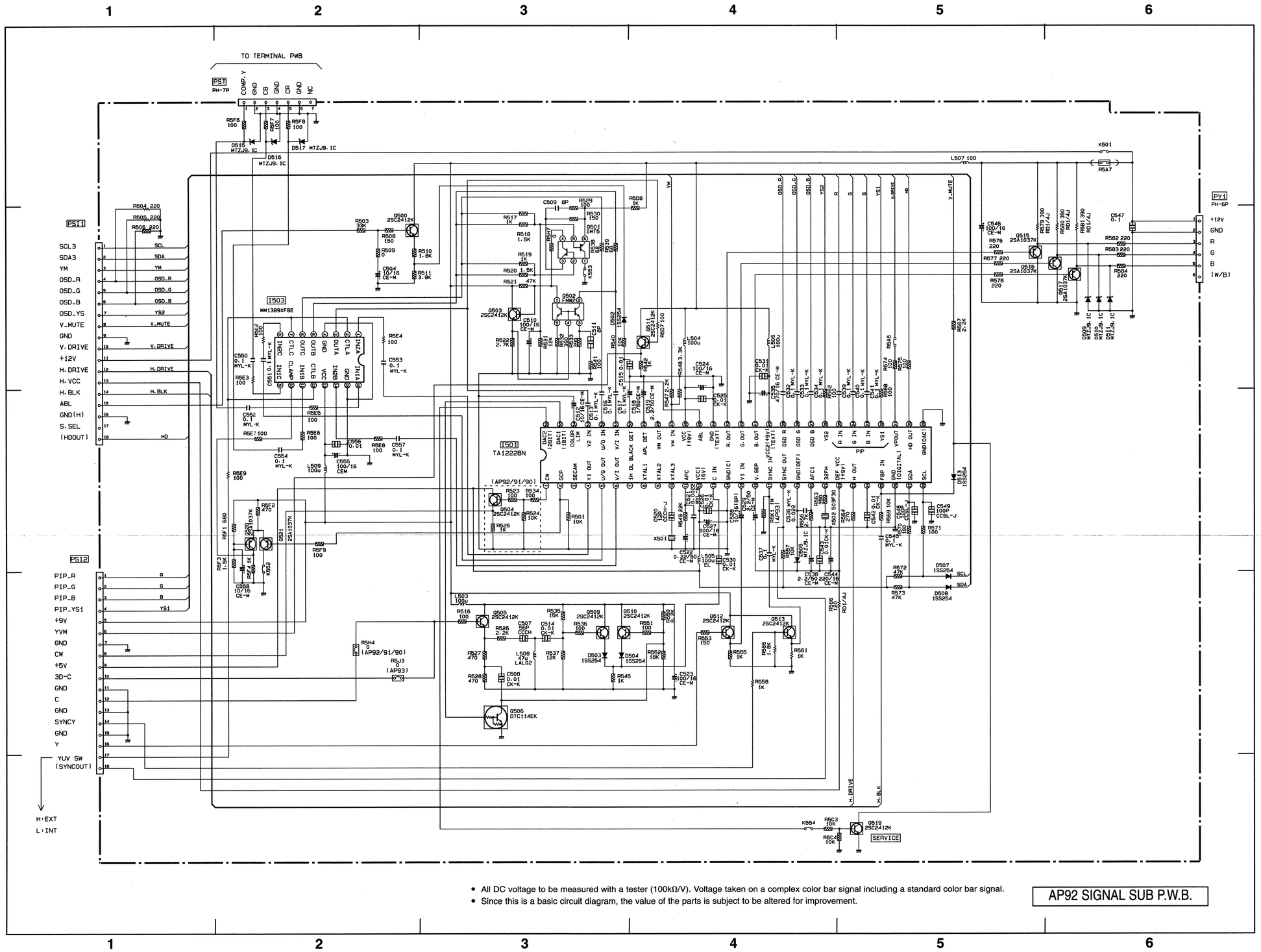


- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

AP92 3 LINE COMB

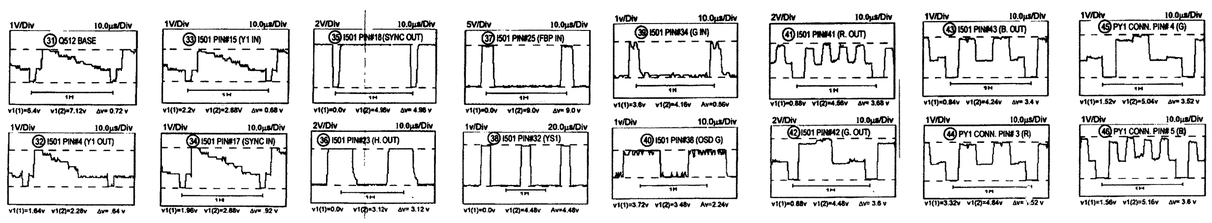
BASIC CIRCUIT DIAGRAM

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.



- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

AP92 SIGNAL SUB P.W.B.



Circuit No.	Pin No.	Voltage DC
I501	1	3.0
	2	1.2
	3	4.1
	4	2.3
	5	2.6
	6	2.6
	7	0
	8	4.2
	9	4.2
	10	4.2
	11	2.1
	12	5.2
	13	0
	14	0
	15	2.8
	16	6.3
	17	0.5
	18	4.5
	19	0
	20	7.6
	21	6.2
	22	9.1
	23	1.5
	24	4.5
	25	1.4
	26	0
	27	4.9
	28	4.9
	29	0
	30	0
	31	4.7
	32	0
	33	3.5
	34	3.5
	35	3.5
	36	0
	37	3.5
	38	3.5
I503	1	4.2
	2	0
	3	3.5
	4	0
	5	3.2
	6	3.2
	7	0
	8	3.9
	9	3.9
	10	0
	11	3.9
	12	0
	13	9.4
	14	3.9
	15	0
	16	3.9
I501	39	3.5
	40	9.1
	41	3.2
	42	2.8
	43	2.8
	44	0
	45	5.7
	46	9.1
	47	0
	48	3.7
	49	5.8
	50	5.3
	51	5.1
	52	5.1
	53	6.8
	54	6.7
	55	3.1
	56	3.1

Circuit No.	Pin Name	Voltage DC
Q500	E	8.1
	B	8.5
	C	9.3
Q501	1	0
	2	3.1
	3	3.5
	4	1.3
	5	3.1
	6	3.5
Q502	1	1.2
	2	2.1
	3	0
	4	0.7
	5	0
Q503	E	0.5
	B	1.3
	C	9.5
Q505	E	3.2
	B	4.1
	C	9.5
Q506	E	0
	B	3.1
	C	0
Q509	E	3.4
	B	4.1
	C	9.4
Q510	E	0
	B	0
	C	9.3
Q511	E	2.9
	B	3.5
	C	9.4
Q512	E	6.1
	B	6.8
	C	9.3
Q513	E	2.7
	B	3.4
	C	9.3
Q515	E	3.4
	B	2.8
	C	0
Q516	E	3.4
	B	3.1
	C	0
Q517	E	3.8
	B	3.2
	C	0
Q519	E	0
	B	0.3
	C	0
Q520	E	2.1
	B	6.4
	C	0
Q521	E	1.9
	B	1.3
	C	0

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

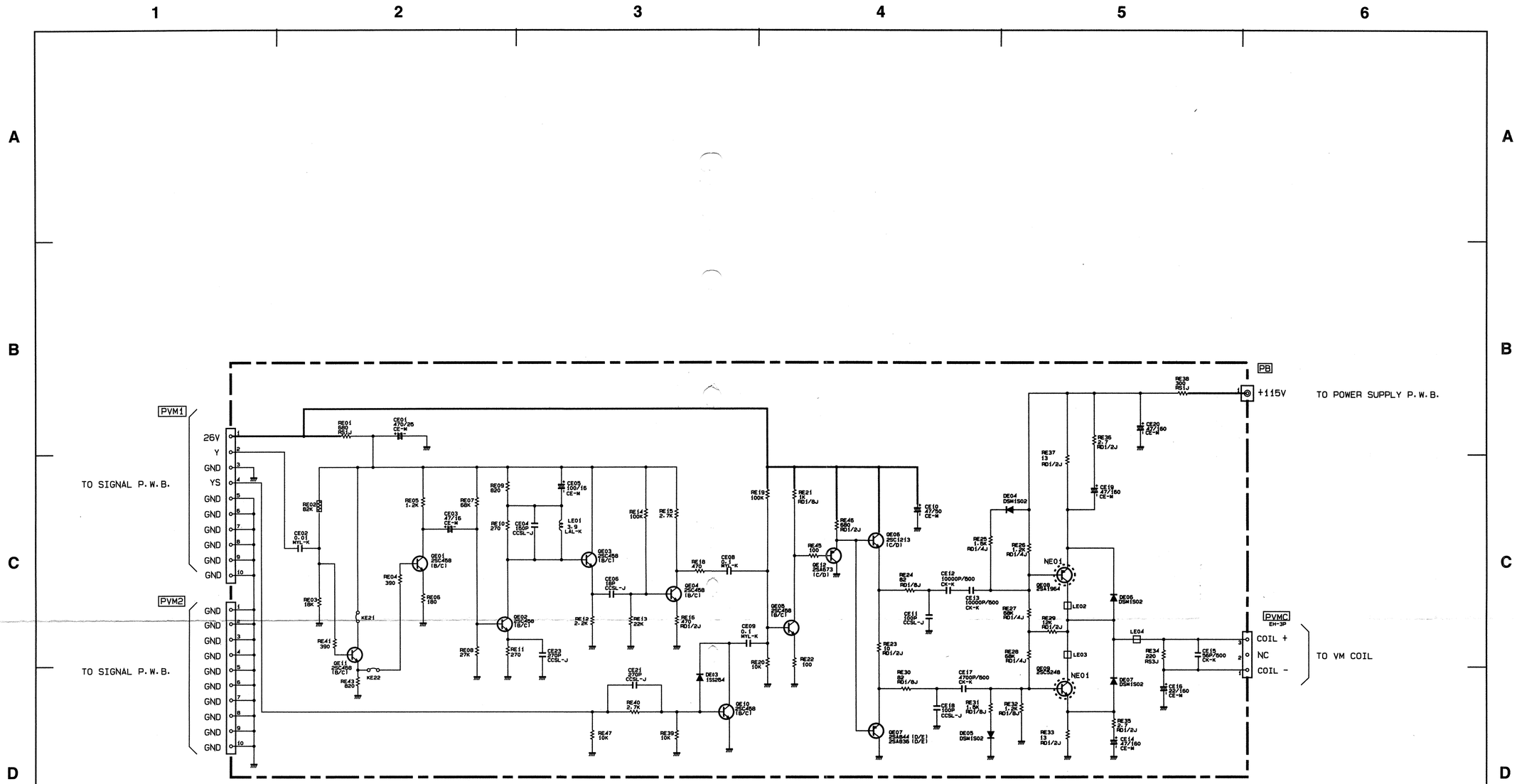
BASIC CIRCUIT DIAGRAM

Circuit No.	Pin Name	Voltage DC
QE01	E	1.4
	B	2.1
	C	7.9
QE02	E	1.8
	B	2.6
	C	6.5
QE03	E	5.8
	B	6.5
	C	12.18

Circuit No.	Pin Name	Voltage DC
QE04	E	1.2
	B	1.9
	C	5.26
QE05	E	0.9
	B	1.6
	C	13.1
QE06	E	13.5
	B	13.6
	C	25.1

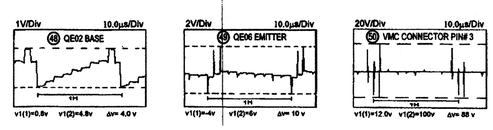
Circuit No.	Pin Name	Voltage DC
QE07	E	13.4
	B	13.6
	C	0
QE08	E	115.4
	B	115.1
	C	58.7
QE09	E	0.3
	B	0.2
	C	58.3

Circuit No.	Pin Name	Voltage DC
QE10	E	0
	B	0
	C	0.1
QE11	E	2.1
	B	2.7
	C	10.1
QE12	E	14.6
	B	14
	C	0



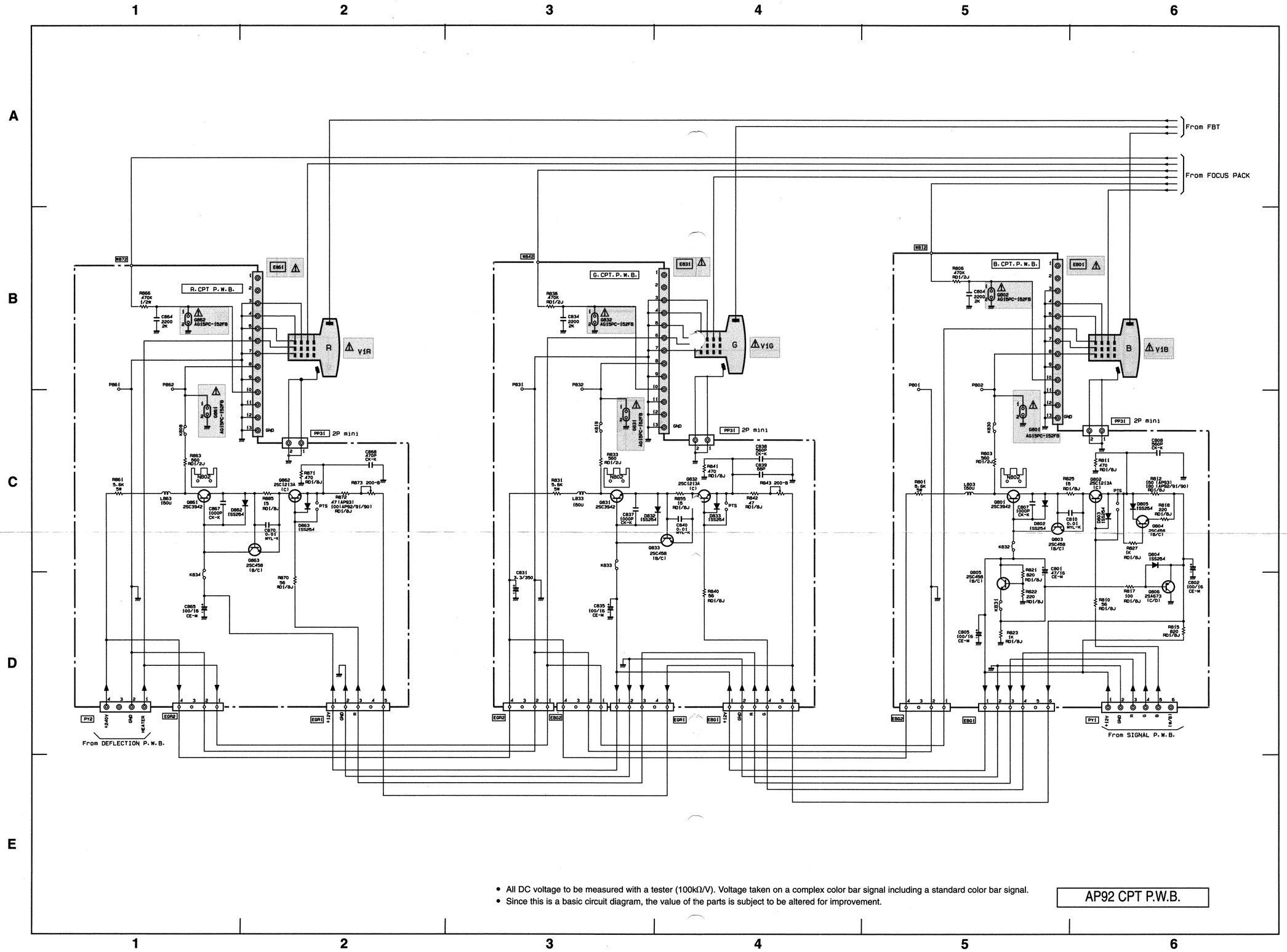
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

AP92 VM P.W.B.

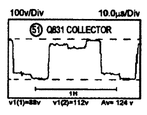


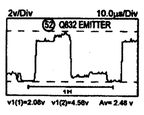
BASIC CIRCUIT DIAGRAM

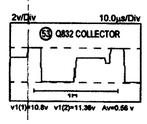
PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.



Circuit No.	Pin Name	Voltage DC
Q801	E	11.2
	B	11.7
	C	134.5
Q802	E	3.4
	B	3.8
	C	10.9
Q803	E	10.9
	B	11.1
	C	11.7
Q804	E	2.9
	B	3.4
	C	3.2
Q805	E	1.8
	B	2.5
	C	11.7
Q806	E	1.5
	B	1.8
	C	0
Q831	E	11.15
	B	11.7
	C	138.2
Q832	E	3.4
	B	3.8
	C	10.9
Q833	E	10.9
	B	11.2
	C	11.7
Q861	E	11.2
	B	11.7
	C	155.9
Q862	E	3.3
	B	3.8
	C	11.1
Q863	E	11.1
	B	11.2
	C	11.7

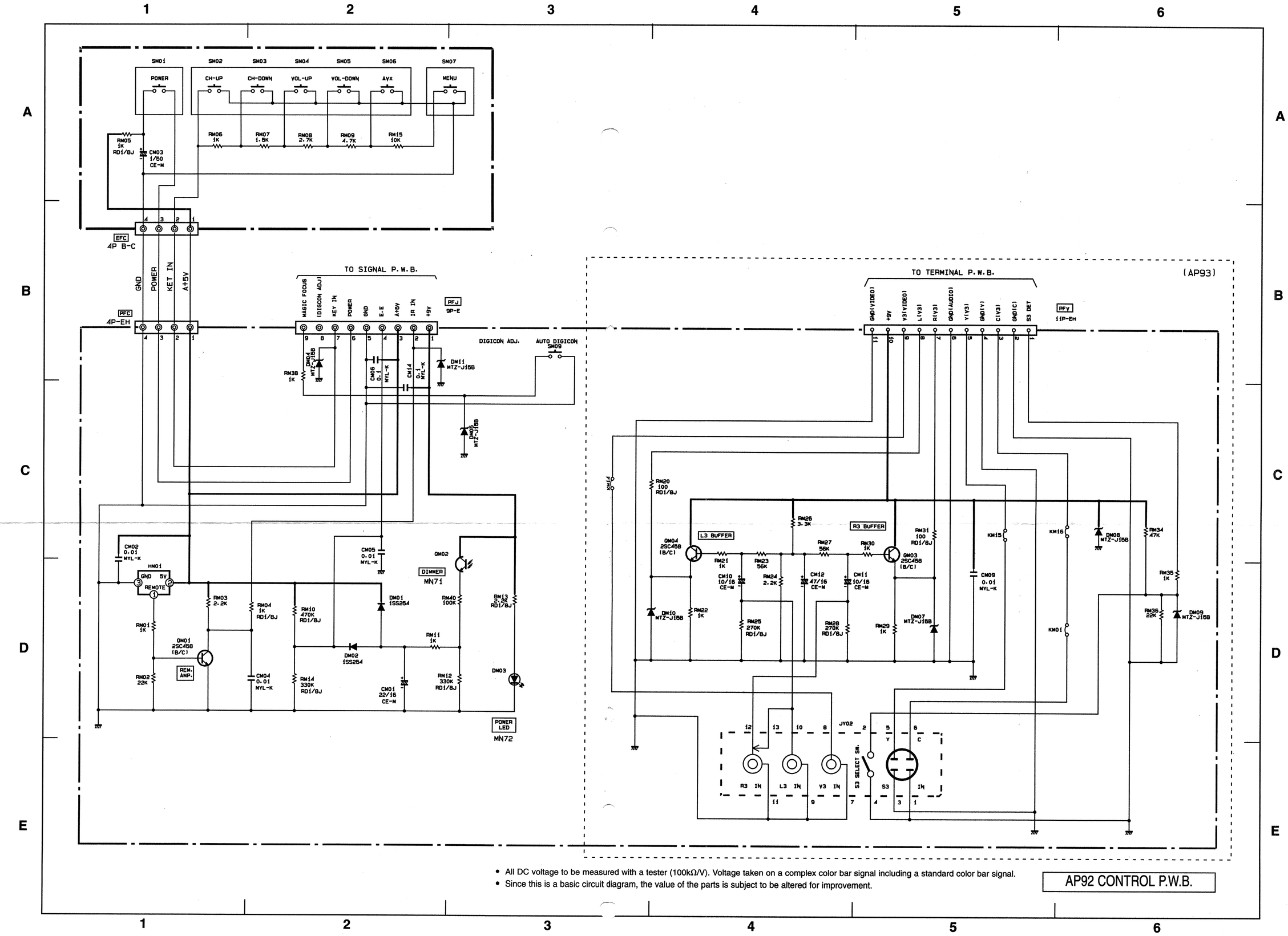






PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM

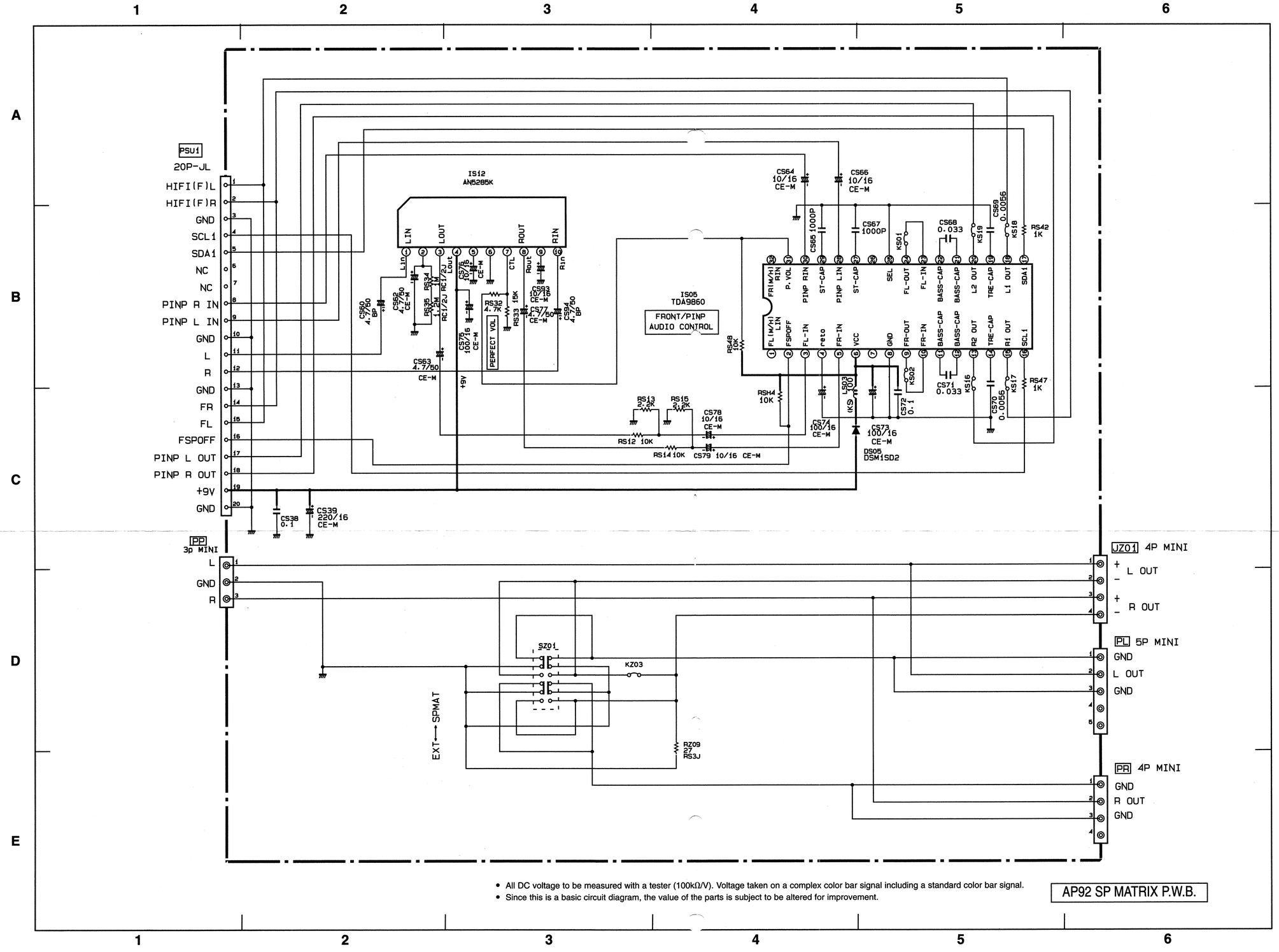


- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

AP92 CONTROL P.W.B.

