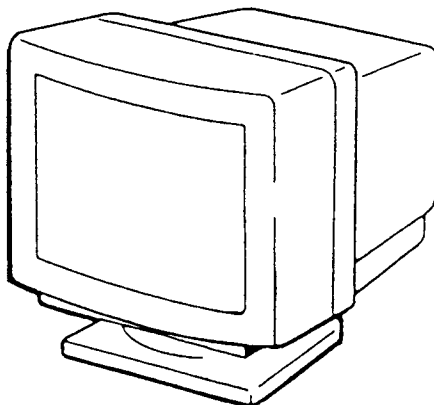


CPD-1730

SERVICE MANUAL

REVISED

For Service Manuals
MAURITRON SERVICES
8 Cherry Tree Road, Chinnor
Oxfordshire, OX9 4QY.
Tel (01844) 351694
Fax (01844) 352554
email:- mauritron@dial.pipex.com



US Model
Canadian Model

Chassis No. SCC-F48B-A

AEP Model

Chassis No. SCC-F49B-A

Australian Model

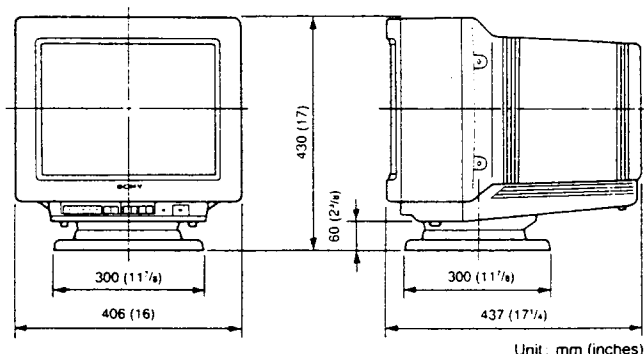
Chassis No. SCC-G07A-A

Multiscan®

SPECIFICATIONS

Computer display	Direct-driven monitor
Picture tube	Super Fine Pitch Trinitron color tube 17 inch (16 V) picture tube measured diagonally 90 degree deflection Anti-glaring dark screen Useful screen 328 mm x 242 mm Phosphor P22 0.25 mm Aperture Grille pitch
Viewable pixels	1024 x 768
Scanning frequency	Vertical sync signal frequency: 55 - 110 Hz Horizontal sync signal frequency: 28 - 58 kHz
Video input signal	Analog RGB positive 0.714 Vp-p/75Ω terminated
Sync input	TTL level Polarity free Composite sync is acceptable at Pin # 13. Sync on green is acceptable.
Power requirements	100 - 240 V AC 50 - 60 Hz, 2.0 - 1.0 A

Dimensions 406 x 430 x 437 mm (w/h/d)
(16 x 17 x 17 1/4 inches)



Mass 20 kg (44 lb1oz)
Including the tilt-swivel

Supplied accessory AC power cord (1)

Design and specifications subject to change without notice.



MULTISCAN®
COLOR COMPUTER DISPLAY
SONY®

Detailed Timing Specifications of Preset-Type Models

Mode	1	2	3	4	5	6	7	8	9
Equiv. Standard	VGA Text ¹⁾	VGA Graphic ¹⁾	MCGA ¹⁾	8514A ¹⁾	SVGA	SVGA	Sony Std.	Macintosh II 13"	Macintosh II 16"
Resolution (H × V)	720 × 400	640 × 480	640 × 350	1024 × 768	800 × 600 72 Hz	1024 × 768 70Hz	1024 × 768	640 × 480	832 × 624
Dot Clock (MHz)	28.332	25.175	25.175	44.900	50.000	75.000	64.000	30.240	57.283
Horizontal²⁾									
Hor. freq. (kHz)	31.480	31.469	31.469	35.522	48.077	56.476	48.780	35.000	49.724
H-total	31.766	31.778	31.778	28.151	20.800	17.707	20.500	28.571	20.110
H-Front porch	0.635	0.636	0.636	0.178	1.120	0.320	1.000	2.116	0.559
H-Sync. width	3.812	3.813	3.813	3.920	2.400	1.813	1.500	2.116	1.117
H-Back porch	1.907	1.907	1.907	1.247	1.280	1.920	2.000	3.175	3.910
H-blanking	6.356	6.356	6.356	5.345	4.800	4.053	4.500	7.407	5.586
H-Active (μsec)	25.423	25.422	25.422	22.806	16.000	13.653	16.000	21.164	14.524
Vertical									
Ver. freq. (Hz)	70.11	59.94	70.08	86.96	72.188	70.069	60.000	66.289	74.55
V-total	449	525	449	408.5	666	806	813	528	667
V-Front porch	12	10	37	0.5/0	37	3	3	3	1
V-Sync. width	2	2	2	4	6	6	3	3	3
V-Back porch	35	33	60	20/20.5	23	29	39	42	39
V-blanking	49	45	99	24.5	66	38	45	48	43
V-Active (Lines)	400	480	350	384(768)	600	768	768	480	624
Sync.	External	External	External	External	External	External	Internal	Internal	Internal
H-polarity	(-)	(-)	(+)	(+)	(+)	(-)	N.A.	N.A.	N.A.
V-Polarity	(+)	(-)	(-)	(+)	(+)	(-)	N.A.	N.A.	N.A.
Scanning mode	Non-interlace	Non-interlace	Non-interlace	Interlace	Non-interlace	Non-interlace	Non-interlace	Non-interlace	Non-interlace

1) VGA/MCGA/8514A does not include border area.

2) Recommended horizontal timing conditions:

Horizontal front porch should be >0.1μsec

Horizontal sync. width should be >1.0μsec

Horizontal back porch should be >0.7μsec

Horizontal blanking width should be >3.8μsec

Features

The CPD-1730 is a high resolution computer display designed for use with microcomputers, or computers having analog RGB output.

- Super Fine Pitch Trinitron computer display with an anti-glare dark screen.
- RGB terminal which allows equipment with analog RGB output to be connected.
- Compatible with the PS/2 microcomputers using VGA.
- Multiscan capacity which makes it compatible with a variety of computer graphics standards.


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WARNING!!

NEVER TURN ON THE POWER IN A CONDITION IN WHICH THE DEGAUSS COIL HAS BEEN REMOVED.


SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL FOR SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

AVERTISSEMENT!!

NE JAMAIS METTRE SOUS TENSION QUAND LA BOBINE DE DEMAGNETISATION EST ENLEVEE.

ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ!!

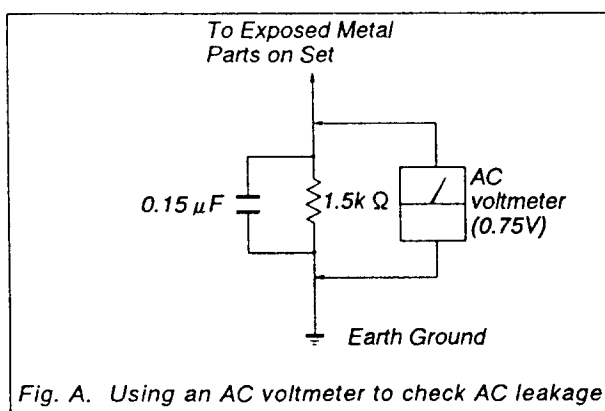
LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET PAR UNE MARQUE  SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIÉCES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY. LES RÉGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIÉS DANS LE PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT EST SUSPECTÉ.

SAFETY CHECK-OUT (US Model only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the B+ and HV to see if they are specified values. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
8. Check the metal trim, metallized" knobs, screws, and all other exposed metal parts for AC leakage.

Check leakage as described below.



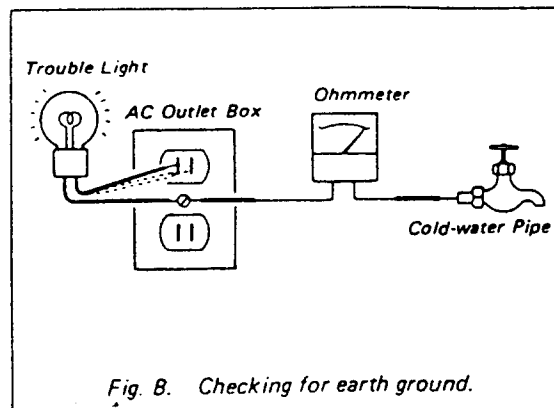
LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOMs that are suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

HOW TO FIND A GOOD EARTH GROUND

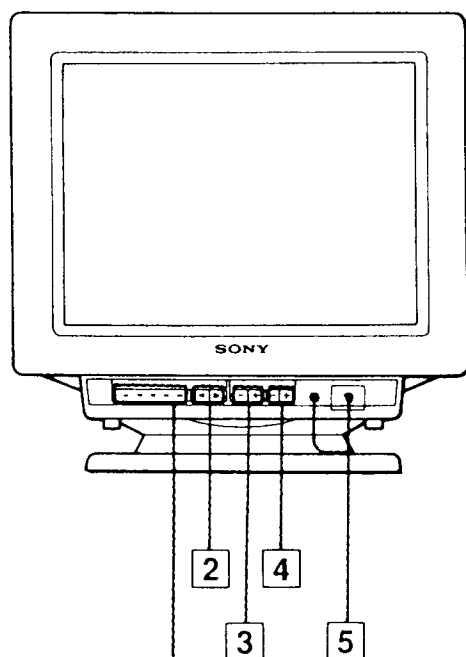
A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60-100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)



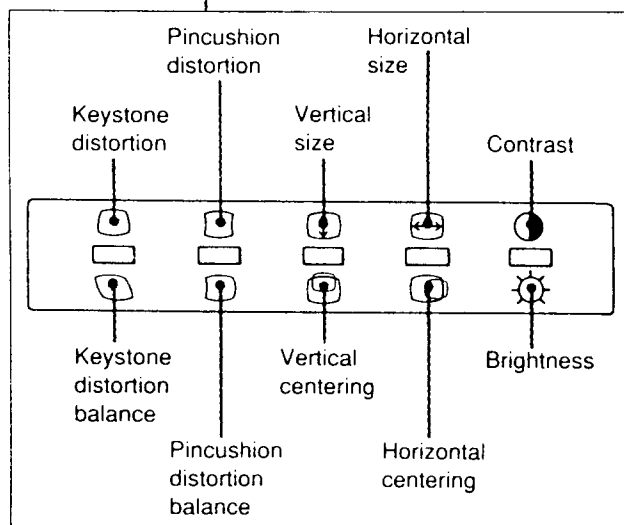
SECTION 1 GENERAL

1-1. LOCATION AND FUNCTION OF CONTROLS

Front

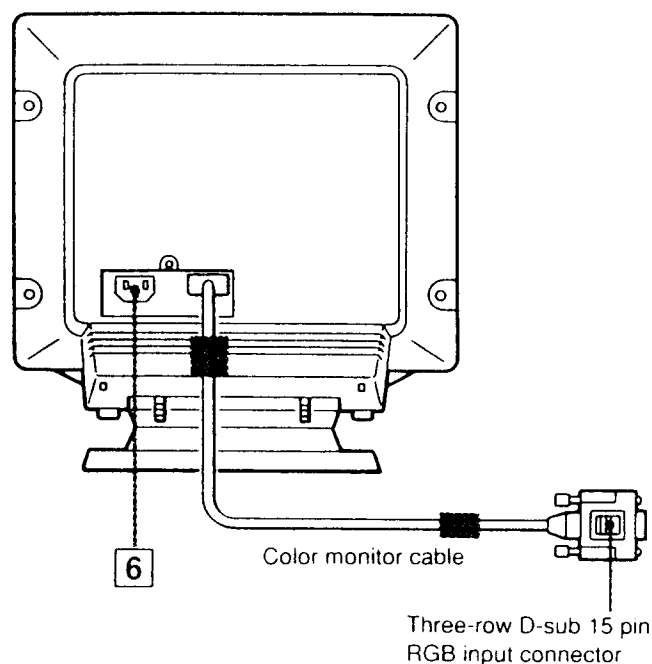


1 Indicators



One of the indicators that corresponds to the adjustment item selected by the SELECT buttons [2] lights. While the indicator is lit, adjust the item by using the ADJUST +/- buttons [3] and [4].

