

KV-X2932U

RM-689

SONY. SERVICE MANUAL

UK Model
Chassis No. SCC-D46C-A

SUPPLEMENT-1

SUBJECT : A1 Circuit board has been changed.

File this supplement with the service manual.

1. INTORDUCITION

If mounting drawing No. is 1-637-023-11 Supplement-1
must be used.

KV-X2931D

RM-689

SERVICE MANUAL

AEP Model
Chassis No. SCC-D51L-A



AE-1B CHASSIS

Note: The service manual for RM-689 has been issued separately.

MODELS OF THE SAME SERIES

KV-X2931S	KV-X2930B
KV-X2531	KV-X2530B
KV-X2131	KV-X2130B

SPECIFICATIONS

Television system	B/G/H	Sound output	15 W +15 W (music power)
Color system	PAL, SECAM, NTSC3.58, NTSC4.43	Power consumption	109 Wh
Channel coverage	VHF : E2-E12 UHF : E21-E69 CABLE : S1-S20, S21-S41	Dimensions	Approx. 656x554x512 mm (w/h/d)
Picture tube	Trinitron tube Approx. 72.4 cm (29 inches) (Approx. 68 cm picture measured diagonally 110°-degree deflection)	Weight	Approx. 60kg
Inputs	☐ 1 21-pin connector : CENELEC standard including RGB input. ☐ 2 21-pin connector : including S video input ☐ 3 Video, Audio : phno jack.	Supplied accessories	RM-689 Remote Commander (1) IEC designation R6 batteries (2)
Outputs	21-pin connector : CENELEC standard Headphones jack : stereo minijack External speaker terminals : 2-pin DIN Audio output jacks : phono jack (output dependent upon TV settings)		

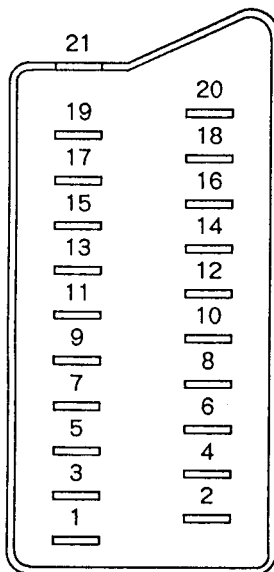
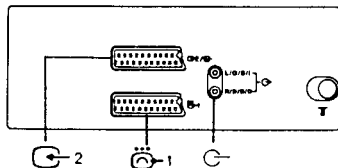
Design and specifications are subject to change without notice.



TRINITRON® COLOR TV

SONY®

21 pin connector (G-1, G-2)



Pin No	1	2	Signal	Signal level
1	○	○	Audio output B (right)	Standard level: 0.5Vrms Output impedance: Less than 1kohm*
2	○	○	Audio input B (right)	Standard level: 0.5Vrms Input impedance: More than 10kohms*
3	○	○	Audio output A (left)	Standard level: 0.5Vrms Output impedance: Less than 1kohm*
4	○	○	Ground (audio)	
5	○	○	Ground (blue)	
6	○	○	Audio input A (left)	Standard level: 0.5Vrms Input impedance: More than 10kohms*
7	○	●	Blue input	0.7V±3dB, 75ohms, positive
8	○	○	Function select (AV control)	High state (9.5–12 V): Part mode Low state (0–2 V): TV mode Input impedance: More than 10kohms Input capacitance: Less than 2 nF
9	○	○	Ground (green)	
10	○	○	Open	
11	○	●	Green	Green signal: 0.7V±3dB, 75ohms, positive
12	○	○	Open	
13	○	○	Ground (red)	
14	○	○	Ground (blanking)	
15	○	–	Red input	0.7V±3dB, 75ohms, positive
	–	○	(S signal) croma input	0.3V±3dB, 75ohms, positive
16	○	●	Blanking input (Ys signal)	High state (1–3 V) Low state (0–0.4 V) Input impedance: 75ohms
17	○	○	Ground (video output)	
18	○	○	Ground (video input)	
19	○	○	Video output	1V±3dB, 75ohms, positive Sync: 0.3V (–3, +10dB)
20	○	–	Video input	1 V±3dB, 75ohms, positive Sync: 0.3V (–3, +10dB)
	–	○	Video input/Y (S signal)	1 V±3dB, 75ohms, positive Sync: 0.3V (–3, +10dB)
21	○	○	Common ground (plug, shield)	

○ connected ● unconnected (open)

* at 20 Hz–20 kHz

WARNING !!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

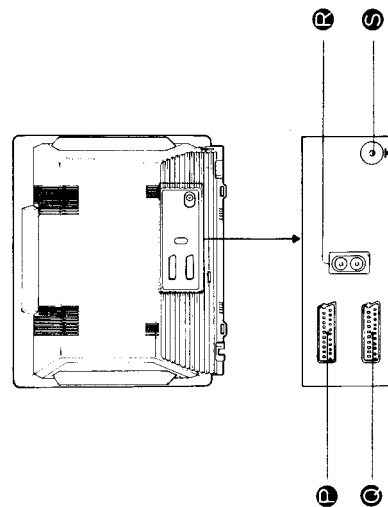
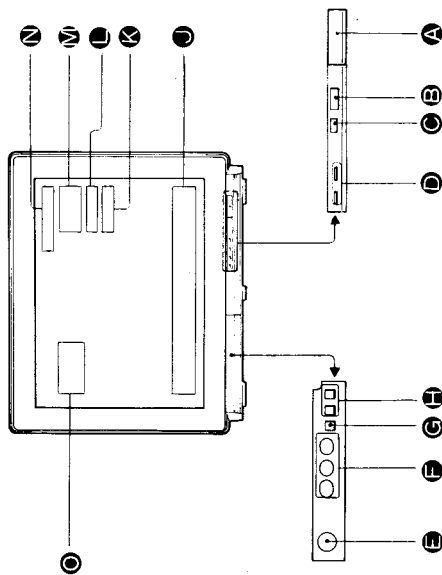
COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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SECTION 1 GENERAL

1-1. FUNCTION OF CONTROLS



ON THE SET

A Power Switch
Use it to switch the set on and off. When you switch the set on, the programme number of the station tuned in will be indicated in the on-screen display for some seconds. In case of short breaks of operation, you can switch the set on and off using the Remote Commander (See «CONTROLS ON THE REMOTE COMMANDER»).

B Remote control detector
(See «CONTROLS ON THE REMOTE COMMANDER»).

C Standby/Response indicator
This indicator lights up when the TV set is in standby mode and it flashes each time the set receives signals from the Remote Commander.

D Stereo A/B indicators
During bilingual programmes one of the two indicators lights up, depending upon the selected channel **A** or **B**. When stereo programmes are broadcast both indicators light up. (See «CONTROLS ON THE REMOTE COMMANDER»).

Jacks and control panel (front of set)

The jacks and the control panel are situated behind a cover. Please press the arrow marking on the cover to open it.

E Headphones jack (stereo minijack)
Connect only stereo headphones.

F Input jacks
Video input jack (phono jack) 3 (yellow)
Audio input jacks (phono jacks) (red and white).

G Mode select button
Use this button to select either the channel select mode, volume adjustment or the input mode.

H Adjustment buttons +/-
Select at first the item to be adjusted using the Mode select button **C** (: channel select mode), (input mode), then adjust the item by pressing the + or - button.
You can also use these buttons to reset the picture and sound adjustments to the factory-set levels. For this purpose press both buttons simultaneously.

On-screen display

When you repeatedly press button on the Remote Commander, the following information will be indicated on the screen in turn:

Picture and sound adjustment items:

contrast, colour, brightness, bass, treble or balance and their respective levels, as well as mute, reset, space sound, NICAM indications, when the respective buttons are pressed.

When you press button on the Remote Commander, the following information will be indicated on the screen:

K TV-System: I (normal UK broadcast system)

L Channel number

M Programme number or input mode: 1, 2, 3;

N Indication of the station name

O AV output indication: 1 2 3 or TV (see «CONTROLS ON THE REMOTE COMMANDER»).

Connectors on the rear

P Euro-AV-connector 21-pin 2

For connecting a VTR, 8 mm video camera recorder, a video disc player or in general devices with an S-Video-output.

Q Euro-AV-connector 21-pin 1

For connecting a VTR, a computer etc. with RGB output.

R Audio-output-jacks (phono jacks)

For connecting audio equipment, e.g. an amplifier, so that the sound will be output at the audio equipment. In this case the volume is adjustable on the TV set.

S Aerial terminal



On the set there is a Remote Control detector **B**, which receives the signals of the Remote Commander.

2 Tuning +/- buttons

b) TV-mode: Used for fine-tuning a station. See »ADDITIONAL FUNCTIONS«.

Used for clearing programme positions, so that the position will be skipped when the **PROGR +/-** buttons **[24]** are pressed. See »**TO PRESET CHANNELS**».

- ### Note

Use the Standby-button **14** only when switching the set off for a short period of time. If the set will not be used for a longer span of time, switch it off by using the Power switch **A**.

1-2. TO PRESET CHANNELS

Use the buttons on the Remote Commander for presetting. In total there are 60 programme positions at your disposal for storing channels.

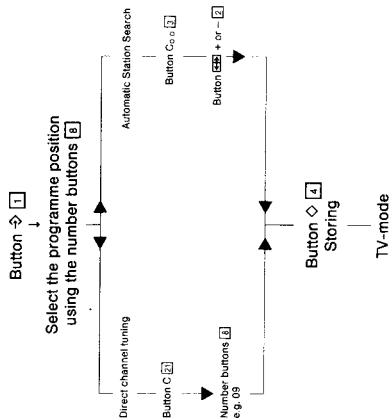
There are two different ways of tuning in channels:

1. Direct Channel Tuning

If you know the channel number of a station you can input it directly.

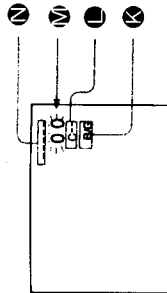
2. Automatic Station Search

The set searches automatically for stations.

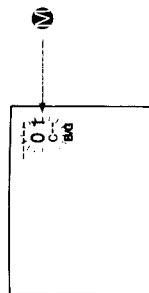


1. Direct Channel Tuning

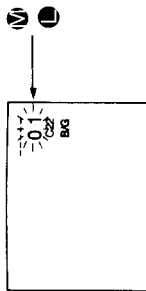
1. Press the Preset button $\Rightarrow$ [1]. You are now in the preset mode of the set. The programme number in the on-screen display $\Rightarrow$ [N] starts blinking.



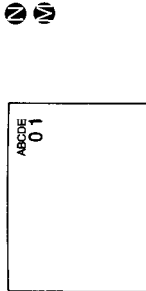
2. With the buttons PROG +/- [24] or the number buttons [0-9] you can select the programme position. In case of two-digit numbers, press first the button -/- [23] and then the two number buttons.



3. Press button C [21]. The indication »C« and the channel number start blinking in the display [N]. Select the channel number with two digits (e.g. 22) using the number buttons [0-9].



4. Press the button $\diamond$ [4] in order to store the channel and to return to the TV-mode.



If you want to store further channels, repeat the steps 1 to 4.

2. Automatic Station Search

1. Press button $\Rightarrow$ [1]. You are now in the preset mode of the set. The programme number in the on-screen display [N] starts blinking.

2. With the PROG buttons +/- [24] or the number buttons [0-9] you can select the programme position. In case of two-digit numbers, first press button -/- [23] and then the two number buttons.

3. If there is already a stored station on the selected programme position, press button C [3].

4. Press one of the tuning buttons $\Rightarrow$ [22] +/- [2] to start the station search. The search will be interrupted as soon as a station is tuned in. Press the tuning buttons repeatedly until you find the desired station.

5. If you have found the desired station, press button $\diamond$ [4]. Now the selected station is stored and you are back in the TV-mode.

6. If you want to store further stations, repeat the steps 1-5.

Skipping of unused programme positions

Using button C $\Rightarrow$ [3] you have the possibility to skip unused programme positions (e.g. without a stored station), when pressing the buttons PROG +/- [24] on the Remote Commander.

1. Press button $\Rightarrow$ [1]. You are now in the preset mode of the set.

2. Use the buttons PROG +/- [24] to select a programme position, which you want to have skipped.

3. Press button C $\Rightarrow$ [3].

4. Press button $\diamond$ [4] to store the cleared programme position and to return to the TV-mode.

The skipped programme position still appears when you press the number buttons [0-9] on the Remote commander.

If you want to name a station

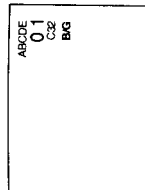
After presetting the stations you have the possibility to name them. The selected name will appear in the on-screen display [N].

1. Press the preset button $\Rightarrow$ [1].

2. Press the button $\Rightarrow$ [2]. The first column of the station name starts blinking. Press either button + or - [22] and select the desired character (number or letter, 0-9, A-Z, or - for a blank space).

3. Press button $\Rightarrow$ [2] again. Now the second column starts blinking and you can select the second character. In this way five characters can be selected.

4. Press button $\diamond$ [4] to store the station name.



Notes

- If you press the preset button $\Rightarrow$ [1] instead of button $\diamond$ [4] the set will return to the TV-mode without storing the channels.
- If you press a wrong programme or a channel number, an »x« will be displayed on the screen.
- When pressing two number buttons, the second number button should be pressed within 5 seconds after the first one, otherwise the operation will be cancelled.

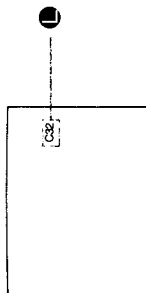
ADDITIONAL FUNCTIONS

Direct Channel Tuning in the TV-mode

You have the possibility to tune in channels directly when the set is in the TV-mode without storing these channels. Example: If you tune in channel number 32 and then switch the set off or change the programme position, this channel will be cancelled.

1. Press the button C [21] in the display [N] the indication »C« will appear.

2. Select the channel number with two digits using the number buttons [0-9] (e.g. for channel 4 press first 0, then 4). The indication on the screen will disappear within some seconds.



Manual Fine Tuning

If the reception of a channel is not satisfactory, you have the possibility to deactivate the Automatic Fine Tuning, which is usually in operation during presetting in order to tune in the best possible picture.

Press one of the tuning buttons $\Rightarrow$ [22] +/- [2] to fine-tune a channel. The Automatic Fine Tuning will be restored when the respective programme position is pressed once again.

1-3. VIEWING TELETEXT

The set is capable of receiving NICAM, which is a newly developed digital stereo broadcast system. NICAM programmes are broadcast in three ways: stereo, bilingual or monoaural sound besides the regular (FM mono) sound, and you can select the sound you want to hear by pressing the A/B button [20]. Each time the button is pressed, the sound changes sequentially, as indicated with arrows in the following chart.

NICAM sound being broadcast	The sound you hear (Select with the A/B button [20])
Stereo	Stereo → Regular → Stereo (etc.)
Bilingual	A → B → Regular → A (etc.)
Monoaural	A → Regular → A (etc.)

Whenever a NICAM broadcast is received, the [24] indication appears on the screen and disappears after a few seconds.

When the NICAM programme ends, the [24] indication appears for a few seconds.

The sound being broadcast	The selected sound	[24] indicators [25]		NICAM indication on the screen
		A	B	
NICAM + Regular	Stereo	x	x	x
	A	x	o	
	B	o	x	
Regular	Regular	o	o	o
	Regular	o	o	

x means that the indicator [25] lights up or the indication appears.

o means that the indicator does not light up or the indication is not displayed.

To view the teletext service, use the Remote Commander. The buttons for teletext operation are indicated in green.

Operation

- 1 Select the TV channel for the desired teletext service. If the signal is weak, teletext errors often occur.
- 2 Press [26] (TEXT/MIX) to display the teletext service.
- 3 Key in the three digits of the desired page using the number buttons. If an error is made, complete the three-digit sequence by keying in any digit. Then, re-enter the correct page number.

The requested teletext page is displayed.

To request the index page

Press [27] (INDEX). If the necessary signal is not being broadcast, page 100 is displayed.

To access the next or preceding page

Press [28] (PAGE +) or [29] (PAGE -).

To superimpose the teletext display on the picture (MIX)

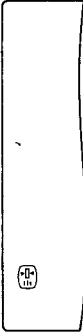
Press [30] twice from the TV mode. Press [30] again to return to the TEXT display.

To suppress the teletext display so that the picture is restored

Press [31] (text clear). This button can be operated from both the text and mix displays.

To prevent a teletext page from being updated/changed

Press [32] (HOLD). The HOLD symbol appears on the screen. To resume normal teletext reception, press [33] (TEXT/MIX).



To resume normal teletext reception, press [33] (TEXT/MIX).

To enlarge the teletext display

Press [34] once to enlarge the upper half of the display; press again to enlarge the lower half of the display. And press again to return to the normal display.

To reveal concealed information such as answers to a quiz

Press [35] (REVEAL). Press again to conceal the answers.

To watch the TV programme while waiting for a requested page to be displayed

- 1 Request the new page.

To return to the TV mode, press TV [16] on the Remote Commander.

The teletext service can be displayed directly from the standby mode by pressing [36] (TEXT/MIX).

To receive the teletext service of a different TV channel

- 1 Press TV [16] to return to the TV mode.
- 2 Select the desired TV channel.
- 3 Press [36] (TEXT/MIX).

Note

Buttons not referred to in the text do not operate.

- 2 Press [37] to watch the TV programme. The requested page number and other data appear at the top of the screen. When the requested page has been captured, the page number is displayed in the top left-hand corner of the screen.



To view this page, press [38] (PAGE +).

To have a requested page displayed at a pre-determined time

- 1 Request a time coded page (e.g. alarm page).
- 2 Press [39] (TP ON). "T****" will appear at the bottom of the screen.



- 3 Enter your request time with the number buttons, using four digits. For example, 07 30:



To watch the TV programme until the requested time, press [40] (TEXT CL). At the requested time, the page number will be displayed at the bottom of the screen.

To view this page, press [38] (PAGE +).

To cancel the request, first ensure that the teletext page is displayed, then press [41] (TP OFF).

FASTEXT Operation

FASTEXT Teletext enables you to access pages quickly and conveniently with one key operation.

When a FASTEXT page is broadcast a colour coded menu will appear at the bottom of the screen. Each coloured prompt relates to the coloured keys on the Remote Commander. Pressing one of these will select the page described by the prompt.

Selection may also be made by entering the three digit page number in the normal way.

Correct FASTEXT operation relies on the necessary signals being transmitted by the Broadcasting Authorities. It is possible that some Broadcasters will not support this transmission.

If FASTEXT is not transmitted, the decoder will operate as outlined above.

1-4. OPERATING OTHER EQUIPMENT

To view the input picture

Press the **⏮** button repeatedly until the desired input signal indication appears on the screen.

⏮-1: to view the audio and video signal input through the **⏮-1** connector on the rear.

⏮-1: to view the RGB signal (i.e. from a computer, etc.) input through the **⏮-1** connector.

⏮-2: to view the audio and video signal input through the **⏮-2** connector on the rear.

⏮-2: to view the S video signal (from a VTR equipped with an S video output) input through the **⏮-2** connector.

⏮-3: to view the audio and video signal input through the **⏮-3** connectors and the audio input/jacks (yellow, white and red) on the front.

You can also select the desired input mode using the buttons on the front of the set. Select the **⏮** mode with the mode select (P → **⏮** → **⏮**) button then press +/- button.

To return to the TV mode, press the TV-button **⏮**.

To select the signal to be output from the ⏮-2/⏮-3 connector
Press the **⏮** button repeatedly until the desired output source is indicated on the screen:

1 ⏮: The audio and video signal input through the **⏮-1** connectors is output from the **⏮-2/⏮-3** connector.

2 ⏮: The audio and video signal input through the **⏮-2/⏮-3** connector is output from the **⏮-2/⏮-3** connector.

3 ⏮: The audio and video signal input through the **⏮-2/⏮-3** connectors is output from the **⏮-2/⏮-3** connector.

TV ⏮: The audio and video signal input through the **⏮** aerial terminal (i.e. usually the TV signal) is output from the **⏮-2/⏮-3** connector.

The indication will disappear after a few seconds.

Note

The TV-signal is always output at the EURO-AV connector **⏮-1**.

To operate Sony video equipment

The video operation buttons **⏮** on the Remote Commander can operate certain VTRs and video disc players manufactured by Sony.

1. Switch the video selector to the desired position.

VIDEO 1: to operate Sony Betamax VTR and SLV 202 VHS.

VIDEO 2: to operate Sony 8 mm VTR.

VIDEO 3: to operate Sony VHS VTR.

MDP: to operate Sony video disc player including a multi disc player.

2. Press the operation button(s) to start operation.
PROGR +/-: to select the desired programme on the VTR.

▶ : to start playback, or to release the pause mode

■ : to stop the tape or the disc

◀ : to rewind the tape from stop mode or to rapidly go back to the desired position on the disc or tape from playback mode

▶▶ : to fast forward wind from stop mode or rapidly advance the tape or disc to the desired position from playback mode

● : to start recording on the VTR

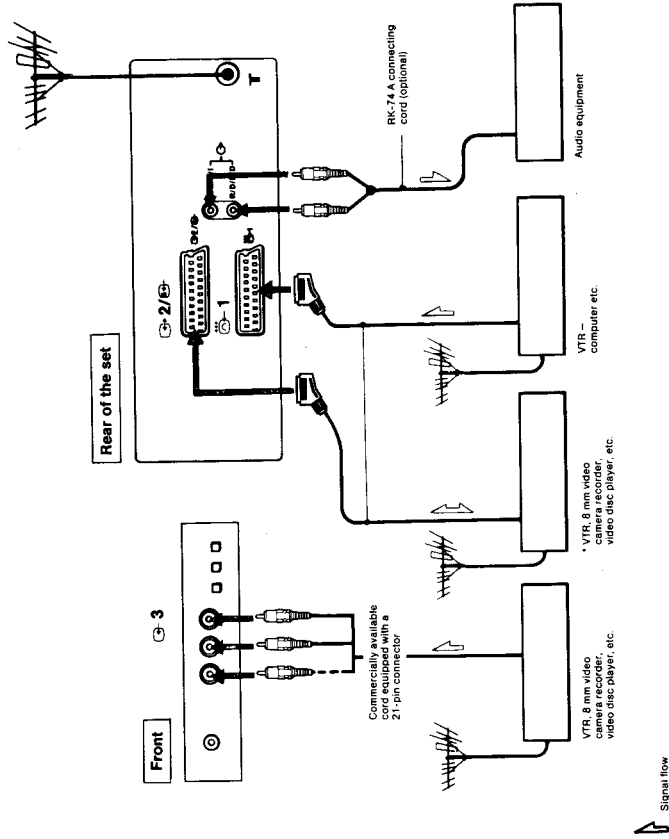
Be sure to press this button and the one on the right simultaneously

⏮ : to switch the video equipment on and off

■ : to stop the tape or the disc temporarily (pause)

Press again to release pause mode

1-5. CONNECTING OTHER EQUIPMENT



- Connect the S video output of the VTR, etc. here.

Notes

- It is also possible to connect a VTR using the **⏮** terminal. In this case, connect the aerial to the aerial terminal of the VTR.
- Move the VTR away from the TV if the picture or the sound is distorted.
- Computers which have RGB output only can be connected to the **⏮-1** input connector.

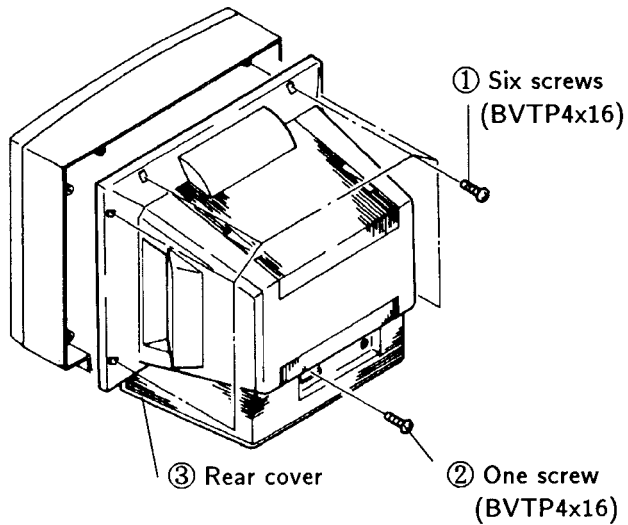
S video input (Y/C input)
Video signals may be separated into Y (luminance or brightness) and C (chrominance) signals.

Usually these two signals are combined in a VTR and output as one signal, and supplied to a TV. Separation of the Y and C signals prevents them from interfering with one another, thereby improving picture quality (especially in luminance). This set is equipped with a S video input through which these separated signals can be input directly. Connect the S video output jack on the VTR to the S video input on this set.

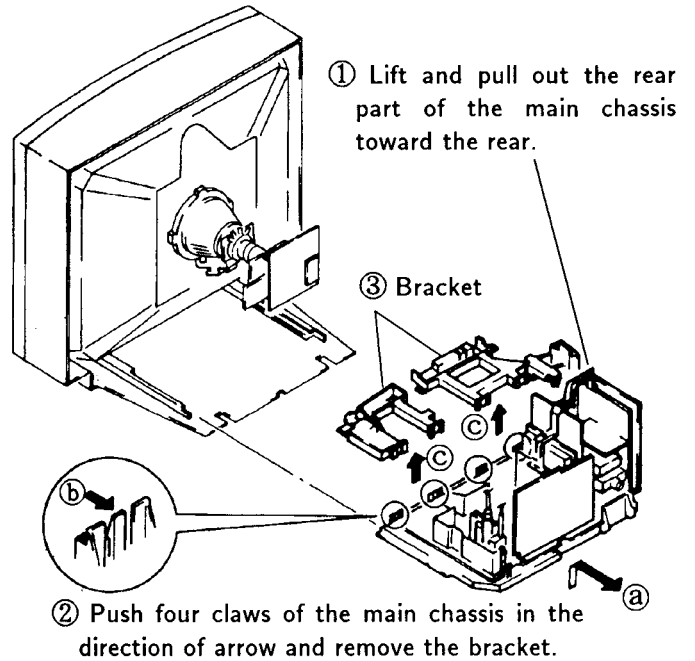
Note: Not all VTR's are equipped with S video output capability. (Refer to VTR operating manual.)