BASIC CIRCUIT DIAGRAM

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.



Circuit No.	Pin No.	Voltage DC
IS05	1	4.3
	2	0
	3	4.3
	4	8.5
	5	4.3
	6	8.6
	7	4.3
	8	0
	9	4.3
	10	4.3
	11	4.3
	12	4.3
	13	4.3
	14	4.3
	15	4.3
	16	4.9
	17	4.9
	18	4.3
	19	4.3
	20	4.3
	21	4.3
	22	4.3
	23	4.3
	24	4.3
	25	0
	26	4.3
	27	4.3
	28	4.3
	29	4.3
	30	4.3
	31	0
	32	4.3

Circuit No.	Pin No.	Voltage DC
IS12	1	4.7
	2	1.2
	3	4.7
	4	1.4
	5	4.7
	6	0
	7	0
	8	4.7
	9	2
	10	4.7

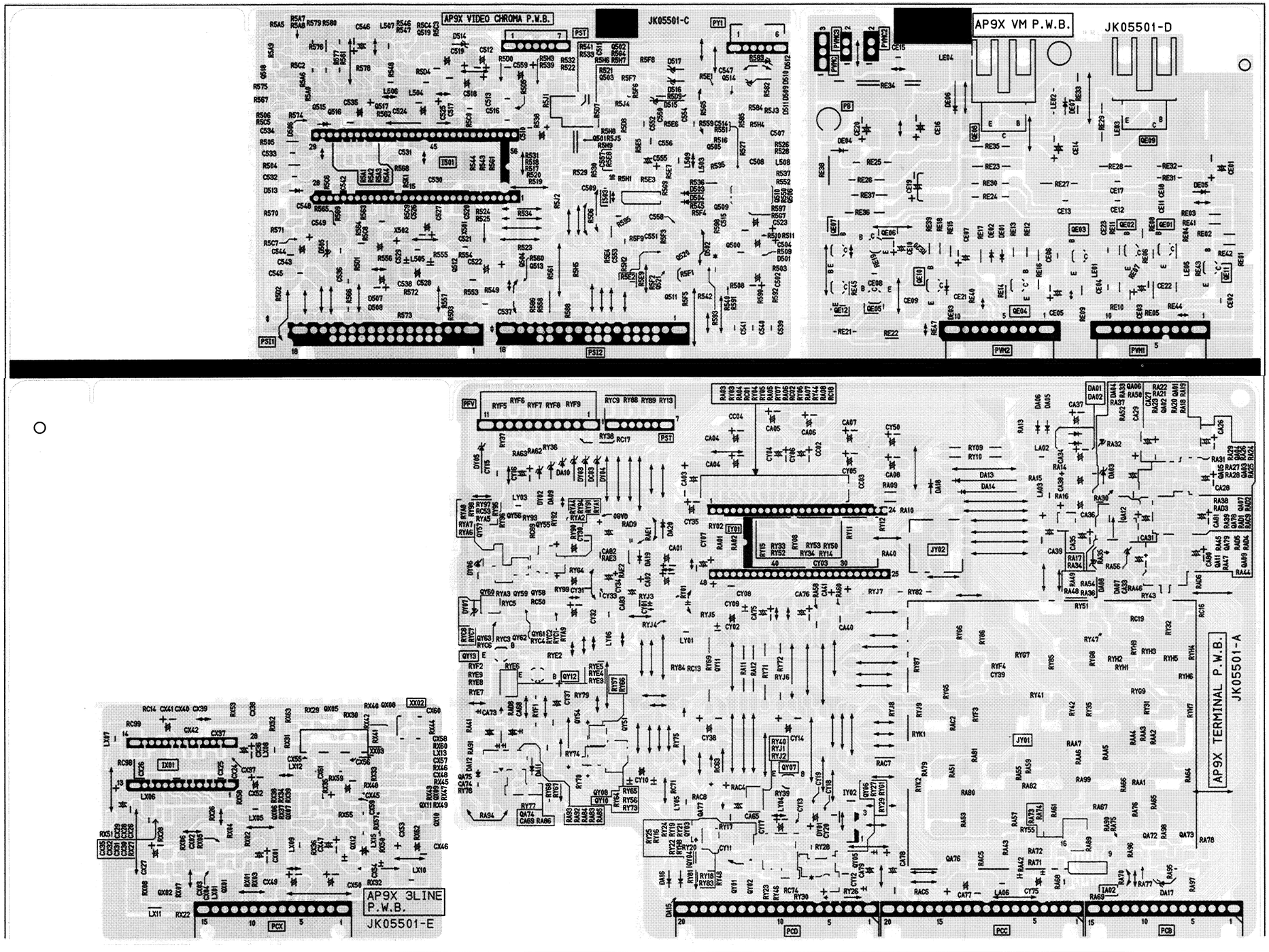
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

AP92 SP MATRIX P.W.B.

VIDEO CHROMA P.W.B.
TERMINAL P.W.B.

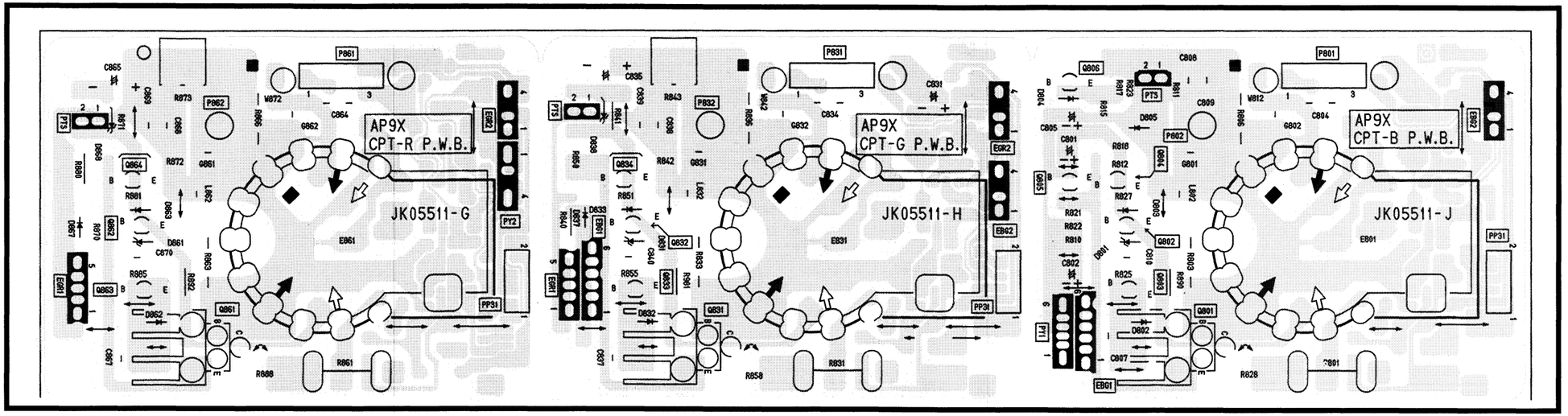
VM P.W.B.
3 LINE P.W.B.

PRINTED CIRCUIT BOARD

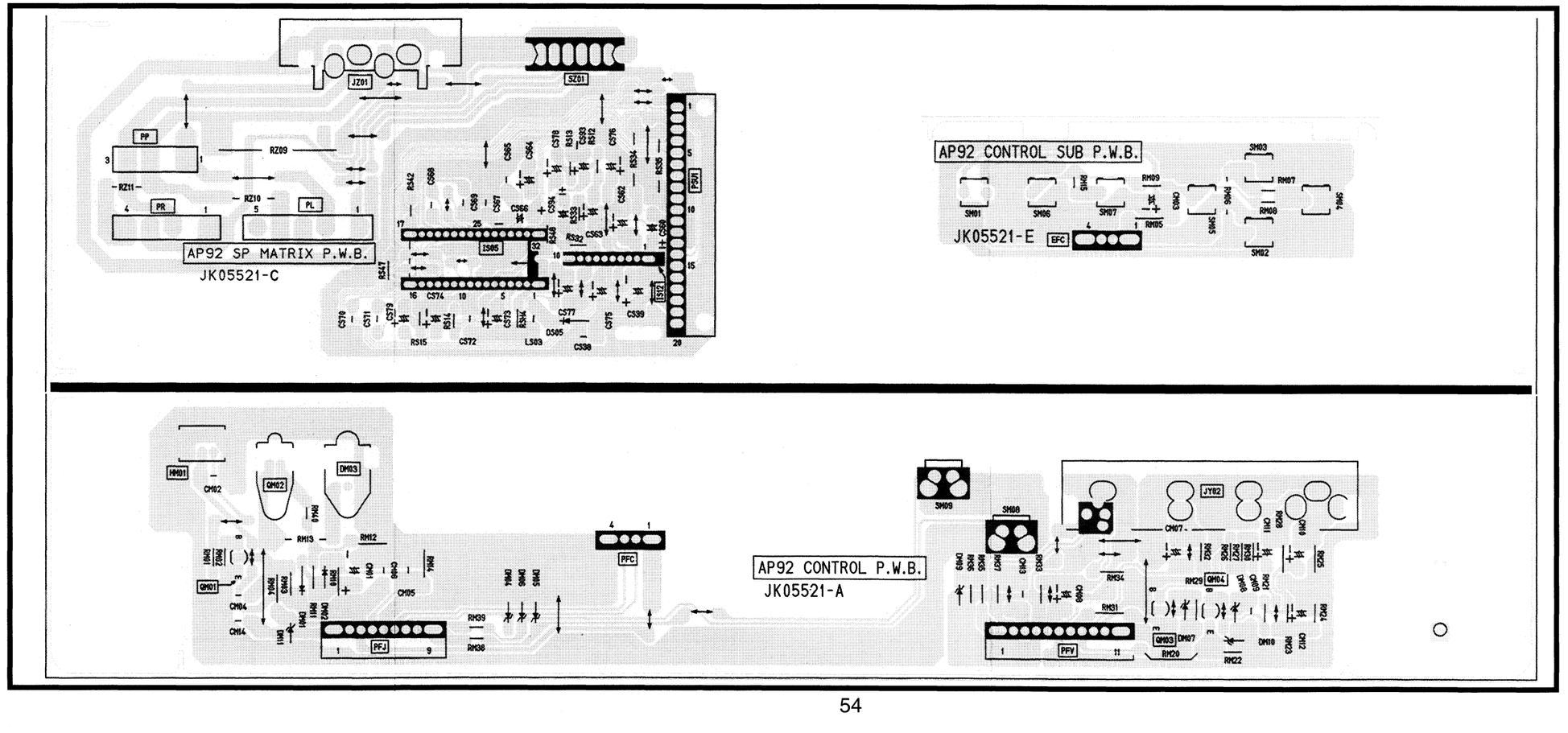


PRINTED CIRCUIT BOARD

CPT-R P.W.B. CPT-G P.W.B.
CPT-B P.W.B.

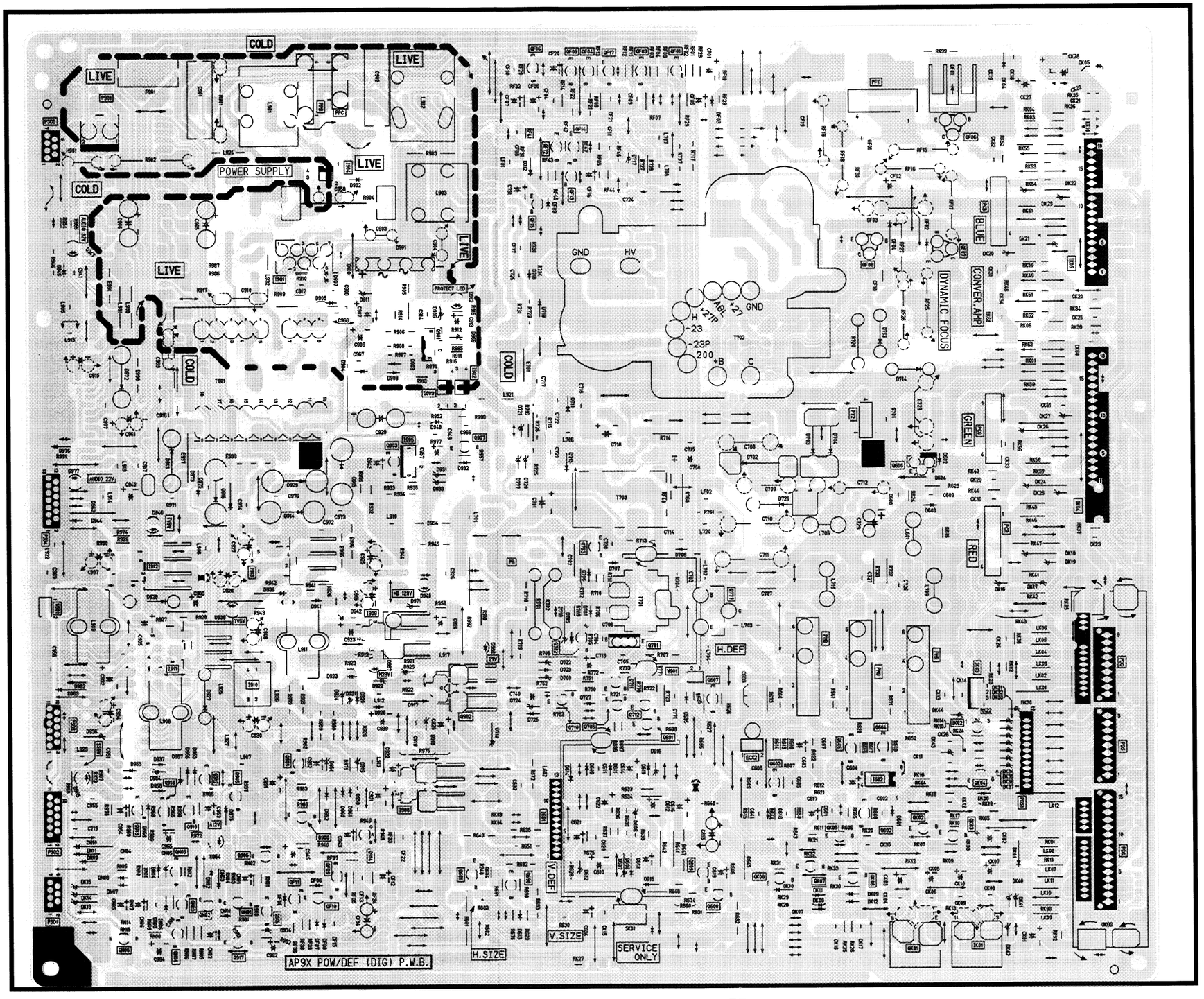


CONTROL SUB P.W.B. SP MATRIX P.W.B.
CONTROL P.W.B.



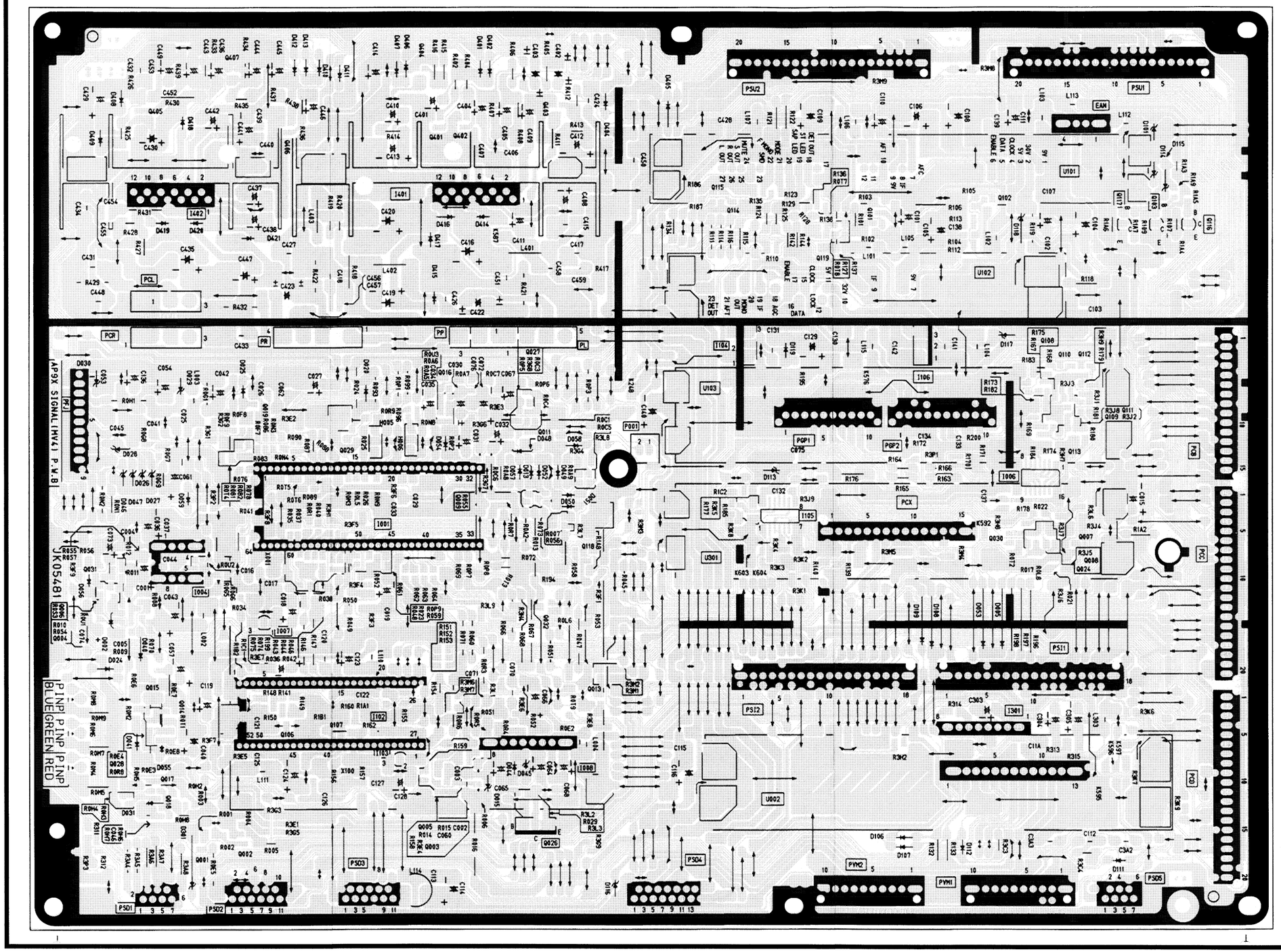
POWER/DEFLECTION P.W.B.

