## Ccheme Jervice Manual

ALBA. CTV-55B.<br>ALBA. 090-391502-01<br>ALBA. 090-391503-01<br>ALBA. 090-391501-11



1. CHANNEL DOWN CONTROL
2. ChANNEL UP CONTROL
3. VÓLUME DOWN CONTROL
4. VOLUME UP CONTROL
5. REMOTE SENSOR
6. STAND-BY INDICATOR
7. STAND-BY CONTROL
8. POWER ON / OFF SWITCH
9. HI-SPEED BUTTON
10. TUNE '-' BUTTON
11. TUNE $\quad+$ ' BUTTON
12. STORAGE BUTTON
13. HOUR BUTTON
14. MINUTE BUTTON
15. PRESET ON / OFF SWITCH
16. CONTRAST CONTROL
17. BRIĞHTNESS CONTROL
18. COLOR CONTROL
19. V-HOLD CONTROL
20. LOOP ANTENNA
21. TELESCOPIC ANTENNA CONNECTOR
22. AC LINE CORD
23. ANTENNA INPUT SOCKET (75 Ohm)
24. AUDIO OUT JACK

I. PLEASE READ BEFORE ATIEMPTING SERVICE
25. Never disconnect any leads while receiver is in operation.
26. Disconnect all power before attempting any repairs.
27. Do not short any portion of the circuit while power is on.
28. For reason of safety, all parts replaced should be identical, (for parts and part number see PARTS LIST).
29. Before alignment the set must be pre-heated for 30 minutes or more and erase magnetism thoroughly from CRT front chassis frame by erase coil.
II. TEST EQUIPMENT
30. VIF Sweep Generator
31. High Voltage Meter
32. SIF Sweep Generator
33. Ampere Meter ( 0.5 Class, DC 3 mA Max.)
34. Color Bar/Dot/Cross Hatch Generator 10. Demagnetizing Coil
35. DC Power Supply (14V)
36. Philips Pattern Generator
37. Oscilloscope
38. Frequency Counter
39. Vacuum Tube Volt Meter
40. Continuous Waveform Generator
41. Volt Ohm Meter
III. TANK COIL ALIGNMENT
A. PREPARATION STEP (SEE Fig. 2)
42. Connect OUTPUT lead of VIF Sweep Generator between tuner test point TP and tuner case.
43. Connect lead of FROM DET between TP 201 and GND.
44. Supply DC +14V to $\oplus$ lead of D 410.
45. Supply RF AGC bias voltage to TP 101 (See Fig.1)

B. ALICNMENT STLP (Sce Fig. 3)
46. Adjust AGC bias voltage for maximum anmlitude of wave form.
47. Adjust the level of Sweep Generator to achieve $1 \mathrm{Vp}-\mathrm{p}$ output.
48. Adjust T 102 to obtain maximum amplitude of response cause at PC. ( 39.5 MH :


Fig. 3
IV. VIF ALIGNMENT
A. PREPARATION STEP (See Fig.2)

1. Connect output lead of VIF Sweep Generator between tumer test point TP and tuner case.
2. Connect resistor ( 100 Ohm ) between TP 105 and TP 106.
3. Connect lead of FROM DET between TP 201 and GND.
4. Supply DC +14 V to $\oplus$ lead of D 410 .
5. Supply RF AGC bias voltage to TP 101 (See Fig.1)
B. ALIGNMENT STEP
6. Adjust AGC bias voltage for maximum amplitude of waveform.
7. Adjust the level of Sweep Generator to achieve $1 \mathrm{Vp}-\mathrm{p}$ output.
8. Increase the output level of Sweep Generator in 20dB.
9. Adjust AGC bias voltage to achieve $1 \mathrm{Vp}-\mathrm{p}$ output (on Oscilloscope).
10. Adjust tuner converter coil to obtain the waveform as in Fig. 4.

Fig. 4
V. AFC ALIGNENT
A. PREPARATION STEP


1. Connect RF AGC bias voltage at TP101.
2. Remove the damping resistor ( 100 Ohm ) at TP 105, TP 106.
3. Connect output lead of Sweep Generator to tuner test point TP \& tuner ca
4. Increase the output level of Sweep Generator in 10 dB .
5. Connect lead of FROM DET between TP 104 and GND.
6. Supply DC +14 V to $\oplus$ lead of D 410 .
B. ALIGNMENT STEP
7. Adjust the AGC bias to achieve 3VP-P output.
8. Adjust T 104 so that picture carrier 39.5 MHz is centered as in Fig. 5.

Fig. 5

VI. SIF ALIGMENT
A. PREPARATION STEP (SEE Fig. 6)

1. Connect output lead of SIF Sweep Generator between TP 201 and GND.
2. Connect lead of FROM DET between TP 103 and GND.
3. Supply $D C+14 V$ to $\oplus$ lead of $D 410$.

FIG. 6


## B. ALIGMENT STEP

1. Adjust output of Sweep Generator to achieve $4 \mathrm{Vp}-\mathrm{p}$ between markers of 100 KHz .
2. Adjust T 103 that sound carrier is centered as in Fig. 7.

FIG. 7
VII. HORIZONTAL CIRCUIT ADJUSTMENT


1. Recejive Monoscope pattern input signal 80 dBuV .
2. Connect terminal TP 302 and the earth with the short Jumper wire.
3. Adjust VR 301 to obtain the picture running at center.
VIII. VERTICAL CIRCUIT ADJUSTMENT
4. Receive the monoscope pattern.
5. Adjust V-size (VR 302) to obtain a normal picture.

