HITACHI

SERVICE MANUAL

NTSC | GTV Chassis

NR | 0001E

13VR3B/20VR4B

R/C : CLU-361VR

CONTENTS

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

This television receiver will display television Closed Captioning (CC or ☐) in accordance with paragraph 15.119 of the FCC rules.

SAFETY NOTICE
USE ISOLATION TRANSFORMER WHEN SERVICING

Components having special safety characteristics are identified by ⚠ on schematics and on the parts list in this Service Data and its supplements and bulletins. Before servicing this 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

TV/VCR COMBINATION TELEVISION

May 1995

HEPM

SAFETY PRECAUTIONS

NOTICE: Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis or picture tube.

WARNING: Since the chassis of this receiver is connected to one side of the AC power supply during operation, whenever the receiver is plugged in, service should not be attempted by anyone unfamiliar with the precautions necessary when working on this type of receiver.

The following precautions should be observed:

1. Do not install, remove, or handle the picture tube in any manner unless shatterproof goggles are worn. People not so equipped should be kept away while picture tubes are handled. Keep picture tube away from the body while handling.
2. When service is required, an isolation transformer should be inserted between power line and the receiver before any service is performed on a "HOT" chassis receiver.
3. When replacing a chassis in the receiver, all the protective devices must be put back in place, such as barriers, non-metallic knobs, adjustment and compartment cover-shields, isolation resistors-capacitors, etc.
4. When service is required, observe the original lead dress. Extra care should be taken to assure correct lead dress in the high voltage circuitry area.
5. Always use the manufacturer's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's. Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
6. Before returning a serviced receiver to the customer, the service technician must throughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the receiver by the manufacturer has become defective, or inadvertently defeated during servicing.

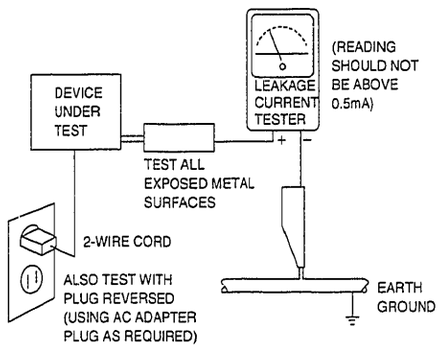
Therefore, the following checks should be performed for the continued protection of the customer and service technician.

Leakage Current Cold Check

With the AC plug removed from the 120V AC 60Hz source, place a jumper across the two plug prongs. Turn the AC power swiich on. Using an insulation tester (DC500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (antennas, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of 0.24M Ω and a maximum resistor reading of 5.2M Ω. Any resistance value below or above this range indicates an abnormality which requires corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

Leakage Current Hot Check

Plug the AC line cord directly into a AC 120V 60Hz outlet (do not use an isolation transformer for this check). Turn the AC power switch on. Using a "leakage Current Tester (Simpson Model 229 or equivalent)", measure for current from all exposed metal parts of the cabinet (antennas, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 0.5mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE RECEIVER TO THE CUSTOMER.

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 with all notes described in this Service Manual regarding this hold down circuit when servicing, so that this hold down circuit is operated correctly.

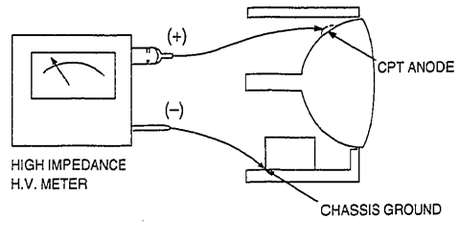
Serviceman warning

With minimum Black Level and Picture, the operating high voltage in this receiver is lower than 13VR3B...27.0kV, 20VR4B...31.0kV. In case any component having influence on the high voltage is replaced, confirm that high voltage with minimum Black Level and Picture is lower than 13VR3B...27.0kV, 20VR4B...31.0kV.

To measure H.V. use a high impedance H.V. meter. Connect (–) to chassis earth and (+) to the CPT anode button (See the following connection diagram).

NOTE: Turn the power switch off without fail before the connection to the Anode button is made.

X-radiation



TUBE: The primary source of X-radiation in this receiver is the picture tube. The tube utilized in this chassis is specially constructed to limit X-radiation emission.

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 an excessive high voltage problem, avoid coming 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 the excessive voltage.

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in HITACHI television receiver have special safety related characteristics. These are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual. Electrical components having such features are identified with a ⚠ mark in the schematics and parts list in this Service Manual.

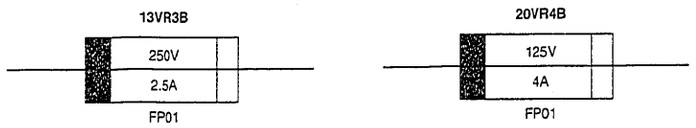
The use of a substitute replacement component which does not have the same safety characteristics as the HITACHI recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, X-radiation, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current HITACHI Service Manual. A subscription to, or additional copies of, HITACHI Service Manual may be obtained at a nominal charge from HITACHI SALES CORPORATION.

CAUTION

The following symbol near the fuse indicates fast operating fuse to be replaced. Fuse ratings appear within the symbol.

Example:



Ratings of fuses are FP01(13VR3B) ... 2.5A-250V, FP01(20VR4B) ... 4A-125V.
Replace with the same type fuse for continued protection against fire.

SPECIFICATIONS

Display
- Picture Tube ..... 13VR3B: 13 inches measured diagonal 90°C deflection Picture Tube
  20VR4B: 20 inches measured diagonal 90°C deflection Picture Tube

VCR
- Format ..... VHS
- Record/Playback System ..... Video : 4 Heads
  Audio : Monaural record/playback system
- Tape Speed ..... 33.35 mm/sec (SP), 16.67 mm/sec (LP), 11.12 mm/sec (EP)

General
- Power Source ..... 120V AC, 60Hz
- Power Consumption ..... 13VR3B : Approx. 71W
  20VR4B : Approx. 89W
- Television System ..... EIA Standard NTSC color
- Channel Coverage ..... 181 ch.
  VHF : 2 ~ 13
  UHF : 14 ~ 69
  CATV Mid Band : A-5 ~ A-1
  Super Band : J-W
  Hyper Band : W + 1 – W + 28
  Ultra Band : W + 29 – W + 84
- Operating Temperature ..... 41°F ~ 104°F (5°C – 40°C)
- Dimensions

	13VR3B	20VR4B
Height (in.)	15 9/18	19 7/8
Width (in.)	15 9/16	20 1/2
Depth (in)	14 3/4	18 5/16
Weight (lbs)	29.0	52.0

Note:
Due to improvements, specifications in this operating guide are subject to change without notice.

TECHNICAL CAUTIONS

High voltage limiter circuit operation check
1. Connect the high voltage voltmeter between the CPT anode terminal (anode cap) and ground as shown in Figure 1.
2. Turn off TV and connect jig as shown in Figure 2. Adjust jig fully counter-clockwise for minimum resistance.
3. Set the AC input to 120V AC and turn on TV.
4. Confirm test pattern on CPT is a usable picture, then slowly adjust jig until the picture disappears and TV shuts down.
5. When the limiter circuit is operating properly, High voltage will be less than [A] kV at [B] mA when TV shuts down.

	13VR3B	20VR4B
A (kV)	29	31
B (mA)	0.7	0.85

6. Turn off set immediately after checking circuit operation.
7. Unplug set for one minute to reset shutdown circuit. Remove jig and voltmeter.

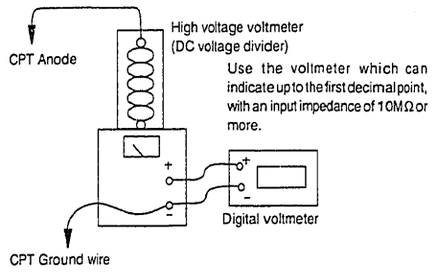


Fig. 1

Disconnect the #① pin of IP51 from +B line.
Connect jig (20kΩ VR) between +B line and #① pin of IP51.

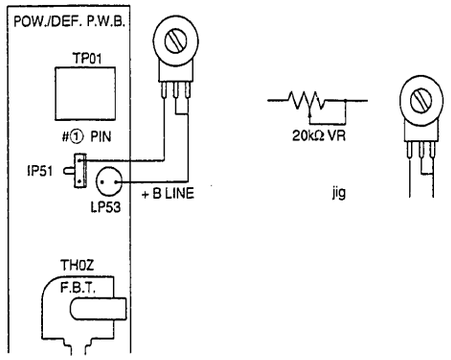
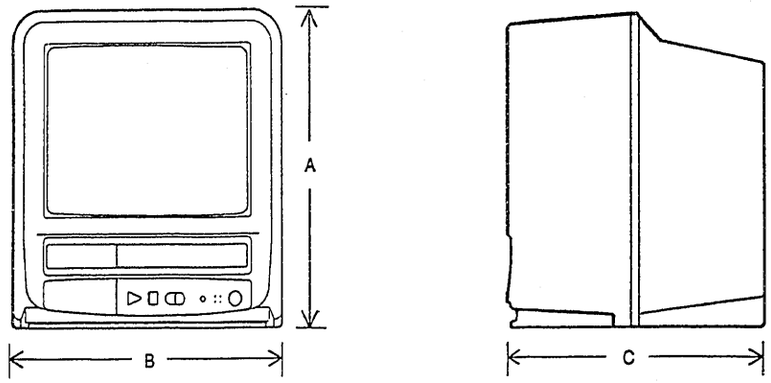


Fig. 2

GENERAL INFORMATION

Dimension

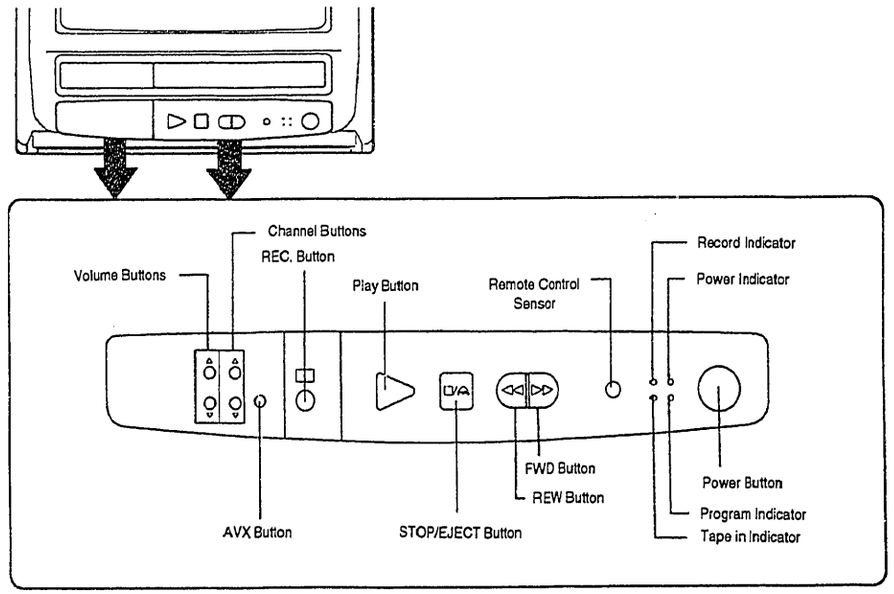


DIMENSION / MODEL	A (in.)	B (in.)	C (in.)
13VR3B	15 9/18	15 9/18	14 3/4
20VR4B	19 7/8	20 1/2	18 5/16

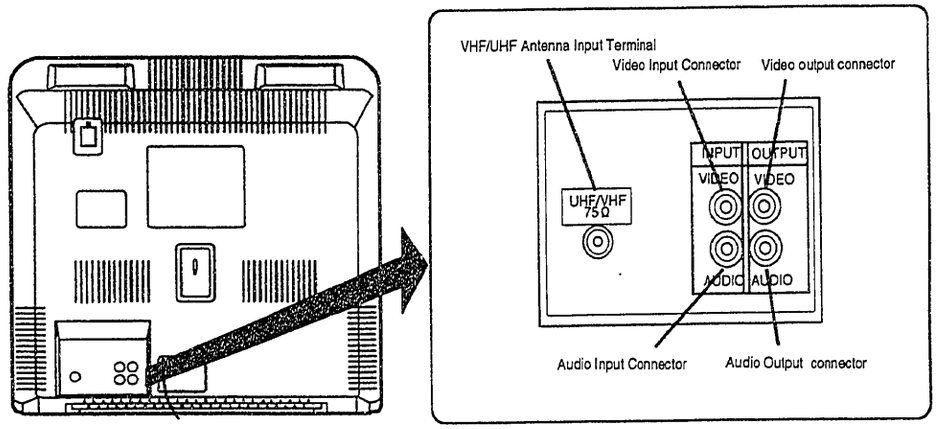
Description of Controls

● **TV**

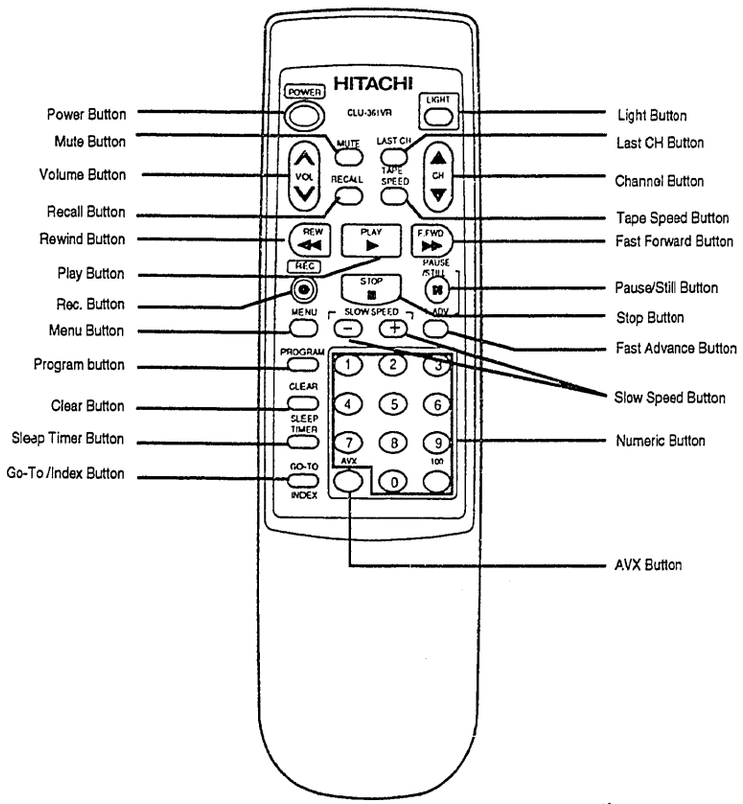
Front



Rear



● Remote control



NEW ADOPTION CIRCUIT EXPLAINATION

1. Power Supply Circuit

(1) Construction
GTV's Power Supply Circuit supplies the deflection, sound, signal, and VTR with 1 power supply.

(2) Operating Circuit
When AC power is applied, voltage flows from RP05/ RP06 to IP01 pin ⑨ and the switching circuit starts to operate.
When S731 and the remote control is turned on, IP901 pin ㊾ goes H. This turns on SP01 and SP51 and supplies power to the magnetic degaussing circuit and the deflection circuit.
When main power supply and Remote control is turned off, VTR is not operating, IC901 pin ㊹ changes to L and QP56/ IP52 are turned off and thus produce the Low Electricity Consumption.

(3) Constant Voltage Operation
When TV is in operation +B voltage (DP53 output) error is detected at IP51 pin ① and the error signal is transmitted from uncharged area to charged area by IP03. Then pulse width is controlled by the return of signal to IP01 pin ⑦.
When in remote control standby mode or VTR preprogrammed recording mode, relay SP51 and +B voltage are turned off.
This time, 10V output error of DP55 is detected at QP53, DP60 and 10V is stabilized by returning of signal from IP01 in the same way.
Switching frequency changes from 45kHz of heavy load when TV is in operation to 130kHz with remote control in stand-by mode.

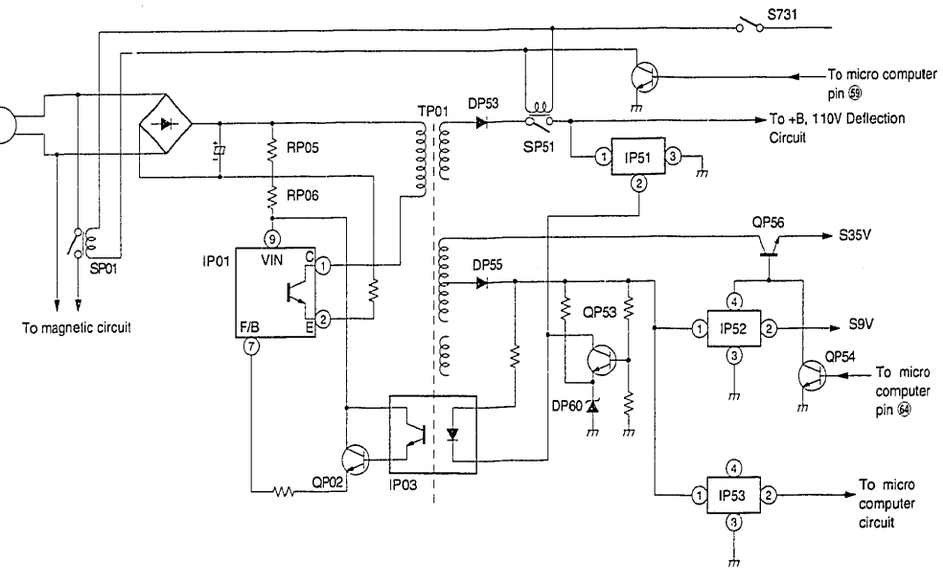
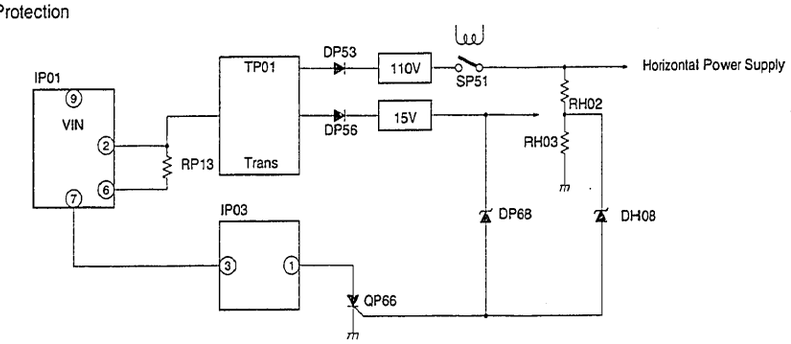


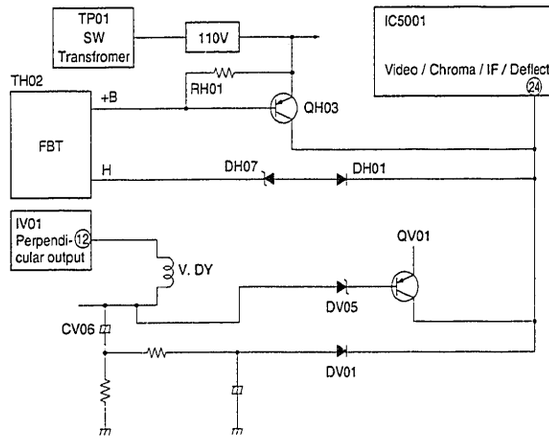
Fig. 1 Power Supply Circuit Composed Diagram

2. Protection Operating Circuit

(1) Power Supply Protection



(2) X-ray Protection



(3) Protection Circuit

Item	Protection Item	Symbol No.	Protecting Operation
(1)	15V voltage flow	DP68	15V voltage↗→DP68 ON→QP66 ON→IP03① voltage ↘→IP03③ voltage↘→IP01⑦ voltage↘→IP01 SW-Tr ON time increase→TP01 voltage↗→IP01⑨ voltage↗→IP01 Internal Excessive Voltage protection turns IP01 OFF→IP01 STOP
(2)	Current flow	RP13	IP01(Internal) SW-Tr (Current Flow)→RP13 Voltage Drop ↗→IP01 Internal Current Flow Protection Operating System→IP01 STOP
(3)	+B Voltage Flow	DH08	+B (110V) voltage↗→DH08 ON→QP66 ON→afterwards, same as item 1.
(4)	High Voltage Limit	DH07	FBT(H) voltage↗→DH07, DH01 ON→IC5001㉔ voltage↗→X-ray Protection Operating System
(5)	IV01 Short Output	DV05	IV01⑫ voltage ↘→DV05 ON →QV01 ON →IC5001㉔ voltage ↗→X-ray Protection Operating System
(6)	CV06 Short	DV01	CV06 short→DV01 ON→IC5001 ㉔ voltage↗→X-ray Protection Operating System
(7)	FBT Protection	RH01 QH03	FBT strange→+110V current flow→RH01 voltage drop↗→QH03 ON →IC5001 ㉔ voltage↗→X-ray Protection Operating System

Sometimes there are some mistakes when operating the Power Supply Protection Circuit. After servicing please press the SM04 on the PCB and reset the microcomputer.

SERVICING POSITIONS

1. Servicing Position For Electrical Adjustment

To adjust this part, remove VCR part from TV, with the removed shield cover from the bottom.

1) Remove VCR part from TV.
2) Remove 4 screws and remove shield cover.

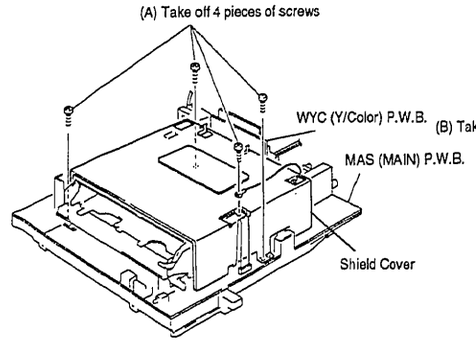


Fig. 1

2. Setting the servicing position

This VCR has a structure that part of the main circuit board is invisible under the loading mechanism block. When servicing, set the VCR to the following servicing positions according to the positions to be checked.

2-1. Procedures to check the main IC system microcomputer.

1) Remove VCR part from TV.
2) Check the pins of the main IC through the hole in the frame.

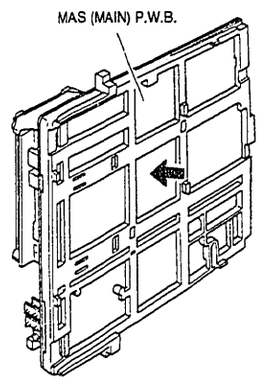


Fig. 2

2-2. Procedures to confirm the backside of mechanism block operation

Caution: The playback FM signal cannot be checked with this servicing position.

1) Remove VCR part from TV.
2) Remove 2 screws A and remove PLA (Preamp and audio) board.
3) Remove 4 screws B and lift up Mechanism block.

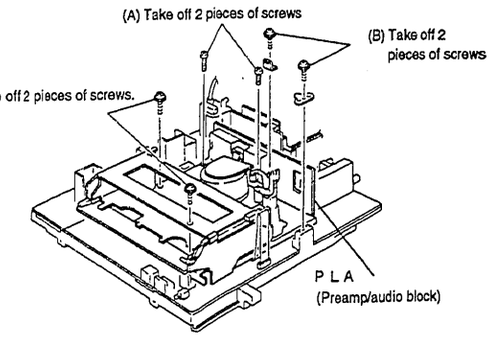


Fig. 3

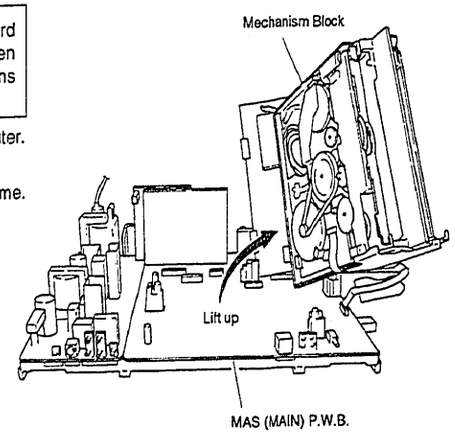


Fig. 4

2-3. Procedures to check the signal line while operating the mechanism

Setting Procedure (Fig. 6)
1) From television remove VCR parts.
2) Remove 4 screws, mechanism block and PLA Board and bring upside direction together.
3) Connect the 18-pin extension cable to the direct connectors between PLA and MAS circuit boards.
4) Connect the 8-pin connector between the cylinder motor and MAS circuit boards.
5) Connect the 7-pin connector between the capstan motor and MAS circuit boards.

Jig to be used (Fig. 5)

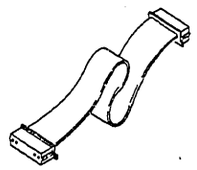
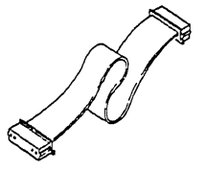
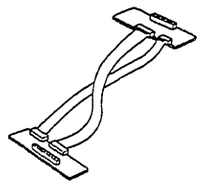
1. 7-pin extension connector : 1 set : Part No. 5842629	2. 8-pin extension connector : 1 set : Part No. 5846274	3. 18-pin extension cables : 2 sets : Part No. 7069077
		

Fig. 5

Fig. 6

ELECTRIC CIRCUIT ADJUSTMENT

Test equipment and tapes necessary for adjustment

1) Dual - trace oscilloscope
2) Color bar generator
3) Monitor TV (with A/V jacks)
4) Alignment tapes
   - MH - 1 : Parts No. 7099046
   - 30HMP2-1 : Parts No. 7099089
5) Blank tape
6) Vector Scope

Cautions on adjustments

1) If there are no special instructions, the following conditions apply.
   - Oscilloscope probe: 10:1
   - Oscilloscope synchronization: Internal sync
   - Ground of test equipment: TP603 (GND) on Main P.C.B.
2) When making more than one adjustment, perform the adjustments in the order as listed.

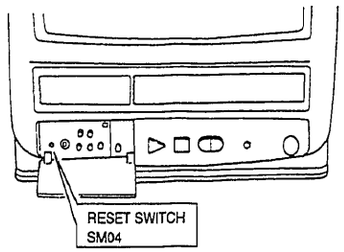


Fig. 1

Usable servicing methods

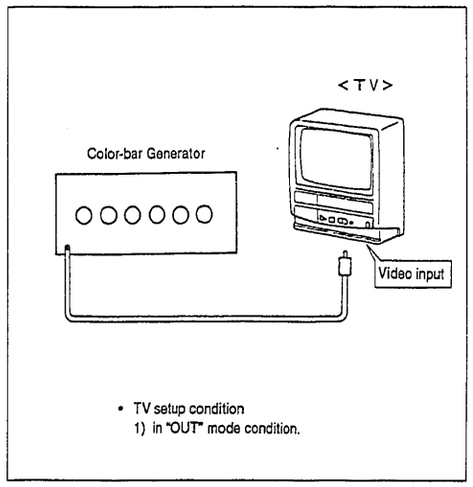
1. To reset the main microprocessor

The main microprocessors used in this unit can be reset by pressing switch (SM04) on the circuit board.

2. Connection of test equipments

Please refer to Fig.2 for connection unless otherwise indicated.

1. Connect color bar generator to video input terminal.



- TV setup condition
  1) in "OUT" mode condition.

Fig. 2

Adjustment Parts Locations

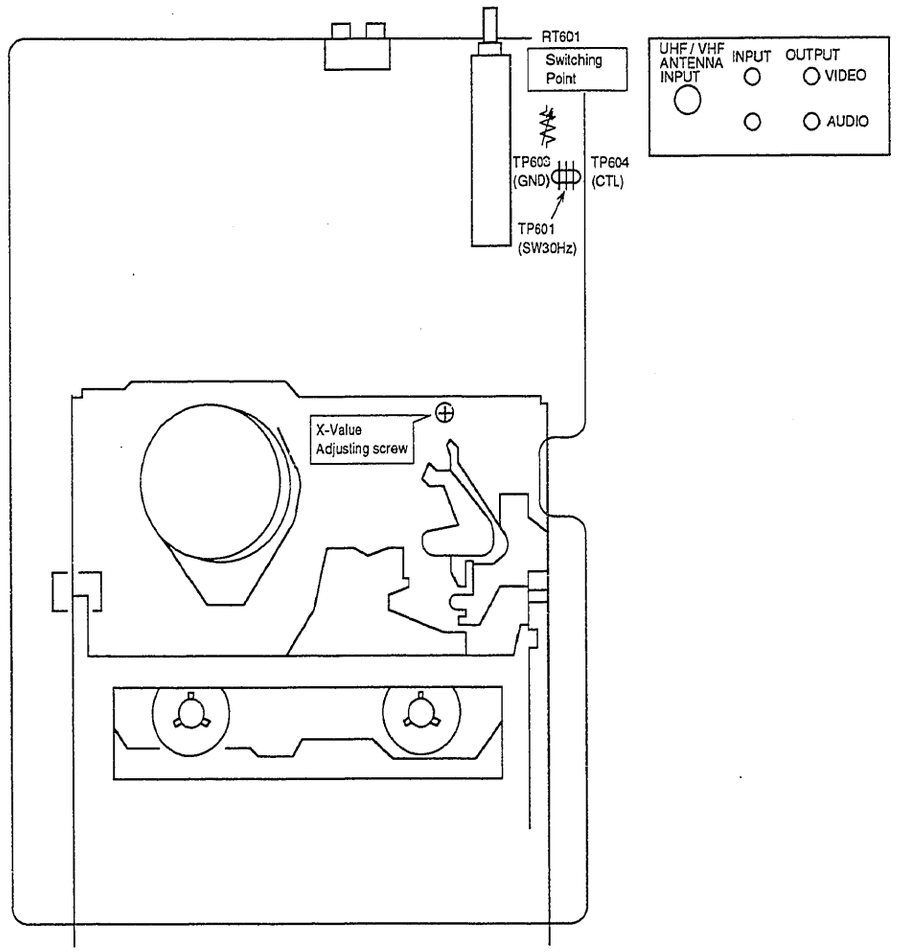


Fig. 3 Main Circuit Board (Component side)

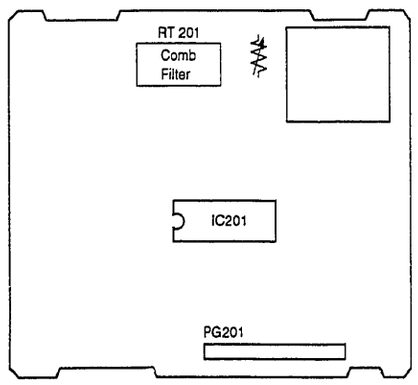


Fig. 4 WYC Circuit Board (Component side)

1. Servo circuit adjustment

1.1 Head Switching Point Adjustment

Purpose : To set the video head switching point during play to approximately the center where the CH-1 and CH-2 envelopes overlap each other.