Rear



2 SELECT ◀/▶ buttons

Press to select the adjustment item so that the indicator corresponding to the selected item lights.

3 ADJUST +/- buttons (blue)

Adjust the item shown in blue below the indicator selected by using the SELECT buttons [2].

4 ADJUST +/- buttons (red)

Adjust the item shown in red above the indicator selected by using the SELECT buttons [2].

5 POWER switch and indicator

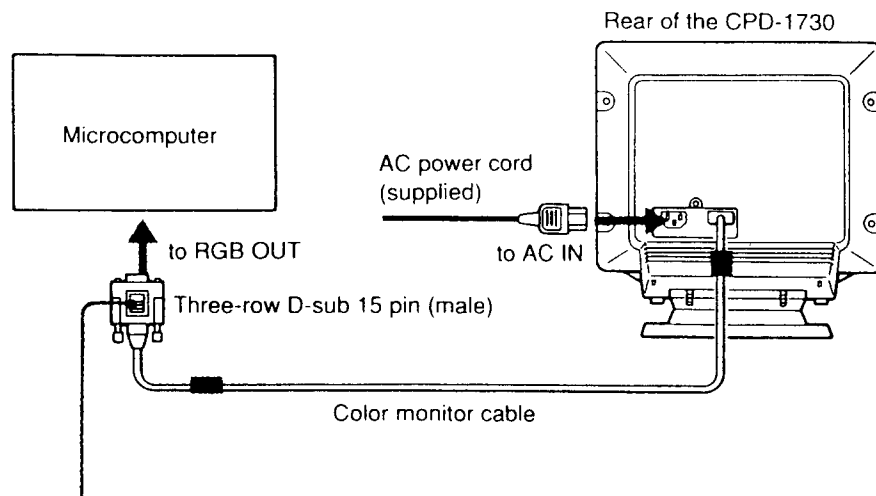
To turn on the power of the unit, press this switch. The indicator lights up. To turn off the unit, press it again.

6 AC IN connector

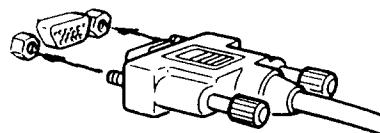
Connect to an AC outlet with the supplied AC power cord.

1-2. CONNECTIONS

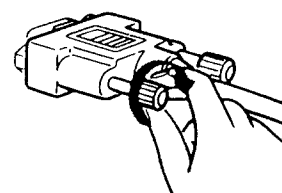
Connect the power-cord and the monitor cable.
Be sure to turn the power of the unit off before making the connection.



1 Align the plug with the receptacle.

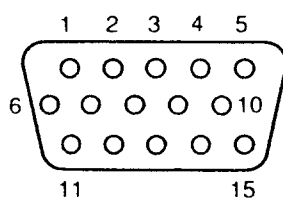


2 Plug in and tighten the screws by hand.



To disconnect the plug, loosen the screws.

RGB Input Pin Assignment



1	2	3	4	5	6	7	8
R	G	B	GND	GND	GND	GND	GND
9	10	11	12	13	14	15	
—	GND	GND	—	H SYNC	V SYNC	—	

1-3. PRESET MODE

The CPD-1730 adjusts automatically the display size and position to the optimum in accordance with the input signal of up to 18 different types.

It has factory-preset setting values for 9 different types of signals. When a computer that issues such signal is connected, the optimum display is obtained without any manual adjustment (preset mode).

The factory-preset values and corresponding computer/work station models (called "preset-type models" in this manual) are as follows:

No.	Display (dots × lines)	Horizontal frequency	Vertical frequency	Scanning mode	Preset type models
1	720 × 400	31.5 kHz	70 Hz	Non-interlace	VGA Text ¹⁾
2	640 × 480	31.5 kHz	60 Hz	Non-interlace	VGA Graphic ¹⁾
3	640 × 350	31.5 kHz	70 Hz	Non-interlace	MCGA ¹⁾
4	1024 × 768	35.5 kHz	87 Hz	Interlace	8514A ¹⁾
5	800 × 600	48.1 kHz	72 Hz	Non-interlace	SVGA
6	1024 × 768	56.5 kHz	70 Hz	Non-interlace	SVGA
7	1024 × 768	48.8 kHz	60 Hz	Non-interlace	Sony standard
8	640 × 480	35.0 kHz	66 Hz	Non-interlace	Macintosh II ²⁾ 13"
9	832 × 624	49.7 kHz	75 Hz	Non-interlace	Macintosh II ²⁾ 16"

¹⁾ VGA, MCGA, and 8514A are the trademarks of International Business Machines Corporation.

²⁾ Macintosh II is the trademark of Apple Computer Inc.

- The buttons on the front panel allow manual adjustment when a signal from equipment other than the preset-type models is input. 18 different manually adjusted conditions are stored in memory, and called back when the same signal is input again so that the optimum display for this signal is obtained automatically.
- The type of input video signal is discriminated according to its signal specifications, such as horizontal frequency or sync polarity. When the signal specifications of the input signals are almost similar, however, these signals may not be discriminated as different.

1-4. ADJUSTMENT

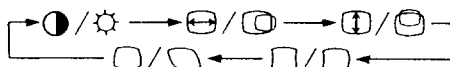
When a computer or a work station of one of the preset-type models or equivalent is connected, no picture adjustment is necessary.
If you want to adjust the contrast, brightness, picture size and position manually, follow the procedure described below to get the optimum picture.

Adjusting the Picture Quality

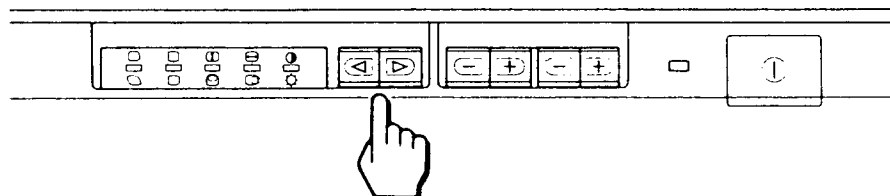
1 Turn on the unit, and feed the video signal from the connected computer/work station.

2 Press the SELECT ◀ and ▶ buttons to choose the adjustment item.
The indicator corresponding to the selected item lights up.
When the power is turned on, the ●/☉ indicator is lit.

Pressing the SELECT ◀ button changes the item in the following order:



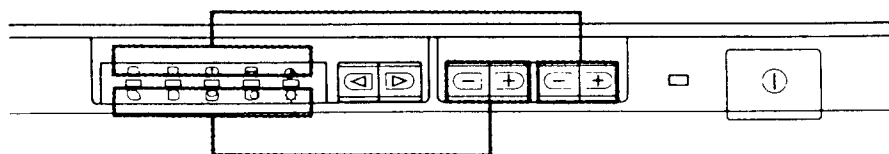
Pressing the SELECT ▶ button changes the item in the reversed order.
For what the indicators mean and how to make an adjustment, see the next page.



3 Observe the picture, and press the red or blue ADJUST +/- buttons while the target indicator is lit.

To adjust the item in red mark shown above the indicator, use the red ADJUST +/- buttons.

To adjust the item in blue mark shown below the indicator, use the blue ADJUST +/- buttons.



If you do not press the SELECT ◀ ▶ buttons or the ADJUST +/- buttons within 10 seconds, the ●/☉ indicator lights up again.

Meaning of the Mark and How to Adjust

Mark	Meaning	Use the ADJUST +/- buttons in	How to Adjust
	Contrast	Red	Press + for more contrast. Press – for less contrast.
	Brightness	Blue	Press + for more brightness. Press – for less brightness.
	Horizontal size	Red	Press + to enlarge the horizontal size. Press – diminish it.
	Horizontal centering	Blue	Press + to move the picture to the right. Press – to move it to the left.
	Vertical size	Red	Press + to enlarge the vertical size. Press – to diminish it.
	Vertical centering	Blue	Press + to move the picture upward. Press – to move it downward.
	Pincushion distortion	Red	Press + to expand both the right and left sides of the picture. Press – to dent them.
	Pincushion distortion balance	Blue	Press + to distort the picture toward the right. Press – to distort it toward the left.
	Keystone distortion	Red	Press + to enlarge the upper part of the picture. Press – to enlarge the lower part of the picture.
	Keystone distortion balance	Blue	Press + to tilt the picture to the right. Press – to tilt it to the left.

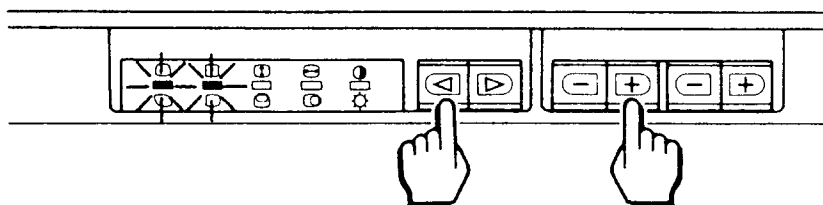
Adjusting the Rotation

If the picture is rotating, adjust it as follows.

1

While pressing the SELECT ◀ button, press the ADJUST + button *in blue* to select the rotation of the adjustment items.

The □/□ and □/□ indicators light up.

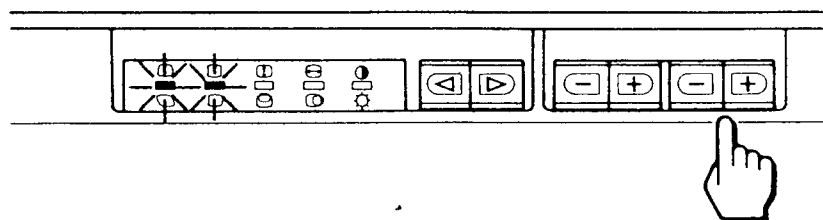


2

Correct the picture rotation using the ADJUST + and – buttons *in red*.

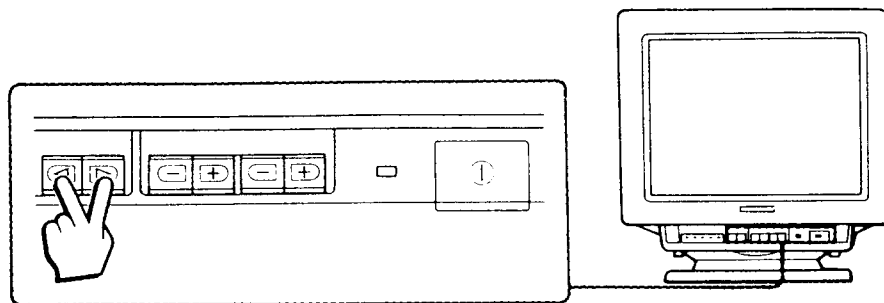
Press + to rotate the picture clockwise.

Press – to rotate it counterclockwise.



If you want to stop the adjustment

Keep pressing the SELECT ◀ and ▶ buttons simultaneously for 3 seconds.
The item you are adjusting is reset to the factory-preset condition.



The indicator blinks when

The limit value is achieved by pressing ADJUST + or -.

Storing the Adjusted Condition

The adjusted display condition is stored in memory:

- when 2 seconds have elapsed after you release the button.
- when 10 seconds have elapsed after the adjustment and the ●/○ indicator is lit.

Listed below are the adjustment items that are stored in memory. A maximum of 18 different sets of adjustment items can be stored.

This will enable the monitor to respond to 18 different input signals and display a well adjusted picture for each one (9 factory preset, 9 user-stored).

Adjustment item	How stored
Horizontal size ☹ Horizontal centering ☹ Vertical size ☹ Vertical centering ☹ Pincushion distortion ☐ Pincushion distortion balance ☐ Keystone distortion ☐ Keystone distortion balance ☐	They are stored together with the type of the input signal. The adjusted condition for up to 18 different input signals can be stored. The stored condition is called back from memory when the corresponding signal is input, and the optimum display is obtained for this signal.
Contrast ● Brightness ○ Rotation	They are stored independently from input signal.