SECTION 2 DISASSEMBLY

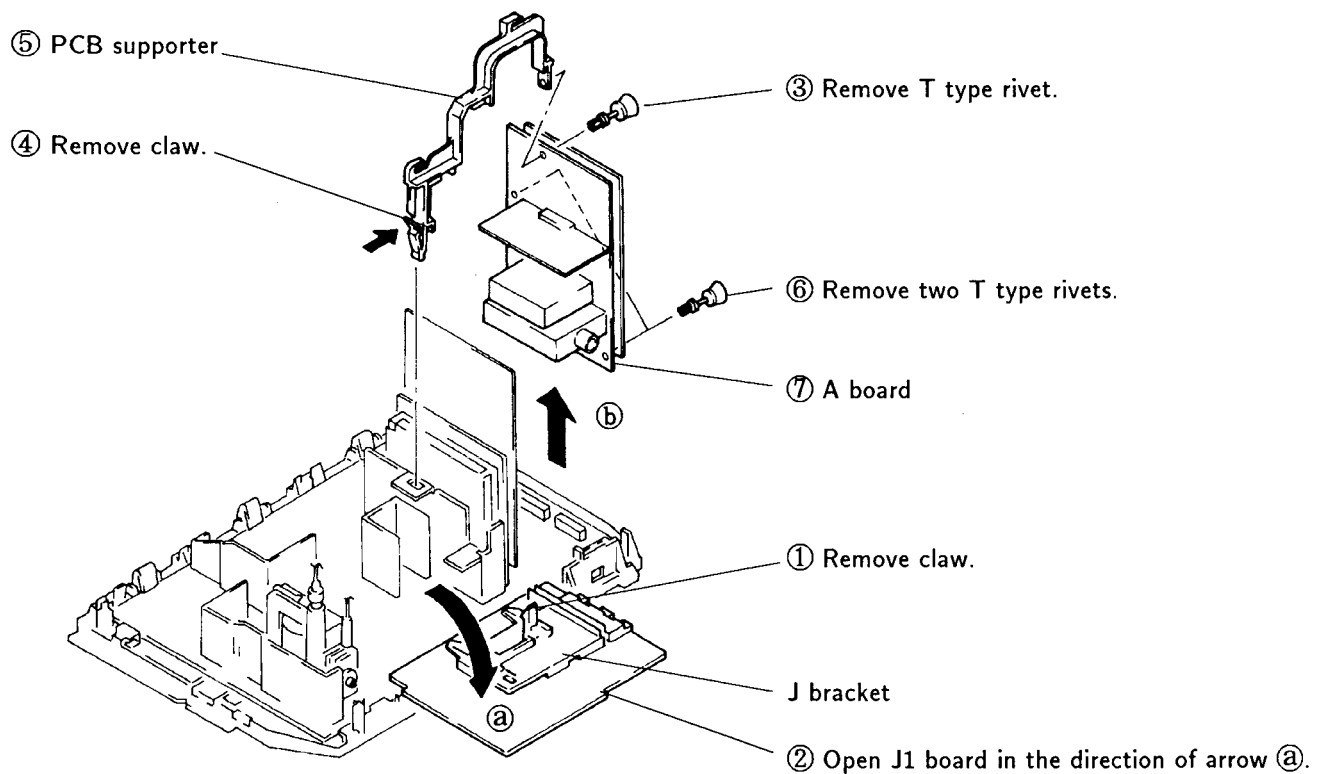
2-1. REAR COVER REMOVAL



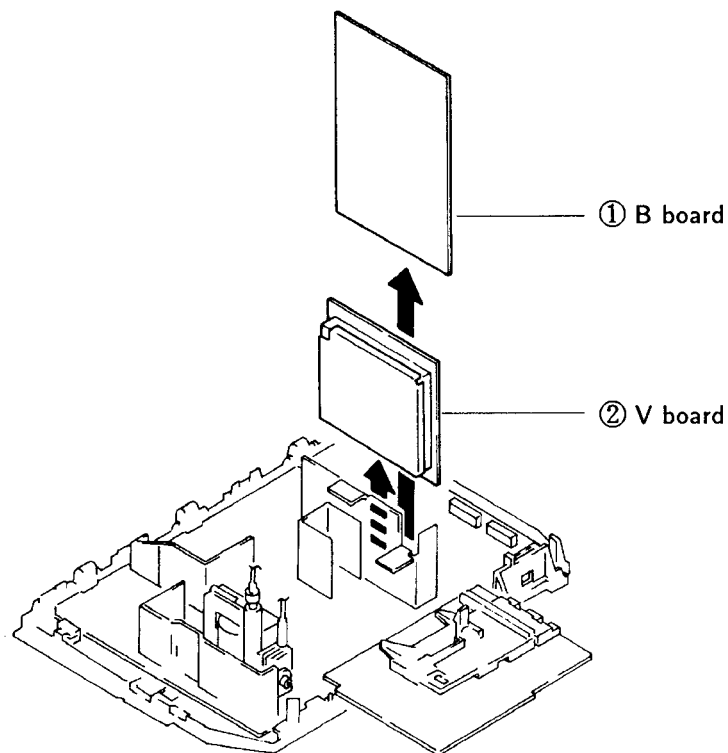
2-2. CHASSIS ASSEMBLY REMOVAL



2-3. A AND J1 BOARD REMOVAL

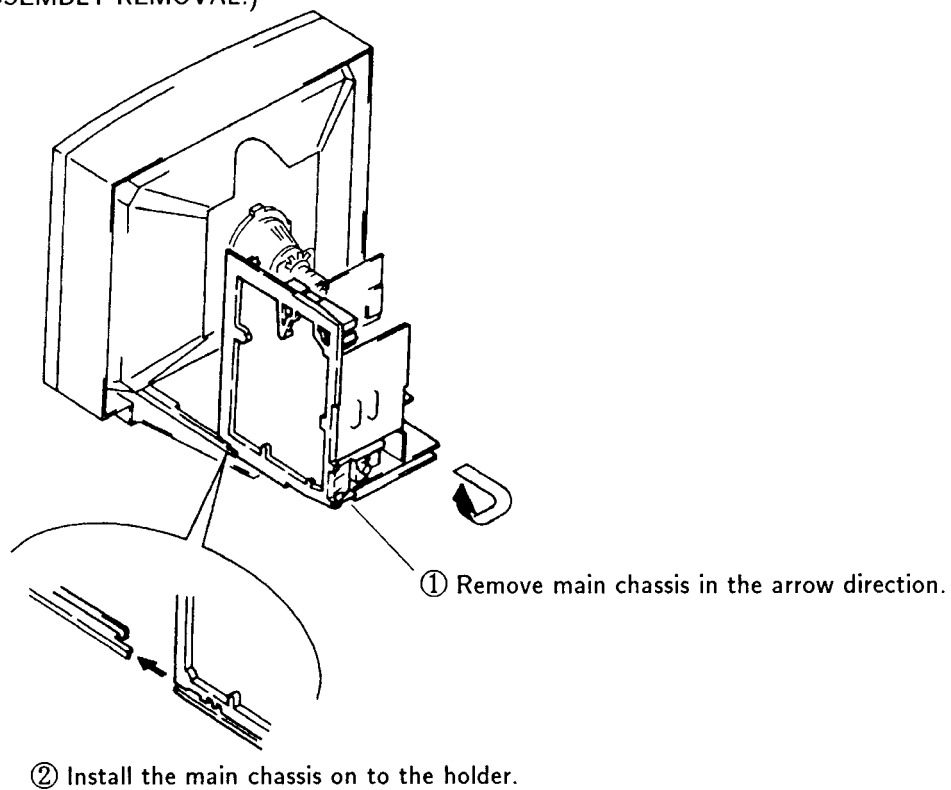


2-4. B AND V BOARDS REMOVAL

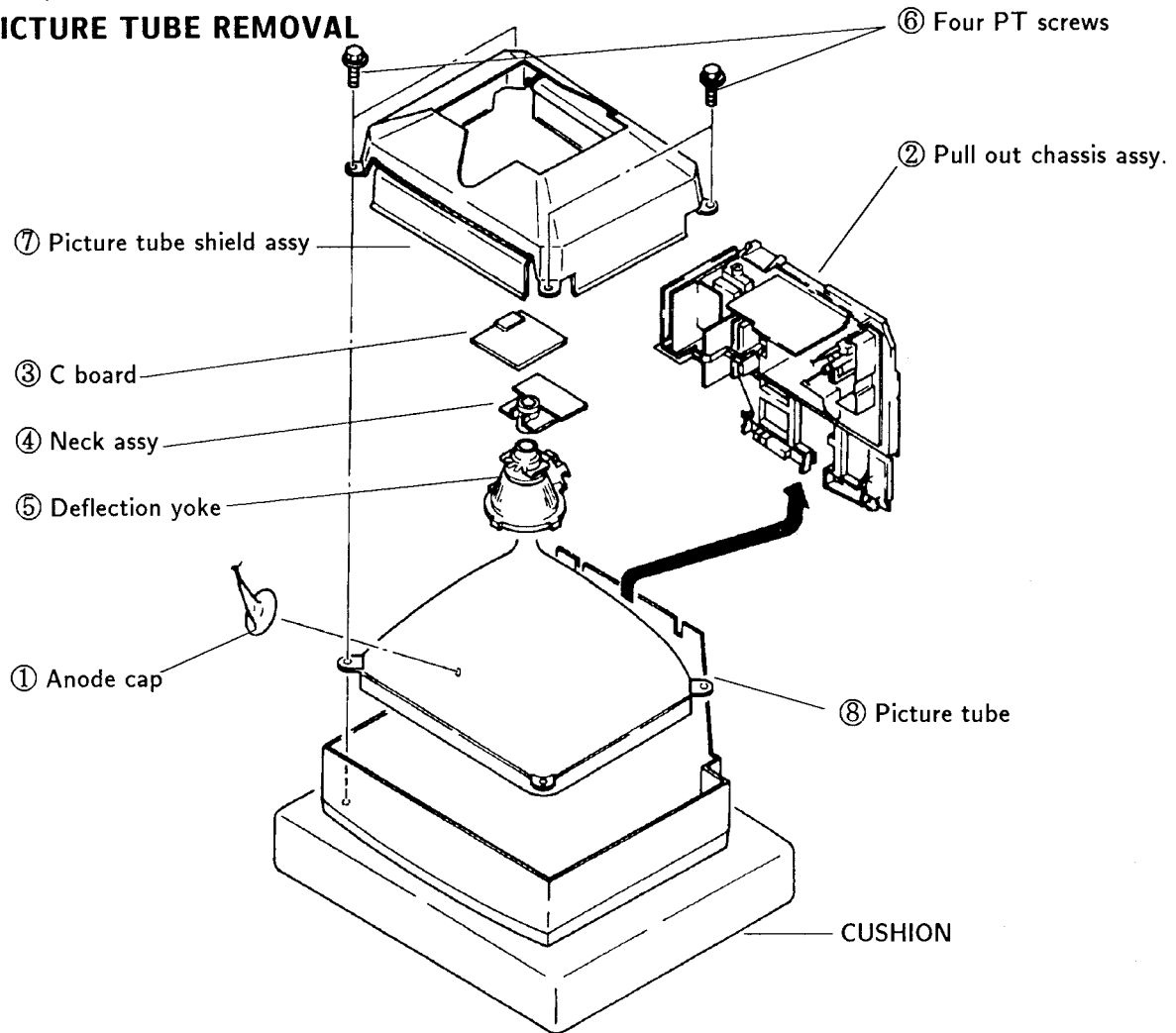


2-5. SERVICE POSITION

* Remove the connector bracket and then perform the following servicing.
(Refer to 2-2. CHASSIS ASSEMBLY REMOVAL.)

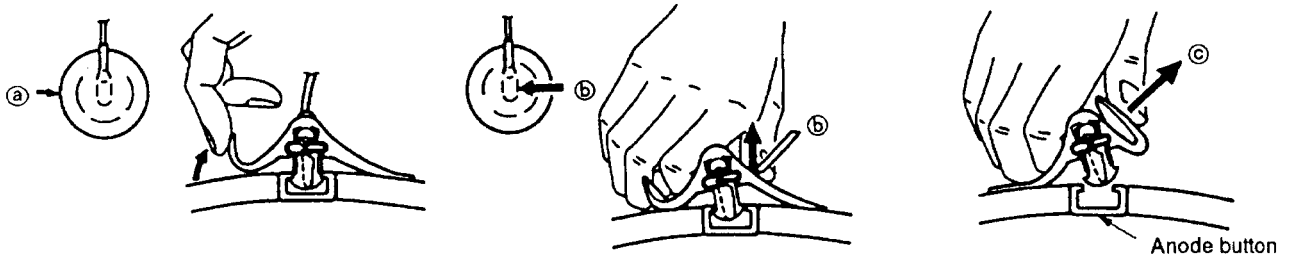


2-6. PICTURE TUBE REMOVAL



• REMOVAL OF ANODE-CAP

• REMOVING PROCEDURES

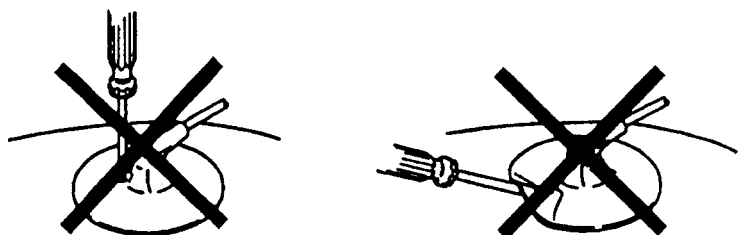


- ① Turn up one side of the rubber cap in the direction indicated by the arrow ①.
- ② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ②.

- ③ When one side of the rubber cap is separated from the anode button, the snode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ③.

• HOW TO HANDLE AN ANODE-CAP

- ① Don't hurt the surface of anode-caps with sharp shaped material!
- ② Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.
- ③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.



SET-UP ADJUSTMENTS

- Contrast 80%
(or remote control normal)
☀ Brightness 50%

1. Beam landing
2. Convergence
3. Focus
4. White balance

Note: Testing equipment required

1. Color bar/pattern generator
2. Degausser
3. DC power supply
4. Digital multimeter
5. Oscilloscope

Preparations :

- In order to reduce the influence of geomagnetism on the set's picture tube face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

1. Input the white signal with the pattern generator.
Contrast } normal
Brightness }
2. Position neck ass'y as shown in Fig 3-2.
3. Set the pattern generator raster signal to red.
4. Move the deflection yoke to the rear and adjust with the purity control so that the red is at the center and the blue and the green take up equally sized areas on each side.
(See Figures 3-1 through 3-3.)
5. Move the deflection yoke forward and adjust so that entire screen is red. (See Figure 3-1.)
6. Switch the raster signal to blue, then to green and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it.
(See Figure 3-4.)



Fig. 3-1

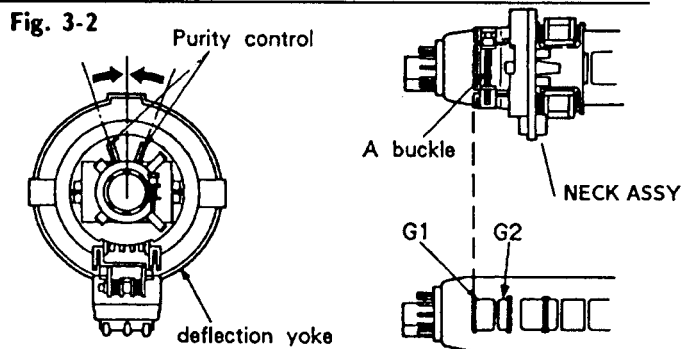


Fig. 3-2

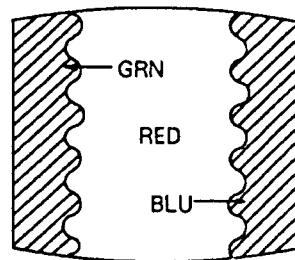


Fig. 3-3

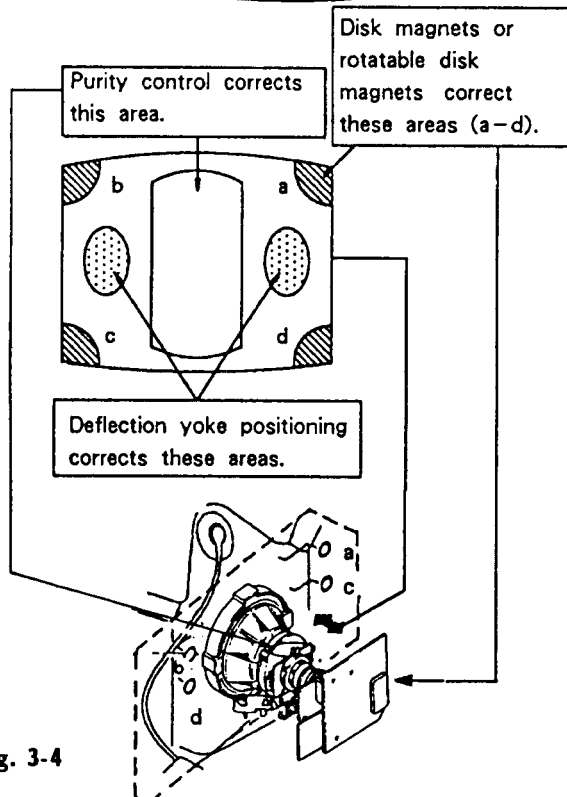


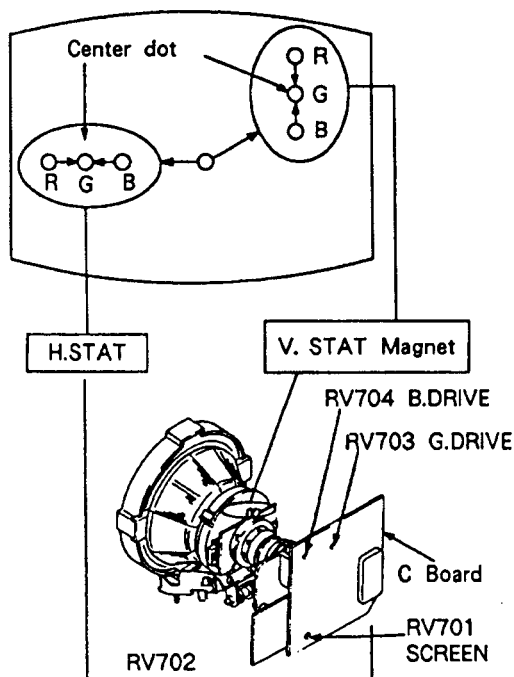
Fig. 3-4

3-2. CONVERGENCE

Preparations :

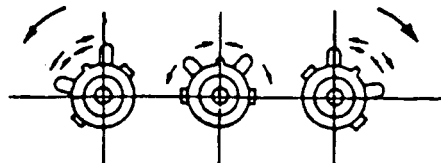
- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide dot pattern.

(1) Horizontal and vertical static convergence

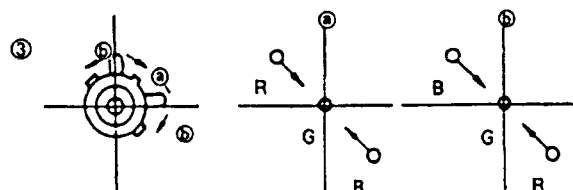
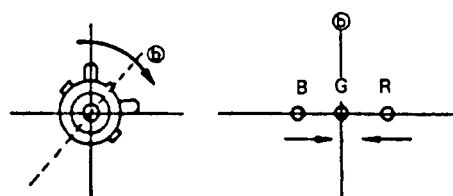
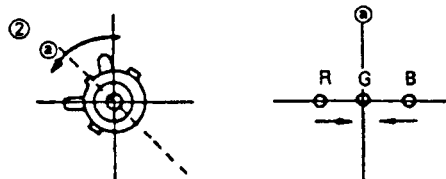
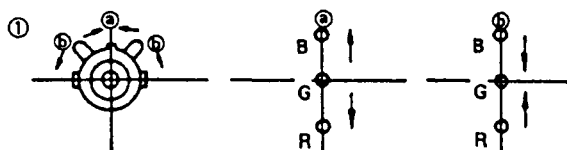


1. (Moving horizontally), adjust the H.STAT control so that the red, green, and blue points are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green, and blue points are on top of each other at the center of the screen.
3. If the H.STAT variable resistor can not bring the red, green, and blue points together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V. STAT magnet in the manner given below.
(In this case, the H.STAT variable resistor and the V. STAT magnet influence each other's settings.)

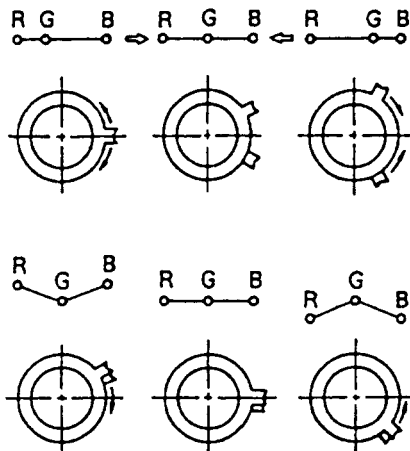
- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.



4. If the V.STAT magnet is moved in the direction of the ② and ③ arrows, the red, green, and blue points move as shown below.

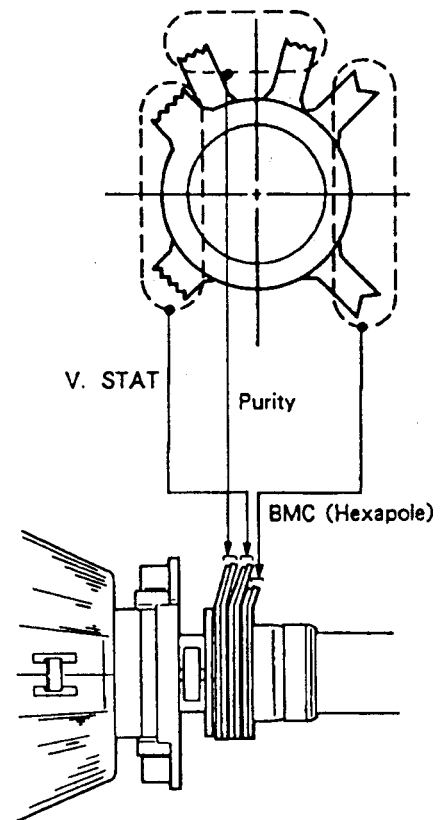


● Operation of BMC (Hexapole) Magnet



- The respective dot operations resulting from the operation of each magnet are not completely independent, so be sure to perform adjustment while tracking.

Use the H.STAT VR to adjust the red, green, and blue dots so they coincide at the center of screen (by moving the dots in the horizontal direction).



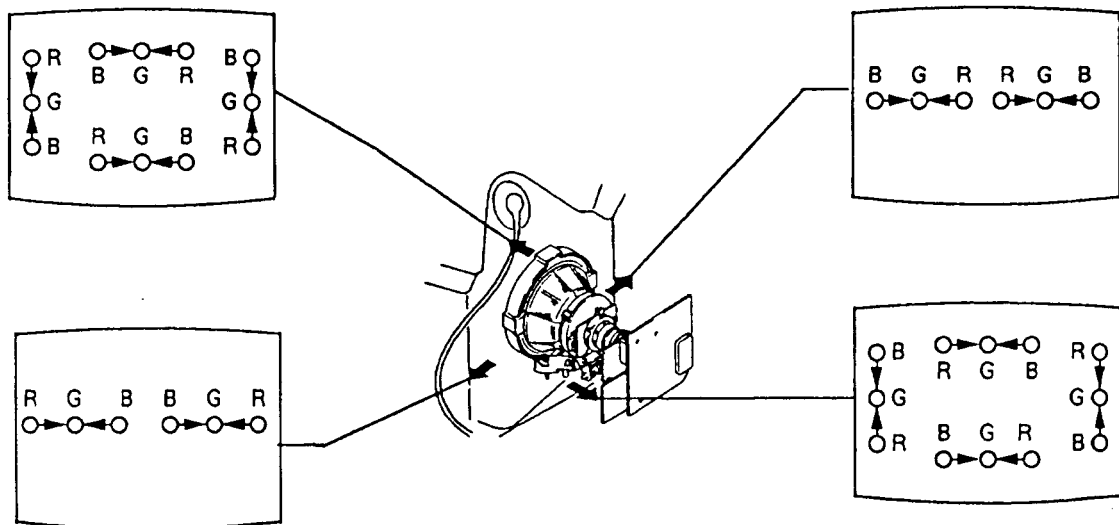
(2) Dynamic convergence adjustment

Preparations :

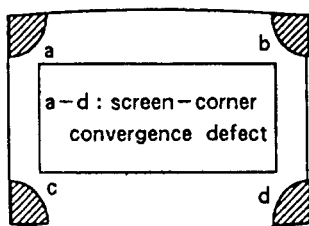
Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.

1. Slightly loosen the deflection yoke screws.
2. Remove the deflection yoke spacer.

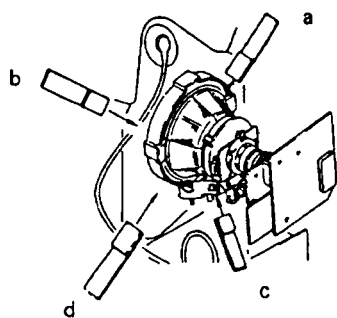
3. Move the deflection yoke as shown in the figure below and optimize the convergence.
4. Tighten the deflection yoke screws.
5. Install the defelection yoke spacer.



(3) Screen corner convergence



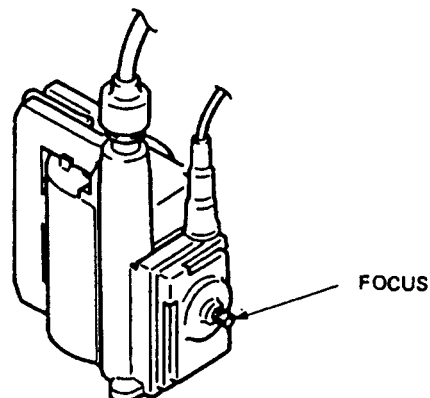
Install the permalloy assembly for the section with faulty.



Permalloy

3-3. FOCUS

Adjust the focus to optimize the screen.



3-4. WHITE BALANCE

[Screen G2 setting]

1. Input the dot signal from the pattern generator.
2. Set the picture brightness control to its lowest level.
3. Apply 170V DC to the R, G, and B cathodes with an external power supply.
4. While watching the picture, adjust G2 control RV701 (Screen) to the point just before the return lines disappear.

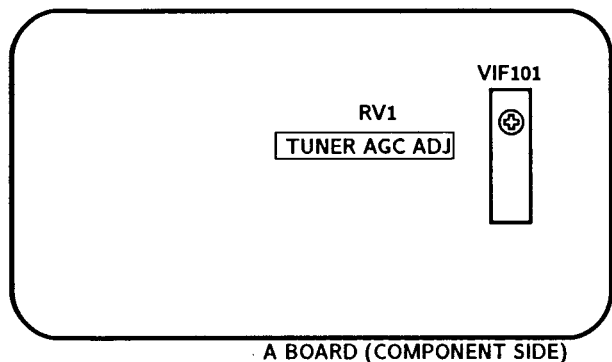
[White balance adjustment]

1. Input an all-white signal from the pattern generator.
2. Set the picture brightness and color controls to their normal levels.
3. Use the RV704 (B Drive) and RV703 (G Drive) to adjust white balance.

In the adjustments below, have the picture color and brightness settings at their normal levels unless there is a specific instruction to the contrary.

SECTION 4 CIRCUIT ADJUSTMENTS

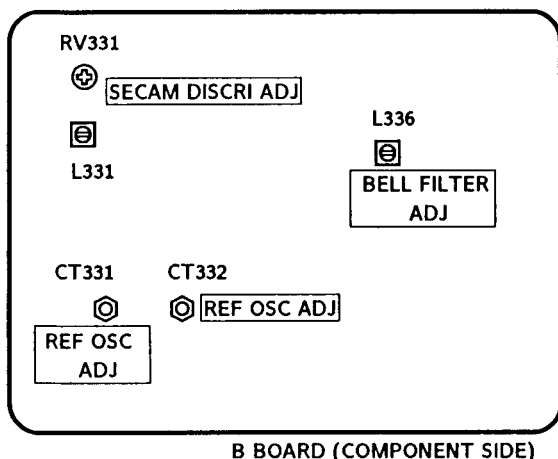
4-1. A BOARD ADJUSTMENT



TUNER AGC ADJUSTMENT (VIF101, RV1)

1. Align with an appropriate signal between stations.
2. Adjust RV1 so that snow noise and cross modulation just disappear from the picture.

4-2. B BOARD ADJUSTMENTS



REFERENCE OSCILLATOR ADJUSTMENT (CT332 8.8MHz)

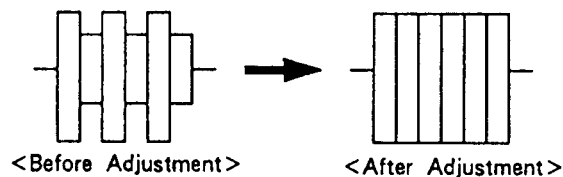
1. Input a PAL color bar signal.
2. Ground pin ⑪ of the IC331.
3. Adjust CT332 to obtain synchronization.

REFERENCE OSCILLATOR ADJUSTMENT (CT331 7.16MHz)

1. Input an NTSC color bar signal.
2. Ground pin ⑪ of IC331.
3. Adjust the CT331 to obtain synchronization.
4. Remove the jumper grounding pin ⑪ of IC331.

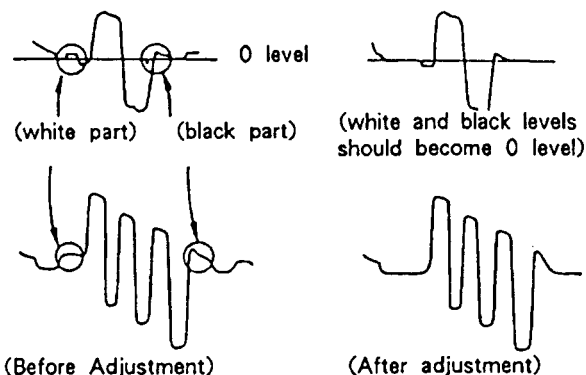
BELL FILTER ADJUSTMENT (L336)

1. Input a SECAM color bar signal.
2. Connect the oscilloscope to the emitter of Q335.
3. Adjust L336 so that the waveform is flat.

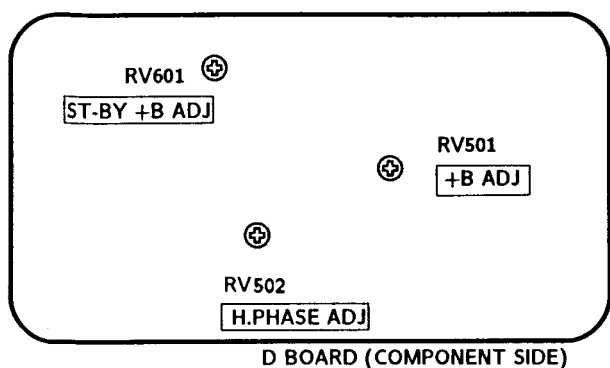


DISCRIMINATION ADJUSTMENT (RV331 and L331)

1. Input a SECAM color bar signal.
2. Connect the oscilloscope to pin ① of IC331.
3. Adjust RV331 so that the white and black sections of the waveform at pin ① come to the 0 level.
4. Connect the oscilloscope to pin ③ of IC331.
5. Adjust L331 so that the white and black sections of the waveform at pin ③ come to the 0 level.



4-3. D BOARD ADJUSTMENTS



+B ADJUSTMENT (RV501)

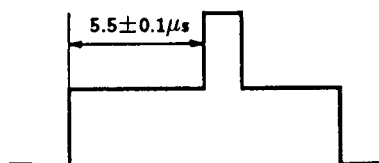
1. Connect the digital multimeter to TP91.
2. Adjust RV501 to obtain $135 \pm 0.2V$.

ST-BY +B ADJUSTMENT (RV601)

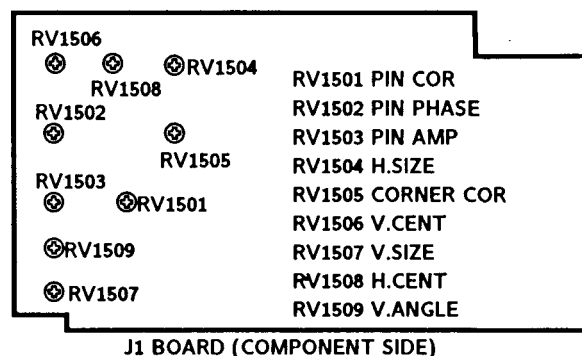
1. Put the system into ⏻ standby mode (remote commander).
2. Connect the digital multimeter to TP91.
3. Adjust RV601 to obtain $135 \pm 3V$.
4. Take the system out of ⏻ standby mode (remote commander).

H.PHASE ADJUSTMENT (RV502)

1. Input a PAL color bar signal.
2. Set the picture and brightness controls to their normal levels.
3. Set RV1508 (H.CENT) to its mechanical center.
4. Connect the oscilloscope to pin ⑪ (SCP) of IC 501.
5. Rotate RV502 to adjust to $5.5 \pm 0.1\mu s$.