PRINTED CIRCUIT BOARD

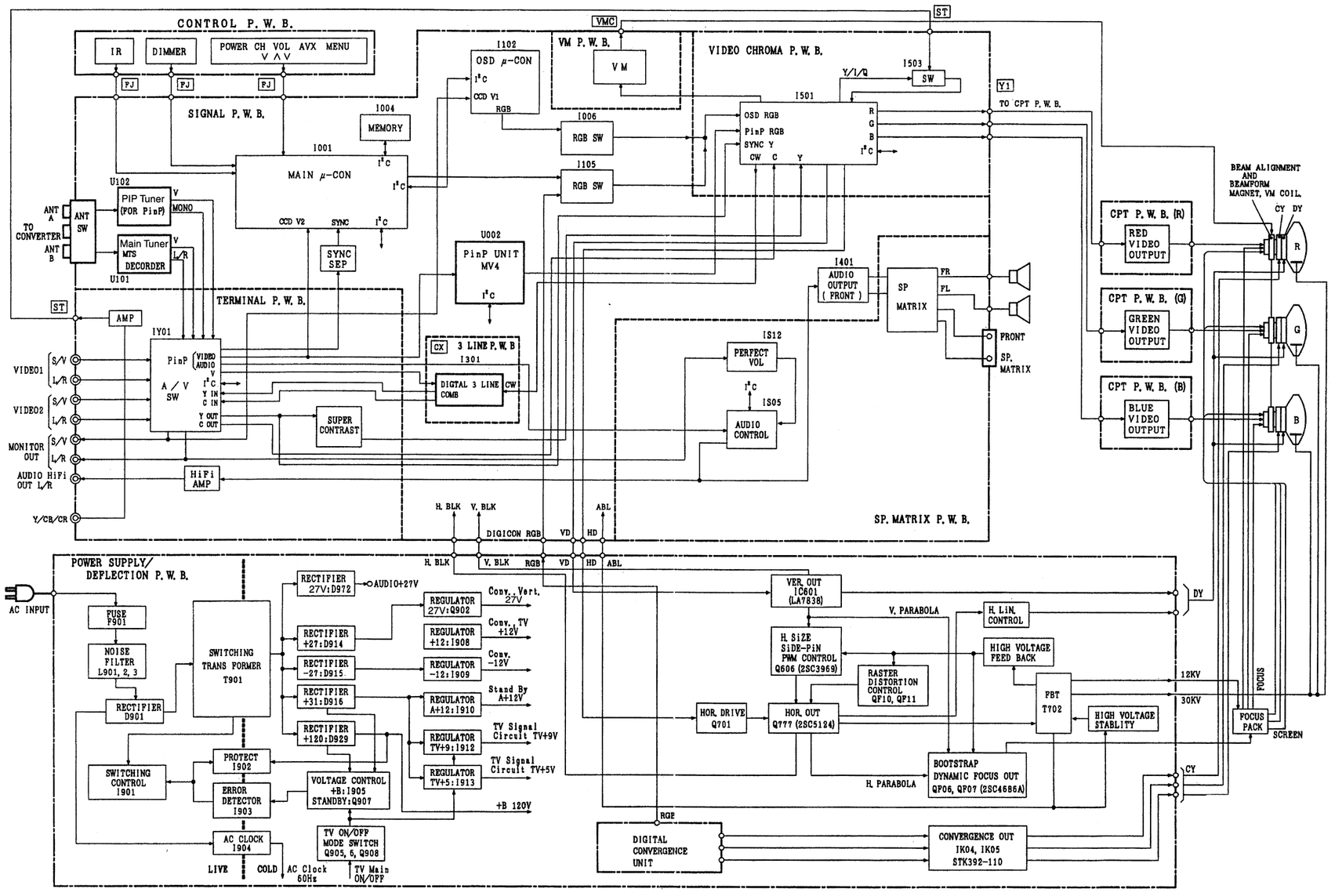


SIGNAL P.W.B.

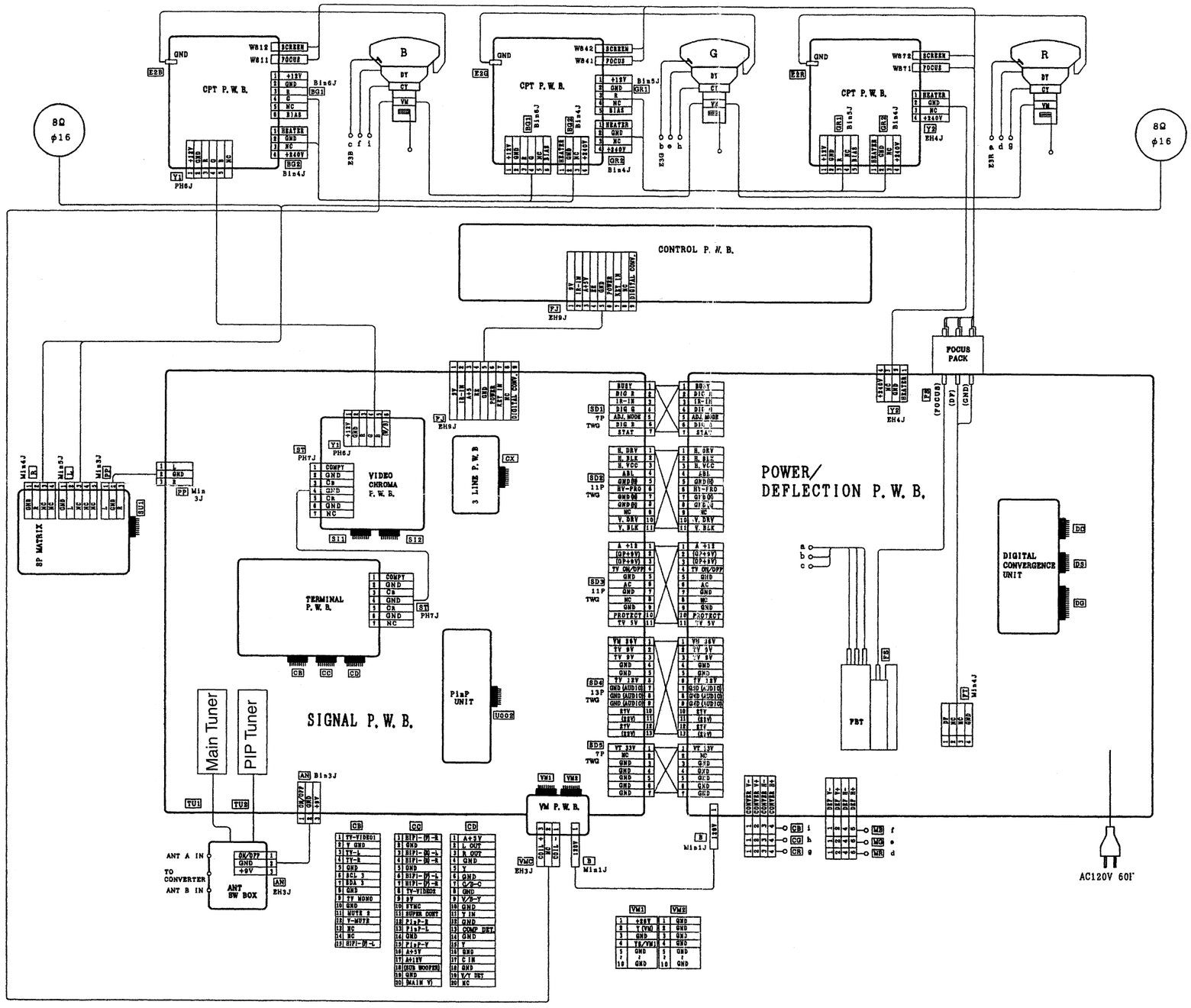
PRINTED CIRCUIT BOARD



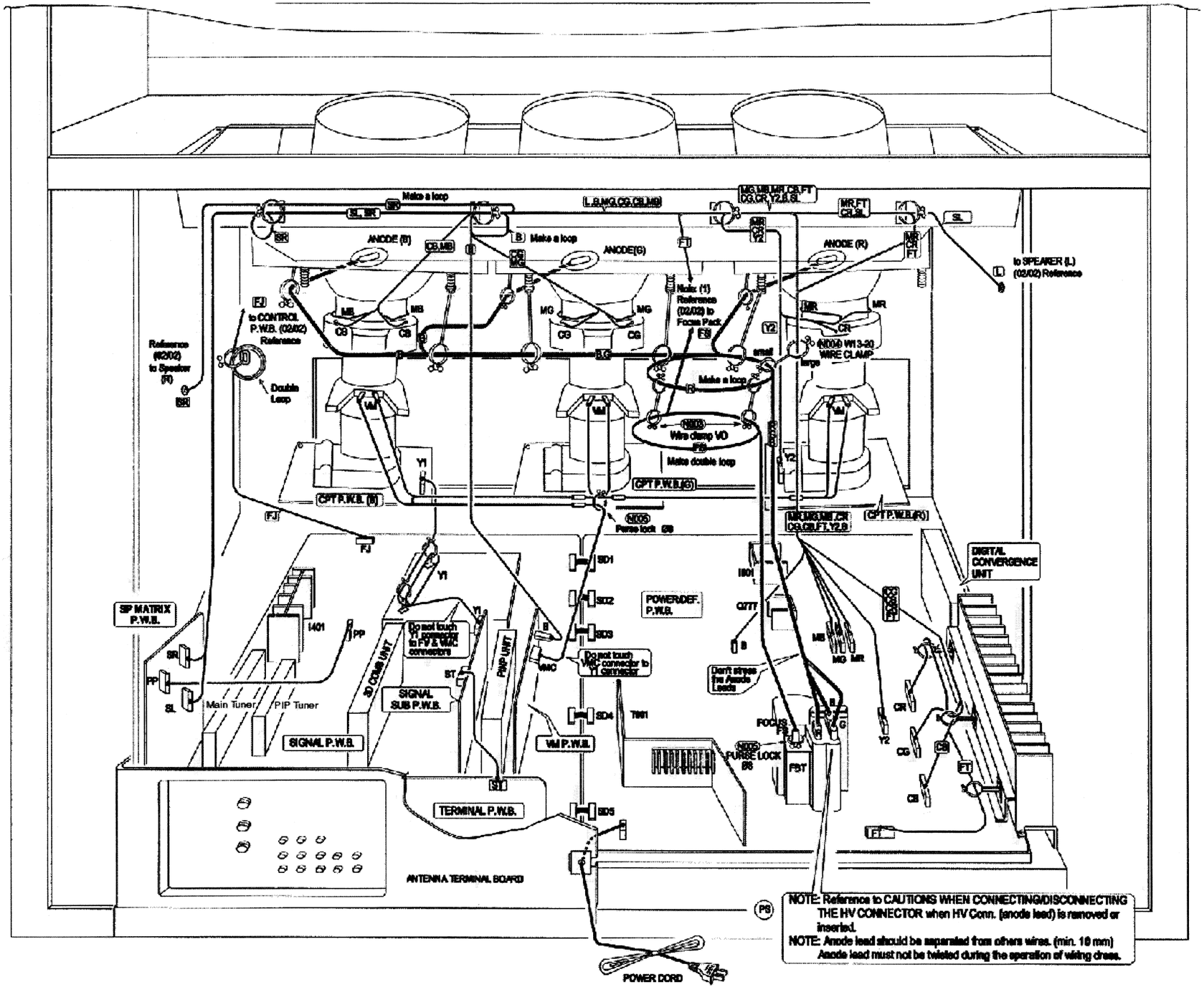
AP92 BLOCK DIAGRAM



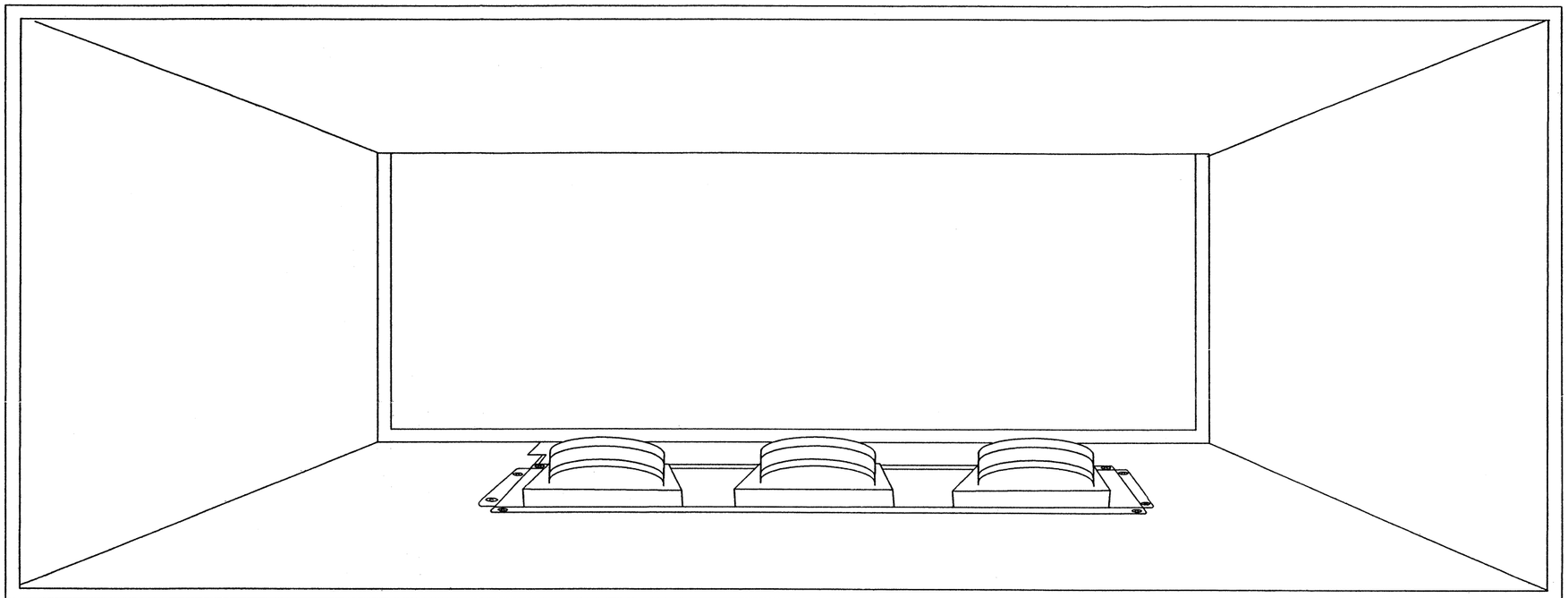
AP92 WIRING CONNECTION DIAGRAM

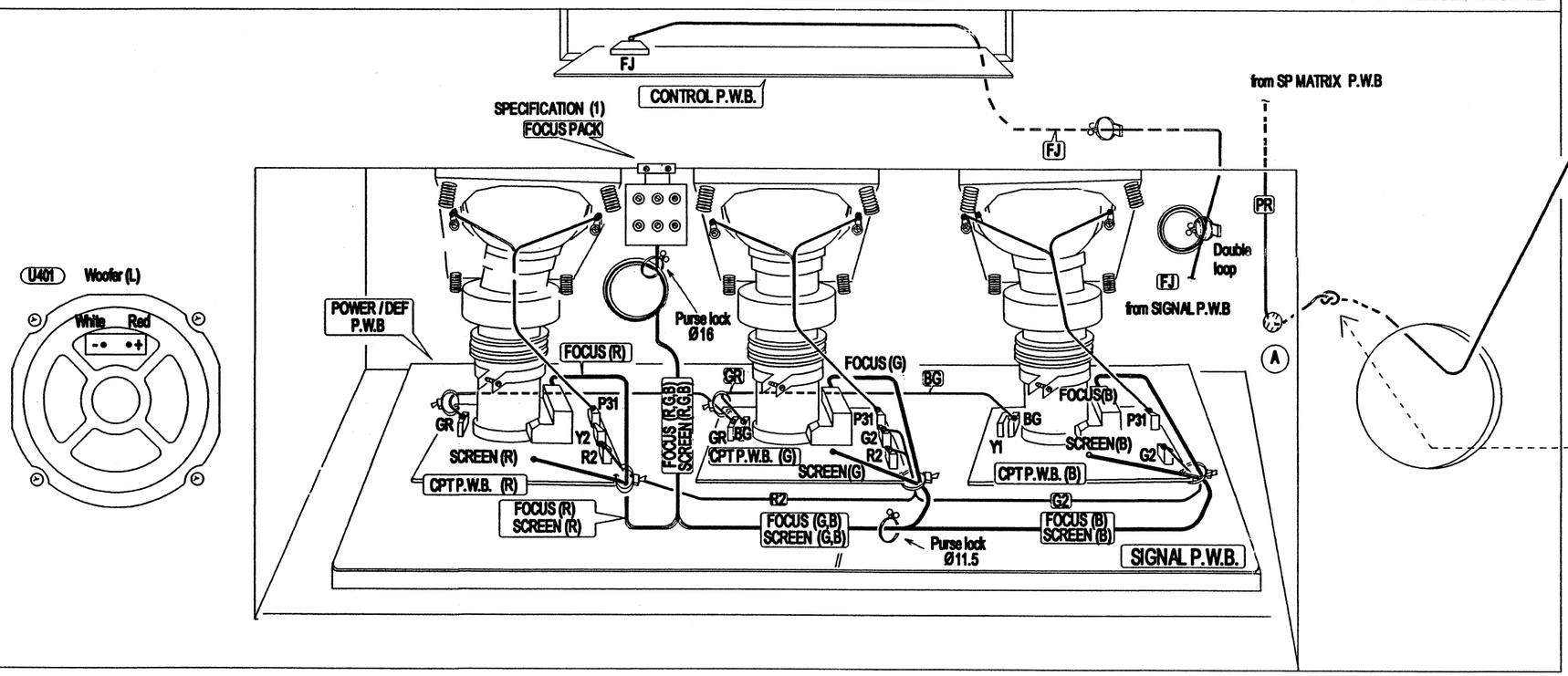


50FX49B WIRING DRAWING



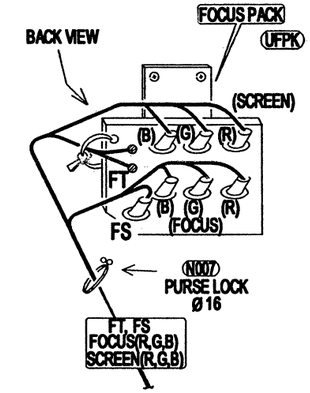
50FX49B WIRING DRAWING

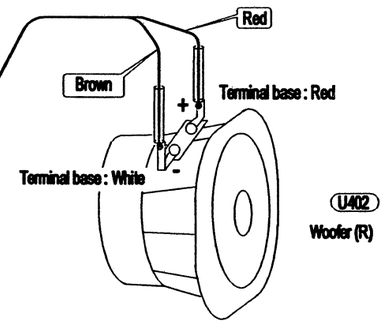




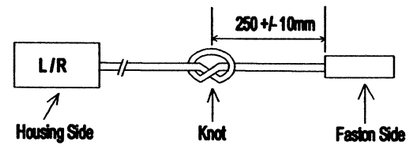
SPECIFICATION

(1) Refer to figure below about assembly of FOCUS PACK leads.

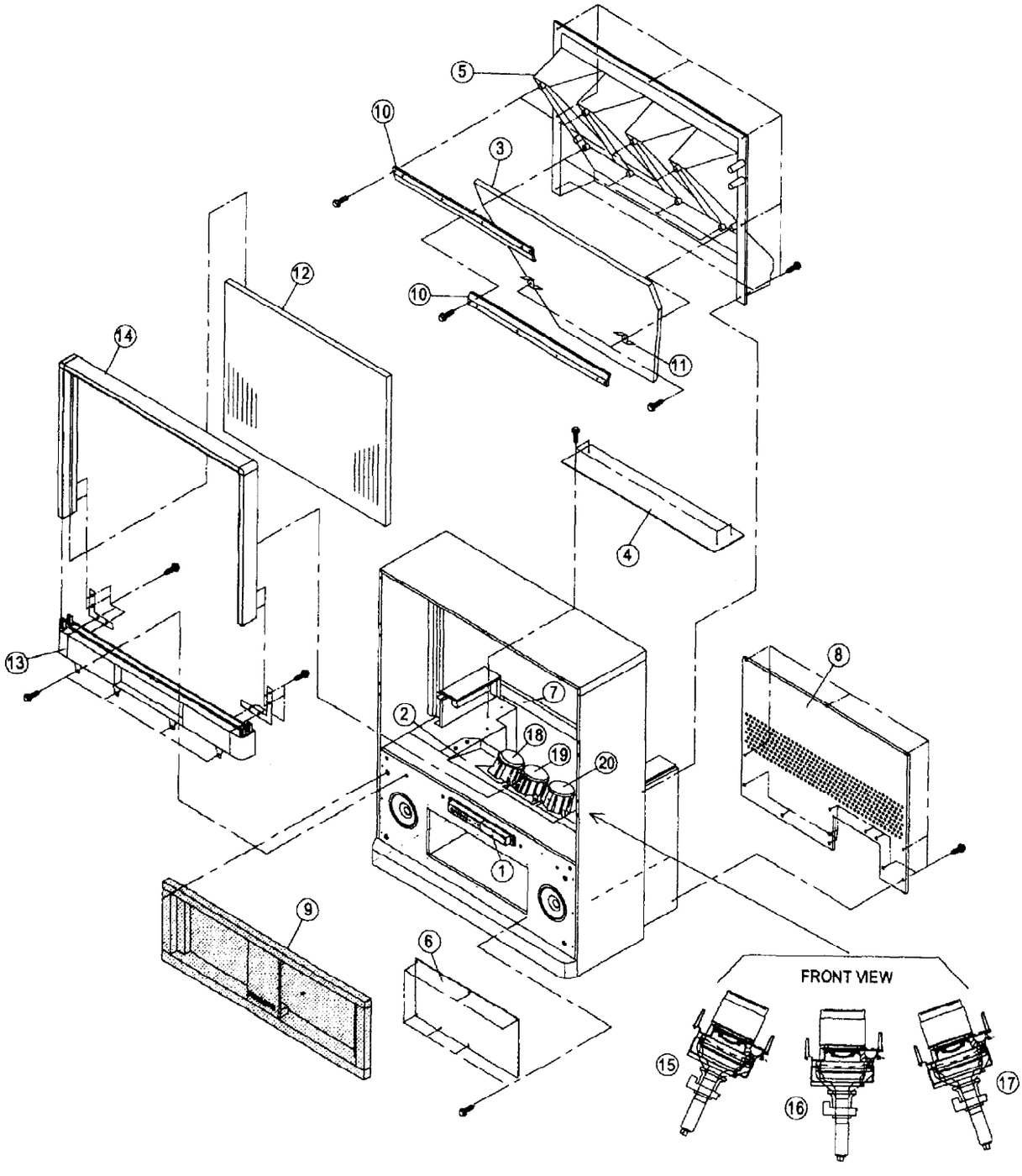




Make a knot as figure below after wires are through hole (A) in cabinet.



EXPLODED VIEW



NOTE: Refer to page 83 for description and parts list. Some parts may appear different than those shown in the Exploded View. When ordering, refer to the Replacement Parts List for correct part number. Since this Service Manual covers several models, use care to select the correct part for the model being serviced.