When the 19th condition is stored

If you attempt to store a 19th set of adjustment items, it will replace the first set of user-stored adjustment items.

If you modify the condition for the preset-type models

It also will be stored in memory. When called back from memory, priority is given to the modified condition. When the stored conditions are cleared, the factory-preset conditions return.

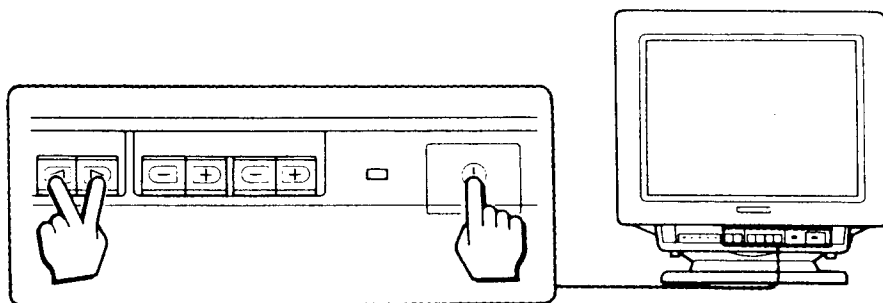
Resetting Every User-Stored Condition to Factory-Preset Condition

You can clear every user-stored condition at once.

Clear the user-stored condition when you want to erase unnecessary conditions from memory and store only the necessary conditions again.

Method

Turn off the power and turn it on again while pressing the SELECT ◀ and ▶ buttons simultaneously.



When every condition is cleared

The 5 indicators light up at the same time. The rotation, ● (contrast) and ○ (brightness) also return to their factory-preset conditions.

Resetting Single User-Stored Condition to Factory-Preset Condition

You can clear an individual user-stored condition, except for the rotation, ● (contrast) and ○ (brightness).

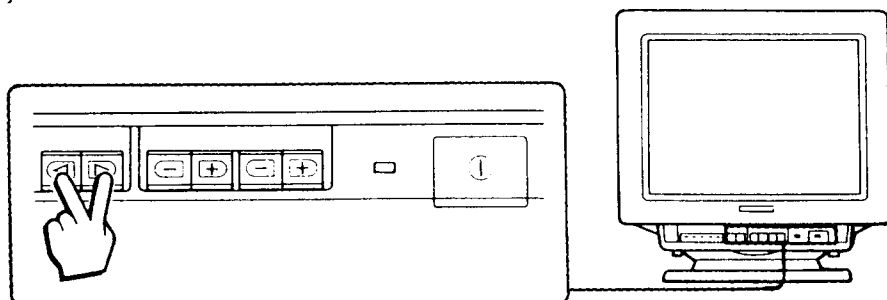
1

Input the signal for the condition you want to reset.

2

Keep pressing the SELECT ◀ and ▶ buttons simultaneously for more than 3 seconds.

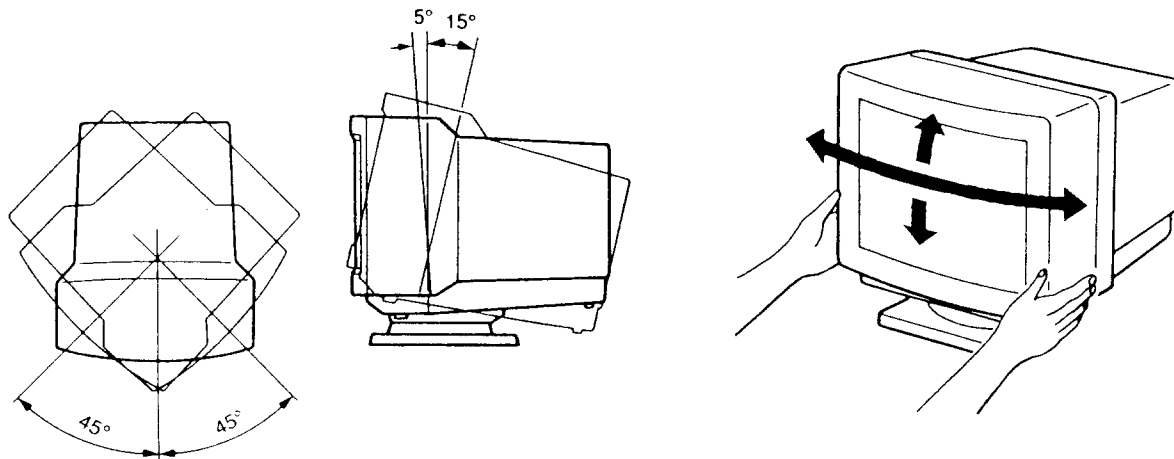
The five indicators light up. The condition is reset to the factory-preset condition when you release the buttons.



1-5. USE OF THE TILT-SWIVEL

With the tilt-swivel, this unit can be adjusted to be viewed at your desired angle within 90° horizontally and 20° vertically.

To turn the unit vertically and horizontally, hold it at its bottom with both hands as illustrated below.



For Service Manuals
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 Fax (01844) 352554
 email:- mauritron@dia1.pipex.com

1-6. TROUBLESHOOTING

If you have a problem, check in the table below.

Symptom	Cause	Countermeasure
No picture	The power cord is disconnected.	Connect the power cord.
	The power is turned off.	Turn on the power.
The picture is dark.	The adjusted condition is improper.	Adjust \odot (brightness) (see page 8) or reset to factory-preset condition (see page 11).
The input signal from your equipment does not appear.	The equipment is disconnected.	Connect the cable.
	You are using a video board other than IBM, Macintosh II or VESA standard.	Use a video board that complies with signal timing and pin assignments on the CPD-1730.

1-7. APPENDIX

Sony Display Memory System

The CPD-1730 incorporates the Sony Display Memory System (SDMS) that allows it to discriminate between the types of input signals and to automatically display the optimum picture.

The SDMS has a large-capacity non-volatile memory in which the display conditions for each input signal is stored. When the signal is input, the corresponding display conditions are called back from the memory and the unit is automatically adjusted for the signal.

It also has a video muting function. The function eliminates display distortions that may occur when the input video signal is changed.

Detailed explanation of the SDMS memory and the muting function are given below.

The SDMS memory

There are two types of memory: factory-preset memory and user memory.

Factory-preset memory

As explained in "Preset Mode" on page 7, optimum display conditions for the 9 preset-type models (see the chart to the right) are stored in the memory area at the factory. No manual adjustment is necessary for these preset-type models. However, the contents in this memory area can be modified by users. If you modify conditions while the signals are input from a preset-type model, the newly set conditions will be stored in this memory area. Priority is given to the modified conditions.

User memory

The manual adjustments and modifications of an existing condition you make and the conditions of unique video signals are stored in this memory area. They are stored together with the type of the input signal and called back from the memory when the signal is input again.

If you modify the condition already stored in the user memory, only the corresponding values are changed. The modified condition is not newly added to the memory.

- 1 VGA Text
- 2 VGA Graphic
- 3 MCGA
- 4 8514A
- 5 SVGA 800 × 600
- 6 SVGA 1024 × 768
- 7 Sony Standard
- 8 Macintosh 640 × 480
- 9 Macintosh 832 × 624

The factory-preset conditions can be modified by user input. Upon reset of the system, all the contents of the user modifications are cleared, and reset to the factory-preset conditions.

- 1
- 2
- 3 The user can store
- 4 the conditions for
- 5 up to 9 unique
- 6 video signals in this
- 7 memory area.
- 8
- 9

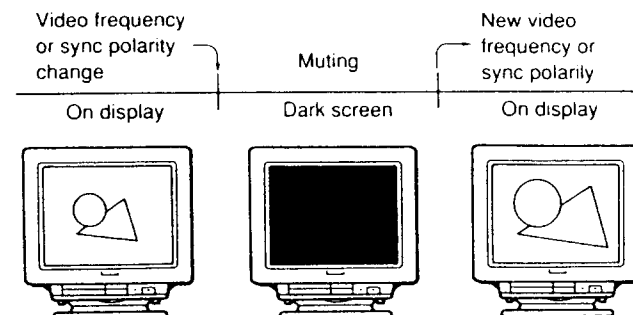
If more than 9 conditions are programmed into the user memory area, the last input condition will replace the first user input.

← The 10th entry moves to 1st location in the user memory.

Sony Display Memory System memory map

The video muting system

If the input video signal changes, the muting circuit senses the change and mutes the screen. This function eliminates scrambled images during the scanning transition.



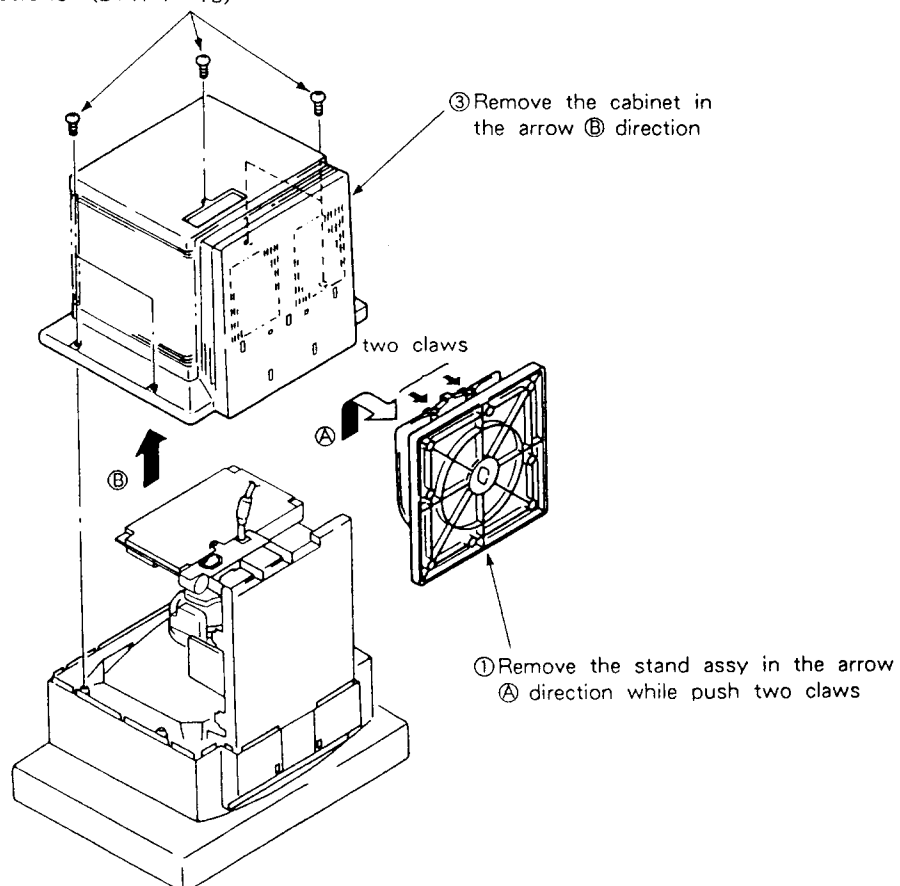
Note

The muting duration differs depending on the time that takes until the newly input signal is stabilized. It will last a minimum of 1.5 seconds approximately.