4-4. J1 BOARD ADJUSTMENTS



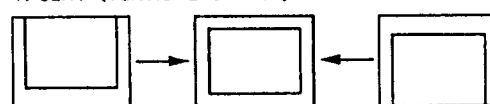
RV1508 H. CENT (HORIZONTAL CENTER)



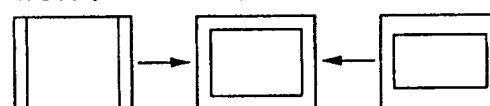
RV1504 H. SIZE (HORIZONTAL SIZE)



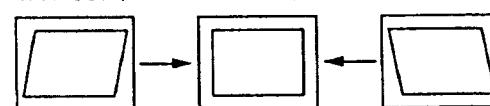
RV1506 V. CENT (VERTICAL CENTER)



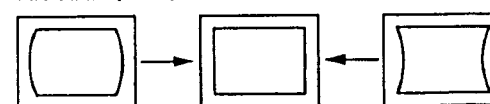
RV1507 V. SIZE (VERTICAL SIZE)



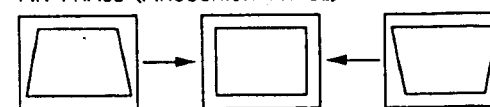
RV1509 V. ANGLE (VERTICAL ANGLE)



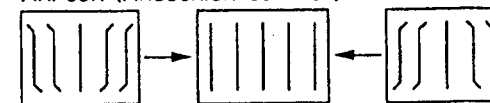
RV1503 PIN AMP (PINCUSHION AMPLIFIER)



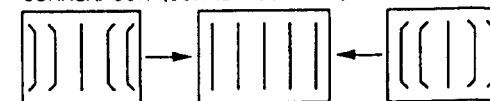
RV1502 PIN PHASE (PINCUSHION PHASE)



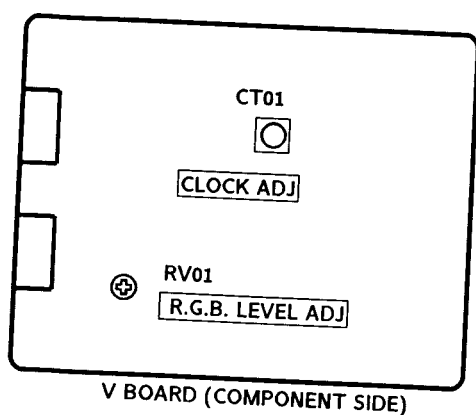
RV1501 PIN. COR (PINCUSHION CORRECT)



RV1505 CORNER COR (CORNER CORRECT)



4-5. V BOARD ADJUSTMENTS



CLOCK ADJUSTMENT (CT01)

1. Remove the V-1 connector pin③.
2. Put the system into text mode.
3. Adjust CT01 so that the picture does not move.

RGB LEVEL ADJUSTMENT (RV01)

1. Maximize the picture setting.
2. Adjust RV01 so that the RGB output is 0.75V.

4-6. SECONDARY ADJUSTMENT

SUB BRIGHTNESS ADJUSTMENT

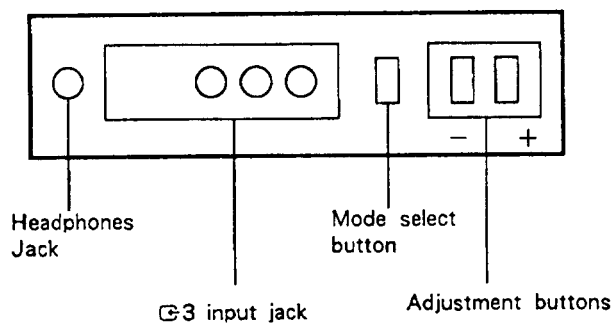
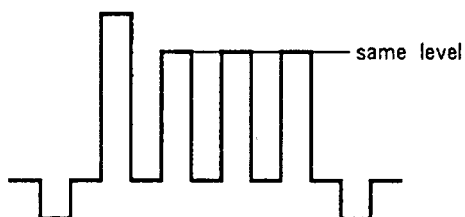
1. Set the system to receive a test pattern.
2. Press $\rightarrow \bullet \leftarrow$ on the remote commander to put the system into normal mode.
3. Switch off the power.
4. While depressing the adjusting buttons + and - simultaneously, turn on the power. (SUB mode is obtained)
5. Minimize the $\bullet$ contrast setting.
6. Adjust the $\odot$ brightness control so that the gray scale 0 IRE section is cut off completely and the 20 IRE section is barely glowing.
7. Depress the $\diamond$ (store) button of the remote commander.
(SUB mode is released)

If there is no test color pattern

1. Set the system to receive a color pattern.
2. Press on the remote commander to put system into normal mode.
Set the $\odot$ color to its normal state.
- 3-5. are the same as above.
6. Since 20 IRE is nearly blue, adjust the $\odot$ brightness control so that the blue barely glows.
7. is the same as above.
8. Press $\rightarrow \bullet \leftarrow$ on the remote commander to put the system into normal mode.

SUB COLOR ADJUSTMENT

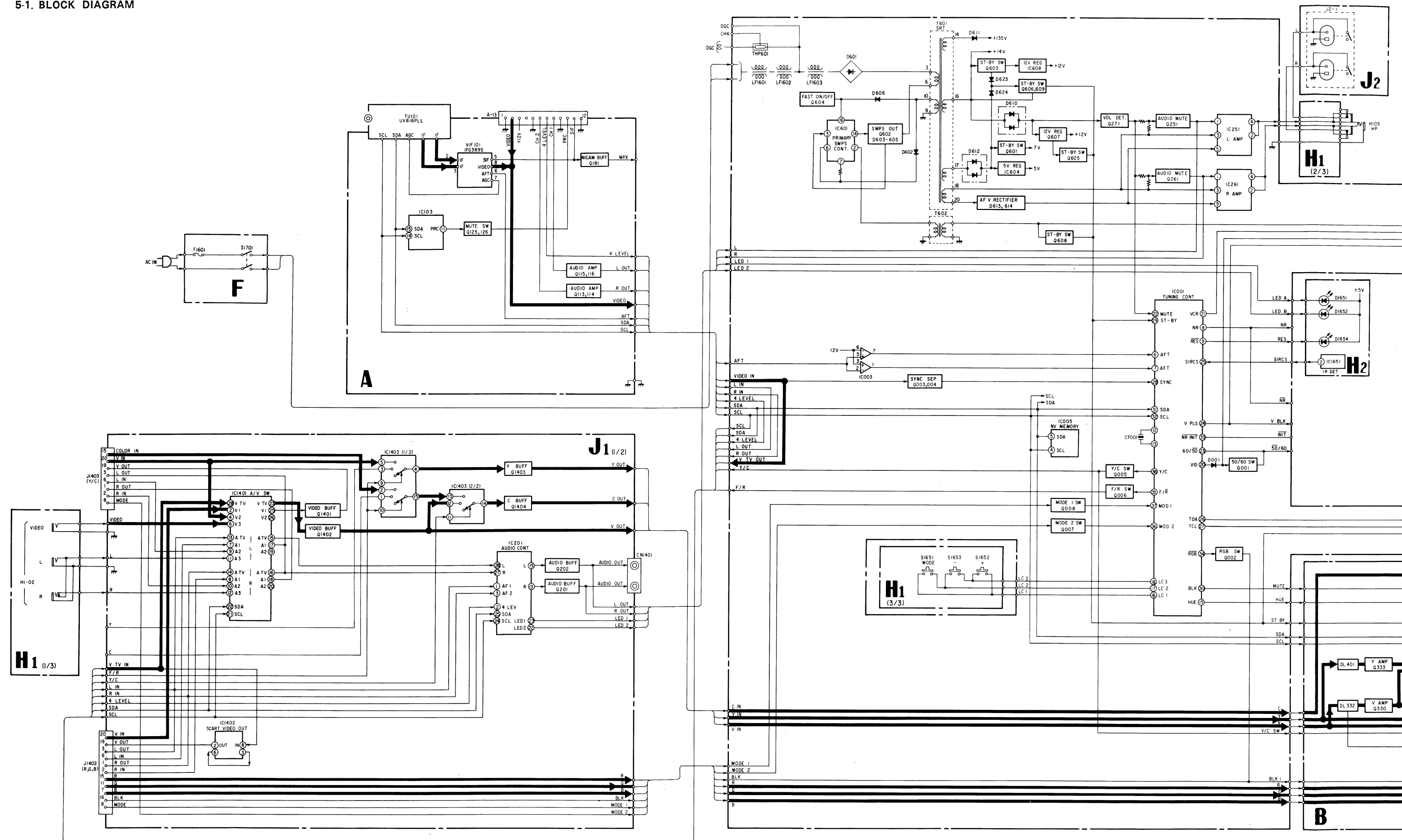
1. Set the system to receive color bars.
2. Press $\rightarrow \bullet \leftarrow$ on the remote commander to put the system into normal mode.
3. Cut off the power.
4. While depressing the adjustment buttons + and - simultaneously, turn on the power. (SUB mode is obtained)
5. Adjust the color control so that the B out waveform (pin ② of C board connector CNC72) is as shown in the figure below.
6. Depress the $\diamond$ (store) button of the remote commander. (SUB mode is released)



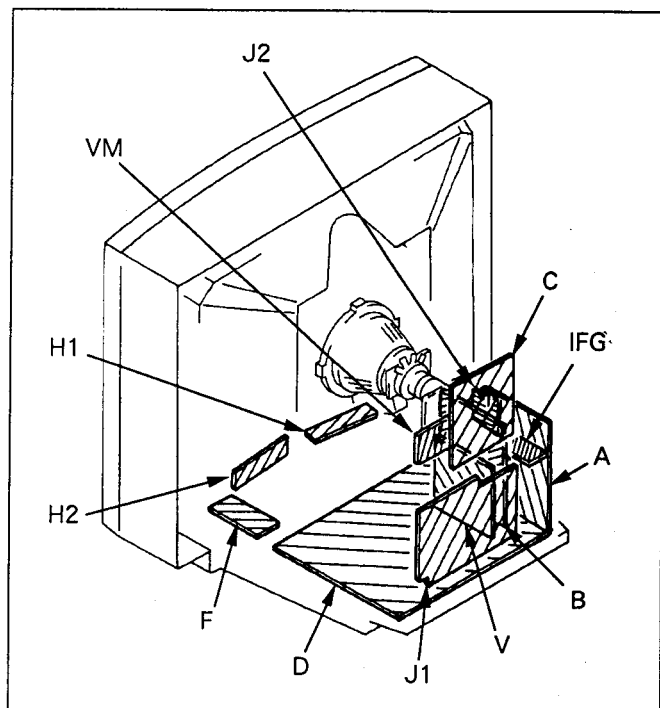
MEMO

1

5-1. BLOCK DIAGRAM



5-2. CIRCUIT BOARDS LOCATION



Note: The components identified by shading and mark  are critical for safety. Replace only with part number specified.

Note :

- All capacitors are in μF unless otherwise noted.
pF : $\mu\mu\text{F}$ 50WV or less are not indicated except for electrolytics.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5mm

Rating electrical power : 1/4W

- Chip resistor is in 1/10W.
- All resistors are in ohms. $k\Omega = 1000\Omega$, $M\Omega = 1000k\Omega$
-  : nonflammable resistor.
-  : fusible resistor.
- Δ : internal component.
-  : panel designation and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All voltages are in V.
- Readings are taken with a $10M\Omega$ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
-  : B + line.
-  : signal path.

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: *	ADJUSTMENT RESISTOR
COIL	: LF-BL	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

H1 [CONTROL SW,
AV INPUT,
HEADPHONE] **H2** [SIRCS RECEIVER,
INDICATOR] **F** [AC IN,
POWER SW]

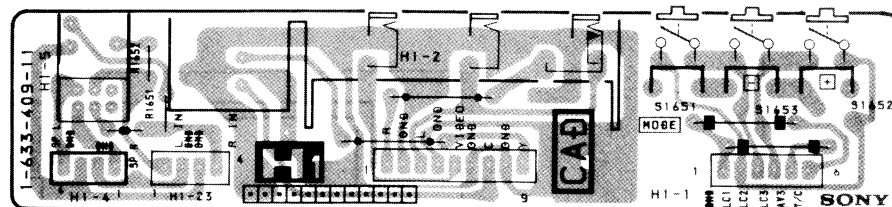
[SPEAKER
TERMINAL] **J2** [TUNER,
SIF, VIF] **A**

J1 [AU
Y/
EA]

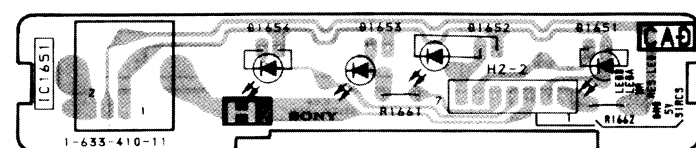
5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

—Conductor Side—

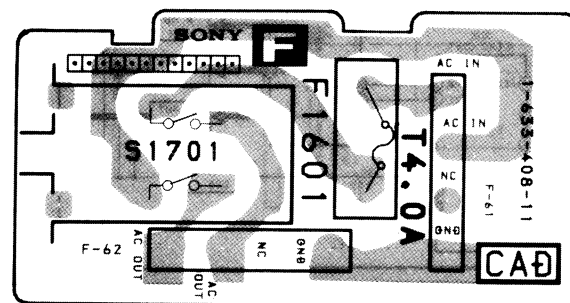
—H1 Board—



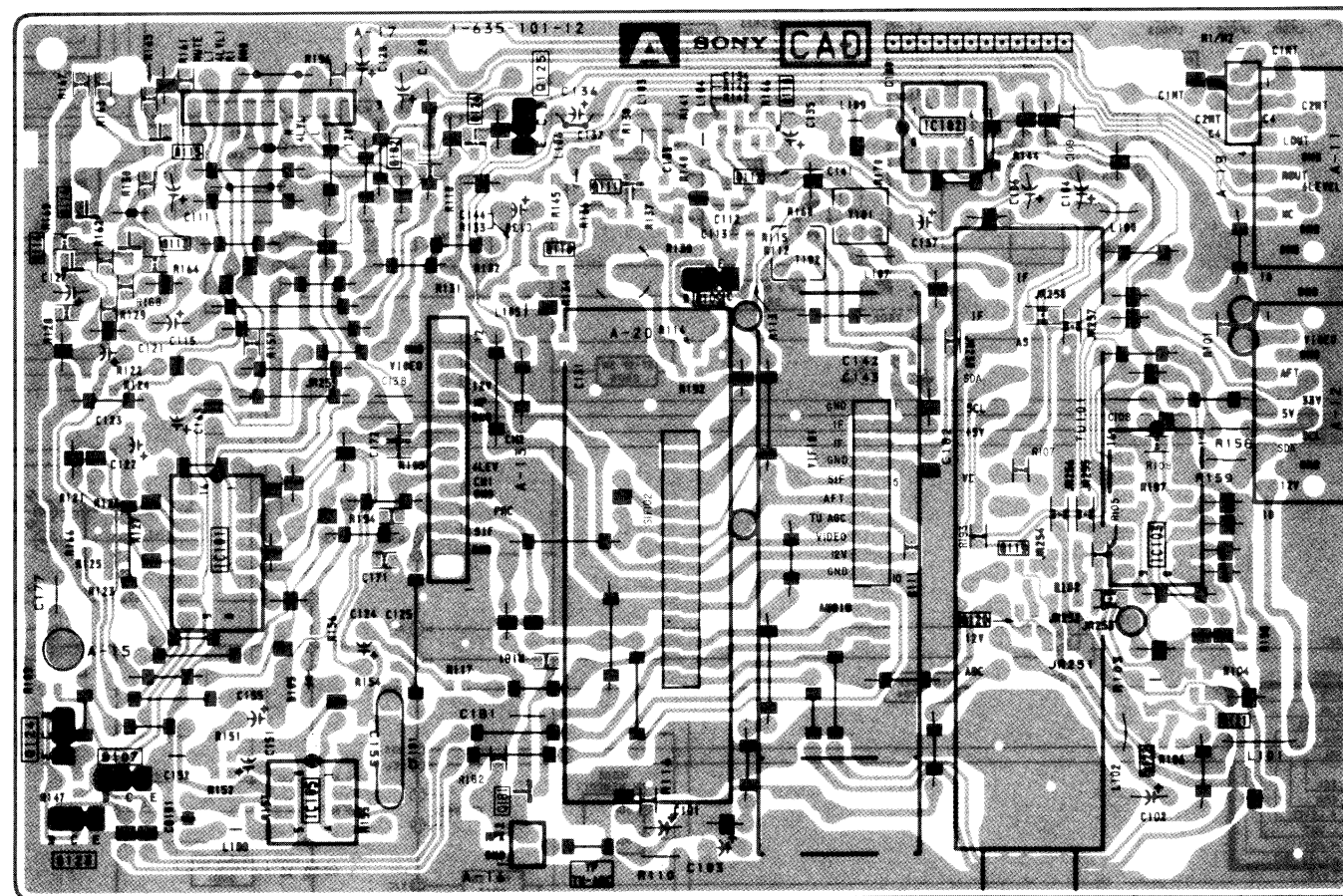
—H2 Board—



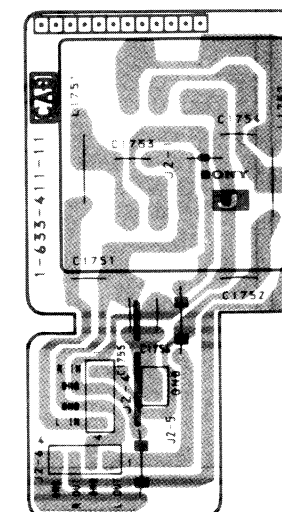
—F Board—



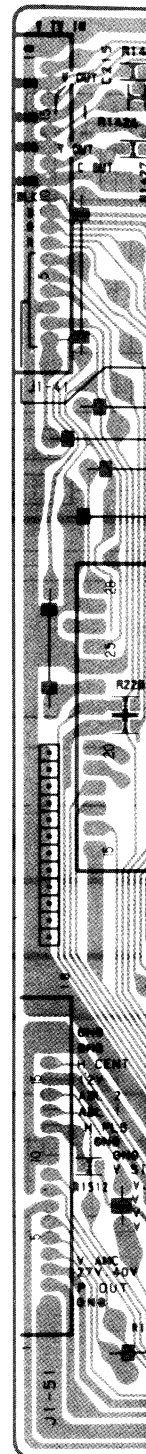
—A Board—



—J2 Board—



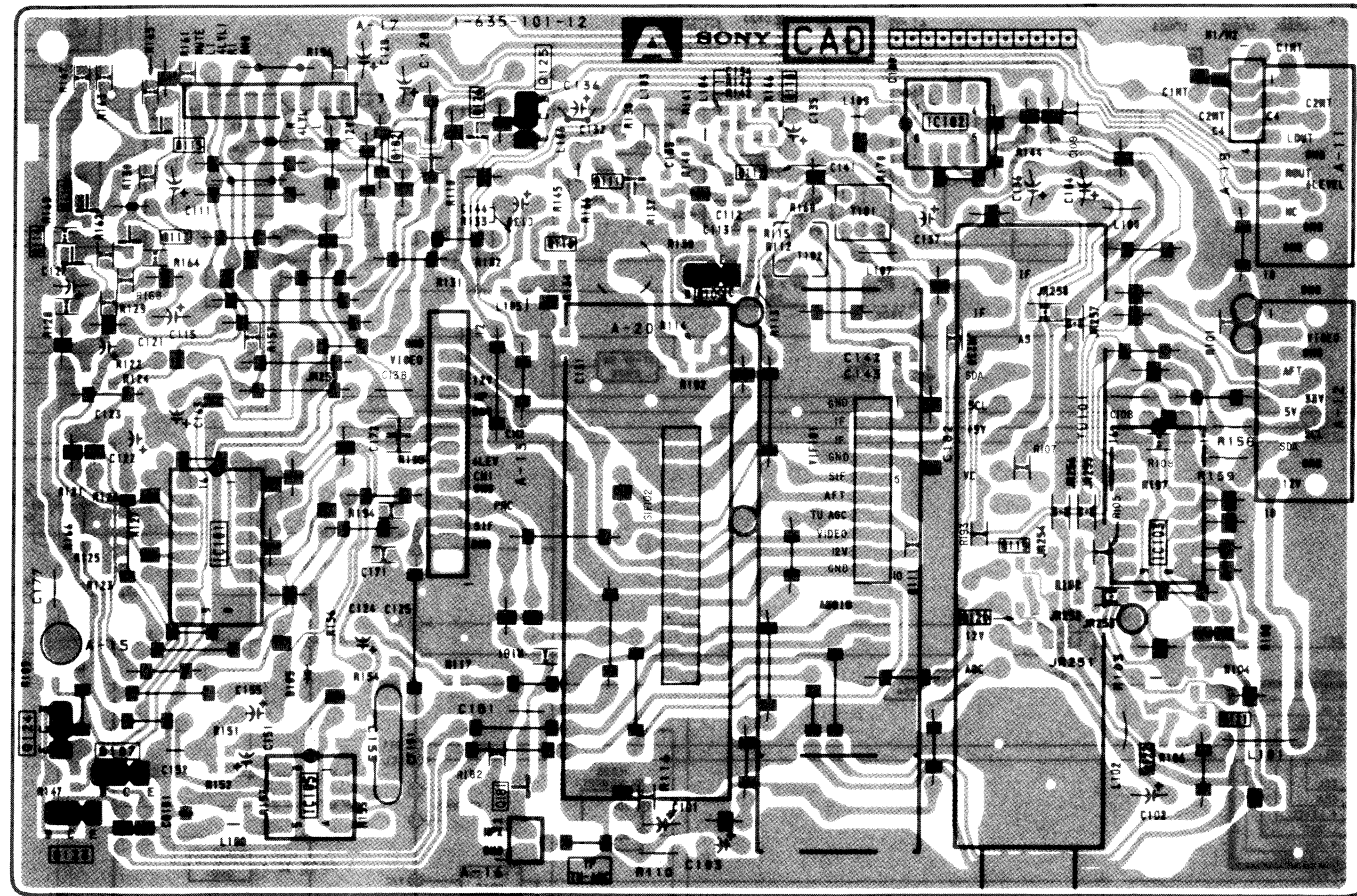
—J1 Board—



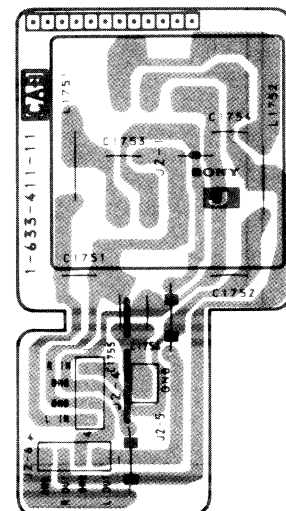
[SPEAKER
TERMINAL] **J2** [TUNER,
SIF, VIF] **A**

J1 [AUDIO CONTROL, AV INPUT,
Y/C INPUT, SCART VIDEO OUT,
EAST-WEST CORRECTION]

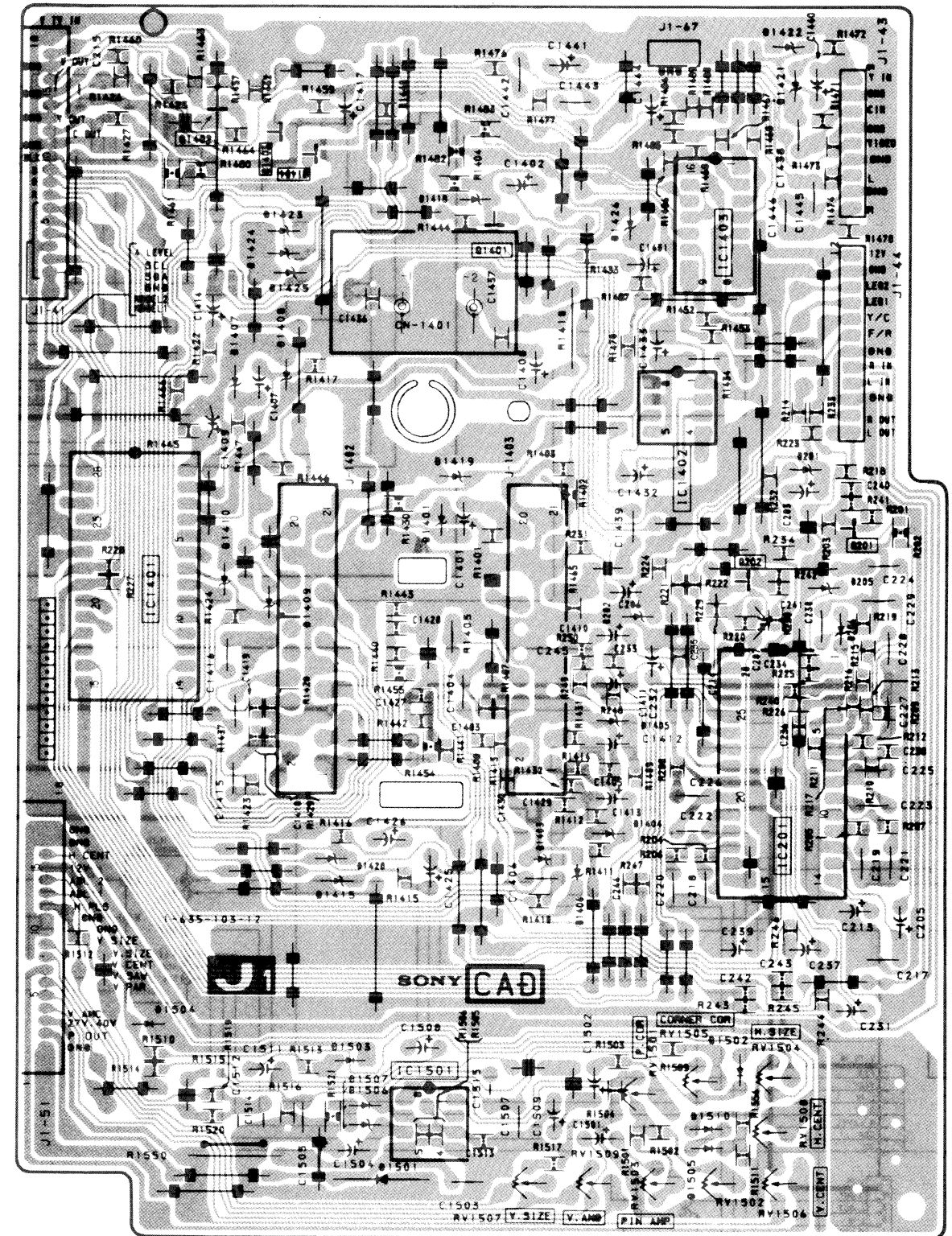
—A Board—



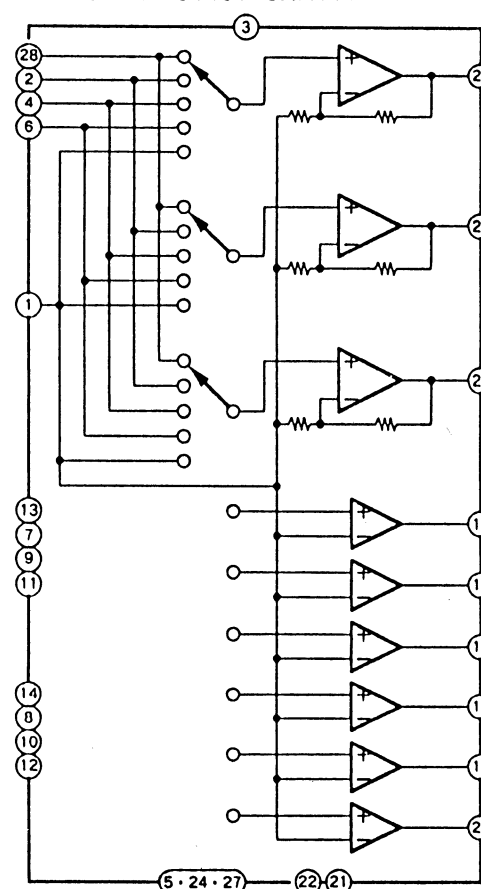
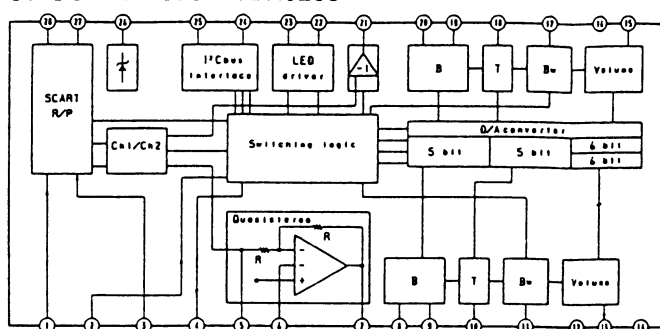
—J2 Board—