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver trough improper servicing.

ABBREVIATIONS

Capacitors:
- AL: Aluminum Electrolytic
- CD: Ceramic Disc
- EL: Electrolitic
- PF: Polyester Film
- PP: Polypropylene
- PL: Plastic
- TA: Tantalum

Resistors:
- CF: Carbon Film
- CC: Carbon Composition
- MF: Metal Oxide
- VR: Variable Resistor
- WW: Wire Wound
- FR: Fuse Resistor
- MG: Metal Grazed

Semiconductors:
- TR: Transistor
- DI: Diode
- ZD: Zener Diode
- VA: Varistor
- TH: Termistor
- IC: Integrated Circuit

CIRCUIT BLOCK	SECOND CHAR. OF SYMBOL No.	CIRCUIT BLOCK	SECOND CHAR. OF SYMBOL No.	CIRCUIT BLOCK	SECOND CHAR. OF SYMBOL No.
System Control	0	C.P.T.	8	Convergence	K
Tuner	1	Power Suply	9	Control	M
Signal (Y) & Sync.	2	Signal Control (MTS)	A	Hor. & Vert. Det.	N
Audio	4	Signal Control	C	3 Line Comb Filter	X
Signal (Chroma)	5	(include B.P.F.)		Signal Control (Comp.)	Y
Vertical Deflection	6	V.M.	E	SP Matrix	S
Horizontal Deflection	7				

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
		CAPACITORS	C054	0800326R	CAP.-ELECTRO. 100UF-M 16V
			C057	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C002	0228758R	CAP 2125 CHIP 150PFJSL50V TAPE	C061	0800279R	CAP.-ELE. 1.0UF-M(SMG) 50V
C003	0246464R	CAP.-CERAMIC 100PF-J CH 50V TAPE	C064	0800326R	CAP.-ELE. 100UF-M 16V
C004	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V	C065	0800291R	CAP.-ELE. 10UF-M(SMG) 16V
C005	0893031R	CAP 2125CHIP 1000PFKB 50V TAPE	C067	0800291R	CAP.-ELE. 10UF-M(SMG) 16V
C015	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	C068	0800317R	CAP.-ELE. 47UF-M(SMG) 16V
C016	0228042R	CAP 2125CHIP 33PFJCH 50V TAPE	C070	AN00637R	CAP.POLY 0.1UF 50V TAPE
C017	0890121R	CAP.-CERAMIC 33PF-J CH 50V	C071	AN00637R	CAP.POLY 0.1UF 50V TAPE
C018	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	C075	0893031R	CAP 2125CHIP 1000PFKB 50V TAPE
C019	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V	C076	0228756R	CAP2125CHIP 120PFJSL 50V TAPE
C025	0893044R	CAP2125CHIP 10000PFKB 50V TAPE	C101	0800326R	CAP.-ELE. 100UF-M 16V
C026	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE	C102	0800326R	CAP.-ELE. 100UF-M 16V
C029	0228758R	CAP 2125 CHIP 150PFJSL50V TAPE	C103	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
C030	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V	C104	0800358R	CAP.-ELE. 1000UF-M 6.3V
C031	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	C105	0800361N	CAP.-ELE 1000UF 16V
C032	0800324R	CAP.-ELECTRO. 100UF-M(SMG) 6.3V	C106	0800358R	CAP.-ELE. 1000UF-M 6.3V
C033	0893053R	CAP2125CHIP 47000PFKB 50V TAPE	C107	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
C034	0228756R	CAP2125CHIP 120PFJSL 50V TAPE	C108	0800361N	CAP.-ELE. 1000UF 16V
C035	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	C109	0800361N	CAP.-ELECTRO 1000UF 16V
C036	0800358R	CAP.-ELECTRO. 1000UF-M 6.3V	C110	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C037	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE	C111	0800326R	CAP.-ELECTRO. 100UF-M 16V
C040	0800353R	CAP.-ELECTRO.470UF-M 16V	C112	AN00624R	CAP.POLY 0.01UF 50V TAPE
C041	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	C113	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C042	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	C114	0800359R	CAP.-ELECTRO. 1000UF-M 10V
C043	0800351R	CAP.-ELECTRO. 470UF-M 6.3V	C115	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C044	0893053R	CAP2125CHIP 47000PFKB 50V TAPE	C116	0800361N	CAP.-ELECTRO 1000UF 16V
C045	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE	C119	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C046	0893048R	CAP2125CHIP 22000PFKB 50V TAPE	C11A	0228770R	CAP. MINI-CHIP 470PF-J SL 50V TAPE
C053	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE	C120	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
C121	0228756R	CAP2125CHIP 120PFJSL 50V TAPE	C514	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C122	0893053R	CAP2125CHIP 47000PFKB 50V TAPE	C515	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C123	0800324R	CAP.-ELECTRO. 100UF-M(SMG) 6.3V	C516	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C124	0800324R	CAP.-ELECTRO. 100UF-M(SMG) 6.3V	C517	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C125	0893053R	CAP2125CHIP 47000PFKB 50V TAPE	C518	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C126	0228746R	CAP 2125 CHIP 47PFJSL 50V TAPE	C519	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V
C127	0228038R	CAP 2125CHIP 22PFJCH 50V TAPE	C520	0228032R	CAP 2125CHIP 12PFJCH 50V TAPE
C128	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	C521	AN00615R	CAP.POLYESTER 0.0022UF 50V TAPE
C132	0893053R	CAP2125CHIP 47000PFKB 50V TAPE	C522	0800273R	CAP.-ELECTRO 0.22UF-M 50V
C136	0800326R	CAP.-ELECTRO. 100UF-M 16V	C523	0800326R	CAP.-ELECTRO. 100UF-M 16V
C137	0893053R	CAP2125CHIP 47000PFKB 50V TAPE	C524	0800326R	CAP.-ELECTRO. 100UF-M 16V
C138	0228770R	CAP. MINI-CHIP 470PF-J SL 50V TAPE	C525	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C139	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE	C526	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C140	0800361N	CAP.-ELECTRO 1000UF 16V	C527	0800326R	CAP.-ELECTRO. 100UF-M 16V
C141	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	C528	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
C142	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE	C529	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V
C1C1	0800288R	CAP.-ELECTRO. 4.7UF-M(SMG) 50V	C530	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C3A2	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	C531	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C3A3	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE	C532	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C401	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	C533	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C402	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V	C534	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C403	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V	C535	0800353R	CAP.-ELECTRO.470UF-M 16V
C404	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	C536	AN00628R	CAP.POLYESTER 0.022UF 50V TAPE
C405	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	C537	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C406	0893031R	CAP 2125CHIP 1000PFKB 50V TAPE	C538	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V
C407	0893031R	CAP 2125CHIP 1000PFKB 50V TAPE	C539	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C408	0800318R	CAP.-ELECTRO. 47UF-M 25V	C540	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C409	0800318R	CAP.-ELECTRO. 47UF-M 25V	C541	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C410	0800327R	CAP.-ELECTRO. 100UF-M 25V	C542	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C411	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	C543	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C412	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	C544	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V
C413	0800327R	CAP.-ELECTRO. 100UF-M 25V	C545	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C414	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V	C546	0800326R	CAP.-ELECTRO. 100UF-M 16V
C415	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	C547	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
C416	0284824F	CAP.-ELECTRO. 2200UF 35V SMG	C548	0228754R	CAP2125CHIP 100PFJSL 50V TAPE
C417	0880198R	CAP.-PLOY. 0.22UF-J 50V	C549	0228754R	CAP2125CHIP 100PFJSL 50V TAPE
C418	0880198R	CAP.-PLOY. 0.22UF-J 50V	C550	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C419	0284824F	CAP.-ELECTRO. 2200UF 35V SMG	C551	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C420	0284824F	CAP.-ELECTRO. 2200UF 35V SMG	C552	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C424	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	C553	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C426	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	C554	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C427	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	C555	0800326R	CAP.-ELECTRO. 100UF-M 16V
C428	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE	C556	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
C451	0880198R	CAP.-PLOY. 0.22UF-J 50V	C557	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C456	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE	C558	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C457	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE	C601	AN00626R	CAP.POLYESTER 0.015UF 50V TAPE
C458	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE	C602	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C459	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE	C603	AL01326R	ALUMINIUM ELECT. CAP. PW(4.7UF 50V)
C504	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V	C604	0800326R	CAP.-ELECTRO. 100UF-M 16V
C507	0228048R	CAP. MINI-CHIP 56PF-J CH 50V TAPE	C605	AN00619R	CAP.POLYESTER 0.0047UF 50V TAPE
C508	0893044R	CAP2125CHIP 10000PFKB 50V TAPE	C606	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
C509	0890058R	CAP.-CERAMIC 8PF-50V	C607	0880198R	CAP.-PLOY. 0.22UF-J 50V
C510	0800326R	CAP.-ELECTRO. 100UF-M 16V	C608	0244501R	CAP.-CERAMIC 1000PF-K 500V
C511	0228708R	CAPACITOR MINI-CHIP 8PF-C SL 50V TAPE	C609	0244501R	CAP.-CERAMIC 1000PF-K 500V
C512	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	C610	0800345R	CAP.-ELECTRO. 330UF-M(SMG) 25V
C513	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	C611	AN00631R	CAP.POLYESTER 0.033UF 50V TAPE

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
C613	AL01157R	AL ELECTROLYTIC CAPACITOR(1UF 50V)	C840	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
C614	0800347N	CAP.-ELECTRO. 330UF-M(SMG) 50V	C864	AJ00559	CAPACITOT CERAMIC 2200PF2KV
C615	AL01143S	AL ELECTROLYTIC CAPACITOR(2200UF 25V)	C865	0800326R	CAP.-ELECTRO. 100UF-M 16V
C616	AL01336R	AL ELECT. CAPACITOR PW(10UF 16V)	C867	0890087R	CAP.-CERAMIC 1000PF-K 50V
C617	AL01297R	AL ELECT. CAPACITOR PW(1UF 50V)	C868	0890083R	CAP.-CERAMIC 470PF-K 50V
C619	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V	C870	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
C620	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE	⚠ C901	AN01445S	ACROSS CAPA 0.22UF 250V RE224
C621	0298261R	CAP.-TANTALUM 1MF-J 35V	⚠ C902	AN01443S	ACROSS CAPA 0.1UF 250V RE104
C622	0800347N	CAP.-ELECTRO. 330UF-M(SMG) 50V	C903	AJ00195F	CAPACITOR CERAMIC 4700P 250V F
C632	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE	C904	AJ00195F	CAPACITOR CERAMIC 4700P 250V F
C633	0279693R	CAP.-POLYESTER FLM 0.1UF	C905	0284296	CAP.ELECTRO 680UF-M 250V(KMH)
C641	0244105R	CAP.-CERAMIC 2200PF-K 50V TAPE	C906	0284296	CAP.ELECTRO 680UF-M 250V(KMH)
C701	0251771	CAP.-ELECTRO 220UF-M 160V	C907	0800328R	CAP. ELECTRO. 100UF-M 35V
C702	0299926F	CAP.-POLYESTER FILM 0.1UF-K 200V	C908	0890087R	CAP.-CERAMIC 1000PF-K 50V
C703	0890028M	CAP.-CERAMIC 330PF-K B 50V CYLINDRICAL	C909	0800332N	CAP.-ELECTRO. 100UF-M 100V
C704	0244109R	CAPACITOR-CERAMIC 4700PF-KB 50V	C910	0299977F	CAP.-POLY FILM 0.0047UF-F 630V
C705	0243507R	CAP.-CERAMIC 330PF-K 500V TAPE	C912	0890085R	CAP.-CERAMIC 680PF-K 50V
C706	0244501R	CAP.-CERAMIC 1000PF-K 500V	C913	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V
C707	AJ00134	CAPACITOR CERAMIC 1000P DC2K-R	C914	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
⚠ C708	AN01128F	METALLIZ POLY FILM CAP.0.0047UF	C915	AL00796S	CAP.EL.S-LEAD 1200UF-M(LXV) 35V
⚠ C709	AN01134F	METALLIZ POLY FILM CAP.0.0075UF	C916	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
C710	0299932F	CAP.-POLYPRO. 0.33UF-K 200V	C917	0244105R	CAP.-CERAMIC 2200PF-K 50V TAPE
C711	0299932F	CAP.-POLYPRO. 0.33UF-K 200V	C918	AL00796S	CAP.EL.S-LEAD 1200UF-M(LXV) 35V
⚠ C712	0299707F	CAP.-POLYESTOR 0.015UF-K 630V	C919	0880198R	CAP.-PLOY. 0.22UF-J 50V
C713	0800277R	CAP.-ELECTORO. 0.47UF-M 50V	C920	0800328R	CAP. ELECTRO. 100UF-M 35V
C714	AN00628R	CAP.POLYESTER 0.022UF 50V TAPE	C921	0800328R	CAP. ELECTRO. 100UF-M 35V
C715	0890089R	CAP.-CERAMIC 1500PF-K 50V	C922	0800326R	CAP.-ELECTRO. 100UF-M 16V
C717	0243503R	CAP.-CERAMIC 150PF-K B 500V	C923	0800328R	CAP. ELECTRO. 100UF-M 35V
C718	AL00042	CAP.ELECTRO 33UF 350V	C924	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V
C719	0880198R	CAP.-PLOY. 0.22UF-J 50V	C925	AL00796S	CAP.EL.S-LEAD 1200UF-M(LXV) 35V
C721	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE	C926	0880198R	CAP.-PLOY. 0.22UF-J 50V
C722	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE	C927	AL00796S	CAP.EL.S-LEAD 1200UF-M(LXV) 35V
C723	AN01137F	METALLIZ POLY FILM CAP.0.01UF	C928	AL00796S	CAP.EL.S-LEAD 1200UF-M(LXV) 35V
C724	0279693R	CAP.-POLYESTER FLM 0.1UF	C929	0251703	CAP.ELECTRO 390UF-M 160V(KMH)
C725	0890087R	CAP.-CERAMIC 1000PF-K 50V	C930	AL00793S	CAP.EL.S-LEAD 1200UF-M(LXV) 16V
C726	0243508R	CAPACITOR-CERAMIC 390PF-K 500V	C931	0800353R	CAP.-ELECTRO.470UF-M 16V
C727	0244501R	CAP.-CERAMIC 1000PF-K 500V	C935	0800355N	CAP.ELECTRO. 470UF-M 35V
C729	0259471	CAP.-ELECTRO 6.8UF-M (BP) 50V	C937	AL00792S	CAP.-EL.S-LEAD 2200UF-M(LXV) 10V
C730	0244109R	CAPACITOR-CERAMIC 4700PF-KB 50V	C939	0800328R	CAP. ELECTRO. 100UF-M 35V
C731	0800329R	CAP.-ELECTRO. 100UF-M(SMG) 50V	C940	0800353R	CAP.-ELECTRO.470UF-M 16V
C740	0284667R	CAP.-ELECTRO. 47UF-MBPR(SME)16V	C941	0880198R	CAP.-PLOY. 0.22UF-J 50V
C750	0284634R	CAP.-ELECTRO 4.7UF-SME(BP) 50V	C942	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
C771	0890084R	CAP.-CERAMIC 560PF-K 50V	C943	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C801	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V	C945	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C802	0800326R	CAP.-ELECTRO. 100UF-M 16V	C948	AL00952S	AL ELECTROLYTIC CAP.(4700UF6.3V)
C804	AJ00559	CAPACITOT CERAMIC 2200PF2KV	C949	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C805	0800326R	CAP.-ELECTRO. 100UF-M 16V	C952	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C807	0890087R	CAP.-CERAMIC 1000PF-K 50V	C954	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C808	0890084R	CAP.-CERAMIC 560PF-K 50V	C955	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C810	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE	C956	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
C831	AL00037R	AL ELECTROLYTIC CAPACITOR(33UF350V)	C957	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V
C834	AJ00559	CAPACITOT CERAMIC 2200PF2KV	⚠ C958	AJ00157R	CAPACITOR CERAMIC 1000P 400V B
C835	0800326R	CAP.-ELECTRO. 100UF-M 16V	⚠ C959	AJ00163R	CAPACITOR CERAMIC 2200P 400V E
C837	0890087R	CAP.-CERAMIC 1000PF-K 50V	C962	0800326R	CAP.-ELECTRO. 100UF-M 16V
C838	0890084R	CAP.-CERAMIC 560PF-K 50V	C963	0800303R	CAP.-ELECTRO. 22UF-M 50V
C839	0890071R	CAP.-CERAMIC 56PF-J 50V	C964	0800361N	CAP.-ELECTRO 1000UF 16V

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
C965	0800308R	CAP.-ELECTRO. 33UF-M(SMG) 16V	CF03	AN01111F	METALLIZ POLY FILM CAPACITOR0.001UF
C966	0880198R	CAP.-PLOY. 0.22UF-J 50V	CF04	AN00614R	CAP.POLYESTER 0.0018UF 50V TAPE
C967	0243509R	CAPACITOR-CERAMIC 470PF-K 500V TAPE	CF05	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C968	0243509R	CAPACITOR-CERAMIC 470PF-K 500V TAPE	CF06	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C969	0244109R	CAPACITOR-CERAMIC 4700PF-KB 50V	CF07	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
C971	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE	CF08	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
C974	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE	CF09	0880196R	CAP.-POLYESTER 0.15UF 50V HFT
C975	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE	CF10	0880197R	CAP.POLYESTER 0.18UF 50V
CA01	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	CF12	0800326R	CAP.-ELECTRO. 100UF-M 16V
CA02	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	CF13	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
CA05	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	CF14	0259151F	CAP.-ELECTRO. 100UF 160V
CA06	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	CF15	0880198R	CAP.-PLOY. 0.22UF-J 50V
CA07	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	CF16	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CA08	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	CF17	0244109R	CAPACITOR-CERAMIC 4700PF-KB 50V
CA26	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	CF18	0245158	CAPACITOT CERAMIC 68PF/2KV
CA27	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	CF19	0245156	CAPACITOT CERAMIC 22PF/2KV
CA28	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	CF20	0800326R	CAP.-ELECTRO. 100UF-M 16V
CA29	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	CF21	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
CA34	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	CK01	0800353R	CAP.-ELECTRO.470UF-M 16V
CA37	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	CK02	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V
CA38	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V	CK03	0800326R	CAP.-ELECTRO. 100UF-M 16V
CA40	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	CK04	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CA41	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	CK05	0800326R	CAP.-ELECTRO. 100UF-M 16V
CA68	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V	CK06	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CA69	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE	CK07	0800326R	CAP.-ELECTRO. 100UF-M 16V
CA73	0284623R	CAP.-ELECTRO. 1UF-SME(BP) 50V	CK08	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CA74	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE	CK09	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CA75	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	CK10	0800326R	CAP.-ELECTRO. 100UF-M 16V
CA76	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	CK12	0890076R	CAP.CERAMIC 150PF-K 50V
CA82	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	CK13	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CA83	0800286R	CAP.-ELECTRO. 4.7UF-M(SMG) 25V	CK14	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CC02	0893044R	CAP2125CHIP 10000PFKB 50V TAPE	CK15	AN00611R	CAP.POLYSTYLENE 0.001UF 50V TAPE
CC03	0893044R	CAP2125CHIP 10000PFKB 50V TAPE	CK16	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CE01	0800354R	CAP.-ELECTRO. 470UF-M 25V	CK17	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CE02	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE	CK18	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
CE03	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V	CK19	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
CE04	0890076R	CAP.CERAMIC 150PF-K 50V	CK20	0890076R	CAP.CERAMIC 150PF-K 50V
CE05	0800326R	CAP.-ELECTRO. 100UF-M 16V	CK21	0890076R	CAP.CERAMIC 150PF-K 50V
CE06	0890064R	CAP.-CERAMIC 18PF-J SL 50V	CK22	0890076R	CAP.CERAMIC 150PF-K 50V
CE08	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	CK23	0890076R	CAP.CERAMIC 150PF-K 50V
CE09	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE	CK24	0890076R	CAP.CERAMIC 150PF-K 50V
CE10	0800321R	CAP.-ELECTRO. 47UF-M 50V	CK25	0890076R	CAP.CERAMIC 150PF-K 50V
CE11	0890074R	CAP.-CERAMIC 100PF-J 50V	CK27	0800356N	CAP.-ELECTRO. 470UF-M 50V
CE12	0244541F	CAPACITOR-CERAMIC 0.01MF-K B 500V	CK28	0800356N	CAP.-ELECTRO. 470UF-M 50V
CE13	0244541F	CAPACITOR-CERAMIC 0.01MF-K B 500V	CK29	0890076R	CAP.CERAMIC 150PF-K 50V
CE14	AL00009R	ALU.ELEC.CAP. 47UF 160V	CK30	0890076R	CAP.CERAMIC 150PF-K 50V
CE15	0247848R	CAP.-CERAMIC 56PF-J SL 500V	CK31	0890076R	CAP.CERAMIC 150PF-K 50V
CE16	AL00007R	AL ELECTROLYTIC CAP.(220UF160V)	CK32	0890076R	CAP.CERAMIC 150PF-K 50V
CE17	0244509R	CAP.-CERAMIC 4700PF-KB B 500V	CK33	0890076R	CAP.CERAMIC 150PF-K 50V
CE18	0890074R	CAP.-CERAMIC 100PF-J 50V	CK34	0890076R	CAP.CERAMIC 150PF-K 50V
CE19	AL00009R	ALU.ELEC.CAP. 47UF 160V	CK60	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
CE20	AL00009R	ALU.ELEC.CAP. 47UF 160V	CM01	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V
CE21	0890079R	CAP.-CERAMIC 270PF-K 50V	CM02	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
CE23	0890079R	CAP.-CERAMIC 270PF-K 50V	CM03	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CF01	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V	CM04	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE
CF02	AL01296R	AL ELECT. CAPACITOR PW(0.47UF 350V)	CM05	AN00624R	CAP.POLYESTER 0.01UF 50V TAPE