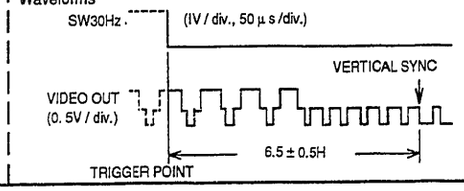
Fault :
- The vertical sync signal is degraded and vertical jitter occurs.
- Switching noise appears across the bottom of the screen.

Test Equipment/Jigs	Test Equipment Connection Points	VCR State	Adjustment Point
• Oscilloscope	• CH-1 : VIDEO OUT • CH-2 : TP601 (SW30Hz)	• Play alignment tape	• RT601 (HEAD SWITCHING POINT)
• Alignment tape (30HMP2-1)			

Adjustment Procedure
(Settings of oscilloscope)
- Trigger with CH-2.
- Set the sync slope to "–".

1) Vertical sync signal :
Set to 6.5H ± 0.5H from the trailing edge (trigger position) of the SW30Hz pulse.

Waveforms



1.2 X-Value adjustment

Purpose : To obtain compatibility with other VCRs.

Fault : Noise occur when a tape recorded by another VCR is played back because the tracking cannot be optimized.

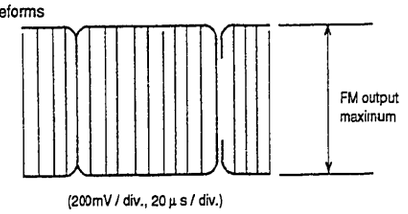
Test Equipment/Jigs	Test Equipment Connection Points	VCR State	Adjustment Point
• Oscilloscope	• CH-1 : TP2501 (PBFM) • CH-2 : TP601 (SW30Hz)	1) Turn the power off and set to the test mode by shorting TP602 to TP603 2) Play an alignment tape.	• X-value adjustment screw. (HEAD SWITCHING POINT)
• Alignment tape (30HMP2-1)	—		

Adjustment Procedure
1) Play the alignment tape.
2) Press the channel ▲ and ▼ buttons simultaneously to set the tracking to the center.
3) Turn the X-value adjustment screw to maximize the FM output.

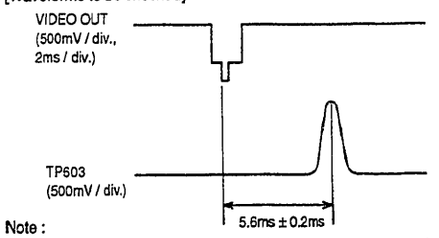
[Checking in the autotracking mode]
4) Change the connection points of the oscilloscope.
- CH-1 : Video output jack
- CH-2 : TP604 (CTL PULSE)

5) Press the eject button to remove the cassette; reinsert the cassette, then play it to activate the autotracking function.
6) Check that the time from the CTL pulse (positive pulse) to V.SYNC in the video signal is (5.6 ms ± 0.2 ms)
If the phase is drifted greatly, perform steps 1) – 3) again.

Waveforms



[Waveforms to be checked]



Note :
The pulse at TP604 (CTL) is locked and does not move even when the X-value adjustment screw is turned.
Activate autotracking again and check the phase.

2. Video Circuit Adjustment

2.1 Comb Filter Adjustment

Purpose : To determine the characteristics of the playback comb filter.

Fault :
- Cross color appears in the playback picture.
- The S/N of the playback picture deteriorates.

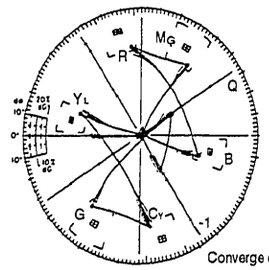
Test Equipment/Jigs	Test Equipment Connection Points	VCR State	Adjustment Point
• Color bar generator • Vectorscope • Monitor TV • Blank tape	• VIDEO INPUT JACK • VIDEO OUTPUT JACK • VIDEO OUTPUT JACK	• Set RT201 to its center position, record a color bar signal in the EP mode and play it back using the same VCR.	• RT201 [WYC board]

Adjustment Procedure

[Adjustment using a vectorscope]

1) Adjust RT201 so the bright points of each color are converged as shown on the right.

Vectorscope



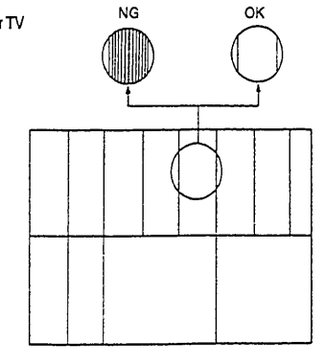
Converge each bright point

[Adjustment using a monitor TV]

Caution : Use a TV with the screen of 21 inches or more for this adjustment.

1) Adjust RT201 so that the vertical stripes in the color bars on the monitor TV are not seen, as shown on the right.

Monitor TV



3. VCR Presetting

1) Press the "Record" button. At the same time, press the "Reset" button for 1 second. Then, release the "Reset" button followed by the "Record" button.

Caution

Remove the cassette before carrying out the above procedure to prevent any accidental recording.

2) The items listed below will be initialised by the above procedure, and will have to be reset.

Menu Display

– Menu –
Set up ☞ 1
Picture ☞ 2

Select Number
Exit ☞ menu

INSPECTION METHOD BY TROUBLE INDICATION SYSTEM

This product features a trouble indication system. The tape-in LED indicates trouble with mechanism to help you find causes of power shutdown or mechanism malfunctions. The main µp (IC901) detects defective mechanism controls and indicates defect by blinking or strobing the tape-in LED a predetermined amount of times.
The defect information is contained in Table in Fig. 1. The number of blinks indicates the type of failure.

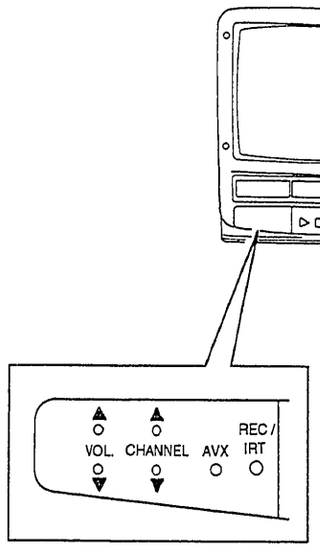
Trouble indication method.

Press "Ch ▼" button on the set when the power is off and the tape-in LED will blink. The number of blinks shows the nature of failure.

How to clear trouble information.

The trouble information will be cleared by performing the following procedure.
a) Initial setting of VCR.

※ Count the number of blinking times of tape-in LED by itself.



INDICATION OF TROUBLE CONTENTS

NO. LED BLINK TIME	CONTENTS
1	FL MECHA LOCK
2	CAPSTAN LOCK
3	LOADING MECHA LOCK
4	REEL SYSTEM LOCK
5	CYLINDER LOCK

Fig.-1 Contents of trouble indication

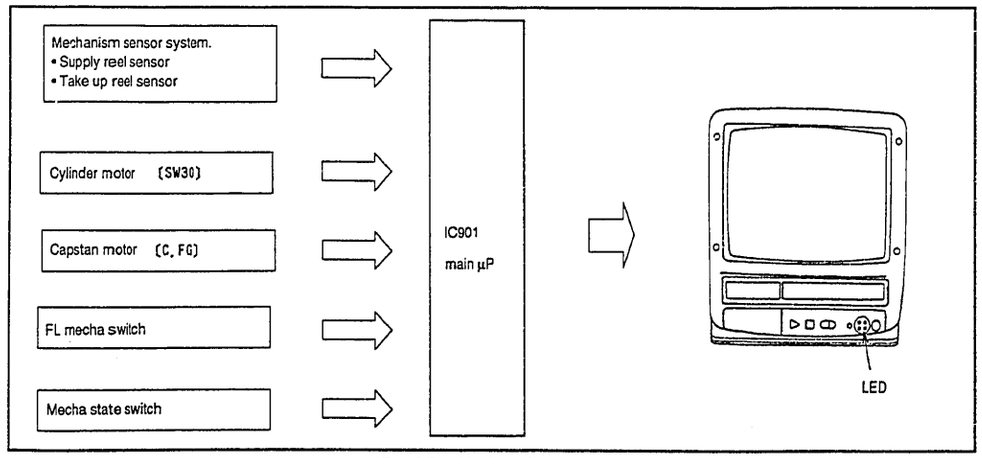
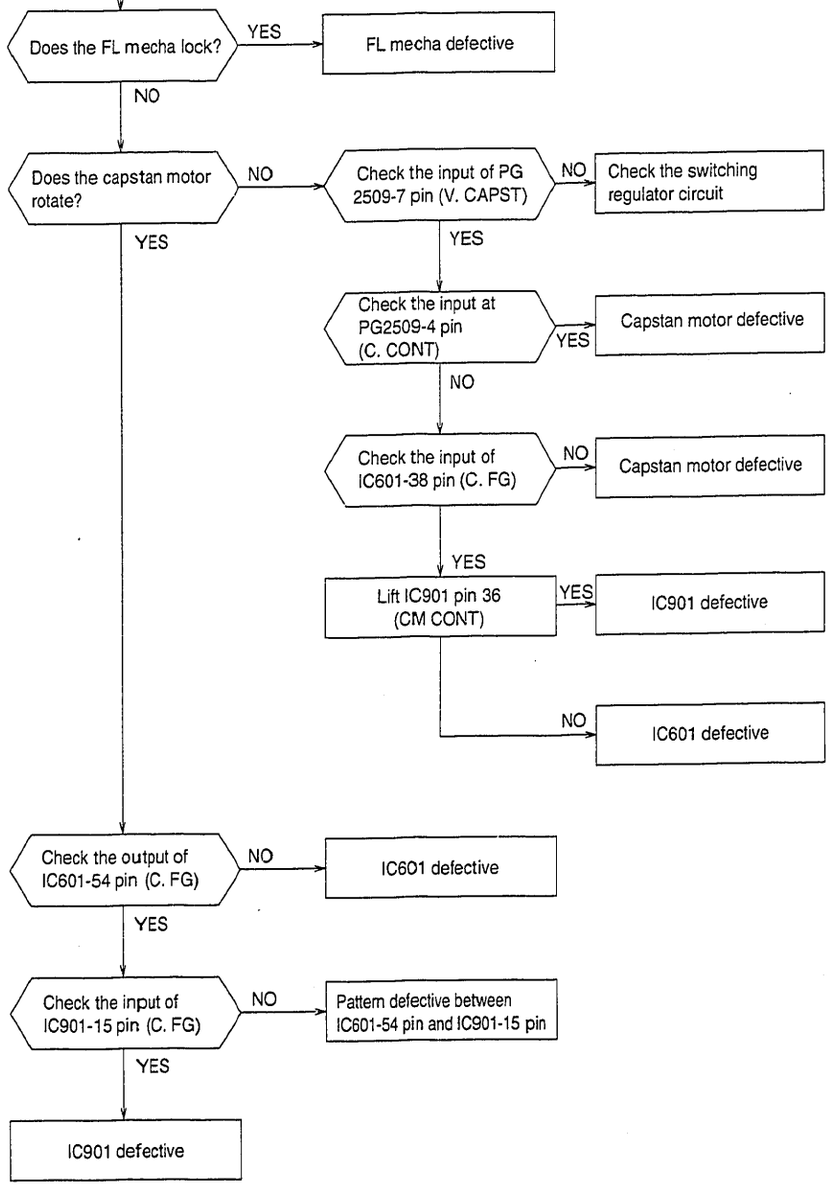


Fig.-2 Trouble detection method

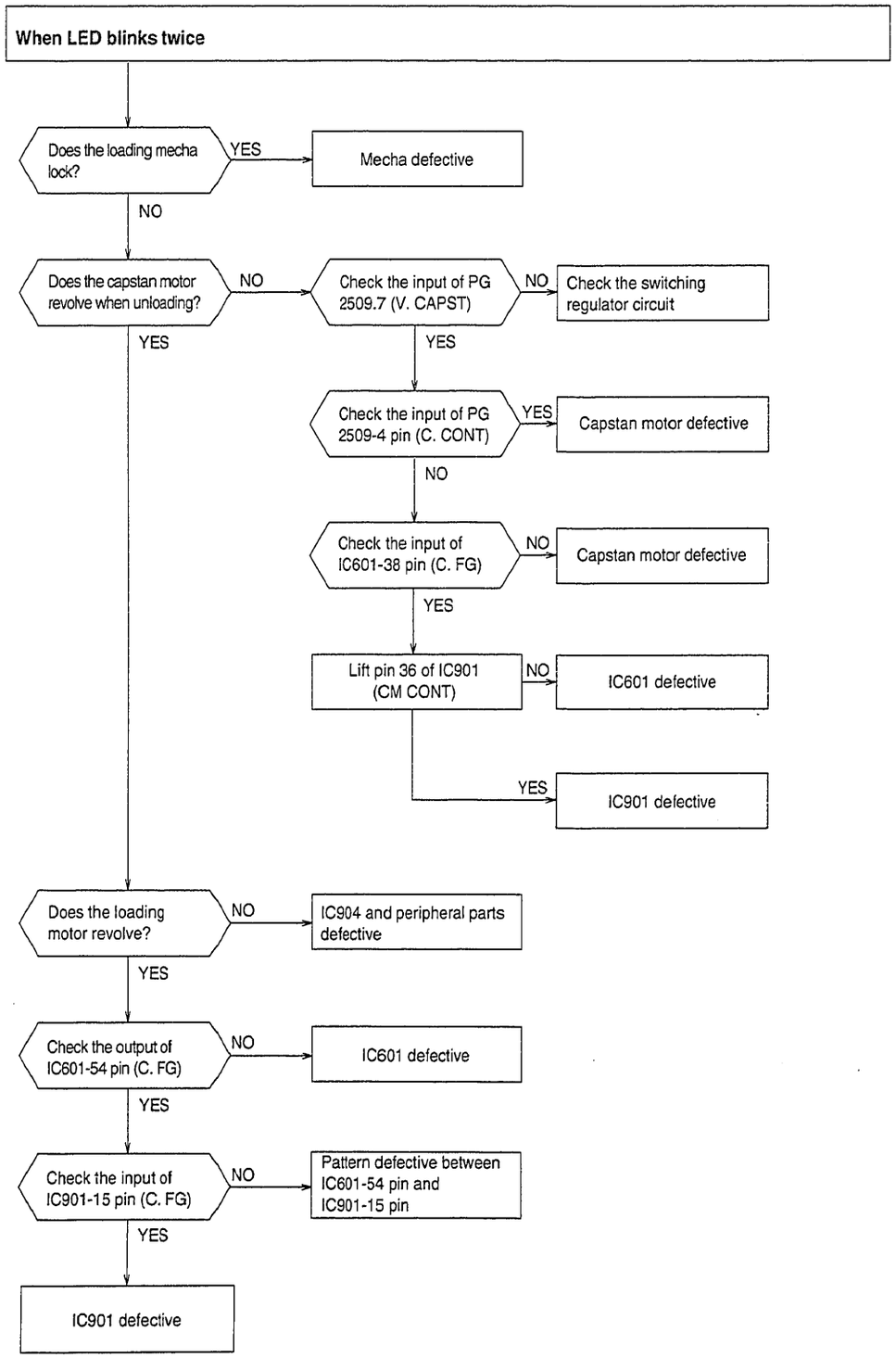
Trouble Indication Check Procedure

Follow this flowchart when a defect is indicated by trouble indication feature.

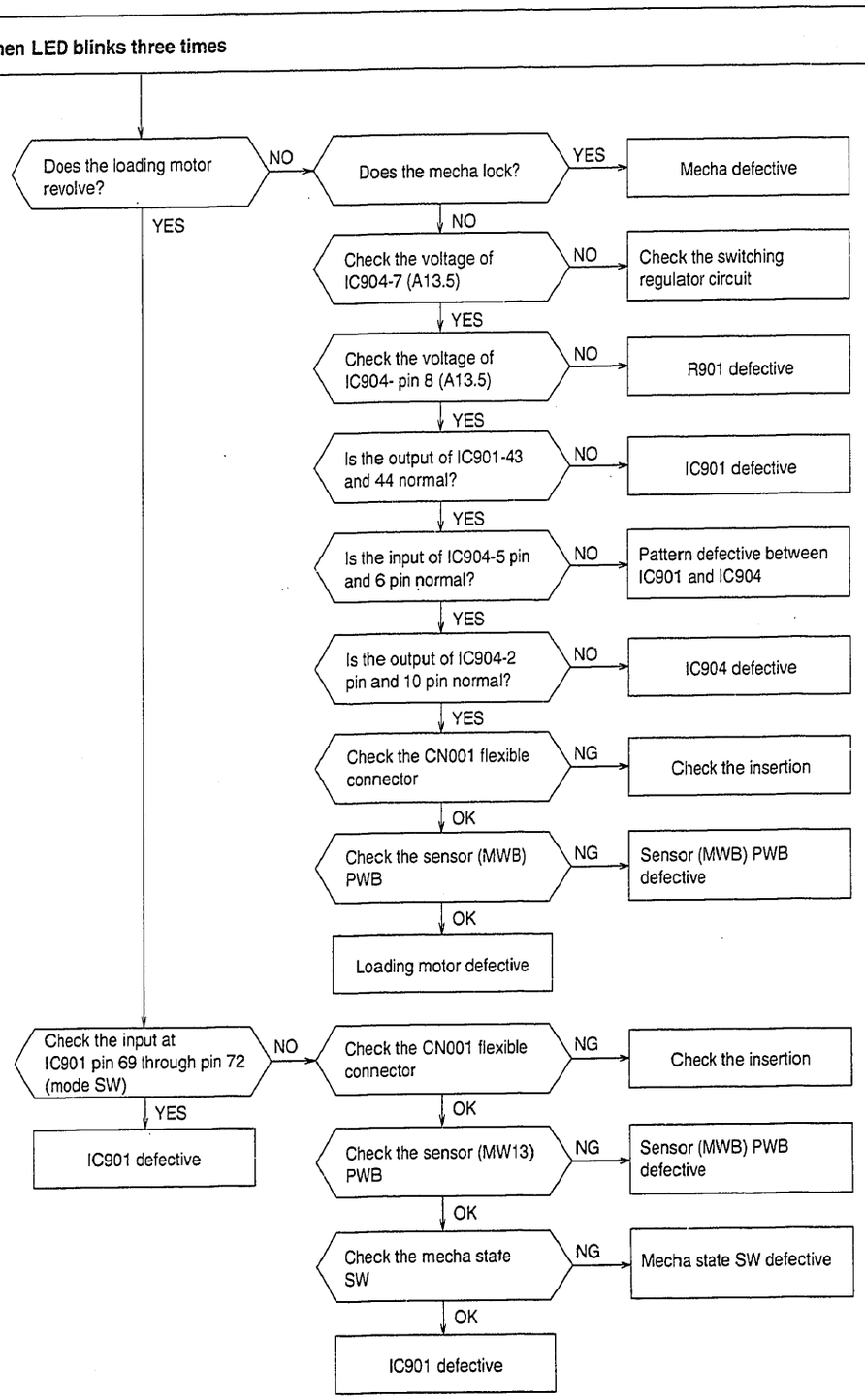
When LED blinks once



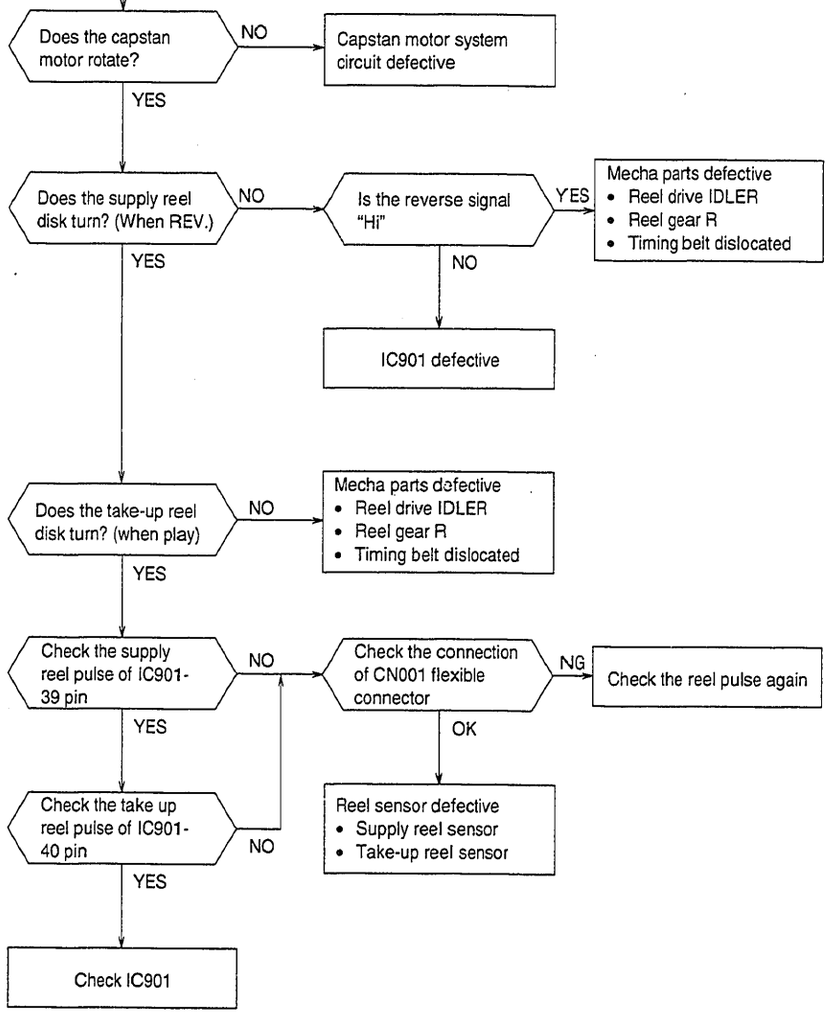
When LED blinks twice



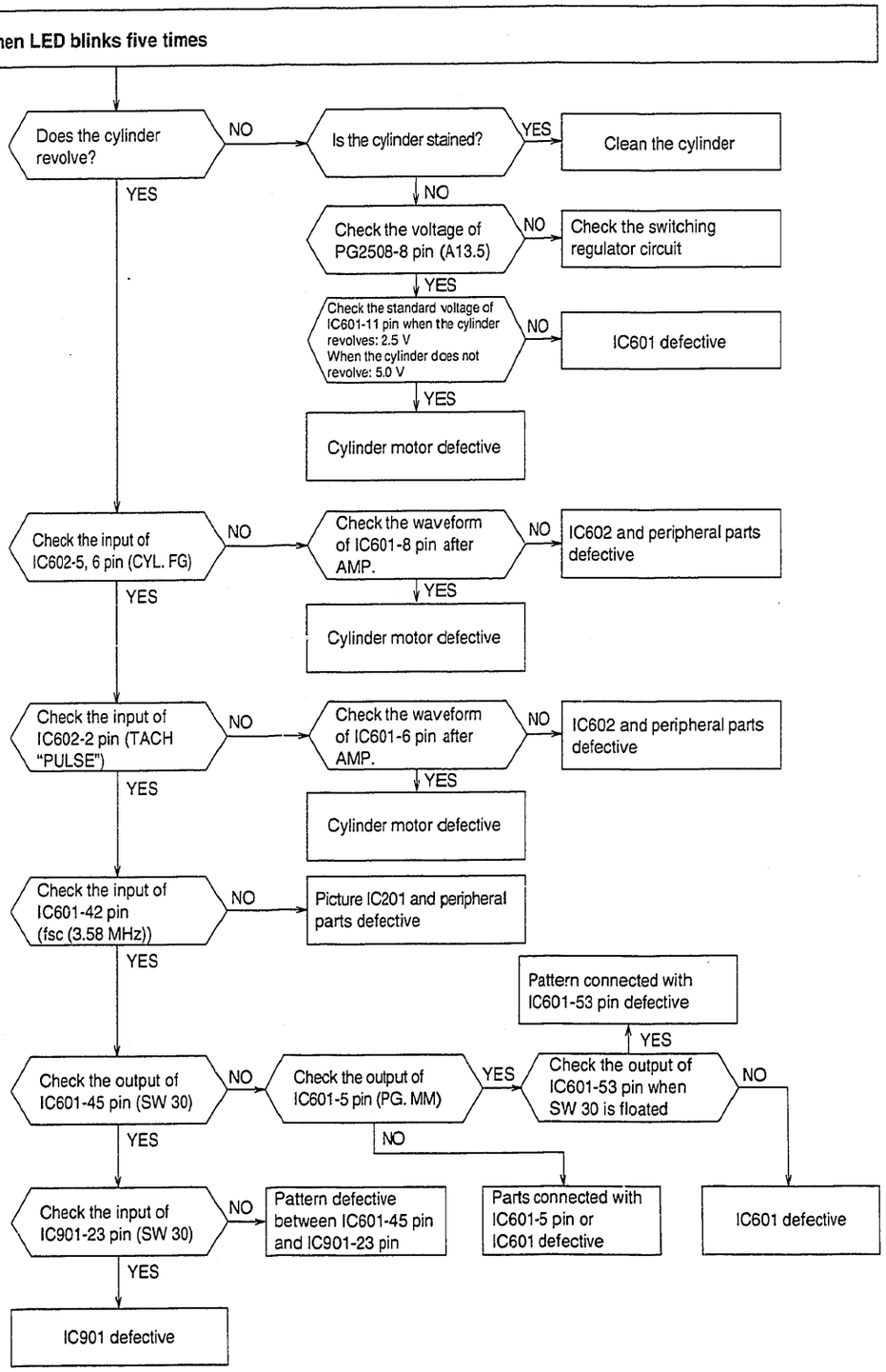
When LED blinks three times



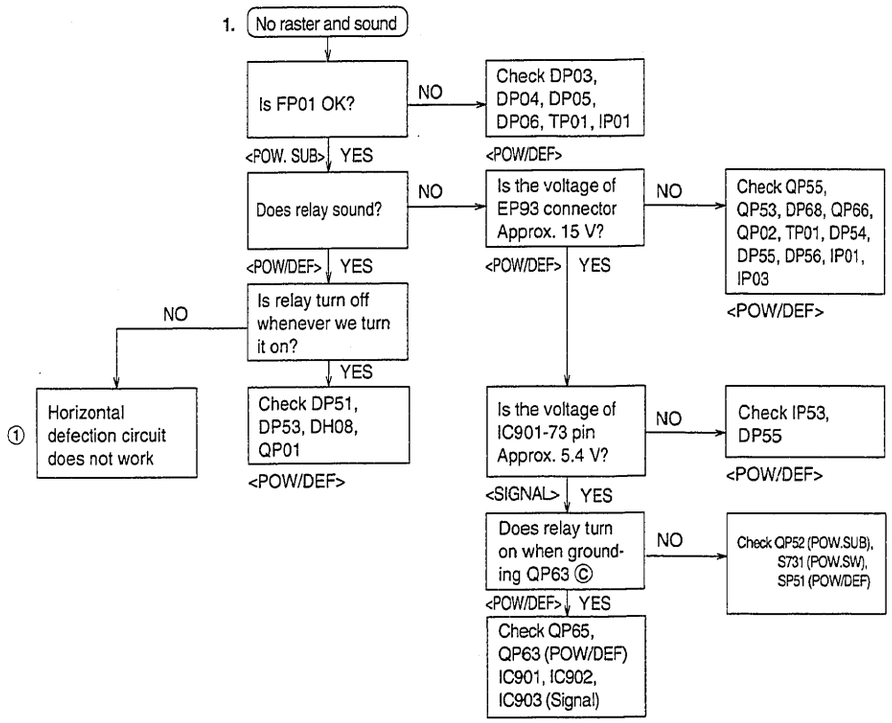
When LED blinks four times

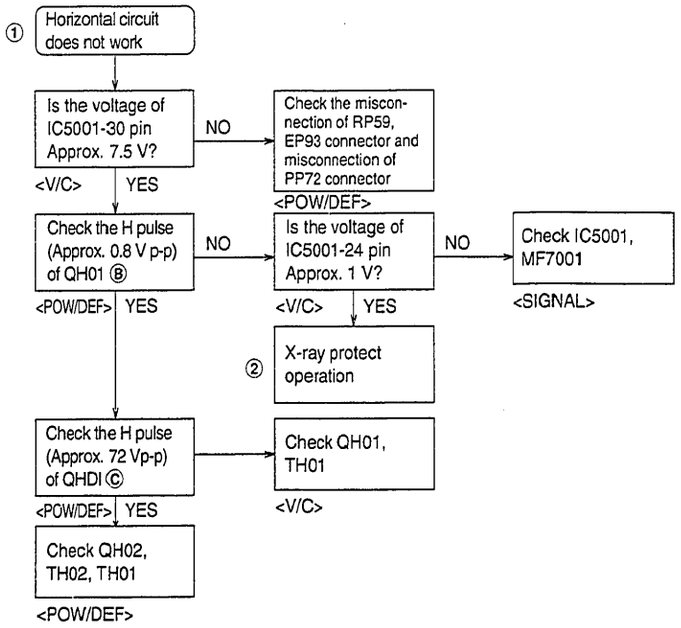


When LED blinks five times

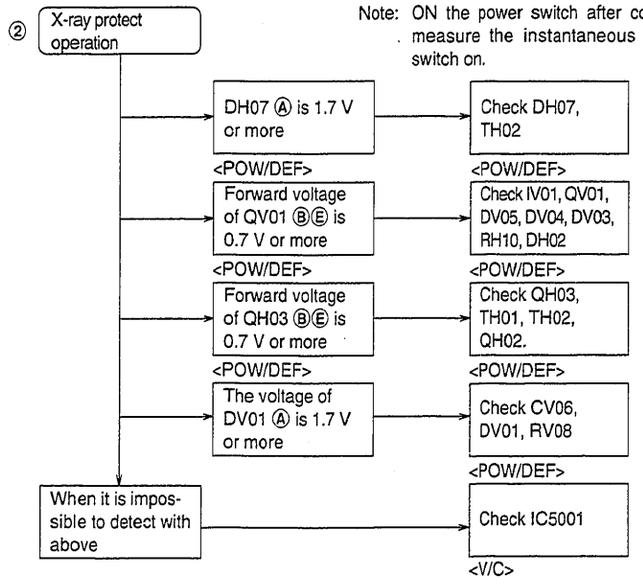


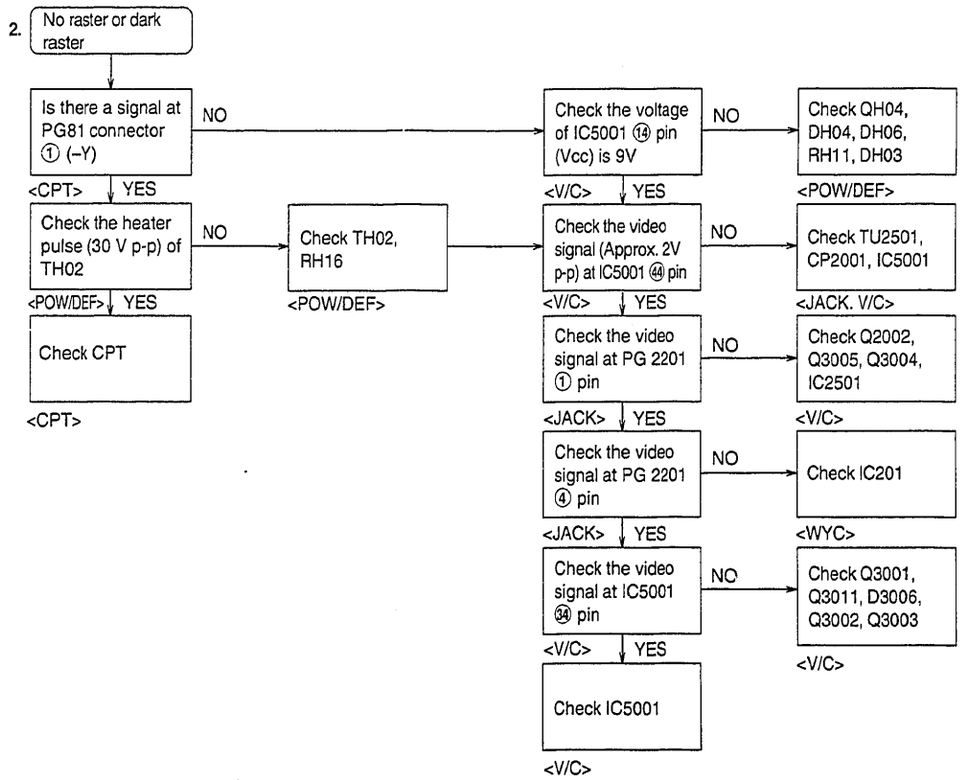
TROUBLE SHOOTING





Note: ON the power switch after connect oscilloscope to measure the instantaneous voltage when power switch on.