## IX. WHITE BALANCE ADUSTMENT

1. Set the Screen control (ON THE FBT) to minimum position.
2. Turn the, red; green and blue Low Light controls (VR 505, VR 503, VR 501) to middle position and turn the Drive control (VR 504, VR 502) to middle position.
3. Receive the Monoscope pattern.
4. Set the Service switch (S 301) to "SERVICE" position.
5. Slowly turn the screen control clockwise to the point where a horizontal linc just illuminates.
6. Adjust VR 505 to get a red horizontal line on CRT.
7. Adjust VR 503 to get a yellow horizontal line on CRT.
8. Adjust VR 501 to get a white horizontal line on CRT.
9. Reset the Service switch (S 301) to normal position.
10. Set Brightness control (VR 402) to middle position.
11. Adjust Drive control (VR 502, VR 504) to obtain a uniform white picture.
X. • FOCUS ADJUSTMENT
12. Set Contrast control to maximum position and Brightness control to middle position.
13. Adjust Focus control (ON THE FBT) to obtain a sharpest picture on the CRT.
XI. RF AGC
14. Receive the signal of (UHF channel) and set the AFC ON. (PRESET SWITCH TO OFF POSITION)
15. Set the input field strength in $62 \pm 3 \mathrm{~dB}$.
16. Adjust RF AGC control (VR 101) to the point where noise is disappeared.
XII. COLOR SYNC. ADJUSTMENT
17. Receive PHILIPS pattern and warm up for five minutes.
18. Comnect terminal TP 304 and the earth with the short jumper wire.
19. Connect the TP 305 and TP 303 with 10 K Ohm resistor so that the color killer turns off.
20. Then the color stripes appear on the screen when the adjustment is incorrect. Adjust the color sync. (CT 301) so that the PHILIPS pattern stands still or drifts slowly accross the picture screen.
21. Remove the 10 K Ohm resistor and jumper wire.
XIII. COLOR DEMODULATOR ALIGMENT, DELAY LINE ALIGMMENT
22. Receive PHILIPS pattern and set the AFC switch to 'ON' position. (PRESET SWIT TO OFF POSITION
23. Set the Service switch ( S 301 ) to service position.
24. Set Color control (VR 403) to maximum position.
25. Connect oscilloscope to TP 309 (B out).
26. Adjust (VR 303, T 301, T 302) to obtain the waveform as in Fig. 8.

Reduce the difference to mininum (Adjust T 301)

Reduce the difference to minimum (ddjust T 302)

XIV. SUB-BRIGHTNESS ALIGMMENT

1. Comect the negative side to TP 402 and positive side to TP 401 of DC ampere meter ( 3 mA full scale range).
2. Receive PHILIPS pattern and set AFC switch set 'ON' position. (PRESET SWITCH TO OFF POSITION)
3. Set controls as follows :

BRIGHTNESS CONTROL .................. MAX. POSITION
CONTRAST CONTROL .................. MAX. POSITION
XVI. CONVERGENCE ADUSTMENT (SEE FIG. 9)

1: Receive a dotted pattern.
2. Unfix the convergence magnet clamper and align red with blue dots at the center of the screen by rotating ( $R, B$ ) static convergence magnets.
3. Align Red / Blue with green dots at the center of the screen by rotating ( $\mathrm{RB}-\mathrm{G}$ ) static convergence magnet.
4. Fix the convergence magnets by turning the clamper.
5. Remove the DY wedges and slightly tilt the deflection yoke horizontally and vertically to obtain the good overall convergence.
6. Fix the deflection yoke by wedges.
7. If purity error is found, follow 'PURITY ADJUSTMENT' instructions.

voltag: rable fok mansision GENERAL PARTNER

| SMIBOL | $B$ (V) | C (V) | E (V) |
| :---: | :---: | :---: | :---: |
| Q101 | 0.09 | 21.30 | C.7) |
| Q102 | 1.00 | 7.51 | 0.26 |
| Q201 | 0.73 | 0.12 | GND |
| Q301 | 0.0063 | 3.63 | GN] |
| Q302 | 0.0063 | 3.63 | GND |
| Q303 | 6.25 | 6.12 | 0.83 |
| Q304 | 0.71 | 0.10 | GNI) |
| Q401 | 0.61 | 5.27 | GND |
| Q402 | 0.10 | 111.00 | GNI) |
| Q501 | 3.00 | 153.00 | 3.40 |
| Q502 | 6.90 | 156.00 | 6.40 |
| Q503 | 3.14 | 150.00 | 3.60 |
| Q504 | 6.90 | 150.00 | 6.30 |
| Q505 | 6.90 | 153.00 | 6.32 |
| Q601 | 4.75 | 0.005 | 0.005 |
| Q602 | 0.01 | 4.75 | GND |
| Q603 | 0.75 | 0.01 | GND |
| Q604 | 6.20 | 10.40 | 5.50 |
| Q605 | -7.40 | 5.00 | GND |
| Q606 | 0 | 4.70 | GND |
| Q607 | 0 | 0.80 | GND |
| Q611 | 0 | 1.20 | GND |
| Q612 | 0 | 0.03 | GND |
| Q613 | 0 | 0.66 | GND |
| Q614 | 0.04 | 0.73 | 0 |
| Q615 | 12.00 | 0 | GND |
| Q181 | 3.50 | 10.00 | 4.00 |
|  | S (V) | G (V) | D (V) |
| Q103 | 4.46 | 0.07 | 7.63 |

NOTE : VOLTAGE ARE TAKEN UNDER TUNED CONDITION WITH CONTRAST : Maximum Position
BRIGHTNESS : : Center Position
COLOR : Center Position
SIGNAL INPUT : 80 dBuV
CHANNEL SETTING : The Last Channel of UHF High


NOTE: VOLTAGE ARE TAKEN UNDER TUNED CONDITION WITH
; CONTRAST : MAXIMLM POSITION
BRIGHTNESS : CENTER POSITION
COLOR : CENTER POSITION
SIGNAL INPUT : 80 dBuV
OHANNEL SETTING : THE LAST CHANNEL OF UHF HIGH

| VŌLTAGE TABLE FOR REMOTE IC ONLY |  |  |  |
| :---: | :---: | :---: | :---: |
|  | $\text { IC6 } 01$ <br> (V) | IC6 02 <br> (V) | IC801 <br> (V) |
| 1 | 0.04 | GND | 2. 12 |
| 2 | GND | 2.4 | 4,68 |
| 3 | 0.04 | 4.7 | 0.06 |
| 4 | NC | 5 | NC |
| 5 | NC | 4.77 | GND |
| 6 | NC | 4.7 | GND |
| 7 | NC | 3.89 | 2.14 |
| 8 | 4.82 | 4.75 | 2.15 |
| 9 | -31.2 | 1.83 | 5.25 |
| 10 | NC | 4.73 | 1.35 |
| 11 | 0 | 4.73 |  |
| 12 | NC | 4.73 |  |
| 13 | NC | 4.73 |  |
| 14 | NC | 4.7 |  |
| 15 | 0.04 | 4.69 |  |
| 16 | 0.04 | 4.7 |  |
| 17 |  | 0.12 |  |
| 18 |  | 0.04 |  |
| 19 |  | 0.04 |  |
| 20 |  | 0.04 |  |
| 21 |  | 0.04 |  |
| 22 |  | 0.039 |  |
| 23 |  | 0.039 |  |
| 24 |  | 0.039 |  |
| 25 |  | 0.19 |  |
| 26 |  | 0.039 |  |
| 27 |  | 0.038 |  |
| 28 |  | 0.038 |  |
| 29 |  | 1.42 |  |
| 30 , |  | 0.03 |  |
| 31 |  | 0.1 |  |
| 32 |  | 0.1 |  |
| 33 |  | 0.1 |  |
| 34 35 |  | 8.4 |  |
| 35 |  | 2.87 |  |
| 36 37 |  | 1.21 |  |
| 37 38 |  | 10.5 |  |
| 38 39 |  | 10.5 0.19 |  |
| 40 |  | 2.36 |  |
| 41 |  | 2.26 |  |
| 42 |  | 4.76 |  |