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
CM06	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CM14	AN00637R	CAP.POLYESTER 0.1UF 50V TAPE
CN01	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CN02	0800288R	CAP.-ELECTRO. 4.7UF-M(SMG) 50V
CN03	AN00631R	CAP.POLYESTER 0.033UF 50V TAPE
CN04	0890084R	CAP.-CERAMIC 560PF-K 50V
CN05	0800326R	CAP.-ELECTRO. 100UF-M 16V
CN06	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
CS38	0880194R	CAP.-POLYESTER 0.1UF-J 50V
CS39	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V
CS60	0284634R	CAP.-ELECTRO 4.7UF-SME(BP) 50V
CS62	0800288R	CAP.-ELECTRO. 4.7UF-M(SMG) 50V
CS63	0800288R	CAP.-ELECTRO. 4.7UF-M(SMG) 50V
CS64	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS65	0890087R	CAP.-CERAMIC 1000PF-K 50V
CS66	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS67	0890087R	CAP.-CERAMIC 1000PF-K 50V
CS68	AN00631R	CAP.POLYESTER 0.033UF 50V TAPE
CS69	AN00621R	CAP.POLYESTER 0.0056UF 50V TAPE
CS70	AN00621R	CAP.POLYESTER 0.0056UF 50V TAPE
CS71	AN00631R	CAP.POLYESTER 0.033UF 50V TAPE
CS72	0880194R	CAP.-POLYESTER 0.1UF-J 50V
CS73	0800326R	CAP.-ELECTRO. 100UF-M 16V
CS74	0800326R	CAP.-ELECTRO. 100UF-M 16V
CS75	0800326R	CAP.-ELECTRO. 100UF-M 16V
CS76	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS77	0800288R	CAP.-ELECTRO. 4.7UF-M(SMG) 50V
CS78	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS79	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS93	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CS94	0284634R	CAP.-ELECTRO 4.7UF-SME(BP) 50V
CX01	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
CX02	0228040R	CAP 2125CHIP 27PFJCH 50V TAPE
CX03	0228008R	CAP 2125 CHIP 8PF-C CH 50V TAPE
CX04	0228034R	CAP 2125 CHIP 15PF-J CH 50V TAPE
CX24	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX25	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX26	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX27	0800286R	CAP.-ELECTRO. 4.7UF-M(SMG) 25V
CX28	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX29	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
CX30	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX31	0228060R	CAP 2125 CHIP 180PF-J CH 50V TAPE
CX32	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX33	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX34	0800325R	CAP.-ELECTRO. 100UF-M 10V
CX35	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX36	0800325R	CAP.-ELECTRO. 100UF-M 10V
CX37	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX38	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX39	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX40	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX41	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX42	0800334R	CAP.-ELECTRO. 220UF 10V
CX45	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CX46	0800326R	CAP.-ELECTRO. 100UF-M 16V
CX47	0800326R	CAP.-ELECTRO. 100UF-M 16V
CX48	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX49	0800326R	CAP.-ELECTRO. 100UF-M 16V
CX50	0800325R	CAP.-ELECTRO. 100UF-M 10V
CX52	0800325R	CAP.-ELECTRO. 100UF-M 10V
CX53	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CX54	0284647R	CAP.-ELECTRO.22UF-SME(BP) 16V
CX55	0228042R	CAP 2125CHIP 33PFJCH 50V TAPE
CX56	0228042R	CAP 2125CHIP 33PFJCH 50V TAPE
CX57	0228048R	CAPACITOR MINI-CHIP 56PF-J CH 50V TAPE
CX58	0228048R	CAPACITOR MINI-CHIP 56PF-J CH 50V TAPE
CY01	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
CY04	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V
CY05	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V
CY06	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V
CY07	0800335R	CAP.-ELECTRO. 220UF-M(SMG) 16V
CY08	0800326R	CAP.-ELECTRO. 100UF-M 16V
CY09	0893053R	CAP2125CHIP 47000PFKB 50V TAPE
CY10	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
CY11	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CY12	0800326R	CAP.-ELECTRO. 100UF-M 16V
CY13	0893033R	CAP 2125CHIP 1500PFKB 50V TAPE
CY14	0800353R	CAP.-ELECTRO.470UF-M 16V
CY17	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
CY18	0800326R	CAP.-ELECTRO. 100UF-M 16V
CY19	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
CY20	0893027R	CAP 2125 CHIP 100000PF-K B 25V TAPE
CY30	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CY31	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CY32	0800291R	CAP.-ELECTRO. 10UF-M(SMG) 16V
CY33	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CY34	0800326R	CAP.-ELECTRO. 100UF-M 16V
CY37	0800317R	CAP.-ELECTRO. 47UF-M(SMG) 16V
CY38	0800353R	CAP.-ELECTRO.470UF-M 16V
CY39	0893044R	CAP2125CHIP 10000PFKB 50V TAPE
CY50	0800299R	CAP.-ELECTRO. 22UF-M(SMG) 16V
CY75	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
		DIODES
D005	2344041M	DIODE 1SS254TA/1SS270TA
D013	2344041M	DIODE 1SS254TA/1SS270TA
D015	2331827M	ZENER DIODE HZ-9 TAPE (C1)SI 500MW 9.3V
D024	2344041M	DIODE 1SS254TA/1SS270TA
D025	2344041M	DIODE 1SS254TA/1SS270TA
D026	2348212M	DIO-MTZ-J15BTA
D027	2348212M	DIO-MTZ-J15BTA
D028	2348212M	DIO-MTZ-J15BTA
D029	2348212M	DIO-MTZ-J15BTA
D030	2348212M	DIO-MTZ-J15BTA
D031	2344041M	DIODE 1SS254TA/1SS270TA
D040	2344041M	DIODE 1SS254TA/1SS270TA
D041	2344041M	DIODE 1SS254TA/1SS270TA
D044	2344041M	DIODE 1SS254TA/1SS270TA
D045	2348102M	ZENER MTZJ-5.1B TA
D046	2348212M	DIO-MTZ-J15BTA
D048	2344041M	DIODE 1SS254TA/1SS270TA

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
D053	2344041M	DIODE 1SS254TA/1SS270TA	D710	CH02001M	DIODE 1SR139-400
D055	CH00151M	DIODE DSM1SD2(200V)TAPE	⚠ D711	CH00031M	DIODE AU02V1(280V)
D057	2344041M	DIODE 1SS254TA/1SS270TA	⚠ D712	CH00031M	DIODE AU02V1(280V)
D058	2344041M	DIODE 1SS254TA/1SS270TA	D713	CH00901M	DIODE RGP02-15E 1500V 20A
D059	2344041M	DIODE 1SS254TA/1SS270TA	D714	CH00901M	DIODE RGP02-15E 1500V 20A
D101	2348212M	DIO-MTZ-J15BTA	D715	CH02011M	DIODE 1SR153-400
D106	2344041M	DIODE 1SS254TA/1SS270TA	D716	2348231M	ZENER DIODE MTZ-18A TA
D107	2344041M	DIODE 1SS254TA/1SS270TA	D717	2339612M	ZD HZS-3 TA (BLL) SI 200MA 3V
D111	2344041M	DIODE 1SS254TA/1SS270TA	D718	2344041M	DIODE 1SS254TA/1SS270TA
D112	2344041M	DIODE 1SS254TA/1SS270TA	D719	CH02001M	DIODE 1SR139-400
D113	2348123M	ZENER MTZJ-6.2C TA	D720	2334305M	ZD RD30E (B4 T2/TP/TA) SI 5MA 30.51V
D116	2331815M	ZENER HZ7-B2	D721	2348193M	ZENER DIODE MTZJ-12C TA
D117	2335991M	ZENER HZ-T33 (02 TP)	D722	2348151M	ZENER MTZ-J8.2ATA
D118	2335991M	ZENER HZ-T33 (02 TP)	D723	2344041M	DIODE 1SS254TA/1SS270TA
D301	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V	D724	2348123M	ZENER MTZJ-6.2C TA
D401	2344041M	DIODE 1SS254TA/1SS270TA	D725	2344041M	DIODE 1SS254TA/1SS270TA
D402	2344041M	DIODE 1SS254TA/1SS270TA	D777	2334243M	ZD RD16E (B2 T2/TP/TA) SI 10MA 16.51V
D404	2344041M	DIODE 1SS254TA/1SS270TA	D778	2334305M	ZD RD30E (B4 T2/TP/TA) SI 5MA 30.51V
D405	2344041M	DIODE 1SS254TA/1SS270TA	D802	2344041M	DIODE 1SS254TA/1SS270TA
D406	2344041M	DIODE 1SS254TA/1SS270TA	D803	2344041M	DIODE 1SS254TA/1SS270TA
D407	2344041M	DIODE 1SS254TA/1SS270TA	D804	2344041M	DIODE 1SS254TA/1SS270TA
D502	2344041M	DIODE 1SS254TA/1SS270TA	D805	2344041M	DIODE 1SS254TA/1SS270TA
D503	2344041M	DIODE 1SS254TA/1SS270TA	D832	2344041M	DIODE 1SS254TA/1SS270TA
D504	2344041M	DIODE 1SS254TA/1SS270TA	D833	2344041M	DIODE 1SS254TA/1SS270TA
D505	2348163M	ZENER MTZJ-9.1C TA	D862	2344041M	DIODE 1SS254TA/1SS270TA
D507	2344041M	DIODE 1SS254TA/1SS270TA	D863	2344041M	DIODE 1SS254TA/1SS270TA
D508	2344041M	DIODE 1SS254TA/1SS270TA	⚠ D901	2338313	DIODE RBV-406M (60V) SI 0.1USEC
D509	2348163M	ZENER MTZJ-9.1C TA	D902	CH02001M	DIODE 1SR139-400
D510	2348163M	ZENER MTZJ-9.1C TA	D903	CH02001M	DIODE 1SR139-400
D511	2348163M	ZENER MTZJ-9.1C TA	D904	CH02011M	DIODE 1SR153-400
D513	2344041M	DIODE 1SS254TA/1SS270TA	D905	CH02011M	DIODE 1SR153-400
D515	2348163M	ZENER MTZJ-9.1C TA	D906	2348253M	ZENER MTZ-J22CTA
D516	2348163M	ZENER MTZJ-9.1C TA	D907	2334324M	ZD RD36E TAPE (B3) SI 500MW 36V
D517	2348163M	ZENER MTZJ-9.1C TA	D908	CH02011M	DIODE 1SR153-400
D602	2344041M	DIODE 1SS254TA/1SS270TA	D910	2331844M	ZENER HZ12-B1
D603	CH02011M	DIODE 1SR153-400	D911	2331844M	ZENER HZ12-B1
D604	CH02011M	DIODE 1SR153-400	D912	CH00183R	LIGHT EMITTING DIODE (SLZ-981C-06-T1)
D605	2344041M	DIODE 1SS254TA/1SS270TA	D913	2336615	DIODE RU3YX (LF-A1)
D606	2344041M	DIODE 1SS254TA/1SS270TA	D914	2337952S	DIODE RU4YX(LF015-302)
D607	2334243M	ZD RD16E (B2 T2/TP/TA) SI 10MA 16.51V	D915	2337952S	DIODE RU4YX(LF015-302)
D609	CH02001M	DIODE 1SR139-400	D916	2337952S	DIODE RU4YX(LF015-302)
D610	CH02001M	DIODE 1SR139-400	D917	CH02001M	DIODE 1SR139-400
D611	CH02001M	DIODE 1SR139-400	D918	2348271M	ZENER MTZ-J27ATA
D612	2331154M	ZD HZ-12 (A1-3 B1-3.TA)SI 200MA 14.3V	D919	2348213M	ZENER DIODE MTZJ-15C TA
D613	2344041M	DIODE 1SS254TA/1SS270TA	D920	2344041M	DIODE 1SS254TA/1SS270TA
D614	CH02011M	DIODE 1SR153-400	D921	2348121M	ZENER MTZJ-6.2A TA
D615	2344041M	DIODE 1SS254TA/1SS270TA	D922	2348283M	ZENER DIODE MTZJ-30C TA
D616	2334305M	ZENER RD30E (B4 T2/TP/TA) SI 5MA 30.51V	D923	2344041M	DIODE 1SS254TA/1SS270TA
D701	2344041M	DIODE 1SS254TA/1SS270TA	D924	2348042M	ZENER MTZ-J3.0BTA
⚠ D702	2348511G	DIODE RS3FS LF-U1(014-201)	D925	2348264M	ZENER DIODE MTZJ-24D TA
⚠ D703	CH00891S	DIODE UF5406 (600V)	D926	CH02011M	DIODE 1SR153-400
⚠ D704	CH00891S	DIODE UF5406 (600V)	D928	CH01042M	DIODE RK34 (40V)
D705	2344041M	DIODE 1SS254TA/1SS270TA	D929	CH01061F	DIODE RU4AM(600V)
D706	2344041M	DIODE 1SS254TA/1SS270TA	D931	2348283M	ZENER DIODE MTZJ-30C TA
D708	2344041M	DIODE 1SS254TA/1SS270TA	D932	2344041M	DIODE 1SS254TA/1SS270TA
⚠ D709	2335042M	ZENER HZ-22 (2L TP) SI 200MA 400MW	D933	2348132M	ZENER MTZ-J6.8BTA

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
D936	2348193M	ZENER DIODE MTZJ-12C TA
D937	2344041M	DIODE 1SS254TA/1SS270TA
D938	CH00921M	DIODE SB140 40V 1A
D939	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)
D940	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)
D941	2344041M	DIODE 1SS254TA/1SS270TA
D942	2348132M	ZENER MTZ-J6.8BTA
D943	2344041M	DIODE 1SS254TA/1SS270TA
D944	2344041M	DIODE 1SS254TA/1SS270TA
D945	CH02011M	DIODE 1SR153-400
D946	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)
D947	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)
D948	2344041M	DIODE 1SS254TA/1SS270TA
D951	2348092M	ZENER MTZ-J4.7BTA
D952	2344041M	DIODE 1SS254TA/1SS270TA
D956	2344041M	DIODE 1SS254TA/1SS270TA
D957	2348213M	ZENER DIODE MTZJ-15C TA
D958	2344041M	DIODE 1SS254TA/1SS270TA
D959	2344041M	DIODE 1SS254TA/1SS270TA
D960	2344041M	DIODE 1SS254TA/1SS270TA
D961	2344041M	DIODE 1SS254TA/1SS270TA
D962	2344041M	DIODE 1SS254TA/1SS270TA
D963	2344041M	DIODE 1SS254TA/1SS270TA
D964	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)
D966	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)
D967	CH00182R	LIGHT EMITTING DIODE (SLZ-381C-06-T1)
D969	2348102M	ZENER MTZJ-5.1B TA
D971	2348143M	DIODE MTZ-J7.5CTA
D973	CH02011M	DIODE 1SR153-400
D974	2348111M	ZENER MTZ-J5.6ATA
D975	2344041M	DIODE 1SS254TA/1SS270TA
DA01	2344041M	DIODE 1SS254TA/1SS270TA
DA02	2344041M	DIODE 1SS254TA/1SS270TA
DA03	2348031M	DIO-MTZ-J2.7ATA
DA04	2348031M	DIO-MTZ-J2.7ATA
DA11	2344041M	DIODE 1SS254TA/1SS270TA
DA12	2344041M	DIODE 1SS254TA/1SS270TA
DA15	2344041M	DIODE 1SS254TA/1SS270TA
DA16	2344041M	DIODE 1SS254TA/1SS270TA
DA19	2344041M	DIODE 1SS254TA/1SS270TA
DE03	2344041M	DIODE 1SS254TA/1SS270TA
DE04	CH00151M	DIODE DSM1SD2(200V)TAPE
DE05	CH00151M	DIODE DSM1SD2(200V)TAPE
DE06	CH00151M	DIODE DSM1SD2(200V)TAPE
DE07	CH00151M	DIODE DSM1SD2(200V)TAPE
DF01	2344041M	DIODE 1SS254TA/1SS270TA
DF02	2344041M	DIODE 1SS254TA/1SS270TA
DF03	2344041M	DIODE 1SS254TA/1SS270TA
DF04	2338531M	DIODE EG-01C (V) SI 0.5A
DF05	2344041M	DIODE 1SS254TA/1SS270TA
DF07	2344041M	DIODE 1SS254TA/1SS270TA
DF08	2344041M	DIODE 1SS254TA/1SS270TA
DF09	2344041M	DIODE 1SS254TA/1SS270TA
DK01	2339551M	DIODE ED14(V1) SI 5MA 45V
DK04	CH02011M	DIODE 1SR153-400
DK05	CH02011M	DIODE 1SR153-400
DK06	2344041M	DIODE 1SS254TA/1SS270TA
DK16	2334324M	Z DIODE RD36E TAPE (B3) SI 500MW 36V
DK17	2334324M	Z DIODE RD36E TAPE (B3) SI 500MW 36V
DK18	2334324M	Z DIODE RD36E TAPE (B3) SI 500MW 36V
DK19	2334324M	Z DIODE RD36E TAPE (B3) SI 500MW 36V
DK20	2334324M	Z DIODE RD36E TAPE (B3) SI 500MW 36V
DK21	2334324M	Z DIODE RD36E TAPE (B3) SI 500MW 36V
DK22	2334324M	Z DIODE RD36E TAPE (B3) SI 500MW 36V
DK23	2334324M	Z DIODE RD36E TAPE (B3) SI 500MW 36V
DK24	2334324M	Z DIODE RD36E TAPE (B3) SI 500MW 36V
DK25	2334324M	Z DIODE RD36E TAPE (B3) SI 500MW 36V
DK26	2334324M	Z DIODE RD36E TAPE (B3) SI 500MW 36V
DK27	2334324M	Z DIODE RD36E TAPE (B3) SI 500MW 36V
DK40	2331806M	ZENER DIODE HZ-6 TAPE (B3) SI 500MW
DK41	2331806M	ZENER DIODE HZ-6 TAPE (B3) SI 500MW
DK42	2331806M	ZENER DIODE HZ-6 TAPE (B3) SI 500MW
DK43	2331806M	ZENER DIODE HZ-6 TAPE (B3) SI 500MW
DK44	2331806M	ZENER DIODE HZ-6 TAPE (B3) SI 500MW
DM01	2344041M	DIODE 1SS254TA/1SS270TA
DM02	2344041M	DIODE 1SS254TA/1SS270TA
DM03	CH00231	LED SLH-56VC3F
DM04	2348212M	DIO-MTZ-J15BTA
DM05	2348212M	DIO-MTZ-J15BTA
DM11	2348212M	DIO-MTZ-J15BTA
DN01	2344041M	DIODE 1SS254TA/1SS270TA
DN02	2344041M	DIODE 1SS254TA/1SS270TA
DN03	2344041M	DIODE 1SS254TA/1SS270TA
DN04	2344041M	DIODE 1SS254TA/1SS270TA
DN05	2348071M	ZENER DIODE MTZJ-3.9A TA
DN06	2344041M	DIODE 1SS254TA/1SS270TA
DN07	2344041M	DIODE 1SS254TA/1SS270TA
DN08	CH02001M	DIODE 1SR139-400
DN09	2331849M	ZENER HZ12C3 (TA) SI 500MW
DN10	2344041M	DIODE 1SS254TA/1SS270TA
DN11	2344041M	DIODE 1SS254TA/1SS270TA
DS05	CH00151M	DIODE DSM1SD2(200V)TAPE
DY01	2344041M	DIODE 1SS254TA/1SS270TA
DY05	2348163M	ZENER MTZJ-9.1C TA
DY06	2348163M	ZENER MTZJ-9.1C TA
DY07	2348163M	ZENER MTZJ-9.1C TA
		FUSE
⚠ F901	2722358	FUSE AC05A
		COMPOUND COMPONENTS
⚠ H901	2793312	CP-EXN-471P365L CAPRISTOR
HM01	CZ00523	SBX1981-52P R/C RCVR.
UKDG	CS00351	(HC2131) DCU
U002	HP00094	PINP UNIT KC-010S
U101	HC00311	FE (MAIN) TUNER UNIT V6-A30FT
U102	2429691	PIP TUNER V8-A68FT
U401	2412921	SPEAKER 160DG
U402	2412921	SPEAKER 160DG
⚠ UFPK	AZ00161	CRX FOCUS PACK HDK