3. No vertical deflection or V size is distorted

- No vertical deflection → Check IV01 <POW/DEF>
- V size is distorted → NO → Check QH04, DH04, DH06 <POW/DEF>
- V size is distorted → YES → Check the voltage of QH04 emitter is 9 V <POW/DEF> → YES → Check IV01, DV02 <POW/DEF>

4. Reception impossible with snow noise

- Is there waveform at TU501 ⑮⑯⑰ pins <JACK> → NO → Check IC901 <SYC>
- Is there waveform at TU501 ⑮⑯⑰ pins <JACK> → YES → Check TU 2501, Q2501, Q2502 <JACK>

5. Light screen and flyback trace apparent on picture

- Check the voltage of ED81 connector ①(-Y) is approx. 4 V? <CPT> → NO → Check IC5001, Q3009, Q3010, ZD3001 <V/C>
- Check the voltage of ED81 connector ①(-Y) is approx. 4 V? <CPT> → YES → Check the voltage of ED01 connector ④ pin is 200 V <CPT> → NO → Check RH17, DH05, TH02 <POW/DEF>
- Check the voltage of ED01 connector ④ pin is 200 V <CPT> → YES → Check CPT <CPT>

6. No sound

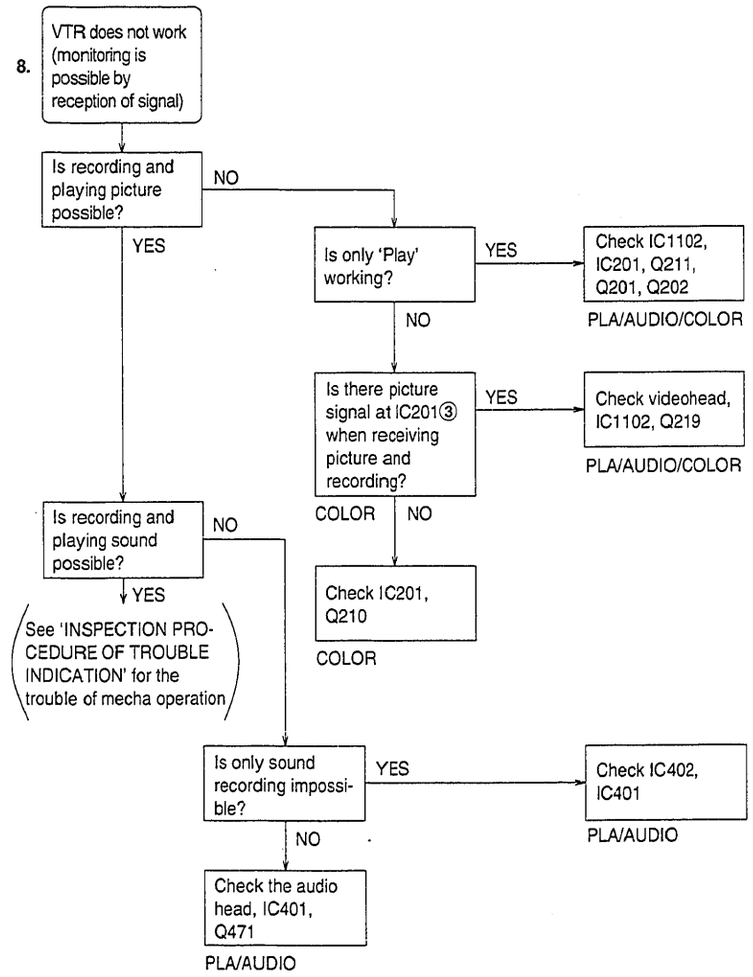
(Remove the VTR chassis cover and check)

- Check the click noise of PG2522 ⑪ pin is heard from speaker <JACK> → YES → Check Q2003, IC5001 <V/C>
- Check the click noise of PG2522 ⑪ pin is heard from speaker <JACK> → NO → Check the click noise of PG2522 connector ③ pin is heard from speaker <JACK> → YES → Check IC0402, IC0401, CP0471, Q0471 <PLA>
- Check the click noise of PG2522 connector ③ pin is heard from speaker <JACK> → NO → Check Q4501, IC4501, RF4505, D4501, D4502 <AUDIO>

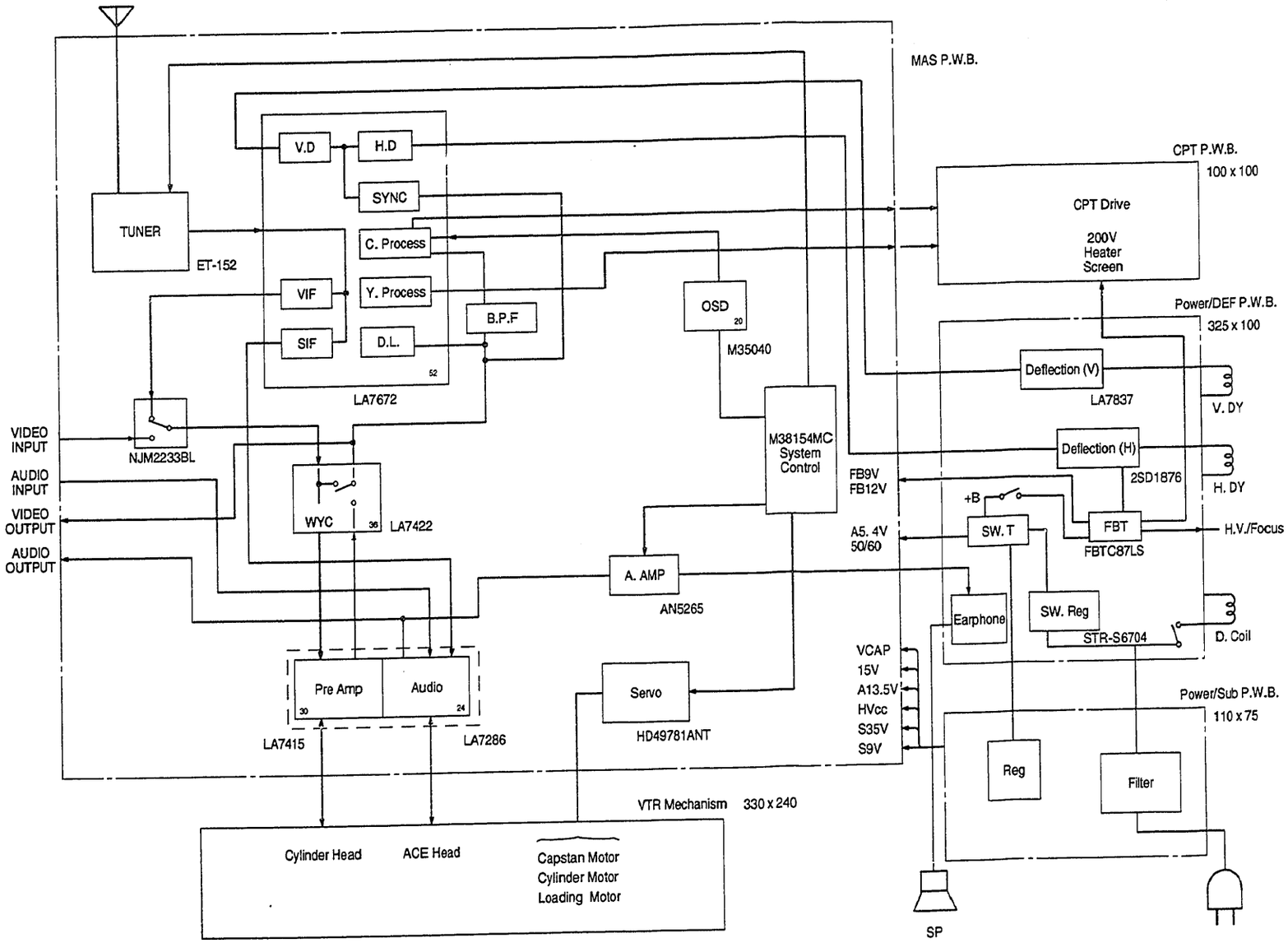
7. No color or bad color

- Is the white balance ok? (Adjust and check) <CPT> → NO → Abnormal color balance
- Is the white balance ok? (Adjust and check) <CPT> → YES → Check the color signal output of IC5001 ㉟ pin <V/C> → NO → Check C5020, C5004, C5001, C5002, R5001 <V/C>
- Check the color signal output of IC5001 ㉟ pin <V/C> → YES → Check IC5001, X5001 <V/C>
- Abnormal color balance → Is the voltage of IC5001 ⑱⑲⑳ nearly the same? <V/C> → NO → Check ZD5004, ZD5005, ZD5006, IC5001 <V/C>
- Is the voltage of IC5001 ⑱⑲⑳ nearly the same? <V/C> → YES →
  - Red is strong or does not appear → Check QD03, DD03, CPT <CPT>
  - Green is strong or does not appear → Check QD02, DD02, CPT <CPT>
  - Blue is strong or does not appear → Check QD01, DD01, CPT <CPT>

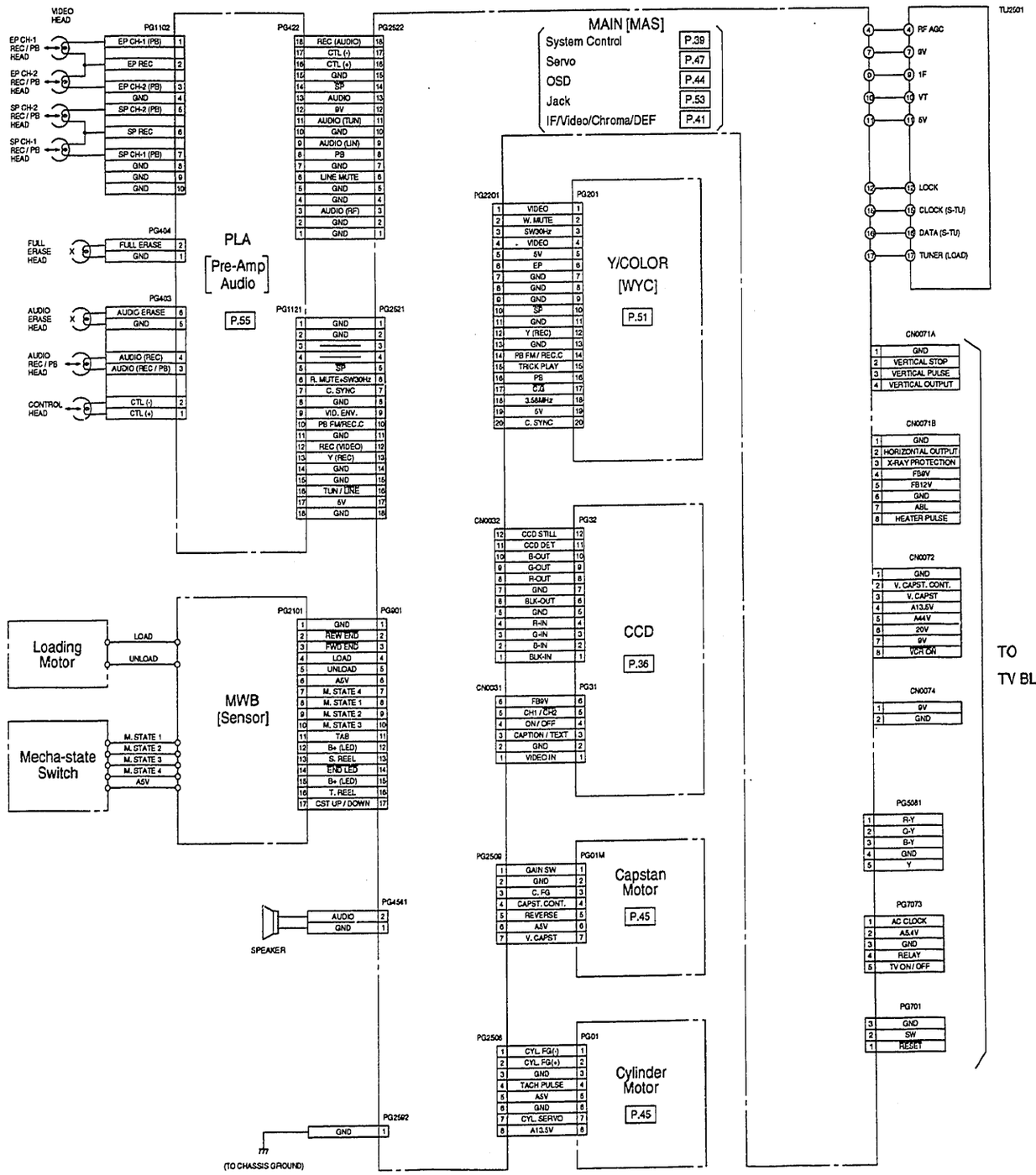
8.


VTR does not work (monitoring is possible by reception of signal)
Is recording and playing picture possible?
NO
YES
Is only 'Play' working?
YES
Check IC1102, IC201, Q211, Q201, Q202
PLA/AUDIO/COLOR
NO
Is there picture signal at IC201③ when receiving picture and recording?
YES
Check videohead, IC1102, Q219
PLA/AUDIO/COLOR
COLOR
NO
Is recording and playing sound possible?
NO
YES
Check IC201, Q210
COLOR
See 'INSPECTION PROCEDURE OF TROUBLE INDICATION' for the trouble of mecha operation
Is only sound recording impossible?
YES
Check IC402, IC401
PLA/AUDIO
NO
Check the audio head, IC401, Q471
PLA/AUDIO

BLOCK DIAGRAM



WIRING DIAGRAM



BASIC CIRCUIT DIAGRAM

Microprocessor Pin Function Table

Main μ P (IC901) Pin Functions

Pin No.	I/O	Active level	Abbreviation	Functions
1 2	O O	L L	L OUT 1 L OUT 2	Lo is used for output. (Use at the end of the terminal).
3	I	A/D	S-CURVE	Detects the variation of the AFT (S. CURVE) voltage applied from the IF unit to tune the station correctly.
4	I	H	CCD DET	CC (Close caption) signal detection. H: CC signal Appear L: CC No signal.
5 12	I/O O	Pulse Pulse	I²C DATA I²C CLOCK	This is a common data bus lines between SYSTEM CONTROL –μP and ROM IC. The DATA is sent with clock signal.
6 7	O O	Pulse Pulse	CLOCK (S-SRV) DATA (S-SRV)	These are the data bus lines between SYSTEM CONTROL –μP and SERVO IC. The DATA is sent to SERVO IC with clock signal.
8 9	I I	L L	FWD END RED END	Releases the instrument from the commanded mode when "Lo" pulse is applied from the end sensor on the mechanism. Each sensor is responsible for monitoring the ends of tape. In addition both end sensors are also responsible for monitoring that no cassette is present.
10 11	O O	Pulse Pulse	S. CLOCK S. DATA	This is a common data lines between SYSTEM CONTROL –μP and OSD/PLL/AUD.IC. The data is sent with CLOCK signal.
13	O	H/L	CHROMA 30Hz	CHROMA ROTATION output. H: CH-1, L: CH-2
14	O	H/L	SP	The signal used to change the head. H: EP, L: SP
15	I	Pulse	C.FG DIV.	Monitors whether or not the slack is rewound to the supply reel disk during eject. The C. FG pulses are also utilized as clock signal to measure the amount of the backspace during record-pause.
16	I	Pulse Pulse	CTL (COUNT) (LO) CTL (SLOW) (LO)	Inputs CTL DIV. pulses in order to calculate the linear time counter. Inputs CTL DIV. pulses in order to process the slow mode.
17	O	PWM	AUD. VOL.	The output of PWM. To adjust the sound.
18	O	PWM	V. CAPST CONT.	Controls the B+ voltage of the capstan motor driver IC according to the VCR operation mode.
19	O	H	A. DUB MUTE/ TRICK PLAY	Controls the Mute record when A. DUB PAUSE. H: MUTE ON L: MUTE OFF. Controls the TRICK PLAY mode H: TRICK PLAY.
20	O	H/M/L	fH CORRECT	Horizontal jitter correction signal in slow mode. I; H/2; L for SP Mode, I; L/2; H for EP Mode, M (open) for other mode.
21 66 68	O O O	L H H	OSD LOAD AUD LOAD (NC) PLL LOAD	Selects the DATA reception IC. A common data line is provided between M–μP and each IC. When sending the data μP sets each LOAD terminal to H or L until the data transfer is completed.
22	I	H/L	HEAD COMPA.	To compare the head of output and input.
23	I	Pulse	SW 30Hz	Monitors the frequency of SW 30Hz to detect that the cylinder motor rotates correctly during record and play. The SW 30Hz signal is also used to control supplying the video signals to the heads. H: CH-2, L: CH1 for SP H: CH-1, L: CH2 for EP
24	I	L	SYNC DET	The input of the presence of SYNC's signal L: SYNC's signal appear.

Pin No.	I/O	Active level	Abbreviation	Functions
25	I	Pulse	AC CLOCK	Utilized as a clock pulse for time count and is also used to detect power failure.
26	I	Pulse	IR PULSE	Decodes the IR remote code from the IR transmitter and places the VCR in the commanded mode.
27	I	L	RESET	To initialize the power of μP
28 29	I O	– –	OSC I (32kHz) OSC O (33kHz)	Generates a 32.768 kHz clock signal for the timer during backup mode.
30 31	I O	– –	OSC I (4MHz) OSC O (4MHz)	Generates a 4 MHz clock signal which is utilized as the main system clock signal in modes other than backup mode.
32	–	–	Vss	Connected to Ground.
33	O	H/L	PWM WR	To control the data received by TV P. CONT. IC (IC905) H: Able to receive the data.
34	O	H	REC (VIDEO)	Controls the REC 9V Power, sets the video circuit to RECORD mode.
35	O	L	PWM LOAD	Selects the data reception IC. A common data line is provided between M–μP and each IC. When sending the data μP sets each LOAD terminal to H or L until the data transfer is completed.
36	O	H/M/L	CM. MODE	Selects the capstan motor operation mode. "Hi" : REEL mode, "Mi" : SERVO mode, "Lo" : BRAKE mode. During "Hi", this controls the capstan motor instead of the SERVO IC output in other than PB/REC/SEARCH modes.
37	O	H/L H/O	HiFi REC MUTE/ SP SRCH	To mute the record current of the HiFi. H: Mute ON L: Mute OFF Controls the SP Mode Search. L: DA4 SEARCH M: NORMAL L: OTHER SEARCH EXCEPT DA4
38	I	L	DUTY	INDEX signal input. "Lo" when INDEX signal is detected.
39 40	I I	Pulse Pulse	S. REEL T. REEL	Monitor the both reel rotating frequency to detect the reel lock condition. These reel pulses also utilized for counting the tape remaining time.
41	O	H	REVERSE	Sets the capstan rotation direction to reverse.
42	O	H	REC MUTE	Inhibits supplying the video signal to the video head during transient period in recording mode.
43 44	O O	H H	UNLOAD LOAD	Controls the loading motor to place the mechanism state in mode corresponding to the commanded mode. Refer to the block diagram.
45	O	PWM	P. CONT	The output terminal of PWM to control the picture.
46	O	H/L	CG	The output terminal to control copyguard.
47	O	H/L	B. BLACK	The output terminal of B. Black Controller.
48		–	NC	
49	O	H/L	CAPTION/TXIT (NC)	CAPTION/TEXT selection
50	O	H/L	OFF/ON (NC)	ON/OFF selection
51	O	H/L	CH-1/CH-2 (NC)	CH-1/CH-2 SELECTION
52	O	H/L	CCD STILL (NC)	Indication control during still
53		–	NC	
54		–	NC	
55	O	H/L	DA4	Judges the function from the presence of diode.
56	O	H/L	CCD	Judges the function from the presence of diode.
57		–	NC	

Pin No.	I/O	Active level	Abbreviation	Functions
58	O	H/L	CLOCK FAST	Judge the function from the presence of diode.
59	O	H	TV ON	Hi output when the power supply is on.
60	O		TEST	Sets to X tracking mode.
61	O	H/L	TAPE. LED	LED Indication show the presence of the tape.
62	O	H/L	TIMER. LED	LED Indication show the presence of the program.
63	O	H	REC (AUDIO)	Set the Linear sound circuit to Record Mode.
64	O	H	VOR ON	Hi output when power supply is on.
65	I	H	M-SEL./TEST	Model Selection. Sets to Test Mode.
67	O	H/L	TUN/LINE	The output of TUNER/LINE selection. "Lo" output when LINE. "Hi" output when TUNER.
70 71 72 69	I I I I	H/L H/L H/L H/L	M. STATE 1 M. STATE 2 M. STATE 3 M. STATE 4	Detects the mechanism state position to control the loading motor.
73	I	–	VCC	Connected to BU5V.
74	I	–	Vdisp.	Input of the pull down Resistance power supply.
75	–	–	Vss	Connected to ground.
76	I	–	AVREF	The reference voltage of the A/D converter. Connected to 5V.
77	I	A/D	KEY IN	Input key from the front panel switch.
78	I	A/D	TAB/CST. UP-DN	Detects whether or not the record prevention tab which is located on the cassette is removed. With no tab, recording is inhibited or cassette is ejected automatically when the timer recording is set. Detects the cassette holder switch with "Hi" and "Lo" level. Refer to the block diagram.
79	I	H/L	POWER ON	Input to detect main power supply ON/OFF.
80	I	A/D	ENVEL. (VIDEO)	Video Envelope level input for Auto tracking.

SERVO IC (IC601) Extension Port

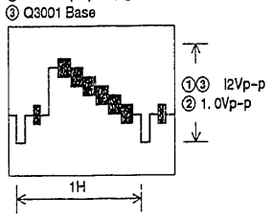
Pin No.	I/O	Active level	Abbreviation	Functions
1	O	H/L	SP	Tape speed output L: SP, H: SP
2	O	H/L	EP	Tape speed output L: EP, H: EP
3	O	H/L	PB	Controls the circuit during play. L: E-E, H: PB
55		–	NC	

OSD IC (IC1401) Extension Port

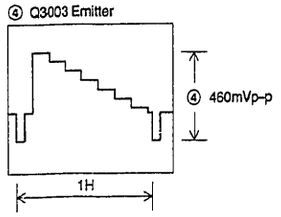
Pin No.	I/O	Active level	Abbreviation	Functions
7	O	H/L	LINE MUTE	Controls LINE MUTE output L: MUTE OFF, H: MUTE ON
8	O	H/L	VIDEO MUTE	Controls VIDEO MUTE output L: MUTE OFF, H: MUTE ON

Wave Form (13VR3B/20VR4B)

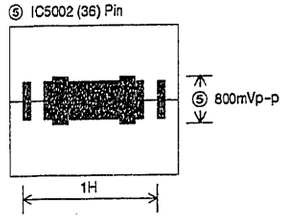
① IC5001 (44) Pin, ② Q3004 Emitter
③ Q3001 Base



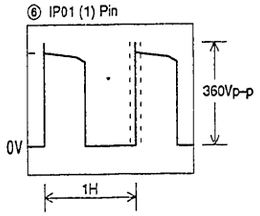
④ Q3003 Emitter



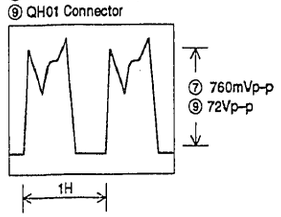
⑤ IC5002 (36) Pin



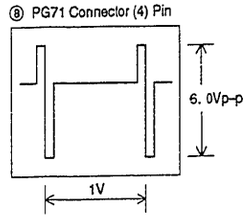
⑥ IP01 (1) Pin



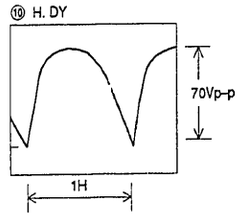
⑦ PG71 Connector (6) Pin
⑨ QH01 Connector



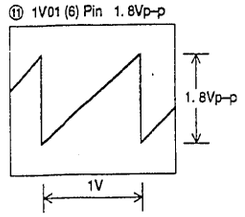
⑧ PG71 Connector (4) Pin



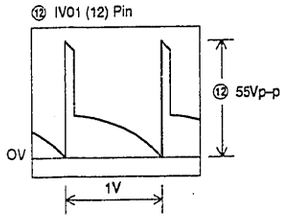
⑩ H. DY



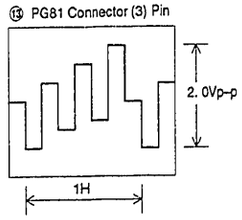
⑪ 1V01 (6) Pin 1.8Vp-p



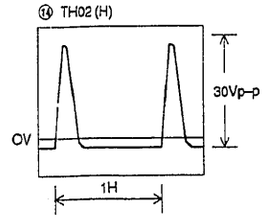
⑫ IV01 (12) Pin



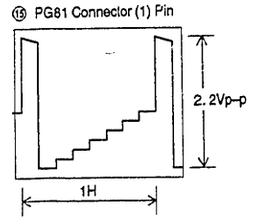
⑬ PG81 Connector (3) Pin



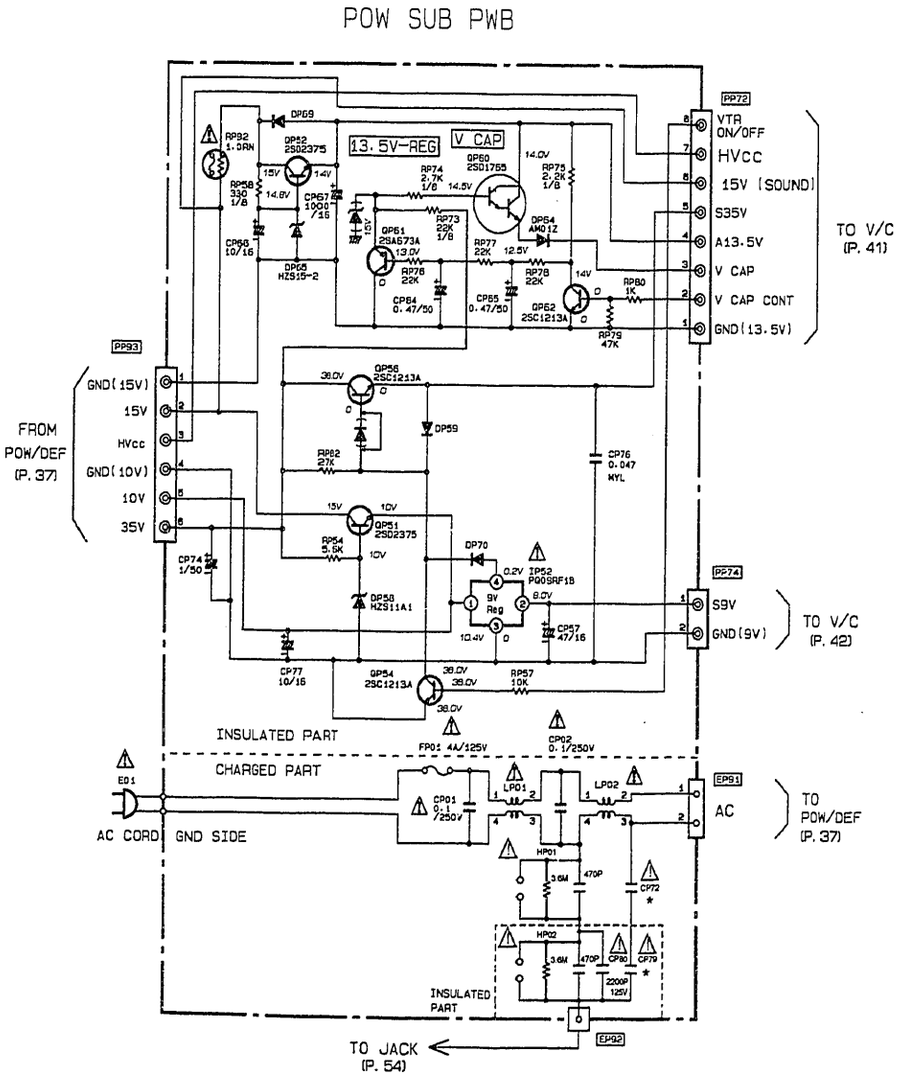
⑭ TH02 (H)



⑮ PG81 Connector (1) Pin



Power Sub P.W.B.



