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CONNECTIONS

Mains
This receiver is designed to operate on AC 180V-240V /50Hz mains supply.

Aerial
The 75 ohm coaxial cable from the VHF/UHF aerial can be directly connected to the Aerial Socket on the rear panel. The position and direction of aerial must be selected for best reception, when you use 300-ohm cable, connect it to a 300-ohm Aerial Transformer and then the transformer into the Aerial Socket.

STANDARD CONNECTION OF PERITELEVISION FOR TV AND VIDEO SYSTEM

1. Audio Out Right channel "Stereo"
2. Audio In Right channel: "Stereo"
3. Audio Out Left channel "Stereo"
4. Ground "Audio"
5. Ground of luminance signal "Blue"
6. Audio In Left channel "Stereo" or Monophono
7. Luminance signal input "Blue"
8. Video switching voltage
9. Ground of luminance signal "Green"
10. No Connection
11. Luminance signal input "Green"
12. No Connection
13. Ground of luminance signal "Red"
14. Ground
15. Luminance signal input "Red"
16. R.G.B. switching voltage
17. Ground "Video"
18. Ground of switching input
19. Video Out
20. Video In
21. Ground chassis

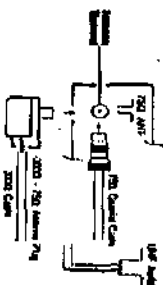
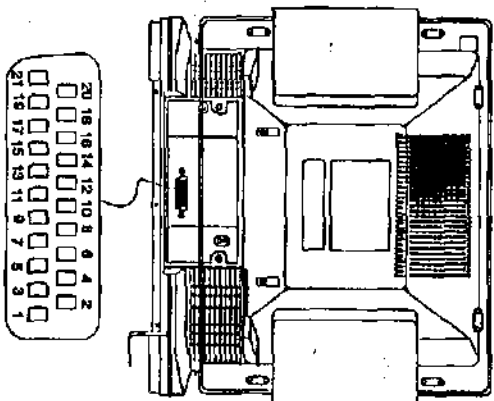


Fig.3



With a suitable Peritelevision plug, it can be connected to the following appliances: Video-tape recorder, Video camera, tape recorder and audio amplifier, etc.....

CABINET BACK REMOVAL (See Figure 5)

1. Disconnect the antenna leads from the antenna terminals.
2. Remove the screws securing the Cabinet Back to the Cabinet Front and detach the cabinet back.

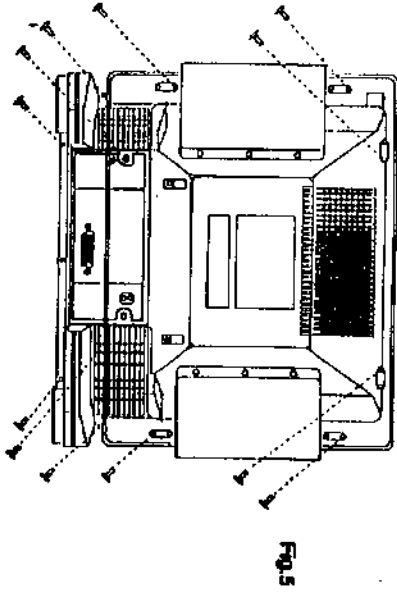


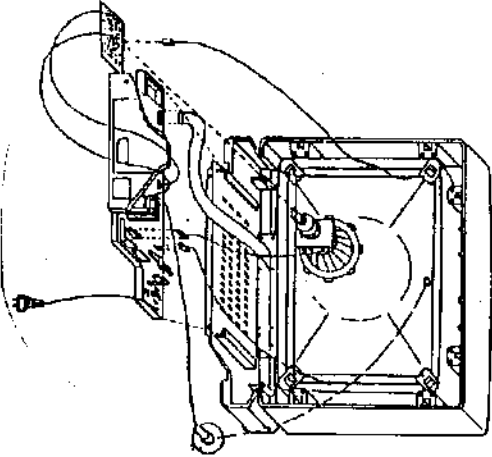
Fig. 5

CHASSIS REMOVAL

Following the steps under Cabinet Back Removal, proceed as follows:

1. Unplug the CRT grounding wire socket connected to the CRT Socket Board.
2. Detach the picture tube anode cap.
3. Detach the CRT Socket (CRT Socket Board).
4. Lift up the Teletext Board first.
5. Slide out the chassis from the chassis holder.

Fig. 6-7



2. Connect the signal output of SweepMarker Generator to the TP (Pin 7 of IC101) through 1000 PF capacitor.
3. Connect the vertical input terminal of Sync Oscilloscope in series with a 100K Ohm resistor to TP (Pin 11 of IC101).
4. Apply a +15V DC across C.
5. Apply a +5V DC dummy AGC bias to TP 111 (Pin 4 of IC101).
6. Apply a +4V DC to TP 105 (Pin 2 of IC101).
7. Adjust T103 to obtain maximum amplitude of response at 36.9 MHz as in Fig. 5.
8. Short TP110 (PIN 4 of IC 803) and TP120 (Q107E) to ground.
9. Adjust CT101 for maximum gain of 34.4 MHz as shown in Fig. 6.

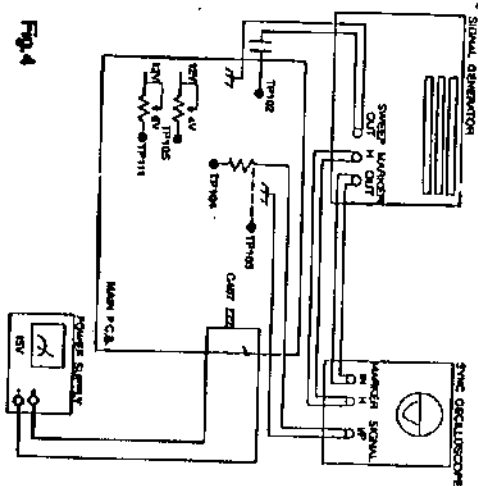
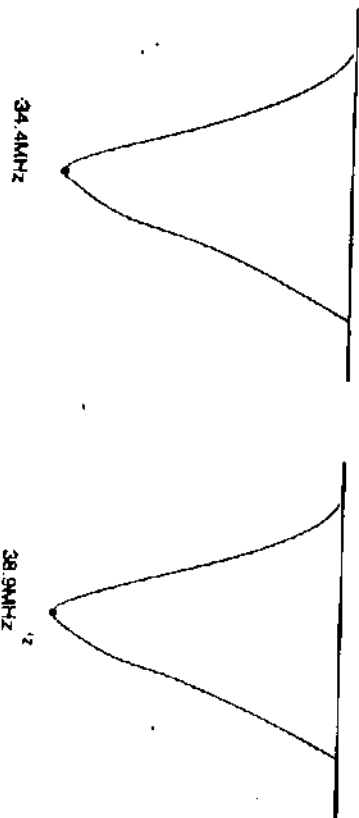


Fig. 4

Fig. 6



34.4MHz

36.9MHz

Following the steps under CHASSIS REMOVAL proceed as follows:

1. Place the cabinet with the front down on a rolled pad or some suitable cushion placed near the top edge of the front panel.
2. Remove 4 screws securing the picture tube to the cabinet, and detach the CRT with the degaussing coil, then grasp the face plate edge of the picture tube with both hands and take out the picture tube.
3. Detach the CRT grounding wire which is attached to the picture tube lugs with spring.

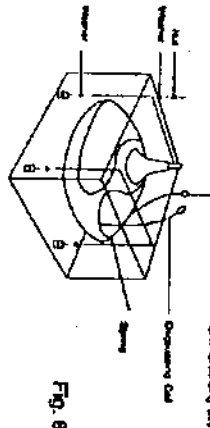


Fig. 6

GENERAL ADJUSTMENT INSTRUCTION

The receiver is transistorized and special care should be taken when servicing. Read the following matters that demand special attention before attempting adjustment.