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
		INTEGRATED CIRCUITS
I001	0000000	UNDECIDED
I004	CP05272U	E2PROM M24C16-BN6
I006	CK07131R	ANALOG MONO. IC (MC14053BFEL)
I007	2000541	IC M51951BSL
I008	2020342	IC MM1115XS
I102	CP05243U	Z9035612PSCR_B
I103	2000541	IC M51951BSL
I105	2015495R	IC HD74HC32FPEL
I106	CP05571	IC BA17805
I401	2004751	IC TA8200AH AUDIO OUTPUT
I501	CP03552U	IC TA1222BN
I503	CK08951R	MM1389XFBE
I601	2003541	IC LA7838
I602	CP06351U	ANALOG MONOLITHIC IC BA10393
⚠ I901	CZ00451	HYBRID IC (STR-M6811A)
⚠ I902	2000465	IC PS2501-1 (KC/LC)
⚠ I903	2000465	IC PS2501-1 (KC/LC)
⚠ I904	2000465	IC PS2501-1 (KC/LC)
⚠ I905	2381349	HYBRID IC (SE120N:+B CONT.)
I908	CP05573	IC BA17812
I909	1360891	IC-NJM7912FA
⚠ I910	CP03912F	ANALOG MONOLITHIC IC (SI-8402L)
I912	CP03923F	ANALOG MONOLITHIC IC (SI-8090S)
I913	CP03922F	ANALOG MONOLITHIC IC (SI-8050S)
IK01	CP05571	IC BA17805
IK02	CP01631R	ICL-PST9142
IK03	CP05571	IC BA17805
IK04	CZ00431	HYBRID IC (STK392-110)
IK05	CZ00431	HYBRID IC (STK392-110)
IS05	2020001	IC TDA9860
IS12	CP02601	AN5285K
IX01	CP04011U	ANALOG MONOLITHIC IC (TC90A13N)
IY01	2020452	ANALOG MONOLITHIC IC (CXA1545AS)
IY02	2003423	IC UPC7893AHF ICL
		COILS
L002	2123781R	FILTER COIL 101K
L003	2123781R	FILTER COIL 101K
L004	BH00697R	COIL 100UH
L101	BH00697R	COIL 100UH
L102	BH00697R	COIL 100UH
L103	2123781R	FILTER COIL 101K
L104	2123781R	FILTER COIL 101K
L105	2123781R	FILTER COIL 101K
L106	2123781R	FILTER COIL 101K
L107	2123781R	FILTER COIL 101K
L110	2123781R	FILTER COIL 101K
L111	2123781R	FILTER COIL 101K
L114	BH00214R	FILTER COIL 100UH
L401	BH01341M	COIL FERRITE BEADS
L402	BH01341M	COIL FERRITE BEADS
L403	BH01341M	COIL FERRITE BEADS
L503	BH00697R	COIL 100UH
L504	BH00697R	COIL 100UH
L505	BH00697R	COIL 100UH
L506	BH00697R	COIL 100UH
L507	BH00697R	COIL 100UH
L508	2123112M	COIL-AXIAL 47UH-K
L509	BH00697R	COIL 100UH
L601	BZ00845	CHOKE COIL 680UH SL1720
L602	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L701	BH00212R	FILTER COIL 68UH
L702	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L703	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L704	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L705	BZ00846	CHOKE COIL 1000UH SL1720
L706	BH00217R	FILTER COIL 180UH
L708	BH00205R	FILTER COIL 22UH
L709	BZ00317	LINEARITY COIL 140UH-W
L710	BZ00318	LINEARITY COIL 50UH-W
L720	BH00228R	COIL 332K-1T7608A
L803	BH00699R	COIL 150UH
L833	BH00699R	COIL 150UH
L863	BH00699R	COIL 150UH
⚠ L901	BZ01841	LX-LINE FILTER(102)
⚠ L902	BZ01831	LX-LINE FILTER(382)
⚠ L903	BZ01841	LX-LINE FILTER(102)
L905	BH00201R	FILTER COIL 10UH
L906	BH00201R	FILTER COIL 10UH
L907	BH00214R	FILTER COIL 100UH
L909	BV00901	PL-CHOPPER COIL 200UH/2A
L910	BH00212R	FILTER COIL 68UH
L911	BV00901	PL-CHOPPER COIL 200UH/2A
L912	BH00214R	FILTER COIL 100UH
L913	BH00214R	FILTER COIL 100UH
L914	BH00214R	FILTER COIL 100UH
L917	BH00214R	FILTER COIL 100UH
L921	2161152	FILTER COIL
L922	BH00214R	FILTER COIL 100UH
L924	2123469M	FERRITE BEADS CORE 2.3UH
L925	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L926	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L927	2123468M	FERRITE BEADS CORE LEAD 0.8MH
L930	2123469M	FERRITE BEADS CORE 2.3UH
L931	2123469M	FERRITE BEADS CORE 2.3UH
L932	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LA02	BH00697R	COIL 100UH
LE01	2123097M	LAL02 TYPE AXIAL COIL 3.9UH-K
LE02	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LE03	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LE04	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LF01	BH00229R	COIL 472K-1T7608A
LF02	BH00229R	COIL 472K-1T7608A
LK01	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LK02	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LK03	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LK04	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LK05	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LK06	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LK07	2123468M	FERRITE BEADS CORE LEAD 0.8MH
LK08	2123468M	FERRITE BEADS CORE LEAD 0.8MH

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
LK09	2123469M	FERRITE BEADS CORE 2.3UH
LK10	2123469M	FERRITE BEADS CORE 2.3UH
LK11	2123469M	FERRITE BEADS CORE 2.3UH
LK12	2123469M	FERRITE BEADS CORE 2.3UH
LS03	BH00697R	COIL 100UH
LX01	2123105M	LAL02 AXIAL COIL 15UH-K
LX05	BH00697R	COIL 100UH
LX06	BH00697R	COIL 100UH
LX07	BH00697R	COIL 100UH
LX08	BH00697R	COIL 100UH
LX09	BH00697R	COIL 100UH
LX10	BH00697R	COIL 100UH
LX11	2123109M	COIL-AXIAL 33UH-K
LX12	2123107M	LAL02 AXIAL COIL 22UH-K
LX13	2123107M	LAL02 AXIAL COIL 22UH-K
LY01	BH00697R	COIL 100UH
LY04	BH00697R	COIL 100UH
LY05	BH00697R	COIL 100UH
LY06	2123781R	FILTER COIL 101K
LY07	BH00697R	COIL 100UH
		TRANSISTORS
Q001	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q002	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q004	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q005	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q006	CA11271R	TRS 2SA1037AK T146 RS
Q007	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q008	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q009	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q011	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q013	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q014	CA11271R	TRS 2SA1037AK T146 RS
Q015	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q016	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q017	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q018	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q019	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q024	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q026	2312171	TRS. 2SC3852
Q027	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q028	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q030	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q032	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q101	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q102	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q103	2320647M	TRS. 2SC1213 (C 21 TZ/D 21 TZ)
Q106	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q107	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q108	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q109	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q110	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q111	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q112	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q113	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q114	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q115	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q401	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q402	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q403	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q404	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q500	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q501	CA00171R	TRS.CHIP IMT5 25V TAPE
Q502	2328072R	TRS.CHIP FMW2 40V TAPE
Q503	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q504	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q505	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q506	CA11264R	PHOTO TRANSISTOR(DTC114EKA)
Q509	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q510	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q511	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q512	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q513	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q515	CA11271R	TRS 2SA1037AK T146 RS
Q516	CA11271R	TRS 2SA1037AK T146 RS
Q517	CA11271R	TRS 2SA1037AK T146 RS
Q519	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
Q520	CA11271R	TRS 2SA1037AK T146 RS
Q521	CA11271R	TRS 2SA1037AK T146 RS
Q602	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ)
Q603	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ)
Q604	2320663M	TRS. 2SC1213A (C)
Q605	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ)
Q606	CF00611	TRS. 2SC3969(AB) 400V
Q607	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ)
Q609	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ)
Q701	2326216	TRS. 2SC3116 (S/T)
Q702	2320591M	TRS. 2SC458 (B TZ/C TZ)
Q703	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ)
Q705	2320591M	TRS. 2SC458 (B TZ/C TZ)
Q710	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ)
Q711	2320591M	TRS. 2SC458 (B TZ/C TZ)
Q712	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ)
Q777	CF01541F	2SC2514 F
Q801	2312372F	TRS-2SC3942
Q802	2320663M	TRS. 2SC1213A (C)
Q803	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ200MW
Q804	2320591M	TRS. 2SC458 (B TZ/C TZ)SI 230MHZ200MW
Q805	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ200MW
Q806	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ)
Q831	2312372F	TRS-2SC3942
Q832	2320663M	TRS. 2SC1213A (C)
Q833	2320591M	TRS. 2SC458 (B TZ/C TZSI 230MHZ200MW
Q861	2312372F	TRS-2SC3942
Q862	2320663M	TRS. 2SC1213A (C)
Q863	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ200MW
Q901	2312171	TRS. 2SC3852
Q902	2312171	TRS. 2SC3852
Q903	CF02281R	TRS. 2SA821S
Q905	2320591M	TRS. 2SC458 (B TZ/C TZ)SI 230MHZ200MW
Q906	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ200MW

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
Q907	CF02251R	2SC3415S TP
Q908	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ200MW
Q909	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ)
Q912	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ200MW
Q913	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ)
⚠ Q914	2323782R	THYRISTOR 03P2M(TA)
Q916	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ200MW
Q917	2320637M	TRS. 2SA673 SI 80MHZ 400MW
Q918	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ200MW
QA01	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QA02	CA11271R	TRS 2SA1037AK T146 RS
QA03	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QA04	CA11271R	TRS 2SA1037AK T146 RS
QA05	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QA06	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QA74	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QA75	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QA80	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QE01	2320598M	TRS. 2SC458 (B TZ/C TZ/D TZ)
QE02	2320598M	TRS. 2SC458 (B TZ/C TZ/D TZ)
QE03	2320598M	TRS. 2SC458 (B TZ/C TZ/D TZ)
QE04	2320598M	TRS. 2SC458 (B TZ/C TZ/D TZ)
QE05	2320598M	TRS. 2SC458 (B TZ/C TZ/D TZ)
QE06	2320647M	TRS. 2SC1213 SI 80MHZ400MW
QE07	2321351M	TRS. 2SA836/844D/E 100MA
QE08	CF00531	TRS. 2SA1964 160V
QE09	CF00541	TRS. 2SC5248 160V
QE10	2320598M	TRS. 2SC458 (B TZ/C TZ/D TZ)
QE11	2320598M	TRS. 2SC458 (B TZ/C TZ/D TZ)
QE12	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ)
QF01	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ)
QF03	2320663M	TRS. 2SC1213A (C)
QF04	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ)
QF05	2320663M	TRS. 2SC1213A (C)
QF06	CF00821F	TRS. 2SC4686A 1200V
QF07	CF00821F	TRS. 2SC4686A 1200V
QF08	CF00821F	TRS. 2SC4686A 1200V
QF09	2320591M	TRS. 2SC458 (B TZ/C TZ)
QF10	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ)
QF11	2320663M	TRS. 2SC1213A (C)
QF12	2320591M	TRS. 2SC458 (B TZ/C TZ)
QF13	2320591M	TRS. 2SC458 (B TZ/C TZ)
QF14	2320591M	TRS. 2SC458 (B TZ/C TZ)
QF15	2320591M	TRS. 2SC458 (B TZ/C TZ)
QF16	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ)
QF17	CF10852R	TRS. DTC144ESA-T
QK01	2312171	TRS. 2SC3852
QK02	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ)
QK03	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ)
QK04	2320591M	TRS. 2SC458 (B TZ/C TZ)
QK06	2320591M	TRS. 2SC458 (B TZ/C TZ)
QK07	2320591M	TRS. 2SC458 (B TZ/C TZ)
QK08	2320591M	TRS. 2SC458 (B TZ/C TZ)
QM01	2320591M	TRS. 2SC458 (B TZ/C TZ)
QM02	2312992	PHOTO TRS. RPT-38PT3F (M)
QN01	2320591M	TRS. 2SC458 (B TZ/C TZ)
QN02	2320591M	TRS. 2SC458 (B TZ/C TZ)
QN03	2320591M	TRS. 2SC458 (B TZ/C TZ)
QN04	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ)
QN05	2320591M	TRS. 2SC458 (B TZ/C TZ)
QN06	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ)
QX01	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QX02	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QX05	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QX06	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QX07	CA11271R	TRS 2SA1037AK T146 RS
QX08	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QX09	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QX10	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QX11	CA11271R	TRS 2SA1037AK T146 RS
QX12	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QY01	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QY02	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QY03	CA11271R	TRS 2SA1037AK T146 RS
QY04	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QY05	CA11264R	PHOTO TRANSISTOR(DTC114EKA)
QY06	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QY07	2326021M	TRS. 2SC1741S
QY08	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QY10	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QY11	CA11271R	TRS 2SA1037AK T146 RS
QY12	2320647M	TRS. 2SC1213(C21 TZ/D21 TZ)SI 80MHZ400MW
QY13	2320647M	TRS. 2SC1213(C21 TZ/D21 TZ)SI 80MHZ400MW
QY51	CA11271R	TRS 2SA1037AK T146 RS
QY57	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QY58	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QY59	CA11271R	TRS 2SA1037AK T146 RS
QY60	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QY61	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
QY62	CA11271R	TRS 2SA1037AK T146 RS
QY63	2325691R	TRANSISTOR CHIP(2SC2412KQ/R)
		RESISTORS
R001	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R002	0195947R	RES.2125 CHIP 1/10W 82KJ TAPE
R003	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
R005	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R007	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
R008	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
R009	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R010	0195916R	RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE
R011	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R012	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R013	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R014	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R015	0195927R	RES 2125 CHIP 1/16W 12KJ TAPE
R016	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
R021	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R022	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R023	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R025	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R026	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	R0C5	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R029	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R0C6	0700027M	RES.-CARBON FLM 1/16W 100-JB
R034	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	R0C7	0195929R	RES 2125 CHIP 1/16W 15KJ TAPE
R035	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE	R0E2	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R036	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R0E3	0188127M	RES.-CARBON FLM 560-JB 1/2W
R037	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE	R0E4	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R038	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R0E5	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R040	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R0E6	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
R042	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE	R0E7	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R043	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R0E8	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R044	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE	R0F7	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R045	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0F8	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R046	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE	R0F9	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
R047	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0G1	0100123M	RES.-CARBON FLM 1/8W 270K-JB
R048	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE	R0G5	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R049	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0G6	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R050	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE	R0G7	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R051	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0G8	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R055	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R0G9	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R056	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R0H1	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R059	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE	R0H2	0195916R	RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE
R060	0700054M	RES.-CARBON FLM 1/16W 10K-JB	R0H3	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R061	0195891R	RES 2125 CHIP 1/16W 470J TAPE	R0H4	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R062	0195891R	RES 2125 CHIP 1/16W 470J TAPE	R0H5	0195916R	RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE
R063	0195891R	RES 2125 CHIP 1/16W 470J TAPE	R0H6	0195881R	RES 2125 CHIP 1/16W 180J TAPE
R064	0195891R	RES 2125 CHIP 1/16W 470J TAPE	R0H7	0195947R	RES.2125 CHIP 1/10W 82KJ TAPE
R066	0700027M	RES.-CARBON FLM 1/16W 100-JB	R0H8	0700064M	RES.-CARBON FLM 1/16W 56K-JB
R067	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB	R0L5	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R068	0700027M	RES.-CARBON FLM 1/16W 100-JB	R0L6	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R069	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0L8	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R070	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE	R0M2	0195916R	RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE
R071	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0M3	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R072	0700058M	RES.-CARBON FLM 1/16W 22K-JB	R0M4	AW00074	TRIMMER RESISTOR
R073	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0M5	0700032M	RES.-CARBON FLM 1/16W 220-JB
R074	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE	R0M6	AW00074	TRIMMER RESISTOR
R075	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE	R0M7	0700032M	RES.-CARBON FLM 1/16W 220-JB
R076	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R0M8	AW00074	TRIMMER RESISTOR
R078	0700027M	RES.-CARBON FLM 1/16W 100-JB	R0M9	0700032M	RES.-CARBON FLM 1/16W 220-JB
R081	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE	R0N2	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R082	0195883R	RES 2125 CHIP 1/16W 220J TAPE	R0N4	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R083	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R0P3	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R086	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R0P5	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
R087	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0P6	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R088	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0P8	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R089	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R0P9	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R090	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R0R1	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R099	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0R3	0700027M	RES.-CARBON FLM 1/16W 100-JB
R0A2	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0R4	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R0A5	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R0R5	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R0A6	0195893R	RES 2125 CHIP 1/16W 560J TAPE	R0R6	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R0A7	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R0R7	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R0A8	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0R8	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R0A9	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R0S1	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R0C1	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R0S2	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R0C3	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE	R0T1	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R0C4	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R0T2	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R0T4	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R160	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R0T5	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE	R163	0700027M	RES.-CARBON FLM 1/16W 100-JB
R0T6	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R167	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R0T7	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R168	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R0T8	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R169	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R0T9	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	R173	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R0U1	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R174	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R0U3	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R175	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R0U4	0700027M	RES.-CARBON FLM 1/16W 100-JB	R176	0100041M	RES.-CARBON FLM 1/8W 100-JB
R0U5	0700027M	RES.-CARBON FLM 1/16W 100-JB	R177	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R101	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R178	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R102	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R179	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R103	0195895R	RES.2125 CHIP 1/10W 680J TAPE	R180	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R104	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R181	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R105	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R182	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R106	0195895R	RES.2125 CHIP 1/10W 680J TAPE	R183	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R107	0700054M	RES.-CARBON FLM 1/16W 10K-JB	R184	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R109	0700063M	RES.-CARBON FLM 1/16W 47K-JB	R185	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R110	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R186	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R111	0700027M	RES.-CARBON FLM 1/16W 100-JB	R187	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R112	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	R196	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
R113	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE	R197	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
R114	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R198	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
R115	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R1A2	0700023M	RES.-CARBON FLM 1/16W 47-J
R116	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R1A3	0700027M	RES.-CARBON FLM 1/16W 100-JB
R118	0100059M	RES.-CARBON FLM 1/8W 560-JB	R1A9	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R119	0100059M	RES.-CARBON FLM 1/8W 560-JB	R1B2	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R121	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R1C1	0195893R	RES 2125 CHIP 1/16W 560J TAPE
R122	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R312	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R123	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R3A4	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R124	0700027M	RES.-CARBON FLM 1/16W 100-JB	R3A5	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R125	0700027M	RES.-CARBON FLM 1/16W 100-JB	R3A6	0700032M	RES.-CARBON FLM 1/16W 220-JB
R127	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R3A7	0700032M	RES.-CARBON FLM 1/16W 220-JB
R128	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R3A8	0700032M	RES.-CARBON FLM 1/16W 220-JB
R129	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R3C3	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB
R132	0700063M	RES.-CARBON FLM 1/16W 47K-JB	R3C4	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R133	0700063M	RES.-CARBON FLM 1/16W 47K-JB	R3E1	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R134	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R3E2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R135	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R3E3	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R141	0195893R	RES 2125 CHIP 1/16W 560J TAPE	R3E4	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R142	0700054M	RES.-CARBON FLM 1/16W 10K-JB	R3E5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R144	0700054M	RES.-CARBON FLM 1/16W 10K-JB	R3E6	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R146	0700027M	RES.-CARBON FLM 1/16W 100-JB	R3E7	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R147	0700027M	RES.-CARBON FLM 1/16W 100-JB	R3E8	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R148	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R3F1	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R149	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R3F3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R150	0195893R	RES 2125 CHIP 1/16W 560J TAPE	R3F4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R151	0195891R	RES 2125 CHIP 1/16W 470J TAPE	R3F5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R152	0195891R	RES 2125 CHIP 1/16W 470J TAPE	R3F6	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R153	0195891R	RES 2125 CHIP 1/16W 470J TAPE	R3F7	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R154	0700036M	RES.-CARBON FLM 1/16W 470-JB	R3F8	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R155	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R3F9	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R156	0700065M	RES.-CARBON FLM 1/16W 68K-JB	R3G1	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R157	AT03694M	RES.MTL GRAZD FLM 1W 10M	R3G2	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R158	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R3G3	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R159	0700027M	RES.-CARBON FLM 1/16W 100-JB	R3G4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R3G6	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R503	0195920R	RES 2125 CHIP 1/16W 6.8KJ TAPE
R3G7	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R504	0700032M	RES.-CARBON FLM 1/16W 220-JB
R3G8	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R505	0700032M	RES.-CARBON FLM 1/16W 220-JB
R3G9	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R506	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R3H1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R508	0195879R	RES 2125 CHIP 1/16W 150J TAPE
R3H2	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R509	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R3H4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R510	0195906R	RES MINI-CHIP RMC1/16 1.8K-J TAPE
R3H7	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R511	0195914R	RES 2125 CHIP 1/16W 3.9KJ TAPE
R3H8	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R516	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R3H9	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R517	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R3J4	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R518	0195904R	RESISTOR 2125 CHIP 1/16W 1.5KJ TAPE
R3J5	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R519	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R3J6	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R520	0195904R	RESISTOR 2125 CHIP 1/16W 1.5KJ TAPE
R3J7	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R521	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
R3J8	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R522	0195910R	RES.2125 CHIP 1/16W 2.7KJ TAPE
R3J9	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R523	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R3K1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R524	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R3K2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R525	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R3K3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R526	0195908R	RES.2125 CHIP 1/10W 2.2KJ TAPE
R3K4	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R527	0195891R	RES 2125 CHIP 1/16W 470J TAPE
R3K5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R528	0195891R	RES 2125 CHIP 1/16W 470J TAPE
R3K6	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R529	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R3K8	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R530	0195879R	RES 2125 CHIP 1/16W 150J TAPE
R3K9	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R531	0195927R	RES 2125 CHIP 1/16W 12KJ TAPE
R3L1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R532	0195889R	RES.2125 CHIP 1/10W 390J TAPE
R3L2	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R533	0195889R	RES.2125 CHIP 1/10W 390J TAPE
R3L6	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R534	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R3L7	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R535	0195929R	RES 2125 CHIP 1/16W 15KJ TAPE
R3L8	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R536	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R3L9	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R537	0195927R	RES 2125 CHIP 1/16W 12KJ TAPE
R3M1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R538	0195870R	RESISTOR MINI-CHIP RMC1/10 68-J TAPE
R3M2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R539	0195870R	RESISTOR MINI-CHIP RMC1/10 68-J TAPE
R3M3	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R540	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R3M7	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R541	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R3M8	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R542	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R3M9	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R545	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R3P1	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R547	0195908R	RES.2125 CHIP 1/10W 2.2KJ TAPE
R3P4	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB	R548	0195912R	RES 2125 CHIP 1/16W 3.3KJ TAPE
R402	0700054M	RES.-CARBON FLM 1/16W 10K-JB	R549	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
R404	0700054M	RES.-CARBON FLM 1/16W 10K-JB	R550	0195922R	RES 2125 CHIP 1/16W 8.2KJ TAPE
R405	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB	R551	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R406	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB	R552	0195931R	RES 2125 CHIP 1/16W 18KJ TAPE
R407	0700037M	RES.-CARBON FLM 1/16W 560-JB	R553	0195879R	RES 2125 CHIP 1/16W 150J TAPE
R408	0700037M	RES.-CARBON FLM 1/16W 560-JB	R555	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R411	0700063M	RES.-CARBON FLM 1/16W 47K-JB	R556	0195910R	RES.2125 CHIP 1/16W 2.7KJ TAPE
R412	0700063M	RES.-CARBON FLM 1/16W 47K-JB	R557	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R413	0700067M	RES.-CARBON FLM 1/16W 100K-JB	R558	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R414	0700036M	RES.-CARBON FLM 1/16W 470-JB	R559	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R415	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R561	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R416	0700058M	RES.-CARBON FLM 1/16W 22K-JB	R562	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R417	AT01549S	METAL FILM RESISTOR(2.2OHM 1W)	R563	0195889R	RES.2125 CHIP 1/10W 390J TAPE
R418	AT01549S	METAL FILM RESISTOR(2.2OHM 1W)	R564	0195885R	RESISTOR 2125 CHIP 1/16W 270J TAPE
R419	0700065M	RES.-CARBON FLM 1/16W 68K-JB	R566	0188118M	RES.-CARBON FLM 1/2W 120-JB
R420	0700065M	RES.-CARBON FLM 1/16W 68K-JB	R567	0195908R	RES.2125 CHIP 1/10W 2.2KJ TAPE
R421	0188131M	RES.-CARBON FLM 1/4W 1K-JB	R568	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R422	0188131M	RES.-CARBON FLM 1/4W 1K-JB	R569	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R570	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R5E8	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R571	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R5E9	0700027M	RES.-CARBON FLM 1/16W 100-JB
R572	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE	R5F1	0195895R	RES.2125 CHIP 1/10W 680J TAPE
R573	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE	R5F2	0195891R	RES 2125 CHIP 1/16W 470J TAPE
R574	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R5F3	0195904R	RESISTOR 2125 CHIP 1/16W 1.5KJ TAPE
R575	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R5F4	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R576	0195883R	RES 2125 CHIP 1/16W 220J TAPE	R5F6	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R577	0195883R	RES 2125 CHIP 1/16W 220J TAPE	R5F7	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R578	0195883R	RES 2125 CHIP 1/16W 220J TAPE	R5F8	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R579	0188125M	RES.-CARBON FLM 390-J 1/2W	R5F9	0195875R	RES 2125 CHIP 1/16W 100J TAPE
R580	0188125M	RES.-CARBON FLM 390-J 1/2W	R5G1	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R581	0188125M	RES.-CARBON FLM 390-J 1/2W	R5G4	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R582	0195883R	RES 2125 CHIP 1/16W 220J TAPE	R5G5	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R583	0195883R	RES 2125 CHIP 1/16W 220J TAPE	R5G7	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R584	0195883R	RES 2125 CHIP 1/16W 220J TAPE	R5G9	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R586	0700044M	RES.-CARBON FLM 1/16W 1.8K-JB	R5H1	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R588	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R5H2	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R590	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R5H3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R591	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R5H4	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R592	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R5H5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R593	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R5H7	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R595	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R5J4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R597	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R5K2	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB
R598	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R602	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R5A0	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R603	AW00126	TRIMMER RESISTOR
R5A1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R604	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
R5A2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R605	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R5A3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R606	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R5A4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R607	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R5A5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R608	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R5A6	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R609	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R5A8	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R610	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB
R5A9	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R611	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R5C0	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R612	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R5C3	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	R613	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R5C4	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	R614	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R5C5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R615	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R5C6	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R616	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R5C7	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R617	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB
R5C8	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R618	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R5C9	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R619	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R5D0	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R620	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R5D1	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R621	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R5D2	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R622	0113725M	RESISTOR CARBON FILM SRD1/2P-B 100-J
R5D3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R623	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R5D4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	R624	0700064M	RES.-CARBON FLM 1/16W 56K-JB
R5D5	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R625	0700044M	RES.-CARBON FLM 1/16W 1.8K-JB
R5D6	0195250R	RES 2125 CHIP 1/16W 000 TAPE	R626	0700058M	RES.-CARBON FLM 1/16W 22K-JB
R5D7	0700027M	RES.-CARBON FLM 1/16W 100-JB	R627	0100063M	RES.-CARBON FLM 1/8W 820-JB
R5D8	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	R628	0100065M	RES.-CARBON FLM 1/8W 1K-JB
R5E2	0700027M	RES.-CARBON FLM 1/16W 100-JB	R629	0700064M	RES.-CARBON FLM 1/16W 56K-JB
R5E3	0700027M	RES.-CARBON FLM 1/16W 100-JB	R630	AW00128	TRIMMER RESISTOR
R5E4	0700027M	RES.-CARBON FLM 1/16W 100-JB	R635	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R5E5	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R636	0700061M	RES.-CARBON FLM 1/16W 33K-JB
R5E6	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R637	0700065M	RES.-CARBON FLM 1/16W 68K-JB
R5E7	0195875R	RES 2125 CHIP 1/16W 100J TAPE	R638	0700038M	RES.-CARBON FLM 1/16W 680-JB