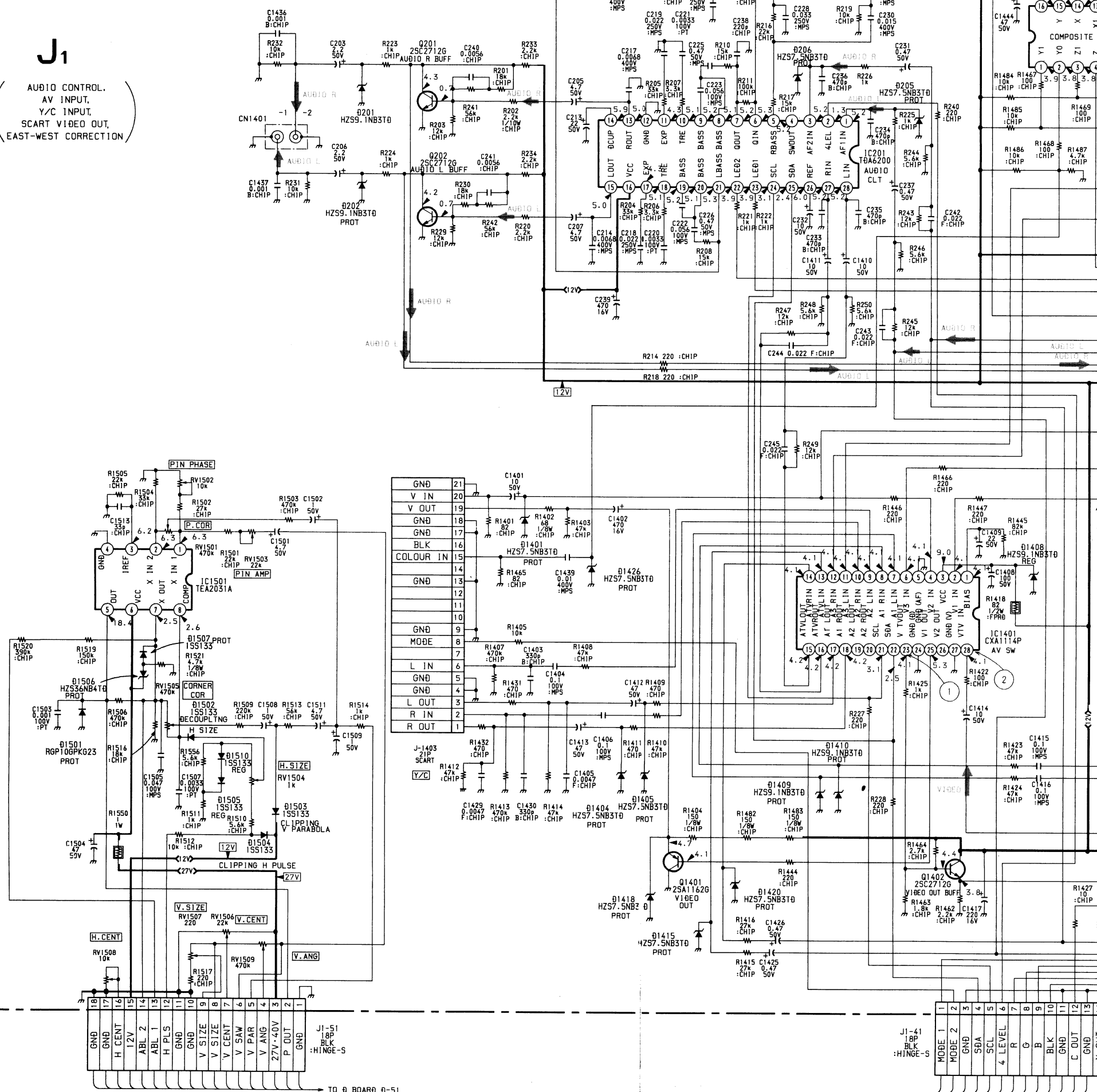
—J1 Board—

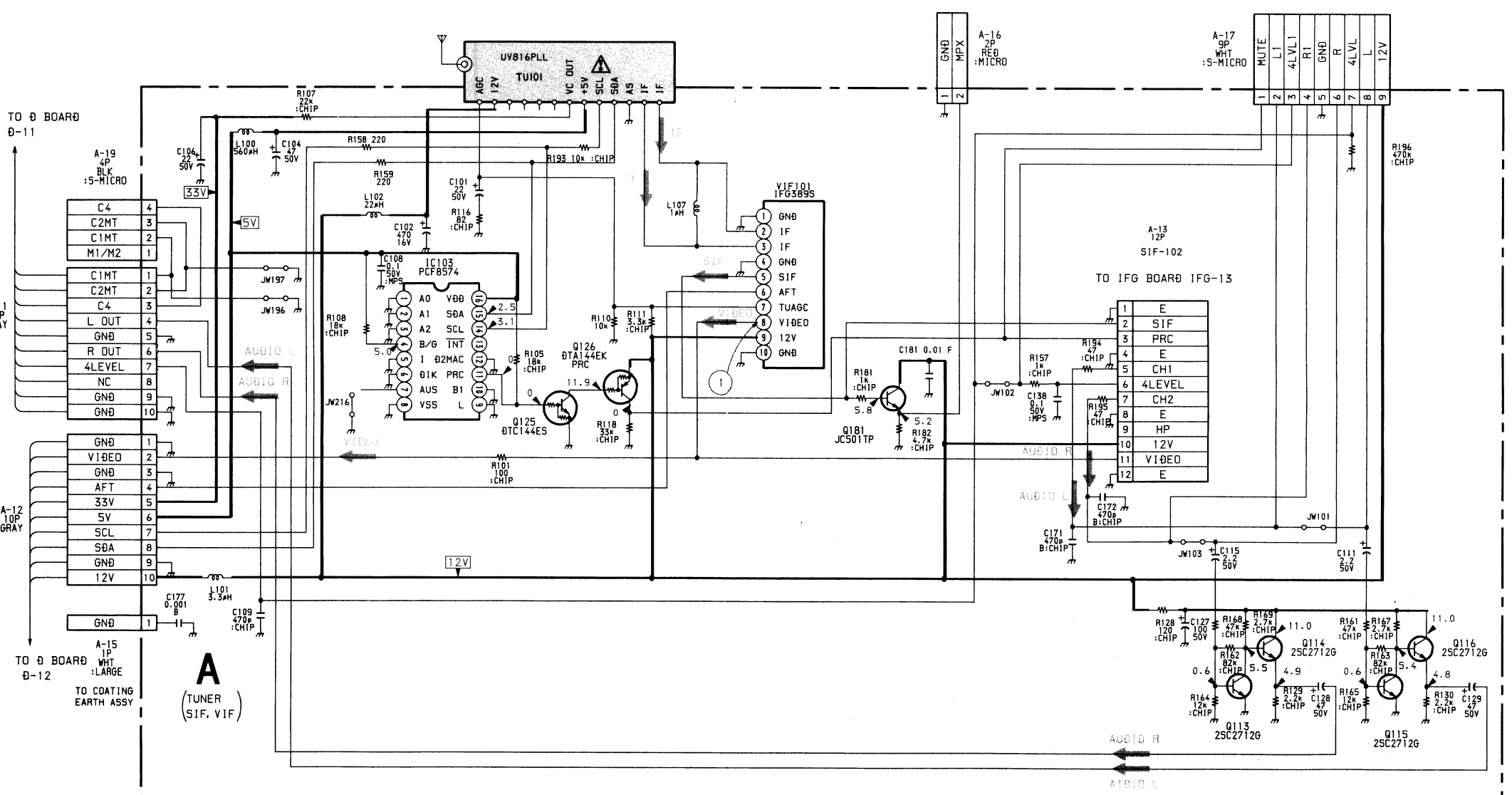
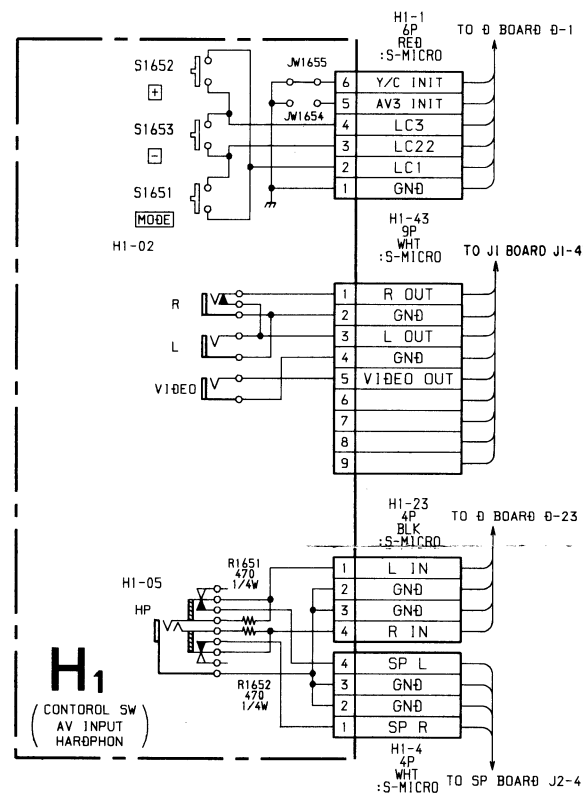


J1 BOARD IC201 TDA6200

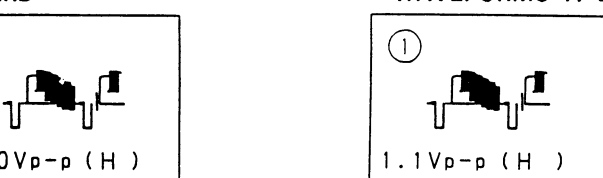


(AUDIO CONTROL,
AV INPUT,
Y/C INPUT,
SCART VIDEO OUT,
EAST-WEST CORRECTION)





- **WAVEFORMS A BOARD**



① 13V_{p-p} (H)	② 2.8V_{p-p} (V)	③ 4.5V_{p-p} (V)
④ 2.8V_{p-p} (V)	⑤ 4V_{p-p} (H)	⑥ 11V_{p-p} (H)
⑦ 14V_{p-p} (H)	⑧ 4V_{p-p} (H)	⑨ 0.1V_{p-p} (503kHz)
⑩ 1.3V_{p-p} (H)	⑪ 0.56V_{p-p} (V)	⑫ 2.0V_{p-p} (V)
⑬ 29V_{p-p} (V)	⑭ 50V_{p-p} (V)	⑮ 2.8V_{p-p} (H)
⑯ 230V_{p-p} (H)	⑰ 11.5V_{p-p} (H)	⑱ 800V_{p-p} (H)
⑲ 165V_{p-p} (H)	⑳ 7V_{p-p} (V)	㉑ 50V_{p-p} (V)
㉒ 1.2V_{p-p} (H)	㉓ 9.0V_{p-p} (H)	㉔ 3.2V_{p-p} (12MHz)
㉕ 4.0V_{p-p} (H)	㉖ 5.6V_{p-p} (H)	㉗ 4.8V_{p-p} (V)

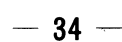
The block diagram illustrates the internal architecture of a color television receiver. Key components and their interconnections include:

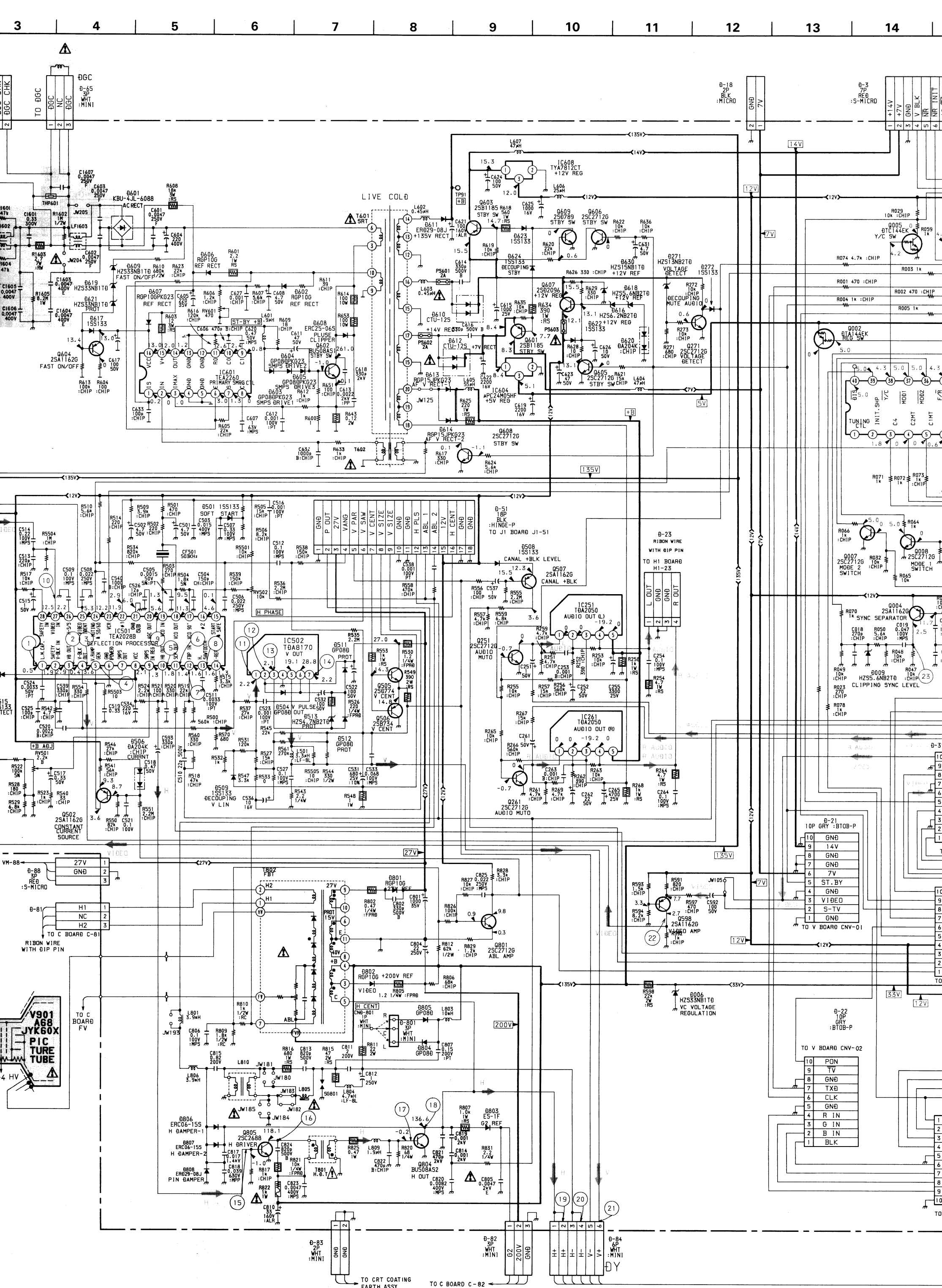
- Inputs:** H. SYNC, VCR INPUT, I DET., SUBST., AOC KEY PULSE, and VIDEO IDENTIFIC. (with Z₁ and Z₂ signals).
- Timing and Synchronization:** HORIZ. SYNCHRO AND FRAME SYNCHRO, SAFETY INPUT, and 50/60 Hz FRAME TIMING IDENTIFICATION LOGIC.
- Processing and Control:** VIDEO IDENTIFIC., I INHIBITION + TIME C SWITCHING, HORIZONTAL LOGIC TIMING, and LINE.
- Signal Generation and Output:** VCO 500KHz, REF. CURRENT VOLTAGE, H. SAW TOOTH GENERATOR, H. OUTPUT, and S. SAND CASTLE.
- Power and Safety Circuits:** SAFETY LOGIC, SWITCH ON/OFF + SAFETY CIRCUIT, SOFT STARTING CIRCUIT, S.M.P.S., and S.M.P.S. OUTPUT.
- Frame and Blanking Control:** FRAME SAW-TOOTH OUTPUT, FRAME BLANK OUTPUT, and FRAME SAFETY.

The diagram shows a complex network of signal paths, including analog video signals, timing pulses, and control signals, all coordinated to process and display video content.

The block diagram illustrates the control system for the 100 W audio amplifier. It features several key components and their interconnections:

- TONSTART PROGRAM** (Pin 1) connects to **VLF OSCILL** (Pin 10) and **REPEATED OVER CURRENT FLIP FLOP** (Pin 3).
- VLF OSCILL** (Pin 10) connects to **REPEATED OVER CURRENT FLIP FLOP** (Pin 3) and **VOLTAGE REF. INTERN. REGU.** (Pin 5).
- REPEATED OVER CURRENT FLIP FLOP** (Pin 3) connects to **VOLTAGE REF. INTERN. REGU.** (Pin 5) and **VCC COMPARATOR** (Pin 15).
- VOLTAGE REF. INTERN. REGU.** (Pin 5) connects to **VCC COMPARATOR** (Pin 15).
- VCC COMPARATOR** (Pin 15) connects to **STOP FLIP FLOP** (Pin 11) and **+1 AMP** (Pin 16).
- STOP FLIP FLOP** (Pin 11) connects to **IC RECOPY** (Pin 12) and **DELAY** (Pin 13).
- IC RECOPY** (Pin 12) connects to **+1 AMP** (Pin 16).
- DELAY** (Pin 13) connects to **-1 AMP** (Pin 14).
- RC OSCILLATOR** (Pin 1) connects to **SYNC. SWITCH** (Pin 2) and **START STOP SHAPER** (Pin 4).
- SYNC. SWITCH** (Pin 2) connects to **START STOP SHAPER** (Pin 4).
- START STOP SHAPER** (Pin 4) connects to **STOP FLIP FLOP** (Pin 11) and **IC1 IC2 IC LIMIT** (Pin 11).
- IC1 IC2 IC LIMIT** (Pin 11) connects to **STOP FLIP FLOP** (Pin 11) and **-1 AMP** (Pin 14).



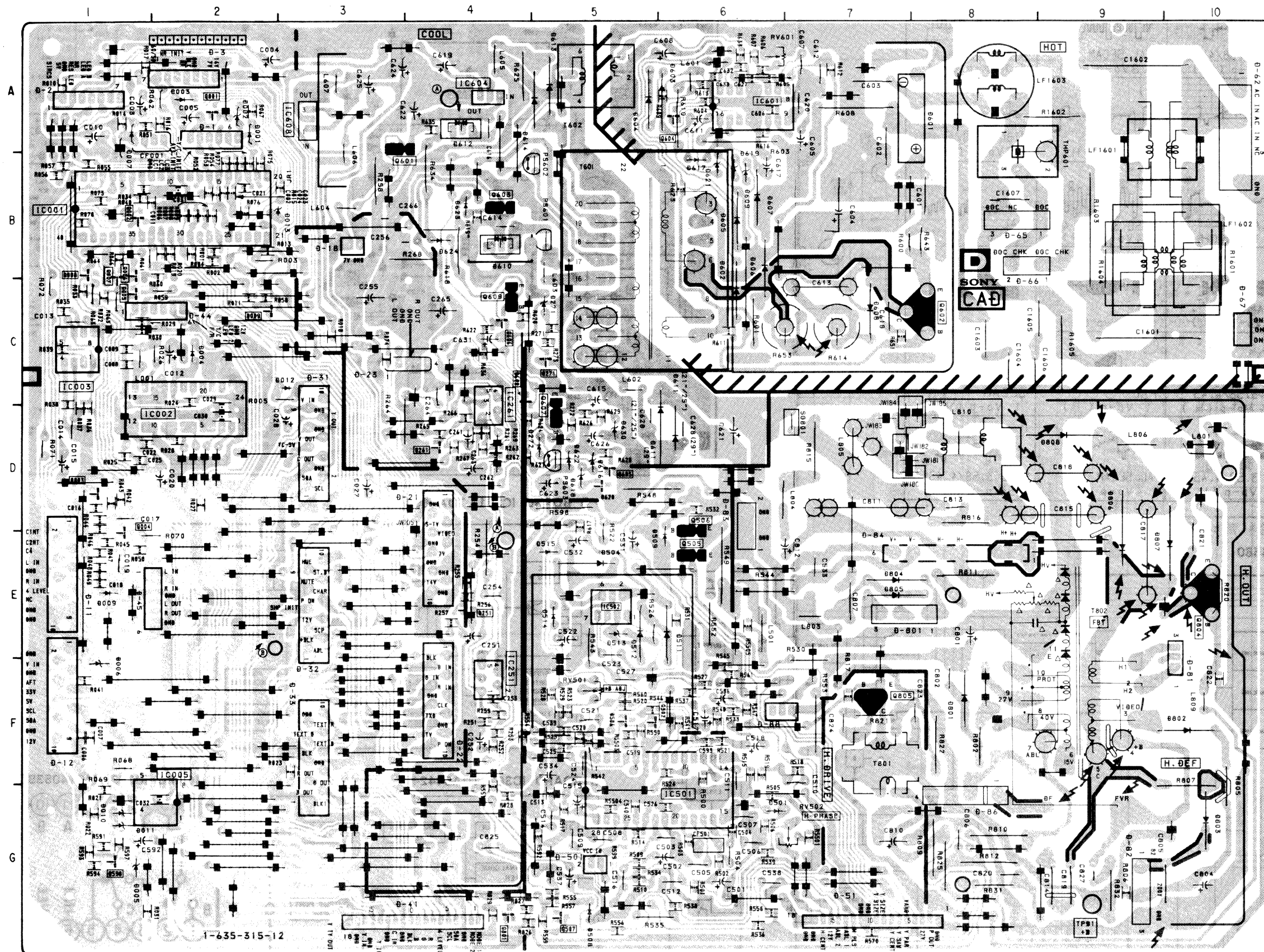


TUNING CONTROL,
POWER CONTROL,
AUDIO OUT, H/V OUT

D

D

-D Board-

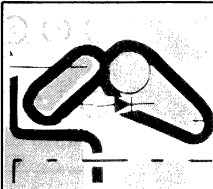


IC		D007	A-1
IC001	B-2	D009	E-1
IC002	D-2	D010	G-1
IC003	C-1	D011	G-1
IC005	G-2	D271	C-5
IC251	F-4	D272	D-5
IC261	C-4	D501	G-6
IC501	G-6	D504	E-5
IC502	E-5	D506	E-6
IC601	A-6	D508	G-5
IC604	A-4	D509	D-6
IC608	A-3	D511	E-6
		D512	E-5
		D513	E-5
		D514	E-5
		D515	E-5
TRANSISTOR		D601	A-8
Q001	A-2	D602	C-6
Q002	B-1	D603	A-6
Q003	D-1	D604	A-5
Q004	D-1	D605	B-6
Q005	C-1	D606	B-6
Q006	B-1	D607	B-6
Q007	C-1	D608	C-7
Q008	C-1	D609	B-6
Q009	C-2	D610	B-4
Q251	E-4	D611	D-6
Q261	D-4	D612	A-4
Q271	C-5	D613	A-5
Q502	F-6	D614	A-5
Q505	E-6	D616	D-5
Q506	E-6	D617	B-6
Q507	G-5	D618	D-5
Q598	G-1	D619	B-6
Q601	B-4	D620	D-5
Q602	C-8	D621	B-6
Q603	B-4	D622	D-5
Q604	A-6	D623	B-4
Q605	D-5	D624	B-4
Q606	C-4	D630	D-5
Q607	D-5	D801	F-8
Q608	C-4	D802	F-10
Q609	C-4	D803	G-10
Q801	G-4	D804	E-7
Q804	E-10	D805	E-7
Q805	F-7	D806	E-9
		D807	E-10
		D808	D-9
DIODE		VARIABLE RESISTOR	
D001	A-2	RV501	F-5
D002	A-2	RV502	G-7
D003	A-2	RV601	A-6
D004	C-2		
D005	G-1		
D006	F-1		

07	A-1
09	E-1
10	G-1
11	G-1
71	C-5
72	D-5
01	G-6
04	E-5
06	E-6
08	G-5
09	D-6
11	E-6
12	E-5
13	E-5
14	E-5
15	E-5
01	A-8
02	C-6
03	A-6
04	A-5
05	B-6
06	B-6
07	B-6
08	C-7
09	B-6
10	B-4
11	D-6
12	A-4
13	A-5
14	A-5
16	D-5
17	B-6
18	D-5
19	B-6
20	D-5
21	B-6
22	D-5
23	B-4
24	B-4
30	D-5
01	F-8
02	F-10
03	G-10
04	E-7
05	E-7
06	E-9
07	E-10
08	D-9