MODEL / CIRCUIT NOUMBER	13VR3B	20VR4B
FP01	2.5A/250V	4A/125V

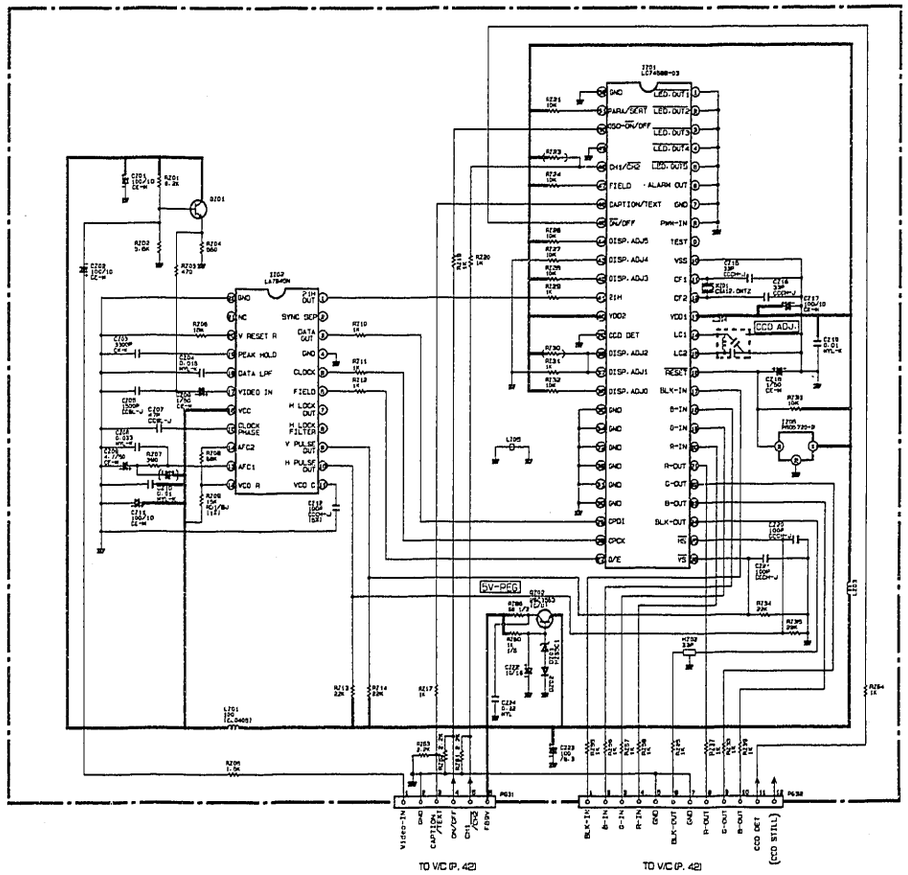
13VR3B, 20VR4B SAME ITEM

CIRCUIT NO.	CP72	CP79
A	KC TYPE 1000P/125V	KC TYPE 1000P/125V
B	MX TYPE 470P/125V	SHORT (UNNECESSARY)

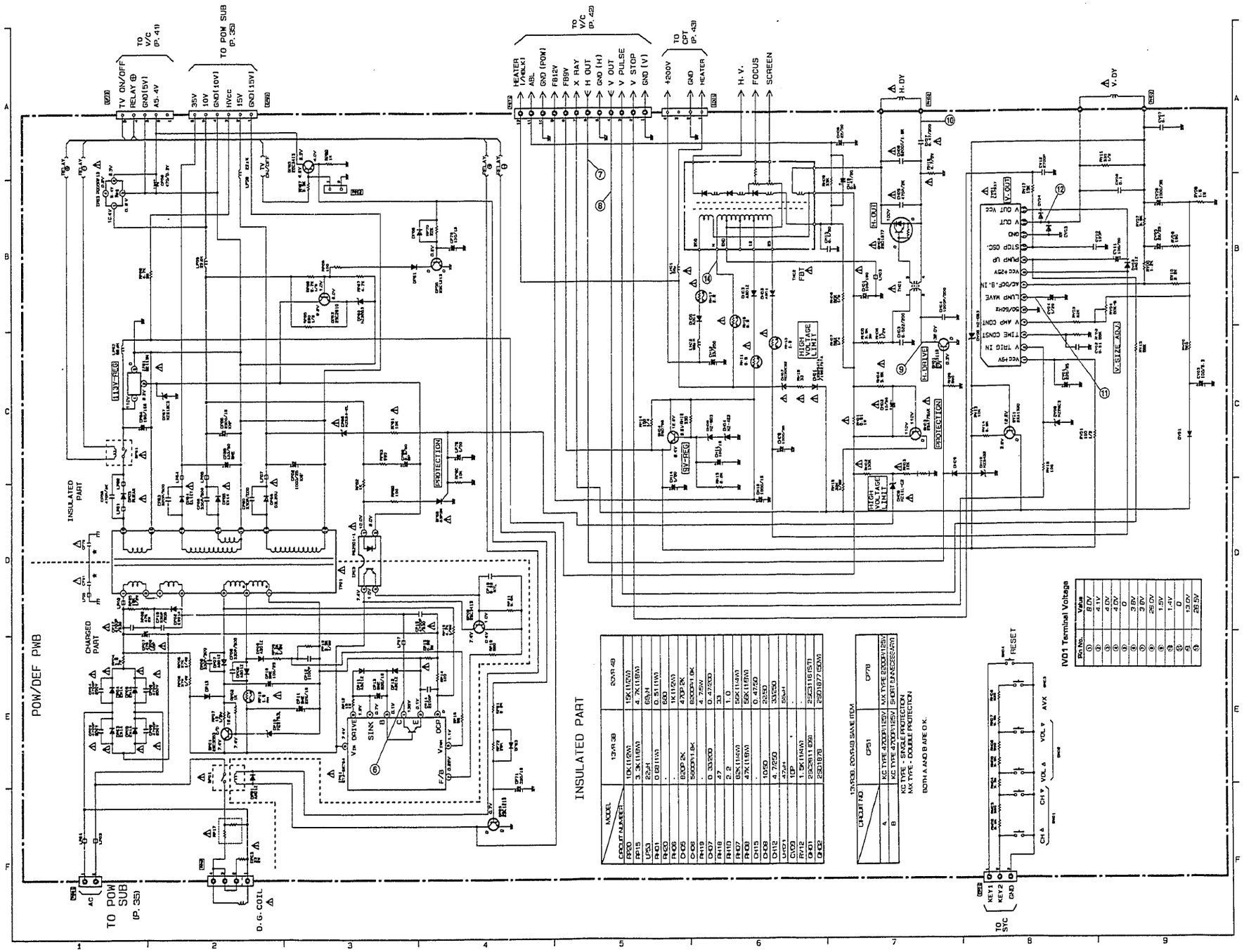
KC TYPE - SINGLE PROTECTION
MX TYPE - DOUBLE PROTECTION

BOTH A AND B ARE O.K.

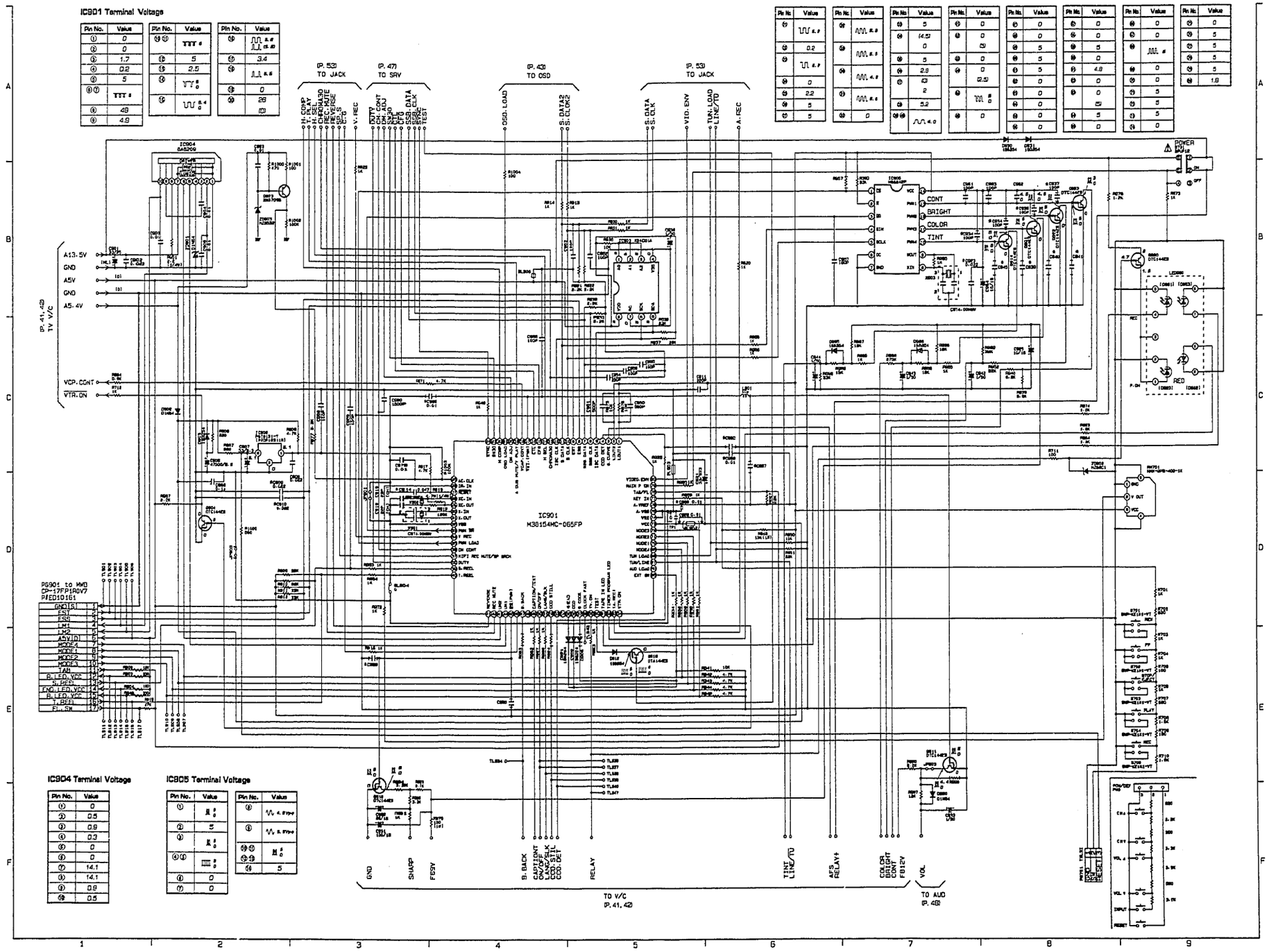
CCD P.W.B.



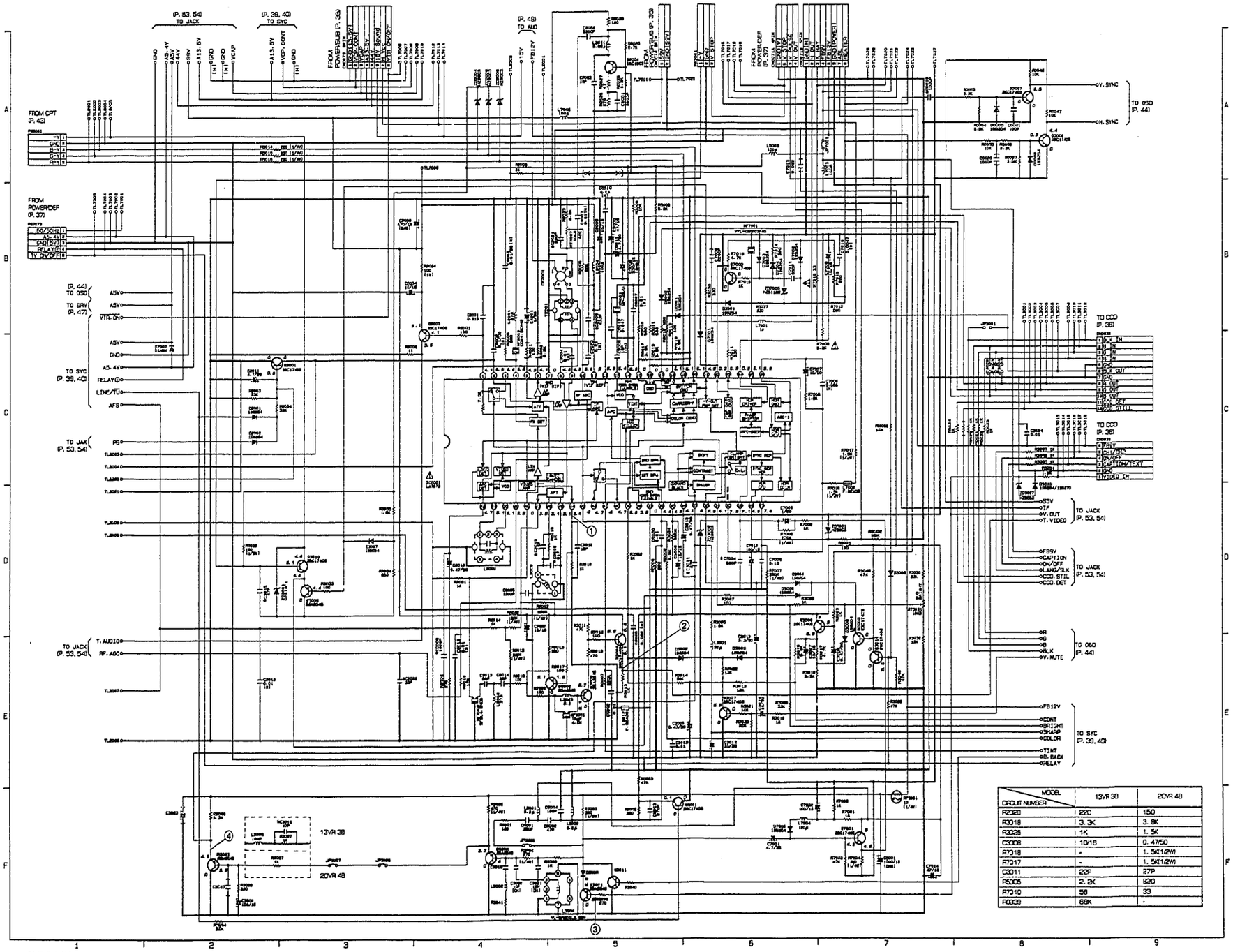
Power/DEF P.W.B.



System Control (MAS) P.W.B.



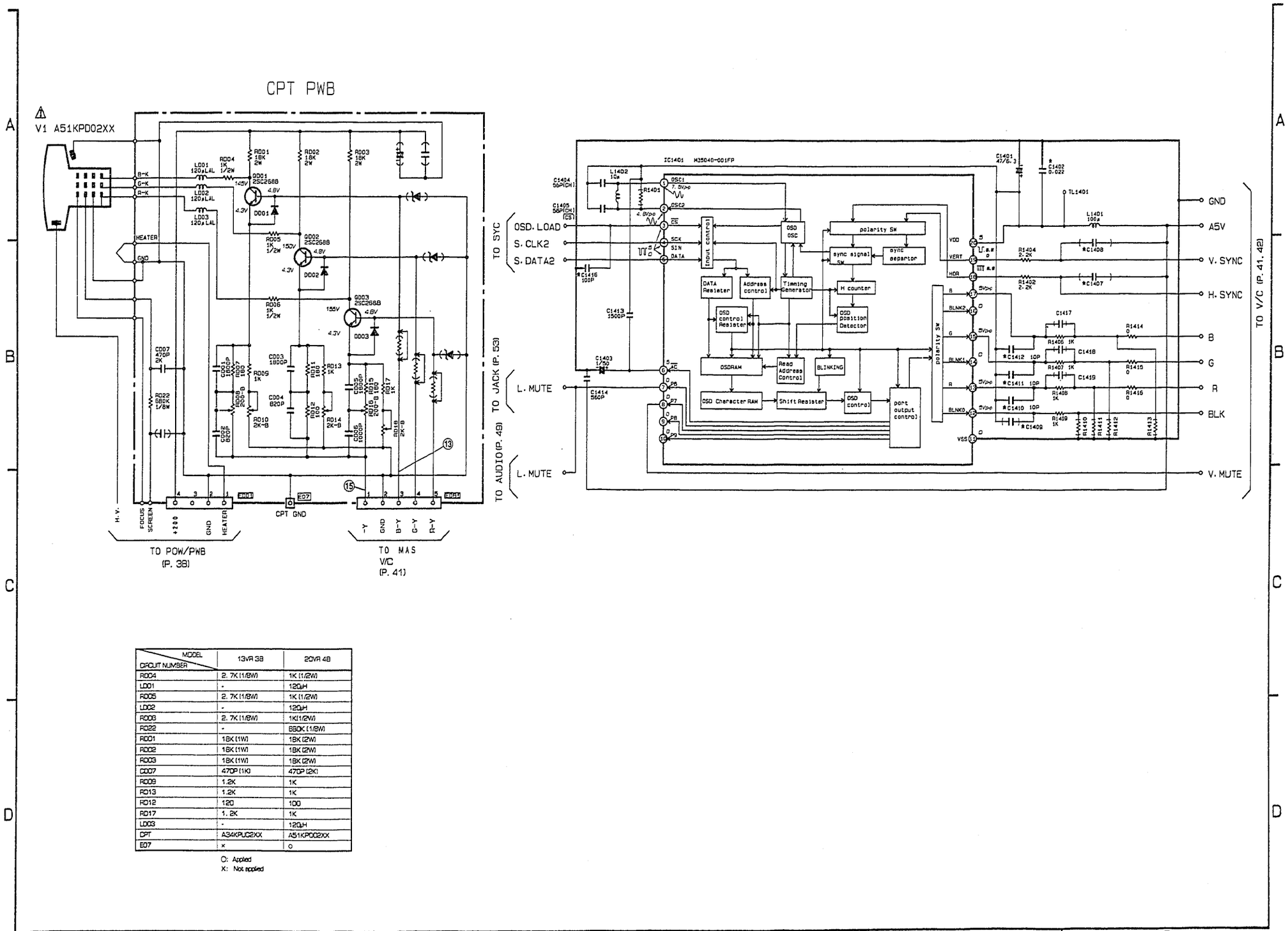
Video/Chroma (MAS) P.W.B.



MODEL / CIRCUIT NUMBER	13VR 3B	20VR 4B
R2020	220	150
R3018	3. 3K	3. 9K
R3025	1K	1. 5K
C3008	10/16	0. 47/50
R7018	-	1. 5K1/2W
R7017	-	1. 5K1/2W
C3011	22P	27P
R5005	2. 2K	820
R7010	56	33
R0939	68K	-

CPT P.W.B.

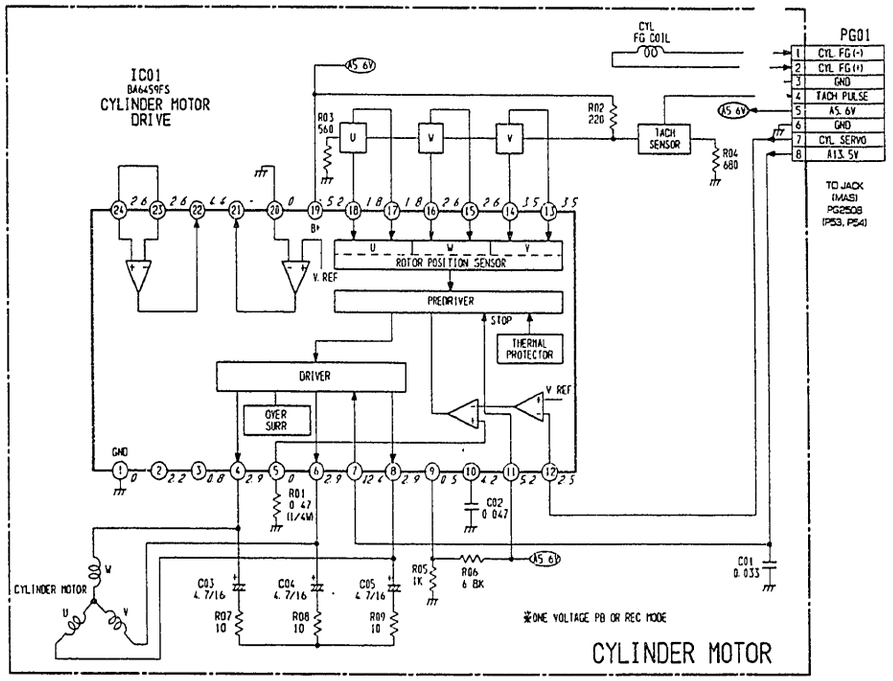
OSD (MAS) P.W.B.



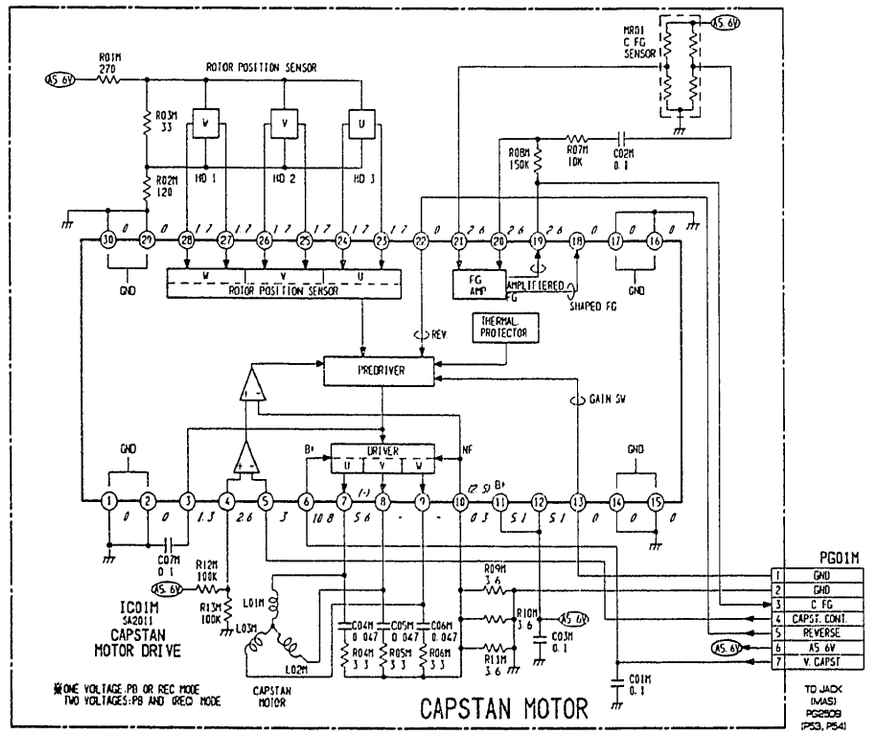
MODEL / CIRCUIT NUMBER	13VR 3B	20VR 4B
RD04	2. 7K (1/8W)	1K (1/2W)
LD01	-	120μH
RD05	2. 7K (1/8W)	1K (1/2W)
LD02	-	120μH
RD03	2. 7K (1/8W)	1K(1/2W)
RD22	-	680K (1/8W)
RD01	1BK (1W)	1BK (2W)
RD02	1BK (1W)	1BK (2W)
RD03	1BK (1W)	1BK (2W)
CD07	470P (1K)	470P (2K)
RD09	1.2K	1K
RD13	1.2K	1K
RD12	120	100
RD17	1. 2K	1K
LD03	-	120μH
CPT	A34KPU02XX	A51KPD02XX
E07	×	o

O: Applied
X: Not applied

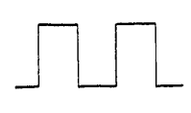
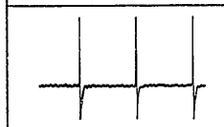
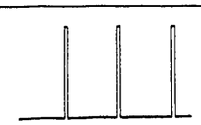
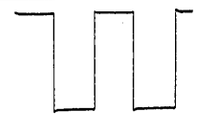
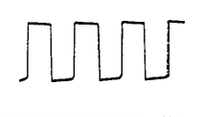
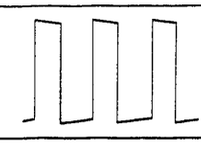
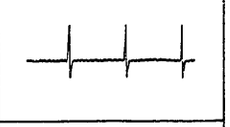
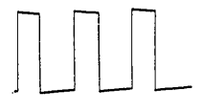
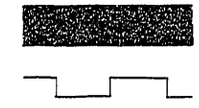
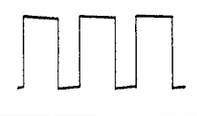
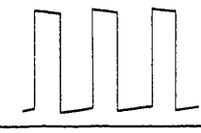
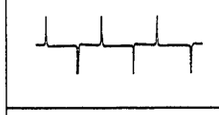
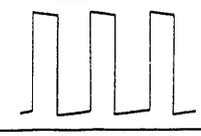
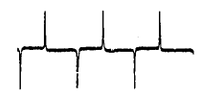
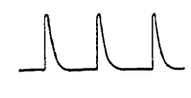
Cylinder Motor P.W.B.



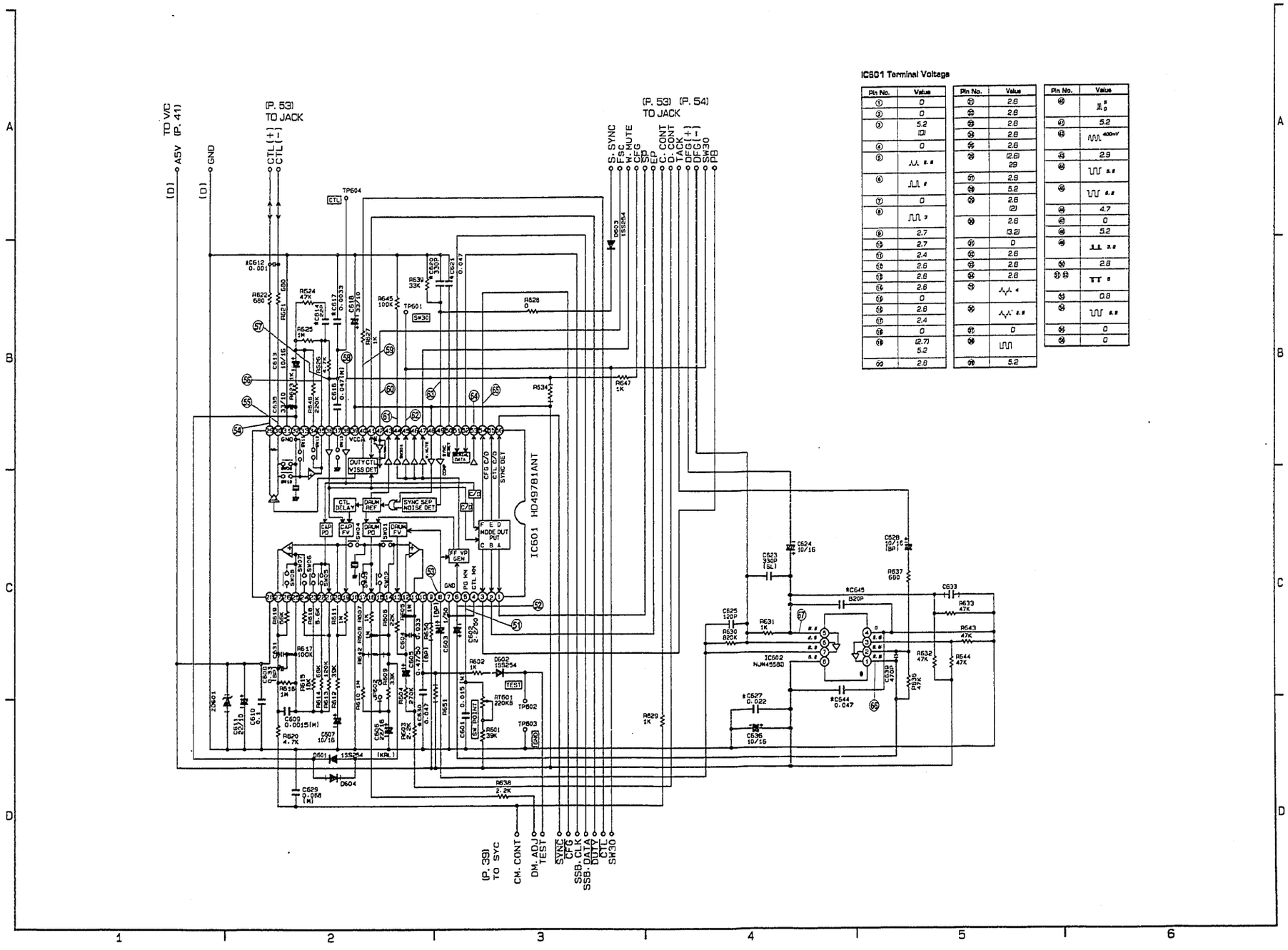
Capstan Motor P.W.B.



Servo Waveforms

51-A IC601-5 2.6Vp-p 0.5V/2.0msec.cm REC/PLAY	58-A IC601-38 3.5Vp-p 1V/100μsec.cm REC/PLAY	64-A IC601-53 5.3Vp-p 1V/10.0msec.cm REC/PLAY
		
52-A IC601-6 2.9Vp-p 0.5V/10.0msec.cm REC/PLAY	59-A IC601-40 5.2Vp-p 1V/10.0msec.cm REC	65-A IC601-54 5.2Vp-p 1V/100μsec.cm REC/PLAY
		
53-A IC601-8 3.2Vp-p 1V/1.0msec.cm REC/PLAY	59-B IC601-40 5.2Vp-p 1V/10.0msec.cm PLAY	66-A IC602-1 3.0Vp-p 1V/10.0msec.cm REC/PLAY
		
54-A IC601-29 5.6Vp-p 1V/10.0msec.cm REC	60-A IC601-42 470mVp-p 0.2V/5.0msec.cm REC/PLAY	67-A IC602-5 370mVp-p 0.1V/1.0msec.cm REC/PLAY
		
55-A IC601-30 5.7Vp-p 1V/10.0msec.cm REC	61-B IC601-44 5.3Vp-p 1V/10.0msec.cm PLAY	
		
56-B IC601-35 3.3Vp-p 1V/10.0msec.cm PLAY	62-A IC601-45 5.3Vp-p 1V/10.0msec.cm REC/PLAY	
		
57-B IC601-36 2.2Vp-p 0.5V/10.0msec.cm PLAY	63-A IC601-49 3.0Vp-p 1V/20.0μsec.cm REC/PLAY	
		

Servo (MAS) P.W.B.