1. Adjustment requires an exact procedure and should be undertaken only when necessary.
 2. An isolation transformer should be used during any dynamic service to avoid possible shock hazard.
 3. The test equipment specified or its equivalent is required to perform the alignment properly. Use of equipment which does not meet these requirements may result in improper alignment.
 4. Correct matching of the equipment is essential. Failure to use proper matching will result in responses which can not represent the true operation of the receiver.
 5. The AC power line voltage should be kept 215 to 225 volts 50 Hz during alignment.
 6. Do not attempt to connect or disconnect any wire while the receiver is in operation. Make sure the power cord is disconnected before replacing parts in the receiver.
 7. Unless otherwise noted, do not perform any adjustment until the receiver has been turned on for at least 10 minutes.
- Note: For safety sake, the following adjustment should be conducted with the low voltage DC supply to avoid shock hazard.

A. TEST EQUIPMENT

1. AWTM signal generator (4.5MHz - 6.5MHz).
2. Sweep/Marker signal operator (30MHz - 60MHz).
3. Sync. oscilloscope.
4. Oscilloscope (volt sensitivity over 10mV and input impedance over 1 Mohm, before 10PF).
5. Probe (Low capacitance).
6. High impedance electronic voltmeter on VTVM (Input impedance having 100 KohnV at least).
7. DC power supply (Source such as a battery or a well regulated and isolated DC bias supply).
8. Demagnetizing coil.
9. Pattern Generator w/Teletext signal.

B. PICTURE I.F. ALIGNMENT

1. Set Sweep Generator marker to 31.9MHz, 33.4MHz, 34.4MHz, 37.5MHz, 38.5MHz, 40.4MHz.

C. AFC ALIGNMENT

1. Reconnect the vertical input of the Oscilloscope to TP 108 (C104(B)) and between 1K Ohm resistor to ground.
2. Open TP120 (Q107B) and ground.
3. Set the Oscilloscope maximum.
4. Adjust T104 for waveform as shown in Fig. 7.

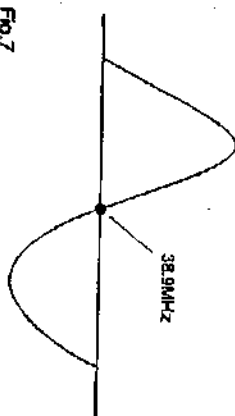
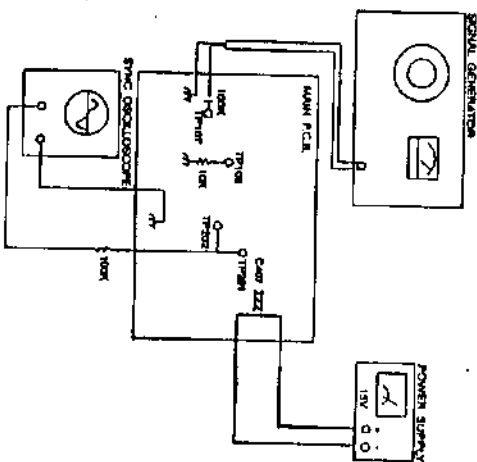


Fig. 7

D. SIF ALIGNMENT

1. Set FM signal generator to 5.5 MHz with AF 400 Hz, 25 KHz FM modulation output (w/ 90-120 dB). Apply this signal to TP 107 (Pin 17 of IC102) through a 1000 Ppf capacitor.
2. Connect TP 113 (Pin 3 of IC102) through 10K Ohm resistor to ground.
3. Connect the Oscilloscope input in series with a 100K Ohm resistor to TP202 (Pin 9 of IC102).
4. Apply a +1V DC to TP 106 (Pin 2 of IC101).
5. Apply a +18V DC across C407.
6. Adjust T108 to obtain a maximum amplitude signal output with minimum distortion.
7. Set Signal Generator to frequency 6.5 MHz. Check the distortion.

Fig. 8



GENERAL ADJUSTMENT

A. AUTOMATIC DEGAUSSING

An automatic degaussing coil is attached around the picture tube, degaussing the tube properly is about one second after the set is switched on. If the receiver is moved or placed in a different direction, the power must be switched off at least 15 minutes in order that the automatic degaussing circuit operates properly. External degaussing is necessary if the automatic degaussing proves ineffective after the set is moved. External degaussing is done by moving a degaussing coil clockwise in front of the face plate and then moving it away step by step until it is about two meters from the screen, then switch off the degaussing coil. If residual colour spots are still found on the screen, adjust the color purity and convergence.

B. B+ ADJUSTMENT

CAUTION: To avoid X-ray hazards, B+ voltage must be set correctly at 110V position.

1. Make sure the AC Powers supply is 230V, 50Hz.
2. Switch on the TV Receiver, tune in an active channel and adjust brightness/contrast for maximum.
3. On Main PCB check the voltage of C322 with a reliable DC voltmeter.
4. Adjust VR601 for B+ 110V voltage reading.

C. HIGH VOLTAGE CHECK

CAUTION: There is no high voltage adjustment in this classed, B+ 150V voltage directly relates to the high voltage, it must be properly adjusted to ensure the correct high voltage. The high voltage must not exceed 32KV under any conditions.

1. Connect an accurate high voltage meter to the second anode cap of picture tube.
2. Turn on the receiver, set brightness and contrast controls to minimum. (Zerobeam current)
3. Make sure the high voltage does not exceed 32V.
4. No matter whether the luminance, contrast and chrominance controls are set to maximum or minimum, the high voltage must be kept under 32KV.

D. HEIGHT ADJUSTMENT

1. Receive the Philips Pattern signal.
2. Adjust the height control (VR206) to slightly overscan the screen.

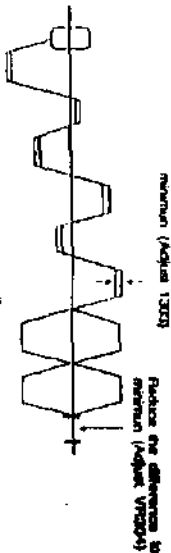
E. SOUND TRAP ADJUSTMENT

1. Receive a Pattern and set sound modulation to 5.5MHz (B3 signal).
2. Connect oscilloscope to TP102 (PIN 22 of IC101).
3. Adjust L104 to minimum Y signal line.
4. Set sound modulation to 6.5MHz (DK Signal).
5. Adjust L114 to minimum Y signal line.

F. PAL COLOUR DEMODULATOR ADJUSTMENT

1. Receive Philips Pattern.
2. Set COLOUR control to maximum position.
3. Connect Oscilloscope to TP 305 (B-out).
4. Adjust VR304 to obtain the waveform as in Fig.10.
5. Adjust T303 to obtain the waveform as in Fig.10.
6. Connect Oscilloscope to TP 104 (Pin 22 of C101).

FIG. 10



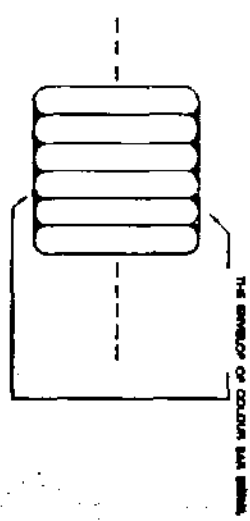
H. COLOUR DECODER IDENTIFIER ADJUSTMENT

1. Apply a SECAM colour bar signal (60 dB level) to the input.
2. Connect a high impedance DC voltmeter to TP 304 (PIN 23 of IC301).
3. Adjust T301 of the Ident filter for maximum voltage at Pin 23 (close to 10V).

G. COLOUR DECODER BELL FILTER ADJUSTMENT

1. Apply a SECAM colour bar signal (60 dB level) to the antenna input.
2. Connect an Oscilloscope to TP 303 (Pin 18 of IC301).
3. Adjust T302 to make the envelope of colour bar signal into flat response.