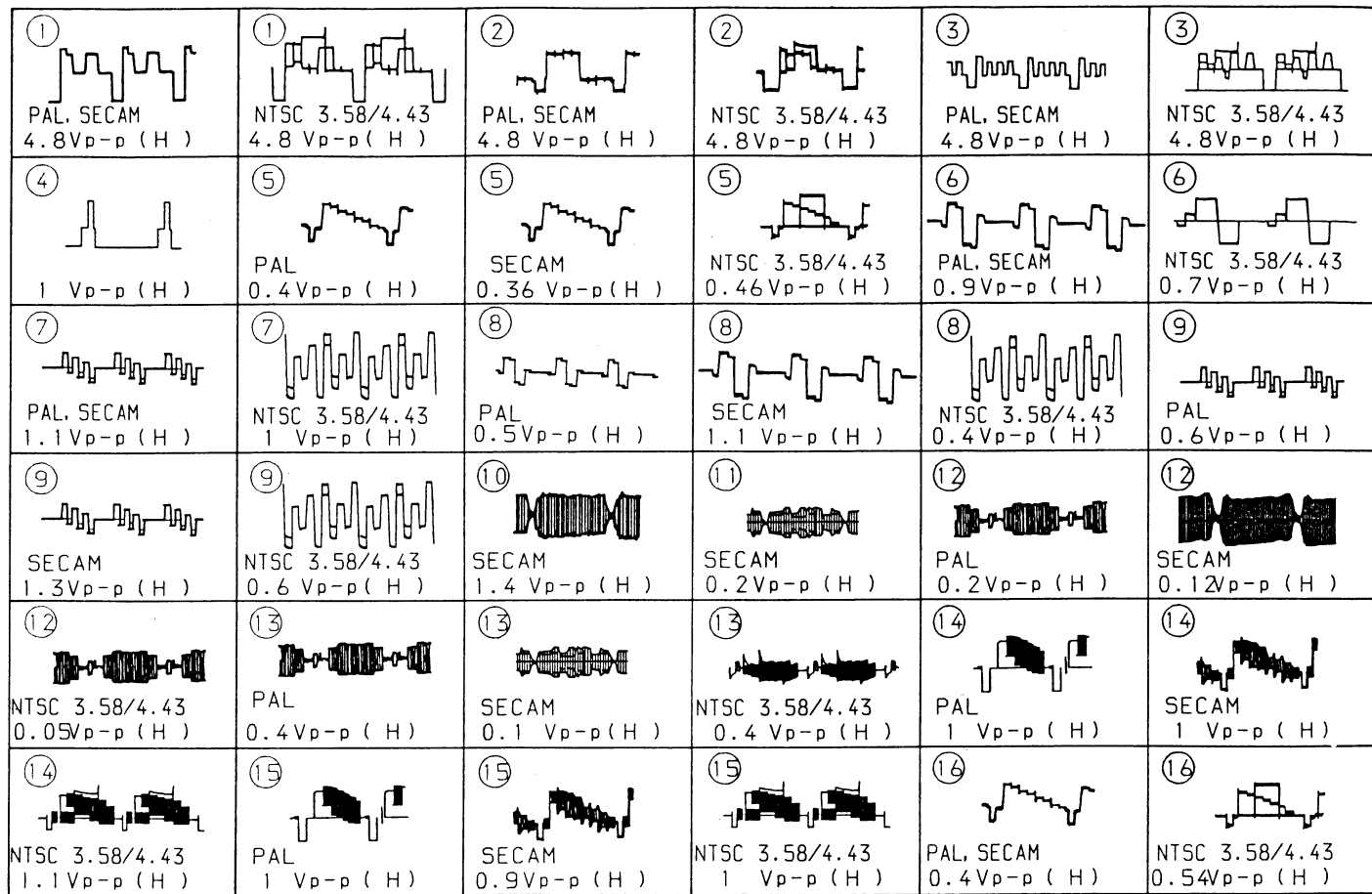
VARIABLE
RESISTOR

501	F-5
502	G-7
501	A-6

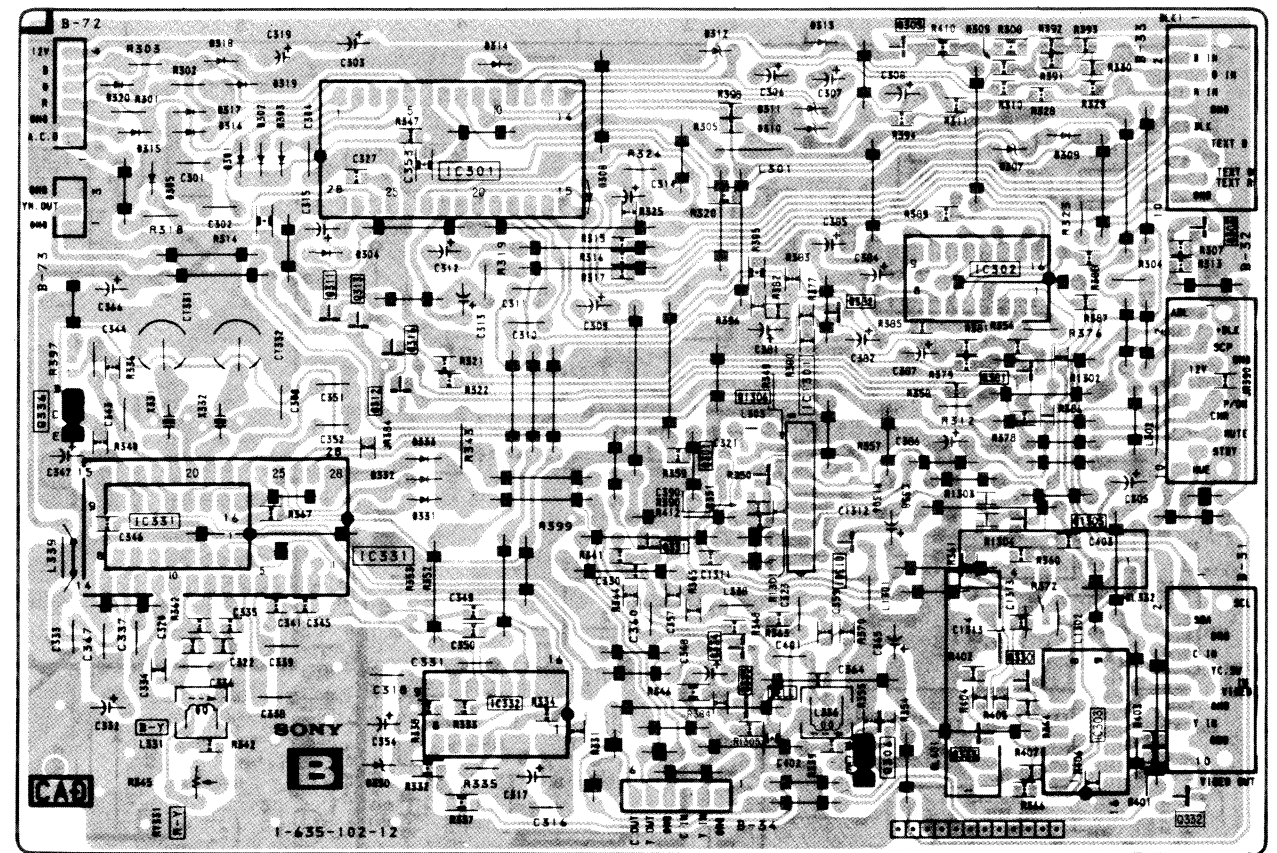


NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

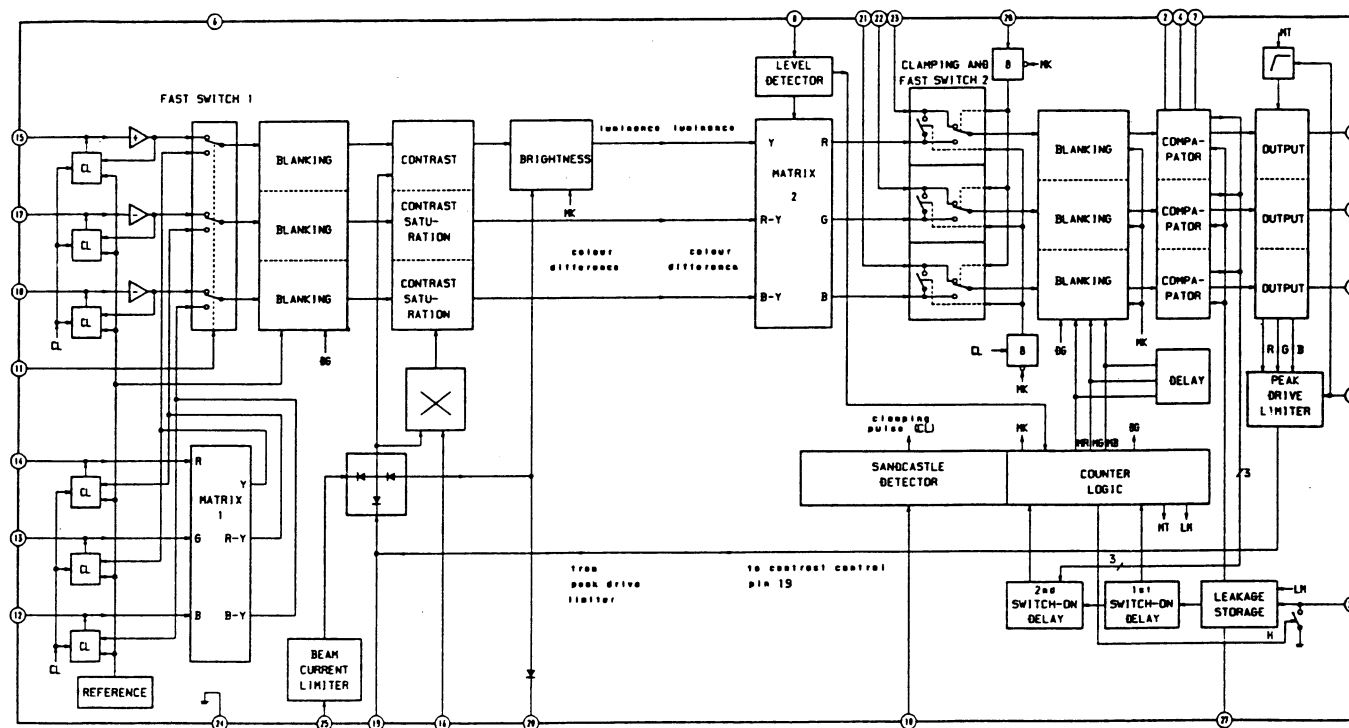
• WAVEFORMS B BOARD



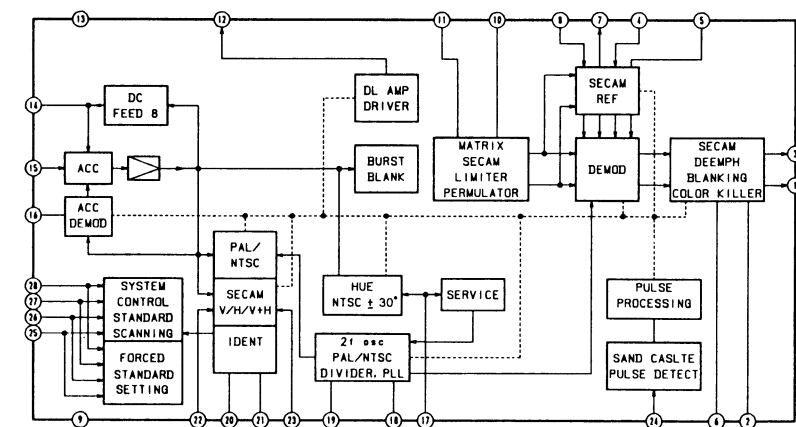
-B Board-



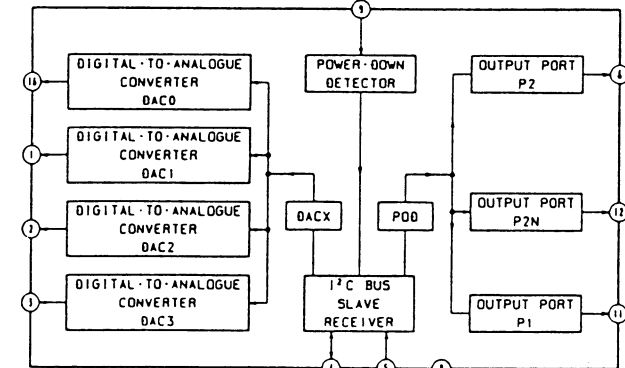
B BOARD IC301 TDA4580



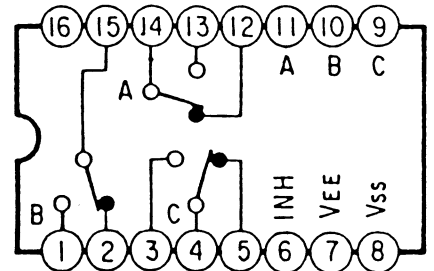
• B BOARD IC331 TDA4650



B BOARD IC302 TDA8442-N3

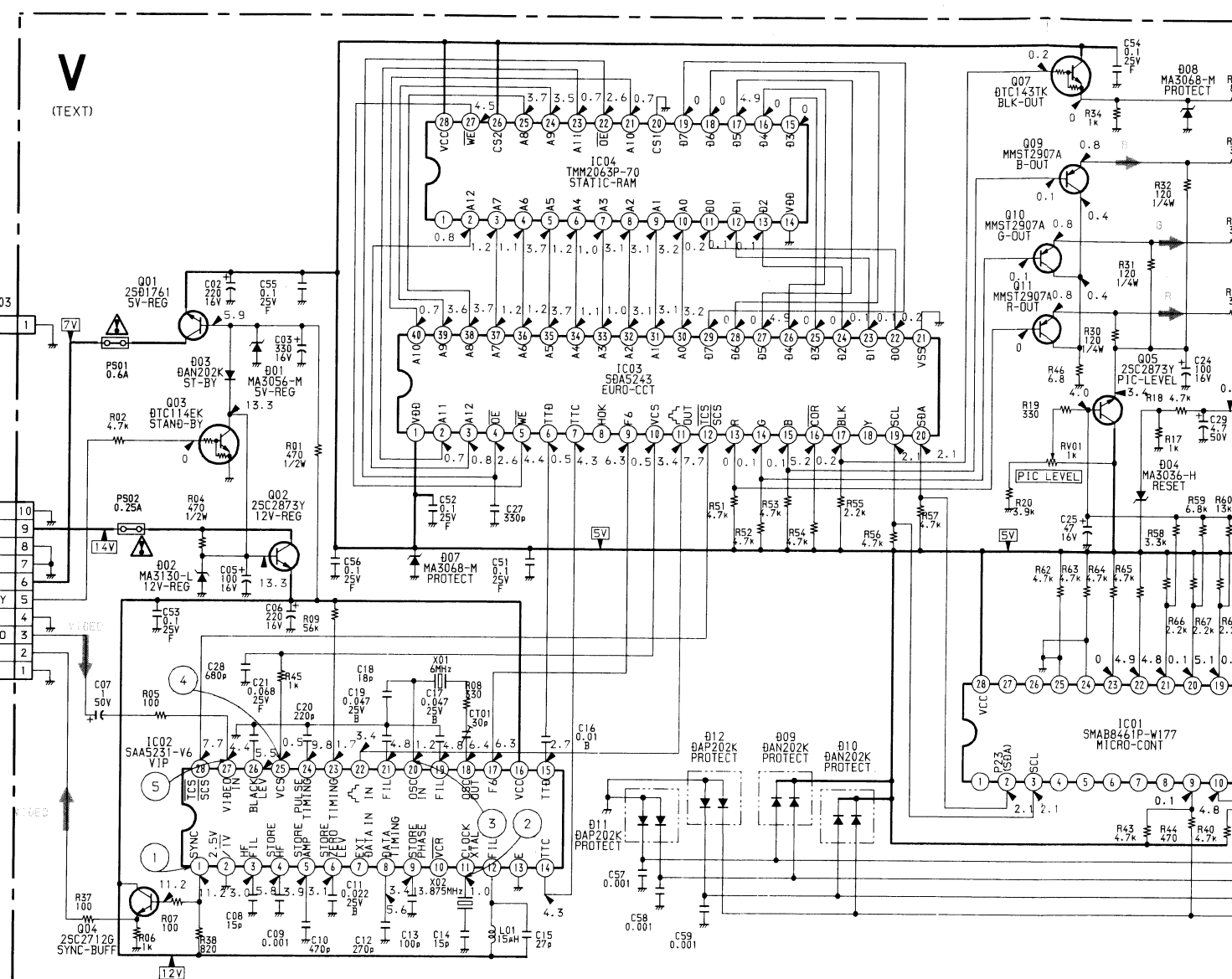


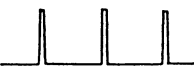
B BOARD IC303 MC14053BCP

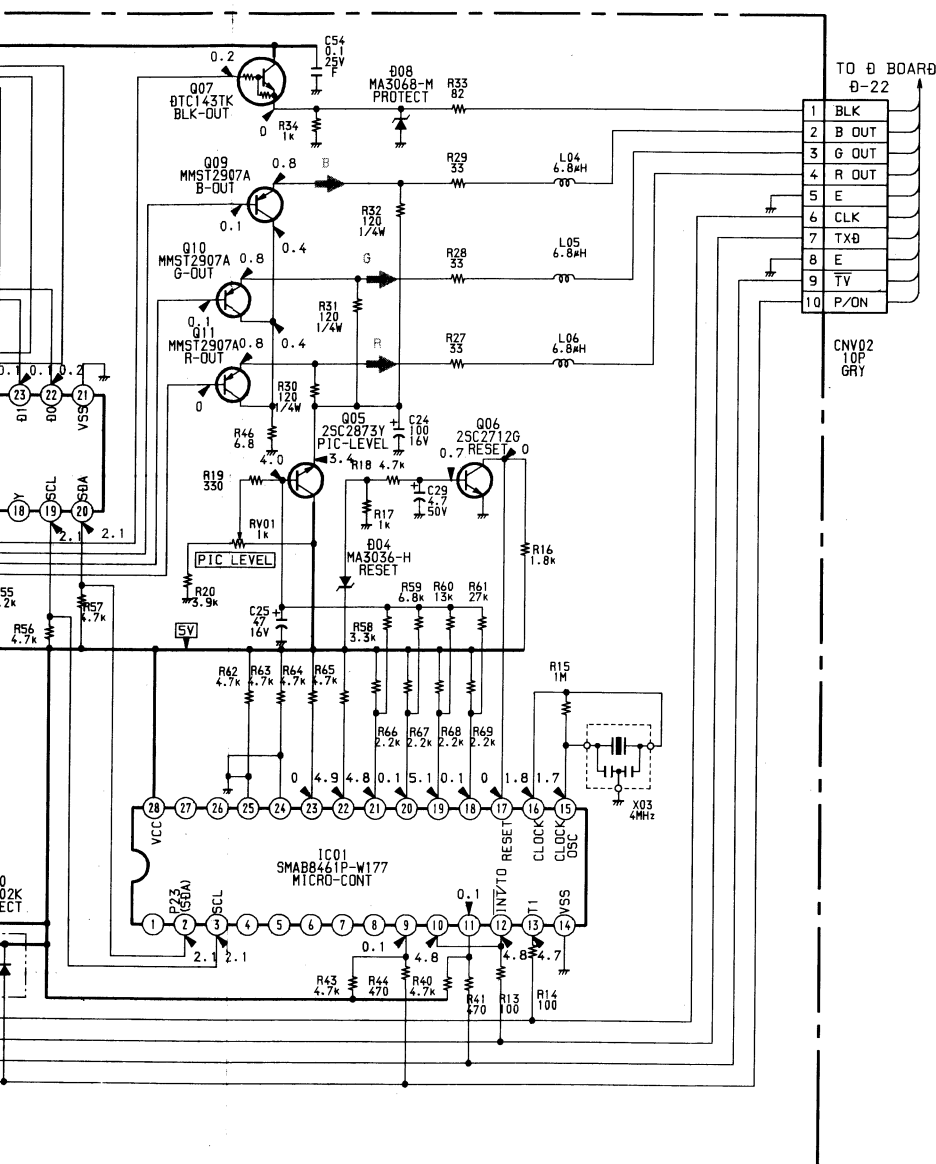


As to the voltage value shown by the mark ※ on the Schematic Diagram, see the another list.

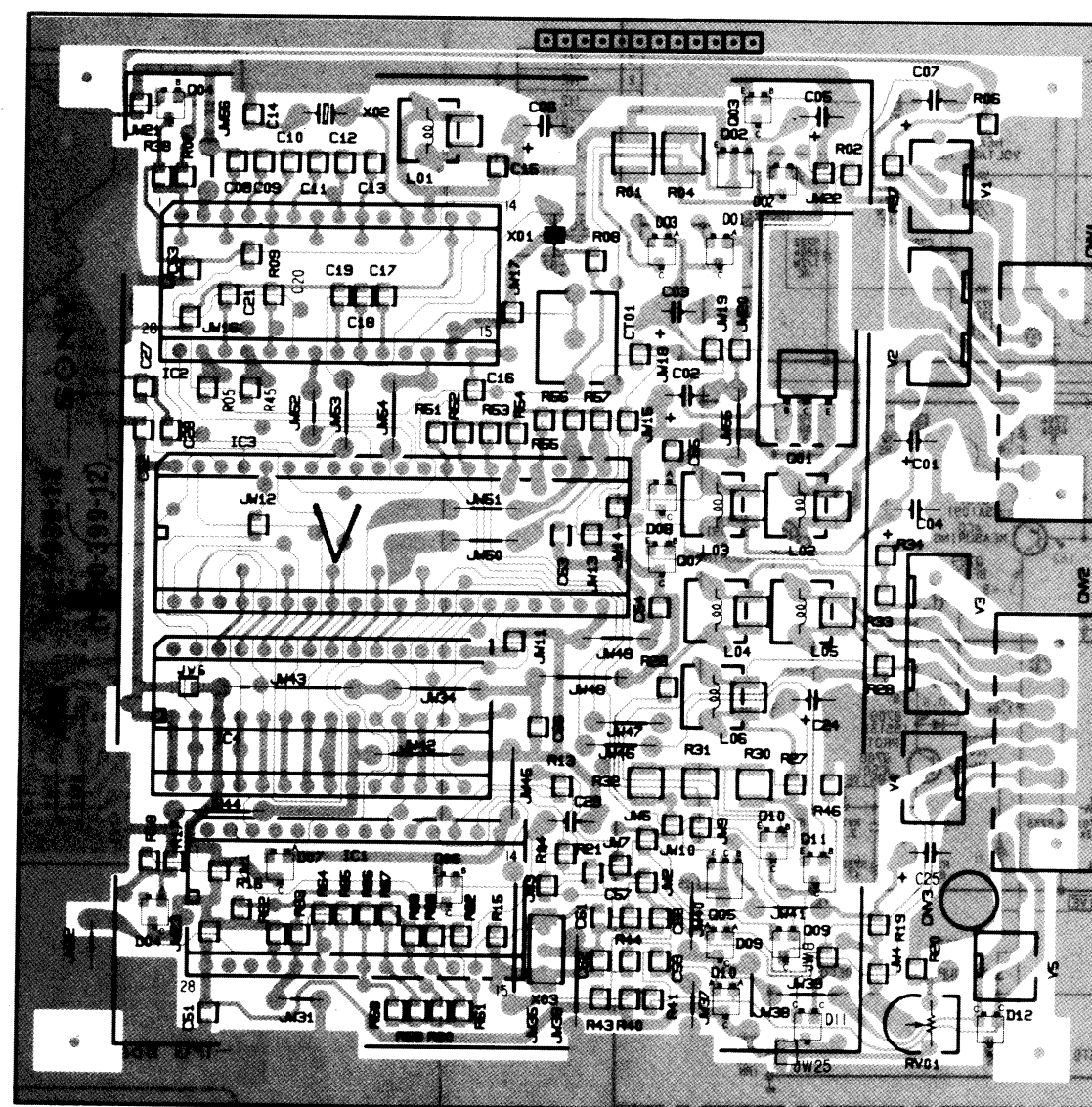
	PAL	SECAM	NTSC3.58	NTSC4.43
IC301 (A)	0.1	0.1	5.8	0.1
(24)	6.7	6.8	5.1	5.1
IC331 (19)	3.1	3.6	3.1	2.8
(21)	3.0	3.5	2.9	2.7
(22)	5.6	5.6	7.1	7.2
(23)	7.5	7.0	5.6	5.6
(25)	0.1	0.1	0.1	5.8
(26)	0.1	0.1	5.8	0.1
(27)	0.1	5.8	0.1	0.1
(28)	5.9	0.1	0.1	0.1
Q331 (B)	0.1	0.1	5.8	0.1
(C)	1.5	1.9	0	0.8
Q333 (B)	3.4	4.4	4.4	4.4
Q334 (B)	4.9	0.1	4.8	4.8
Q335 (B)	0.1	4.8	0.1	0.1
Q336 (B)	0.1	5.8	0.1	0.1
(C)	7.3	0	7.3	7.3



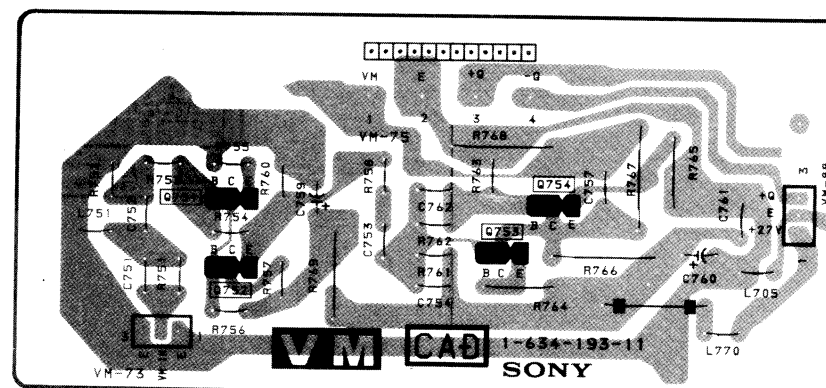
①  0.9 V_{p-p} (H)	②  0.9 V_{p-p}(13.875MHz)	③  0.4 V_{p-p} (6MHz)
④  2.8 V_{p-p} (H)	⑤  1 V_{p-p} (H)	

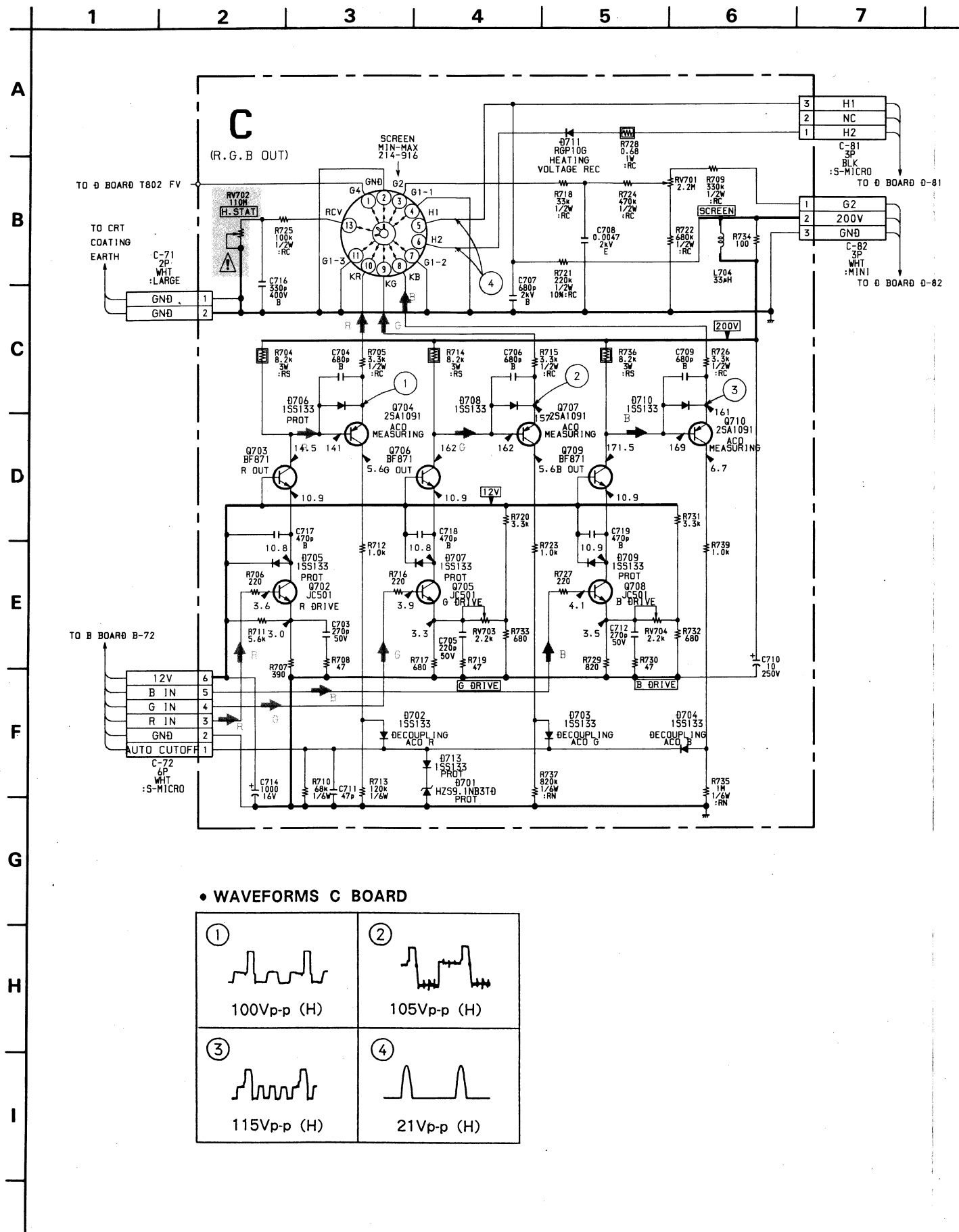


-V Board-

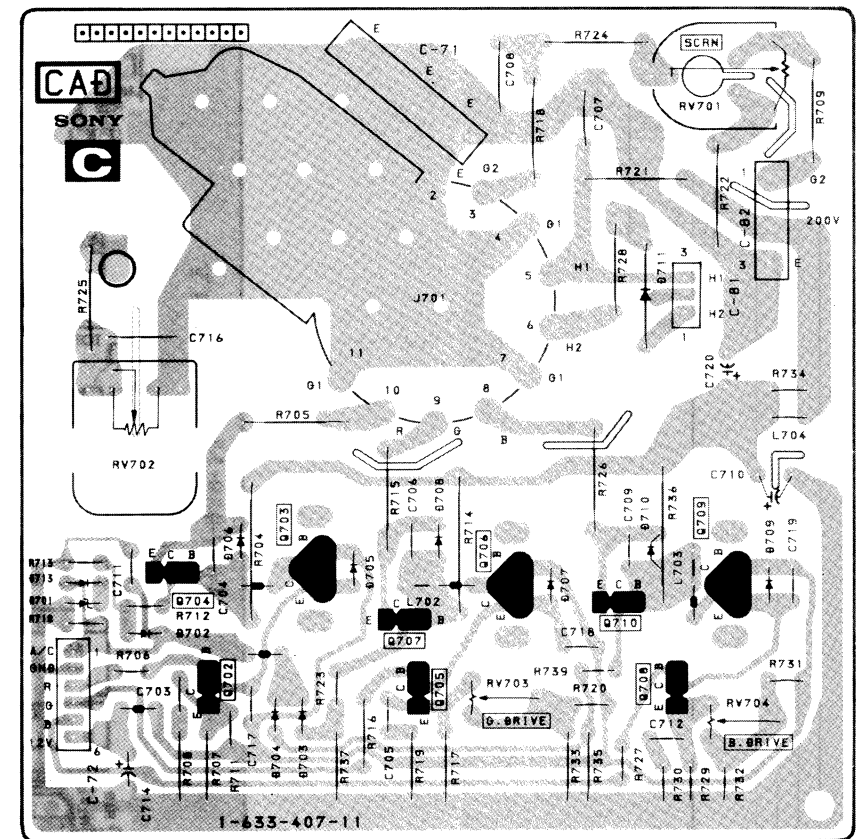


-VM Board-

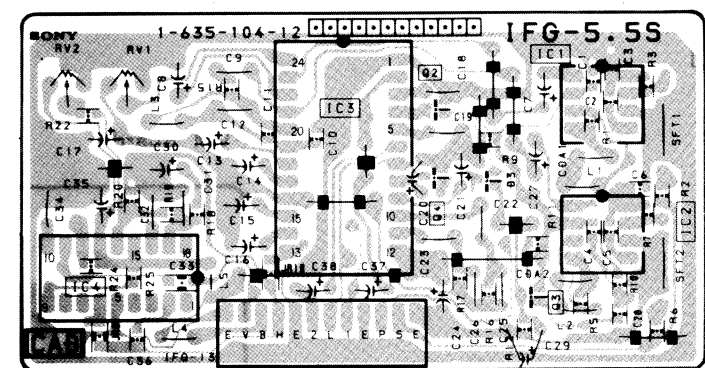




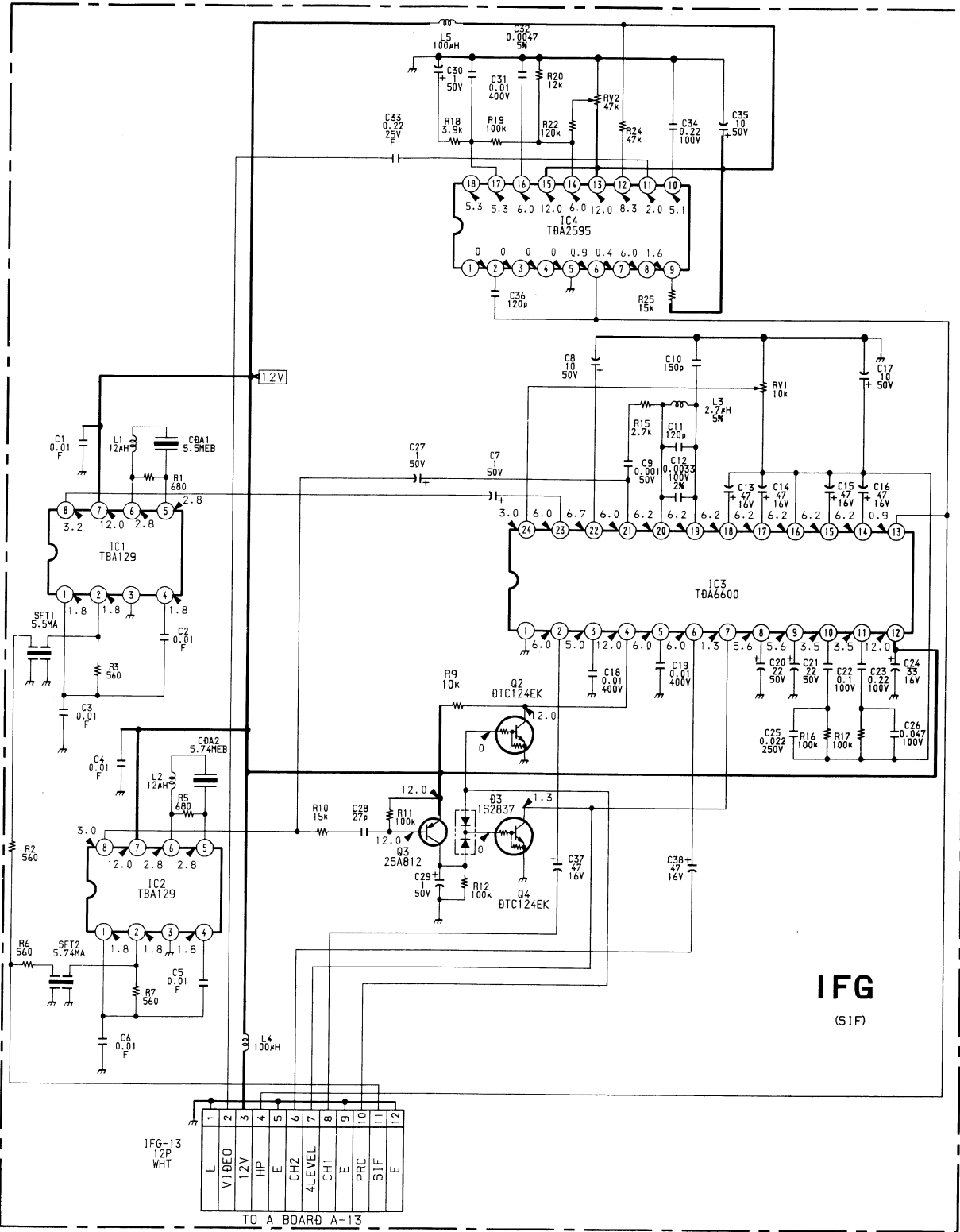
—C Board—



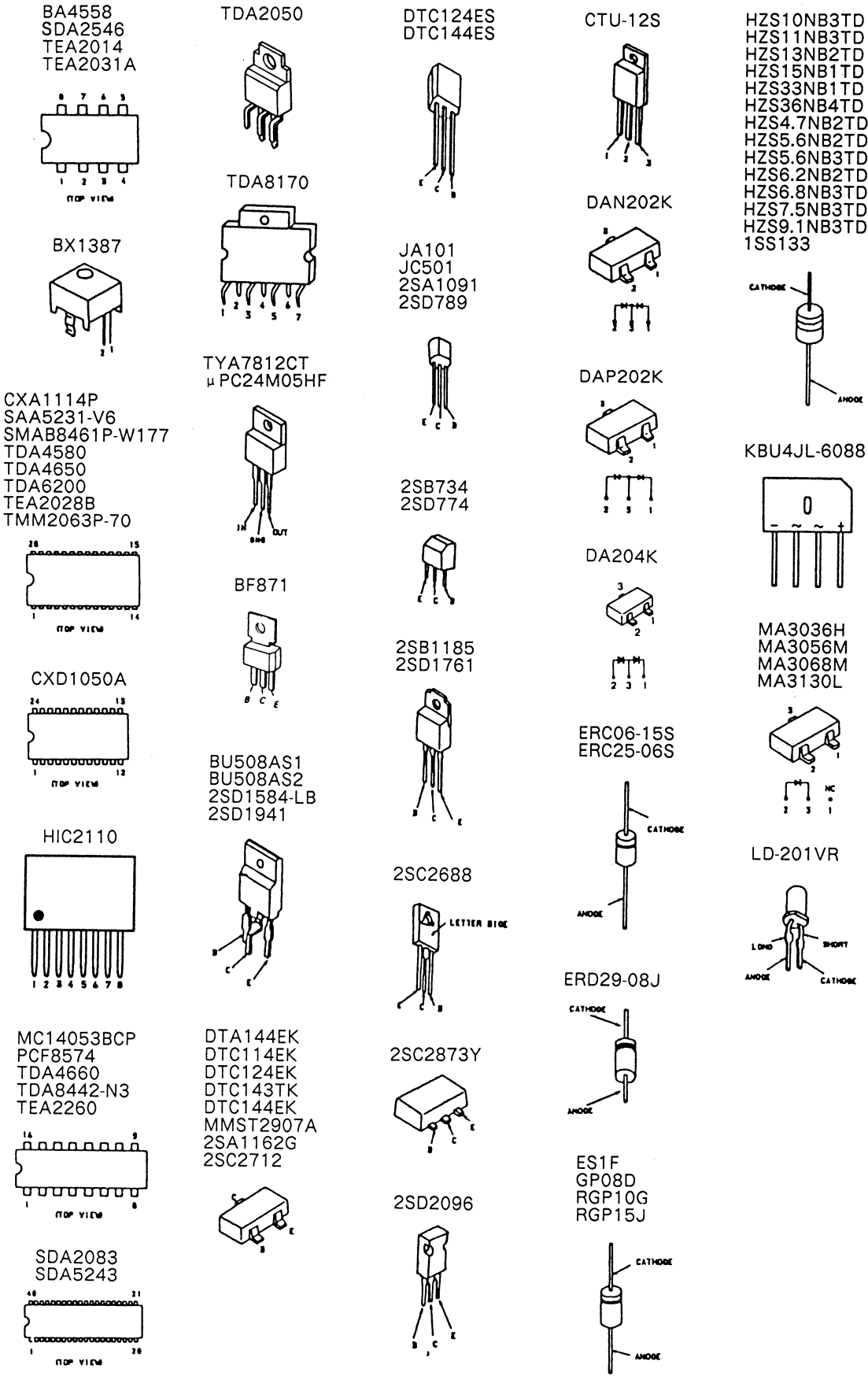
—IFG Board—



5-4. SCHEMATIC DIAGRAM (SIF-102 IFG-5.5G)