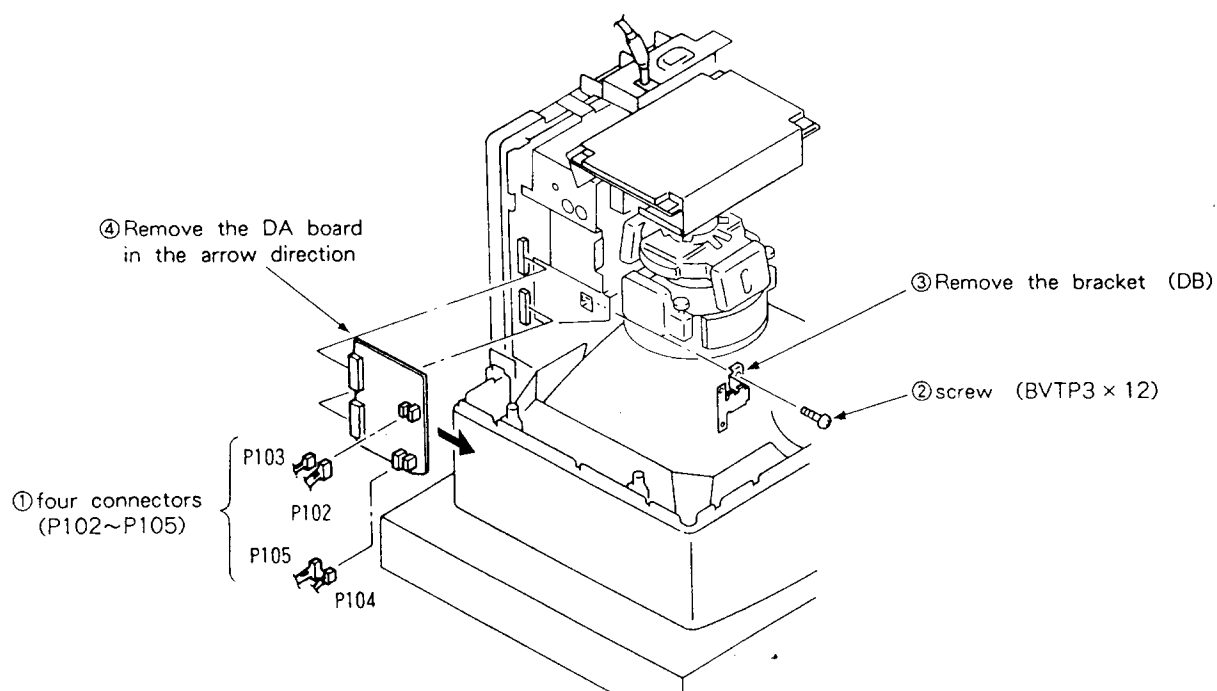
SECTION 2 DISASSEMBLY

2-1. STAND ASSEMBLY AND CABINET REMOVAL

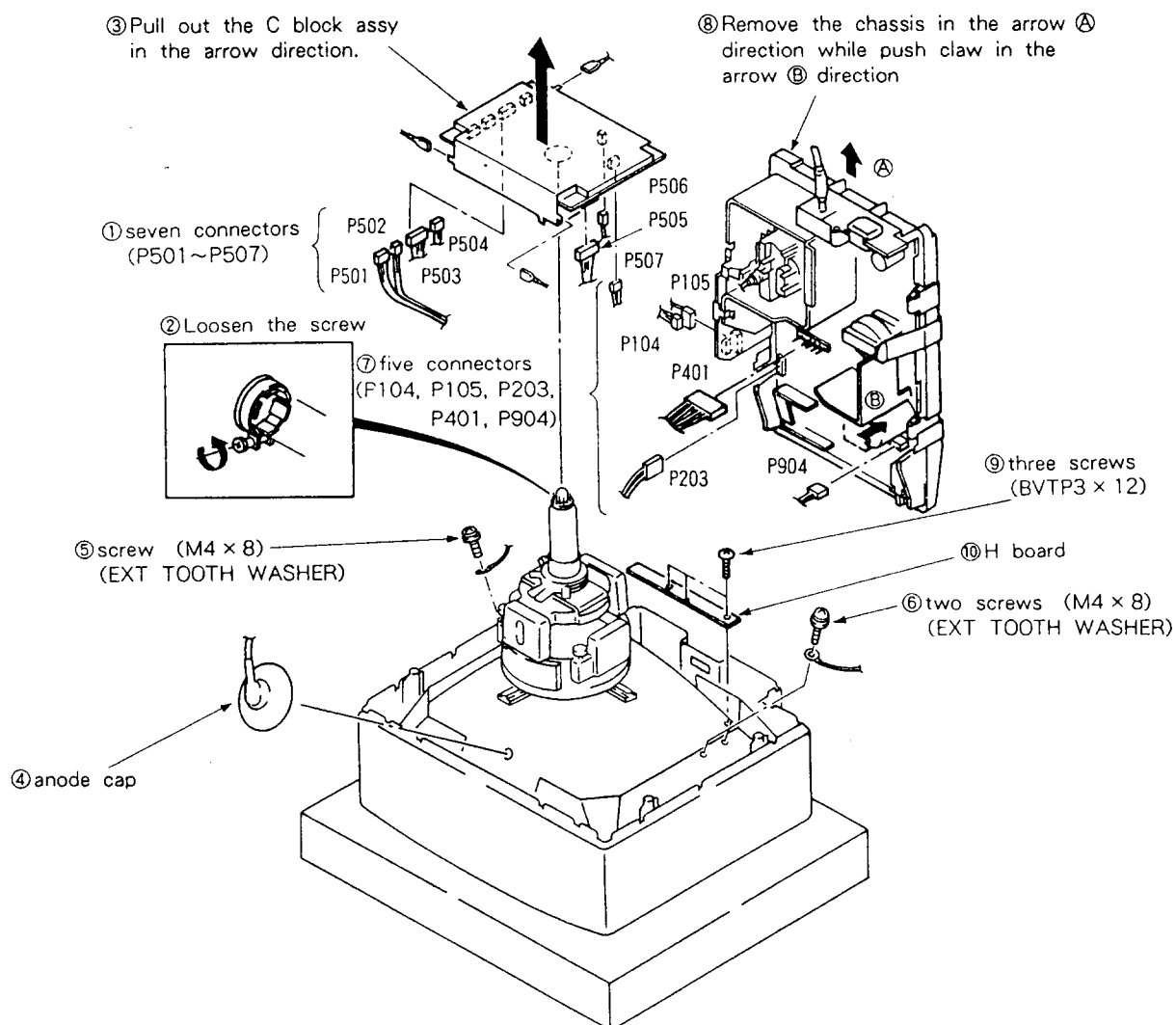
② five screws (BVTP4 x 16)



2-2. DA BOARD REMOVAL



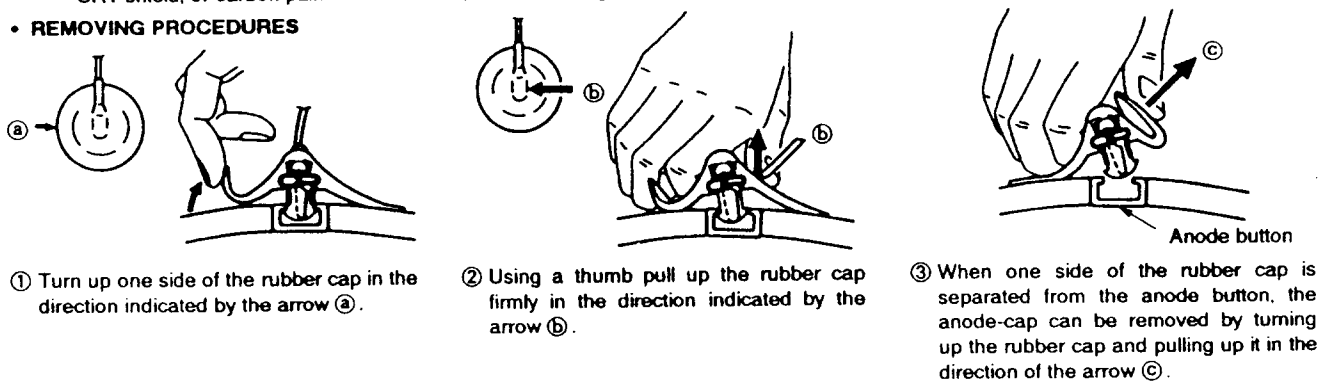
2-3. C BLOCK ASSEMBLY, CHASSIS AND H BOARD REMOVAL



• REMOVAL OF ANODE-CAP

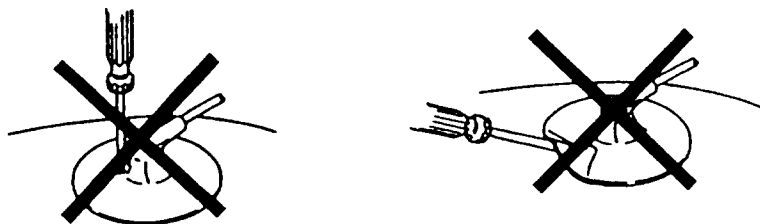
Note: Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield, or carbon painted on the CRT, after removing the anode.