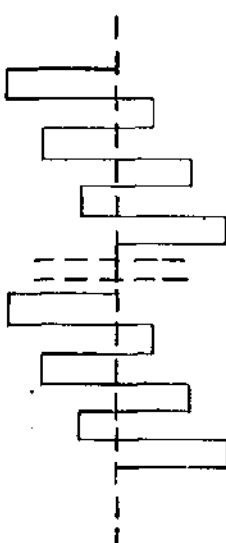
Fig.11



I. B-Y DEMODULATION ADJUSTMENT

1. Apply a SECAM colour bar signal to the input.
2. Connect an Oscilloscope to TP 301 (Pin 1 of IC201).
3. Adjust T305 to obtain a B-Y signal with correct chrominance output.

Fig.12 B-Y SIGNAL



J. R-Y DEMODULATION ADJUSTMENT

1. Apply a SECAM colour bar signal.
2. Connect an Oscilloscope to TP 302 (Pin 3 of IC201).
3. Adjust T304 to obtain an R-Y signal with correct chrominance output.

K. DELAY AGC ADJUSTMENT

Tune in the color bar pattern signal.
Set input signal level at 70dB.
Connect a high impedance DC voltmeter to tuner AGC terminal.
Adjust AGC control (VR101) for 7.2V ±0.2V reading.
Increase input signal level to 100dB.
Check for normal picture, sound and sync.

L. FOCUSING ADJUSTMENT

1. Receive the Philips Pattern signal.
2. Set the contrast control to the normal position.
3. Adjust focus control for a well-defined, sharpst display in the middle between centre and side edge of the screen.

M. WHITE BALANCE ADJUSTMENT

- Set TV brightness control to minimum and switch to AV mode. Set the R.G.B. cut off controls (VR503, VR504, VR505) and the G.B. drive controls (VR501, VR502) at center positions. Rotate the screen control fully counter clockwise. Connect TP16 to ground with a jumper wire. Rotate the screen control gradually clockwise until the first horizontal line appears on the screen. If the first horizontal line is in blue, adjust VR503, VR504 to increase the red and green component level to get a white horizontal line. Remove the jumper wire and switch back to TV, set color to minimum. Adjust VR501, VR502 to maintain a good white balance at the brightest part of the screen. Use white balance checker to fine adjust (VR503, VR504, VR505) at 25% brightness level and (VR501, VR502) at 75% brightness level.

N. SUB-BRIGHTNESS ADJUSTMENT

- Set TV controls to normal.
- Switch TV to AV.
- Adjust sub-brightness control (VR203) until light just appears on the screen.

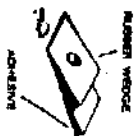
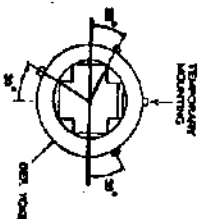
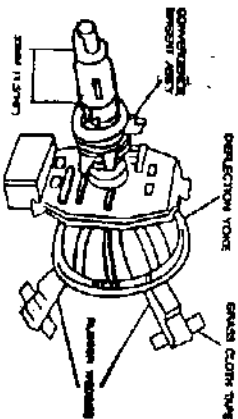
COLOR PURITY AND CONVERGENCE ADJUSTMENT

1. Color Purity Adjustment

- NOTE: Before attempting any purity adjustments, the receiver should be operated for at least fifteen minutes.
- Demagnetize the picture tube and cabinet using a degaussing coil.
 - Turn the contrast and brightness controls to maximum.
 - Adjust Red and Blue controls (VR503) and (VR505); to provide only a green raster. Advance the Green Bias Control (VR504) if necessary.
 - Loosen the clamp screw holding the yoke backward to provide vertical green belt (Zone) in the picture screen.
 - Remove the Rubber Wedges
 - Rotate and spread the tabs of the purity magnet (See Fig.21) around the neck of the picture tube until the green belt is in the center of the screen. At the same time, center the raster vertically.
 - Move the yoke slowly forward or backward until a uniform green screen is obtained. Tighten the clamp screw of the yoke temporarily.
 - Check the purity of the red and blue raster by adjusting the bias controls.
 - Obtain a white raster, referring to white balance adjustment.
 - Proceed with convergence adjustment.

2. Convergence Magnet Assembly Positioning

Convergence Magnet Assembly and Rubber Wedges need mechanical positioning following Fig.21.



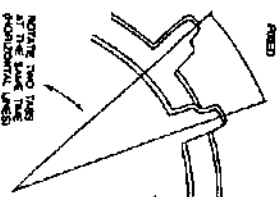
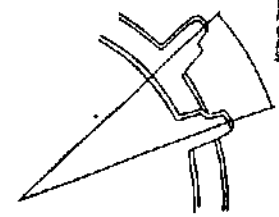
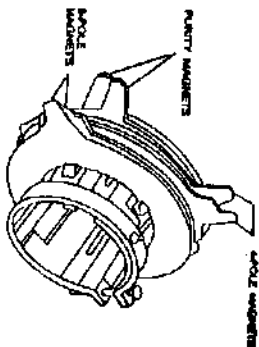
RUBBER WEDGES LOCATION

3. Center Convergence Adjustment

- NOTE: Before attempting any convergence adjustments, the receiver should be operated for at least fifteen minutes.
- Receive crosshatch pattern with a color bar signal generator.
 - Adjust the brightness and contrast controls for well defined pattern.
 - Adjust two tabs of the 4 Pole Magnets to change the angle between them (See Fig.22) and superimpose red and blue vertical lines in the center area of the picture screen. (See Fig.23).
 - Turn both tabs at the same time keeping the constant angle to superimpose red and blue horizontal lines at the center of screen. (See Fig.23).
 - Adjust two tabs of 6 Pole Magnets to superimpose red/blue line with green one. Adjusting the angle affects the vertical lines and rotating both magnets affects the horizontal lines. Repeat adjustments 3, 4, 5, keeping in mind red, green and blue movement, because 4 Pole Magnets and 6 Pole Magnets interact and make dot movement complex.

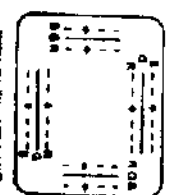
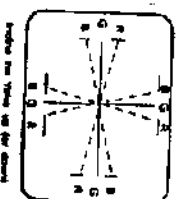
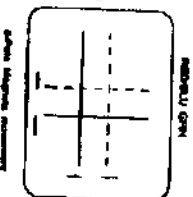
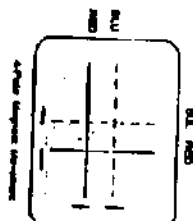
4. Circumference Convergence Adjustment

- NOTE: This adjustment requires Rubber wedges and Glass Cloth Tapes.
- Loosen the clamping screws of deflection yoke to allow the yoke to tilt.
 - Place a wedge as shown in Figure 14 temporarily. (Do not remove cover paper on adhesive part of the wedge).
 - Turn front of the deflection yoke up or down to obtain better convergence in circumference. (See Fig.23) Push the mounted wedge into the space between picture tube and the yoke to hold the yoke temporarily.
 - Place other wedge into bottom space and remove the cover part to stick.
 - Turn front of the yoke right or left to obtain better convergence in circumference. (See Fig.23).
 - Hold the yoke position and put another wedge in either upper space, remove cover paper and stick the wedge on picture tube to hold the yoke.
 - Detach the temporarily mounted wedge and put it in another upper space. Stick it on picture tube to fix the yoke.
 - After placing three wedges, recheck over all convergence. Tighten the screw firmly to hold the yoke tightly in place. Stick 3 glass cloth tapes on wedges as shown in Figure 21.