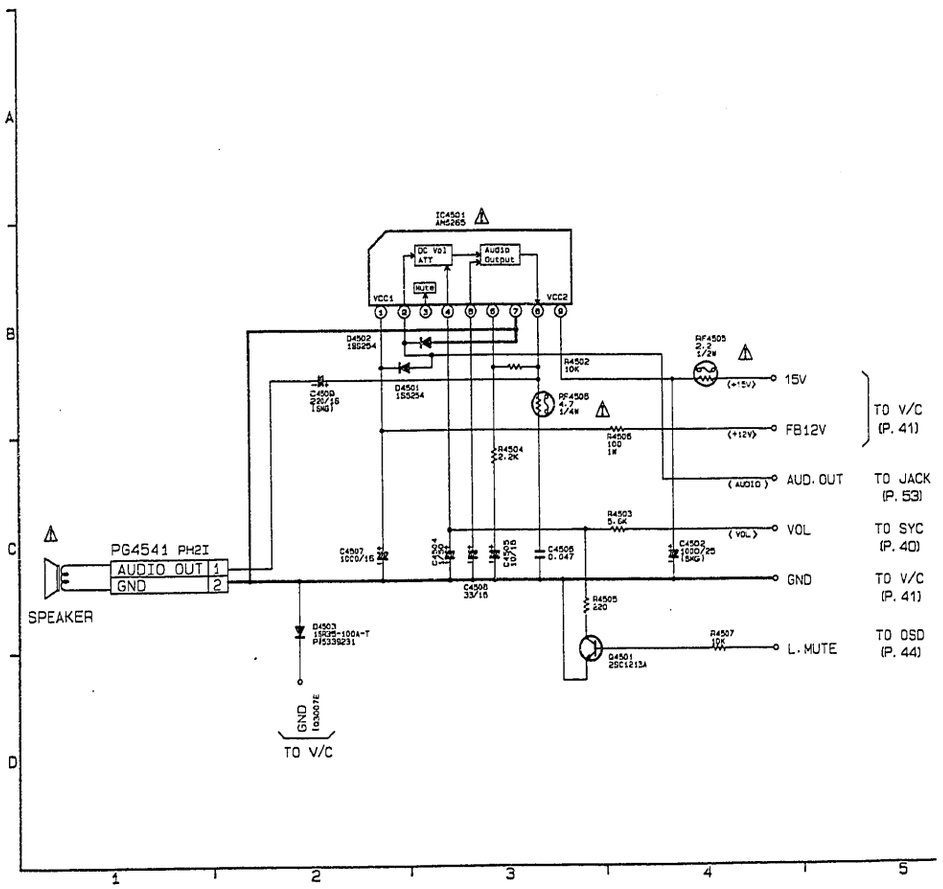
IC601 Terminal Voltage

Pin No.	Value
①	0
②	0
③	5.2 (D)
④	0
⑤	
⑥	
⑦	0
⑧	
⑨	2.7
⑩	2.7
⑪	2.4
⑫	2.6
⑬	2.6
⑭	2.6
⑮	0
⑯	2.6
⑰	2.4
⑱	0
⑲	(2.7) 5.2
⑳	2.6

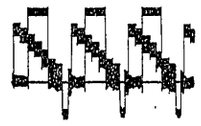
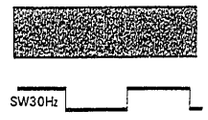
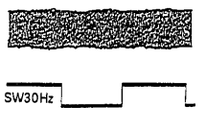
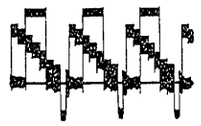
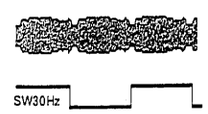
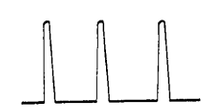
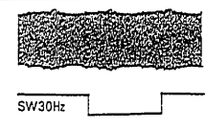
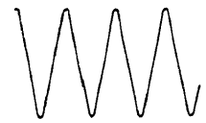
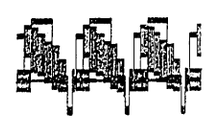
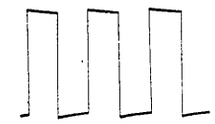
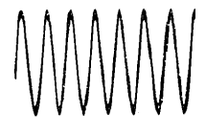
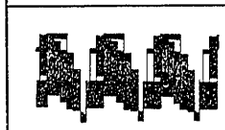
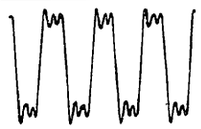
Pin No.	Value
㉑	2.6
㉒	2.6
㉓	2.6
㉔	2.6
㉕	2.6
㉖	(2.6) 29
㉗	2.9
㉘	5.2
㉙	2.6 (2)
㉚	2.6 (3.2)
㉛	0
㉜	2.6
㉝	2.6
㉞	2.6
㉟	
㊱	
㊲	2.6
㊳	0
㊴	
㊵	5.2

Pin No.	Value
㊶	
㊷	5.2
㊸	400mV
㊹	2.9
㊺	
㊻	
㊼	4.7
㊽	0
㊾	5.2
㊿	
(51) (52)	
(53)	0.8
(54)	
(55)	0
(56)	0

Audio (MAS) P.W.B.



Y/Colour Circuit Waveform

1-A IC201-2 530mVp-p 0.1V/20.0μ sec. cm REC	4-B IC201-11 330mVp-p 0.1V/20.0μ sec. cm PLAY	8-A IC201-21 400mVp-p 0.1V/20.0μ sec. cm REC	13-A IC201-34 1.2Vp-p 0.5V/20.0μ sec. cm REC
			
1-B IC201-2 500mVp-p 0.1V/20.0μ sec. cm PLAY	5-A IC201-14 420mVp-p 0.1V/20.0μ sec. cm REC	8-B IC201-21 390mVp-p 0.1V/20.0μ sec. cm PLAY	14-B IC201-35 400mVp-p 0.2V/20.0μ sec. cm PLAY
			
2-A IC201-3 530mVp-p 0.1V/20.0μ sec. cm REC	5-B IC201-14 250mVp-p 0.1V/20.0μ sec. cm PLAY	9-A IC201-26 4.0Vp-p 1V/10.0μ sec. cm REC/PLAY	15-B IC201-36 300mVp-p 0.1V/20.0μ sec. cm PLAY
			
2-B IC201-3 500mVp-p 0.1V/20.0μ sec. cm PLAY	6-A IC201-17 500mVp-p 0.1V/100μ sec. cm REC	10-A IC201-28 2.2Vp-p 0.5V/20.0μ sec. cm REC	16-A IC202-1 420mVp-p 0.1V/20.0μ sec. cm REC
			
3-A IC201-9 370mVp-p 0.1V/20.0μ sec. cm REC	6-B IC201-17 550mVp-p 0.1V/100μ sec. cm PLAY	10-B IC201-28 2.0Vp-p 0.5V/20.0μ sec. cm PLAY	16-B IC202-1 350mVp-p 0.1V/20.0μ sec. cm PLAY
			
3-B IC201-9 300mVp-p 0.1V/20.0μ sec. cm PLAY	7-A IC201-18 510mVp-p 0.1V/100μ sec. cm REC	11-A IC201-30 5.3Vp-p 1V/10.0μ sec. cm REC/PLAY	17-A IC202-8 430mVp-p 0.1V/200μ sec. cm REC/PLAY
			
4-A IC201-11 400mVp-p 0.1V/20.0μ sec. cm REC	7-B IC201-18 560mVp-p 0.1V/100μ sec. cm PLAY	12-A IC201-31 850mVp-p 0.2V/20.0μ sec. cm REC/PLAY	
			

WYC (MAS) P.W.B.

- Capacitors with mark' * ' are coaxial type.
- Non-marked electrolitic capacitors are 'SRA' type.
- Non-marked resistors are rated 1/8W.

UNIT
Resistor : Ω
Capacitor : μF

*MEMO
IC23PIN HIorOPEN: copy guared cancel OFF
LO: copy guared cancel ON

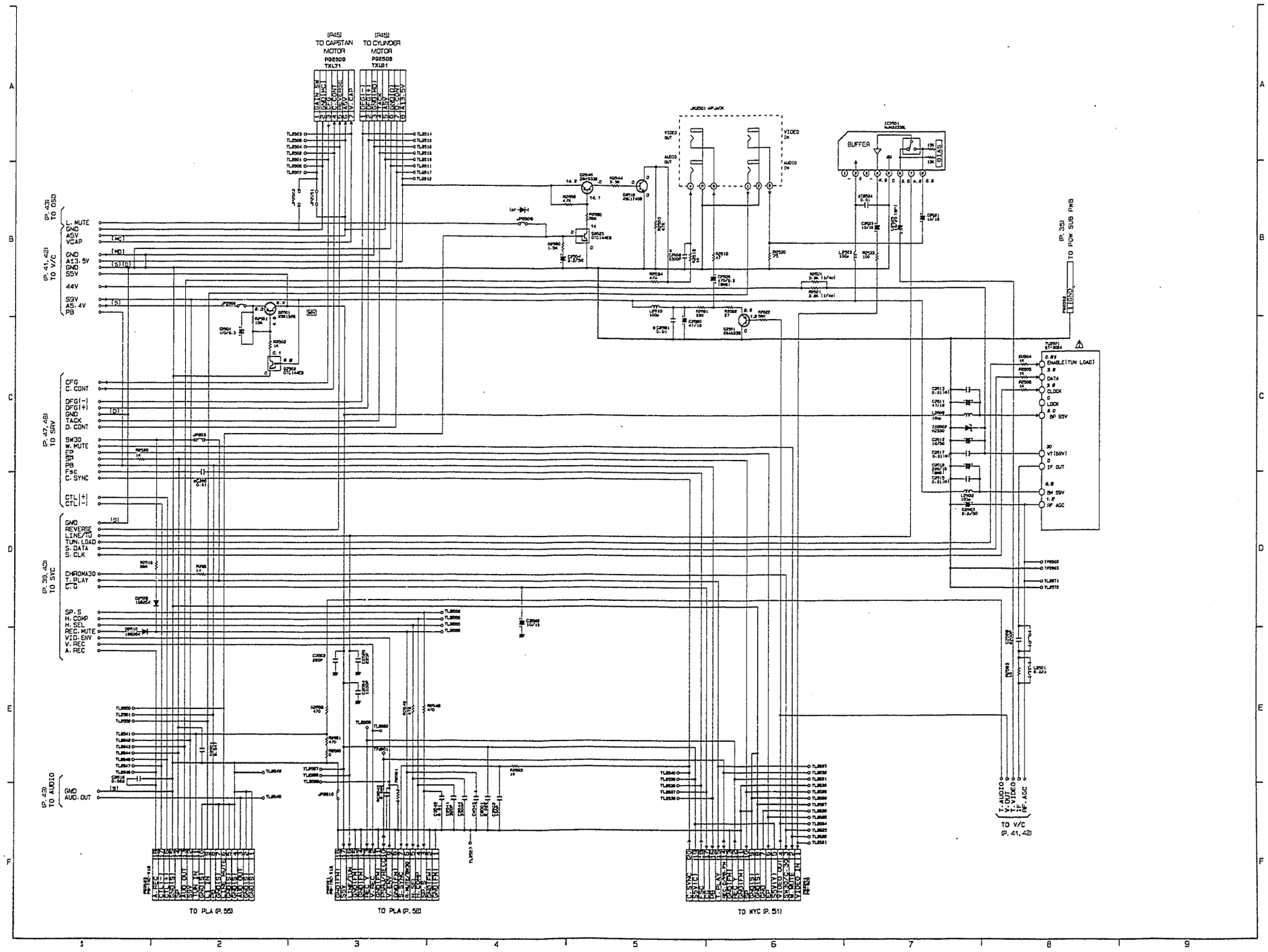
* SGCB CIRCUIT

TO JACK
P9201
PG-SOCKET S20

VIDEO IN	1
W.MUTE	2
SW.30/C.30	3
VIDEO OUT	4
S5V(Y)	5
EP	6
GND	7
GND(S)	8
GND(S)	9
SP	10
GND(FM)	11
REC Y	12
GND(FM)	13
REC.C/PB.FM	14
T.PLAY	15
PB	16
FG	17
FSC	18
S5V(C)	19
C.SYNC	20

S-CASE

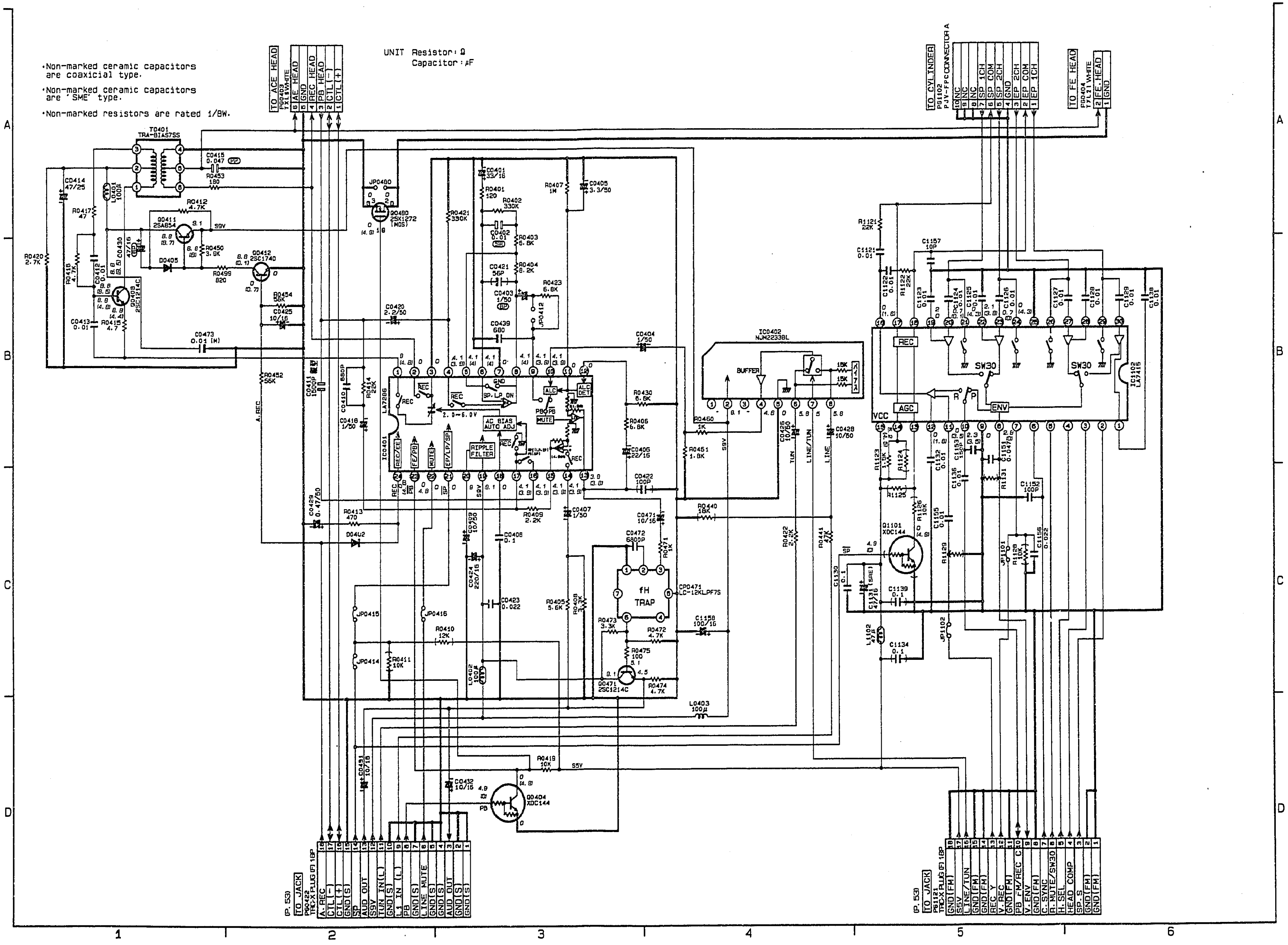
Jack (MAS) P.W.B.


(P.45) TO CAPSTAN MOTOR PQ2509 TXL71
(P.45) TO CYLINDER MOTOR PQ2508 TXL81
JK2501 4P JACK
BUFFER
(P. 43) TO DSG
(P. 41,42) TO V/C
(P. 47,48) TO SSV
(P. 39,40) TO SYC
(P. 42) TO AUDIO
(P. 35) TO PDK SUB PWB
TO V/C (P. 41, 42)
TO PLA (P. 56)
TO PLA (P. 56)
TO MYC (P. 51)

PLA P.W.B.

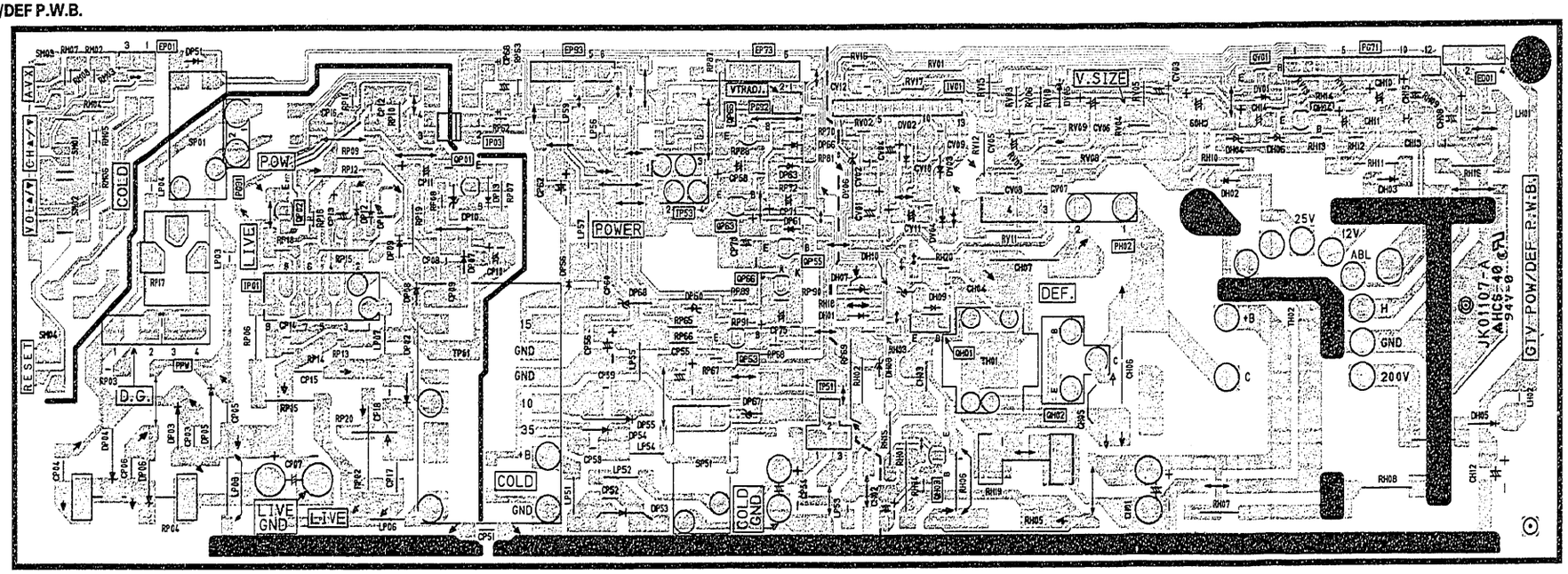
•Non-marked ceramic capacitors are coaxicial type.
•Non-marked ceramic capacitors are "SME" type.
•Non-marked resistors are rated 1/8W.

UNIT Resistor: Ω
Capacitor: μF

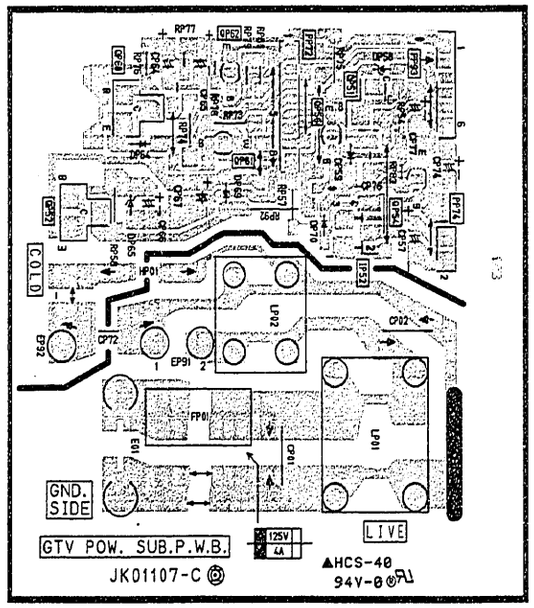


PRINTED WIRING BOARD

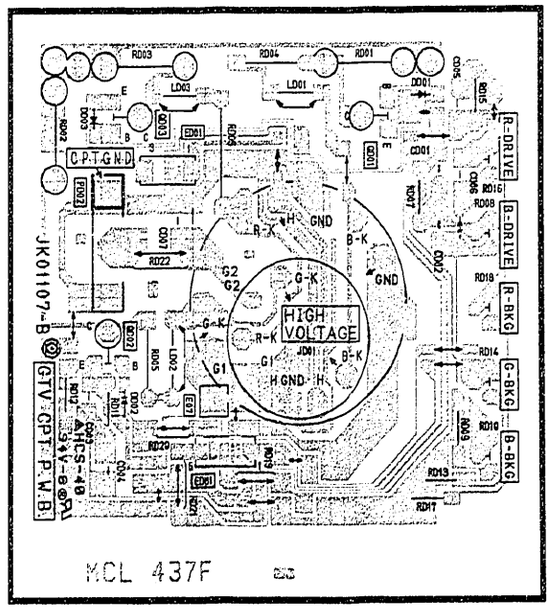
POW/DEF P.W.B.



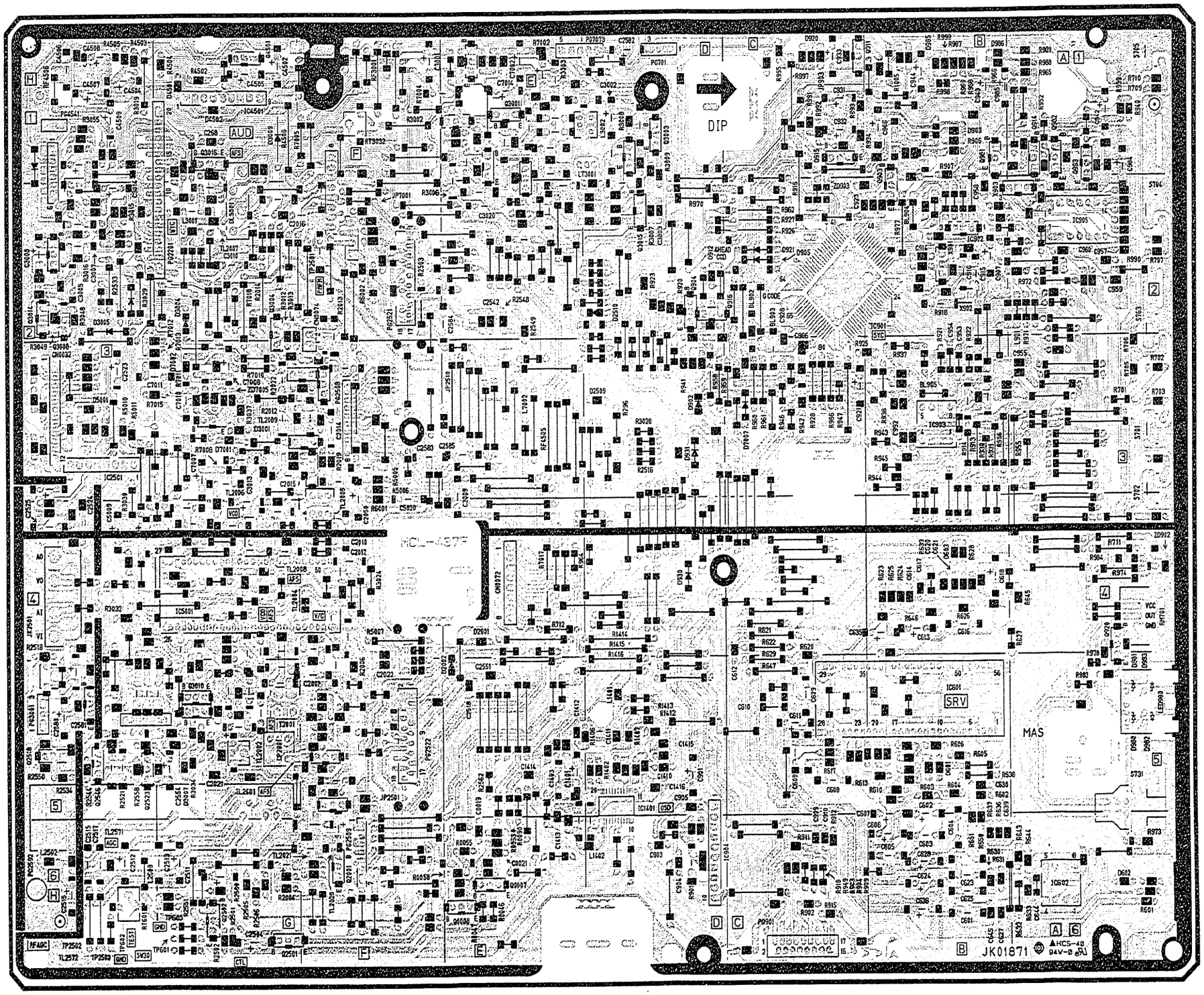
POW SUB P.W.B.



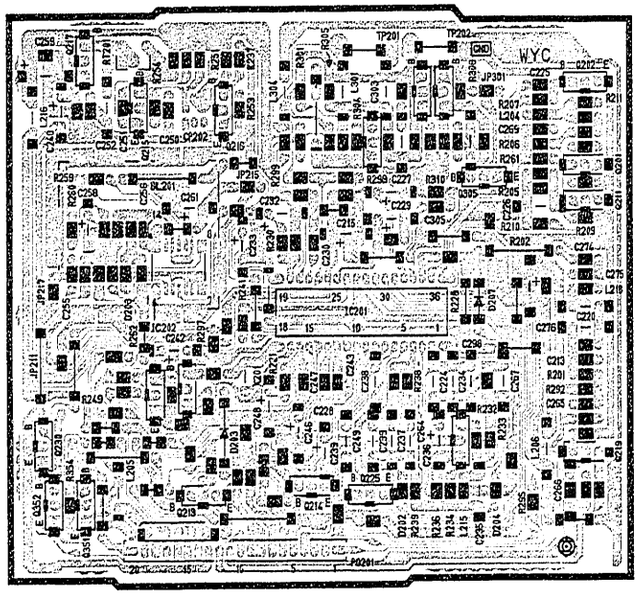
CPT P.W.B.



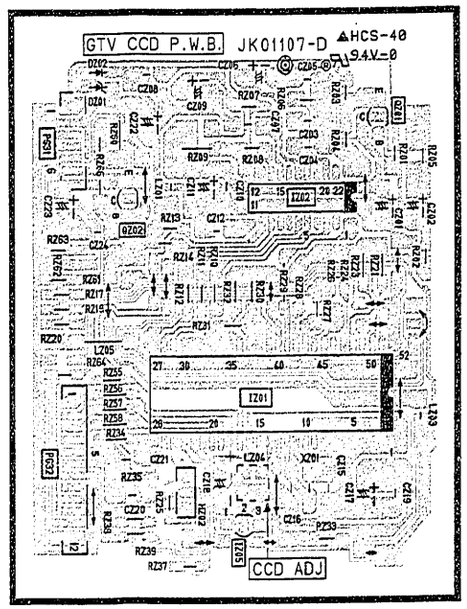
MAS P.W.B.



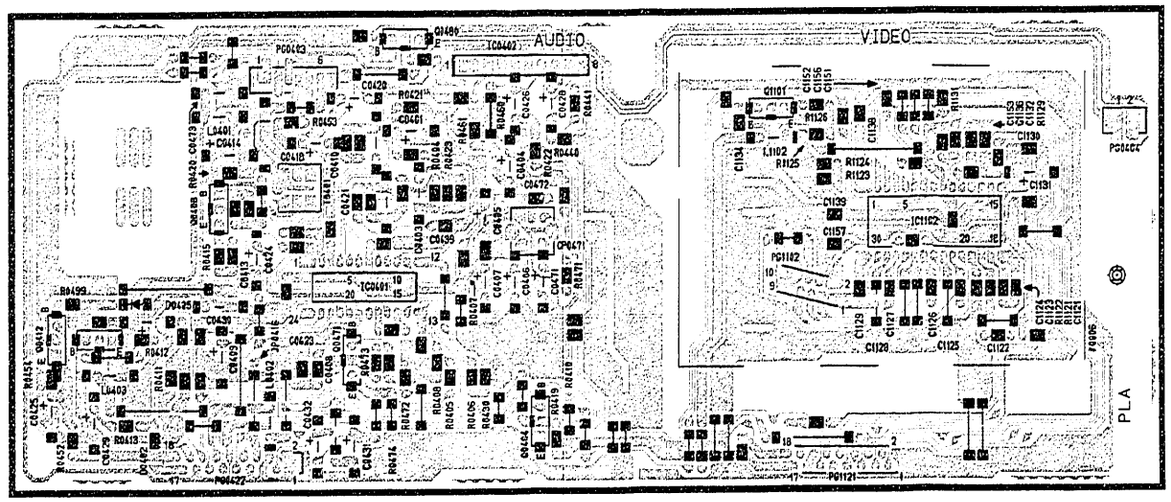
WYC P.W.B.



CCD P.W.B.

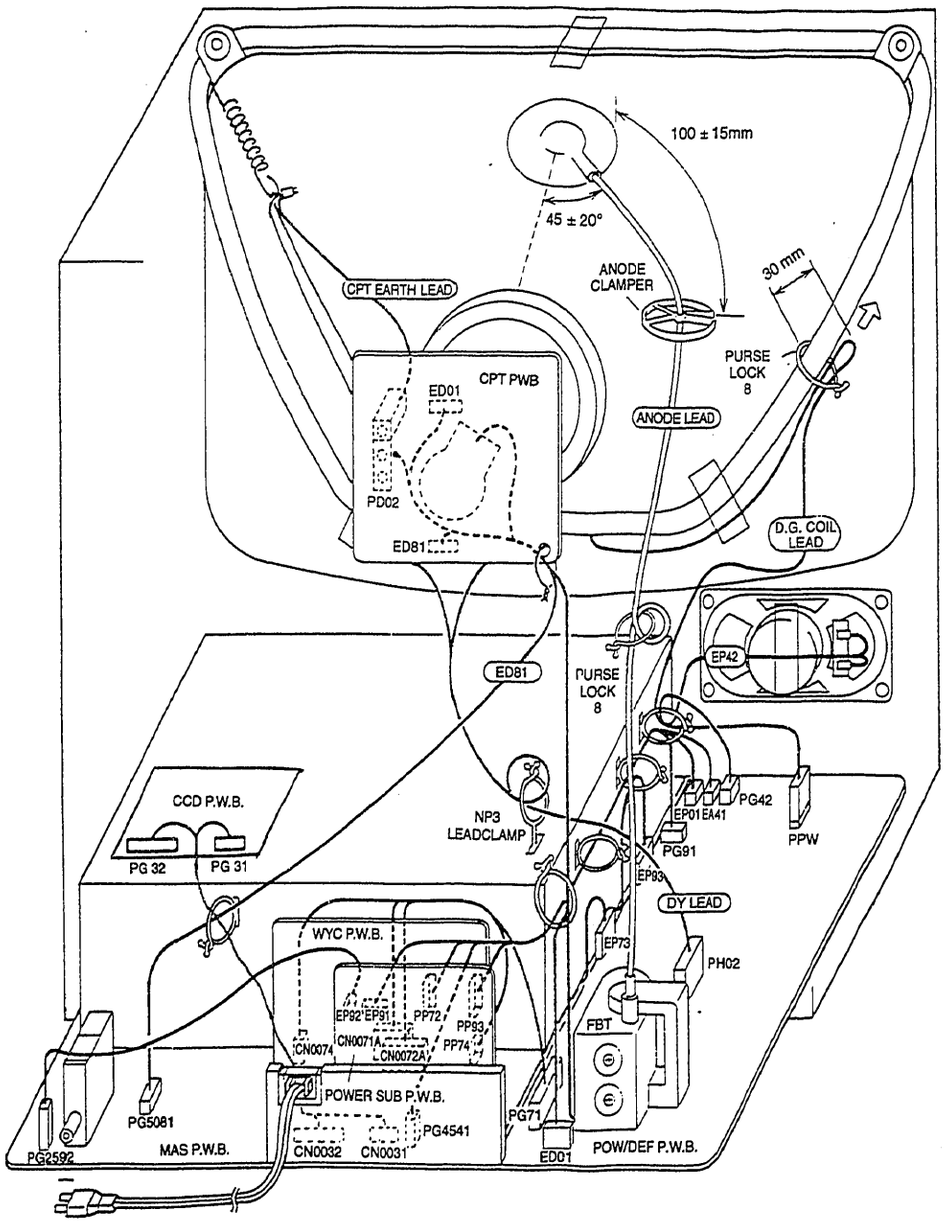


PLA P.W.B.