• REMOVING PROCEDURES

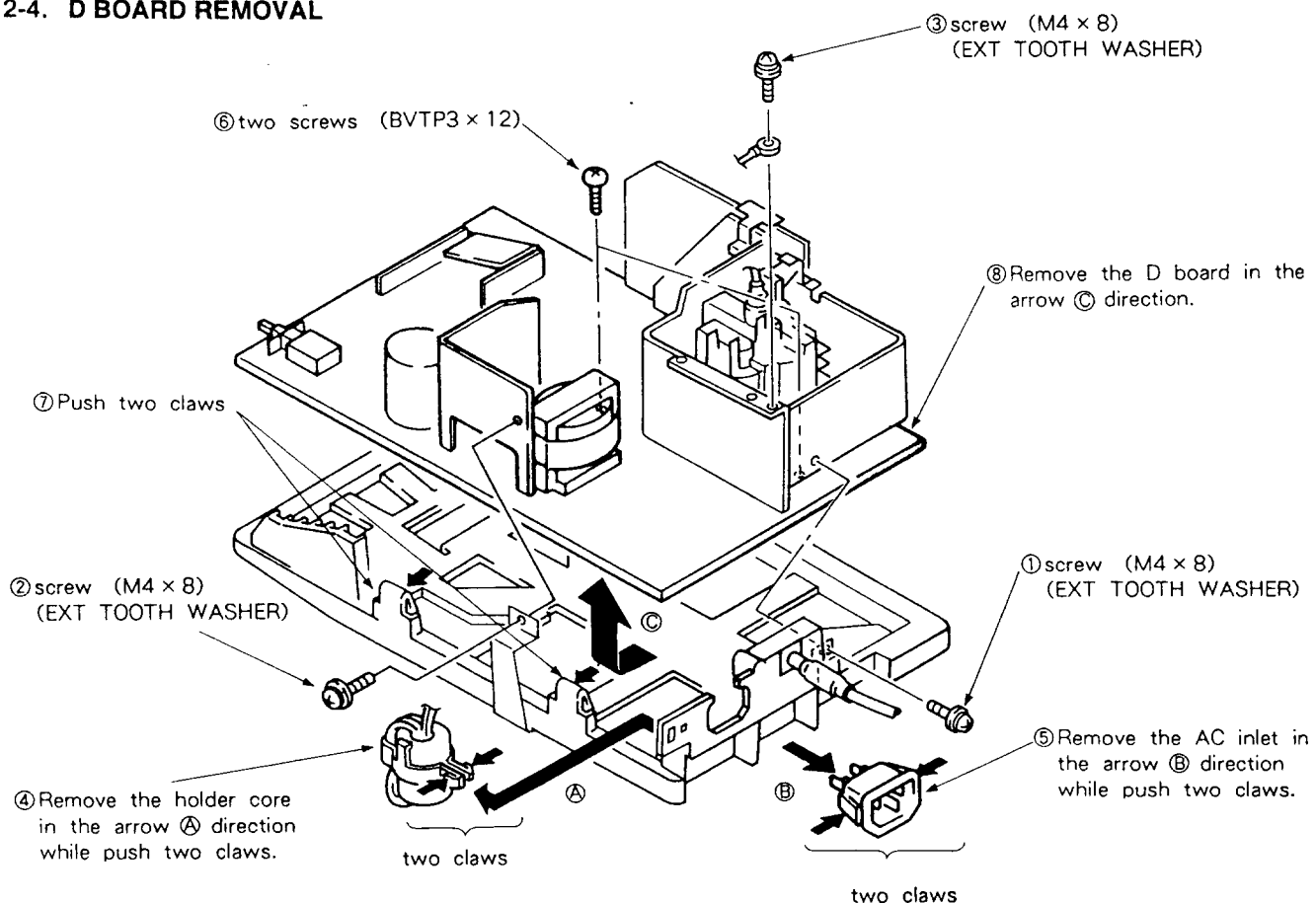


• HOW TO HANDLE AN ANODE-CAP

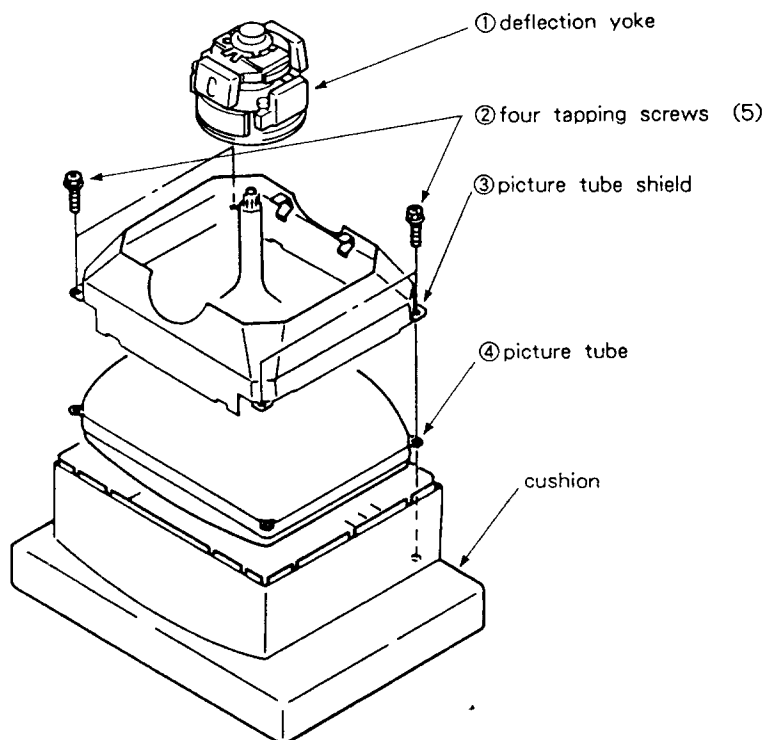
- ① Don't hurt the surface of anode-caps with sharp shaped material!
- ② Don't press the rubber hardly not to hurt inside of anode-caps!
A metal fitting called as shatter-hook terminal is built in the rubber.
- ③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt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



2-4. D BOARD REMOVAL



2-5. PICTURE TUBE REMOVAL



SECTION 3 CIRCUIT DESCRIPTION

3-1. DA BOARD OPERATIONS

1. This unit has a microcomputer and controls various signals. Its main components are the microcomputer section, horizontal size control section, horizontal oscillation control section, vertical control section, +B voltage control section, and X-ray projector section.

2. Microcomputer section

1. The microcomputer is connected to user control key switches and status LEDs via P105 and P104.
2. Horizontal and vertical sync signals are input and used for various corrections.
3. EEPROM and a D/A converter are connected, various correction data is stored in memory, and values appropriate to each mode are output to the D/A converter.
4. Shorting JC101 pins ⑤ and ⑥ with the accessory jumper chip puts this unit into service control mode. For normal mode, short pins ② and ④.
5. This unit controls by outputting data to the D/A converter on the C board.

3. Horizontal size control section

1. The diode modulator control IC113 controls the horizontal size and provides left and right pin correction, left and right trapezoidal correction, and sexyline correction.
2. The various correction amounts are set by outputting the EEPROM data values for each mode to the D/A converter through the microcomputer.
3. These corrections use the D/A converter output to create sawtooth waveforms and parabolic waveforms in the mirror integration circuit with the op-amp and analog switch circuit.
4. The IC113 output is output through the inversion amp, has its voltage converted on the D board, and is applied to the horizontal deflection circuit.

4. Horizontal oscillation section

1. The horizontal oscillation is controlled by IC114.
2. The horizontal synchronization signal is input to Pin ① of IC114 and the horizontal oscillation follows the input signal according to the F/V conversion voltage for the horizontal voltage output from microcomputer.
3. The EEPROM data for each mode is output from the D/A converter via the microcomputer, input to the op amp, and applied to pin 2 ② of IC114 to control the horizontal phase.
4. A circuit the same as the mirror integration circuit discussed above creates the correction waveform and applies it to pin ⑤ of IC114 to provide parallel quadrilateral correction and pin balance correction.

5. Vertical control section

1. A circuit the same as the mirror integration circuit discussed above creates the correction waveform to correct the vertical linearity and to create vertical parabolic waves.
2. These controls are carried out by outputting the EEPROM data from the D/A converter via the microcomputer and is input to the op amp.

6. +B voltage control section

1. The +B voltage is controlled by inputting the EEPROM data to the op amp via the microcomputer to control the reference voltage. This data is the factory values are can not normally be changed.
2. The +B voltage control applies feed back to match the detection voltage from the tertiary winding of FBT on the D board to the reference voltage.
3. The output is pulse width modulated by the comparator, output, and connected to the step down chopper circuit on the D board.

7. X-ray protector section

1. The X-ray protector is IC112.
2. The HV value and anode current from the D board are detected and input to Pins ③ and ⑦ of IC112. If they are not within standard range, the protection output is output from pin ⑤ of IC112 to stop the horizontal oscillation.

3-2. D BOARD OPERATIONS

1. This unit contains an internal switching power supply, horizontal deflection circuit, and vertical deflection circuit. The switching power supply can handle 100-120V/220-240 V AC input and outputs six voltages. These voltages are controlled by IC901, the IC for the switching power supply, to output constant voltages and are fed to each block.

* Output voltages

- +155V
- +87V
- +26V
- +12V
- +7V (heater)
- +8V (for floating H-POS1)

2. The horizontal deflection circuit is a signal unit with the high voltage generation circuit. The high voltage value is controlled with feedback to keep the DC voltage detected from the FBT tertiary winding at the same level as the reference voltage. The error amplitude output is pulse width modulated and applied to the step down chopper circuit FET to control the +B voltage. This unit contains a detection circuit section and step down chopper circuit section. The control circuit section is on the DA board section.

3. In order to correct the linearity according to the horizontal frequency, this board has an S capacitor switching circuit. In order to expand the horizontal size, this board also has a resonance capacitor switching circuit. These controls are carried out on the DA board.
4. This board has a D. Focus circuit. The horizontal is amplified by the D. Focus transformer and the vertical by a transistor amplifying the DA board parabolic wave to obtain the necessary voltage waveform.
5. The vertical deflection circuit comprises a dedicated IC, IC201. The control signals are output from the DA board and the size, linearity, and position are controlled.

3-3. C BOARD (VIDEO AMP) OPERATIONS

1. The analog video signals are connected to the video pre-amp (IC501) via 75 Ω termination resistors.
2. This video pre-amp controls the gain of the video signals according to the control signals from the microcomputer board to change the output signal level. The data is also increased and decreased by the front panel contrast key switch.
3. The output video signals are connected to the video output amp (IC502) and amplified to the cathode drive voltage.
4. The video output is capacitor coupled and connected to the pedestal clamp circuit by diodes.
5. The clamp level is controlled by the control signals from the microcomputer and the data is increased and decreased by the front panel bright key switch.
6. IC503 is the synchronization signal processing IC. It detects the presence or absence of synchronization signals and their polarity and outputs horizontal synchronization signals and vertical synchronization signals.
7. The G2 voltage is also controlled by control signals from the microcomputer board.

SECTION 4 SET-UP ADJUSTMENT

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

The control and switch below should be set as follows unless otherwise noted :

CONTRAST control 80%

BRIGHTNESS control 50%

Perform the adjustments in order as follows :

- 4-1. Beam Landing
- 4-2. Convergence
- 4-3. Focus

Note : Test Equipment Required.

- Signal generator : VG807, VG809 ... etc
(Astro Design)
- Color Annalyzer
- Degausser

Preparation

- Face the PICTURE TUBE to east or west so as not to be influenced by magnetic force.
- Turn ON the POWER switch, and degauss the entire screen with degausser.

4-1. BEAM LANDING

1. Receive a signal of 768 LINE ($f_H = 48.7\text{kHz}$) with signal generator.
2. Adjust the white balance, convergence and focus coarsely, and then set purity controls to center position as shown in Fig. 4-1.
3. Switch over the signal generator to green.
4. Move the deflection yoke backward, and adjust purity magnet so that the green on the screen to become in the center of screen as shown in Fig. 4-2.
5. Move the deflection yoke forward, and adjust with so that the entire screen to become green entirely.
6. Switch over the signal to blue and green, and confirm the condition.
7. When landing at the corners is not right, correct by using the magnet (Fig. 4-3).

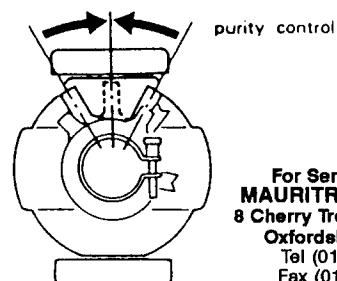


Fig. 4-1.

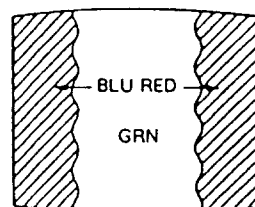
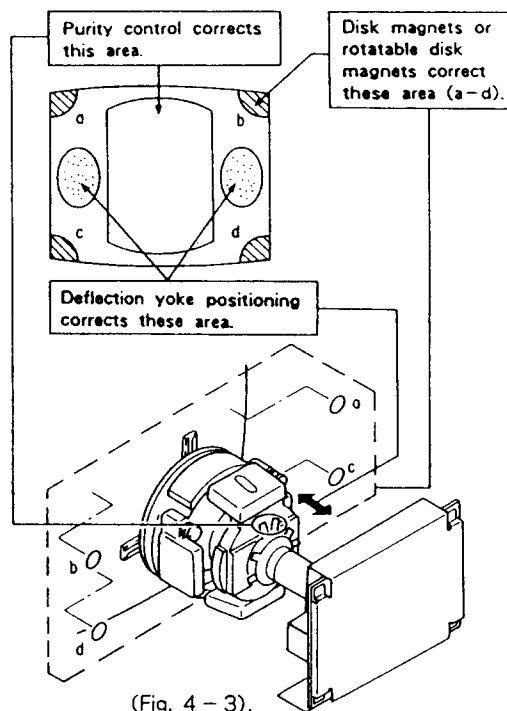
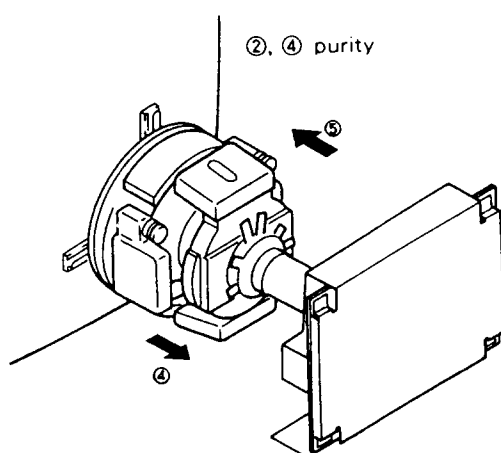


Fig. 4-2.



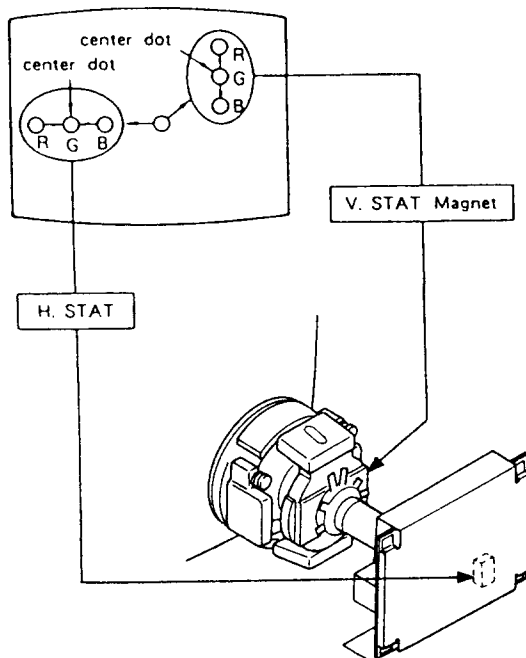
4-2. CONVERGENCE

(1) Horizontal and Vertical Static Convergence Adjustment on the Center of Screen.