NÓTE : VOLTAGE ARE TABLE UNDER TUNED ONNDITION WITH

| CONTRAST | $:$ MAXIMM POSITION |
| :--- | :--- |
| BRIGHINESS | $:$ CENTER POSITION |
| COLOR | $:$ CENTER POSITION |
| SIGNAL INPUT | $: 80$ dBUV |
| CHANNEL SETTING | $:$ |
| THE LAST CHANNEL OF UHF HICH |  |


|  |  |  | TOP VIEW |  | TOP VIEW |  | TOP VIEW |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| STR 5412 | TA 7698AP | MN 15245 | TA 7680AP |  | MN 1220 |  | TBA 820M |
|  |  |  | $\underbrace{8}_{c^{B} E}$ | $\prod_{E^{c^{B}}}$ |  | 17 | $\overbrace{E^{\text {c }}} \underbrace{B}$ |
| AN 5521 | AN 5026K | 2SD 1426 | BSX 20 |  | $\begin{aligned} & 2482 \\ & 400 \mathrm{~F} \end{aligned}$ |  | 2SA 562 <br> 2SA 1015  <br> 2SC $388 A$ <br> 2SC $1815 Y$ |

PICTORIAL VIEW OF TUNER :


| Terminal NO. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Terminal name | BU | VT | BH | AGC | BL | AFT | BM | IF | AN |



(9)

(1)(2)(3)(5)(6)7 (8)









(COMPONENT DIAGRAM FOR ANTENNA BOARD)

(BOTTOM VIEW)


001-160003-96
001-190010-96
001-330003-94
001-353915-42
002-370000-09
002-670000-09
002-770000-09
002-970000-09
006-210012-02
007-106000-16
007-300455-46
007-306000-06
007-739000-09
013-100205-22
013-101005-12H
013-101205-22
013-102005-12H
013-102205-12
013-103005-12
013-103005-12H
013-103205-12
013-103405-75
013-104005-12
013-104005-12H
013-109005-12
013-109005-12H
013-121005-12
013-122005-12
013-122005-12H
013-122205-12
013-123005-12H
013-123405-75
013-124005-12H
013-151005-12
013-152005-12
013-152005-12H
013-153005-12
013-153005-12H
013-154005-12H
013-154205-22
013-182005-12H
013-184005-22
013-204005-12H
013-220205-12
013-220305-75
013-221005-12
013-221005-12H
013-221205-12
013-221305-75
013-222005-12H
013-223005-12
013-223005-12H
013-223101-72
013-224005-12H
013-229305-82
013-240005-12H
013-242005-12H
013-234005-12H
013-270005-12H
013-271005-12H

DRIVE TRANSFORMER (OUTPUT) H1425
HORIZONTAL DRIVE TRANSFORMER AT-19E-RO710
SUIT TCHING TRANSFORMER LS-33 (G-4C)
REMDTE TRANSFIRMER EI-35 BS STANDARD
TANK IFT COIL 703-025 PCT
SOUND IFT COIL 703-024 PCT
CHROMA IFT COIL 703-C23 PCT
IFT TV COIL 703-029 PCT
RELAY 12V US 12M日 12VDC TV-5
TRAP FILTER 6.0 MHZ TPS6.0B
CERAMIC RESONATOR 455 KHZ CSB455EB
CERAMIC FILTER G.0 MHZ SFEG.OMS
SAld FILTER 39.5 MHZ HU2211
FLAME PROOF CARBON FILM RESISTOR 10 OHM $\frac{1}{2} W$
CARBON FILM RESISTOR 100 OHM 1/16U 5\%
FLAME PRODF RESISTOR KOARDF505T52
CAREON FILM RESISTOR 1K DHM 1/16W 5\%
CAREON FILM RESISTOR 1 K DHM $\frac{1}{2} W 5 \%$
CARBON FILM RESISTOR 10K OHM 1/16W 5\%
CAREON FILM RESISTOR 10K OHM 1/16W 5\%
CAREON FILM RESISTOR 10K $\frac{1}{2} \mathbf{U} 5 \%$
FIXED METAL OXIDE FILM RESISTOR
CAREON FILM RESISTOR 100K OHM 1/16W 5\%
CARBON FILM RESISTOR 1M DHM $1 / 16 \omega 5 \%$
CARBON FILM RESISTOR 1 OHM $1 / 16 \omega 5 \%$
CARBON FILM RESISTOR 1 OHM $1 / 16 \omega 5 \%$
CARBON FILM RESISTOR 120 OHM $1 / 16 \omega 5 \%$
CARBON FILM RESISTOR 1.2K DHM 1/16W 5\%
CARBON FILM RESISTOR 1.2K OHM 1/16W 5\%
CARBON FILM RESISTOR 1.2K OHM 1/2W $5 \%$
EARBON FILM RESISTOR 12K OHM $1 / 16 \mathrm{~W} 5 \%$
FIXED METAL OXIDE FILM RESISTOR 12K OHM
CARBON FILM RESISTOR 12DK OHM 1/16w 5\%
CAREON FILM RESISTOR 150: OHM 1/16W 5\%
CAREON FILM RESISTOR 1.5K IHM $1 / 16 \mathrm{~W} 5 \%$
CARBON FILM RESISTOR 1.5K DHM 1/16W 5\%
CARBON FILM RESISTOR 15K OHM 1/16W $5 \%$
CAREON FILM RESISTOR 15 K OHM $1 / 16 \mathrm{~W} 5 \%$
CARBON FILM RESISTOR 150K OHM 1/16E 5\%
FLAME PRODF CARBON FILM RESISTOR KOARDF50ST52
CARBON FILM RESISTOR 1.8K OHM 1/16W 5\%
FLAME PRODF CARBON FILM RESISTOR KOARDF505T52
CARBON FILM RESISTOR 200K OHM 1/16W 5\%
CARBDN FILM RESISTOR 22 DHN $1 / 2 \omega 5 \%$
FIXED METAL OXIDE FILM RESISTOR
CAREON FILM RESISTOR 220 OHM $1 / 16 \mathrm{U} 5 \%$
CARBON FILM RESISTOR 220 OHM $1 / 16 \mathrm{ll} 5 \%$
CAREON FILM RESISTOR 220 DHM 1/2W 5\%
FIXED METAL OXIDE FILM RESISTOR
CARBON FILM RESISTDR 2.2K OHM 1/16W 5\%
CARBON FILM RESISTOR 22K OHM $1 / 16 \mathrm{~W} 5 \%$
CARBON FILM RESISTDR 22K OHM 1/6W 5\%
FIXED METAL DXIDE FILM RESISTOR
CARBON FILM RESISTOR 220K OHM 1/16W 5\%
FLAME PROOF FUSING RESISTOR 2.2 DHM
CAREDN FILM RESISTOR 24 DHM 1/16W 5\%
CAREON FILM RESISTOR 2.4K OHM 1/16W 5\%
CARBDN FILM RESISTOR 24K OHM 1/16W 5\%
CAREON FILM RESISTOR: 27 DHM 1/16W 5\%
CAREON FILM RESISTOR 270 OHM 1/16W 5\%