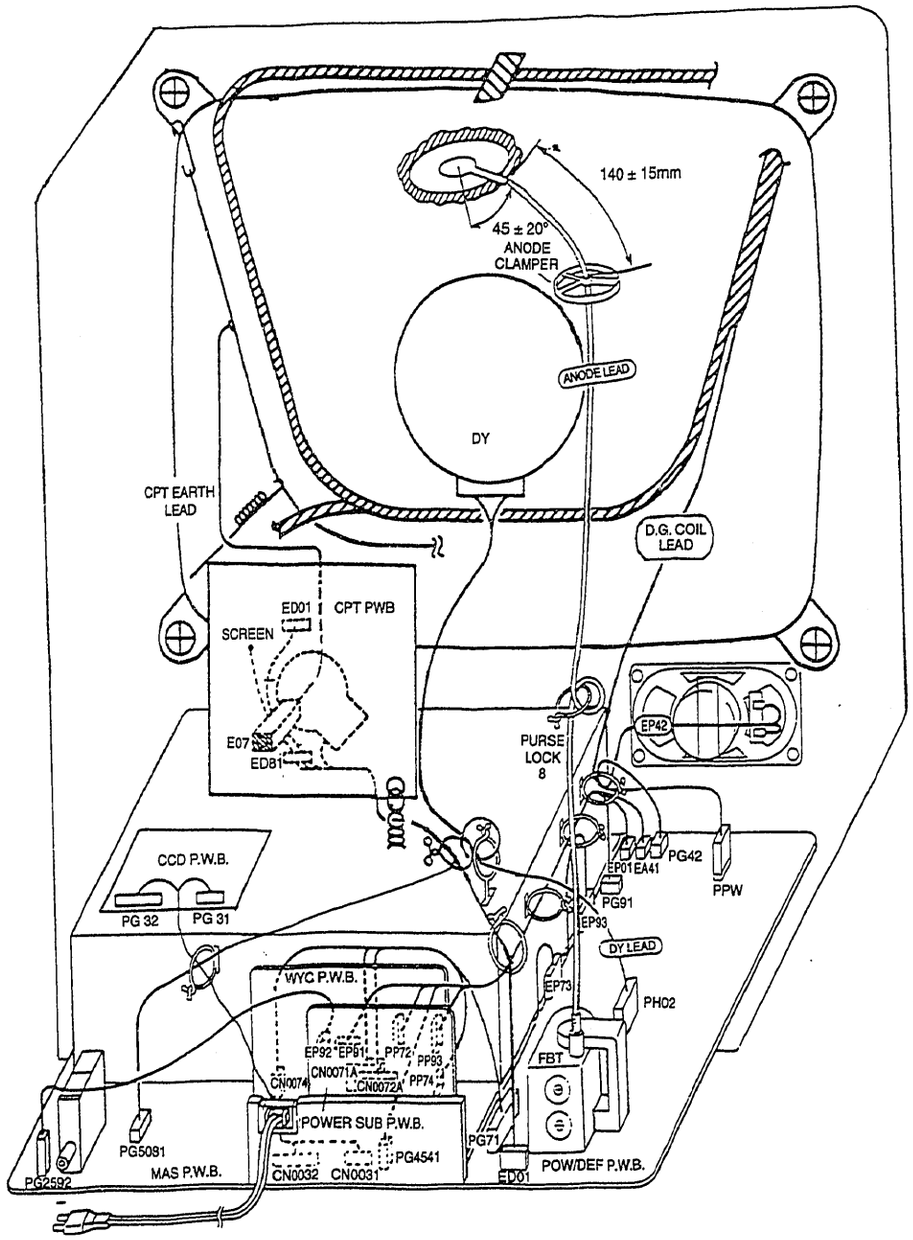


ASSEMBLY WIRING DIAGRAM

13VR3B



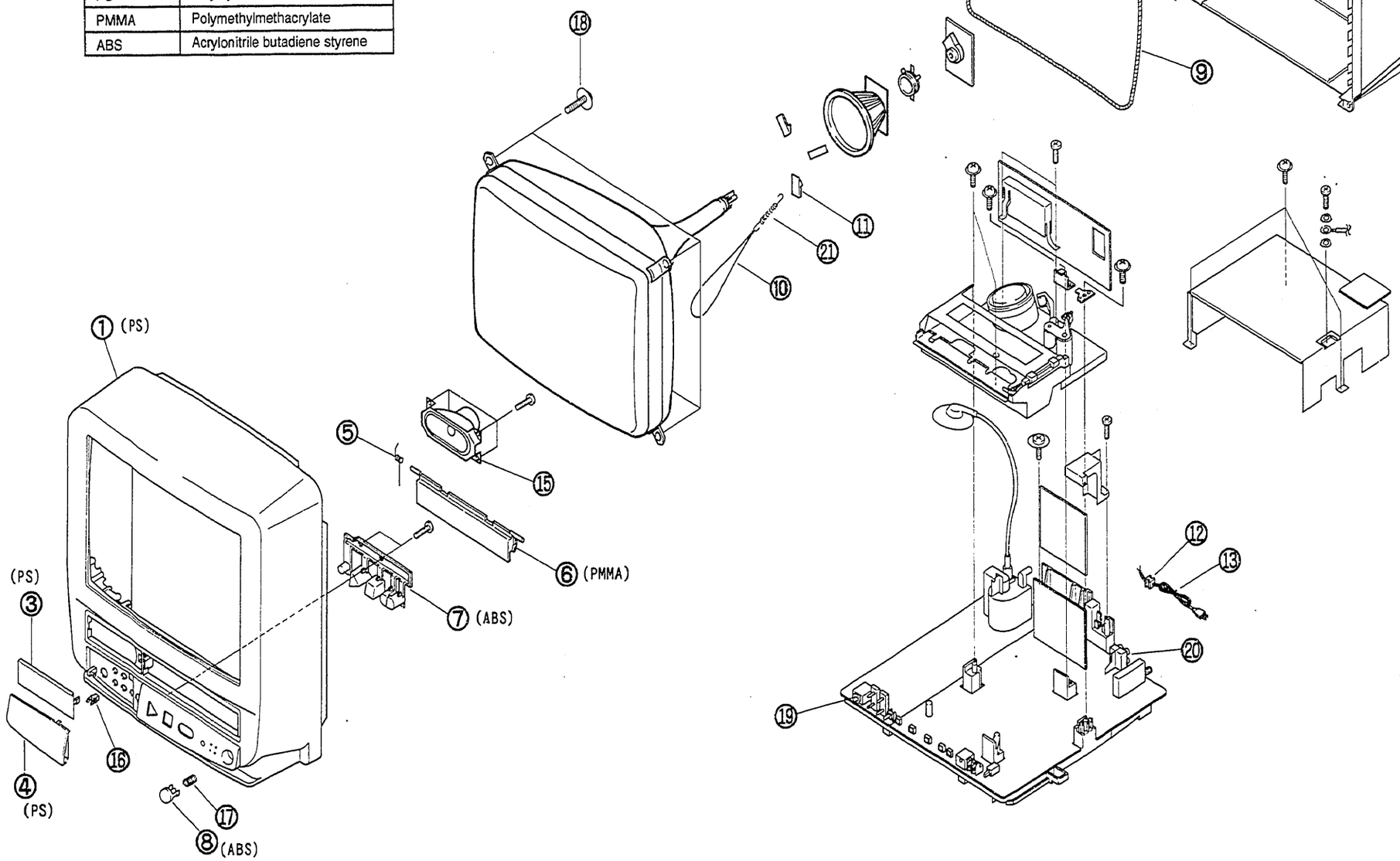
20VR4B



EXPLODED VIEW

The letters in ( ) are the abbreviations for the material names. The table below shows the relationship between the abbreviations and the material names.

Abbreviation	Material
PS	Polystyrene
PMMA	Polymethylmethacrylate
ABS	Acrylonitrile butadiene styrene



REPLACEMENT PARTS LIST

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

ABBREVIATIONS

Capacitors:	CD:	Ceramic Disc	**Resistors:**	CF:	Carbon Film	**Semiconductors:**	TA:	Transistor
	PF:	Polyester Film		CC:	Carbon Composition		DI:	Diode
	EL:	Electrolytic		MF:	Metal Oxide Film		ZD:	Zener Diode
	PP:	Polypropylene		VR:	Variable Resistor		VA:	Varistor
	PR:	Paper		WW:	Wire Wound		TH:	Thermistor
	TA:	Tantalum		FR:	Fuse Resistor		IC:	Integrated Circuit
	TM:	Trimmer		MG:	Metal Glaze			
	CQ:	Plastic Film						

SYMBOL NO.	PART NO.	PART DESCRIPTION
		EXPLODED VIEW
	1	FRAME ASSY
	2	BACK COVER
	3	SPAKER GRILL
	4	CONTROL DOOR
	5	CASSETTE DOOR SPRING
	6	CASSETTE DOOR
	7	BUTTON BLOCK
	8	POWER BUTTON
⚠	9	DEGAUSSING COIL
	10	CPT EARTH LEAD
	11	WEDGE
	12	POWER CORD HOLDER
⚠	13	POWER CORD
	14	RATING LABEL
⚠	15	SPEAKER
	16	LATCH
	17	POWER KNOB SPRING
	18	CPT FIXING SCREW
⚠	19	EARPHONE JACK
	20	AUDIO/VIDEO JACK
	21	EARTH SPRING
	22	REAR COVER FIXING SCREW
		CAPACITORS
CD01	0244104	CD 0.0018UF-K 50V
CD02	0890086	CD 820PF-K 50V
CD03	0244104	CD 0.0018UF-K 50V
CD04	0890086	CD 820PF-K 50V
CD05	0244104	CD 0.0018UF-K 50V
CD06	0890087	CD 1000PF-K 50V
CD07	0244202 **	CD 470PF-KF 2KV
	0245605 *	CD 470PF 100V
CH01	0254822	CD 101M161WML(HR)
CH02	0800018	EL 10UFF-M 50V
CH03	0299918	PP 0.022UF 200V
CH04	0244501	CD 1000PF-K 500V
⚠ CH05	0244202 **	CD 470PF-KF 2KV
	0244210 *	CD 820PF-K 2KV
⚠ CH06	0262421 *	PF 0.0056UF 1.8KV
	0262425 **	PF 0.0082UF 1.8KV
CH07	0299932 *	PP 0.33UF-K 200V
	0299934 **	PP 0.47UF-K 200V
CH08	0800018 *	EL 10UF-M 50V
	0800026 **	EL 22UF-M 50V
CH09	0800084	EL 1000UF-M 35V
CH10	0800082	EL 1000UF-M 16V
CH 11	0800049	EL 100UF-M 16V
CH12	0253974 **	EL 33UF 250V
	0259171 *	EL 4.7UF-HR 250V
CH13	0880057	PF 0.1UF-KEB 50V
CH14	0800003	EL 1.0UF-M 50V
CH15	0284621	EL 0.47UF 50V (BP)
CP01	AN00144S	PL 0.1UF250V
⚠ CP02	AN00144S	PL 0.1UF250V
⚠ CP03	0248593	CD 4700PF-Z 250V
⚠ CP04	0248593	CD 4700PF-Z 250V
⚠ CP05	0248593	CD 4700PF-Z 250V
⚠ CP06	0248593	CD 4700PF-Z 250V
CP07	0253891	EL 470UF 200V HR
CP08	0243507	CD 330PF-K 5000V
CP09	0243507	CD 330PF-K 5000V
CP10	0800051	EL 100UF-M 25V
CP11	0800058	EL 220UF-M 16V
CP12	0880031	PP 1000PF-K 50V
CP13	0800058	EL 220UF-M 16V
CP14	0244105	CD 2200PF-K 50V
CP15	0299977	PP 0.0047UF-F 630V
CP16	0880198	CQ 0.22UF 50V
CP17	0299977	PP 0.0047UF-F 630V
CP18	0243507	CD 330PF-K 500V
CP51	AJ00115	CD 2200PF 125V (MX)
CP52	0244202	CD 470PF-KF 2KV
CP53	0243507	CD 330PF-K 500V
CP54	0259402	EL 180UF-HRF 160V
CP55	0800053	EL 100UF-M 50V
CP56	0284409	EL KMF 2200/160V
CP57	0800041	EL 47UF-M 16V
CP58	0800072	EL 470UF-M 6.3V
CP59	0243507	CD 330PF-K 500V
CP60	0243507	CD 330PF-K 500V
CP62	0284425	EL KMF 1000/25V
CP64	0800001	EL 0.47UF-M 50V
CP65	0800001	EL 0.47UF-M 50V
CP66	0800015	EL 10UF-M 16V
CP67	0800082	EL 1000UF-M 16V
CP68	0284625	EL 2.2UF-SME(BP) 50V
CP70	0800049	EL 100UF-M 16V
CP71	0800058	EL 220UF-M 16V
CP72	AJ00115	CD 2200PF 125V (MX)
CP74	0800003	EL 1.0UF-M 50V
CP75	0800003	EL 1.0UF-M 50V

NOTE: * 13VR3B / ** 20VR4B

SYMBOL NO.	PART NO.	PART DESCRIPTION
CP76	0880053	PF 0.047UF-KEB 50V
CP77	0800015	EL 10UF-M 16V
CP78	0249394	CD 4700-KF F 125V
CP79	0249391	CD 1000PF-B 125V
CP80	0249392	CD 2200PF 125V
CV01	0800059	EL 220UF-M 25V
CV02	0880044	PF 0.01UF-KEB 50V
CV03	0800047	EL 100UF-M 6.3V
CV04	0292716	TA 1.0UF-KF 20V
CV05	0800016 **	EL 10UF-M 25V
	0800024 *	EL 22UF-M 25V
CV06	0800084	EL 1000UF-M 35V
CV07	0880057	PF 0.1UF-KEB 50V
CV08	0880057	PF 0.1UF-KEB 50V
CV09	0890061	CD 10PF 50V
CV10	0248684	CD 100PF-J SL 50V
CV11	0800053	EL 100UF-M 50V
CV12	0244106	CD 0.0027UF-K B 50V
CZ01	0800048	EL 100UF-M 10V
CZ02	0800048	EL 100UF-M 10V
CZ03	0244107	CD 3300PF-K 50V
CZ04	0880046	PF 0.015UF-K 50V
CZ05	0890089	CD 1500PF-K 50V
CZ06	0800003	EL 1.0UF-M 50V
CZ07	0890069	CD 47PF-J 50V
CZ08	0880051	PF 0.033UF-KEB 50V
CZ09	0800012	EL 4.7UF-M 50V
CZ10	0880044	PF 0.01UF-KEB 50V
CZ11	0800048	EL 100UF-M 10V
CZ12	0246464	CD 100PF-J CH 50V
CZ15	0890121	CD 33PF-J CH 50V
CZ16	0890121	CD 33PF-J CH 50V
CZ17	0800048	EL 100UF-M 10V
CZ18	0800003	EL 1.0 UF-M 50V
CZ19	0880044	PF 0.01UF-KEB 50V
CZ20	0246464	CD 100PF-J CH 50V
CZ21	0246464	CD 100PF-J CH 50V
CZ22	0800015	EL 10UF-M 16V
CZ23	0800048	EL 100UF-M 10V
CZ24	0880198	CQ 0.22UF 50V
C0019	0890035	CD 1000PF-F 50V B
C0021	0890022	CD 100PF-K B 50V
C0268	0890043	CD 10000PF-N Y 16V
C0601	0880046	PF 0.015UF-F 50V
C0602	0800112	EL 2.2UFF-M 50V
C0603	0259384	EL 1.0UF-M 50V SRA-BP
C0604	0880051	PF 0.033UF-KEB 50V
C0605	0284621	EL 0.47UF 50V (BP)
C0606	0254459	EL KRL 16VB22FT
C0607	0800122	EL 10UF-M 16V
C0608	0259382	EL 0.33UF 50V
C0609	0880033	PF 0.0015UF-KEB 50V
C0610	0890046	CD 0.10UF 50V
C0611	0800127	EL CE04W1A220MB(SRA)
C0612	0890035	CD 1000PF-K 50V B
C0613	0800122	EL 10UF-M 16VB
C0614	0890013	CD 22UF 16V
C0616	0880053	PF 0.047UF-KEB 50V
C0617	0890038	CD 3300PF-M X 16V
C0618	0800134	EL 33UF-M 10V
C0620	0890028	CD 330PF-K B 50V
C0621	0890045	CD 0.047UF 50V
C0623	0248696	CD 330PF-J SL 50V
C0624	0800122	EL 10UF-M 16V
C0625	0890075	CD 120PF-K 50V
C0627	0890044	CD 22000PF-Z Y 16V
C0628	0259369	EL 10UF M 16V SRA-BP
C0629	0880055	PF 0.068UF-KEB 50V
C0630	0890045	PF 0.047UF-KEB 50V
C0635	0800134	EL 33UF-M 10V
C0636	0800122	EL 10UF-M 16V
C0932	0800182	EL 22UF 16V
C0933	0800109	EL 1UF 50V
C0938	0800109	EL 1UF 50V
C0942	0800109	EL 1UF 50V
C0943	0800109	EL 1UF 50V
C0944	0800109	EL 1UF 50V
C0950	0890032	CD 560PF-K B 50V
C0951	0890032	CD 560PF-K B 50V
C0952	0890022	CD 100PF-K B 50V
C0953	0890022	CD 100PF-K B 50V
C0954	0890026	CD 220 PF-K B 50V
C0955	0890022	CD 100PF-K B 50V
C0956	0890022	CD 100PF-K B 50V
C0957	0890025	CD 180PF-K B 50V
C0958	0890022	CD 100PF-K B 50V
C0959	0890022	CD 100PF-K B 50V
C0960	0890036	CD 1500PF-M X 16V
C0961	0890022	CD 100PF-K B 50V
C0962	0890022	CD 100PF-K B 50V
C0963	0890022	CD 100PF-K B 50V
C0964	0890022	CD 100PF-K B 50V
C0965	0890022	CD 100PF-K B 50V
C0966	0890046	CD 0.10 UF 50V
C0978	0890043	CD 10000PF-N Y 16V
C0983	0890044	CD 22000PF-Z Y 16V
C0984	0800122	EL 10UF-M 16V
C0985	0800122	EL 10UF-M 16V
C0986	0890043	CD 10000PF-N Y 16V
C0992	0890043	CD 10000PF-N Y 16V
C1401	0800138	EL 47UF-M 6.3V
C1402	0890044	CD 22000PF-Z Y 16V
C1403	0800019	EL 1UF 50V
C1404	0246458	CD 56PF-J CH 50V
C1405	0246458	CD 56PF-J CH 50V
C1410	0890008	CD 10PF J SL 50 T
C1411	0890008	CD 10PF J SL 50 T
C1412	0890008	CD 10PF J SL 50 T
C1413	0890036	CD 1500PF-M X 16V
C1414	0890032	CD 560PF-K B 50V
C1415	0890035	CD 1000PF-K B 50V
C1416	0890022	CD 100PF-K B 50V
C2001	0880046	PF 0.015UF-K 50V
C2002	0880057	PF 0.1UF-KEB 50V

NOTE: * 13VR3B / ** 20VR4B

SYMBOL NO.	PART NO.	PART DESCRIPTION
C2003	0880044	PF 0.01UF-KEB 50V
C2004	0880044	PF 0.01UF-KEB 50V
C2005	0800122	EL 10UF-M 16V
C2006	0890031	CD 470PF-K B 50V
C2007	0880044	PF 0.01UF-KEB 50V
C2008	0800353	EL 470UF 16V
C2009	0890035	CD 1000PF-K 50V B
C2010	0800107	EL 0.47UF-M 50V
C2011	0800117	EL CE04W1E4R7MB(SRA)
C2012	0880044	PF 0.01UF-KEB 50V
C2013	0246458	CD 56PF-J CH 50V
C2014	0890122	CD 39PF-J 50V
C2015	0890063	CD 15PF-J 50V
C2016	0880044	PF 0.01UF-KEB 50V
C2018	0246443	CD 13PF (C) 50WV
C2019	0246463	CD 91PF-J CH 50V
C2021	0890026	CD 220PF-K B 50V
C2022	0890015	CD 33P 50V
C2023	0880044	PF 0.01UF-KEB 50V
C2024	0800122	EL 10UF-M 16V
C2025	0890035	CD 1000PF-K 50V B
C2050	0800122	EL 10UF-M 16V
C2051	0890037	CD 2200PF-M X 16V
C2052	0890037	CD 2200PF-M X 16V
C2053	0890011	CD 15P 50V
C2501	0890044	CD 22000PF-Z Y 16V
C2502	0890022	CD 100PF-K B 50V
C2503	0800112	EL 2.2UF-M 50V
C2504	0800351	EL 470UF-M 6.3V
C2508	0890038	CD 3300PF-M X 16V
C2509	0800351	EL 470UF-M 6.3V
C2511	0800141	EL CE041C470MB(SRA)
C2512	0800125	EL 10UF-M 50V
C2513	0880044	PF 0.01UF-KEB 50V
C2515	0880044	PF 0.01UF-KEB 50V
C2516	0800335	EL 220UF-M (SMG) 16V
C2517	0880044	PF 0.01UF-KEB 50V
C2518	0880044	PF 0.01UF-KEB 50V
C2521	0800122	EL 10UF-M 16V
C2523	0800122	EL 10UF-M 16V
C2524	0890043	CD 10000PF-N Y 16V
C2525	0284639	EL 10UF 25V
C2541	0890029	CD 390PF-K B 50V
C2542	0890044	CD 22000PF-Z Y 16V
C2544	0890038	CD 3300PF-M X 16V
C2545	0890043	CD 10000PF-N Y 16V
C2551	0890045	CD 0.047 UF 50V
C2554	0800112	EL 2.2UF-M 50V
C2580	0800141	EL CE004W1C470MB(SRA)
C2581	0890043	CD 10000PF-N Y 16V
C2582	0800122	EL 10UF-M 16V
C2583	0890078	CD 220PF-K 50V
C2584	0890087	CD 1000PF-K 50V
C2585	0890078	CD 220PF-K 50V
C2586	0890037	CD 2200PF-M X 16V
C3001	0800361	EL 1000UF 16V
C3002	0800145	EL 100UF-M (SRA)
C3003	0890022	CD 100PF-K B 50V
C3005	0880048	PF 0.022UF-KEB 50V
C3006	0800107	EL 47UF-M 50V
C3007	0800122	EL 10UF-M 16V
C3008	0800107 **	EL 47UF-M 50V
	0800122 *	EL 10UF-M 16V
C3009	0800122	EL 10UF-M 16V
C3010	0800107	EL 47UF-M 50V
C3011	0890013 **	CD 22PF J SL 50 T
	0890014 *	CD 27PF-K 50V SL
C3012	0800136	EL 33UF-M 25V
C3013	0800115	EL CE04W1H3R3MB(SRA)
C3014	0800125	EL 10UF-M 50V
C3015	0890017	CD 47PF-K 50V SL
C3016	0890013	CD 22PS J SL 50 T
C3019	0890101	CD CCT103Z50D3
C3021	0890114	CD 10PF-D CH 50V
C3022	0890114	CD 10PF-D CH 50V
C3024	0880044	PF 0.01UF-KEB 50V
C4502	0800362	EL SMG 25 VB 1000CC
C4504	0800109	EL 1UF 50V
C4505	0800122	EL 10UF-M 16V
C4506	0880053	PF 0.047UF-KEB 50V
C4507	0800361	EL 1000UF 16V
C4508	0800135	EL 33UF-M 16V
C4509	0800335	EL 220UF-M(SMG) 16V
C5001	0890082	CD 390PF-K 50V
C5002	0890069	CD 47PF-J 50V
C5003	0890079	CD 270PF-K 50V
C5004	0890074	CD 100PF-J 50V
C5005	0890101	CD CCT103Z50D3
C5006	0246445	CD 16PF-J CH 50V
C5007	0880044	PF 0.01UF-KEB 50V
C5008	0800344	EL 330UF-M(SMG) 16V
C5009	0800141	EL CE04W1C470MB(SRA)
C5010	0880044	PF 0.01UF-KEB 50V
C5011	0800119	EL 4.7UF-M 50V
C5012	0880053	PF 0.047UF-KEB 50V
C5020	0890101	CD CCT103Z50D3
C7001	0800117	EL CE04W1E4R7MB(SRA)
C7002	0800145	EL 100UF-M (SRA)
C7003	0800109	EL 1UF 50V
C7004	0890032	CD 560PF-K B 50V
C7005	0880059	PF 0.15UF-KEB 50V
C7006	0880055	PF 0.068UF-KEB 50V
C7007	0800115	EL CE04W1H3R3MB(SRA)
C7008	0800122	EL 10UF-M 16V
C7010	0880039	PF 0.047UF-KEB 50V
C7011	0890085	CD 680PF-K 50V
C7012	0800145	EL 100UF-M (SRA)
C7014	0800141	EL CE041WC470MB(SRA)
C0213	0890013	CD 22PF J SL 50 T
C0214	0890046	CD 0.10 UF 50V
C0215	0800351	EL 470UF-M 6.3V
C0216	0890043	CD 10000PF-N Y 16V
C0217	0890044	CD 22000PF-Z Y 16V
C0218	0800351	EL 470UF-M 6.3V
C0219	0880057	PF 0.1UF-KEB 50V
C0220	0890075	CD 120PF-K 50V
C0223	0890019	CD 68PF J SL 50 T
C0224	0800122	EL 10UF-M 16V
C0225	0890043	CD 10000PF-N Y 16V
C0226	0890073	CD 82PF-J 50V
C0227	0800122	EL 10UF-M 16V
C0228	0890043	CD 10000PF-N Y 16V
C0229	0800122	EL 10UF-M 16V
C0230	0890045	CD 0.047 UF 50V
C0231	0890038	CD 3300PF-M X 16V
C0232	0800109	EL 1UF 50V
C0233	0800109	EL 1UF 50V
C0234	0890123	CD 47PF-J CH 50V
C0235	0890121	CD 33PF-J CH 50V
C0236	0800109	EL 1UF 50V
C0237	0248696	CD 3301PF-J SL 50V
C0238	0800108	CD CCT5R0C50D3
C0239	0800122	EL 10UF-M 16V
C0240	0800122	EL 10UF-M 16V
C0242	0800109	EL 1UF 50V
C0243	0880044	PF 0.01UF-KEB 50V