- Before starting, perform V. SIZE, V. CENT, H. SIZE, H. CENT and Screen Distortion adjustment rightly.

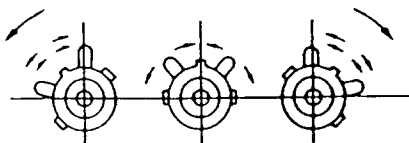
(Static Convergence Adjustment)

1. Receive a dot signal and Set CONTRAST to normal. (48kHz)
2. Adjust H. STAT VR to coincide red, green and blue dots on the center of screen. (Horizontal movement)
3. Adjust V. STAT magnet to coincide red, green and blue dots on the center of screen. (Vertical movement)



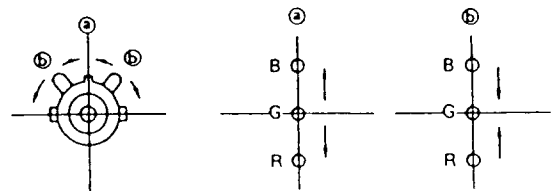
- ※ If the red, green and blue dots do not coincide on the center of screen with H. STAT VR, perform adjustment using V. STAT at the same time while tracking.

(Tilt the V. STAT magnet and adjust static convergence to open or close the V. STAT magnet.)

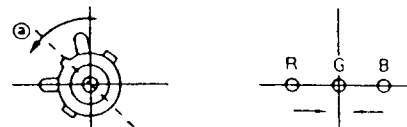


- When the V. STAT magnet is moved in the direction of arrow ③ and ④, red, green and blue dots move as shown below.

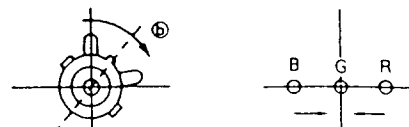
- ① When moving the V. STAT Magnet open or close.



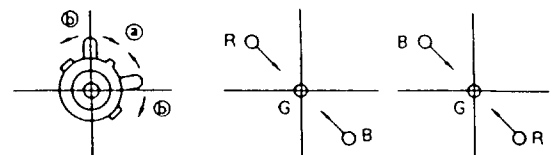
- ② When moving the V. STAT magnet counterclockwise.



- ③ When moving the V. STAT magnet clockwise.



- ④ When tilt the V. STAT magnet and open or close.

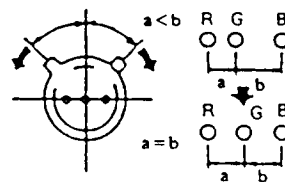


- ※ If the red and green dots do not coincide with blue dot, adjustment with BMC (6-poles) magnet.

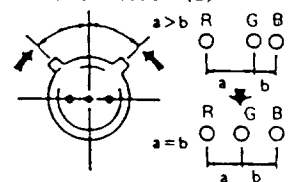
- HMC and VMC correction for BMC (6-Poles) magnet.

1. HMC (Horizontal Misconvergence) correction and motion of the Electron Beam with the BMC (6-poles) magnet.

HMC Correction (A)

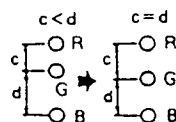
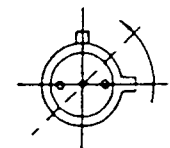


HMC Correction (B)

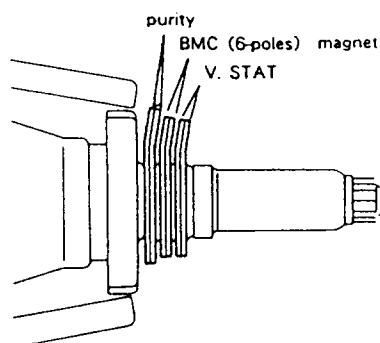
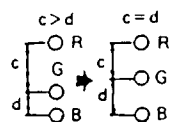
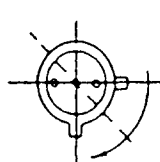


2. VMC (Vertical Misconvergence) correction and motion of the Electron Beam with the BMC (6-poles) magnet.

VMC Correction (A)



VMC Correction (B)



- Adjust XBV misconception with XBV reactor (the one on the right and front as seen from the CRT funnel).
- Adjust XCV misconception with XCV reactor (the one on the right and rear as seen from the CRT funnel).

Note :

* When XCV is too large to correct, adjust with the deflection yoke vertical neck swing.

* For XBV correction, re-adjust H. SIZE.

- Adjust H. AMP with APH reactor (the one on the left and front as seen from the CRT funnel).
- Adjust H. TILT with TLH reactor (the one on the left and rear as seen from the CRT funnel).

Note :

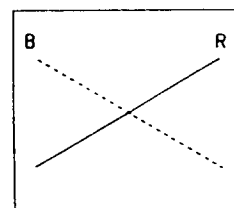
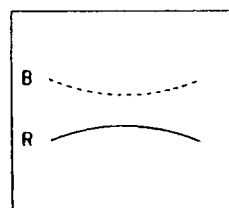
Re-adjust H. STAT tool. If there is still horizontal tilt, adjust it by swinging the neck right and left. For H. AMP correction, re-adjust H. SIZE.

- Adjust YCH misconception with VR YH on the deflection yoke (the one on the top and rear as seen from the CRT funnel).
- Adjust the upper and lower TLV with VR YV on the deflection yoke (the one on the top and front as seen from the CRT funnel).

XCV misconception
When turning it clockwise, lines move as shown in the figure.

When turning it counter-clockwise, the contrary misconception appears.

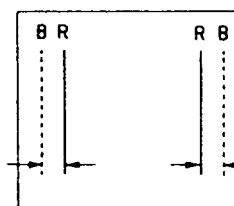
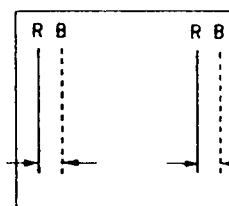
XBV misconception



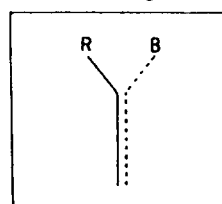
H. TILT misconception
When turning it clockwise, lines move as shown in the figure.

When turning it counter-clockwise, the contrary misconception appears.

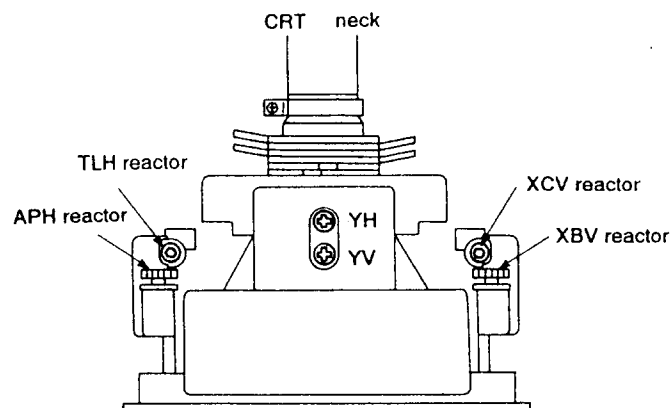
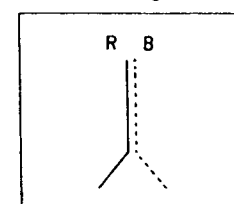
H. AMP misconception



YBH (TOP) misconception



YBH (BOTTOM) misconception

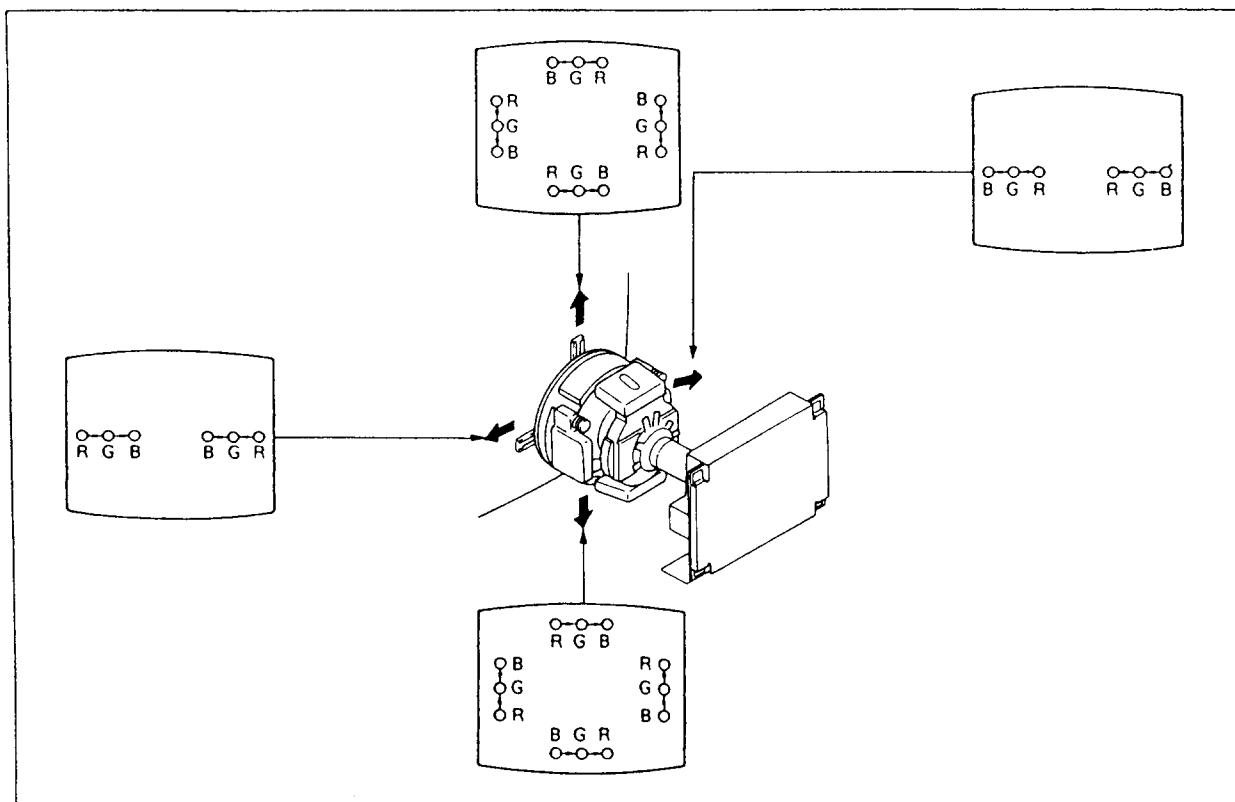


(2) Horizontal and Vertical Dynamic Convergence

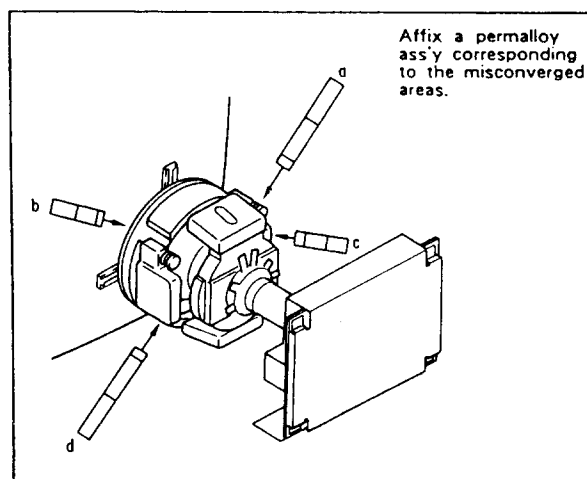
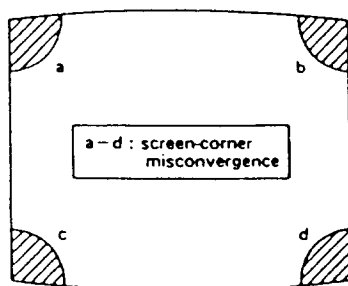
Adjustment the environs of the Screen

(Dynamic Convergence Adjustment)

1. Loosen deflection yoke screw.
2. Remove deflection yoke spacers.
3. Move the deflection yoke for best convergence.
4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.