5-5. SEMICONDUCTORS



SECTION 6 EXPLODED VIEWS

NOTE:

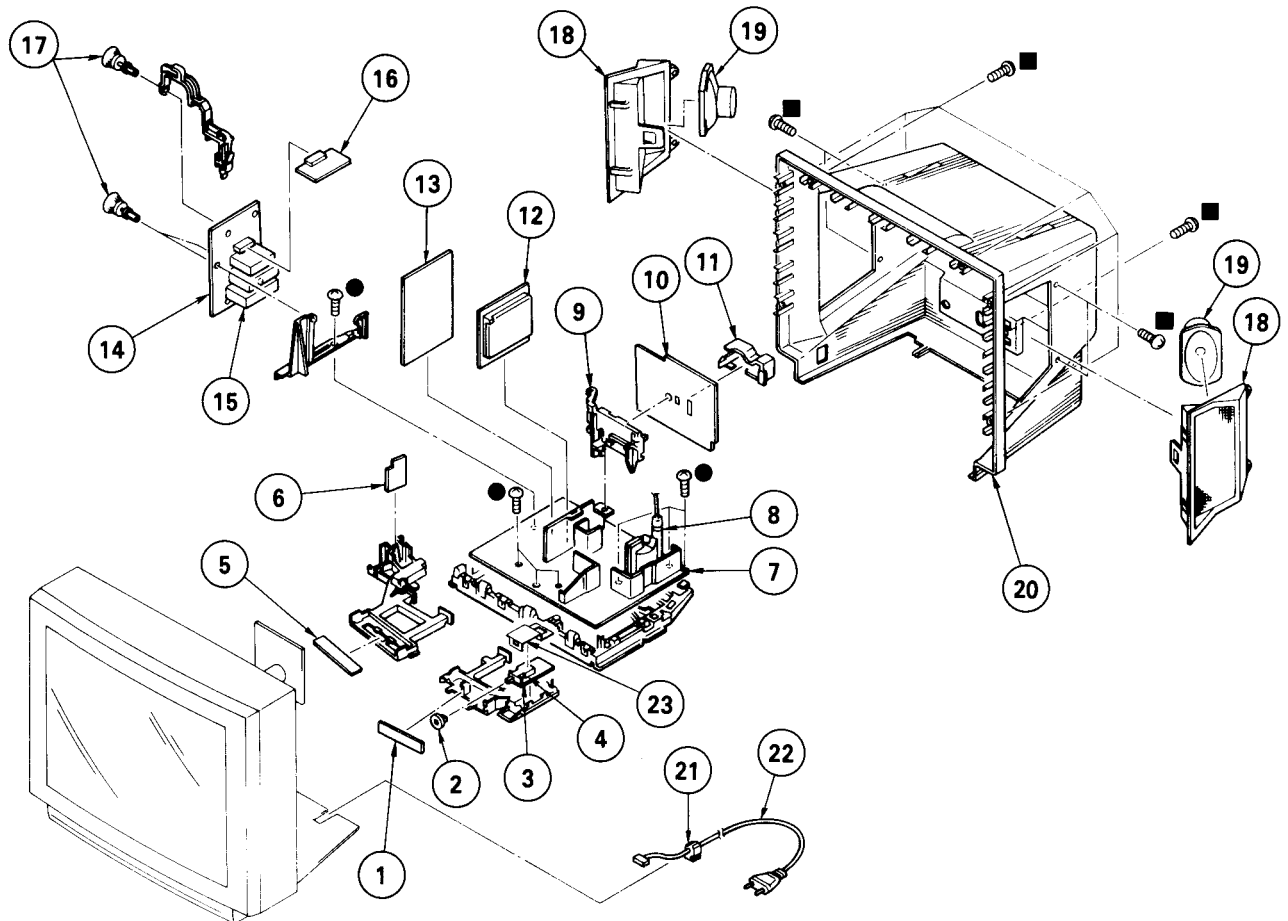
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark **▲** are critical for safety.
Replace only with part number specified.

(1) CHASSIS

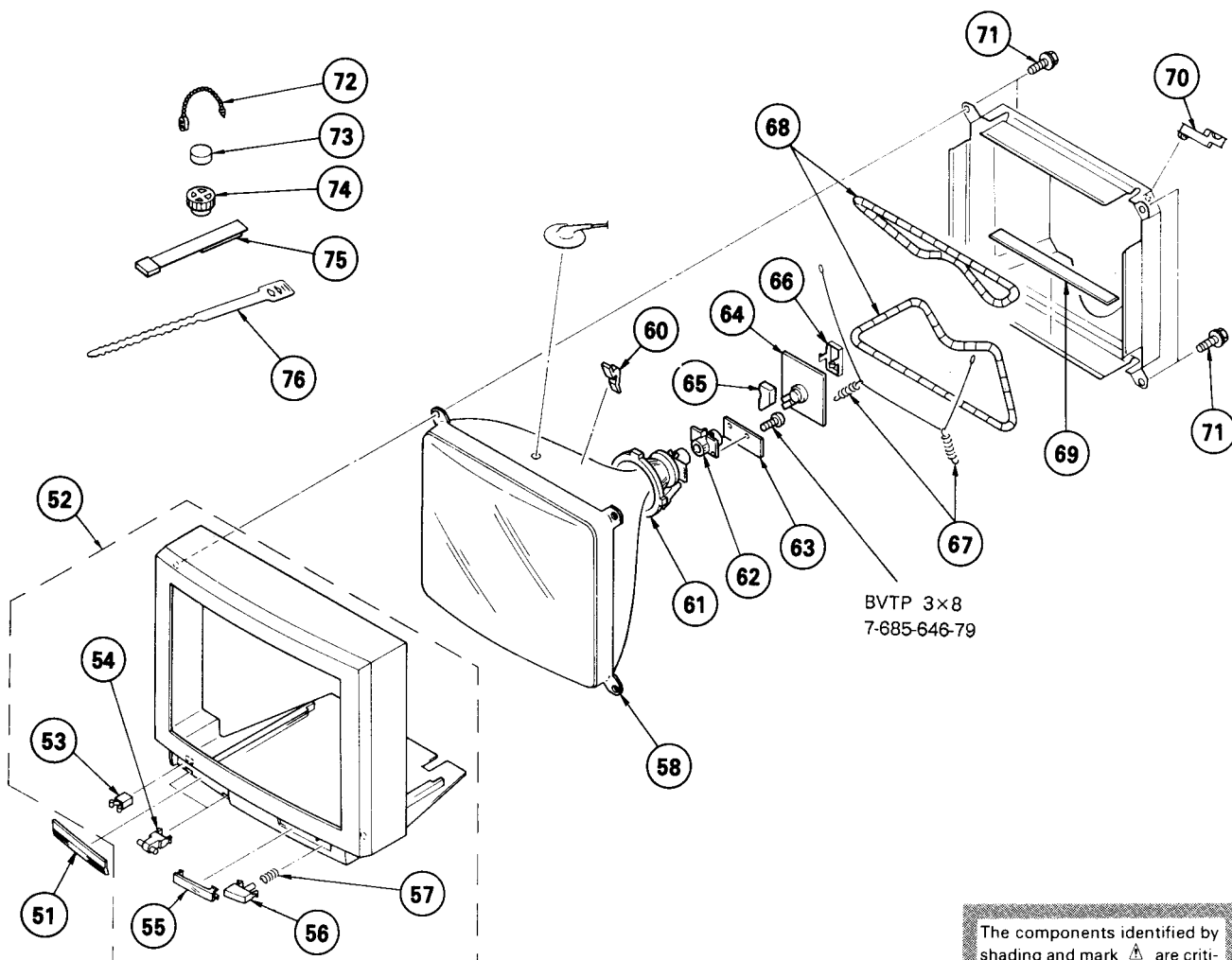
●: BVTP 3×12 7-685-648-79

■: BVTP 4×16 7-685-663-79



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
1	*1-633-410-11	H2 BOARD		13	*A-1621-011-A	B BOARD, COMPLETE	
2	4-386-611-01	COVER, SWITCH		14	*A-1632-005-A	A BOARD, COMPLETE	
3	*1-633-408-11	F BOARD		15	▲.1-465-301-11	TUNER, ET (UV-816(PLL))	
4	▲.1-571-433-11	SWITCH, PUSH (AC POWER)		16	*A-1654-003-A	IFG BOARD, COMPLETE	
5	*1-633-409-11	H1 BOARD		17	4-386-618-01	RIVET, T TYPE	
6	*1-633-411-11	J2 BOARD		18	X-4398-901-1	BOARD ASSY, Baffle	
7	*A-1642-008-A	D BOARD, COMPLETE		19		SPEAKER	
8	▲.1-439-416-11	TRANSFORMER ASSY, FLYBACK (UX-1600)		20	4-398-910-01	COVER, REAR	
9	*4-386-624-11	BRACKET, J		21	▲.4-389-201-02	HOLDER, AC CORD	
10	*A-1651-015-A	J1 BOARD, COMPLETE		22	▲.1-575-487-11	CORD, POWER (WITH NOISE FILTER)	
11	4-200-014-01	BRACKET, TERMINAL		23	4-200-274-01	COVER, POWER SWITCH	
12	*A-1347-031-A	V BOARD, COMPLETE					

(2) PICTURE TUBE



The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
51	4-398-911-01	DOOR, CONTROL		65	*4-379-167-01	COVER (MAIN), CV	
52	X-4398-902-1	CABINET ASSY (WITH BEZEL ASSY)	53-57	66	*4-379-160-01	COVER (REAR LID), CV	
53	4-392-036-01	CATCHER, PUSH		67	4-369-318-00	SPRING, TENSION	
54	3-703-035-11	SHAFT, LID		68	⚠ 1-426-398-11	COIL, DEMAGNETIZATION	
55	4-200-148-01	WINDOW, ORNAMENTAL		69	4-389-291-01	CUSHION	
56	4-200-150-01	BUTTON, POWER		70	*4-387-216-01	HOLDER, LEAD	
57	4-329-112-21	SPRING		71	4-373-263-01	SCREW (M), PT	
58	⚠ 8-733-823-05	PICTURE TUBE (A68JYK60X)		72	4-308-870-00	CLIP, LEAD WIRE	
60	3-704-495-01	SPACER, DY		73	1-452-032-00	MAGNET, DISK; 10MM ⌀	
61	⚠ 1-451-313-21	DEFLECTION YOKE (Y29FXA)		74	1-452-094-00	MAGNET, ROTABLE DISK; 15MM ⌀	
62	⚠ 1-452-509-42	NECK ASSY, PICTURE TUBE (NA-308)		75	X-4387-214-1	PERMALLOY ASSY, CORRECTION	
63	*1-634-193-11	VM BOARD		76	3-701-007-00	BAND, BINDING	
64	*A-1638-007-A	C BOARD, COMPLETE					

SECTION 7 ELECTRICAL PARTS LIST

V

NOTE:

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

• Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

• All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS

• All resistors are in ohms
• F : nonflammable

When indicating parts by reference number, please include the board name.

CAPACITORS

• MF : μ F, PF : μ F

COILS

• MMH : mH, UH : μ H

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
	*A-1347-031-A	V BOARD, COMPLETE *****				<DIODE>	
	*4-380-699-01	CASE (UPPER LID), SHIELD, A1		D01	8-719-105-91	DIODE RD5.6M-B2	
		<CAPACITOR>		D02	8-719-106-79	DIODE RD13M-B1	
C02	1-124-120-11	ELECT 220MF 20% 16V		D03	8-719-400-18	DIODE MA152WK	
C03	1-124-119-00	ELECT 330MF 20% 16V		D04	8-719-105-52	DIODE RD3.6M-B2	
C05	1-126-101-11	ELECT 100MF 20% 16V		D07	8-719-106-17	DIODE RD6.8M-B2	
C06	1-124-120-11	ELECT 220MF 20% 16V		D08	8-719-106-17	DIODE RD6.8M-B2	
C07	1-124-791-11	ELECT 1MF 20% 50V		D09	8-719-400-18	DIODE MA152WK	
C08	1-163-097-00	CERAMIC CHIP 15PF 5% 50V		D10	8-719-400-18	DIODE MA152WK	
C09	1-163-141-00	CERAMIC CHIP 0.001MF 5% 50V		D11	8-719-914-44	DIODE DAP202K	
C10	1-163-133-00	CERAMIC CHIP 470PF 5% 50V		D12	8-719-914-44	DIODE DAP202K	
C11	1-163-037-11	CERAMIC CHIP 0.022MF 10% 25V				<IC>	
C12	1-163-127-00	CERAMIC CHIP 270PF 5% 50V		IC1	8-759-986-92	IC MAB-8461P-W177	
C13	1-163-117-00	CERAMIC CHIP 100PF 5% 50V		IC2	8-759-972-96	IC SAA5231-V6	
C14	1-163-097-00	CERAMIC CHIP 15PF 5% 50V		IC3	8-759-032-98	IC SDA5243	
C15	1-163-103-00	CERAMIC CHIP 27PF 5% 50V		IC4	8-759-230-68	IC TMM2063P-70	
C16	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V				<COIL>	
C17	1-163-809-11	CERAMIC CHIP 0.047MF 10% 25V		L01	1-408-411-00	INDUCTOR 15UH	
C18	1-163-099-00	CERAMIC CHIP 18PF 5% 50V		L04	1-408-407-00	INDUCTOR 6.8UH	
C19	1-163-809-11	CERAMIC CHIP 0.047MF 10% 25V		L05	1-408-407-00	INDUCTOR 6.8UH	
C20	1-163-125-00	CERAMIC CHIP 220PF 5% 50V		L06	1-408-407-00	INDUCTOR 6.8UH	
C21	1-163-833-00	CERAMIC CHIP 0.068MF 25V				<IC LINK>	
C24	1-126-101-11	ELECT 100MF 20% 16V		PS01 Δ	1-532-679-91	LINK, IC (ICP-N15) 0.6A	
C25	1-124-477-11	ELECT 47MF 20% 16V		PS02 Δ	1-532-727-91	LINK, IC 0.25A	
C27	1-163-129-00	CERAMIC CHIP 330PF 5% 50V				<TRANSISTOR>	
C28	1-163-137-00	CERAMIC CHIP 680PF 5% 50V		Q3	8-729-900-53	TRANSISTOR DTC114EK	
C29	1-124-927-11	ELECT 4.7MF 20% 50V		Q01	8-729-107-26	TRANSISTOR 2SD1585-K	
C51	1-163-038-00	CERAMIC CHIP 0.1MF 25V		Q02	8-729-807-50	TRANSISTOR 2SD1623-R	
C52	1-163-038-00	CERAMIC CHIP 0.1MF 25V		Q04	8-729-271-22	TRANSISTOR 2SC2712-G	
C53	1-163-038-00	CERAMIC CHIP 0.1MF 25V		Q05	8-729-807-50	TRANSISTOR 2SD1623-R	
C54	1-163-038-00	CERAMIC CHIP 0.1MF 25V		Q06	8-729-271-22	TRANSISTOR 2SC2712-G	
C55	1-163-038-00	CERAMIC CHIP 0.1MF 25V		Q07	8-729-900-98	TRANSISTOR DTC143TK	
C56	1-163-038-00	CERAMIC CHIP 0.1MF 25V		Q09	8-729-807-87	TRANSISTOR 2SB1295-UL6	
C57	1-163-141-00	CERAMIC CHIP 0.001MF 5% 50V		Q10	8-729-807-87	TRANSISTOR 2SB1295-UL6	
C58	1-163-141-00	CERAMIC CHIP 0.001MF 5% 50V		Q11	8-729-807-87	TRANSISTOR 2SB1295-UL6	
C59	1-163-141-00	CERAMIC CHIP 0.001MF 5% 50V				<RESISTOR>	
		<CONNECTOR>		JW1	1-216-295-00	METAL GLAZE 0 5% 1/10W	
CNV01	*1-565-393-11	CONNECTOR, BOARD TO BOARD		JW2	1-216-295-00	METAL GLAZE 0 5% 1/10W	
CNV02	*1-565-393-11	CONNECTOR, BOARD TO BOARD		JW3	1-216-295-00	METAL GLAZE 0 5% 1/10W	
CNV03	*1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P		JW4	1-216-295-00	METAL GLAZE 0 5% 1/10W	
		<TRIMMER>		JW5	1-216-295-00	METAL GLAZE 0 5% 1/10W	
CT01	1-141-392-11	CAP, VAR, TRIMMER (1 GANG)		JW6	1-216-295-00	METAL GLAZE 0 5% 1/10W	



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
JW7	1-216-295-00	METAL GLAZE	0 5% 1/10W	R64	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
JW8	1-216-295-00	METAL GLAZE	0 5% 1/10W	R65	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
JW9	1-216-295-00	METAL GLAZE	0 5% 1/10W	R66	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
JW10	1-216-295-00	METAL GLAZE	0 5% 1/10W	R67	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
JW11	1-216-295-00	METAL GLAZE	0 5% 1/10W	R68	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
				R69	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
JW12	1-216-295-00	METAL GLAZE	0 5% 1/10W	<VARIABLE RESISTOR>			
JW13	1-216-295-00	METAL GLAZE	0 5% 1/10W	RV01	1-238-012-11	RES, ADJ, CARBON 1K	
JW14	1-216-295-00	METAL GLAZE	0 5% 1/10W	<CRYSTAL>			
JW15	1-216-295-00	METAL GLAZE	0 5% 1/10W	X01	1-567-162-00	OSCILLATOR, CRYSTAL	
JW16	1-216-295-00	METAL GLAZE	0 5% 1/10W	X02	1-567-495-11	OSCILLATOR, CRYSTAL	
				X03	1-577-082-11	VIBRATOR, CERAMIC	
JW17	1-216-295-00	METAL GLAZE	0 5% 1/10W	*****			
JW18	1-216-295-00	METAL GLAZE	0 5% 1/10W	*A-1621-011-A	B BOARD, COMPLETE		
JW19	1-216-295-00	METAL GLAZE	0 5% 1/10W		*****		
JW20	1-216-295-00	METAL GLAZE	0 5% 1/10W	*1-565-393-11	CONNECTOR, BOARD TO BOARD		
JW21	1-216-295-00	METAL GLAZE	0 5% 1/10W	*1-568-878-51	PIN, CONNECTOR 3P		
JW22	1-216-295-00	METAL GLAZE	0 5% 1/10W	*1-568-881-51	PIN, CONNECTOR 6P		
JW23	1-216-295-00	METAL GLAZE	0 5% 1/10W	<CAPACITOR>			
JW24	1-216-295-00	METAL GLAZE	0 5% 1/10W	C301	1-106-228-00	MYLAR 0.22MF 10% 100V	
JW25	1-216-295-00	METAL GLAZE	0 5% 1/10W	C302	1-106-228-00	MYLAR 0.22MF 10% 100V	
R01	1-218-326-11	METAL GLAZE	470 5% 1/2W	C303	1-124-122-11	ELECT 100MF 20% 50V	
R02	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	C304	1-106-228-00	MYLAR 0.22MF 10% 100V	
R04	1-218-326-11	METAL GLAZE	470 5% 1/2W	C305	1-124-119-00	ELECT 330MF 20% 16V	
R05	1-216-025-00	METAL GLAZE	100 5% 1/10W	C306	1-124-902-00	ELECT 0.47MF 20% 50V	
R06	1-216-049-00	METAL GLAZE	1K 5% 1/10W	C307	1-124-902-00	ELECT 0.47MF 20% 50V	
R07	1-216-025-00	METAL GLAZE	100 5% 1/10W	C308	1-124-902-00	ELECT 0.47MF 20% 50V	
R08	1-216-037-00	METAL GLAZE	330 5% 1/10W	C309	1-124-902-00	ELECT 0.47MF 20% 50V	
R09	1-216-091-00	METAL GLAZE	56K 5% 1/10W	C310	1-106-220-00	MYLAR 0.1MF 10% 100V	
R13	1-216-025-00	METAL GLAZE	100 5% 1/10W	C311	1-106-220-00	MYLAR 0.1MF 10% 100V	
R14	1-216-025-00	METAL GLAZE	100 5% 1/10W	C312	1-124-902-00	ELECT 0.47MF 20% 50V	
R15	1-216-121-00	METAL GLAZE	1M 5% 1/10W	C313	1-124-902-00	ELECT 0.47MF 20% 50V	
R16	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W	C314	1-124-902-00	ELECT 0.47MF 20% 50V	
R17	1-216-049-00	METAL GLAZE	1K 5% 1/10W	C315	1-124-791-11	ELECT 1MF 20% 50V	
R18	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	C316	1-106-220-00	MYLAR 0.1MF 10% 100V	
R19	1-216-037-00	METAL GLAZE	330 5% 1/10W	C317	1-124-910-11	ELECT 47MF 20% 50V	
R20	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W	C318	1-106-220-00	MYLAR 0.1MF 10% 100V	
R27	1-216-013-00	METAL GLAZE	33 5% 1/10W	C320	1-163-121-00	CERAMIC CHIP 150PF 5% 50V	
R28	1-216-013-00	METAL GLAZE	33 5% 1/10W	C322	1-163-121-00	CERAMIC CHIP 150PF 5% 50V	
R29	1-216-013-00	METAL GLAZE	33 5% 1/10W	C323	1-102-947-00	CERAMIC 10PF 0.5PF 50V	
R30	1-218-325-11	METAL GLAZE	120 5% 1/4W	C327	1-164-232-11	CERAMIC CHIP 0.01MF 5% 50V	
R31	1-218-325-11	METAL GLAZE	120 5% 1/4W	C330	1-163-113-00	CERAMIC CHIP 68PF 5% 50V	
R32	1-218-325-11	METAL GLAZE	120 5% 1/4W	C331	1-106-220-00	MYLAR 0.1MF 10% 100V	
R33	1-216-023-00	METAL GLAZE	82 5% 1/10W	C332	1-126-103-11	ELECT 470MF 20% 16V	
R34	1-216-049-00	METAL GLAZE	1K 5% 1/10W	C333	1-106-375-12	MYLAR 0.022MF 10% 250V	
R37	1-216-025-00	METAL GLAZE	100 5% 1/10W	C334	1-163-097-00	CERAMIC CHIP 15PF 5% 50V	
R38	1-216-047-00	METAL GLAZE	820 5% 1/10W	C335	1-163-097-00	CERAMIC CHIP 15PF 5% 50V	
R40	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	C336	1-102-816-00	CERAMIC 120PF 5% 50V	
R41	1-216-041-00	METAL GLAZE	470 5% 1/10W	C337	1-101-004-00	CERAMIC 0.01MF 50V	
R43	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	C338	1-106-220-00	MYLAR 0.1MF 10% 100V	
R44	1-216-041-00	METAL GLAZE	470 5% 1/10W	C339	1-106-220-00	MYLAR 0.1MF 10% 100V	
R45	1-216-049-00	METAL GLAZE	1K 5% 1/10W	C341	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
R46	1-216-311-00	METAL GLAZE	6.8 5% 1/10W	C343	1-106-383-00	MYLAR 0.047MF 10% 100V	
R51	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	C344	1-130-783-00	MYLAR 0.33MF 10% 100V	
R52	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	C345	1-163-123-00	CERAMIC CHIP 180PF 5% 50V	
R53	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	C346	1-163-033-00	CERAMIC CHIP 0.022MF 50V	
R54	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W				
R55	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W				
R56	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W				
R57	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W				
R58	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W				
R59	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W				
R60	1-216-076-00	METAL GLAZE	13K 5% 1/10W				
R61	1-216-083-00	METAL GLAZE	27K 5% 1/10W				
R62	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W				
R63	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W				