NOTE: * 13VR3B / ** 20VR4B

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
C0246	0800109	EL 1UF 50V	C1136	0890043	CD 10000PF-N Y 16V
C0247	0890043	CD 10000PF-N Y 16V	C1138	0890043	CD 10000PF-N Y 16V
C0248	0800109	EL 1UF 50V	C1151	0890045	CD 0.047UF 50V
C0249	0890114	CD 10PF-D CH 50V	C1152	0890022	CD 100PF-K B 50V
C0250	0890018	CD 56PF-J SL 50V	C1153	0890024	CD 150PF-K B 50V
C0251	0890023	CD 120PF-K B 50V	C1154	0890024	CD 150PF-K B 50V
C0252	0890121	CD 33PF-J CH 50V	C1155	0890043	CD 10000PF-N Y 16V
C0253	0890043	CD 10000PF-N Y 16V	C1156	0890044	CD 22000PF-Z Y 16V
C0255	0880044	PF 0.01UF-KEB 50V	C1157	0890008	CD 10PF J SL 50 T
C0256	0880044	PF 0.01UF-KEB 50V	C1158	0800049	EL 100UF-M 16V
C0257	0890046	CD 0.10UF 50V	C2101	0890045	CD 0.047UF 50V
C0258	0800109	EL 1UF 50V	HP01	2793312	CD (CAPRISTOR 471P365L)
C0259	0890046	CD 0.10UF 50V	HP02	2793312	CD (CAPRISTOR 471P365L)
C0260	0890044	CD 22000PF-Z Y 16V			
C0261	0800122	EL 10UF-M 16V		**DIODE**	
C0264	0890116	CD 15PF-J CH 50V			
C0265	0890043	CD 10000PF-N Y 16V	D0005	2344041	DI 1SS254 / ISS270
C0266	0800053	EL 100UF-M 50V	D0006	2344041	DI 1SS254 / ISS270
C0267	0890075	CD 120PF-K 50V	D0201	2344041	DI 1SS254 / ISS270
C0269	0890013	CD 22PF J SL 50 T	D0202	2344041	DI 1SS254 / ISS270
C0274	0890019	CD 68PF J SL 50 T	D0203	2344041	DI 1SS254 / ISS270
C0275	0890034	CD 820PF-K B 50V	D0204	2344041	DI 1SS254 / ISS270
C0276	0890114	CD 10PF-D CH 50V	D0208	2344041	DI 1SS254 / ISS270
C0280	0800138	EL 47UF-M 6.3V	D0209	2344041	DI 1SS254 / ISS270
C0298	0890075	CD 120PF-K 50V	D0402	2344041	DI 1SS254 / ISS270
C0299	0890072	CD 68PF-J 50V	D0405	2344041	DI 1SS254 / ISS270
C0401	0800032	EL 33UF-M 16V	D0601	2344041	DI 1SS254 / ISS270
C0402	0209641	CD 0.01UF 16V	D0602	2344041	DI 1SS254 / ISS270
C0403	0284623	EL 1UF-SME(BP) 50V	D0603	2344041	DI 1SS254 / ISS270
C0404	0800109	EL 1UF 50V	D0902	1330011	DI D1NS4
C0405	0800007	EL 3.3UF-M 50V	D0903	2344041	DI 1SS254 / ISS270
C0406	0800128	EL 22UF-M 16V	D0905	2344041	DI 1SS254 / ISS270
C0407	0800109	EL 1UF 50V	D0912	2344041	DI 1SS254 / ISS270
C0408	0890046	CD 0.01UF 50V	D0920	1330011	DI D1NS4
C0409	0800125	EL 10UF-M 50V	D0921	2344041	DI 1SS254 / ISS270
C0410	0890033	CD 680PF-K B 50V	D0930	2344041	DI 1SS254 / ISS270
C0411	0890089	CD 1500PF-K 50V	D0931	2344041	DI 1SS254 / ISS270
C0412	0890043	CD 10000PF-N Y 16V	D0980	2339691	LED SLH-56VC77F (RED)
C0413	0890043	CD 10000PF-N Y 16V	D0981	2339691	LED SLH-56VC77F (RED)
C0414	0800042	EL 47UF-M 25V	D0982	2339691	LED SLH-56VC77F (RED)
C0415	0268449	CQ 92E2A473J	D0983	2339692	LED SLH-56VC77F
C0418	0800003	EL 1.0UF-M 50V	D0985	2344041	DI 1SS254 / ISS270
C0420	0800005	EL 2.2UF-M 50V	D0986	2344041	DI 1SS254 / ISS270
C0423	0890044	CD 22000PF-Z Y 16V	D2001	2344041	DI 1SS254 / ISS270
C0424	0800058	EL 220UF-M 16V	D2002	2344041	DI 1SS254 / ISS270
C0425	0800122	EL 10UF-M 16V	D2101	5380933	DI (LED GL451V)
C0426	0800018	EL 10UF-M 50V	D2509	2344041	DI 1SS254 / ISS270
C0428	0800018	EL 10UF-M 50V	D2510	2344041	DI 1SS254 / ISS270
C0429	0800107	EL 47UF-M 50V	D3001	2344041	DI 1SS254 / ISS270
C0430	0284667	EL 47UF-MBPR(SME) 16V	D3002	2344041	DI 1SS254 / ISS270
C0431	0800015	EL 10UF-M 16V	D3003	2344041	DI 1SS254 / ISS270
C0432	0800122	EL 10UF-M 16V	D3004	2344041	DI 1SS254 / ISS270
C0439	0890033	CD 680PF-K B 50V	D3005	2344041	DI 1SS254 / ISS270
C0471	0800015	EL 10UF-M 16V	D3006	2344041	DI 1SS254 / ISS270
C0472	0890041	CD 6800PF-N X 16V	D3007	2344041	DI 1SS254 / ISS270
C0473	0880044	PF 0.01UF-KEB 50V	D3008	2344041	DI 1SS254 / ISS270
C1121	0890043	CD 10000PF-N Y 16V	D3009	2344041	DI 1SS254 / ISS270
C1122	0890043	CD 10000PF-N Y 16V	D3010	2344041	DI 1SS254 / ISS270
C1123	0890043	CD 10000PF-N Y 16V	D4501	2344041	DI 1SS254 / ISS270
C1124	0890043	CD 10000PF-N Y 16V	D4502	2344041	DI 1SS254 / ISS270
C1125	0890043	CD 10000PF-N Y 16V	D4503	5339231	DI (1SR35-100A)
C1126	0890043	CD 10000PF-N Y 16V	D5001	2344041	DI 1SS254 / ISS270
C1127	0890043	CD 10000PF-N Y 16V	D5002	2344041	DI 1SS254 / ISS270
C1128	0890043	CD 10000PF-N Y 16V	D7001	2344041	DI 1SS254 / ISS270
C1129	0890043	CD 10000PF-N Y 16V	D7002	2344041	DI 1SS254 / ISS270
C1130	0890046	CD 0.10UF 50V	D7003	2344041	DI 1SS254 / ISS270
C1131	0800186	EL 47UF 16V	D7004	2344041	DI 1SS254 / ISS270
C1132	0890043	CD 10000PF-N Y 16V	D7005	2344041	DI 1SS254 / ISS270

NOTE: * 13VR3B / ** 20VR4B

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
D7006	2344041	DI 1SS254 / ISS270		0110275 **	MF 18K-J
D7007	1330011	DI DINS4	RD02	0110175 *	MF 18K-J
DD01	2344041	DI 1SS254 / ISS270		0110275 **	MF 18K-J
DD02	2344041	DI 1SS254 / ISS270	RD03	0110175 *	MF 18K-J
DD03	2344041	DI 1SS254 / ISS270		0110275 **	MF 18K-J
DH01	2344041	DI 1SS254 / ISS270	RD04	0100075 *	CF 1/8W 2.7K-J
⚠ DH02	2339482	DI AS01		0113750 **	CF 1/2W 1K-J
⚠ DH03	2339481	AS01Z	RD05	0100075 *	CF 1/8W 2.7K-J
DH04	2331785	ZD HZ-4		0113750 **	CF 1/2W 1K-J
⚠ DH05	2339482	DI AS01	RD06	0100075 *	CF 1/8W 2.7K-J
DH06	2331806	ZD HZ-6		0113750 **	CF 1/2W 1K-J
DH07	2334303	ZD RD30E	RD07	0100047	CF 1/8W 180-JB
DH08	2332841	ZD HZ-11	⚠ RD08	0150109	VR RV6 200-B
DH09	2344041	DI 1SS254 / ISS270	RD09	0100065 **	CF 1/8W 1K-J
DH10	2339825	ZD HZS-4		0100067 *	CF 1/8W 1.2K-J
DP02	2338532	DI EG01A	⚠ RD10	0150112	VR RV6 2K-B
⚠ DP03	2334591	DI EM1A (V)	RD11	0100047	CF 1/8W 180-J
⚠ DP04	2334591	DI EM1A (V)	RD12	0100041 **	CF 1/8W 100-J
⚠ DP05	2334591	DI EM1A (V)		0100043 *	CF 1/8W 120-J
⚠ DP06	2334591	DI EM1A (V)	RD13	0100065 **	CF 1/8W 1K-J
DP07	2339481	DI AS01Z		0100067 *	CF 1/8W 1.2K-J
DP08	2339481	DI AS01Z	⚠ RD14	0150112	VR RV6 2K-B
DP09	2339481	DI AS01Z	RD15	0100047	CF 1/8W 180-J
DP10	2339053	ZD HZS7B3L	⚠ RD16	0150109	VR RV6 2K-B
DP11	2339481	DI AS01Z	⚠ RD17	0100065 **	CF 1/8W 1K-J
DP12	2339481	DI AS01Z		0100067 *	CF 1/8W 1.2K-J
DP13	2344041	DI 1SS254 / ISS270	RD18	0150112	VR RV6 2K-B
DP51	2339491	DI AM01Z	RD22	0100133 **	CF 1/8W 680K-J
⚠ DP53	2333003	DI RU-2AM	RH01	0119696 **	MF 0.51-K
⚠ DP54	2359361	DI EL1ZV		0119731 *	MF 1W 0.68-K
⚠ DP55	2339551	DI ED14 (V1)	RH02	0114281	CF 1/4W100K-J
⚠ DP56	2348901	DI (D3L20U)	RH03	0700055	CF 1/16W 12K-J
DP58	2339871	ZD HZS11A1	RH04	0700048	CF 1/16W 3.9K-J
DP59	2344041	DI 1SS254 / ISS270	RH05	0110359	MF 3W 3.9K-J
⚠ DP60	2339846	ZD HZS6B3	RH06	0113750 **	CF 1/2W 1K-J
DP61	2344041	DI 1SS254 / ISS270	RH07	0114219 **	CF 1/4W 56K-J
DP63	2344041	DI 1SS254 / ISS270		0114223 *	CF 1/4W 82K-J
DP64	2339491	DI AM01Z	RH08	0100105 *	CF 1/8W 47K-J
DP65	2339892	DI (HZS15-2TA)		0100107 **	CF 1/8W 56K-J
DP66	2344041	DI 1SS254 / ISS270	RH09	0700061	CF 1/16W 33K-J
DP67	2331849	ZD HZ12C3	RH10	0119505 *	MF 1/4W 2.2-J
⚠ DP68	2335461	ZD HZ-24		0119512 **	MF 1/4W 1.0-J
DP69	2344041	DI 1SS254 / ISS270	RH11	0119838	MF 1/4W 0.5-J
DP70	2344041	DI 1SS254 / ISS270	RH12	0700034	CF 1/16W 330-J
DV01	2344041	DI 1SS254 / ISS270	RH13	0700045	CF 1/16W 2.2K-J
DV02	2339491	DI AM01Z	RH14	0114135	CF 1/4W 150-J
DV03	2337341	DI ISS270A	RH15	0100097	CF 1/8W 22K-J
DV04	2337341	DI ISS270A	RH16	0119838	MF 1/4W 0.5-J
DV05	2331806	ZD HZ-6	RH17	0119505	MF 1/4W 2.2-J
DV06	2339869	ZD HZS9C3	RH18	0700021 **	CF 1/16W 33-J
DZ01	2339837	ZD HZS-5C1		0700023 *	CF 1/16W 47-J
DZ02	2344041	DI 1SS254 / ISS270	RH19	0147532 **	WW 5W 4.7-J
ZD0901	2339881	ZD HZS12A1	RH20	0700038 **	CF 1/16W 680-J
ZD0902	2339847	ZD HZS6C1	RM02	0700045	CF 1/16W 2.2K-J
ZD0903	2339835	HZS5B2	RM03	0700035	CF 1/16W 390-J
ZD2502	2339963	DI HZS30	RM04	0700047	CF 1/16W 3.3K-J
ZD3001	2339887	ZD HZS12C1	RM05	0700048	CF 1/16W 3.9K-J
ZD3006	2339869	ZD HZS9C3	RM06	0700037	CF 1/16W 560-J
ZD3007	2339835	HZS5B2	RM07	0700051	CF 1/16W 5.6K-J
ZD5004	2339869	ZD HZS9C3	RM08	0700039	CF 1/16W 820-J
ZD5005	2339869	ZD HZS9C3	RP02	0110285	MF 2W 47K-J
ZD5006	2339869	ZD HZS9C3	RP03	0144151 **	WW 2W 33-J
ZD6001	2339869	ZD HZS9C3	RP04	0147614	WW 7W 1.5-K
ZD7005	2339875	ZD HZS11B2	RP05	0114211	CF 1/4W 27K-J
			RP06	0114211	CF 1/4W 27K-J
	RESISTORS		RP07	0100023	CF 1/8W 18-J
			RP08	0700041	CF 1/16W 1.0K-J
RD01	0110175 *	MF 18K-J	RP09	0100077	CF 1/8W 3.3K-J

NOTE: * 13VR3B / ** 20VR4B

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
RP10	0100077	CF 1/8W 3.3K-J	RV09	0119635	MF 1/8W 15K-F
RP11	0700051	CF 1/16W 5.6K-J	RV10	0700041	CF 1/16W 1.0K-J
RP12	0110101	MF 1W 15-J	RV11	0700041	CF 1/16W 1.0K-J
RP13	0144021	WW 3W 0.22-K	RV12	0700041	CF 1/16W 1.0K-J
RP14	0700027	CF 1/16W 100-J	RV13	0700058	CF 1/16W 22K-J
RP15	0100077 *	CF 1/8W 3.3K-J	RV14	0700058	CF 1/16W 22K-J
	0100081 **	CF 1/8W 4.7K-J	RV17	0700041	CF 1/16W 1.0K-J
RP16	0700025	CF 1/16W 68-J	RV19	0700041	CF 1/16W 1.0K-J
⚠ RP17	2340513	TH PTC	RZ20	0700041	CF 1/16W 1.0K-J
RP18	0700037	CF 1/16W 560-J	RZ21	0700054	CF 1/16W 10K-J
⚠ RP19	0119512	MF 1/4W 1.0-J	RZ24	0700054	CF 1/16W 10K-J
RP20	0113774 *	CF 1/2W 10-J	RZ25	0700041	CF 1/16W1.0K-J
	0113778 **	CF 1/2W 15K-J	RZ26	0700054	CF 1/16W 10K-J
RP54	0700051	CF 1/16W 5.6K-J	RZ27	0700054	CF 1/16W 10K-J
RP57	0700054	CF 1/16W 10K-J	RZ28	0700054	CF 1/16W 10K-J
RP58	0100053	CF 1/8W 330-J	RZ29	0700041	CF 1/16W 1.0K-J
RP62	0700041	CF 1/16W 1.0K-J	RZ31	0700041	CF 1/16W 1.0K-J
RP63	0700038	CF 1/16W 680-J	RZ32	0700054	CF 1/16W 10K-J
RP65	0100061	CF 1/8W 680-J	RZ33	0700054	CF 1/16W 10K-J
RP66	0100075	CF 1/8W 2.7K-J	RZ34	0700058	CF 1/16W 22K-J
RP67	0700049	CF 1/16W 4.7K-J	RZ35	0700058	CF 1/16W 22K-J
RP68	0700027	CF 1/16W 100-J	RZ37	0700041	CF 1/16W 1.0K-J
RP69	0110361 **	MF 3W 4.7K-J	RZ38	0700041	CF 1/16W 1.0K-J
	0110367 *	MF 3W 8.2K-J	RZ39	0700041	CF 1/16W 1.0K-J
RP70	0700058	CF 1/16W 22K-J	RZ55	0700041	CF 1/16W 1.0K-J
RP72	0700062	CF 1/16W 39K-J	RZ56	0700041	CF 1/16W 1.0K-J
RP73	0100097	CF 1/8W 22K-J	RZ57	0700041	CF 1/16W 1.0K-J
RP74	0100075	CF 1/8W 2.7K-J	RZ58	0700041	CF 1/16W 1.0K-J
RP75	0700073	CF 1/16W 2.2K-J	RZ60	0100065	CF 1/8W 1.0K-J
RP76	0700058	CF 1/16W 22K-J	RZ61	0700045	CF 1/16W 2.2K-J
RP77	0700058	CF 1/16W 22K-J	RZ62	0700045	CF 1/16W 2.2K-J
RP78	0700058	CF 1/16W 22K-J	RZ63	0700045	CF 1/16W 2.2K-J
RP79	0700063	CF 1/16W 47K-J	RZ64	0700041	CF 1/16W 1.0K-J
RP80	0700041	CF 1/16W 1.0K-J	RZ66	0113721	CF 1/2W 68-J
RP81	0700045	CF 1/16W 2.2K-J	⚠ RF3001	0170494	MF 1/2W 100-J
RP82	0700059	CF 1/16W 27K-J	⚠ RF4505	0170478	MF RF2R2J1-2P
RP87	0700047	CF 1/16W 3.3K-J	⚠ RF4506	0101713	MF 1/4W 4.7-J
RP88	0700041	CF 1/16W 1.0K-J	RM0701	2574762	R/C MODULE SPS-409-1K
RP89	0700027	CF 1/16W 100-J	RT0601	AW10192	TM RESISTOR
RP90	0700054	CF 1/16W 10K-J	RT2007	AW10207	TM RESISTOR
RP91	0700054	CF 1/16W 10K-J	RT3031	5030275	TM RESISTOR
⚠ RP92	0119512	MF 1/4W 1.0-J	R0046	0700054	CF 1/16W 10K-J
RV01	0113725	CF 1/2W 100-J	R0047	0700054	CF 1/16W 10K-J
RV02	0700065	CF 1/16W 68K-J	R0053	0700047	CF 1/16W 3.3K-J
RV03	0700058	CF 1/16W 22K-J	R0054	0700051	CF 1/16W 5.6K-J
RV04	0150290	VR RV06 50K-B	R0055	0700054	CF 1/16W 10K-J
RV05	0700037	CF 1/16W 560-J	R0057	0700048	CF 1/16W 3.9K-J
RV06	0700042	CF 1/16W 1.2K-J	R0058	0700045	CF 1/16W 2.2K-J
RV07	0700048	CF 1/16W 3.9K-J	R0296	0700041	CF 1/16W 1.0K-J
RV08	0119733	MF 1W 1.5-J	R0601	0700062	CF 1/16W 39K-J
RV09	0187048 **	CF 1/16W 200-J	R0602	0700041	CF 1/16W 1.0K-J
	0700031 *	CF 1/16W 180-J	R0603	0700045	CF 1/16W 2.2K-J
RV10	0700045	CF 1/16W 2.2K-J	R0604	0700073	CF 1/16W 270K-J
RV11	0113737	CF1/2W 330-J	R0605	0700081	CF 1/16W 1.0M-J
RV12	0114165 *	CF 1/4W 1.5-J	R0606	0700058	CF 1/16W 22K-J
RV13	0700054	CF 1/16W 10K-J	R0607	0700041	CF 1/16W 1.0K-J
RV14	0700051	CF 1/16W 5.6K-J	R0608	0700081	CF 1/16W 1.0M-J
RV15	0700064	CF 1/16W 56K-J	R0609	0700061	CF 1/16W 33K-J
RV16	0700027	CF 1/16W 100-J	R0610	0700081	CF 1/16W 1.0M-J
RV17	0700056	CF 1/16W 15K-J	R0611	0700081	CF 1/16W 1.0M-J
RZ01	0700053	CF 1/16W 8.2K-J	R0612	0700062	CF 1/16W 39K-J
RZ02	0700051	CF1/16W 5.6K-J	R0613	0700068	CF 1/16W 120K-J
RZ03	0700036	CF 1/16W 470-J	R0614	0700065	CF 1/16W 68K-J
RZ04	0700037	CF 1/16W 560-J	R0615	0700057	CF 1/16W 18K-J
RZ05	0700043	CF 1/16W 1.5K-J	R0616	0700051	CF 1/16W 5.6K-J
RZ06	0700057	CF 1/16W 18K-J	R0617	0700067	CF 1/16W 100K-J
RZ07	0700035	CF 1/16W 390-J	R0618	0700081	CF 1/16W 1.0M-J
RZ08	0700065	CF 1/16W 68K-J	R0619	0700064	CF 1/16W 56K-J

NOTE: * 13VR3B / ** 20VR4B

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R0620	0700049	CF 1/16W 4.7K-J	R0935	0700054	CF 1/16W 10K-J
R0621	0700038	CF 1/16W 680-J	R0936	0700058	CF 1/16W 22K-J
R0622	0700038	CF 1/16W 680-J	R0937	0700058	CF 1/16W 22K-J
R0623	0700041	CF 1/16W 1.0K-J	R0939	0700049 *	CF 1/16W4.7K-J
R0624	0700063	CF 1/16W 47K-J		0700052 **	CF 1/16W 6.8K-J
R0625	0700081	CF 1/16W 1.0M-J	R0940	0700053	CF 1/16W 8.2K-J
R0626	0700049	CF 1/16W 4.7K-J	R0941	0700054	CF 1/16W 10K-J
R0627	0700041	CF 1/16W 1.0K-J	R0942	0700049	CF 1/16W 4.7K-J
R0628	2974432	JUMPER WIRE (0.5 L=52MM)	R0943	0700049	CF 1/16W 4.7K-J
R0629	0700041	CF 1/16W 10K-J	R0944	0700049	CF 1/16W 4.7K-J
R0630	0700079	CF 1/16W 820K-J	R0945	0700049	CF 1/16W 4.7K-J
R0631	0700041	CF 1/16W 1.0K-J	R0946	0101765	MF 1/8W 10K-J
R0632	0700063	CF 1/16W 47K-J	R0947	0700058	CF 1/16W 22K-J
R0633	0700063	CF 1/16W 47K-J	R0948	0700041	CF 1/16W 1.0K-J
R0636	0700063	CF 1/16W 47K-J	R0949	0700034	CF 1/16W 330-J
R0637	0700038	CF 1/16W 680-J	R0950	0700054	CF 1/16W 10K-J
R0638	0700045	CF 1/16W 2.2K-J	R0951	0700058	CF 1/16W 22K-J
R0639	0700061	CF 1/16W 33K-J	R0952	0700058	CF 1/16W 22K-J
R0643	0700063	CF 1/16W 47K-J	R0953	0700041	CF 1/16W 1.0K-J
R0644	0700063	CF 1/16W 47K-J	R0954	0700041	CF 1/16W 1.0K-J
R0645	0700067	CF 1/16W 100K-J	R0955	0700041	CF 1/16W 1.0K-J
R0646	0700072	CF 1/16W 220K-J	R0956	0700041	CF 1/16W 1.0K-J
R0647	0700041	CF 1/16W 1.0K-J	R0958	0700041	CF 1/16W 1.0K-J
R0650	0700041	CF 1/16W 1.0K-J	R0959	0700041	CF 1/16W 1.0K-J
R0651	0700041	CF 1/16W 1.0K-J	R0960	0700041	CF 1/16W 1.0K-J
R0701	0700041	CF 1/16W 1.0K-J	R0961	0700041	CF 1/16W 1.0K-J
R0702	0700039	CF 1/16W 820-J	R0962	0700041	CF 1/16W 1.0K-J
R0703	0700041	CF 1/16W 1.0K-J	R0964	0700051	CF 1/16W 5.6K-J
R0704	0700041	CF 1/16W 1.0K-J	R0965	0700041	CF 1/16W 1.0K-J
R0705	0700027	CF 1/16W 1.0K-J	R0966	0700057	CF 1/16W 18K-J
R0706	0700041	CF 1/16W 1.0K-J	R0967	0700045	CF 1/16W 2.2K-J
R0707	0700032	CF 1/16W 220-J	R0968	0700073	CF 1/16W 270K-J
R0708	0700043	CF 1/16W 1.5K-J	R0969	0700041	CF 1/16W 1.0K-J
R0709	0700029	CF 1/16W 150-J	R0970	0113725	CF 1/2W 100-J
R0710	0700044	CF 1/16W 1.8K-J	R0971	0700049	CF 1/16W 4.7K-J
R0711	0700027	CF 1/16W 100-J	R0972	0700041	CF 1/16W 1.0K-J
R0712	0700041	CF 1/16W 1.0K-J	R0973	0700041	CF 1/16W 1.0K-J
R0901	0101725	MF 1/4W 2.2-J	R0974	0700044	CF 1/16W 1.8K-J
R0902	0700057	CF 1/16W 18K-J	R0978	0700042	CF 1/16W 1.2K-J
R0903	0700034	CF 1/16W 330-J	R0983	0700044	CF 1/16W 1.8K-J
R0904	0700031	CF 1/16W 180-J	R0984	0700042	CF 1/16W 1.2K-J
R0906	0700032	CF 1/16W 220-J	R0985	0700081	CF 1/16W 1.0M-J
R0907	0700038	CF 1/16W 680-J	R0986	0700041	CF 1/16W 1.0K-J
R0908	0700049	CF 1/16W 4.7K-J	R0987	0700057	CF 1/16W 18K-J
R0909	0700066	CF 1/16W 82K-J	R0988	0700057	CF 1/16W 18K-J
R0910	0700066	CF 1/16W 82K-J	R0989	0700062	CF 1/16W 39K-J
R0911	0700061	CF 1/16W 33K-J	R0990	0700061	CF 1/16W 33K-J
R0912	0700061	CF 1/16W 33K-J	R0991	0700041	CF 1/16W 1.0K-J
R0913	0700041	CF 1/16W 1.0K-J	R0992	0700047	CF 1/16W 3.3K-J
R0914	0700041	CF 1/16W 1.0K-J	R0993	0700046	CF 1/16W 2.7K-J
R0915	0700059	CF 1/16W 27K-J	R0994	0700047	CF 1/16W 3.3K-J
R0916	0700041	CF 1/16W 1.0K-J	R0995	0700053	CF 1/16W 8.2K-J
R0917	0700049	CF 1/16W 4.7K-J	R0997	0700055	CF 1/16W 12K-J
R0918	0101868	CF 1/4W 4.7-J	R0998	0700061	CF 1/16W 33K-J
R0919	0700069	CF 1/16W 150K-J	R0999	0700056	CF 1/16W 15K-J
R0920	0700041	CF 1/16W 1.0K-J	R1000	0700036	CF 1/16W 470-J
R0921	0700045	CF 1/16W 2.2K-J	R1001	0700027	CF 1/16W 100-J
R0922	0700045	CF 1/16W 2.2K-J	R1002	0700067	CF 1/16W 100K-J
R0923	0700041	CF 1/16W 1.0K-J	R1003	0700067	CF 1/16W 100K-J
R0926	0700041	CF 1/16W 1.0K-J	R1005	0700037	CF 1/16W 560-J
R0927	0700041	CF 1/16W 1.0K-J	R1402	0700045	CF 1/16W 2.2K-J
R0928	0700041	CF 1/16W 1.0K-J	R1404	0700045	CF 1/16W 2.2K-J
R0929	0700041	CF 1/16W 1.0K-J	R1406	0700041	CF 1/16W 1.0K-J
R0930	0700041	CF 1/16W 1.0K-J	R1407	0700041	CF 1/16W 1.0K-J
R0931	0700041	CF 1/16W 1.0K-J	R1408	0700041	CF 1/16W 1.0K-J
R0932	0700045	CF 1/16W 2.2K-J	R1409	0700041	CF 1/16W 1.0K-J
R0933	0700045	CF 1/16W 2.2K-J	R2001	0700027	CF 1/16W 100-J
R0934	0700041	CF 1/16W 1.0K-J	R2002	0700041	CF 1/16W 1.0K-J

NOTE: * 13VR3B / ** 20VR4B

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R2003	0700061	CF 1/16W 33K-J	R3017	0700049	CF 1/16W 4.7K-J
R2004	0700061	CF 1/16W 33K-J	R3018	0700047 *	CF 1/16W 3.3K-J
R2005	0700039	CF 1/16W 820-J		0700048 **	CF 1/16W 3.9K-J
R2006	0700065	CF 1/16W 68K-J	R3019	0700041	CF 1/16W 1.0K-J
R2008	0187040	CF 1/16W 91-J	R3020	0700058	CF 1/16W 22K-J
R2009	0700033	CF 1/16W 270-J	R3021	0700054	CF 1/16W 10K-J
R2010	0700056	CF 1/16W 15K-J	R3022	0700054	CF 1/16W 10K-J
R2012	0100121	CF 1/8W 220K-J	R3023	0700041	CF 1/16W 1.0K-J
R2013	0100121	CF 1/8W 220K-J	R3024	0100133	CF 1/8W 680K-J
R2014	0700041	CF 1/16W 1.0K-J	R3025	0700041 *	CF 1/16W 1.0K-J
R2015	0700041	CF 1/16W 1.0K-J		0700043 **	CF 1/16W 1.5K-J
R2016	0700041	CF 1/16W 1.0K-J	R3026	0700063	CF 1/16W 47K-J
R2017	0700027	CF 1/16W 100-J	R3027	0700029	CF 1/16W 150-J
R2018	0100055	CF 1/8W 390-J	R3028	0700061	CF 1/16W 33K-J
R2019	0700029	CF 1/16W 150-J	R3029	0700041	CF 1/16W 1.0K-J
R2020	0700029 **	CF 1/16W 150-J	R3030	0700058	CF 1/16W 22K-J
R2020	0700032 *	CF 1/16W 220-J	R3032	0700056	CF 1/16W 15K-J
R2021	0700041	CF 1/16W 1.0K-J	R3033	0700027	CF 1/16W 100-J
R2022	0100119	CF 1/8W 180K-J	R3034	0700038	CF 1/16W 680-J
R2024	0113725	CF 1/2W 100-J	R3035	0700044	CF 1/16W 1.8K-J
R2025	0700046	CF 1/16W 2.7K-J	R3036	0113742	CF 1/2W 470-J
R2026	0700042	CF 1/16W 1.2K-J	R3037	0700032	CF 1/16W 220-J
R2027	0700023	CF 1/16W 47-J	R3036	0700034	CF 1/16W 330-J
R2028	0700033	CF 1/16W 270-J	R3048	0700063	CF 1/16W 47K-J
R2029	0700031	CF 1/16W 180-J	R3049	0700063	CF 1/16W 47K-J
R2501	0700054	CF 1/16W 10K-J	R3052	0700041	CF 1/16W 1.0K-J
R2502	0700041	CF 1/16W 1.0K-J	R3054	0700042	CF 1/16W 1.2K-J
R2503	0700041	CF 1/16W 1.0K-J	R3055	0700041	CF 1/16W 1.0K-J
R2504	0700041	CF 1/16W 1.0K-J	R3056	0700041	CF 1/16W 1.0K-J
R2505	0700041	CF 1/16W 1.0K-J	R3057	0700041	CF 1/16W 1.0K-J
R2506	0700041	CF 1/16W 1.0K-J	R3058	0700054	CF 1/16W 10K-J
R2516	0700064	CF 1/16W 56K-J	R4502	0700054	CF 1/16W 10K-J
R2518	0700041	CF 1/16W 1.0K-J	R4503	0700051	CF 1/16W 5.6K-J
R2519	0700023	CF 1/16W 47-J	R4504	0700045	CF 1/16W 2.2K-J
R2520	0187038	CF 1/16W 75-J	R4505	0700032	CF 1/16W 220-J
R2521	0100077	CF 1/8W 3.3K-J	R4506	0113725	CF 1/2W 100-J
R2522	0700037	CF 1/16W 560-J	R4507	0700054	CF 1/16W 10K-J
R2524	0100077	CF 1/8W 3.3K-J	R5001	0700028	CF 1/16W 120-J
R2533	0700027	CF 1/16W 100-J	R5002	0700035	CF 1/16W 390-J
R2534	0700036	CF 1/16W470-J	R5003	0700063	CF 1/16W 47K-J
R2544	0700047	CF 1/16W 3.3K-J	R5004	0700061	CF 1/16W 33K-J
R2548	0700036	CF 1/16W 470-J	R5005	0700039 **	CF 1/16W 820-J
R2549	0700036	CF 1/16W 470-J		0700045 *	CF 1/16W 2.2K-J
R2550	0700063	CF 1/16W 47K-J	R5006	0700045	CF 1/16W 2.2K-J
R2551	0700036	CF 1/16W 470-J	R5007	0100121	CF 1/8W 220K-J
R2552	0700041	CF 1/16W 1.0K-J	R5008	0700052	CF 1/16W 6.8K-J
R2558	0700064	CF 1/16W 56K-J	R5009	0700054	CF 1/16W 10K-J
R2559	0700063	CF 1/16W 47K-j	R5010	0700037	CF 1/16W 560-J
R2560	0700043	CF 1/16W 1.5K-J	R5011	0700037	CF 1/16W 560-J
R2562	0700041	CF 1/16W 1.0K-J	R5012	0700037	CF 1/16W 560-J
R2581	0700034	CF 1/16W 330-J	R5013	0700054	CF 1/16W 10K-J
R2582	0700019	CF 1/16W 27-J	R5014	0100049	CF 1/8W 220-J
R2583	0700014	CF 1/16W 10-J	R5015	0100049	CF 1/8W 220-J
R3002	0700033	CF 1/16W 270-J	R5016	0100049	CF 1/8W 220-J
R3005	0113739	CF 1/2W 390-J	R5017	0700049	CF 1/16W 4.7K-J
R3004	0100051	CF 1/8W 270-J	R5018	0700049	CF 1/16W 4.7K-J
R3005	0700041	CF 1/16W 1.0K-J	R5019	0700049	CF 1/16W 4.7K-J
R3006	0100057	CF 1/8W 470-J	R5020	0700041	CF 1/16W 1.0K-J
R3007	0700041	CF 1/16W 1.0K-J	R5021	0700041	CF 1/16W 1.0K-J
R3008	0700034	CF 1/16W 330-J	R5022	0700041	CF 1/16W 1.0K-J
R3009	0700047	CF 1/16W 3.3K-J	R5023	0700041	CF 1/16W 1.0K-J
R3010	0700036	CF 1/16W 470-J	R5024	0700041	CF 1/16W 1.0K-J
R3011	0700036	CF 1/16W 470-J	R5026	0700036	CF 1/16W 470-J
R3012	0700027	CF 1/16W 100-J	R5027	0700036	CF 1/16W 470-J
R3013	0700041	CF 1/16W 1.0K-J	R5028	0700036	CF 1/16W 470-J
R3014	0700064	CF 1/16W 56K-J	R5029	0700037	CF 1/16W 560-J
R3015	0700055	CF 1/16W 12K-J	R6001	0700027	CF 1/16W 100-J
R3016	0700051	CF 1/16W 5.6K-J	R6002	0700058	CF 1/16W 22K-J