013-272005-12
012-272005-12H
013-272205-22
013-273005-12H
013-274101-72
013-331005-12H
013-331205-12
013-332005-12
113-332005-12H
313-332605-75
] $13-333005-12 \mathrm{H}$
J13-334005-12H
113-339305-82
113-362005-12H
313-363005-12H
313-392005-12H
013-393005-12H
013-470005-12
013-470005-12H
013-471005-12
013-471005-12H
013-471205-22
013-472005-12H
013-473005-12H
013-510405-75
013-561005-12H
013-562005-12H
093-563005-12H
013-564005-12H
013-569605-54
013-680005-12H
013-681005-12H
013-681205-22
무-682005-12H
013-682505-75
013-683005-12H
0.13-683005-12H

013-688310-82
013-820205-72
013-821005-12H
013-822005-12H
013-833005-12H
013-824005-12H
014-210200-01
022-100101-03
026-102070-11
026-103071-11
026-104111-09
026-152071-11
026-154111-01
026-222111-01
026-223071-11
026-223111-01
026-274200-31
026-332111-01
026-333071-11
026-473201-31
026-562071-11
026-563201-31
026-683401-11

CARBON FILM RESISTOR 2.7K OHM 1/16W 5\% CARBON FILM RESISTOR 2.7K OHM 1/16W 5\%
FLAME PROOF CARBON FILM RESISTOR KOARDF5OST52
CARBON FILM RESISTOR 27K OHM 1/16W 5\%
FIXED METAL OXIDE FILM RESISTOR
CAREON FILM RESISTOR 330 OHM $1 / 16 \omega 5 \%$
CARBON FILM RESISTOR 330 DHM $1 / 2 \omega 5 \%$
CARBON FILM RESISTOR 3.3K OHM $1 / 16 \mathrm{~W} 5 \%$
CAREON FILM RESISTOR 3.3K OHM 1/16lu $5 \%$
FIXED METAL OXIDE FILM RESISTOR 3.3 K OHM
CAREON FILM RESISTOR 33 K DHM 1/16W 5\%
CAREON FILM RESISTOR 330K DHM 1/16山 5\%
FLAME PROOF FUSING RESISTOR
CAREON FILM RESISTOR 3.6K OHM 1/16W 5\%
CAREON FILM RESISTDR 36K OHM 1/16w 5\%
CARBON FILM RESISTOR 3.9 K OHM $1 / 16 \mathrm{~W} 5 \%$
CAREON FILM RESISTOR $39 K$ OHM 1/16W 5\%
CAREON FILM RESISTOR 47 OHM $1 / 16 \omega 5 \%$
CARBON FILM RESISTOR 47 OHM $1 / 16 \mathrm{~W} 5 \%$
CAREON FILM RESISTOR 470 DHM $1 / 16 \omega 5 \%$
CARBON FILM RESISTOR 470 DHM 1/6W $5 \%$
FLAME PRODF CARBON FILM RESISTOR 470 OHN $1 / 2 \omega$
CAREON FILM RESISTOR 4.7K OHM 1/16W 5\%
CARBON FILM RESISTDR 47K OHM 1/16W 5\%
FIXED METAL OXIDE FILM RESISTOR
CARBON FILM RESISTOR 560 OHM 1/16W 5\%
CARBON FILM RESISTOR 5.6K CHM $1 / 16 \omega 5 \%$
CARBON FILM RESISTOR 56K OHM 1/16W 5\%
CARGON FILM RESISTOR 560K DHM 1/16W 5\%
CEMENT RESISTOR 5.6 OHM 5W 5\%
CAREON FILM RESISTOR 68 DHM $1 / 16 \omega 5 \%$
CAREON FILM RESISTOR 680 OHM $1 / 6 \omega 5 \%$
FLAME PROCF CARBON FILM RESISTOR 680 DHM
CARBON FILM RESISTOR 6.8K OHM 1/16W 5\%
FIXED METAL OXIDE FILM RESISTOR G.8K DHM
CARBON FILM RESISTOR 6BK OHM
CARBON FILM RESISTOR 68K OHM 1/16w 5\% FLAME PROOF FUSING RESISTOR
FIXED METAL OXIDE FILM RESISTOR
CARBON FILM RESISTOR B20 OHM $1 / 16 \omega 5 \%$
CARBON FILM RESISTOR 8.2 K OHM $1 / 16 \mathrm{~W} 5 \%$
CAREON FILM RESISTOR 82K OHM $1 / 16 \mathrm{~W} 5 \%$
CARBON FILM RESISTOR 82DK OHM $1 / 16 \omega 5 \%$
P.T.C. THERMISTOR "POSI-R" ZPB53BL2ODC