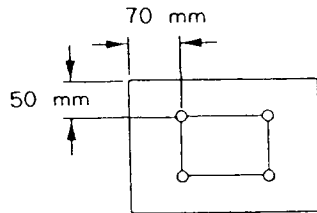


(3) Screen-corner Convergence



4-3. FOCUS ADJUSTMENT

1. Turn the signal to 48kHz MODE.
2. Receive a dot signal.
3. Adjust FOCUS VR so that the following figure point for best focus. (H. V tracking)



SECTION 5

SAFETY RELATED ADJUSTMENT

HV REGULATOR, HV HOLD-DOWN CIRCUIT CONFIRMATION

■ IC101

When replacing the following components (marked with ■ on the schematic diagram), make this confirmation.

■ D BOARD C404, C405, C406, C407, C408, C410, C411, C412, C433, C434, C437, C438, C439, R422, R423, R424, R425, R428, R429, IC901, IC922, IC923, D923, FBT (T402), L406,

■ DA BOARD IC101

■ others DY

1. HV REGULATOR CIRCUIT CONFIRMATION

- 1) Receive a black dot signal of $f_H=57.87\text{kHz}$.
- 2) Set the CONT and BRIGHT controls to minimum. (Cut-off condition).
- 3) Connect a digital multimeter to pin ⑦ of P101 on DA board.
- 4) Confirm the voltage is less than 6.12V.

2. HV HOLD-DOWN CIRCUIT CONFIRMATION

- 1) Receive a black dot signal of $f_H=57.87\text{kHz}$.
- 2) Set the CONT, BRIGHT and G2 controls to minimum. (Cut-off Condition).
- 3) Apply an external DC voltage gradually to pin ⑪ of P101 on DA board, confirm that the voltage is less than 7.13V DC where by the HOLD-DOWN circuit operates immediately and raster disappears.
- 4) Connect a digital multimeter to pin ⑧ of P101 on D board.
- 5) Apply an external DC voltage gradually to pin ⑧ of P101 on DA board, and when the voltage becomes more than -12.50V, confirm the HOLD-DOWN circuit operates and raster disappears.

+B MAX CONFIRMATION

Standard: less than $155\text{V} \pm 5\text{V DC}$

Check conditions

Test voltage: $130.0^{+20}_{-10}\text{V AC}$

Note 1: Noise filtered power supply or power supply with distortion ratio under 3%.

Test signal: Black dot signal ($f_H=57.87\text{kHz}$)

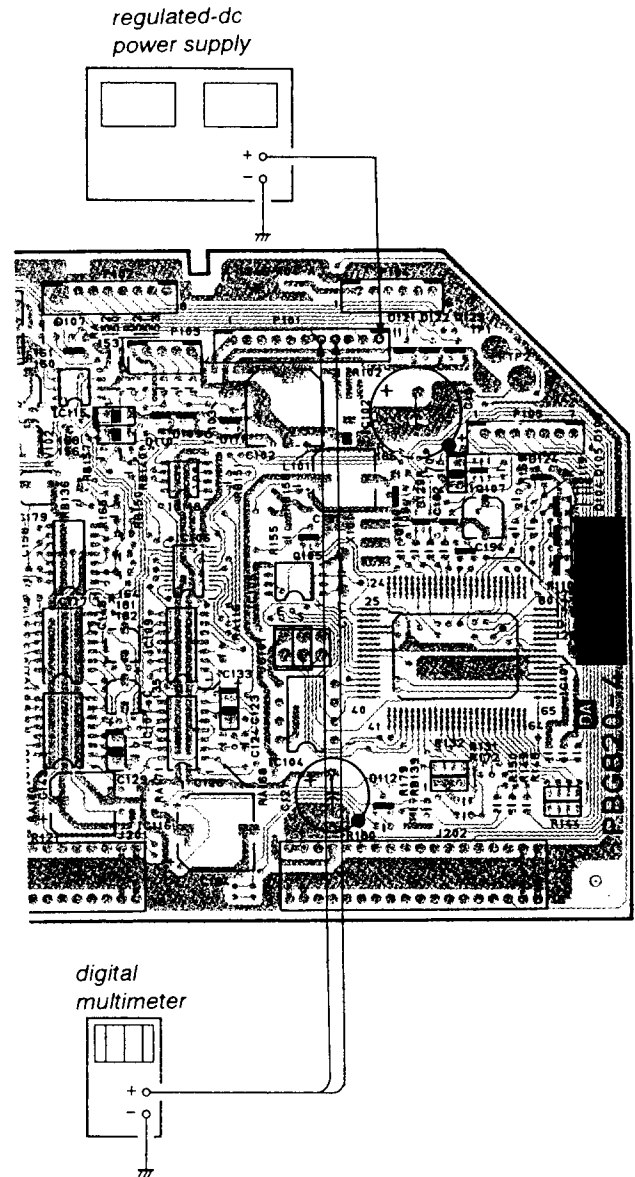
Control: CONT MINI.: BRT MINI.: G2 MINI.

Note 2: Short the pattern shorted when adjusting +B on the DA board, then match the +B voltage to the reference value with the operation computer.

Note 3: Confirm that the voltage of +B MAX is within the standard value when replacing ■ parts.

CONFIRMATION 0VP CIRCUIT

- a) Confirm that ⑭ pin of J201 become Low when input the voltage 3.20V dc to ⑬ pin of J201.
- b) Confirm that ⑭ pin of J201 become High when input the voltage 3.61V dc to ⑬ pin of J201.
- c) Confirm that the 2.65V through 3.0V presents at ⑬ pin of P201.
- d) Confirm that +B1 become under 2.0V when add +12V dc to ⑭ pin of P201.



SECTION 6 CIRCUIT ADJUSTMENTS

6-1. OPERATING ENVIRONMENT

IBM PC/AT or Compatible Computer
MS-DOS more than V.2.2
RS-232C (CH1)
Communication Unit
Signal Generator (VG-819, 8061, etc)

6-2. OPERATIONS

- (1) Execute 1430.exe
- (2) From the MENU, input the number for the item to be change.

CPD-1430/1730 CONTROL PROGRAM Version 1.1

MAIN MENU

1. Distortion Adjustment (ALL MODE)
2. Distortion Adjustment (1 MODE)
3. White Balance Adjustment
4. White Balance Data Adjustment
5. Internal Data Adjustment
6. Save Data to Factory Preset Area
7. Copy all Data to Another DA board
8. Save EEPROM Data to FD or HD
0. QUIT

Input menu No.>

Fig. 1

6-3. DESCRIPTION OF EACH ITEM

6-3-1. Distortion Adjustment (All Mode)

Select this program when the monitor has the be adjusted all mode of factory preset timing.

In case of different timing data from factory preset in EEPROM, this program write factory timing data in EEPROM.

Without wrong timing data in EEPROM, MENU as Fig. 1 shall be displayed.

Select the timing No. 1~9.

When the signal timing table has be displayed, set up signal Generator at that timing.

After that, hit ENTER key. When the screen as Fig. 2 has be displayed, adjust all these items. Then, hit ENTER key.

Repeat these operation for every 9 preset timing, and confirm 9 "done" in every "EDIT" column.

Select "0. SAVE & QUIT" to transfer correction data from user data area to factory preset data area. Without this operation, adjusted data should disappear with user RESET.

To get back to previous screen, hit ESC key.

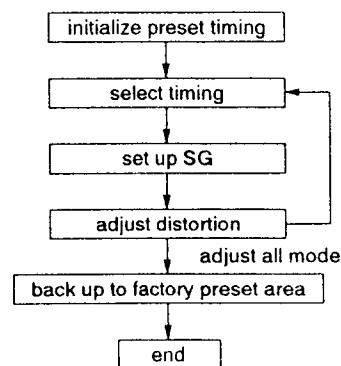


Fig. 2

6-3-2. Distortion Adjustment (1 Mode)

At this program, the screen as Fig. 3 should appear.

Confirm "CHANNEL No.", and Adjust Distortion, adjust follow items.

H. size	Pin cushion
H. posi	Pin bal.
V. size	Keystone
V. posi	Key bal
	Wavy

Up and DOWN selection of items.

RIGHT and LEFT adjustment of the item.

SHIFT + UP or DOWN fast adjustment.

ENTER SAVE to USER DATA AREA and QUIT to MAIN MENU.

ESC DON'T SAVE & QUIT to MAIN MENU.

CPD-1430 CONTROL PROGRAM Version x
DISTORTION ADJUSTMENT

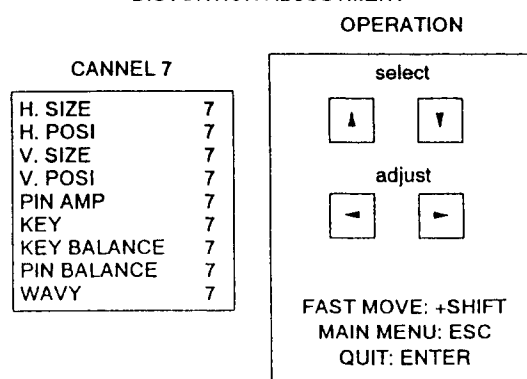


Fig. 3

6-3-3. White Balance Adjustment

To adjust W/B, select this program.

First, operate RESET.

Put the sensor of COLOR ANALYZER on the center of Screen and follow the indication screen and adjust each item.

Operation method is same as 3.2 Distortion Adjustment (1 Mode).

6-3-4. White Balance Data Adjustment

Select this program to adjust only one or two items of W/B items. Operation method is same as 3.2 Distortion Adjustment. You can adjust following items.

R-Bias-L	
G-Bias-L	Raster Color (BRT MAX)
B-Bias-L	
R-Bias-H	
G-Bias-H	Picture Color (CONT MIN)
B-Bias-H	
R-Drive	
G-Drive	Picture Color (CONT MAX)
B-Drive	
CONT-L	Picture Brightness (CONT MAX, BRT CENTER, 6% BOX)
CONT-H	Picture Brightness (CONT MIN, BRT CENTER, 6% BOX)
G2	Raster Brightness (BRT MAX)
ACL	Picture Brightness (CONT MAX, BRT MAX, 100% BOX)

6-3-5. Internal Data Adjustment

To adjust Limit data or +B Voltage, select this program.

Limit data meaning are follows.

V Linearity-L	V linearity data at $f_H=28\text{kHz}$
V Linearity-H	V linearity data at $f_H=58\text{kHz}$
H Size-L	Adjustable Min H Size (H Size data=0)
H Size-H	Adjustable Max H Size (H Size data=255)
Key-L	Adjustable Min key (Key data=0)
Key-H	Adjustable Max key (Key data=255)

The other items is as follows

+B control data.
 f_H data
 Rotation
 Cutoff BRT

Caution:

" +B control" is effective only when TP1 and TP2 are shorted each other.

6-3-6. Save Data to Factory Preset Area

To save data you adjust, Select this mode.

In Factory preset area, there is Factory Preset data loaded at RESET.

With hitting 'Y', to transfer data begin. With hitting 'N', it return to MAIN MENU.

Refer to 4.3 ACTIVE DATA AREA & FACTORY PRESET DATA AREA.

6-3-7. Copy all Data to Another DA Board

Select this mode when you have to change DA board.

First, connect source DA board to communication unit. And transfer from the data of source DA board to external computer. Second, connect destination DA board to communication unit. And transfer from the data stored in external computer to destination DA board.

6-3-8. Save EEPROM Data to FD or HD

This mode should be selected when you want to keep the condition before adjustment. This mode has two functions, SAVE and LOAD. You can execute SAVE or LOAD after inputting filename. Refer to current direction on below column.

6-3-9. Quit

Select this ITEM to quit this program.

For Service Manuals
MAURITRON SERVICES
 8 Cherry Tree Road, Chinnor
 Oxfordshire, OX9 4QY.
 Tel (01844) 351694
 Fax (01844) 352554
 email:- mauritron@dial.pipex.com

6-4. OTHERS

6-4-1. About Reset (User Control)

-1 Mode RESET

You can operate 1 Mode RESET when you push both of select SW for 5 seconds, confirm all LED are lighting, and release select SW.