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked w ith a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R639	0700064M	RES.-CARBON FLM 1/16W 56K-JB	R753	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
R640	0100045M	RES.-CARBON FLM 1/8W 150-JB	R760	AT03417S	METAL OX. 390OHM 2W
R641	0119722M	RES.-METAL OXIDE FILM 1.0-JB/W	R761	0114177M	RESISTOR-CARBON FILM SRD 1/4 P 4.7K-J
R642	0119722M	RES.-METAL OXIDE FILM 1.0-JB/W	R770	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R643	0700067M	RES.-CARBON FLM 1/16W 100K-JB	R771	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
R644	0700067M	RES.-CARBON FLM 1/16W 100K-JB	R772	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R645	0119731M	RES.-MTL 0X1DE 1W R68-K TAPE	R773	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
R646	0700054M	RES.-CARBON FLM 1/16W 10K-JB	R801	0140326S	RES. WIRE WOUND 5.6K-J 5W
R647	0700059M	RES.-CARBON FLM 1/16W 27K-JB	R803	0113744M	RESISTOR CARBON FILM SRD1/2P-B 560-J
R648	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R806	0113815M	RESISTOR CARBON FILM SRD1/2P-B 470K-J
R649	0100053M	RES.-CARBON FLM 1/8W 330-JB	R810	0100051M	RES.-CARBON FLM 1/8W 270-JB
R651	0114135M	RES.-CARBON FLM 1/4W 150-JB	R811	0100057M	RES.-CARBON FLM 1/8W 470-JB
R652	0700014M	RES.-CARBON FLM 1/16W 10-J	R812	0100045M	RES.-CARBON FLM 1/8W 150-JB
R660	0113725M	RES CARBON FILM SRD1/2P-B 100-J	R815	0100063M	RES.-CARBON FLM 1/8W 820-JB
R661	0113725M	RES CARBON FILM SRD1/2P-B 100-J	R817	0100041M	RES.-CARBON FLM 1/8W 100-JB
R671	0113725M	RES CARBON FILM SRD1/2P-B 100-J	R818	0100049M	RES.-CARBON FLM 1/8W 220-JB
R672	0113766M	RES CARBON FILM SRD1/2P-B 4.7K-J	R821	0100063M	RES.-CARBON FLM 1/8W 820-JB
R673	AT03242S	METAL OX. 100OHM 1W	R822	0100049M	RES.-CARBON FLM 1/8W 220-JB
R675	0700061M	RES.-CARBON FLM 1/16W 33K-JB	R823	0100065M	RES.-CARBON FLM 1/8W 1K-JB
R701	AT03599S	METAL OX. 2.7KOHM 3W	R825	0100021M	RES.-CARBON FLM 1/8W 15-JB
R702	AT03595S	METAL OX. 1.8KOHM 3W	R827	0100065M	RES.-CARBON FLM 1/8W 1K-JB
R704	0100031M	RES.-CARBON FLM 1/8W 39-JB	R831	0140326S	RES. WIRE WOUND 5.6K-J 5W
R705	0700034M	RES.-CARBON FLM 1/16W 330-JB	R833	0113744M	RESISTOR CARBON FILM SRD1/2P-B 560-J
R706	0700032M	RES.-CARBON FLM 1/16W 220-JB	R836	0113815M	RESISTOR CARBON FILM SRD1/2P-B 470K-J
R707	0113770M	RES CARBON FILM SRD1/2P-B 6.8K-J	R840	0100051M	RES.-CARBON FLM 1/8W 270-JB
R708	0700058M	RES.-CARBON FLM 1/16W 22K-JB	R841	0100057M	RES.-CARBON FLM 1/8W 470-JB
R709	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB	R842	0100033M	RES.-CARBON FLM 1/8W 47-JB
R710	0187068M	RES.-CARBON FLM 1/16W 1.3K-JB	R843	0150001	RESISTOR-VARIABLE CARBON RV08 200-B
R711	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB	R855	0100021M	RES.-CARBON FLM 1/8W 15-JB
R712	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB	R861	0140326S	RES. WIRE WOUND 5.6K-J 5W
R713	0113727M	RES CARBON FILM SRD1/2P-B 120-J	R863	0113744M	RESISTOR CARBON FILM SRD1/2P-B 560-J
R714	AT03219S	METAL OX. 15.0OHM 1W	R866	0113815M	RESISTOR CARBON FILM SRD1/2P-B 470K-J
⚠ R715	0700062M	RES.-CARBON FLM 1/16W 39K-JB	R870	0100051M	RES.-CARBON FLM 1/8W 270-JB
⚠ R716	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	R871	0100057M	RES.-CARBON FLM 1/8W 470-JB
R717	0113709M	RES CARBON FILM SRD1/2P-B 22-J	R872	0100033M	RES.-CARBON FLM 1/8W 47-JB
R718	0113785M	RES CARBON FILM SRD1/2P-B 27K-J	R873	0150001	RESISTOR-VARIABLE CARBON RV08 200-B
R719	0113791M	RES.-CARBON FLM 1/2W 47K-JB	R885	0100021M	RES.-CARBON FLM 1/8W 15-JB
R720	AT03411S	METAL OX. 220OHM 2W	R901	AT03665M	RES.MTL GRAZD FLM 1/2W 1M
R721	0188122M	RES.-CARBON FLM 220-J 1/2W	R902	0147060	RES.-WIRE WOUND 2W 33-K
R722	0700067M	RES.-CARBON FLM 1/16W 100K-JB	R903	0114281M	RESISTOR-CARBON FILM SRD 1/4P 100K-J
R723	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	⚠ R904	0147802	RES.-WIRE WOUND 15W 0.62-KM
R725	AT03611S	METAL OX. 6.8KOHM 3W	R905	0113772M	RES.-CARBON FLM SRD1/2P-B
R726	0114183M	RES-CARBON FILM SRD 1/4 P 8.2K-J	R906	0113772M	RES.-CARBON FLM SRD1/2P-B
R727	0100091M	RES.-CARBON FLM 1/8W 12K-JB	R907	0100023M	RES.-CARBON FLM 1/8W 18-JB
R728	0100081M	RES.-CARBON FLM 1/8W 4.7K-JB	R908	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB
R729	0114149M	RES-CARBON FILM SRD 1/4 PF 560-J	R909	0700038M	RES.-CARBON FLM 1/16W 680-JB
R730	0700054M	RES.-CARBON FLM 1/16W 10K-JB	R910	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB
R731	0100127M	RES.-CARBON FLM 1/8W 390K-JB	R911	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
R732	AT03251S	METAL OX. 220OHM 1W	R912	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
R733	AT03251S	METAL OX. 220OHM 1W	R913	0700023M	RES.-CARBON FLM 1/16W 47-J
R734	0100127M	RES.-CARBON FLM 1/8W 390K-JB	R914	0700054M	RES.-CARBON FLM 1/16W 10K-JB
⚠ R737	0114041M	RESISTOR-CARBON FILM SRD 1/4P 10J	R915	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
R740	0100121M	RES.-CARBON FLM 1/8W 220K-JB	R916	0700038M	RES.-CARBON FLM 1/16W 680-JB
R750	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB	R917	AT01531S	METAL FILM RESISTOR(0.1OHM1/2W)
R751	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB	R918	0100091M	RES.-CARBON FLM 1/8W 12K-JB
R752	0700067M	RES.-CARBON FLM 1/16W 100K-JB	R919	0100089M	RES.-CARBON FLM 1/8W 10K-JB

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R920	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RA02	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
R921	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RA05	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
R922	0700058M	RES.-CARBON FLM 1/16W 22K-JB	RA06	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
R923	0700057M	RES.-CARBON FLM 1/16W 18K-JB	RA07	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
R925	0113746M	RES.-CARBON FLM 1/2W 680-JB	RA08	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE
R926	0700057M	RES.-CARBON FLM 1/16W 18K-JB	RA09	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R929	0700028M	RES.-CARBON FLM 1/16W 120-JB	RA10	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R930	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RA11	0700027M	RES.-CARBON FLM 1/16W 100-JB
R931	0119695M	RES.-MTL OXIDE FLM 1W 0.47-F	RA12	0700027M	RES.-CARBON FLM 1/16W 100-JB
R932	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RA13	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R933	0700058M	RES.-CARBON FLM 1/16W 22K-JB	RA14	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R934	0113797M	RES.-CARBON FLM 1/2W 82K-JB	RA15	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R935	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	RA16	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R937	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RA17	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R940	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RA18	0195939R	RMC73S-2A393JR
R941	0700018M	RES.-CARBON FLM 1/16W 22-J	RA19	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
R942	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB	RA20	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R943	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB	RA21	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R944	0113793M	RES CARBON FILM SRD1/2P-B 56K-J	RA22	0195887R	RES 2125 CHIP 1/16W 330J TAPE
R945	0113793M	RES CARBON FILM SRD1/2P-B 56K-J	RA23	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R946	0114205M	RES-CARBON FILM SRD 1/4 P 15K-J	RA24	0195939R	RMC73S-2A393JR
R948	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RA25	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
⚠ R949	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB	RA26	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
⚠ R950	0700039M	RES.-CARBON FLM 1/16W 820-JB	RA27	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R952	0700032M	RES.-CARBON FLM 1/16W 220-JB	RA28	0195887R	RES 2125 CHIP 1/16W 330J TAPE
R954	0700058M	RES.-CARBON FLM 1/16W 22K-JB	RA29	0195883R	RES 2125 CHIP 1/16W 220J TAPE
R955	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RA30	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R957	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RA31	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R958	0700057M	RES.-CARBON FLM 1/16W 18K-JB	RA32	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R959	0113750M	RES.-CARBON FLM 1/2W 1K-JB	RA33	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R960	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RA34	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R962	0700067M	RES.-CARBON FLM 1/16W 100K-JB	RA35	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R963	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB	RA36	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R968	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RA37	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R969	0700067M	RES.-CARBON FLM 1/16W 100K-JB	RA40	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R970	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB	RA41	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R971	0700037M	RES.-CARBON FLM 1/16W 560-JB	RA42	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R972	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	RA43	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R974	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RA50	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R975	AT03419S	METAL OX. 470 OHM 2W	RA51	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R976	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RA52	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R977	0700063M	RES.-CARBON FLM 1/16W 47K-JB	RA53	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R979	0113762M	RES CARBON FILM SRD1/2P-B 3.3K-J	RA58	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R980	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RA59	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R981	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RA60	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
R982	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB	RA61	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
R983	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RA64	0195960R	RESISTOR MINI-CHIP RMC1/16 270K-J TAPE
R985	0700058M	RES.-CARBON FLM 1/16W 22K-JB	RA65	0195960R	RESISTOR MINI-CHIP RMC1/16 270K-J TAPE
R986	AT01531S	METAL FILM RESISTOR(0.1OHM1/2W)	RA66	0195960R	RESISTOR MINI-CHIP RMC1/16 270K-J TAPE
R987	AT01531S	METAL FILM RESISTOR(0.1OHM1/2W)	RA67	0195960R	RESISTOR MINI-CHIP RMC1/16 270K-J TAPE
R988	0113744M	RES CARBON FILM SRD1/2P-B 560-J	RA68	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R989	0700036M	RES.-CARBON FLM 1/16W 470-JB	RA69	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R990	0700058M	RES.-CARBON FLM 1/16W 22K-JB	RA70	0195250R	RES 2125 CHIP 1/16W 000 TAPE
R992	AT03608S	METAL OX. 5.6KOHM 3W	RA75	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
R993	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RA76	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RA01	0195918R	RES 2125 CHIP 1/16W 5.6KJ TAPE	RA77	0195250R	RES 2125 CHIP 1/16W 000 TAPE

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
RA78	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RE24	0100039M	RES.-CARBON FLM 1/8W 82-JB
RA79	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RE25	0188133M	RES.-CARBON FLM 1/2W 1.5K-JB
RA80	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RE26	0188132M	RES.-CARBON FLM 1.2K-J 1/2W
RA81	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RE27	0188155M	RES.-CARBON FLM 68K-JB
RA82	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RE28	0188155M	RES.-CARBON FLM 68K-JB
RA83	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RE29	0113776M	RESISTOR CARBON FILM SRD1/2P-B 12K-J
RA84	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE	RE30	0100039M	RES.-CARBON FLM 1/8W 82-JB
RA85	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	RE31	0100069M	RES.-CARBON FLM 1/8W 1.5K-JB
RA86	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RE32	0100067M	RES.-CARBON FLM 1/8W 1.2K-JB
RA91	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RE33	0113704M	RESISTOR CARBON FILM SRD1/2P-B 13-J
RA92	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE	RE34	AT03571S	METAL OX. 220OHM 3W
RA93	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE	RE35	0113686M	RES.-CARBON FLM 1/2W 2.7-J
RA94	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RE36	0113686M	RES.-CARBON FLM 1/2W 2.7-J
RA99	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RE37	0113704M	RESISTOR CARBON FILM SRD1/2P-B 13-J
RAA1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RE38	AT03254S	METAL OX. 300OHM 1W
RAA2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RE39	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RAA3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RE40	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RAA4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RE41	0700035M	RES.-CARBON FLM 1/16W 390-JB
RAA5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RE43	0700039M	RES.-CARBON FLM 1/16W 820-JB
RAA6	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RE45	0700027M	RES.-CARBON FLM 1/16W 100-JB
RAA7	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RE46	0113746M	RES.-CARBON FLM 1/2W 680-JB
RAD8	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RE47	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RAD9	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE	RF01	0700058M	RES.-CARBON FLM 1/16W 22K-JB
RAE1	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE	RF02	0700059M	RES.-CARBON FLM 1/16W 27K-JB
RAE2	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB	RF03	0700036M	RES.-CARBON FLM 1/16W 470-JB
RAE3	0195960R	RES MINI-CHIP RMC1/16 270K-J TAPE	RF04	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
RC02	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RF07	0700067M	RES.-CARBON FLM 1/16W 100K-JB
RC14	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RF08	0700056M	RES.-CARBON FLM 1/16W 15K-JB
RC16	0195871R	RMC73S-2A750JR	RF09	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RC18	0195875R	RES 2125 CHIP 1/16W 100J TAPE	RF10	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
RC19	0195871R	RMC73S-2A750JR	RF11	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
RC63	0195248R	RES 3216 CHIP 1/8 W 000 TAPE	RF12	0700067M	RES.-CARBON FLM 1/16W 100K-JB
RC89	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RF13	0700056M	RES.-CARBON FLM 1/16W 15K-JB
RC98	0195250R	RES 2125 CHIP 1/16W 000 TAPE	RF14	0700025M	RES.-CARBON FLM 1/16W 68-J
RE01	AT03584S	METAL OX. 680OHM 3W	RF15	AT03659M	RES.MTL GRAZD FLM 1/2W 390K
RE02	0700066M	RES.-CARBON FLM 1/16W 82K-JB	RF16	AT03659M	RES.MTL GRAZD FLM 1/2W 390K
RE03	0700057M	RES.-CARBON FLM 1/16W 18K-JB	RF17	AT03659M	RES.MTL GRAZD FLM 1/2W 390K
RE04	0700035M	RES.-CARBON FLM 1/16W 390-JB	RF18	AT03662M	RES.MTL GRAZD FLM 1/2W 560K
RE05	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB	RF19	AT03662M	RES.MTL GRAZD FLM 1/2W 560K
RE06	0700031M	RES.-CARBON FLM 1/16W 180-JB	RF20	0700027M	RES.-CARBON FLM 1/16W 100-JB
RE07	0700065M	RES.-CARBON FLM 1/16W 68K-JB	RF21	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
RE08	0700059M	RES.-CARBON FLM 1/16W 27K-JB	RF22	0700057M	RES.-CARBON FLM 1/16W 18K-JB
RE09	0700039M	RES.-CARBON FLM 1/16W 820-JB	RF23	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RE10	0700033M	RES.-CARBON FLM 1/16W 270-JB	RF25	AT03662M	RES.MTL GRAZD FLM 1/2W 560K
RE11	0700033M	RES.-CARBON FLM 1/16W 270-JB	RF26	AT03662M	RES.MTL GRAZD FLM 1/2W 560K
RE12	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB	RF27	AT03661M	RES.MTL GRAZD FLM 1/2W 470K
RE13	0700058M	RES.-CARBON FLM 1/16W 22K-JB	RF28	0700062M	RES.-CARBON FLM 1/16W 39K-JB
RE14	0700067M	RES.-CARBON FLM 1/16W 100K-JB	RF29	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB
RE15	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RF30	0100103M	RES.-CARBON FLM 1/8W 39K-JB
RE16	0113742M	RES.-CARBON FLM 1/2W 470-JB	RF31	0700044M	RES.-CARBON FLM 1/16W 1.8K-JB
RE18	0700036M	RES.-CARBON FLM 1/16W 470-JB	RF33	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RE19	0700067M	RES.-CARBON FLM 1/16W 100K-JB	RF34	0187100M	RES.-CARBON FLM 1/16W 30K-JB
RE20	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RF35	0187074M	RES.-CARBON FLM 1/16W 2.4K-JB
RE21	0100065M	RES.-CARBON FLM 1/8W 1K-JB	RF36	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RE22	0700027M	RES.-CARBON FLM 1/16W 100-JB	RF37	0700039M	RES.-CARBON FLM 1/16W 820-JB
RE23	0113701M	RESISTOR CARBON FILM SRD1/2P-B 10-J	RF40	AT03241S	METAL OX. 91.0OHM 1W