TRIMMER CAPACITOR 10PF ECV-1ZW1032E
POLYESTER FILM CAP. ECQM1H102KV D. OO1MFD
PDLYESTER FILM CAP. ECПM1H103KV 0.ロ1MFD
MYLAR CAPACITOR . 1MFD $100 \mathrm{~V} 10 \%$
POLYESTER FILM CAP. ECQM1H152KV D.0015MFD
MYLAR CAPACITOR $0.15 \mathrm{MFD} 100 \mathrm{~V} 10 \%$
MYLAR CAPACITOR .OD22MFD 100V 10\%
POLYESTER FILM CAP. ECQM1H223KV D.022MFD
MYLAR CAPACITOR 0.022MFD $100 \mathrm{~V} 10 \%$
POLYPROPYLENE CAPACITOR. $27 \mathrm{MFD} 200 \mathrm{~V} 5 \%$
MYLAR CAPACITOR .O033MFD $100 \mathrm{~V} 10 \%$
POLYESTER FILM CAP. ECQM1H333KV 0.033MFD
POLYPRDPYLENE CAPACITOR .047MFD $200 \mathrm{~V} 10 \%$
PDLYESTER CAP. ECDM1H562KV 10\% 5DV
POLYPROPYLENE D.056MFD 200V 10\%
POLYESTER CAPACITOR .O68MFD 400V 10\%

GENERAL PARTNER

030-120060-00
030-510201-00
031-210562-00
031-211015-00
031-230388-00
031-230945-00
031-231815-26
031-232001-00
031-232482-00
031-240400-06
031-241426-00
031-250030-01
031-380020-00
033-107680-14
033-200820-31
033-205521-11
033-207698-14
033-505412-38
033-901220-11
033-805026-11
033-806030-11
033-815245-11
037-400000-20
037-443361-20
045-022411-11
045-022412-11
046-100001-00
046-100001-07
046-100001-08
060-101001-08
060-101802-08
060-102252-23
060-102255-23
060-102805-08
060-103252-23
060-103255-23
060-103802-08
060-103805-08
060-104252-23
060-104255-23
060-104805-08
060-106252-23
060-106255-23
060-107252-23
060-107255-23
060-108252-23
060-108255-23
061-470003-00
061-480001-10
061-540005-01
066-161030-03
071-400000-00
072-122010-01
072-320020-30
072-622010-19
072-622016-14
072-622028-12
072-726000-00
072-830000-48
073-622016-13

GERMINIUM DIDDE INGU (MATCHING PAIR)
LED 'RED' (ROUND TYPE) LTD-201R
TRANSISTOR 2SA 562 TM
TRANSISTOR 25A 1015
TRANSISTOR 25C 388TM
TRANSISTOR 25C 945(L) P
TRANSISTOR 25C 1815-Y
TRANSISTOR 2SC 2001L
TRANSISTOR 2SC 2482
TRANSISTOR 2SD 400F
TRANSISTOR 2SD 1426
TRANSISTOR 25K 30A
TRANSISTOR ESX 20
I.C. TA7680
I.C. TBAB20M
I.C. AN5521
I.C. TA7698P
I.C. STR5412
I.C. MN1220
I.C. AN5021K
I.C. MN6030J
I.C. MN15245 FEH

CRYSTAL 4.0000MHZ EYX-TE4055
CRYSTAL 4.433681 MHZ KDO2210F
SLIDE SWITCH 2P2T S522F12G11 PIC
SLIDE SWITCH 2P2T 5S22FO4G11 PIC
AC POUER SWITCH ESB7C702V
PUSH SUITCH 1P 日3F-1050
PUSH SUITCH KEC10903A
CONTACT PIN PC日 TYPE (MALE)
PIN CONNECTOR 1 PIN SOCKET TS-8OH-01-A1
PIN CONNECTOR 2 PINS SOCKET 5051-02
PIN CONNECTOR 2 PINS PLUG 5054-02A
PIN CONNECTOR 2 PINS PLUG STRAIGHT TVPE
PIN CONNECTOR 3 PINS SOCKET 5051-03
PIN CONNECTOR 3 PINS PLUG 5054-03A
PIN CONNECTOR 3 PINS SOCKET STRAIGHT TYPE
PIN CONNEETOR 3 PINS PLUG STRAIGHT TYPE
PIN CONNECTOR 4 PINS SOCKET 5015-04
PIN CONNECTOR 4 PINS FLUG 5054-04A
PIN CONNECTOR 4 PINS PLUG STRAIGHT TYPE
PIN CONNECTOR 6 PINS SOCKET 5015-06
PIN CONNECTOR 6 PINS PLUG 5045-06A
PIN CONNECTOR 7 PINS SOCKET 5015-07
PIN CONNECTOR 7 PINS PLUG 5045-07A
PIN CONNECTOR 8 PINS SDCKET 5051-08
PIN CONNECTOR 9 PINS PLUG 5054-08A
PIN JACK (AUDID IN) 'BLACK'
ANT. JACK QA-1005
CRT SOCKET HFSO171-01-073
SPEAKER SMALL ROUND 1W 3" 16 OHM
AC LINE CDRD ES6500 STANDARD BLACK
JUMPER WIRE UL 1007 AUG 22 100MM BROUN
JUMPER WIRE UL 1015 AWG: 20 200MM GLACK
JUMPER WIRE UL 1007 TOP COATED AWG 22
JUMPER WIRE UL 1007 TOP COATED AUG 22
JUMPER WIRE UL 1007 TOP COATED AUG 22
BARE WIRE AUG $261 \mathrm{KG}=375 \mathrm{M}$
FLAT BRAIDED WIRE 1LE=82M
SINGLE SHIELD WIRE UL 1185 AUG 26 160MM

076-131018-30
078-101016-04
078-101018-00
078-101018-04
078-101018-03
078-101018-06
078-101018-08
078-101018-09
078-101024-00
078-101024-02
078-101024-03
078-101024-06
078-101024-08
078-101-24-09
078-101026-00
078-101026-01
078-101026-08
078-101028-06
078-101034-00
078-101034-01
078-101034-06
078-101038-02
078-101-38-04
078-101038-08
078-101038-09
078-10140-03
078-106030-36
078-106032-04
078-106036-32
078-106036-36
178-206028-30
078-206030-30
079-104100-00
079-105800-00
079-106500-00
079-108300-00
079-501000-00
079-803000-00
079-805000-00
081-612016-11
082-220800-03
082-222000-03
084-040116-05
090-390008-04
090-391501-11
090-391502-01
090-391503-01
090-391506-21
101-214008-11
012-214004-19
103-113103-02
104-504001-04
105-010103-00
105-109104-03
105-150101-02
105-181101-02
105-330101-02
105-568103-12
105-569101-02
105-600101-01