NOTE: * 13VR3B / ** 20VR4B

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R7001	0700041	CF 1/16W 1.0K-J	R0403	0700052	CF 1/16W 6.8K-J
R7002	0700041	CF 1/16W 1.0K-J	R0404	0700053	CF 1/16W 8.2K-J
R7003	0700063	CF 1/16W 47K-J	R0405	0700051	CF 1/16W 5.6K-J
R7004	0100055	CF 1/8W 390-J	R0406	0700052	CF 1/16W 6.8K-J
R7005	0700041	CF 1/16W 1.0K-J	R0407	0700081	CF 1/16W 1.0M-J
R7006	0100123	CF 1/8W 270K-J	R0408	0700047	CF 1/16W 3.3K-J
R7007	0100125	CF 1/8W 330K-J	R0409	0700045	CF 1/16W 2.2K-J
R7008	0700044	CF 1/16W 1.8K-J	R0412	0700049	CF 1/16W 4.7K-J
R7009	0700053	CF 1/16W 8.2K-J	R0413	0700036	CF 1/16W 470-J
R7010	0700021 **	CF 1/16W 33-J	R0414	0700058	CF 1/16W 22K-J
	0700024 *	CF 1/16W 56-J	R0415	0700009	CF 1/16W 4.7-J
R7011	0700034	CF 1/16W 330-J	R0416	0700049	CF 1/16W 4.7K-J
R7012	0700037	CF 1/16W 560-J	R0417	0700023	CF 1/16W 47-J
R7013	0700037	CF 1/16W 560-J	R0419	0700054	CF 1/16W 10K-J
R7014	0700035	CF 1/16W 390-J	R0420	0700046	CF 1/16W 2.7K-J
R7015	0700041	CF 1/16W 1.0K-J	R0421	0700074	CF 1/16W 330K-J
R7016	0700049	CF 1/16W 4.7K-J	R0422	0700045	CF 1/16W 2.2K-J
R7017	0113754 **	CF 1/2W 1.5K-J	R0423	0700052	CF 1/16W 6.8K-J
	2974432 *	JUMPER WIRE (0.5 L=52MM)	R0430	0700052	CF 1/16W 6.8K-J
R7018	0113754 **	CF 1/2W 1.5K-J	R0441	0700036	CF 1/16W 47K-J
	2974432 *	JUMPER WIRE (0.5 L=52MM)	R0450	0700048	CF 1/16W 3.9K-J
RT0201	5006234	VR RT-63V 1K-B	R0452	0700064	CF 1/16W 56K-J
R0201	0700027	CF 1/16W 100-J	R0453	0700031	CF 1/16W 180-J
R0202	0700041	CF 1/16W 1.0K-J	R0454	0700064	CF 1/16W 56K-J
R0203	0700037	CF 1/16W 560-J	R0460	0700041	CF 1/16W 1.0K-J
R0204	0700035	CF 1/16W 390-J	R0461	0700044	CF 1/16W 1.8K-J
R0205	0700041	CF 1/16W 1.0K-J	R0471	0700041	CF 1/16W 1.0K-J
R0206	0700035	CF 1/16W 390-J	R0472	0700049	CF 1/16W 4.7K-J
R0207	0700046	CF 1/16W 2.7K-J	R0473	0700047	CF 1/16W 3.3K-J
R0208	0700058	CF 1/16W 22K-J	R0474	0700049	CF 1/16W 4.7K-J
R0209	0700043	CF 1/16W 1.5K-J	R0475	0700027	CF 1/16W 100-J
R0210	0700027	CF 1/16W 100-J	R0499	0700039	CF 1/16W 820-J
R0211	0700027	CF 1/16W 100-J	R1121	0700058	CF 1/16W 22K-J
R0216	0700028	CF 1/16W 120-J	R1122	0700058	CF 1/16W 22K-J
R0221	0700053	CF 1/16W 8.2K-J	R1123	0700043	CF 1/16W 1.5K-J
R0228	0700045	CF 1/16W 2.2K-J	TP2501	0116501	CARBON FILM RESISTOR
R0230	0700043	CF 1/16W 1.5K-J			
R0232	0700042	CF 1/16W 1.2K-J			**TRANSISTORS**
R0234	0700032	CF 1/16W 220-J			
R0235	0700049	CF 1/16W 4.7K-J	Q0007	2327772	TR 2SC3413 B/C
R0236	0700045	CF 1/16W 2.2K-J	Q0008	2327772	TR 2SC3413 B/C
R0238	0700046	CF 1/16W 2.7K-J	Q0201	2325711	TR 2SA933S
R0239	0700038	CF 1/16W 680-J	Q0202	2327772	TR 2SC3413 B/C
R0241	0700068	CF 1/16W 120K-J	Q0207	2327772	TR 2SC3413 B/C
R0247	0700053	CF 1/16W 8.2K-J	Q0210	2327772	TR 2SC3413 B/C
R0248	0700047	CF 1/16W 3.3K-J	Q0211	2327772	TR 2SC3413 B/C
R0249	0700054	CF 1/16W 10K-J	Q0213	2326873	TR DTC144ES
R0250	0700041	CF 1/16W 1.0K-J	Q0214	2326873	TR DTC144ES
R0251	0700041	CF 1/16W 1.0K-J	Q0215	2325711	TR 2SA933S
R0252	0700032	CF 1/16W 220-J	Q0216	2327772	TR 2SC3413 B/C
R0253	0700036	CF 1/16W 470-J	Q0217	2327772	TR 2SC3413 B/C
R0255	0700036	CF 1/16W 470-J	Q0219	2327772	TR 2SC3413 B/C
R0256	0700036	CF 1/16W 470-J	Q0225	2326873	TR DTC144ES
R0257	0700027	CF 1/16W 100-J	Q0230	2326873	TR DTC144ES
R0258	0700081	CF 1/16W 1.0M-J	Q0351	2326873	TR DTA144ES
R0259	0700066	CF 1/16W 82K-J	Q0352	2326873	TR DTC144ES
R0260	0700041	CF 1/16W 1.0K-J	Q0404	2326873	TR DTC144ES
R0261	0700045	CF 1/16W 2.2K-J	Q0408	2320945	TR 2SC1214 C/D
R0262	0700027	CF 1/16W 100-J	Q0411	2325702	TR 2SA854S Q/R
R0291	0700054	CF 1/16W 10K-J	Q0412	2327772	TR 2SC3413 B/C
R0292	0700042	CF 1/16W 1.2K-J	Q0471	2320945	TR 2SC1214 C/D
R0293	0700058	CF 1/16W 22K-J	Q0480	CF10281	TR 2SK1272
R0294	0700059	CF 1/16W 27K-J	Q0903	2325703	TR 2SA854S
R0295	0700041	CF 1/16W 1.0K-J	Q0904	2326873	TR DTC144ES
R0298	0700041	CF 1/16W 1.0K-J	Q0910	2327772	TR 2SC3413 B/C
R0354	0700054	CF 1/16W 10K-J	Q0911	2326873	TR DTC144ES
R0401	0700028	CF 1/16W 120-J	Q0913	2326873	TR DTC144ES
R0402	0700074	CF 1/16W 330K-J	Q0914	2326873	TR DTC144ES

NOTE: * 13VR3B / ** 20VR4B

SYMBOL NO.	PART NO.	PART DESCRIPTION
Q0915	2326873	TR DTC144ES
Q0916	2326873	TR DTA144ES
QO920	2326873	TR DTC144ES
Q0981	2326873	TR DTC144ES
Q0982	2326873	TR DTC144ES
Q0983	2326873	TR DTC144ES
Q2001	2327772	TR 2SC3413 B/C
Q2002	2325702	TR 2SA854S Q/R
Q2003	2327772	TR 2SC3413 B/C
Q2004	2320144	TR 2SC1906
Q2101	5324661	TR PT483F1H
Q2102	5324661	TR PT483F1H
Q2501	5327262	TR 2SB1326
Q2502	2326873	TR DTC144ES
Q2518	2327772	TR 2SC3413 B/C
Q2523	2326873	TR DTC144ES
Q2546	2325711	TR 2SA933S
Q2581	2325711	TR 2SA933S
Q3001	2325702	TR 2SA854S Q/R
Q3002	2325702	TR 2SA854S Q/R
Q3003	2325702	TR 2SA854S Q/R
Q3004	2327772	TR 2SC3413 B/C
Q3005	2325702	TR 2SA854S Q/R
Q3006	2327772	TR 2SC3413 B/C
Q3007	2327772	TR 2SC3413 B/C
Q3008	2327772	TR 2SC3413 B/C
Q3009	2325702	TR 2SA854S Q/R
Q3010	2327772	TR 2SC3413 B/C
Q3012	2327772	TR 2SC3413 B/C
Q3013	2327772	TR 2SC3413 B/C
Q3014	2327772	TR 2SC3413 B/C
Q3015	2327772	TR 2SC3413 B/C
Q4501	2320663	TR 2SC1213A C
Q5001	2327772	TR 2SC3413 B/C
Q7001	2327772	TR 2SC3413 B/C
Q7002	2327772	TR 2SC3413 B/C
QD01	2322565	TR 2SC2688(5)
QD02	2322565	TR 2SC2688(5)
QD03	2322565	TR 2SC2688(5)
QH01	2326216 **	TR 2SC3116 S/T
	2326611 *	TR 2SC2611 (09)
⚠ QH02	2327504 *	TR 2SD1876
	2327505 **	TR 2SD1877
QH03	2321112	TR 2SA778AK (02)
QH04	2323521	TR 2SD789 B/C/D/E
QP01	2327783	TR 2SC3553 C/D
QP02	2327772	TR 2SC3413 B/C
QP51	2312174	TR 2SD2375 (P)
QP52	2312174	TR 2SD2375 (P)
⚠ QP53	2324322	TR 2SC2610-05 TZ
QP54	2320663	TR 2SC1213A (C)
QP55	2320647	TR 2SC1213 (C21/D21)
QP56	2320663	TR 2SC1213A (C)
QP60	1321341	PWR TR (STR-2SD1765)
QP61	2320681	TR 2SA673A B/C
QP62	2320663	TR 2SC1213A (C)
QP63	2320647	TR 2SC1213 (C21/D21)
QP65	2327772	TR 2SC3413 B/C
⚠ QP66	2323782	THYRISTOR 03P2M
QV01	2327753	TR 2SA1390 C/D
QZ01	2327772	TR 2SC3413 B/C
QZ02	2327783	TR 2SC3553 C/D
		COILS
BL0903	5272378	COIL (FERRITE)
BL0905	2123461	FERRITE BEADS B 0.8 MH
CP0202	5165382	COIL (LC FILTER)
CP0471	5163022	COIL (12K LPF)
LD01	2122957 **	COIL-AXIAL 120UHK
LD02	2122957 **	COIL-AXIAL 120UHK
LD03	2122957 **	COIL-AXIAL 120UHK
LD04	2122092 *	FIX. INDUC.-FL-11H470K
	2122095 **	FIX. INDUC.-FL-11Z27UHK
LH02	2125808	COIL (LHL08 68UH)
LH03	2123462 **	FERRITE BEADS B 2.3UH
⚠ LP01	BZ00661	LINE FILTER 170UH
⚠ LP02	BZ00651	LINE FILTER 2UH
LP03	2774631	FERRITE BEADS LEAD
LP04	2774631	FERRITE BEADS LEAD
LP06	2123462	FERRITE BEADS B 2.3UH
LP07	2123462	FERRITE BEADS B 2.3UH
LP08	2123468	FERRITE BEADS B 0.8UH
LP51	2123462	FERRITE BEADS B 2.3UH
LP52	2123462	FERRITE BEADS B 2.3UH
LP53	BH00205*	FILTER COIL 22UH
	BH00212**	FILTER COIL 68UH
LP54	2123462	FERRITE BEADS B 2.3UH
LP55	2123462	FERRITE BEADS B 2.3UH
LP56	BH00205	FILTER COIL 22UH
LP57	2123462	FERRITE BEADS B 2.3UH
LP59	BH00205	FILTER COIL 22UH
LZ01	2123763	COIL 101K (EL0405)
LZ03	2123763	COIL 101K (EL0405)
LZ04	2146091	COIL-OSC VL-5R8C1L
LZ05	2123468	FERRITE BEADS B 0.8UH
L0202	5159144	COIL
L0204	5159145	COIL (22UH)
L0205	0770053	COIL
L0206	0770053	COIL
L0207	5159145	COIL (22UH)
L0208	5159143	COIL (15UH)
L0215	5159155	COIL (120UH)
L0216	0770057	COIL
L0218	5159153	COIL
L0401	0770057	COIL
L0402	0770057	COIL
L0403	0770057	COIL
L0901	5159141	COIL (10UH)
L1102	0770053	COIL
L1401	5121611	COIL
L1402	5159141	COIL (10UH)
L2001	5159146	COIL
L2003	5159139	COIL
L2004	2123781	FILTER COIL 101K
L2006	5159146	COIL
L2008	BJ00151	LC FILTER VCO 45.75MHZ
L2009	BH00291	COIL FOR AFS
L2010	2123461	FERRITE BEADS B 0.8UH
L2011	2123409	LAL02 0.68UH-K
L2502	5121611	COIL
L2503	5121611	COIL
L2508	5121611	COIL
L2510	5121611	COIL
L3001	2125846	HLL-820KRL
L3002	2166121	TRAP COIL 3.58MHZ
L5001	5159139	COIL
L5002	5159139	COIL
L5003	2123781	FILTER COIL 101K
L7001	2123411	COIL AXIAL 1UH-K LAL02
L7002	2123461	FERRITE BEADS B 0.8UH
L7003	2123781	FILTER COIL 101K
L7004	5159154	COIL (100UH)
L7005	2123781	FILTER COIL 101K
MF2001	2142241	CERAMIC TRAP 4.5MHZ
MF2002	2143882	FILTER CERAMIC 4.5MHZ

NOTE: * 13VR3B / ** 20VR4B

SYMBOL NO.	PART NO.	PART DESCRIPTION
MF2003	2168661	CDA4.5ME42
MF7001	2168651	CSB503F45
T2001	2145961	IF COIL 1:3 INCORE
T0401	5230353	COIL
		INTEGRATED CIRCUITS
IC0201	CP10322	IC LA7422A
IC0202	1351942	IC CXL5502M
IC0401	CP10221	IC LA7286
IC0402	1345841	IC MNJM2233BL
IC0601	1345872	IC HD49781ANT
IC0602	5350601	IC NJM4558D
IC0901	CK02321	IC M38154MC-065FP
IC0902	CP10311R	IC PST9131-T
IC0903	1361212	IC X24C02P
IC0904	5300794	IC BA6209-U4
IC0905	CP10601	IC M66242P
IC1102	CP10281	IC LA7415
IC1401	CK02291	IC M35040-001FP
IC2101	5327521	SPI-315-04-C
IC2102	5327521	SPI-315-04-C
IC2501	1345841	IC MNJM2233BL
IC4501	2917621	IC AN5265
IC5001	2004132	IC LA7672
⚠ IP01	CP00341F	IC ICM-STR-S6704
⚠ IP03	2368918	IC PC817CD
⚠ IP51	2381341 *	IC SE11ON
	2381342 **	IC SE113N
⚠ IP52	2004662F	IC PQ09RF1B
⚠ IP53	2004668F	IC ICM-PQ05RF1D
IV01	2000581	IC LA7837
IZ01	2001753	IC LC7458B-03
IZ02	2004952	IC LA7945N
IZ05	2003522R	IC PST572D-2
		SWITCHES/RELAYS
S0701	5636101	SWITCH
S0702	5636101	SWITCH
S0703	5636101	SWITCH
S0704	5636101	SWITCH
S0705	5636101	SWITCH
S0731	2634482	PUSH LOCK 0201HP
S2101	5635631	SWITCH
S2102	5635331	SWITCH
S2104	5610891	SWITCH
⚠ SM01	FE00071	SWITCH (2P KEY SW)
⚠ SM02	FE00071	SWITCH (2P KEY SW)
⚠ SM03	2632923	5 TACT SWITCH
⚠ SM04	2632922	TACT SWITCH
⚠ SP01	2640576	RELAY (SDT-SS-112DM)
⚠ SP51	2640575	POWER RELAY
		CRYSTAL/FILTERS
X0201	5778881	OSCILLATOR
X0901	2792071	CERAMIC OSC CST4.00MGW
X0902	2168491	VFL-DT-38(32.768KHZ)
X0903	2792071	CERAMIC OSC CST4.00MGW
X5001	2791505	CRYSTAL HC-491U3.58HZ
XZ01	2168831	CRYSTAL CSA12.0MTZ
CP2001	2300477	SAW FILTER (HW2267)
		CONNECTORS
EA41	EF02341	2J PH-SM
EA42	EF02351	SJ SM-LEAD
ED1	EF01701	01C-E0R0-361 (CPT)
ED01	2966823 *	3J RIBBON WIRE
	2966826 **	3J RIBBON WIRE
ED81	2909144 *	MR05C-B1061A331
	2909147 **	05C-B2R0-431
EP01	2909081	MR03PC-B1061A241
EP73	2974111S	SEH05C-B1007A600
EP91	2656628	02C-A7R5-391
EP92	2954615	01C-A5R0-271
EP93	2974152S	SEH06C-B1007A271
CN003	5842334	CONNECTOR
CN004	5842328	CONNECTOR
CN008	5846276	CONNECTOR
CN009	5842335	CONNECTOR
CN0031	2909169	C0-06C-B2R0-221
CN0032	2909349	C0-12C-B2R0-221
CN0071	2974327	SEH12C-B2468A181
CN0072	2974215	SEH08C-B2468A361
CN0074	2974027	SEH02C-B2468A181
PD02	2665271	3P PLUG PIN WITH BASE
PG31	2969845	6P MICRO CONNECTOR
PG32	2959062	PIN POST (PH12)
PG42	2902261	PLUG PIN SUB MINI 2P
PG71	2902272	PLUG PIN SUB MINI 12P
PG91	2903542	2P PLUG PIN WITH BASE
PG92	2959051	PIN POST (PH 2P)
PG0201	5669587	CONNECTOR
PG0403	2969845	6P MICRO CONNECTOR
PG0404	2969841	2P MICRO CONNECTOR
PG0422	5662826	PLUG
PG1102	5655102	PLUG
PG1121	5662826	PLUG
PG0701	2969842	3P MICRO CONNECTOR
PG0901	ED10161	PLUG
PG2201	5668197	PLUG
PG2508	2969847	8P MICRO CONNECTOR
PG2509	2969846	7P MICRO CONNECTOR
PG2521	5662816	PLUG
PG2522	5662816	PLUG
PG2592	2661756	1P PLUG PIN WITH BASE
PG3001	2959052	PIN POST (PH 3P)
PG4541	2959051	PIN POST (PH 2P)
PG5081	2969844	5P MICRO CONNECTOR
PG7073	2902264	PLUG PIN SUB MINI 5P
PH02	2665272	4P PLUG PIN WITH BASE
PPW	2903542 *	2P PLUG PIN WITH BASE
	2903544 **	4P PLUG PIN WITH BASE
PP72	2902267	PLUG PIN SUB MINI 8P
PP74	2902261	PLUG PIN SUB MINI 2P
PP93	2902265	PLUG PIN SUB MINI 6P
JK2501	2982954	4P PIN PLUG
		REMOTE CONTROL
U	HL00271	CLU-361VR
		FUSES
FP01	2722212 *	FUSE AC2.5A
	2722357 **	FUSE AC04A
		SPEAKER
UA1	GK00041	SPEAKER

NOTE: * 13VR3B / ** 20VR4B

SYMBOL NO.	PART NO.	PART DESCRIPTION
		TRANSFORMER
⚠ TH01	2260291	HORIZONTAL LINE COIL
⚠ TH02	BW00161 *	HFL1427G
	BW00331 **	HEL1530G ASS
⚠ TP01	BT00072	COIL SWITCHING TRANS.
		COLOR PICTURE TUBE
V1	2470292 *	CRT A34KPU02XX
	2471271 **	CRT A51KPD02XX
		DEFLECTION YOKE
LH1	2442477 *	DY-90-14ST3
	2444907 **	DY-C90-21SF3
		MISCELLANEOUS PARTS
#010	4827412	HC SUB ASSY F1
	NA03311	EARTH METAL VC2
	UH10111	AF CHASSIS MET ASSY
#020	6824064	ROLLER
	6405184	TAKE UP GEAR
#030	7788341	WASHER
#040	6406291	PLASTIC PARTS FOR VTR
#050	7788341	WASHER
#060	6401445	FR ARM AS
#070	6522979	SPRING
#080	6500841	WASHER
#090A	4585903	G ROLLER BASE I AS
#090B	KX00161	GR PIECE2
#090C	KG00001	G ROLLER PAS J
#100A	KX00201	N PROTECTOR
#100B	4585933	G ROLLER BASE 0 AS
#100C	KX00161	GR PIECE2
#100D	KG00001	G ROLLER PAS J
#110	6500463	LOAD GEAR R AS
#120	6500507	LOAD GEAR L AS
#140	MJ10251	SCREW
#150	6823538	MODE GEAR
#160	KX10181	HOLD PLATE B FI
#170	MJ10251	SCREW
#180	6823542	PL MIDDLE GEAR
#190	6406332	TAKE UP PULLEY
#195	6358591	CAP F
#200	6500841	WASHER
#210	GP10123	DC MOTOR (CAPSTAN)
#220	8691306	2.3X6 BT SCREW
#230	6358101	BAND (REEL BELT)
#240	6823424	PLASTIC PART FOR VTR
#250	6553361	SPRING
#260	6823437	PLASTIC PART FOR VTR
#270	6553301	SPRING
#280	KK00012	PBX T BAND AS
#290	6823511	MOLD SHAFT
#300	6500683	T ARM CAS
#310	6553352	SPRING
#320	6638936	METAL PART FOR VTR
#330	6823521	P CAM GEAR
#340	6823445	CASSETTE LIP
#350	6500431	PINCH ROLLER ASSY
#240	0711306	SCREW 2.6X12 PAN HEAD
#250	0711312	2.6X12 PAN HEAD SCREW
#270	0671308	2.6X8 DT SCREW
#280	0711312	2.6X12 PAN HEAD SCREW
#120	MD01151	SHIELD CASE WYC PWB
#360A	5434153	MAGNETIC ACE HEAD
#360B	6500592	AC HEAD BASE
#360C	8741306	2.6X6 BIND SCREW
#360D	8741312	2.6X12 BIND SCREW FZ
#360E	6554301	SPRING
#360F	7773741	SCREW
#370	6553151	SPRING
#380	7785673	NUT
#390	MJ00241	HSX X SCREW
#400	6376294	CYLINDER BASE
#420	0711312	2.6X12 PAN HEAD SCREW
#430	5423081	MAGNETIC HDE-FE-HEAD
#440	0671308	2.6X8 DT SCREW
#450	KX00151	PIE RELEASE PIECE
#400A	4319361	3X12 B-T SCREW WITH WASHER
#401A	4519502	SCREW 3X12 B TAPPING
#404A	8671406	3X6 BIND HEAD SCREW
#412A	QA10192	SHIELD CASE 13VR3B
#414A	MD10592	SHIELD PLATE 13VR3B
#416A	MD10601	FBT SHIELD VC2
#417A	8815114	3 LOCK WASHER
#418A	4319361	3*12 B-T SCREW WITH WASHER
#420A	NT00251	WYC PWB HOLDER
#422A	4519511	4X12 B TAPPING SCREW
#424A	4137974	4X12 TAPPING WITH WASHER
#426A	0671305	2.6X5 DT TAPPING SCREW
#428A	8815123	2.6 LOCK WASHER
#430A	8815114	3 LOCK WASHER
#440A	3787484	PCB HOLDER 3L
#450A	NT00261	FBT HOLDER VC2
#452A	4319361	3X12 B-T SCREW WITH WASHER
#5011	6823551	LED HOLDER
#5012	6823561	PHOTO TR HOLDER
#5013	6823581	PHOTO TR HOLDER
#5014	6823581	REEL S HOLDER
#5015	6823592	REEL S HOLDER
#0005	MD10502	PRE AMP SHIELD CASE VC2
#0006	MD10151	METAL PARTS FOR VTR
#0010	NT10183	CHAS FRAME VC2
#0020	NA10251	BRACKET
#0030	0671305	2.6X5 DT TAPPING SCREW
#0041	5794281	CYLINDER BRUSH
#0042	0711312	2.6X12 PAN HEAD SCREW
#0043	HQ10244	CYLINDER(CY-G4NN-G)
#0044	7775582	SCREW (C)
#0045	8741408	3X8 BIND SCREW
#0060	7429641	MECHA HOLDING BRACKET
#0070	7781132	3X10 BT SCREW
#0090	4319361	3X12 B-T SCREW WITH WASHER
#0092	3724441	PCB SPACER
#0110	0671305	2.6X5 DT TAPPING SCREW
#0120	8679408	3X8 DT SCREW
#0901	3708104	G7-X4 A LED HOLDER
E01	2745411	AC POWER CORD
E02	2721351	FUSE HOLDER
E04	3739671	BS CORD HOLDER
E06	2782611	CENTER PIN
E07	2661756 **	1P PLUG PIN WITH BASE
JD01	2698673 **	CPT SOCKET
	2953641 *	CPT SOCKET
NH01	3445332	HEAT SINK
NH02	4520883	3X12 SCREW WITH WASHER
NH03	3701273 **	PLASTIC RIVET FBT V0
NP01	4339145	HEAT SINK
NP02	4520883	3X12 SCREW WITH WASHER
NP03	3446473	HEAT SINK H30 P10
NP04	4520883	3X12 SCREW WITH WASHER
NP05	MC00101**	HEAT SINK H50 P10 17
	3446479 *	HEAT SINK H50 P10 17

NOTE: * 13VR3B / ** 20VR4B

SYMBOL NO.	PART NO.	PART DESCRIPTION
NP06	4520883	3X12 SCREW WITH WASHER
NP07	2941311	MANGAN DRY BATTERY
NP08	2784342	CONDENSER COVER
NP10	2784342	CONDENSER COVER
NP12	2784342	CONDENSER COVER
NP13	2784342	CONDENSER COVER
NP2A	3734531	NP3 LEAD CLAMP B
NP4A	3731082	PURSE LOCK 11.5
NP5A	3749611	PURSE LOCK (5)
NV01	4339146	HEAT SINK
NV02	4520883	3X12 SCREW WITH WASHER
TU2501	2428681	TUNER ET-352A
HZ02	2791752R	CONDENSER 3 TERMINAL 33PF
#01	4521392 *	HEXAGONAL DT SCREW
#02	4520232 *	4X16 D TAPPING SCREW
#03	4519511 *	4X12 B TAPPING SCREW
#04	MN00472 *	PVC SPACER
#100	QD01472 *	FRAME ASSY 13VR3B
#101	QD00626 *	FRONT FRAME 13VR3B
#102	PH01191 *	C14-VC2
#103	PH01183 *	DOOR 13VR3B
#104	PC00503 *	POWER BUTTON 13VR3B
#105	PC00493 *	BUTTON BLOCK 13VR3B
#106	PH01171 *	LAMP LENS VC2
#107	PU00072 *	IN DOOR PLATE 13VR L
#1071	PU00082 *	IN DOOR PLATE 13VR R
#108	3332453 *	E60 KNOB SPRING
#109	3875771 *	LATCH 4TO2 NYLON
#110	4519511 *	4X12 B TAPPING SCREW
#111	PH01275 *	CASSETTE DOOR 13VR3B
#112	6551851 *	CASETTE DOOR SPRING VC2
#200	QD00604 *	REAR COVER 13VR3B
ED1	2786562 *	CRT EARTH WIRE
ED2	BZ00381 *	DEGAUSSING COIL
ND1	4615642 *	WEDGE
ND2	3332021 *	GX EARTH SPRING
ND3	3705233 *	CLAMP ANODE
ND4	3728273 *	PURSE LOCK (8)
ND9	3733241 *	NP3 LEAD CRAMP
#011	4521392 **	HEXAGONAL DT SCREW
#012	4520232 **	4X16 D TAPPING SCREW
#013	4519511 **	4X12 B TAPPING SCREW
#100	QD01481 **	FRAME ASSY 20VR4B
#101	QD01114 **	FRONT FRAME 20VR4B
#103	PH01693 **	DOOR 20VR4B
#104	PC00504 **	POWER BUTTON 20VR4B
#105	PC00494 **	BUTTON BLOCK 20VR4B
#106	PH01172 **	LAMP LENS C21-VC2
#107	PP00132 **	IN DOOR PLATE 20VR4B
#108	3332453 **	E60 KNOB SPRING
#109	3875771 **	LATCH 4TO2 NYLON
#110	4519511 **	4X12 B TAPPING SCREW
#111	PH01275 **	CASSETTE DOOR 13VR3B
#112	6551851 **	CASETTE DOOR SPRING VC2
#114	4732752 **	DOOR CUSHION 20VR4B
#200	QD01134 **	REAR COVER 20VR4B
#300	MS00111 **	HIMERON VC2
A01	2786562 **	CRT EARTH WIRE
ED2	BZ00671 **	DEGAUSSING COIL
ND1	4615642 **	WEDGE
ND10	3733241 **	NP3 LEAD CRAMP
ND11	3731082 **	PURSE LOCK 11.5
ND12	3728273 **	PURSE LOCK (8)
ND2	3332022 **	EARTH SPRING
ND3	3705233 **	CLAMP ANODE
ND4	0649009 **	HOOK-30
ND5	2776242 **	CONVEGENCE FREE MAGNET
ND8	3763751 **	SK BINDER

NOTE: * 13VR3B / ** 20VR4B

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