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
RF41	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RF42	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB
RF43	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RF44	0700061M	RES.-CARBON FLM 1/16W 33K-JB
RF45	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
RF46	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RF47	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RK01	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RK02	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RK03	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RK04	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RK05	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RK06	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RK07	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RK08	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RK09	0100057M	RES.-CARBON FLM 1/8W 470-JB
RK10	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
RK12	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK13	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK14	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB
RK15	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RK16	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
RK17	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RK18	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB
RK19	0100125M	RES.-CARBON FLM 1/8W 330K-JB
RK22	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK23	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
RK24	0700044M	RES.-CARBON FLM 1/16W 1.8K-JB
RK25	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RK26	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RK27	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RK28	0700027M	RES.-CARBON FLM 1/16W 100-JB
RK29	0700027M	RES.-CARBON FLM 1/16W 100-JB
RK30	0700027M	RES.-CARBON FLM 1/16W 100-JB
RK31	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK32	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK33	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK34	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RK35	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RK36	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RK37	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RK38	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RK39	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RK40	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RK42	AT03199S	METAL OX. 2.7OHM 1W
RK43	AT03571S	METAL OX. 220OHM 3W
RK44	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RK46	AT03197S	METAL OX. 2.2OHM 1W
RK47	AT03566S	METAL OX. 150OHM 3W
RK48	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RK50	AT03202S	METAL OX. 3.3OHM 1W
RK51	AT03571S	METAL OX. 220OHM 3W
RK52	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RK54	AT03197S	METAL OX. 2.2OHM 1W
RK55	AT03566S	METAL OX. 150OHM 3W
RK56	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RK58	AT03204S	METAL OX. 3.9OHM 1W
RK59	AT03571S	METAL OX. 220OHM 3W
RK60	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RK62	AT03202S	METAL OX. 3.3OHM 1W
RK63	AT03566S	METAL OX. 150OHM 3W
RK64	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RK90	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RK99	0113698M	RES.-CARBON FLM 1/2W 8.2-J
RM01	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RM02	0700058M	RES.-CARBON FLM 1/16W 22K-JB
RM03	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
RM04	0100065M	RES.-CARBON FLM 1/8W 1K-JB
RM05	0100065M	RES.-CARBON FLM 1/8W 1K-JB
RM06	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RM07	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB
RM08	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RM09	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
RM10	0100129M	RES.-CARBON FLM 1/8W 470K-JB
RM11	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RM12	0100125M	RES.-CARBON FLM 1/8W 330K-JB
RM13	0100073M	RES.-CARBON FLM 1/8W 2.2K-JB
RM14	0100125M	RES.-CARBON FLM 1/8W 330K-JB
RM15	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RM38	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RM40	0700067M	RES.-CARBON FLM 1/16W 100K-JB
RN01	0700057M	RES.-CARBON FLM 1/16W 18K-JB
RN02	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RN03	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RN04	0100113M	RES.-CARBON FLM 1/8W 100K-JB
RN05	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB
RN06	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RN07	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
RN08	0700044M	RES.-CARBON FLM 1/16W 1.8K-JB
RN09	0700061M	RES.-CARBON FLM 1/16W 33K-JB
RN10	0700057M	RES.-CARBON FLM 1/16W 18K-JB
RN11	0700058M	RES.-CARBON FLM 1/16W 22K-JB
RN12	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
RN13	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RN14	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RN15	0700064M	RES.-CARBON FLM 1/16W 56K-JB
RN16	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RN17	0700059M	RES.-CARBON FLM 1/16W 27K-JB
RN18	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RS12	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
RS13	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
RS14	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
RS15	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
RS32	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
RS33	0700056M	RES.-CARBON FLM 1/16W 15K-JB
RS34	AT03665M	RES.MTL GRAZD FLM 1/2W 1M
RS35	AT03666M	RES.MTL GRAZD FLM 1/2W 1.2M
RS42	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RS47	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RS48	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RSH4	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RX01	0195935R	RES 2125 CHIP 1/16W 27K-J TAPE

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
RX02	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RX03	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RX04	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RX05	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RX06	0195904R	RESISTOR 2125 CHIP 1/16W 1.5KJ TAPE
RX07	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RX08	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RX22	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RX26	0195967R	RESISTOR MINI-CHIP RMC1/16 510K-J TAPE
RX27	0195912R	RES 2125 CHIP 1/16W 3.3KJ TAPE
RX28	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RX29	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RX30	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RX31	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RX32	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RX33	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RX34	0195931R	RES 2125 CHIP 1/16W 18KJ TAPE
RX35	0195943R	RES.2125 CHIP 1/16W 56KJ TAPE
RX36	0195891R	RES 2125 CHIP 1/16W 470J TAPE
RX37	0195889R	RES.2125 CHIP 1/10W 390J TAPE
RX38	0195887R	RES 2125 CHIP 1/16W 330J TAPE
RX39	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RX40	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RX41	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RX42	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RX43	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RX45	0195939R	RMC73S-2A393JR
RX46	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RX47	0195891R	RES 2125 CHIP 1/16W 470J TAPE
RX48	0195887R	RES 2125 CHIP 1/16W 330J TAPE
RX49	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RX50	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RX51	0195912R	RES 2125 CHIP 1/16W 3.3KJ TAPE
RX52	0195927R	RES 2125 CHIP 1/16W 12KJ TAPE
RX53	0195922R	RES 2125 CHIP 1/16W 8.2KJ TAPE
RX55	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RX57	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RX58	0195952R	RMC73S-2A124JR
RX59	0195922R	RES 2125 CHIP 1/16W 8.2KJ TAPE
RX60	0195914R	RES 2125 CHIP 1/16W 3.9KJ TAPE
RX62	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RX63	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RY01	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RY05	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RY06	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RY07	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RY08	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RY09	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RY10	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RY11	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RY12	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RY13	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RY14	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RY15	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RY16	0195908R	RES.2125 CHIP 1/10W 2.2KJ TAPE
RY17	0195912R	RES 2125 CHIP 1/16W 3.3KJ TAPE
RY18	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RY19	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RY20	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RY21	0195914R	RES 2125 CHIP 1/16W 3.9KJ TAPE
RY22	0195887R	RES 2125 CHIP 1/16W 330J TAPE
RY23	0195872R	RES 2125 CHIP 1/10W 82-J TAPE
RY24	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RY25	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RY26	0195904R	RESISTOR 2125 CHIP 1/16W 1.5KJ TAPE
RY27	0195915R	RESISTOR MINI-CHIP RMC1/16 4.3K-J TAPE
RY28	0195920R	RES 2125 CHIP 1/16W 6.8KJ TAPE
RY29	0195912R	RES 2125 CHIP 1/16W 3.3KJ TAPE
RY30	0700027M	RES.-CARBON FLM 1/16W 100-JB
RY31	0195871R	RMC73S-2A750JR
RY32	0195871R	RMC73S-2A750JR
RY33	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
RY34	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
RY35	0195871R	RMC73S-2A750JR
RY39	0195887R	RES 2125 CHIP 1/16W 330J TAPE
RY40	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RY41	0195870R	RESISTOR MINI-CHIP RMC1/10 68-J TAPE
RY42	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RY43	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RY44	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RY46	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RY48	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RY50	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RY51	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RY52	0195941R	RESISTOR 2125 CHIP 1/16W 47KJ TAPE
RY53	0195933R	RES.2125 CHIP 1/16W 22KJ TAPE
RY55	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RY56	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RY57	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RY61	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RY62	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RY64	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RY65	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RY69	0700032M	RES.-CARBON FLM 1/16W 220-JB
RY70	0195900R	RES 2125 CHIP 1/16W 1KJ TAPE
RY71	0700027M	RES.-CARBON FLM 1/16W 100-JB
RY72	0700027M	RES.-CARBON FLM 1/16W 100-JB
RY73	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RY74	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RY75	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RY77	0195960R	RES MINI-CHIP RMC1/16 270K-J TAPE
RY78	0195960R	RES MINI-CHIP RMC1/16 270K-J TAPE
RY79	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RY81	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RY83	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RY84	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RY85	0195871R	RMC73S-2A750JR
RY86	0195871R	RMC73S-2A750JR
RY87	0195871R	RMC73S-2A750JR
RY88	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RY89	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RY90	0195943R	RES.2125 CHIP 1/16W 56KJ TAPE

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
RY91	0195937R	RES.2125 CHIP 1/16W 33KJ TAPE
RY96	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RY98	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RY99	0195943R	RES.2125 CHIP 1/16W 56KJ TAPE
RYA1	0195937R	RES.2125 CHIP 1/16W 33KJ TAPE
RYA2	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RYA3	0195891R	RES 2125 CHIP 1/16W 470J TAPE
RYA4	0195891R	RES 2125 CHIP 1/16W 470J TAPE
RYA5	0195885R	RESISTOR 2125 CHIP 1/16W 270J TAPE
RYA6	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RYA7	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RYA8	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RYA9	0195943R	RES.2125 CHIP 1/16W 56KJ TAPE
RYC1	0195937R	RES.2125 CHIP 1/16W 33KJ TAPE
RYC2	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RYC3	0195891R	RES 2125 CHIP 1/16W 470J TAPE
RYC4	0195891R	RES 2125 CHIP 1/16W 470J TAPE
RYC5	0195889R	RES.2125 CHIP 1/10W 390J TAPE
RYC6	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RYC7	0195925R	RES 2125 CHIP 1/16W 10KJ TAPE
RYC8	0195897R	RES 2125 CHIP 1/16W 820J TAPE
RYC9	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RYE2	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RYE3	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RYE4	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RYE5	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RYE6	0195875R	RES 2125 CHIP 1/16W 100J TAPE
RYE7	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RYE8	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RYE9	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RYF1	0700025M	RES.-CARBON FLM 1/16W 68-J
RYF2	0195870R	RESISTOR MINI-CHIP RMC1/10 68-J TAPE
RYF3	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RYF4	0195950R	RES 2125 CHIP 1/16W 100KJ TAPE
RYG1	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYG4	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYG5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYG6	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYG7	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYG8	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYG9	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYH1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYH2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYH3	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYH4	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYH5	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYH6	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYH7	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYH8	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYH9	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYJ1	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RYJ2	0195893R	RES 2125 CHIP 1/16W 560J TAPE
RYJ3	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYJ4	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYJ5	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYJ6	0195250R	RES 2125 CHIP 1/16W 000 TAPE
RYJ7	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYJ8	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYJ9	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYK1	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RYK2	0195248R	RES 3216 CHIP 1/8 W 000 TAPE
RZ09	0147152	RES.-WIRE WOUND 3W 27-JA CEMENTED
		TRANSFORMERS
⚠ T701	2260291U	HORIZONTAL DRIVE TRANS.
⚠ T702	BW00632	HFL1735YP-RC FLYBACK TRANSFER
⚠ T703	2272762	TRANS.-SATURBLE
⚠ T901	BT00801	POWER TRANSFORMER EE49F17U-AP73F
		SWITCHES
SM01	FE00001R	PUSH SWITCH
SM02	FE00001R	PUSH SWITCH
SM03	FE00001R	PUSH SWITCH
SM04	FE00001R	PUSH SWITCH
SM05	FE00001R	PUSH SWITCH
SM06	FE00001R	PUSH SWITCH
SM07	FE00001R	PUSH SWITCH
SM09	FE00091	SWP01N01-EVQQKH08Q
SZ01	FD00041	SLIDE SWITCH
SK01	FE00061	1P TACT SWITCH
		MISCELLANEOUS
E10B	2776543	MAG-VM(C-C)2/4P1.8UH
E10G	2776543	MAG-VM(C-C)2/4P1.8UH
E10R	2776543	MAG-VM(C-C)2/4P1.8UH
⚠ E12B	BY01101	DY-V80-7.0SS3.0L AKME YOKE ASS'Y
⚠ E12G	BY01101	DY-V80-7.0SS3.0L AKME YOKE ASS'Y
⚠ E12R	BY01101	DY-V80-7.0SS3.0L AKME YOKE ASS'Y
E201	FQ00021	BATTERY(R6P-AA)
E2R	EZ00911	COZ-ANODE COVER SP45-S3
E3R	2958351	CONN. W/WIRE MINI 2J
E301	HL00726	RML CLU-435UI REMOTE CONTROL
⚠ E701	AZ00107M	PROTECTOR CRXT491004
⚠ E801	EY00941	CRT-SOCKET
⚠ E831	EY00941	CRT-SOCKET
⚠ E861	EY00941	CRT-SOCKET
⚠ E901	EV00901	COD-AP9X-B-160
E92F	3446473	HEATSINK H30 P10
E92N	4520883	3*12 SCREW WITH WASHER
E93F	3446473	HEATSINK H30 P10
E93N	4520883	3*12 SCREW WITH WASHER
E98F	MC00104	HEAT SINK P10 H45 19 A6063S-75
E98N	4520883	3*12 SCREW WITH WASHER
⚠ E991	AZ00109M	PROTECTOR CRXT491007
⚠ E994	AZ00104M	PROTECTOR(CRXT491002)
⚠ E995	AZ00109M	PROTECTOR CRXT491007
⚠ E996	AZ00109M	PROTECTOR CRXT491007
⚠ E997	AZ00109M	PROTECTOR CRXT491007
⚠ E999	AZ00109M	PROTECTOR CRXT491007

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
E99F	MC00104	HEAT SINK P10 H45 19 A6063S-75	P832	2661756	1P PLUG PIN WITH BASE
E99N	4520883	3*12 SCREW WITH WASHER	P861	2961141	2P PLUG PIN WITH BASE
E9A	MA00842	POWER HEAT SINK A1100P-H14	P862	2661756	1P PLUG PIN WITH BASE
E9DN	4520883	3*12 SCREW WITH WASHER	⚠ P901	ED01851	PLUG 5289-2A
E9DW	4269926	WASHER PL-1252	PB	2661756	1P PLUG PIN WITH BASE
E9IN	4520883	3*12 SCREW WITH WASHER	PB	2661756	1P PLUG PIN WITH BASE
E9QF	MC00104	HEAT SINK P10 H45 19	PCB	ED00572	CP-TAC-L15X-A1
E9QN	4520883	3*12 SCREW WITH WASHER	PCB	ED00512	CP-TAC-L15P-A1
EBG1	EF08271	CO-06B-B2R5-301	PCB	2903544	4P PLUG PIN WITH BASE
EBG2	2966821	4J CONNE. L=300	PCC	ED00516	CP-TAC-L20P-A1
ED94	EY00791	PJX-LEAD-PLUGPIN	PCC	ED00576	CP-TAC-L20X-A1
ED95	EY00791	PJX-LEAD-PLUGPIN	PCD	ED00516	CP-TAC-L20P-A1
ED99	EY00791	PJX-LEAD-PLUGPIN	PCG	2903544	4P PLUG PIN WITH BASE
EF91	FP00031R	FUSE HOLDER TP00351-51	PCR	2903544	4P PLUG PIN WITH BASE
EAN	2974056S	3J CONNE SEH UL1007 L=160	PCX	ED00512	CP-TAC-L15P-A1
EFC	2974086S	CONNE 4P L=160	PDC	ED00565	CP-TAC-L09X-A1
EGR1	EF08381	CO-05B-B2R5-301	PCD	ED00576	CP-TAC-L20X-A1
EGR2	2966821	4J CONNE. L=300	PCX	ED00572	CP-TAC-L15X-A1
⚠ G701	CJ00071R	SPARK GAP AG15PC-152FS-K2M	PDG	ED00572	CP-TAC-L15X-A1
⚠ G801	CJ00071R	SPARK GAP AG15PC-152FS-K2M	PDS	ED00565	CP-TAC-L09X-A1
⚠ G802	CJ00071R	SPARK GAP AG15PC-152FS-K2M	PFC	2902263	PLUG PIN SUB MINI 4P
⚠ G831	CJ00071R	SPARK GAP AG15PC-152FS-K2M	PFJ	2902248	PLUG PIN SUB MINI9P
⚠ G832	CJ00071R	SPARK GAP AG15PC-152FS-K2M	PSD3	ED01492U	CONNECTOR 11BS1R2VUTWGX-A1
⚠ G861	CJ00071R	SPARK GAP AG15PC-152FS-K2M	PSD3	ED01472U	PLUG 11BP1R2HUTWGP-A1
⚠ G862	CJ00071R	SPARK GAP AG15PC-152FS-K2M	PSD4	ED01493U	CONNECTOR 13BS1R2VUTWGX-A1
JY01	ES00182	JACK 3S-14US AP92	PSD4	ED01473U	PLUG 13BP1R2HUTWGP-A1
JZ01	ER00121	2L4P LEVER TERMINAL	PFJ	2902268	PLUG PIN SUB MINI 9P
GF01	CJ00072R	SEMICONDUCTOR 252FB-K2M	PFT	ED01596U	PLUG CP-04BP5R0VU-TBL#2,3N
N101R	ND00069	CPD BRACKET RB50-3	PL	2903545	5P PLUG PIN WITH BASE
N111R	3810112	HP BELLOWS STAY	PMB	ED01597U	PLUG CP-06BP5R0VU-TBL#3,5N
N121R	4738241	ORING PRTX	PMG	ED01597U	PLUG CP-06BP5R0VU-TBL#3,5N
N123R	KX00062	CP LENS SEAL	PMR	ED01597U	PLUG CP-06BP5R0VU-TBL#3,5N
N125R	4621121	BELLOWS R EPDM	PP	2903543	3P PLUG PIN WITH BASE
N131R	NA02922	CPC LENS FIX METAL	PP	2903543	3P PLUG PIN WITH BASE
N135R	4491972	PRT METAL (AP74)	PP31	2661751	2P PLUG PIN WITH BASE
N200B	KQ00811	CPD38 LENS AB ASS'Y	PR	2903544	4P PLUG PIN WITH BASE
N200G	KQ00811	CPD38 LENS AB ASS'Y	PSD1	ED01491U	CONNECTOR 07BS1R2VUTWGX-A1
N200R	KQ00811	CPD38 LENS AB ASS'Y	PSD1	ED01471U	PLUG 07BP1R2HUTWGP-A1
N201	QR29311	50GX49B-511 INST.BOOK	PSD2	ED01492U	CONNECTOR 11BS1R2VUTWGX-A1
N300R	KQ00823	DELTA 38 C-ELEMENT R	PSD2	ED01472U	PLUG 11BP1R2HUTWGP-A1
N301R	9483051	COOLANT (GE-55)	PSD3	ED01492U	CONNECTOR 11BS1R2VUTWGX-A1
N703	NT00981	FBT HOLDER AP74 PS(HI=100%)	PSD3	ED01472U	PLUG 11BP1R2HUTWGP-A1
N711	NA03111	CHASSIS PWB BRACKET	PSD4	ED01493U	CONNECTOR 13BS1R2VUTWGX-A1
N715	NA20921	CHASSIS PWB BKT	PSD4	ED01473U	PLUG 13BP1R2HUTWGP-A1
N721	4491082	CHASSIS PWB BKT	PSD3	ED01492U	CONNECTOR 11BS1R2VUTWGX-A1
N725	NA03131	CHASSIS PWB BRACKET	PSD3	ED01472U	PLUG 11BP1R2HUTWGP-A1
NK05	MC00192	CONV.HEAT SINK AP73B A6063S-T5	PSD4	ED01493U	CONNECTOR 13BS1R2VUTWGX-A1
NK06	4520885	3*16 SCREW WITH WASHER	PSD4	ED01473U	PLUG 13BP1R2HUTWGP-A1
NK07	4531761	SCREEN 3X16 TAPPING W/S-WASHER STEEL	PSD5	ED01471U	PLUG 07BP1R2HUTWGP-A1
NK08	NA20781	CONV. IC SUPPORT BRACKET	PSD5	ED01491U	CONNECTOR 07BS1R2VUTWGX-A1
NM71	3816161	G9 EE HOLDER (S)	PSI1	ED00515	CP-TAC-L18P-A1
NM72	NJ01171	LED HOLDER A5WS	PSI1	ED00575	CP-TAC-L18X-A1
P001	2663821	2P SUB MINI PLUG PIN	PSI2	ED00515	CP-TAC-L18P-A1
P801	2961141	2P PLUG PIN WITH BASE	PSI2	ED00575	CP-TAC-L18X-A1
P802	2661756	1P PLUG PIN WITH BASE	PST	2675286	PH CONNE. 7P
P831	2961141	2P PLUG PIN WITH BASE	PSU1	ED00576	CP-TAC-L20X-A1

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
PSU1	ED00516	CP-TAC-L20P-A1
PTS	2663821	2P SUB MINI PLUG PIN
PVM1	ED00566	CP-TAC-L10X-A1
PVM2	ED00566	CP-TAC-L10X-A1
PVM1	ED00506	CP-TAC-L10P-A1
PVM2	ED00506	CP-TAC-L10P-A1
PVMC	2902262	PLUG PIN SUB MINI 3P
PY1	2959055	CONNECTOR-6P(PH)
PY1	2675285	PIN POST (PH 6P)
PY2	2902263	PLUG PIN SUB MINI 4P
PY2	2902263	PLUG PIN SUB MINI 4P
⚠ U401	2412921	SPEAKER 160 DG
⚠ U402	2412921	SPEAKER 160 DG
⚠ V1B	DEO1083	CRT 180DLB22B
⚠ V1G	DE01082	CRT 180DLB22 G
⚠ V1R	DE01081	CRT 180DLB22 R
X100	BP00771	OSXR032X121TA252E00
X501	2791501	CRYSTAL HC-49/U
X502	2168771	X'TAL CSB503F30
XX02	BJ00141	COIL (LC FILTER) 3.58 MHz
XX03	BJ00112	COIL (LC FILTER) 6 MHz

SYMBOL NO.	PART NO.	PART DESCRIPTION
		EXPLODED VIEW PARTS LIST
①	PH05723	CONTROL PANEL ASS'Y
②	NAII701	LENS/CRT METAL
③	KS00169	MIRROR
④	33010299	BARRIER BOARD
⑤	QD03841	REAR COVER
⑥	55020069	FRONT DOOR ASS'Y
⑦	3320048	BACK CENTER BAR
⑧	H512244	LOWER REAR BOARD
⑨	32110067	SPEAKER GRILL ASS'Y
⑩	NA11681	MIRROR METAL A
⑪	NAI11691	MIRROR METAL B
⑫	KR00272	SCREEN ASS'Y
⑬	H311404	DECO FRAME PAINTED
⑭	H311399	TOP FRAME PAINTED
⑮	DE01081	CRT 180DLB22(R)
⑯	DE01082	CRT 180DLB22(G)
⑰	DE01083	CRT 180DLB22(B)
⑱	KQ00823	DELTA38 C-ELEMENT (R)
⑲	KQ00822	DELTA38 C-ELEMENT (G)
⑳	KQ00821	DELTA38 C-ELEMENT (B)

HITACHI