75 OHM UL/CSA CGAXIAL CABLE 180MM BLACK JUMPER WIRE ASS'Y UL 1007 AWG 22 160MM JUMPER WIRE ASS'Y UL 1007 AUG 22 JUMPER WIRE ASS'Y UL 1007 AUG 22 JUMPER WIRE ASS'y UL 1007 AUG 22 JUMPER WIRE ASS'Y UL 1007 AUG 22 180MM JUMPER WIRE ASS'Y UL 1007 AUG 22 JUMPER WIRE ASS'Y Ul 1007 AUG 22 JUMPER WIRE ASS'Y UL 1007 AWG 22 240MM JUMPER WIRE ASS'Y UL 1007 AUG 22 240MM JUMPER WIRE ASS'Y UL 1007 AWG 22 240MM JUMPER WIRE ASS'Y UL 1007 AWG 22240 MM JUMPER WIRE ASS'Y UL 1007 AUG 22 240MM JUMPER WIRE ASS'Y UL 1007 AWG 22 240MM JUMPER WIRE ASS'Y UL 1007 AUG 22 260MM JUMPER UIRE ASS'Y UL 1007 AUG 22 JUMPER UIRE ASS'Y UL 1007 AUG 22 JUMPER WIRE ASS'Y UL 1007 AWG 22 280MM JUMPER WIRE ASS'Y UL 1007 AWG 22 JUMPER UIRE ASS'Y UL 1007 AUG 22 JUMPER WIRE ASS'Y UL 1007 AWG 22 340MM JUMPER WIRE ASS'Y UL 1007 AUG 22 JUMPER WIRE ASS'Y UL 1007 AUG 22 JUMPER WIRE ASS'Y UL 1007 AWG 22 380MM JUMPER WIRE ASS'Y UL 1007 AU'G 22 380MM JUMPER WIRE ASS'Y UL 1007 AWG 22 400MM JUMPER WIRE ASS'Y UL 1007 AUG 22 300MM JUMPER WIRE ASS'Y UL 1007 AUG 22 320MM JUMPER WIRE ASS'Y UL 1015 AUG 22 360MM JUMPER WIRE ASS'Y UL 1015 AWG 22 JUMPER WIRE ASS'Y UL 1015 AUG 20 JUMPER WIRE ASS'Y UL 1015 AUG 20 3DOMM UL/CSA PVE TUBE 4.1MM DIA. UL/CSA PVE TUBE 5.8MM DIA. UL/CSA PVC TUBE 6.5MM DIA. UL/CSA PVC TUBE 8.3MM DIA. STAGHETTI TUBE 1MM DIA.
UL/CSA SHRINKABLE TUBE 3.aMM diA.
UL/CSA Shrinkable tube 5.0MM dia.
SINGLE SHIELD WIRE ASS'Y AUG 26
FUSE TBODMA 250 V 5 x 20MM SEMKD APPROVED
FUSE TZA $250 \mathrm{~V} 5 \times 20 \mathrm{MM}$ SEMKD APPROVED
FERRITE BEAD RBLN-0010 CEZZ
P.C. BLARD ( 091187 ) $\mathrm{T}=1.6 \mathrm{MM}$ HANDSET
P.C. BUARD (160388) PHENOLIC $T=1.6 \mathrm{MM}$
P.C. BUARD 290687) PHENOLIC $T=1.6 M M$
P.C. BOARD ( 021287 ) PHENOLIC $T=1.6 M M$
P.C. BUARD (301287) PHENDLIC $T=1.6 M M$

FLYBACK TLF7C161 FOR 14" PAL
14" CRT COLDUR ITC TYPR
UK TUNER UE3C-903/R16-2516
4 日LOCK VR ASS'Y 10KB-200k
FIXED INDUCTOR COIL 1 UH $10 \%$
FIXED INDUETOR CDIL 1.0 UH $10 \%$
FIXED INDUCTOR COIL $15 \mathrm{uF} 10 \%$
FIXED INDUCTOR COIL $180 \mathrm{UH} 10 \%$
FIXED INCUCTOR COIL ELO606SKI-330K
FIXED INDUCTOR COIL . 56 UH EC1645-R56M
FIXED INDUCTOR COIL 5.6 UH TDK
FIXED INDUCTOR COIL 60 UH +-10\%

GENERAL PARTNER

105-650052-03
105-829101-02
108-400140-02
112-102321-08
112-103321-08
112-103531-08
112-202321-08
112-103321-08
112-301531-08
112-502321-08
113-100001-00
113-200004-00
123-020300-13
123-070300-13
123-100340-13
123-101340-13
123-101350-10
123-101466-40
123-102370-30
123-102850-40
123-103370-30
123-104370-30
123-121350-10
123-122550-40
123-150340-13
123-181350-10
123-200340-13
123-201351-13
123-202370-30
123-220340-13
123-221350-10
123-272940-40
123-330350-10
123-331340-10
123-390350-10
123-392850-40
123-470350-10
123-471350-10
123-471466-41
123-472580-42
123-561350-10
123-680350-10
123-82.1350-10
123-821840-40
124-105061-01
124-106041-01
124-224061-01
124-225051-01
124-474061-01
127-105077-01
127-106047-01
127-107047-01
127-107047-01
127-107047-31
127-107057-01
127-107067-01
127-107077-01
127-107135-01
127-107401-01
127-108047-01