CONVERGENCE MAGNET ASSEMBLY

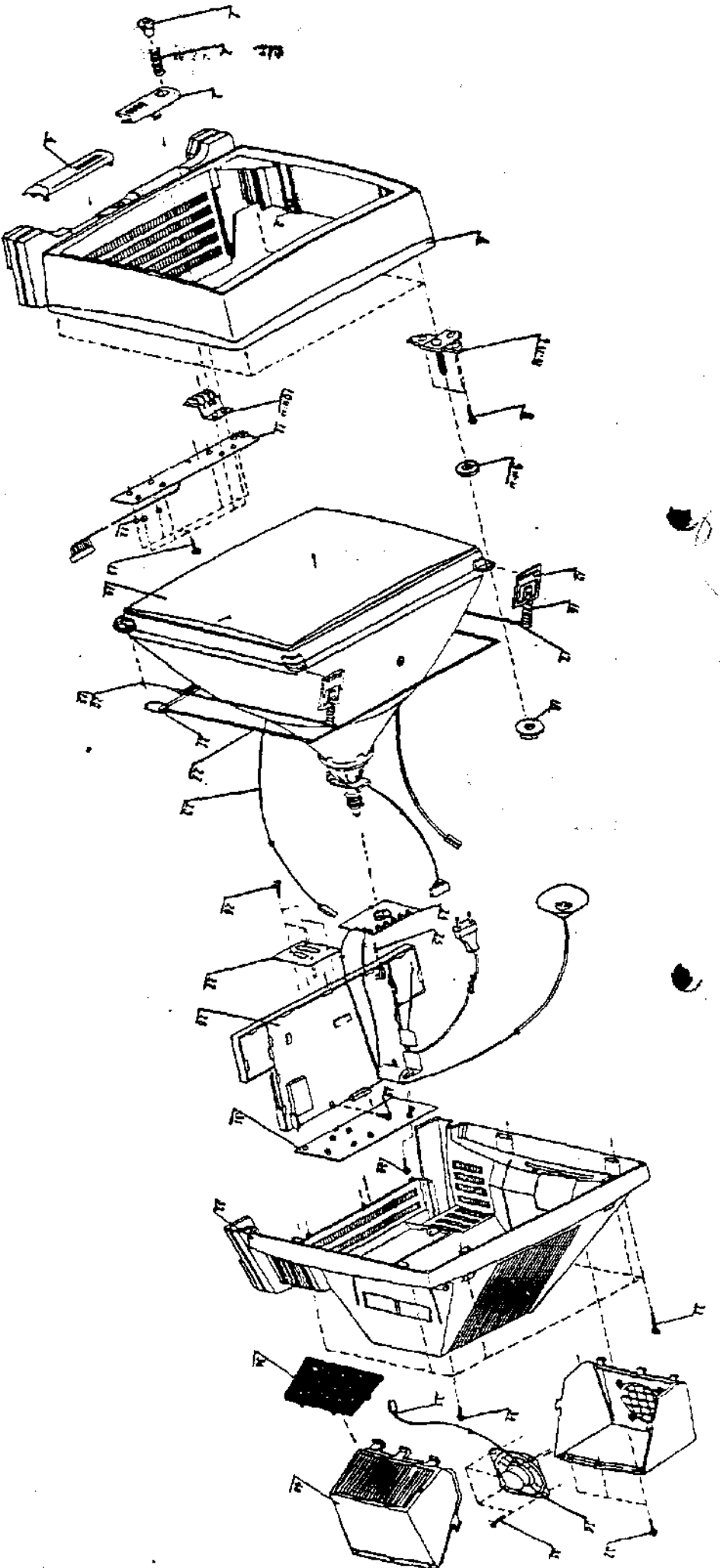
ADJUSTMENT OF MAGNETS



Center Convergence by Convergence Magnet

Circumference Convergence by CRT Yoke

FIG. 23 Dot Movement Pattern



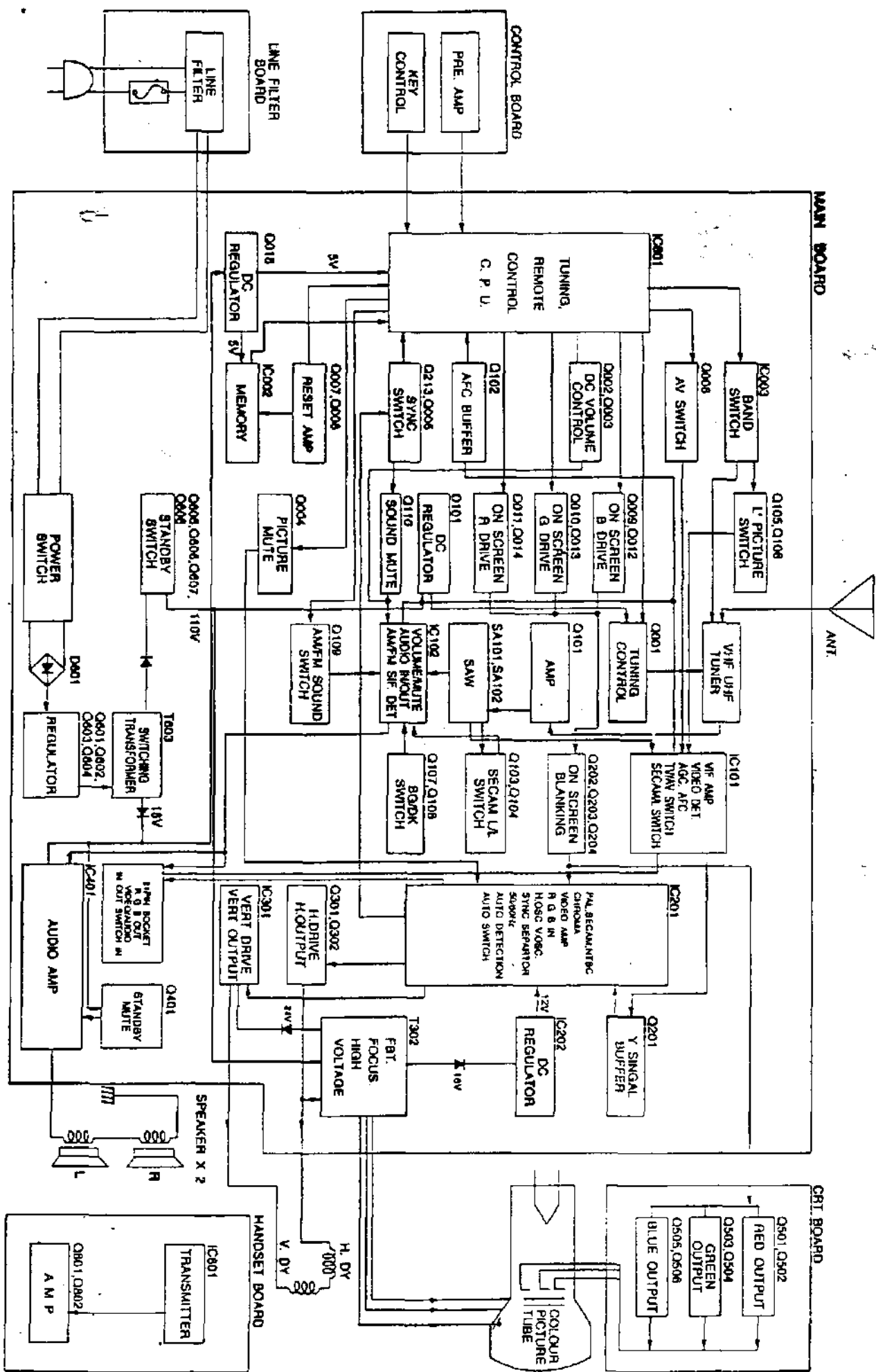
1. Power Knob
2. Power Knob Spring
3. Front Lens
4. Control Door
5. Cabinet MTG
6. Front Cabinet
7. CRT MTG Bracket
8. Screw
9. Rubber Washer
10. Control Key Knob

11. Control Board
12. Fibre Washer
13. Screw
14. Picture Tube
15. Degaussing Coil Holder
16. Grounding Wire Spring
17. Eyelt
18. Nut
19. Knitting Copper Wire
20. Grounding Wire