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C347	1-124-791-11	ELECT 1MF	20%	50V	DL401	1-415-613-11	DELAY LINE, Y
C348	1-124-791-11	ELECT 1MF	20%	50V			
C349	1-101-004-00	CERAMIC 0.01MF		50V			
C350	1-164-232-11	CERAMIC CHIP 0.01MF		50V			
C351	1-106-375-12	MYLAR 0.022MF	10%	250V		<IC>	
C352	1-106-375-12	MYLAR 0.022MF	10%	250V	IC301	8-759-979-85	IC TDA4580-V4
C353	1-163-063-00	CERAMIC CHIP 0.022MF	10%	50V	IC302	8-759-980-60	IC TDA8442N3
C354	1-124-910-11	ELECT 47MF	20%	50V	IC303	8-759-040-53	IC MC14053BCP
C357	1-163-117-00	CERAMIC CHIP 100PF	5%	50V	IC331	8-759-990-29	IC TDA4650
C358	1-124-917-11	ELECT 33MF	20%	50V	IC332	8-759-505-39	IC TDA4660V2
C359	1-163-103-00	CERAMIC CHIP 27PF	5%	50V	IC1301	1-235-534-11	CONTROL MODULE, PICTURE
C360	1-101-004-00	CERAMIC 0.01MF		50V			
C364	1-163-105-00	CERAMIC CHIP 33PF	5%	50V		<COIL>	
C365	1-124-910-11	ELECT 47MF	20%	50V	L301	1-410-868-11	INDUCTOR 4.7UH
C366	1-126-103-11	ELECT 470MF	20%	16V	L302	1-410-868-11	INDUCTOR 4.7UH
C367	1-101-004-00	CERAMIC 0.01MF		50V	L331	1-404-554-11	COIL
C381	1-124-902-00	ELECT 0.47MF	20%	50V	L336	1-404-554-11	COIL
C382	1-124-927-11	ELECT 4.7MF	20%	50V	L338	1-408-409-00	INDUCTOR 10UH
C384	1-124-910-11	ELECT 47MF	20%	50V	L1301	1-408-425-00	INDUCTOR 220UH
C385	1-124-927-11	ELECT 4.7MF	20%	50V	L1302	1-408-419-00	INDUCTOR 68UH
C386	1-124-927-11	ELECT 4.7MF	20%	50V			
C387	1-130-833-00	MYLAR 0.82MF	10%	63V		<TRANSISTOR>	
C388	1-106-220-00	MYLAR 0.1MF	10%	100V	Q303	8-729-271-22	TRANSISTOR 2SC2712-G
C401	1-101-361-00	CERAMIC 150PF	5%	50V	Q305	8-729-901-00	TRANSISTOR DTC124EK
C402	1-163-197-00	CERAMIC CHIP 470PF	5%	50V	Q306	8-729-119-78	TRANSISTOR 2SC2785-HFE
C403	1-164-232-11	CERAMIC CHIP 0.01MF		50V	Q311	8-729-271-22	TRANSISTOR 2SC2712-G
C1311	1-163-105-00	CERAMIC CHIP 33PF	5%	50V	Q312	8-729-271-22	TRANSISTOR 2SC2712-G
C1312	1-163-101-00	CERAMIC CHIP 22PF	5%	50V	Q313	8-729-271-22	TRANSISTOR 2SC2712-G
C1313	1-102-953-00	CERAMIC 18PF	5%	50V	Q316	8-729-271-22	TRANSISTOR 2SC2712-G
		<TRIMMER>			Q330	8-729-216-22	TRANSISTOR 2SA1162-G
CT331	1-141-418-11	CAP, ADJ			Q331	8-729-901-00	TRANSISTOR DTC124EK
CT332	1-141-418-11	CAP, ADJ			Q332	8-729-216-22	TRANSISTOR 2SA1162-G
		<DIODE>			Q333	8-729-216-22	TRANSISTOR 2SA1162-G
D301	8-719-911-19	DIODE 1SS119			Q334	8-729-271-22	TRANSISTOR 2SC2712-G
D302	8-719-911-19	DIODE 1SS119			Q335	8-729-271-22	TRANSISTOR 2SC2712-G
D303	8-719-911-19	DIODE 1SS119			Q336	8-729-900-36	TRANSISTOR DTC124ES
D304	8-719-911-19	DIODE 1SS119			Q381	8-729-901-00	TRANSISTOR DTC124EK
D305	8-719-911-19	DIODE 1SS119			Q382	8-729-271-22	TRANSISTOR 2SC2712-G
D307	8-719-929-24	DIODE HZS11NB3			Q1301	8-729-901-00	TRANSISTOR DTC124EK
D308	8-719-911-19	DIODE 1SS119			Q1305	8-729-271-22	TRANSISTOR 2SC2712-G
D309	8-719-911-19	DIODE 1SS119			Q1306	8-729-271-22	TRANSISTOR 2SC2712-G
D310	8-719-929-24	DIODE HZS11NB3					
D311	8-719-929-24	DIODE HZS11NB3				<RESISTOR>	
D312	8-719-929-24	DIODE HZS11NB3			JR384	1-216-295-00	METAL GLAZE 0 5% 1/10W
D313	8-719-911-19	DIODE 1SS119			R301	1-249-409-11	CARBON 220 5% 1/4W
D314	8-719-911-19	DIODE 1SS119			R302	1-249-409-11	CARBON 220 5% 1/4W
D315	8-719-911-19	DIODE 1SS119			R303	1-249-409-11	CARBON 220 5% 1/4W
D316	8-719-911-19	DIODE 1SS119			R304	1-249-409-11	CARBON 220 5% 1/4W
D317	8-719-911-19	DIODE 1SS119			R305	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W
D318	8-719-911-19	DIODE 1SS119			R307	1-216-097-00	METAL GLAZE 100K 5% 1/10W
D319	8-719-911-19	DIODE 1SS119			R308	1-216-184-00	METAL GLAZE 270 5% 1/8W
D320	8-719-911-19	DIODE 1SS119			R309	1-216-025-00	METAL GLAZE 100 5% 1/10W
D331	8-719-911-19	DIODE 1SS119			R310	1-216-025-00	METAL GLAZE 100 5% 1/10W
D332	8-719-911-19	DIODE 1SS119			R311	1-216-025-00	METAL GLAZE 100 5% 1/10W
D333	8-719-911-19	DIODE 1SS119			R312	1-249-409-11	CARBON 220 5% 1/4W
D350	8-719-928-94	DIODE HZS5.6NB3			R313	1-216-081-00	METAL GLAZE 22K 5% 1/10W
		<DELAY LINE>			R314	1-216-182-00	METAL GLAZE 220 5% 1/8W
DL332	1-236-062-II	MODULE, Y DELAY LINE			R315	1-216-027-00	METAL GLAZE 120 5% 1/10W
					R316	1-216-027-00	METAL GLAZE 120 5% 1/10W
					R317	1-216-027-00	METAL GLAZE 120 5% 1/10W
					R318	1-249-429-11	CARBON 10K 5% 1/4W
					R319	1-249-409-11	CARBON 220 5% 1/4W



The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				
R320	1-216-198-00	METAL GLAZE	1K	5%	1/8W	
R321	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R322	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R323	1-249-422-11	CARBON	2.7K	5%	1/4W	
R324	1-249-429-11	CARBON	10K	5%	1/4W	
R325	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R328	1-216-009-00	METAL GLAZE	22	5%	1/10W	
R329	1-216-009-00	METAL GLAZE	22	5%	1/10W	
R330	1-216-009-00	METAL GLAZE	22	5%	1/10W	
R331	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R332	1-216-184-00	METAL GLAZE	270	5%	1/8W	
R333	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R334	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R335	1-247-852-11	CARBON	7.5K	5%	1/4W	
R336	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R337	1-216-184-00	METAL GLAZE	270	5%	1/8W	
R338	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R339	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R340	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R341	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R342	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R344	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R346	1-216-202-00	METAL GLAZE	1.5K	5%	1/8W	
R347	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R348	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R354	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R355	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R356	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R357	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R358	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R359	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R360	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R361	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R362	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R363	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R364	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R365	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R366	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R367	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R370	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R372	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R376	1-249-429-11	CARBON	10K	5%	1/4W	
R377	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R378	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R379	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R380	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R381	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R382	1-216-103-00	METAL GLAZE	180K	5%	1/10W	
R383	1-216-115-00	METAL GLAZE	560K	5%	1/10W	
R384	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R385	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R386	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R387	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R388	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R389	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R390	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R391	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R392	1-216-019-00	METAL GLAZE	56	5%	1/10W	
R393	1-216-019-00	METAL GLAZE	56	5%	1/10W	
R394	1-216-019-00	METAL GLAZE	56	5%	1/10W	
R395	1-216-214-00	METAL GLAZE	4.7K	5%	1/8W	
R396	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R398	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R401	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R402	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R403	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R404	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R405	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R406	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R407	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R410	1-216-184-00	METAL GLAZE	270	5%	1/8W	
R412	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R1301	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1302	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1303	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1304	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1305	1-216-001-00	METAL GLAZE	10	5%	1/10W	
<VARIABLE RESISTOR>						
RV331	1-238-012-11	RES, ADJ, CARBON 1K				
<CRYSTAL>						
X331	1-567-307-11	OSCILLATOR, CRYSTAL				
X332	1-567-131-00	OSCILLATOR, CRYSTAL				

*1-633-408-11 F BOARD						

*1-566-664-11 PIN, CONNECTOR 4P						
<FUSE>						
F1601	1-532-350-11	FUSE, TIME-LAG 4A/250V				
	1-533-230-11	HOLDER, FUSE; F1601				
<SWITCH>						
S1701	1-571-433-11	SWITCH, PUSH (AC POWER)				

*A-1632-005-A A BOARD, COMPLETE						

*1-560-290-00 PLUG, CONNECTOR (2.5MM PITCH)						
*1-564-881-11 PLUG, CONNECTOR 4P						
*1-564-886-11 PLUG, CONNECTOR 9P						
*1-565-393-11 CONNECTOR, BOARD TO BOARD						
*1-565-503-11 CONNECTOR, BOARD TO BOARD 12P						
<CAPACITOR>						
C101	1-126-233-11	ELECT	22MF	20%	50V	
C102	1-126-103-11	ELECT	470MF	20%	16V	
C104	1-124-910-11	ELECT	47MF	20%	50V	
C106	1-126-233-11	ELECT	22MF	20%	50V	
C108	1-136-165-00	FILM	0.1MF	5%	50V	
C109	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
C111	1-124-925-11	ELECT	2.2MF	20%	50V	
C115	1-124-925-11	ELECT	2.2MF	20%	50V	
C127	1-124-122-11	ELECT	100MF	20%	50V	
C128	1-124-910-11	ELECT	47MF	20%	50V	
C129	1-124-910-11	ELECT	47MF	20%	50V	
C138	1-136-165-00	FILM	0.1MF	5%	50V	
C171	1-163-005-11	CERAMIC CHIP	470PF	10%	50V	
C172	1-163-005-11	CERAMIC CHIP	470PF	10%	50V	

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A C

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
C177	1-102-074-00	CERAMIC	0.001MF	10%	50V		
C181	1-101-004-00	CERAMIC	0.01MF	50V			
<IC>				<IF BLOCK>			
IC103	8-759-979-62	IC PCF8574		VIF101	1-466-154-21	IF BLOCK (IFG-389S)	
<COIL>				*****			
L100	1-410-116-11	INDUCTOR	0.56MMH	*A-1638-007-A	C BOARD, COMPLETE		
L101	1-408-225-00	INDUCTOR	3.3UH		*****		
L102	1-408-413-00	INDUCTOR	22UH	1-506-348-99	PIN, CONNECTOR 3P		
L107	1-408-397-00	INDUCTOR	1UH	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P		
<TRANSISTOR>				*1-568-878-51	PIN, CONNECTOR 3P		
Q113	8-729-271-22	TRANSISTOR	2SC2712-G	*1-568-881-51	PIN, CONNECTOR 6P		
Q114	8-729-271-22	TRANSISTOR	2SC2712-G	*4-379-160-01	COVER (REAR LID), CV		
Q115	8-729-271-22	TRANSISTOR	2SC2712-G				
Q116	8-729-271-22	TRANSISTOR	2SC2712-G	*4-379-167-01	COVER (MAIN), CV		
Q125	8-729-900-89	TRANSISTOR	DTC144ES				
Q126	8-729-901-06	TRANSISTOR	DTA144EK	<CAPACITOR>			
Q181	8-729-271-22	TRANSISTOR	2SC2712-G	C703	1-102-980-00	CERAMIC	270PF
<RESISTOR>				C704	1-102-116-00	CERAMIC	680PF
JR230	1-216-295-00	METAL GLAZE	0 5%	C705	1-102-978-00	CERAMIC	220PF
JR252	1-216-296-00	METAL GLAZE	0 5%	C706	1-102-116-00	CERAMIC	680PF
JR253	1-216-296-00	METAL GLAZE	0 5%	C707	1-162-116-00	CERAMIC	680PF
JR255	1-216-296-00	METAL GLAZE	0 5%				
JR256	1-216-296-00	METAL GLAZE	0 5%	C708	1-162-114-00	CERAMIC	0.0047MF
JR257	1-216-296-00	METAL GLAZE	0 5%	C709	1-102-116-00	CERAMIC	680PF
JR258	1-216-296-00	METAL GLAZE	0 5%	C710	1-123-947-00	ELECT	10MF
R101	1-216-025-00	METAL GLAZE	100 5%	C711	1-101-880-00	CERAMIC	47PF
R105	1-216-079-00	METAL GLAZE	18K 5%	C712	1-102-980-00	CERAMIC	270PF
R107	1-216-081-00	METAL GLAZE	22K 5%				
R108	1-216-079-00	METAL GLAZE	18K 5%	C714	1-124-360-00	ELECT	1000MF
R110	1-249-429-11	CARBON	10K 5%	C716	1-162-622-11	CERAMIC	330PF
R111	1-216-061-00	METAL GLAZE	3.3K 5%	C717	1-102-114-00	CERAMIC	470PF
R116	1-216-023-00	METAL GLAZE	82 5%	C718	1-102-114-00	CERAMIC	470PF
R118	1-216-085-00	METAL GLAZE	33K 5%	C719	1-102-114-00	CERAMIC	470PF
R128	1-216-027-00	METAL GLAZE	120 5%				
R129	1-216-057-00	METAL GLAZE	2.2K 5%	<DIODE>			
R130	1-216-057-00	METAL GLAZE	2.2K 5%	D701	8-719-929-16	DIODE	HZS9.1NB3
R157	1-216-049-00	METAL GLAZE	1K 5%	D702	8-719-911-19	DIODE	1SS119
R158	1-249-409-11	CARBON	220 5%	D703	8-719-911-19	DIODE	1SS119
R159	1-249-409-11	CARBON	220 5%	D704	8-719-911-19	DIODE	1SS119
R161	1-216-089-00	METAL GLAZE	47K 5%	D705	8-719-911-19	DIODE	1SS119
R162	1-216-095-00	METAL GLAZE	82K 5%				
R163	1-216-095-00	METAL GLAZE	82K 5%	D706	8-719-911-19	DIODE	1SS119
R164	1-216-075-00	METAL GLAZE	12K 5%	D707	8-719-911-19	DIODE	1SS119
R165	1-216-075-00	METAL GLAZE	12K 5%	D708	8-719-911-19	DIODE	1SS119
R167	1-216-059-00	METAL GLAZE	2.7K 5%	D709	8-719-911-19	DIODE	1SS119
R168	1-216-089-00	METAL GLAZE	47K 5%	D710	8-719-911-19	DIODE	1SS119
R169	1-216-059-00	METAL GLAZE	2.7K 5%				
R181	1-216-049-00	METAL GLAZE	1K 5%	D711	8-719-300-33	DIODE	RU-3AM
R182	1-216-065-00	METAL GLAZE	4.7K 5%	D713	8-719-911-19	DIODE	1SS119
R193	1-216-073-00	METAL GLAZE	10K 5%	<JACK>			
R194	1-216-017-00	METAL GLAZE	47 5%	J701	1-526-990-11	SOCKET, PICTURE TUBE	
R195	1-216-017-00	METAL GLAZE	47 5%				
R196	1-216-113-00	METAL GLAZE	470K 5%	<COIL>			
<TUNER>				L704	1-410-878-11	INDUCTOR	33UH
TU101A	1-465-301-11	TUNER, ET (UV-816(PLL))		<TRANSISTOR>			
				Q702	8-729-119-78	TRANSISTOR	2SC2785-HFE
				Q703	8-729-906-70	TRANSISTOR	BF871
				Q704	8-729-200-17	TRANSISTOR	2SA1091-0
				Q705	8-729-119-78	TRANSISTOR	2SC2785-HFE
				Q706	8-729-906-70	TRANSISTOR	BF871



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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
Q707	8-729-200-17	TRANSISTOR 2SA1091-0		*4-341-751-01	EYELET		
Q708	8-729-119-78	TRANSISTOR 2SC2785-HFE		*4-341-752-01	EYELET		
Q709	8-729-906-70	TRANSISTOR BF871		*4-368-683-01	SPRING		
Q710	8-729-200-17	TRANSISTOR 2SA1091-0					
<RESISTOR>				<CAPACITOR>			
R704	1-216-486-00	METAL OXIDE	8.2K 5% 3W F	C002	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
R705	1-202-824-00	SOLID	3.3K 10% 1/2W	C003	1-123-875-11	ELECT 10MF	20% 50V
R706	1-249-409-11	CARBON	220 5% 1/4W	C004	1-124-120-11	ELECT 220MF	20% 16V
R707	1-249-412-11	CARBON	390 5% 1/4W	C005	1-124-791-11	ELECT 1MF	20% 50V
R708	1-249-401-11	CARBON	47 5% 1/4W	C006	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
R709	1-202-844-00	SOLID	330K 10% 1/2W	C007	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
R710	1-215-465-00	METAL	68K 1% 1/6W	C008	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
R711	1-249-426-11	CARBON	5.6K 5% 1/4W	C009	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
R712	1-249-417-11	CARBON	1K 5% 1/4W	C010	1-124-120-11	ELECT 220MF	20% 16V
R713	1-215-471-00	METAL	120K 1% 1/6W	C011	1-164-232-11	CERAMIC CHIP 0.01MF	50V
R714	1-216-486-00	METAL OXIDE	8.2K 5% 3W F	C012	1-123-875-11	ELECT 10MF	20% 50V
R715	1-202-824-00	SOLID	3.3K 10% 1/2W	C013	1-106-220-00	MYLAR 0.1MF	10% 100V
R716	1-249-409-11	CARBON	220 5% 1/4W	C014	1-106-220-00	MYLAR 0.1MF	10% 100V
R717	1-249-415-11	CARBON	680 5% 1/4W	C015	1-124-902-00	ELECT 0.47MF	20% 50V
R718	1-202-814-11	SOLID	33K 10% 1/2W	C016	1-163-121-00	CERAMIC CHIP 150PF	5% 50V
R719	1-249-401-11	CARBON	47 5% 1/4W	C017	1-106-220-00	MYLAR 0.1MF	10% 100V
R720	1-249-423-11	CARBON	3.3K 5% 1/4W	C018	1-163-127-00	CERAMIC CHIP 270PF	5% 50V
R721	1-202-842-11	SOLID	220K 10% 1/2W	C019	1-106-383-00	MYLAR 0.047MF	10% 100V
R722	1-202-848-00	SOLID	680K 10% 1/2W	C020	1-124-917-11	ELECT 33MF	20% 50V
R723	1-249-417-11	CARBON	1K 5% 1/4W	C021	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
R724	1-202-846-00	SOLID	470K 10% 1/2W	C022	1-164-232-11	CERAMIC CHIP 0.01MF	50V
R725	1-202-838-00	SOLID	100K 10% 1/2W	C023	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
R726	1-202-824-00	SOLID	3.3K 10% 1/2W	C024	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
R727	1-249-409-11	CARBON	220 5% 1/4W	C025	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
R728	1-216-347-11	METAL OXIDE	0.68 5% 1W F	C027	1-124-910-11	ELECT 47MF	20% 50V
R729	1-249-416-11	CARBON	820 5% 1/4W	C029	1-163-081-00	CERAMIC CHIP 0.22MF	25V
R730	1-249-401-11	CARBON	47 5% 1/4W	C030	1-163-081-00	CERAMIC CHIP 0.22MF	25V
R731	1-249-423-11	CARBON	3.3K 5% 1/4W	C031	1-163-081-00	CERAMIC CHIP 0.22MF	25V
R732	1-249-415-11	CARBON	680 5% 1/4W	C032	1-163-081-00	CERAMIC CHIP 0.22MF	25V
R733	1-249-415-11	CARBON	680 5% 1/4W	C251	1-124-791-11	ELECT 1MF	20% 50V
R734	1-249-405-11	CARBON	100 5% 1/4W	C252	1-126-233-11	ELECT 22MF	20% 50V
R735	1-215-493-00	METAL	1K 1% 1/6W	C253	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
R736	1-216-486-00	METAL OXIDE	8.2K 5% 3W F	C254	1-106-220-00	MYLAR 0.1MF	10% 100V
R737	1-215-485-00	METAL	470K 1% 1/6W	C255	1-124-636-00	ELECT 3300MF	20% 25V
R739	1-249-417-11	CARBON	1K 5% 1/4W	C261	1-124-791-11	ELECT 1MF	20% 50V
<VARIABLE RESISTOR>				C262	1-126-233-11	ELECT 22MF	20% 50V
RV701	1-230-641-11	RES. ADJ. METAL GLAZE 2.2M		C263	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
RV702A	1-230-619-11	RES. ADJ. METAL GLAZE 110M		C264	1-106-220-00	MYLAR 0.1MF	10% 100V
RV703	1-237-749-11	RES. ADJ. CARBON 2200		C265	1-124-564-11	ELECT 4700MF	20% 25V
RV704	1-237-749-11	RES. ADJ. CARBON 2200		C501	1-124-927-11	ELECT 4.7MF	20% 50V
*****				C502	1-124-927-11	ELECT 4.7MF	20% 50V
*A-1642-008-A D BOARD, COMPLETE				C503	1-106-371-00	MYLAR 0.015MF	10% 400V
*****				C504	1-163-121-00	CERAMIC CHIP 150PF	5% 50V
*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P			C505	1-108-794-11	MYLAR 0.0015MF	5% 50V
*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P			C506	1-106-375-12	MYLAR 0.022MF	10% 250V
*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)			C507	1-130-783-00	MYLAR 0.33MF	10% 100V
*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR			C508	1-106-375-12	MYLAR 0.022MF	10% 250V
*1-566-367-11	CONNECTOR, HINGE (RECEPTACLE)			C509	1-106-220-00	MYLAR 0.1MF	10% 100V
1-568-106-11	PIN, CONNECTOR 4P			C510	1-161-959-00	CERAMIC 22PF	10% 500V
*1-568-536-11	PLUG (MINIATURE DY) 6P			C511	1-108-620-11	MYLAR 0.0033MF	10% 100V
*1-568-878-51	PIN, CONNECTOR 3P			C512	1-106-220-00	MYLAR 0.1MF	10% 100V
*1-568-881-51	PIN, CONNECTOR 6P			C513	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
*1-568-882-51	PIN, CONNECTOR 7P			C514	1-106-228-00	MYLAR 0.22MF	10% 100V
4-200-001-01	HOLDER, IC			C515	1-124-791-11	ELECT 1MF	20% 50V
				C516	1-108-614-11	MYLAR 0.001MF	10% 100V
				C517	1-124-252-00	ELECT 0.33MF	20% 50V
				C518	1-124-902-00	ELECT 0.47MF	20% 50V
				C519	1-136-171-00	FILM 0.33MF	5% 50V

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D

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C520	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V	C822	1-163-005-11	CERAMIC CHIP 470PF	10% 50V
C521	1-106-220-00	MYLAR 0.1MF	10% 100V	C823	1-106-359-00	MYLAR 0.0047MF	10% 400V
C522	1-124-122-11	ELECT 100MF	20% 50V	C824	1-102-212-00	CERAMIC 820PF	10% 500V
C523	1-108-614-11	MYLAR 0.001MF	10% 100V	C825	1-106-375-12	MYLAR 0.022MF	10% 250V
C524	1-108-798-11	MYLAR 0.0033MF	5% 50V	C1601 Δ	1-136-518-11	FILM 0.33MF	20% 300V
C525	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C1602 Δ	1-136-519-11	FILM 0.47MF	20% 300V
C526	1-163-101-00	CERAMIC CHIP 22PF	5% 50V	C1603 Δ	1-162-578-51	CERAMIC 0.0047MF	20% 400V
C527	1-106-220-00	MYLAR 0.1MF	10% 100V	C1604 Δ	1-162-578-51	CERAMIC 0.0047MF	20% 400V
C531	1-124-190-00	ELECT 680MF	10% 25V	C1605 Δ	1-162-578-51	CERAMIC 0.0047MF	20% 400V
C532	1-124-514-11	ELECT 100MF	20% 50V	C1606 Δ	1-162-578-51	CERAMIC 0.0047MF	20% 400V
C533	1-106-216-00	MYLAR 0.068MF	10% 100V	C1607 Δ	1-161-964-61	CERAMIC 0.0047MF	250V
C534	1-124-120-11	ELECT 220MF	20% 16V	<FILTER>			
C536	1-131-365-00	TANTALUM 10MF	10% 16V	CF001	1-577-364-11	VIBRATOR, CERAMIC	
C537	1-124-791-11	ELECT 1MF	20% 50V	CF501	1-567-888-11	OSCILLATOR, CERAMIC	
C538	1-108-614-11	MYLAR 0.001MF	10% 100V	<DIODE>			
C539	1-163-129-00	CERAMIC CHIP 330PF	5% 50V	D001	8-719-911-19	DIODE 1SS119	
C540	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	D002	8-719-929-03	DIODE HZS6.8NB3	
C592	1-124-122-11	ELECT 100MF	20% 50V	D003	8-719-911-19	DIODE 1SS119	
C593	1-163-129-00	CERAMIC CHIP 330PF	5% 50V	D004	8-719-911-19	DIODE 1SS119	
C601 Δ	1-161-964-61	CERAMIC 0.0047MF	250V	D005	8-719-109-89	DIODE RD5.6ES-B2	
C602 Δ	1-161-964-61	CERAMIC 0.0047MF	250V	D006	8-719-929-71	DIODE HZS33NB1	
C603 Δ	1-161-964-61	CERAMIC 0.0047MF	250V	D007	8-719-911-19	DIODE 1SS119	
C604 Δ	1-125-318-11	ELECT(BLOCK) 220MF	20% 400V	D009	8-719-109-89	DIODE RD5.6ES-B2	
C605	1-124-510-11	ELECT 220MF	20% 35V	D010	8-719-120-78	DIODE RD6.2ES-L3	
C606	1-163-137-00	CERAMIC CHIP 680PF	5% 50V	D011	8-719-120-78	DIODE RD6.2ES-L3	
C607	1-130-834-00	MYLAR 1MF	10% 63V	D013	8-719-109-89	DIODE RD5.6ES-B2	
C608	1-124-927-11	ELECT 4.7MF	20% 50V	D271	8-719-110-36	DIODE RD13ES-B2	
C611	1-124-910-11	ELECT 47MF	20% 50V	D272	8-719-911-19	DIODE 1SS119	
C612	1-108-614-11	MYLAR 0.001MF	10% 100V	D501	8-719-911-19	DIODE 1SS119	
C613	1-136-539-11	FILM 0.0022MF	3% 2KV	D504	8-719-911-55	DIODE U05G	
C614	1-102-030-00	CERAMIC 330PF	10% 500V	D506	8-719-800-76	DIODE 1SS226	
C615	1-124-557-11	ELECT 1000MF	20% 25V	D508	8-719-911-19	DIODE 1SS119	
C616	1-102-030-00	CERAMIC 330PF	10% 500V	D509	8-719-911-19	DIODE 1SS119	
C617	1-124-122-11	ELECT 100MF	20% 50V	D511	8-719-911-55	DIODE U05G	
C618	1-162-115-00	CERAMIC 330PF	10% 2KV	D512	8-719-911-55	DIODE U05G	
C619	1-124-556-11	ELECT 2200MF	20% 16V	D513	8-719-928-85	DIODE HZS4.7NB2	
C620	1-136-173-00	FILM 0.47MF	5% 50V	D514	8-719-911-19	DIODE 1SS119	
C621	1-124-347-00	ELECT 100MF	20% 160V	D515	8-719-911-19	DIODE 1SS119	
C622	1-124-556-11	ELECT 2200MF	20% 16V	D601 Δ	8-719-946-90	DIODE KBU4JL-6088	
C623	1-124-910-11	ELECT 47MF	20% 50V	D602	8-719-300-33	DIODE RU-3AM	
C624	1-124-122-11	ELECT 100MF	20% 50V	D603	8-719-911-55	DIODE U05G	
C625	1-124-360-00	ELECT 1000MF	20% 16V	D604	8-719-911-55	DIODE U05G	
C626	1-123-875-11	ELECT 10MF	20% 50V	D605	8-719-911-55	DIODE U05G	
C627	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	D606	8-719-300-33	DIODE RU-3AM	
C631	1-124-927-11	ELECT 4.7MF	20% 50V	D607	8-719-300-33	DIODE RU-3AM	
C632	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	D608	8-719-300-33	DIODE RU-3AM	
C633	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	D609	8-719-929-71	DIODE HZS33NB1	
C801	1-126-105-11	ELECT 1000MF	20% 35V	D610	8-719-300-59	DIODE CTU-12S	
C802	1-102-030-00	CERAMIC 330PF	10% 500V	D611	8-719-900-26	DIODE ERD29-08J	
C804	1-123-948-00	ELECT 22MF	20% 250V	D612	8-719-300-59	DIODE CTU-12S	
C805	1-162-114-00	CERAMIC 0.0047MF	2KV	D613	8-719-979-85	DIODE EGP20G	
C806	1-106-220-00	MYLAR 0.1MF	10% 100V	D614	8-719-979-85	DIODE EGP20G	
C807	1-106-395-00	MYLAR 0.15MF	10% 200V	D616	8-719-120-78	DIODE RD6.2ES-L3	
C810	1-123-024-21	ELECT 33MF	160V	D617	8-719-911-19	DIODE 1SS119	
C811	1-136-113-00	FILM 2MF	5% 200V	D618	8-719-109-89	DIODE RD5.6ES-B2	
C812	1-124-634-11	ELECT 1MF	20% 250V	D619	8-719-929-71	DIODE HZS33NB1	
C813	1-102-212-00	CERAMIC 820PF	10% 500V	D620	8-719-800-76	DIODE 1SS226	
C814 Δ	1-161-731-11	CERAMIC 0.001MF	10% 2KV	D621	8-719-929-71	DIODE HZS33NB1	
C815	1-136-540-11	FILM 0.82MF	5% 200V	D622	8-719-911-19	DIODE 1SS119	
C817	1-136-591-11	FILM 0.017MF	3% 1.4KV	D623	8-719-911-19	DIODE 1SS119	
C818	1-136-759-11	FILM 0.039MF	10% 630V	D624	8-719-911-19	DIODE 1SS119	
C819 Δ	1-161-731-11	CERAMIC 0.001MF	10% 2KV				
C820	1-106-218-00	MYLAR 0.0082MF	10% 400V				
C821 Δ	1-162-134-51	CERAMIC 470PF	10% 2KV				