FIXED INDUCTOR COIL $65 \mathrm{UH} 5 \%$
FIXED INDUCTDR COIL 8.2 UH
DEGAUSING COIL ASS'Y 40T VDE APPROVED
SEMI-FIXED RESISTOR B-1K OHM
SEMI-FIXED RESISTDR B-10K DHM
SEMI FIXED RESISTOR B-10K OHM
SEMI-FIXED RESISTOR 2 KB DHM
SEMI-FIXED RESISTOR 2OKB 3 PINS
SEMI-FIXED RESISTOR B-300 DHM
SEMI-FIXED RESISTOR b?5K DHM
DELAY LINE EFD-ENG45A11G
DELAY LINE MDL-CT/R22E409
CERAMIC CAPACITOR 2PF 50 V D.25PF
CERAMIC CAPACITOR 7PF 5OV D.25PF CH TYPE
CERAMIC CAPACITOR 10PF 50V 5\%
CERAMIC CAPACITOR 100PF 50U 5\% CH TYPE
CERAMIC CAPACITOR 100PF 50V 10\% SL TYPE
CERAMIC CAPACITOR 100PF 4OOVAC 20\%
CERAMIC CAPACITOR .OO1MFD 50V $+80-20 \%$
CERAMIC CAPACITOR .OD1MFD 2KV 10\%
CERAMIC CAPACITOR 0.O1MFD 50V +80-20\%
CERAMIC CAPACITOR . 1 MFD $50 \mathrm{CO}+9 \mathrm{O}-20 \%$
CERAMIC CAPACITOR 120PF 50V 10\% SL TYPE
CERAMIC CAPACITOR 1200PF 500V 10\%
CERAMIC CAPACITOR 15PF 50V 5\% NPD TYPE
CERAMIC CAPACITOR 180PF 50V $10 \%$ SL TYPE
CERAMIC CAPACITOR 2OPF 5DV 5\% CH TYPE
CERAMIC CAPACITOR 200PF 50V 10\% SL TYPE
CERAMIC CAPACITOR D.002MFD 50V +80-20\%
CERAMIC CAPACITOR 22PF 5DV 5\% CH TYPE
CERAMIC CAPACITOR 22OPF 50V $10 \%$ SL TYPE
CERAMIC CAPACITOR .OO27MFD 2KV 5\%
CERAMIC CAPACITOR 33PF 50V 10\% SL TYPE
CERAMIC CAPACITOR 330PF 50V 5\% SL TYPE
CERAMIC CAPACITUR 39PF 50V 10\% SL TYPE
CERAMIC CAPACITOR D.OO39MFD 2KU 10\%
CERAMIC CAPACITOR 47PF 50V 10\% SL TYPE
CERAMIC CAPACITOR 470 PF 50V 10\% 5L TYPE
CERAMIC CAPACITOR 470FF 4OOVAC 20\%
CERAMIC CAPACITOR ECKO2H472PU 0.0047MFD $500 \mathrm{C}+100$
CERAMIC CAPACITOR 5GOPF 50U 10\% SL TYPE
CERAMIC CAPACITOR 68PF 50V $10 \%$ SL TYPE
CERAMIC CAPACITOR 820PF 50V 10\%
CERAMIC CAPACITOR 820PF 2KV 5\%
TAN CAP ECSF 1 VE 105 1MFD 35V 10\%
TAN CAP 10MFD $16 \mathrm{~V} 10 \%$
TAN CAP ECSF 1 UE224 0.22MFD 35V 10\%
TAN CAP ECSF1EE225 2.2MFD 25V 10\%
TAN CAP ECSFTVE474 0.47MFD 35V 10\%
ELECTROLYTIC CAPACITOR 1MFD 50V 20\%
ELECTROLYTIC CAPACITOR 10MFD $16 \mathrm{~V} 20 \%$
ELECTROLYTIC CAPACITOR 100MFD $16 \mathrm{~V} 20 \%$
ELECTROLYTIC CAPACITOR 100MFD $16 \mathrm{~V} 20 \%$
ELECTROLYTIC CAPACITOR 100MFD $16 \mathrm{~V} 20 \%$
ELECTROLYTIC CAPACITOR 100MFD $25 \mathrm{~V} 20 \%$
ELECTROLYTIC CAPACITOR 100MFD 35V 20\%
ELECTROLYTIC CAPACITOR 100MFD $50 V+20-20 \%$
ELECTROLYTIC CAPACITOR 100MFD 160 V
ELECT. COND. 100MFD 400V ECES2GU101G 10\%
ELECTROLYTIC CAPACITOR 1000MFD $16 \mathrm{~V} 20 \%$

127－108047－01
127－225077－01
127－226047－01
127－226057－01
127－226215－81
127－227047－01
127－227067－01
127－228057－01
127－336135－81
127－474077－01
127－475057－01
127－476027－31
127－476047－01
127－476057－01
127－477037－31
127－477057－01
127－477057－01
130－131555－01
130－134148－00
130－134148－01
130－310001－00
130－310155－00
130－310156－00
130－314001－00
130－314002－00
130－410056－01
130－410300－01
130－411091－01
130－415630－00
130－601120－00
130－700302－00
200－391501－03
201－390001－01
202－391501－01A
203－390001－01
210－390001－01
219－391501－01
220－391501－01
229－371501－01
229－391502－01
230－391501－01
263－39000－01
263－391501－01
277－391501－02
277－391501－03
277－391501－02
277－301502－03
277－39150．3－01
280－391502－01A
292－371405－02
292－391502－01
403－391501－01
411－371601－52
411－390002－01
412－391501－03K
418－371601－04
418－391502－01
450－370601－01
451－701201－61
462－370101201