21. Cable Tie
22. Degaussing Coil
23. Grounding Line
24. CRT Board
25. Power Rod
26. Screw
27. Teletext Board
28. Main Board
29. Screw
30. Screw

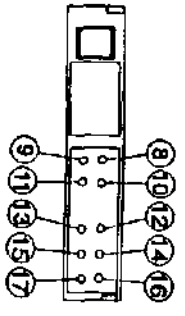
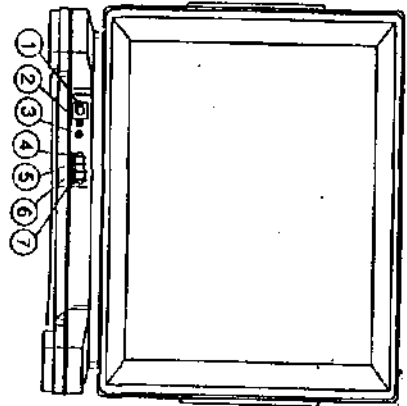
31. Jack Plate Bracket
32. Back Cabinet
33. Screw
34. Screw
35. Speaker Wire
36. Speaker Grille
37. Screw
38. Speaker
39. Screw
40. Speaker Box

BLOCK DIAGRAM (FOR PAL / SECAM, BG / DK, L / L')

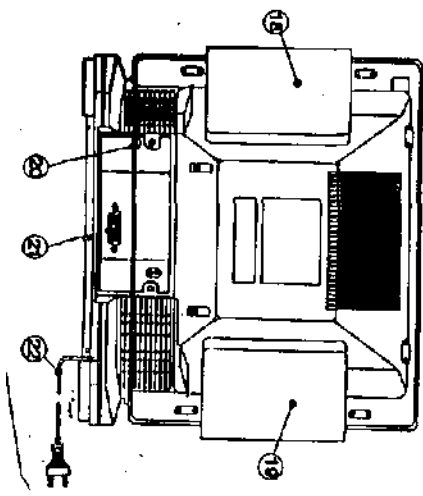


OPERATION CONTROLS

1. Main Switch
2. Remote Sensor
3. Power Indicator
4. Program Down Button
5. Program Up Button
6. Volume Up Button
7. Volume Down Button
8. Picture Function Button (+)
9. Picture Function Button (-)
10. Picture Selector
(Bright/Contrast/Colour/Volume)
11. Personal Presets (P.P.)
12. Store Button
13. Clear Button
14. Manual Tune Button (+)
15. Manual Tune Button (-)
16. Auto-Search button
17. System Button
18. Left Speaker
19. Right Speaker
20. Antenna Input Socket (75 Ohm)
21. 21 Pin Socket
22. AC Power Cord



OPEN THE PANEL DOOR

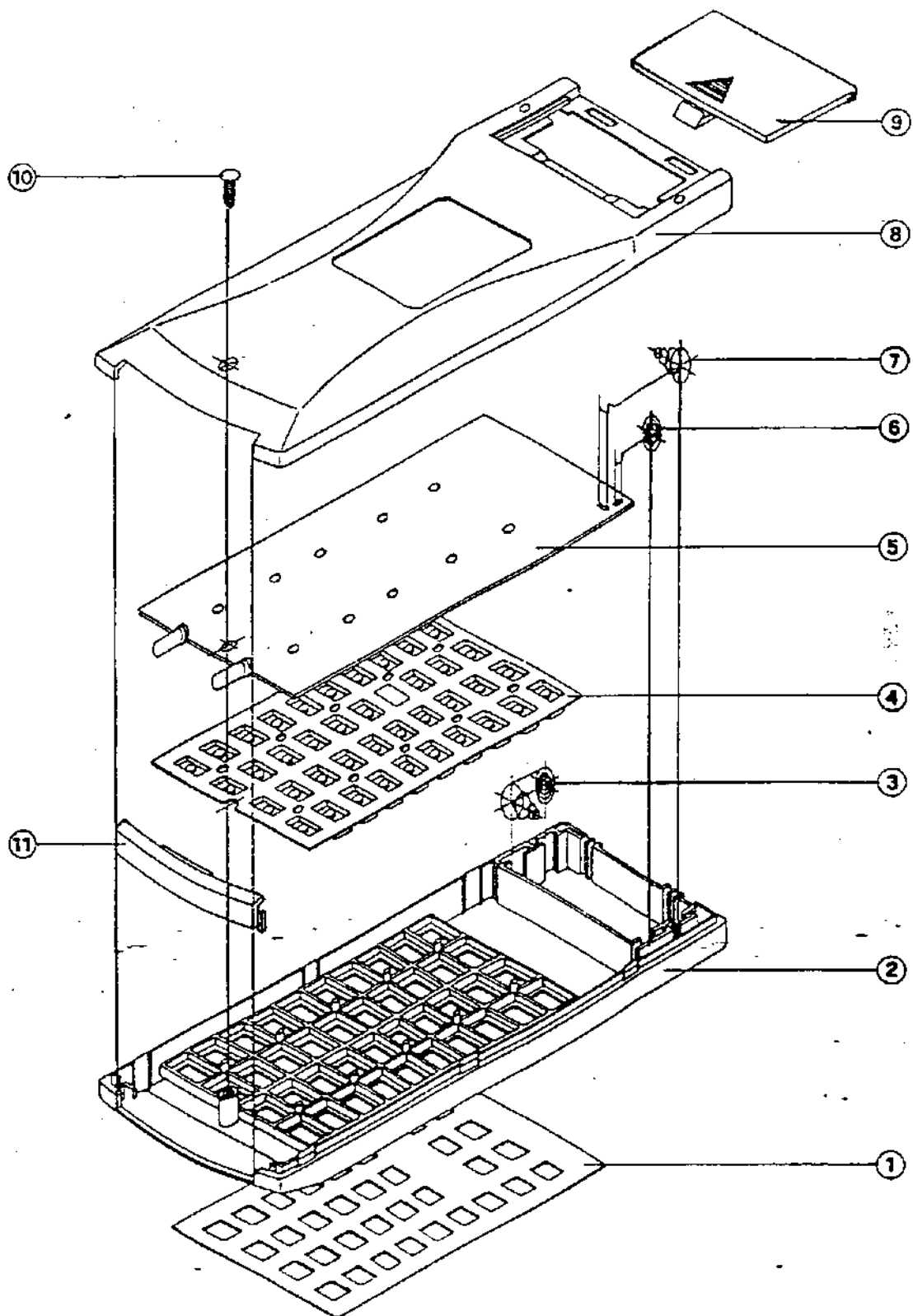


BOM TABLE
- FOR : ALL 21" MODEL -

50TD-51010A-00 TOSHIBA CRT A51JAR90X(4W)	50OR-51010A-01 & ORION CRT A51JSW90X09	50HP-51010A-04 & PHILIPS IMA PHI CRT 54SX505Y22-DC01	50MA-51010A-03 PANASONIC CRT A51JUL91X	50HT-51010A-02 HITACHI CRT A51JSC51X13
1) PCN501 CRT P.C.BOARD 58AA-B8218C-03		1 PC	PCN501 ←---	1) PCN501 CRT P.C.BOARD 58AA-B8218L-03
2) CRT SOCKET φ 22.5mm 61SH-06216B-22 (SHK) [CTV330B-1001] OR 61HD-06216D-22 (HOSIDEN) [HRS1171-01-07D] OR 61HR-06216R-22 (METALLO) [03306600]		1 PC	CRT SOCKET ←---	2) CRT SOCKET φ 29mm 61HD-06355B-29 (HOSIDEN) [HPS0360-01-03D] OR 61HC-D6355B-29 (IN CHANG) [1SH-16]
3) C501 C.CAP 7PF 50V +/-5X 43AA-A070PC-00		1 PC	C501 ←---	3) C501 C.CAP 100PF 50V +/-5X 43AA-A100PC-00
4) C502 C.CAP 33PF 50V +/-5X 43AA-A330PC-00		1 PC	C502 ←---	4) C502 C.CAP 7PF 50V +/-5X 43AA-A070PC-00
5) C503 C.CAP 22PF 50V +/-5X 43AA-A220PC-00		1 PC	←---	5) C503 C.CAP 33PF 50V +/-5X 43AA-A330PC-00