The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

D

REF.NO.	PART NO.	DESCRIPTION	REMARK
D630	8-719-110-39	DIODE RD15ES-B1	
D801	8-719-300-33	DIODE RU-3AM	
D802	8-719-300-33	DIODE RU-3AM	
D803	8-719-300-65	DIODE ES1F	
D804	8-719-911-55	DIODE U05G	
D805	8-719-911-55	DIODE U05G	
D806	8-719-945-80	DIODE ERC06-15S	
D807	8-719-945-80	DIODE ERC06-15S	
D808	8-719-900-26	DIODE ERD29-08J	
<IC>			
IC001	8-759-501-66	IC SDA2083-B012	
IC002	8-752-332-82	IC CXD1050A-09P	
IC003	8-759-945-58	IC RC4558P	
IC005	8-759-748-56	IC SDA2546	
IC251	8-759-988-94	IC TDA2050	
IC261	4-201-023-01	SPACER, INSULATING; IC251	
	4-812-134-00	RIVET NYLON, 3.5; IC251	
	8-759-988-94	IC TDA2050	
	4-201-023-01	SPACER, INSULATING; IC261	
IC261	4-812-134-00	RIVET NYLON, 3.5; IC261	
IC501	8-759-970-73	IC TEA2028B	
IC502	8-759-944-57	IC TDA8170	
IC601	8-759-988-95	IC TEA2260	
IC604	8-759-144-84	IC UPC24M05HF	
IC608	8-759-037-26	IC TYA7812CT	
<COIL>			
L001	1-408-414-00	INDUCTOR 27UH	
L501	1-408-225-00	INDUCTOR 3.3UH	
L601	*1-420-872-00	COIL, AIR CORE	
L602	1-410-396-41	FERRITE BEAD INDUCTOR	
L603	1-410-396-41	FERRITE BEAD INDUCTOR	
L604	1-410-671-31	INDUCTOR 47UH	
L605	1-459-585-11	COIL (WITH CORE) (DRUM TYPE)	
L606	1-421-013-00	COIL (HORIZONTAL CHOKE) 25UH	
L607	1-410-671-31	INDUCTOR 47UH	
L801	1-459-087-00	COIL, HCC DUST CORE 3.9MMH	
L803	1-459-104-00	COIL, DUST CORE	
L804	1-408-239-00	INDUCTOR 4.7MMH	
L805 Δ	1-459-907-22	COIL, HORIZONTAL LINEARITY	
L806	1-459-087-00	COIL, HCC DUST CORE 3.9MMH	
L809	*1-420-872-00	COIL, AIR CORE	
L810 Δ	1-421-794-21	TRANSFORMER, FERRITE (PMT)	
<TRANSFORMER>			
LF1601 Δ	1-421-866-12	LFT	
LF1602 Δ	1-421-776-11	LFT	
LF1603 Δ	1-421-592-21	TRANSFORMER, FERRITE	
T601 Δ	1-450-037-11	S.R.T	
T602 Δ	1-424-277-11	TRANSFORMER, TRIGGER PULSE	
T801 Δ	1-437-090-21	HDT	
T802 Δ	1-439-416-11	TRANSFORMER ASSY, FLYBACK (UX-1600)	
<IC LINK>			
PS601 Δ	1-532-984-91	LINK, IC (ICP-N50) 2A	
PS602 Δ	1-532-984-91	LINK, IC (ICP-N50) 2A	
PS603 Δ	1-532-679-91	LINK, IC (ICP-N15) 0.6A	

REF.NO.	PART NO.	DESCRIPTION	REMARK
<TRANSISTOR>			
Q001	8-729-901-01	TRANSISTOR DTC144EK	
Q002	8-729-901-06	TRANSISTOR DTA144EK	
Q003	8-729-216-22	TRANSISTOR 2SA1162-G	
Q004	8-729-216-22	TRANSISTOR 2SA1162-G	
Q005	8-729-901-01	TRANSISTOR DTC144EK	
Q006	8-729-901-01	TRANSISTOR DTC144EK	
Q007	8-729-271-22	TRANSISTOR 2SC2712-G	
Q008	8-729-271-22	TRANSISTOR 2SC2712-G	
Q009	8-729-271-22	TRANSISTOR 2SC2712-G	
Q251	8-729-271-22	TRANSISTOR 2SC2712-G	
Q261	8-729-271-22	TRANSISTOR 2SC2712-G	
Q271	8-729-271-22	TRANSISTOR 2SC2712-G	
Q502	8-729-216-22	TRANSISTOR 2SA1162-G	
Q505	8-729-140-96	TRANSISTOR 2SD774-34	
Q506	8-729-140-97	TRANSISTOR 2SB734-34	
Q507	8-729-216-22	TRANSISTOR 2SA1162-G	
Q598	8-729-216-22	TRANSISTOR 2SA1162-G	
Q601	8-729-111-67	TRANSISTOR 2SB1094-L	
Q602	8-729-209-02	TRANSISTOR 2SD1548-LB	
Q603	8-729-111-67	TRANSISTOR 2SB1094-L	
Q604	8-729-216-22	TRANSISTOR 2SA1162-G	
Q605	8-729-271-22	TRANSISTOR 2SC2712-G	
Q606	8-729-271-22	TRANSISTOR 2SC2712-G	
Q607	8-729-920-92	TRANSISTOR 2SD2096-EF	
Q608	8-729-271-22	TRANSISTOR 2SC2712-G	
Q609	8-729-320-62	TRANSISTOR 2SD789-34	
Q801	8-729-271-22	TRANSISTOR 2SC2712-G	
Q804	8-729-304-50	TRANSISTOR 2SD1941-06	
Q805	8-729-119-80	TRANSISTOR 2SC2688-LK	
<RESISTOR>			
JR1	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R001	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R002	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R003	1-249-417-11	CARBON 1K 5% 1/4W	
R004	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R005	1-249-417-11	CARBON 1K 5% 1/4W	
R006	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R007	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R008	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R009	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R010	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R011	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R013	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R014	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W	
R015	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R016	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R017	1-216-748-11	METAL GLAZE 39K 5% 1/10W	
R018	1-216-095-00	METAL GLAZE 82K 5% 1/10W	
R019	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R020	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R021	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R022	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R023	1-216-035-00	METAL GLAZE 270 5% 1/10W	
R024	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R025	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R026	1-249-417-11	CARBON 1K 5% 1/4W	
R027	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R028	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R029	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R030	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R031	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R032	1-216-073-00	METAL GLAZE 10K 5% 1/10W	

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R033	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R271	1-216-045-00	METAL GLAZE	680 5% 1/10W
R034	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R272	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R035	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R273	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R036	1-216-079-00	METAL GLAZE	18K 5% 1/10W	R500	1-216-115-00	METAL GLAZE	560K 5% 1/10W
R037	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	R501	1-216-041-00	METAL GLAZE	470 5% 1/10W
R038	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W	R502	1-216-033-00	METAL GLAZE	220 5% 1/10W
R039	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R503	1-216-035-00	METAL GLAZE	270 5% 1/10W
R040	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R504	1-249-420-11	CARBON	1.8K 5% 1/4W
R041	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R505	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R042	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R506	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R043	1-216-041-00	METAL GLAZE	470 5% 1/10W	R509	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W
R044	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R510	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R045	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R514	1-216-033-00	METAL GLAZE	220 5% 1/10W
R046	1-216-085-00	METAL GLAZE	33K 5% 1/10W	R515	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R047	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R517	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R048	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R518	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R049	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R519	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R050	1-216-037-00	METAL GLAZE	5.6K 5% 1/10W	R520	1-216-037-00	METAL GLAZE	330 5% 1/10W
R051	1-216-041-00	METAL GLAZE	470 5% 1/10W	R521	1-216-025-00	METAL GLAZE	100 5% 1/10W
R052	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R522	1-215-469-00	METAL	100K 1% 1/6W
R053	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R523	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R054	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R524	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R055	1-216-037-00	METAL GLAZE	330 5% 1/10W	R526	1-249-409-11	CARBON	220 5% 1/4W F
R056	1-216-025-00	METAL GLAZE	100 5% 1/10W	R527	1-216-077-00	METAL GLAZE	15K 5% 1/10W
R057	1-216-033-00	METAL GLAZE	220 5% 1/10W	R528	1-216-031-00	METAL GLAZE	180 5% 1/10W
R058	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W	R529	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R059	1-249-417-11	CARBON	1K 5% 1/4W	R530	1-249-448-11	CARBON	1.2 5% 1/4W F
R060	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R531	1-216-099-00	METAL GLAZE	120K 5% 1/10W
R061	1-249-417-11	CARBON	1K 5% 1/4W	R532	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R062	1-249-417-11	CARBON	1K 5% 1/4W	R533	1-216-295-00	METAL GLAZE	0 5% 1/10W
R063	1-249-429-11	CARBON	10K 5% 1/4W	R534	1-216-119-00	METAL GLAZE	820K 5% 1/10W
R064	1-249-417-11	CARBON	1K 5% 1/4W	R535	1-249-749-00	CARBON	2.2M 5% 1/4W
R065	1-249-429-11	CARBON	10K 5% 1/4W	R536	1-216-129-00	METAL GLAZE	2.2M 5% 1/10W
R066	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R537	1-216-083-00	METAL GLAZE	27K 5% 1/10W
R067	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R538	1-216-101-00	METAL GLAZE	150K 5% 1/10W
R068	1-249-417-11	CARBON	1K 5% 1/4W	R539	1-216-101-00	METAL GLAZE	150K 5% 1/10W
R069	1-249-417-11	CARBON	1K 5% 1/4W	R540	1-216-013-00	METAL GLAZE	33 5% 1/10W
R070	1-249-417-11	CARBON	1K 5% 1/4W	R541	1-216-091-00	METAL GLAZE	56K 5% 1/10W
R071	1-249-417-11	CARBON	1K 5% 1/4W	R542	1-216-308-00	METAL GLAZE	4.7 5% 1/10W
R072	1-249-417-11	CARBON	1K 5% 1/4W	R543	1-249-451-11	CARBON	2.2 5% 1/4W
R073	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R544	1-247-745-11	CARBON	330 5% 1/2W
R074	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R545	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R075	1-216-033-00	METAL GLAZE	220 5% 1/10W	R546	1-216-083-00	METAL GLAZE	27K 5% 1/10W
R076	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R547	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R077	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R548	1-216-349-00	METAL OXIDE	1 5% 1W F
R078	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R549	1-216-454-11	METAL OXIDE	390 5% 2W F
R251	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R550	1-216-095-00	METAL GLAZE	82K 5% 1/10W
R252	1-216-039-00	METAL GLAZE	390 5% 1/10W	R551	1-216-129-00	METAL GLAZE	2.2M 5% 1/10W
R253	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R553	1-216-869-11	METAL OXIDE	1K 5% 1W
R254	1-216-357-00	METAL OXIDE	4.7 5% 1W F	R554	1-216-037-00	METAL GLAZE	330 5% 1/10W
R255	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R555	1-216-129-00	METAL GLAZE	2.2M 5% 1/10W
R256	1-216-115-00	METAL GLAZE	560K 5% 1/10W	R556	1-216-025-00	METAL GLAZE	100 5% 1/10W
R257	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R557	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R258	1-215-869-11	METAL OXIDE	1K 5% 1W F	R558	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R259	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R559	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R261	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R560	1-216-037-00	METAL GLAZE	330 5% 1/10W
R262	1-216-039-00	METAL GLAZE	390 5% 1/10W	R561	1-216-107-00	METAL GLAZE	270K 5% 1/10W
R263	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R570	1-216-045-00	METAL GLAZE	680 5% 1/10W
R264	1-216-357-00	METAL OXIDE	4.7 5% 1W F	R591	1-216-047-00	METAL GLAZE	820 5% 1/10W
R265	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R592	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R266	1-216-115-00	METAL GLAZE	560K 5% 1/10W	R593	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R267	1-216-077-00	METAL GLAZE	15K 5% 1/10W	R594	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R268	1-215-869-11	METAL OXIDE	1K 5% 1W F	R597	1-216-041-00	METAL GLAZE	470 5% 1/10W
R269	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W				

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R598	1-215-900-11	METAL OXIDE	22K 5% 2W F	<VARIABLE RESISTOR>			
R600	1-249-381-11	CARBON	1 5% 1/4W	RV501	1-238-013-11	RES, ADJ, CARBON 2.2K	
R601	1-216-353-00	METAL OXIDE	2.2 5% 1W F	RV502	1-238-016-11	RES, ADJ, CARBON 10K	
R603	1-216-469-11	METAL OXIDE	12 5% 3W F	RV601	1-238-011-11	RES, ADJ, CARBON 470	
R604	1-216-025-00	METAL GLAZE	100 5% 1/10W	<SPARK GAP>			
R605	1-216-081-00	METAL GLAZE	22K 5% 1/10W	SG801	1-519-422-11	GAP, SPARK	
R606	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W	<THERMISTOR>			
R607	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	THP601 Δ	1-808-059-31	THERMISTOR, POSITIVE	
R608 Δ	1-216-488-51	METAL OXIDE	18K 5% 3W F	*****			
R609	1-216-007-00	METAL GLAZE	18 5% 1/10W	*1-634-193-11	VM BOARD		
R610	1-244-941-00	CARBON	680K 5% 1/2W	*****			
R611	1-216-015-00	METAL GLAZE	39 5% 1/10W	*1-568-878-51	PIN, CONNECTOR 3P		
R612	1-216-049-00	METAL GLAZE	1K 5% 1/10W	<CAPACITOR>			
R613	1-216-097-00	METAL GLAZE	100K 5% 1/10W	C751	1-101-361-00	CERAMIC 150PF 5% 50V	
R614	1-205-758-11	WIREWOUND	100 10% 10W F	C752	1-108-629-11	MYLAR 0.018MF 10% 100V	
R616	1-216-099-00	METAL GLAZE	120K 5% 1/10W	C753	1-106-367-00	MYLAR 0.01MF 10% 400V	
R617	1-216-037-00	METAL GLAZE	330 5% 1/10W	C754	1-102-980-00	CERAMIC 270PF 5% 50V	
R618	1-216-431-11	METAL OXIDE	560 5% 1W F	C757	1-108-692-11	MYLAR 0.01MF 10% 200V	
R619	1-216-073-00	METAL GLAZE	10K 5% 1/10W	C759	1-123-875-11	ELECT 10MF 20% 50V	
R620	1-216-081-00	METAL GLAZE	22K 5% 1/10W	C760	1-124-917-11	ELECT 33MF 20% 50V	
R621	1-216-077-00	METAL GLAZE	15K 5% 1/10W	C761	1-101-006-00	CERAMIC 0.047MF 50V	
R622	1-216-073-00	METAL GLAZE	10K 5% 1/10W	C762	1-106-367-00	MYLAR 0.01MF 10% 400V	
R623	1-216-081-00	METAL GLAZE	22K 5% 1/10W	<COIL>			
R624	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W	L751	1-408-413-00	INDUCTOR 22UH	
R625	1-215-865-11	METAL OXIDE	220 5% 1W F	L770	1-410-665-31	INDUCTOR 15UH	
R626	1-216-037-00	METAL GLAZE	330 5% 1/10W	<TRANSISTOR>			
R628	1-216-001-00	METAL GLAZE	10 5% 1/10W	Q751	8-729-119-78	TRANSISTOR 2SC2785-HFE	
R629	1-216-037-00	METAL GLAZE	330 5% 1/10W	Q752	8-729-119-78	TRANSISTOR 2SC2785-HFE	
R633	1-216-049-00	METAL GLAZE	1K 5% 1/10W	Q753	8-729-140-97	TRANSISTOR 2SB734-34	
R634	1-216-430-11	METAL OXIDE	390 5% 1W F	Q754	8-729-140-96	TRANSISTOR 2SD774-34	
R635	1-216-073-00	METAL GLAZE	10K 5% 1/10W	<RESISTOR>			
R636	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R751	1-249-418-11	CARBON 1.2K 5% 1/4W	
R643	1-217-189-21	WIREWOUND	0.12 5% 2W F	R752	1-249-426-11	CARBON 5.6K 5% 1/4W	
R651	1-216-025-00	METAL GLAZE	100 5% 1/10W	R753	1-249-414-11	CARBON 560 5% 1/4W	
R653	1-205-758-11	WIREWOUND	100 10% 10W F	R754	1-249-434-11	CARBON 27K 5% 1/4W	
R802	1-249-443-11	CARBON	0.47 5% 1/4W F	R755	1-249-405-11	CARBON 100 5% 1/4W	
R805	1-249-448-11	CARBON	1.2 5% 1/4W F	R756	1-249-419-11	CARBON 1.5K 5% 1/4W	
R806	1-216-093-00	METAL GLAZE	68K 5% 1/10W	R757	1-249-405-11	CARBON 100 5% 1/4W	
R807	1-215-869-11	METAL OXIDE	1K 5% 1W F	R758	1-249-409-11	CARBON 220 5% 1/4W	
R809	1-202-821-11	SOLID	1.8K 10% 1/2W	R760	1-249-411-11	CARBON 330 5% 1/4W	
R810	1-202-818-00	SOLID	1K 10% 1/2W	R761	1-249-429-11	CARBON 10K 5% 1/4W	
R811	1-215-882-00	METAL OXIDE	22 5% 2W F	R762	1-247-895-00	CARBON 470K 5% 1/4W	
R812	1-244-916-11	CARBON	62K 5% 1/2W	R763	1-249-429-11	CARBON 10K 5% 1/4W	
R815	1-215-884-11	METAL OXIDE	47 5% 2W F	R764	1-249-455-11	CARBON 4.7 5% 1/4W F	
R816	1-215-868-00	METAL OXIDE	680 5% 1W F	R765	1-249-455-11	CARBON 4.7 5% 1/4W F	
R817	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R766	1-247-753-11	CARBON 1.2K 5% 1/2W	
R820	1-249-403-11	CARBON	68 5% 1/4W	R767	1-247-751-11	CARBON 820 5% 1/2W	
R821	1-247-725-11	CARBON	10K 5% 1/4W F	R768	1-215-887-00	METAL OXIDE 150 5% 2W F	
R822 Δ	1-217-778-61	FUSIBLE	1K 5% 1W F				
R825	1-216-345-11	METAL OXIDE	0.47 5% 1W F				
R826	1-216-097-00	METAL GLAZE	100K 5% 1/10W				
R827	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R828	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W				
R829	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W				
R831	1-249-451-11	CARBON	2.2 5% 1/4W				
R1601 Δ	1-246-513-75	CARBON	47K 5% 1/4W				
R1602 Δ	1-244-945-91	CARBON	1M 5% 1/2W				
R1603 Δ	1-217-328-11	WIREWOUND	2.7 10% 7W F				
R1604 Δ	1-246-513-75	CARBON	47K 5% 1/4W				
R1605 Δ	1-218-265-91	METAL GLAZE	8.2M 5% 1W				
R5501	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R5503	1-216-001-00	METAL GLAZE	10 5% 1/10W				
R5504	1-216-121-00	METAL GLAZE	1M 5% 1/10W				
R5505	1-216-001-00	METAL GLAZE	10 5% 1/10W				

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

VM

H1

H2

J2

J1

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R769	Δ 1-212-889-51	FUSIBLE 220 5% 1/4W F		*A-1651-015-A	J1 BOARD, COMPLETE	*****	
*****				1-561-534-41	SOCKET 21P		
	*1-633-409-11	H1 BOARD		*1-564-524-11	PLUG, CONNECTOR 9P		
		*****		*1-564-527-11	PLUG, CONNECTOR 12P		
	1-562-837-11	JACK		*1-566-641-11	CONNECTOR, HINGE (TAB) 18P		
	*1-564-512-11	PLUG, CONNECTOR 9P					
	*1-568-879-51	PIN, CONNECTOR 4P		<CAPACITOR>			
	*1-568-881-51	PIN, CONNECTOR 6P		C203	1-124-925-11	ELECT 2.2MF 20% 50V	
	1-569-473-11	JACK BLOCK, PIN 3P		C205	1-124-927-11	ELECT 4.7MF 20% 50V	
<RESISTOR>				C206	1-124-925-11	ELECT 2.2MF 20% 50V	
R1651	1-249-413-11	CARBON 470 5% 1/4W		C207	1-124-927-11	ELECT 4.7MF 20% 50V	
R1652	1-249-413-11	CARBON 470 5% 1/4W		C213	1-126-233-11	ELECT 22MF 20% 50V	
<SWITCH>				C214	1-106-363-00	MYLAR 0.0068MF 10% 400V	
S1651	1-571-532-21	SWITCH, TACTIL		C217	1-106-363-00	MYLAR 0.0068MF 10% 400V	
S1652	1-571-532-21	SWITCH, TACTIL		C218	1-106-375-12	MYLAR 0.022MF 10% 250V	
S1653	1-571-532-21	SWITCH, TACTIL		C219	1-106-375-12	MYLAR 0.022MF 10% 250V	
*****				C220	1-108-620-11	MYLAR 0.0033MF 10% 100V	
	*1-633-410-11	H2 BOARD		C221	1-108-620-11	MYLAR 0.0033MF 10% 100V	
		*****		C222	1-106-385-00	MYLAR 0.056MF 10% 100V	
	*1-568-882-51	PIN, CONNECTOR 7P		C223	1-106-385-00	MYLAR 0.056MF 10% 100V	
	*4-374-987-01	GUIDE, LIGHT		C224	1-106-367-00	MYLAR 0.01MF 10% 400V	
	*4-381-686-01	BRACKET (B), LIGHT GUIDE		C225	1-136-173-00	FILM 0.47MF 5% 50V	
<DIODE>				C226	1-136-173-00	FILM 0.47MF 5% 50V	
D1651	8-719-948-31	DIODE LD-201VR		C227	1-106-375-12	MYLAR 0.022MF 10% 250V	
	*4-201-076-01	HOLDER, LED; D1651		C228	1-106-379-12	MYLAR 0.033MF 10% 250V	
D1652	8-719-948-31	DIODE LD-201VR		C229	1-106-371-00	MYLAR 0.015MF 10% 400V	
	*4-201-076-01	HOLDER, LED; D1652		C230	1-106-371-00	MYLAR 0.015MF 10% 400V	
D1654	8-719-948-31	DIODE LD-201VR		C231	1-124-902-00	ELECT 0.47MF 20% 50V	
	*4-201-076-01	HOLDER, LED; D1654		C232	1-123-875-11	ELECT 10MF 20% 50V	
<IC>				C233	1-163-005-11	CERAMIC CHIP 470PF 10% 50V	
IC1651	8-741-138-70	IC BX-1387		C234	1-163-005-11	CERAMIC CHIP 470PF 10% 50V	
<RESISTOR>				C235	1-163-005-11	CERAMIC CHIP 470PF 10% 50V	
R1662	1-249-413-11	CARBON 470 5% 1/4W		C236	1-163-005-11	CERAMIC CHIP 470PF 10% 50V	
*****				C237	1-124-902-00	ELECT 0.47MF 20% 50V	
	*1-633-411-11	J2 BOARD		C238	1-163-125-00	CERAMIC CHIP 220PF 5% 50V	
		*****		C239	1-126-103-11	ELECT 470MF 20% 16V	
	1-537-088-21	TERMINAL BOARD, INPUT/OUTPUT		C240	1-163-018-00	CERAMIC CHIP 0.0056MF 10% 50V	
	*1-560-278-21	PLUG, CONNECTOR 4P		C241	1-163-018-00	CERAMIC CHIP 0.0056MF 10% 50V	
	*1-564-517-11	PLUG, CONNECTOR 2P		C242	1-163-033-00	CERAMIC CHIP 0.022MF 50V	
	*1-564-519-11	PLUG, CONNECTOR 4P		C243	1-163-033-00	CERAMIC CHIP 0.022MF 50V	
<CAPACITOR>				C244	1-163-033-00	CERAMIC CHIP 0.022MF 50V	
C1751	1-101-005-00	CERAMIC 0.022MF 50V		C245	1-163-033-00	CERAMIC CHIP 0.022MF 50V	
C1752	1-101-005-00	CERAMIC 0.022MF 50V		C1401	1-123-875-11	ELECT 10MF 20% 50V	
C1755	1-102-114-00	CERAMIC 470PF 10% 50V		C1402	1-126-103-11	ELECT 470MF 20% 16V	
C1756	1-102-114-00	CERAMIC 470PF 10% 50V		C1403	1-163-003-11	CERAMIC CHIP 330PF 10% 50V	
<COIL>				C1404	1-106-220-00	MYLAR 0.1MF 10% 100V	
L1751	1-412-240-11	INDUCTOR, WIDE BAND		C1405	1-136-017-00	CERAMIC CHIP 0.0047MF 50V	
L1752	1-412-240-11	INDUCTOR, WIDE BAND		C1406	1-106-220-00	MYLAR 0.1MF 10% 100V	
*****				C1407	1-124-910-11	ELECT 47MF 20% 50V	
				C1408	1-124-122-11	ELECT 100MF 20% 50V	
				C1409	1-126-233-11	ELECT 22MF 20% 50V	
				C1410	1-123-875-11	ELECT 10MF 20% 50V	
				C1411	1-123-875-11	ELECT 10MF 20% 50V	
				C1412	1-124-910-11	ELECT 47MF 20% 50V	
				C1413	1-124-910-11	ELECT 47MF 20% 50V	
				C1414	1-123-875-11	ELECT 10MF 20% 50V	
				C1415	1-106-220-00	MYLAR 0.1MF 10% 100V	
				C1416	1-106-220-00	MYLAR 0.1MF 10% 100V	
				C1417	1-124-120-11	ELECT 220MF 20% 16V	

J1

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J1	IFG
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IFG

The components identified by shading and mark Δ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
C11	1-163-119-00	CERAMIC CHIP 120PF	5%
C12	1-136-298-00	FILM 0.0033MF	2%
C13	1-124-477-11	ELECT 47MF	20%
C14	1-124-477-11	ELECT 47MF	20%
C15	1-124-477-11	ELECT 47MF	20%
C16	1-124-477-11	ELECT 47MF	20%
C17	1-123-875-11	ELECT 10MF	20%
C18	1-106-367-00	MYLAR 0.01MF	10%
C19	1-106-367-00	MYLAR 0.01MF	10%
C20	1-126-233-11	ELECT 22MF	20%
C21	1-126-233-11	ELECT 22MF	20%
C22	1-106-220-00	MYLAR 0.1MF	10%
C23	1-106-228-00	MYLAR 0.22MF	10%
C24	1-124-963-11	ELECT 33MF	20%
C25	1-106-375-12	MYLAR 0.022MF	10%
C26	1-106-383-00	MYLAR 0.047MF	10%
C27	1-124-791-11	ELECT 1MF	20%
C28	1-163-103-00	CERAMIC CHIP 27PF	5%
C29	1-124-791-11	ELECT 1MF	20%
C30	1-124-791-11	ELECT 1MF	20%
C31	1-106-367-00	MYLAR 0.01MF	10%
C32	1-130-479-00	MYLAR 0.0047MF	5%
C33	1-163-081-00	CERAMIC CHIP 0.22MF	10%
C34	1-106-228-00	MYLAR 0.22MF	10%
C35	1-123-875-11	ELECT 10MF	20%
C36	1-163-119-00	CERAMIC CHIP 120PF	5%
C37	1-124-477-11	ELECT 47MF	20%
C38	1-124-477-11	ELECT 47MF	20%
<FILTER>			
CDA1	1-404-751-11	DISCRIMINATOR, CERAMIC	
CDA2	1-404-750-11	DISCRIMINATOR, CERAMIC	
SFT1	1-527-840-00	FILTER, CERAMIC	
SFT2	1-527-839-00	FILTER, CERAMIC	
<DIODE>			
D3	8-719-400-18	DIODE MA152WK	
<IC>			
IC1	8-759-003-90	IC TBA129	
IC2	8-759-003-90	IC TBA129	
IC3	8-759-030-48	IC TDA6600-2	
IC4	8-759-946-99	IC TDA2595-V7	
<COIL>			
L1	1-408-410-00	INDUCTOR 12UH	
L2	1-408-410-00	INDUCTOR 12UH	
L3	1-410-064-11	INDUCTOR 2.7MMH	
L4	1-408-421-00	INDUCTOR 100UH	
L5	1-408-421-00	INDUCTOR 100UH	
<TRANSISTOR>			
Q2	8-729-901-00	TRANSISTOR DTC124EK	
Q3	8-729-216-22	TRANSISTOR 2SA1162-G	
Q4	8-729-901-00	TRANSISTOR DTC124EK	
<RESISTOR>			
JR8	1-216-296-00	METAL GLAZE 0	5%
JR10	1-216-296-00	METAL GLAZE 0	5%

REF.NO.	PART NO.	DESCRIPTION	REMARK
R1	1-216-045-00	METAL GLAZE 680 5%	1/10W
R2	1-216-043-00	METAL GLAZE 560 5%	1/10W
R3	1-216-043-00	METAL GLAZE 560 5%	1/10W
R5	1-216-045-00	METAL GLAZE 680 5%	1/10W
R6	1-216-043-00	METAL GLAZE 560 5%	1/10W
R7	1-216-043-00	METAL GLAZE 560 5%	1/10W
R9	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R10	1-216-077-00	METAL GLAZE 15K 5%	1/10W
R11	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R12	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R15	1-216-059-00	METAL GLAZE 2.7K 5%	1/10W
R16	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R17	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R18	1-216-063-00	METAL GLAZE 3.9K 5%	1/10W
R19	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R20	1-216-075-00	METAL GLAZE 12K 5%	1/10W
R22	1-216-099-00	METAL GLAZE 120K 5%	1/10W
R24	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R25	1-216-077-00	METAL GLAZE 15K 5%	1/10W
<VARIABLE RESISTOR>			
RV1	1-238-016-11	RES, ADJ, CARBON 10K	
RV2	1-238-019-11	RES, ADJ, CARBON 47K	

MISCELLANEOUS			

Δ	1-426-398-11	COIL, DEMAGNETIZATION	
Δ	1-451-313-21	DEFLECTION YOKE (Y29FXA)	
	1-452-032-00	MAGNET, DISK; 10MM φ	
	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM φ	
Δ	1-452-509-42	NECK ASSY, PICTURE TUBE (NA-308)	
SPEAKER			
Δ	1-575-487-11	CORD,POWER (WITH NOISE FILTER)	
V901	Δ 8-733-823-05	PICTURE TUBE (A68JYK60X)	

ACCESSORIES AND PACKING MATERIALS			

PART NO.	DESCRIPTION	REMARK	
3-752-237-11	MANUAL, INSTRUCTION		
*4-384-027-01	BAG, PROTECTION		
*4-398-903-01	CUSHION (UPPER) (ASSY)		
*4-398-904-01	CUSHION (LOWER) (ASSY)		
*4-398-905-01	INDIVIDUAL CARTON		
REMOTE COMMANDER			
1-465-363-11	COMMANDER, REMOTE (RM-689)		
4-395-610-01	COVER, BATTERY (FOR RM-689)		