ELEETROLYTIC CAPACITOR 1000MFD 25V 20\％
ELECTROLYTIC CAPACITOR 2．2MFD 50U 20\％
ELECTROLYTIC CAPACITOR 22MFD $16 \mathrm{~V} 20 \%$
ELECTROLYTIC CAPACITOR 22 MFD 250 V
ELECTROLYTIC CAPACITOR 22MFD 250 V
ELECTROLYTIC CAPACITOR 220 MFD $16 \mathrm{~V} 20 \%$
ELECTROLYTIC CAPACITOR 22OMFD 35V 20\％
ELECTROLYTIC CAPACITOR 2200MFD 25V 10\％
ELECTROLYTIC CAPACITOR 33MFD 160 V
ELECTROLYTIC CAPACITDR 0．47MFD 50V $20 \%$
ELECTRDLYTIC CAPACITOR 4．7MFD 25V 20\％
ELECTROLYTIC CAPACITOR 47MFD 6．3V 20\％
ELECTROLYTIC CAPACITOR 47MFD $16 \mathrm{~V} 20 \%$
ELECTROLYTIC CAPACITOR 47MFD 25V 20\％
ELECTROLYTIC CAPACITOR 470 MFD 10 V
ELECTROLYTIC CAPACITOR 470MFD $16 \mathrm{~V} 20 \%$
ELECTROLYTIC CAPACITDR 470MFD 25V 20\％
SILICON DIDDE 151555 V TPA2
SILICON DIODE IN4148
SILICON DIDDE IN4148 AXIAL MOUNT
RECTIFIER RF－1
RECTIFIER DIDDE FR－155
RECTIFIER DIODE Rb156X4
RECTIFIER IN4001
GENERAL PARTNER
RECTIFIER DIODE IN4OO2
ZENER DIDDE 5．6V AXIAL MOUNT
ZENER DIODE 3OV AXIAL MOUNT
ZENER DIODE 9．1V MA1091－M
ZENER DIDDE 33V LA5630
INFRAD DIODE NJL 1120 L
PHOTO DIDDE PH302
CABINET FRONT RED W／RED SPRAY \＆CRT
CABINET TOP CHARCDAL GREY ABS
CABINET BACK BLACK DOW 6075 PS
CABINET BOTTOM CHARCOAL GREY ABS
BATTERY COVER CHARCDAL GREY ABS
FRONT CONTROL PANEL DOOR BLACK W／日LACK
CHASSIS BRACKET BLACK HI－PS
CRT MTG CLIP WHITE CELDN
CRT MTG ERACKET ABS
FRONT PANEL A＇A BLACK W／ELACK SPRAY
FRONT LENS A日S 920 RED 20764
CABINET FRONT LENS A＇A（REMOTE）RED
VOLUME KNOE UP BLACK U／RED ENGRAVING AES
CHANNEL KNOB UP BLACK W／GREEN ENGRAVING
VOLUME KNDE DOUN BLACK W／RED ENGRAVING
CHANNEL KNOB DOWN BLACK W／GREEN
STANDEY KNOB＇A＇BLACK ABS
ANT TERMINAL BLACK FOR PAL SYSTEM
PRE－SET KNDB GREY CONTROL 1287 GREE ABS
POUER KNOB＇B＇日LACK ABS（PAL）
SPEAKER GRILL＇A＇
NAME PLATE＇ALBA＇BLACK 日／G LIGHT GREY
NAME PLATE ALBA＇W／18 HOLES（FOR K－39141）
MODEL NAME PLATE CTV55R ENGLISH 240V
THREE COLDUR PLATE（BLACK B／G W／RED）
PRE－SET OVERLAY＇A＇ 11 HOLES W／CLOCK
SOLDERING PIN
UIRE DRESS
SPEAKER CLIP

466－701201－01
472－390001－01
472－390002－01
472－390003－01
477－371601－01
481－391503－01
483－391402－01
483－391405－01
483－391501－01
483－391502－01
484－392002－01
485－391501－01
530－080032－08
530－140033－16
569－331001－01
569－331001－02
569－331001－03
569－370601－10
569－371401－25
569－371401－30
570－391501－03
600－305006－10
600－305008－10
600－305012－10
610－260108－10
610－300108－10
610－300110－10
610－300114－00
610－300114－10
612－300110－10
612－300114－10
614－400412－10
614－400416－10
620？305025－55
633－055032－07
632－330032－01
635－390030－01
680－101261－0？
680－125503－01

FUSE HOLDER
BATTERY CONTACT PLATE＋－VE
BATTERY CONTACT PLATE＋VE
BATTERY CONTACK PLATE－VE
CRT SPRING
HEAT SINK
SHIELD BOX COVER
SHIELD BOX BODY FOR BS
SHIELD BOX FOR REMDTE
SHIELD BOX BOTTOM FOR REMOTE
HEAT SINK W／SDLDERING LUG ASS＇Y
LDOP ANTENNA ASS＇Y
FIGRE WASHER（1103）
FIERE UASHER $14 \times 3.3 \times 1.6 M M$ THK
FUSE LABEL U／BUILT－IN THERMAL FUSE
AC SOCKET LABEL AC240V／50HZ
日S LINE CORD LABEL
TV SYSTEM LABEL（PAL－1）
LIVE CHASSIS UARNING LABEL SPECIAL FOR ADDRESS LABEL FOR ALBA
I／B ENG．ALBA CTV55 240V W／R．C．
MACHINE SCREW P／H $3 \times$ GMM WHITE
MACHINE SCREW P／H $3 \times 8$ XM UHITE
MACHINE SCRELU P／H $3 \times 12 M M$ WHITE
SELF－TAPPING SCREW R／T $2.6 \times$ BMM UHITE
SELF－TAPPING SCREU R／T $3 \times$ GMM UHITE
SELF－TAPPING R／T $3 \times$ 10MM WHITE
SELF－TAPPING SCREU R／T $3.0 \times 14 \mathrm{MM}$ 日LACK
SELF－TAPPING SCREU R／T $3 \times 14 \mathrm{MM}$ WHITE
SELF－TAPPING SCREW W／T $3 \times 10 \mathrm{MM}$ WHITE
SELF－TAPPING SCREW W／T $3 \times 14 \mathrm{MM}$ WHITE
SELF－TAPPING SCREW B／T $4 \times 12 M M$ WHITE
SELF TAPPING SCREU 日／T $5 \times$ 3BMM UHITE
STEEL NUT M3
SPRING WASHER（S03）
MICA SHEET AC263（FDR 25D1426）
MICA SHEET
CABLE TIE
UIRE TIE $125 \times 0.3 \times 0.1$ MM

Sectiunea 1


## Sectiunea 2




## Sectiunea 4



Sectiunea 5

| ur | Of | （10） |
| :---: | :---: | :---: |
| レ | N | ＋+ （1） |
| H | mm | $\cdots$ |
| ＋+1 | $\sim^{2}$ | $v$ |
| 200 | 几 | U |
| m． | M | N |
| U | － | M |
| 几 | $\pi \Omega$ | U |

NOTE：
（1）all capacitors are in y finless otherwise noted． all capacitors are 50wy unless otherwise noted．
（2）CApacitor not specificaliy designated are ceramic capacitors．
a．）廑 ELECTROMYIC CABACITOR
b．）It bi－polar electrolytic capacitor
c．）（D）TANTALUM CAPAGITOR．
b．）（D）polyester film capacitor．
i．）（2）POLYPROPYLENE CIPACITOR．
g．）（LD mylar capacitor．
（3）ALL pesistors are in ohn the watt unless otherwise NOTED．
（4）resistor not specifically designated are carbon mim resistoas．
a．）WM NONFLAMMSLE RESISTOR．
b．）FUSEBLE RESISTOR．
e．）CEMENT RESIS：OR．
d．）Whet metal oxide riesisior
s）de voltage are measured from points indicated to the circuit ground with a oigital multimeter test．
（6）WAYEFORMS ARE TAKEN WITH SETHING CONTROLS TO A NORMAL CONDITIONS（COLOR BAR PATTERN）
（7）this circuit diagram is subject to change withour PRIOR NOTICE．