SPECIFICATION (FOR EUROPE)

SYSTEM	:	PAL/SECAM/RGBK SECAM (L)
DESTINATION	:	EUROPE
CHANNEL COVERAGE	:	2-4, S-S1-S2 (B), 1-6 (D), S-6 (L), 5-12, S3-20 (B), 6-12 (D), 1-6, B-0 (L) 21-69 (G.L), 13-57 (D)
FREQUENCY RANGE	:	VHF-1 : 47 - 118 MHz VHF-3 : 118 - 300 MHz UHF : 470-862 MHz
SCANNING	:	625 LINES 15625 Hz 50 Hz
IF FREQUENCY	:	VIDEO : 38.9, 34.4 (L), 33.4 MHz (B), 32.4 MHz (D), 40.46 MHz (L) SOUND : 34.47 MHz CHROMA : 34.47 MHz
VISION/SOUND SEPARATION	:	5.5, 6.5 MHz
PICTURE TUBE SIZE	:	21"
SPEAKER	:	102 x 102 mm
OUTPUT POWER	:	3 W
AERIAL INPUT	:	75 Ohm DIN JACK
VIDEO/AUDIO INPUT/OUTPUT	:	21 PINS SCART SOCKET
R.G.B. INPUT	:	
POWER CONSUMPTION	:	Watts
POWER SOURCE	:	180 - 240 V
DIMENSIONS (W x H x D)	:	505(W) x 467 (H) x 470(D) mm
WEIGHT	:	22 KG



ITEM	PART NO.	DESCRIPTION
1	1201-BA0010-01	INLAY (8) - HANDSET/ PRT NO: 8218-05
2	1001-EA0013-00	TOP CABINET - BLACK MOULDED
3	1501-AA0006-00	BATTERY CONTACT '+' & '-'
4	1101-CA0001-00	RUBBER CONTACT - W/KEY KNOB
5	5343-B8218F-01	P.C.B. HANDSET 118.5X50X1.6MM
6	1501-AA0005-00	BATTERY CONTACT '+'
7	1501-AA0006-00	BATTERY CONTACT '-'
8	1001-EA0014-00	BOTTOM CABINET - BLACK MOULDED
9	1001-CA0015-00	BATTERY DOOR - BLACK MOULDED
10	26PP-T2601B-08	62.6 X 8 P/PA FOR TOP/BOTTOM CAB. (BLACK)
11	1001-BA0016-00	INFARAED LENS - DARK RED

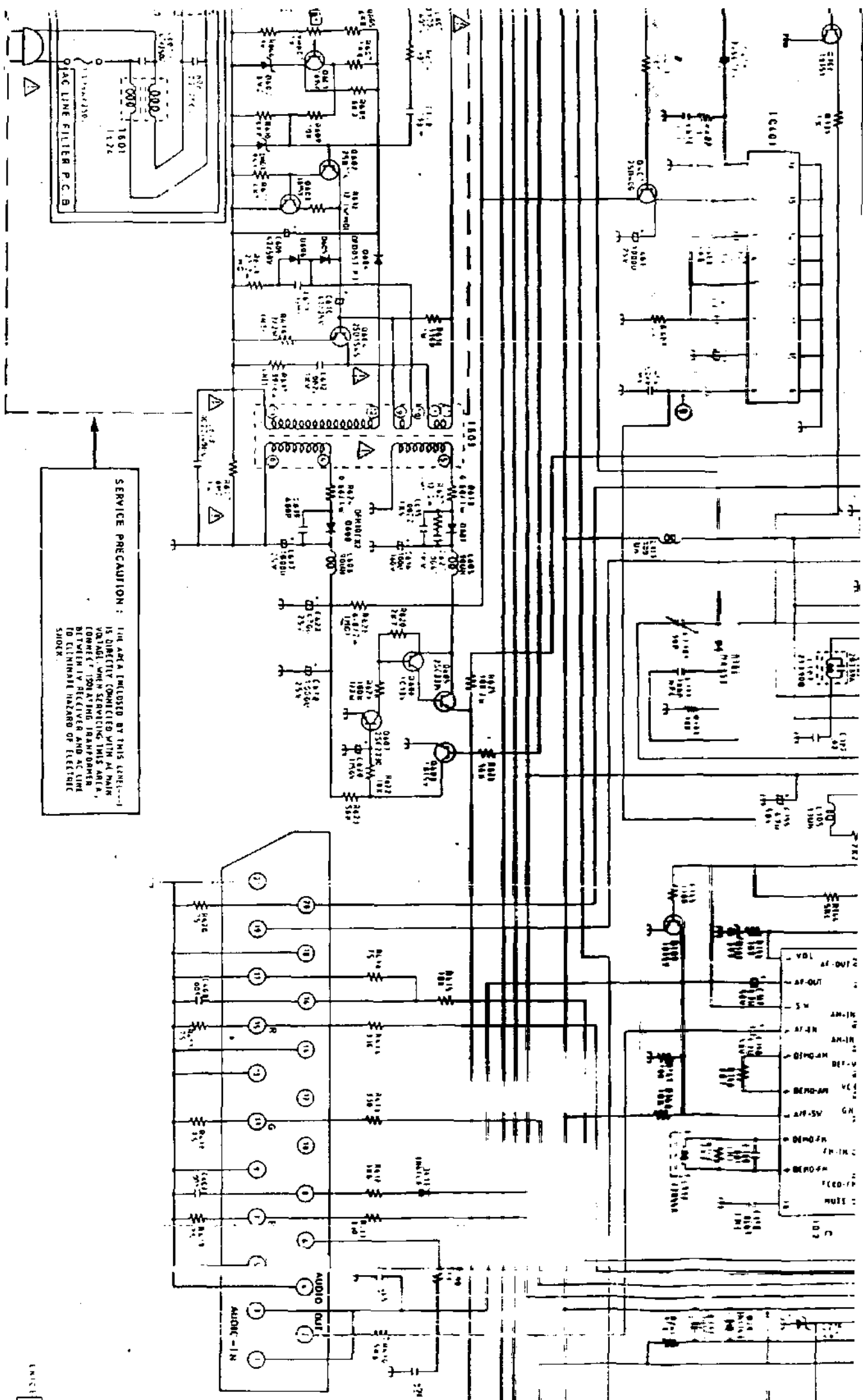
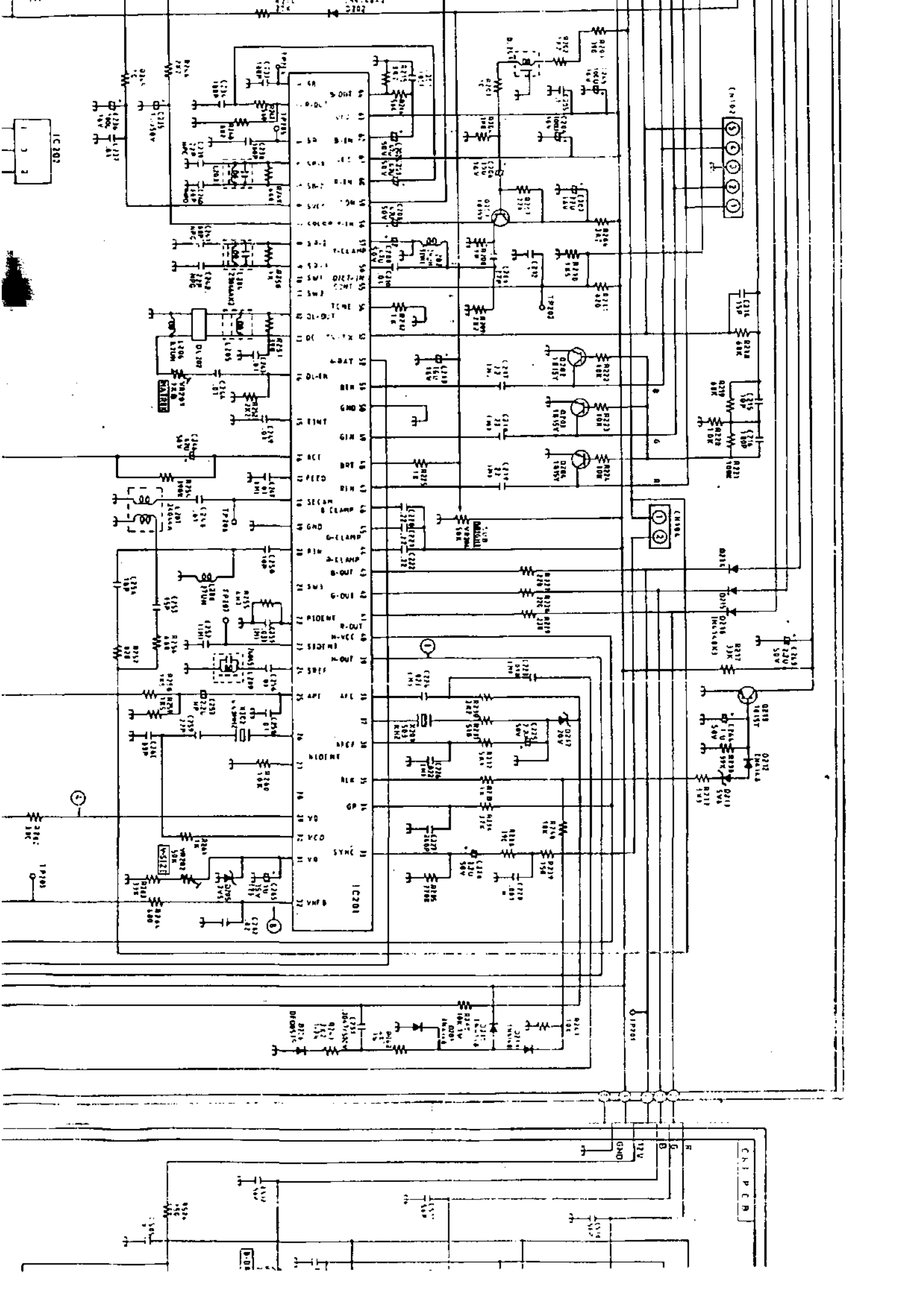
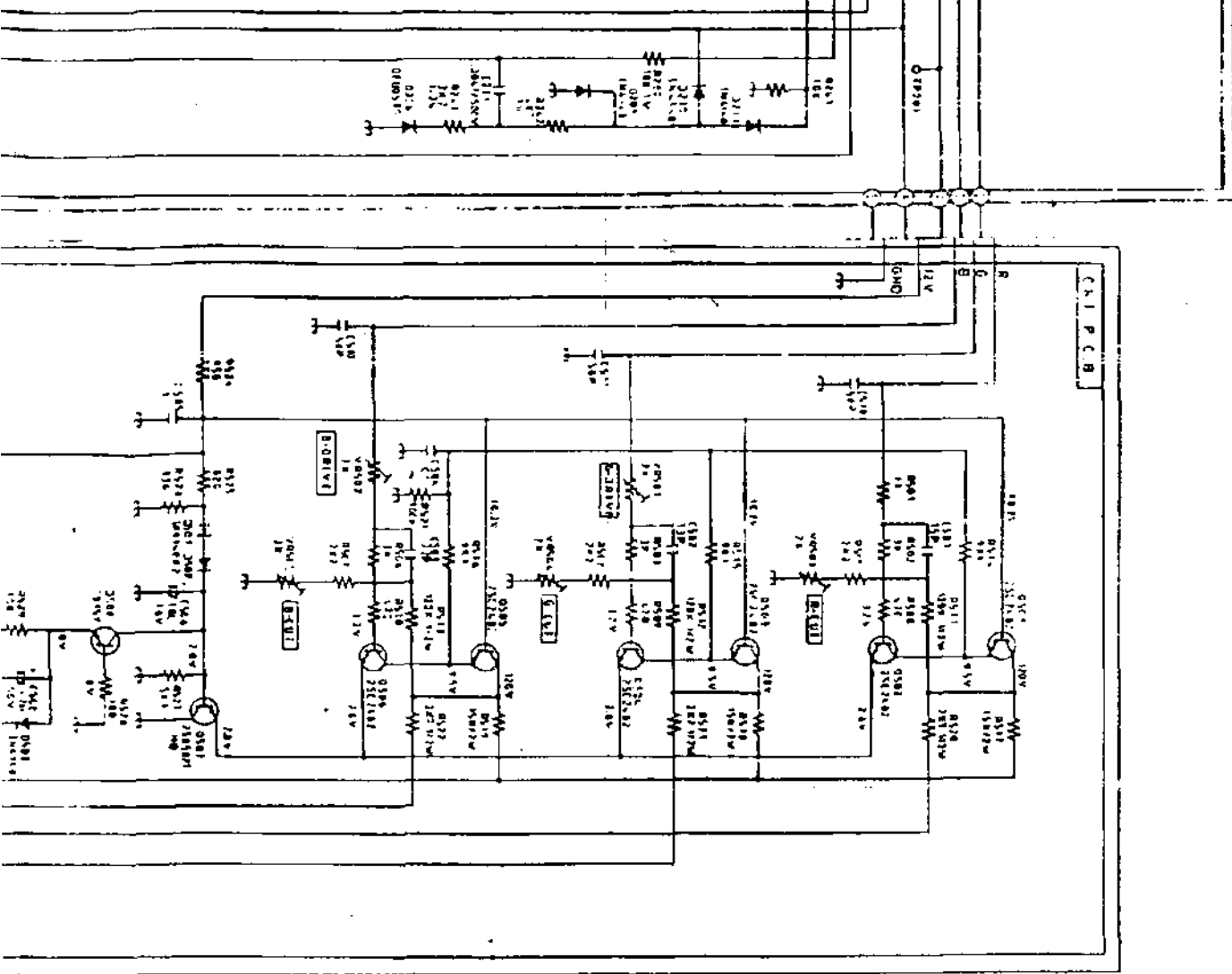
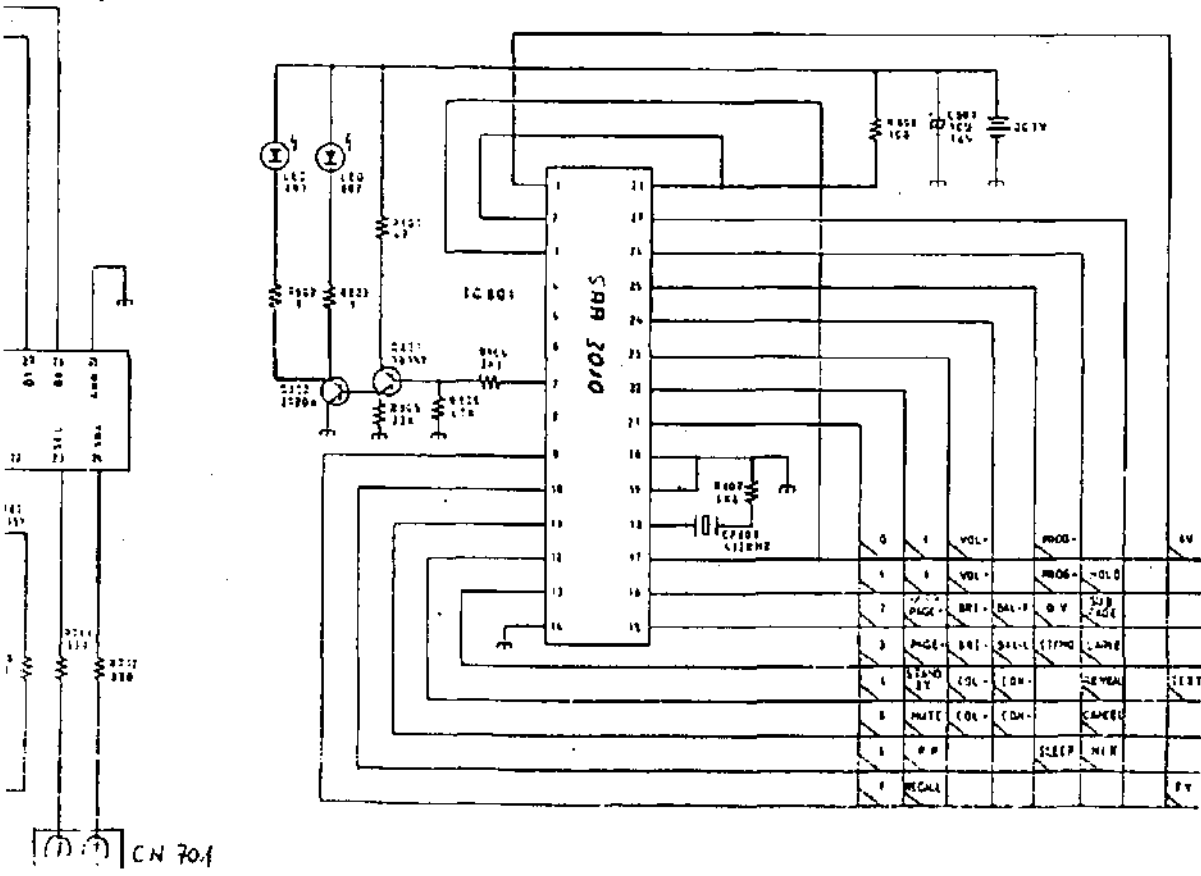


FIGURE 2

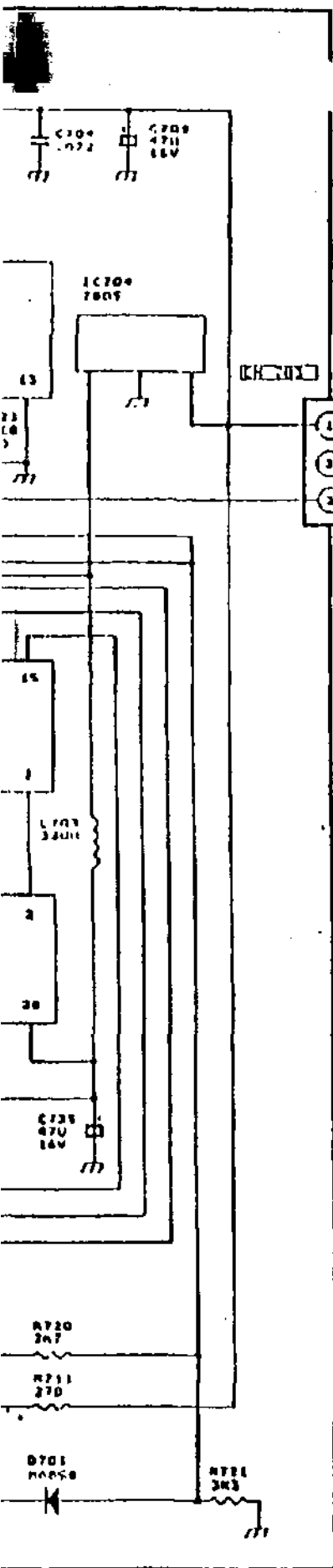




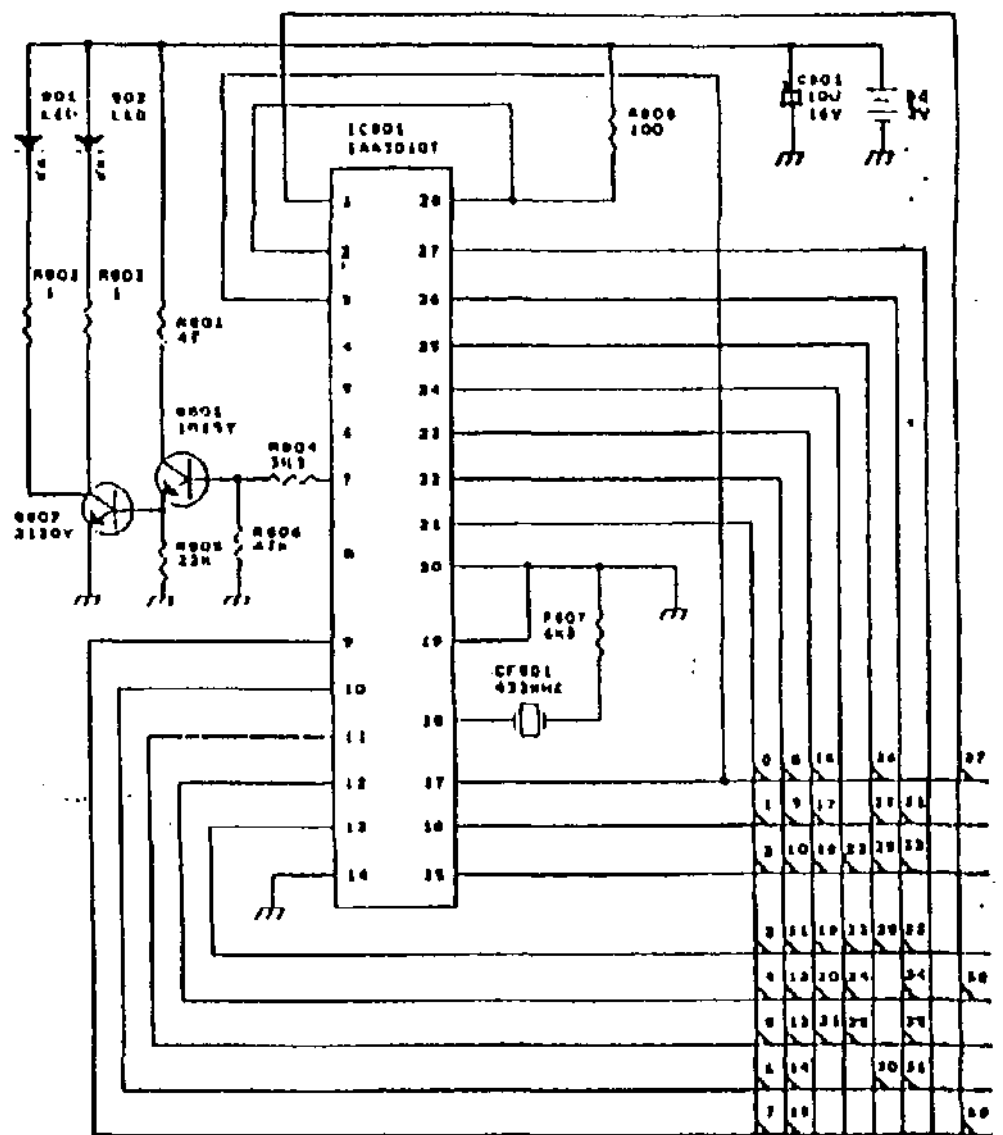
HAND SET PCB



① ② CN 701



HANDSET P.C. BOARD



0	10	PAGE-	36	PROG+
1	11	PAGE-	37	PROG-
2	12	STANDBY	38	S.V
3	13	W/F	39	SLEEP
4	14	P.F	40	SLEEP
5	15	RECALL	41	HOLD
6	16	V.L	42	SLIP PAGE
7	17	VOL-	43	LARGE
8	18	OP-	44	RECALL
9	19	OP-	45	CANCEL
	20	CUL-	46	REV
	21	CUL-	47	AV
	22	CALL	48	TEXT
	23	CALL	49	TV
	24	CUN-		
	25	CUN-		