This operation reset distortion data for receiving signal to factory preset condition.

-All Mode RESET

You can operate All Mode RESET when you push both of select SW for 5 seconds at POWER ON OPERATION, confirm all LED are lighting, and release select SW.

This operation reset distortion data for all preset timing, contrast data, and BRT data to factory preset condition.

6-4-2. About Communication Error

When POWER SW is off, or Connector of Communication Unit is not connected, ERROR message as follows comes out on monitor.

Communication Error!

In this case, you should check and confirm that POWER LED is lighting and Connector of Communication Unit is connected. And hit any key.

Then following message shall appear.

Do you try again? (y/n)

To continue this program, Select 'Y'. To end this program, select 'N'.

6-4-3. About RS-232C Port No.

This program uses COM1 in default condition. If you want to use other port No., COM2, COM3 or COM4, use following option.

1430_N N: 1-4

For example: N=2 means using COM2.

6-4-4. Active Data Area & Factory Preset Data Area

CPD-1430/1730 have 18 factory preset data area and 18 user preset data area.

Regularly, user can adjust only user preset data. Serviceman can transfer user preset data to factory preset data, with "3.6 Save data to factory preset area".

1 Channel No. has 1 user preset data and 1 factory preset data. Regularly, user can adjust user preset data. But this data shall change to factory preset data at RESET.

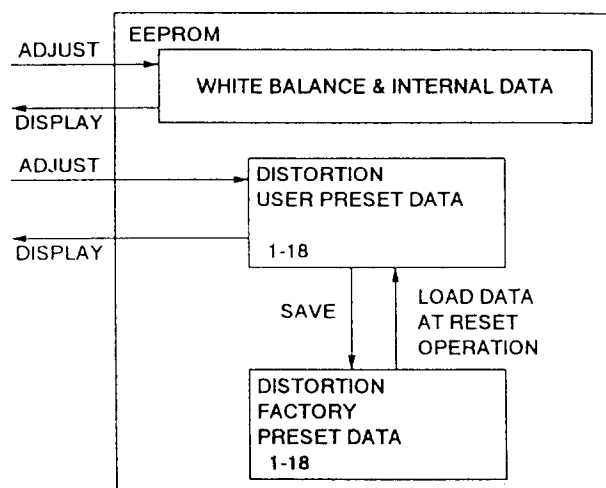


Fig. 4

6-4-5. About Connection of Control Unit

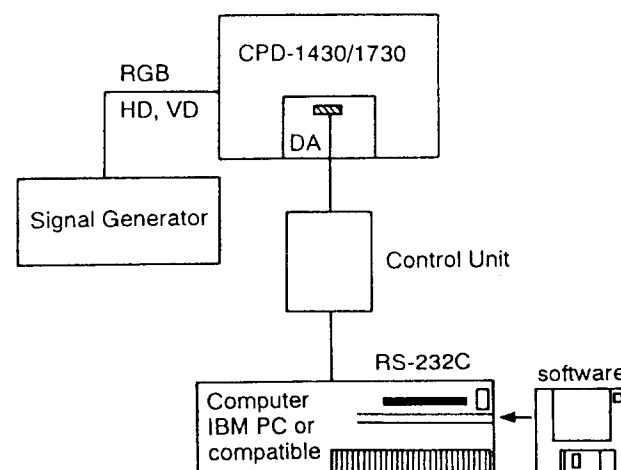


Fig. 5

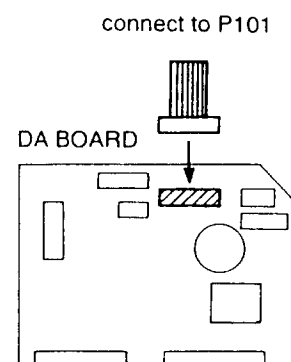


Fig. 6

Connect CONTROL UNIT as Fig. 5 and Fig. 6.

6-4-6. About Connector of Control Unit

CONTROL UNIT has D-sub 9 (female) connector for RS-232C.
If you convert to D-sub 25, connect not only Receive data, Transmit data and Signal ground but also Data terminal ready, Data ready, Ready to Send and Clear to Send.

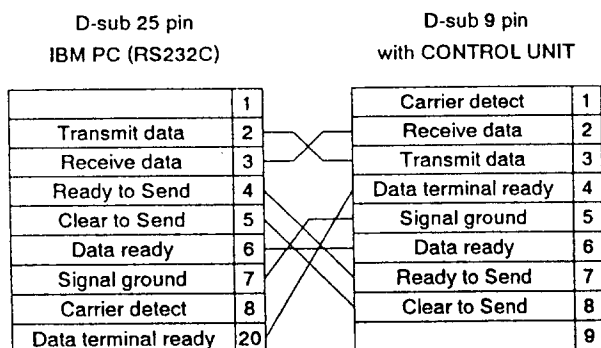
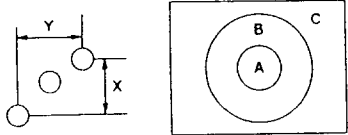
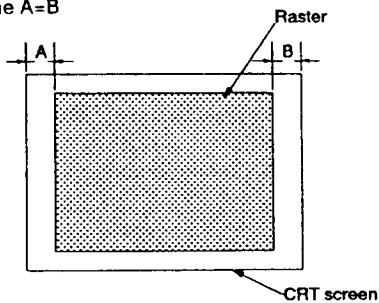


Fig. 7

6-5. ADJUSTMENT FOR SERVICE FOR CPD-1730

	Adjustment	Mode	Picture	Equipment	Operation Procedure
1	+B Voltage	10	Cutoff	Computer	Short between TP1 and TP2 on DA board. Adjust #7 pin of P101 to $6.12V \pm 0.02V$.
2	Landing	10	100% White box	DY position Purity Magnet	Adjust landing to specification. SPEC: Mis-Landing is not accept.
3	Convergence	10	Cross Hatch	DY, H stat VR Parmaloy	Adjust convergence to specification, $d = \sqrt{X^2 + Y^2}$ A: Diameter 50mm, d=less than 0.15mm B: Diameter 187.5mm, d=less than 0.3mm C: Diameter 187.5mm, d=less than 0.5mm 
4	Raster Position	10	Raster	SW401, RV401 (D board)	Using RV401 located on D board, perform adjustment so that the raster is positioned at the center of effective area of CRT screen. Adjust become A=B 

	Adjustment	Mode	Picture	Equipment	Operation Procedure
5	H Size limit	8 10	Cross Hatch	Computer	Adjust both edge of picture to overscanning at mode 8 Adjust H Size to 295mm at mode 10.
6	V linearity	11 12	Cross Hatch	Computer	Correct V linearity at mode 11. Correct V linearity at mode 12.
7	Key limit	7	Cross Hatch	Computer	Correct Keystone distortion.
8	Distortion Adjustment	1-9	Cross Hatch	Computer	Adjust Distortion for all preset mode. (Size, Posi, Pin, Key) Back up data to factory area. <div data-bbox="1066 772 1372 974" data-label="Diagram"> </div>
9	Raster-brightness Bias-H G2	2	Raster (BRT MAX)	Computer	Adjust Raster color to specification with R, G, B Bias-H and G2. One of R, G, B Bias-H data has to be 85 ± 5 . $x=0.283 \pm 0.01$, $y=0.298 \pm 0.01$, $Y=4.5 \pm 0.5 \text{ cd/m}^2$
10	RGB Drive	2	6% white box	Computer	Adjust Picture color to specification with R, G Drive and CONT-H. Brightness have to be $120 \pm 20 \text{ cd/m}^2$ $x=0.283 \pm 0.01$, $y=0.298 \pm 0.01$ All white balance spec $X=0.283 \pm 0.01$ $Y=0.298 \pm 0.01$ 9300° K

	Adjustment	Mode	Picture	Equipment	Operation Procedure
11	RGB Bias-L	2	6% white box	Computer	Adjust Picture color to specification with R, G, B Bias-L. One of R, G, B Bias-L data have to be 55 ± 5 . Brightness have to be less than 5 cd/m^2 . $x=0.283 \pm 0.01$, $y=0.298 \pm 0.01$, $Y=2.5 \pm 2 \text{ cd/m}^2$
12	BRT center data	2	Raster BRT CENTER	Computer	Adjust BRT to just cut off.
13	CONT	2	6% white box CONT MAX BRT CENTER	Computer	Adjust CONT-H to specification. Spec: $120 \pm 3 \text{ cd/m}^2$
14	ACL	2	100% white box CONT MAX BRT MAX	Computer	Adjust ACL to specification. Spec: $120 \pm 3 \text{ cd/m}^2$
15	FOCUS	2	Focus pattern CONT MAX BRT CENTER	RV502	Adjust focus to independence each line on white, and confirm on each R, G, B.
16	Front Panel SW, LED	1~9			Confirm select SW and adjust SW effective on CONT, BRT, H Size, V Size, Pin, Key. Confirm LED is blinking on Min and Max of each mode.

	Adjustment	Mode	Picture	Equipment	Operation Procedure
17	RESET				<p>1 mode RESET</p> <p>Push two select SW for 3 seconds. Confirm all LED is lighting. Release two select SW.</p> <p>Confirm the distortion of that mode is factory preset condition.</p> <p>Confirm the size and picture distortion.</p> <p>All mode RESET</p> <p>Turn Power off. With pushing two select SW.</p> <p>Turn Power on. Wait for 3 seconds with pushing two select SW. Confirm all LED are lighting. Release two select SW.</p> <p>Confirm CONT, BRT and all distortion of all mode are factory preset conditions.</p> <p>Confirm that the CONT is set to MAX, and BRT is CUT OFF.</p>
18	High Voltage	10	Cut off		Measure #7 pin of P101, and confirm this point is less than 6.12V.
19	X Ray Protector	10	Cut off		<p>Apply 7.13V DC to #11 pin of P101 from external DC power supply.</p> <p>Confirm Hold Down circuit is not activated.</p>
20	Beam Protector	10	Cut off		<p>Connect #11 pin of P101 to 0V. (HV PROT off) ACL is not activated when #8 pin of P101 is -9.1V.</p> <p>ACL is activated when #8 pin of P101 is more than -12.50V.</p>
21	ACL	2	100 white box CONT MAX BRT MAX		Measure #8 pin of P101, and confirm this point is $-3.50V \pm 1.0V$.

ADJUSTMENT FOR EACH UNIT WHEN YOU CHANGE PARTS

- C MOUNT (CHANGE PART on C MOUNT)
Adjust RV501 (H Static Convergence) and RV502 (Static Focus).
- H MOUNT (CHANGE PARTS on H MOUNT)
Check all SW and LED are effective.
- DA MOUNT (CHANGE WHOLE DA MOUNT)
-In case of no damage for communication to external computer.
 1. Copy all data from broken mount to new mount.
 2. Adjust follow items by external computer.
 - +B control
 - H size limit
 - Pincushion limit
 - Keystone limit
 - Distortion (All preset modes)
 3. Confirm follow items.
 - Front panel SW and LED
 - High Voltage
 - X ray protector
 - Beam limiter
- In case of impossible communication to external computer.
Adjust all items.

Caution: Average data is preset in DA board for service, but G2 data is darkest data to avoid for protector activating.

- D MOUNT (CHANGE PARTS on D MOUNT)
Adjust and confirm follow items.
 - +B control
 - Raster position
 - V linearity
 - Distortion (All preset modes)
 - Focus
 - High Voltage
 - ACL
 - Power Supply Voltage
- CRT, DY
Adjust Landing and Convergence
Adjust White balance and Brightness
Adjust Distortion for all preset modes.

6-6. TIMING CHART

Preset Timing

- 1: VGA 720 × 400 Text
- 2: VGA 640 × 480 Graphic
- 3: VGA 640 × 350 MCGA
- 4: 8514A 1024 × 768
- 5: SVGA 800 × 600 72Hz
- 6: SVGA 1024 × 768 70Hz
- 7: Sony Standard 1024 × 768
- 8: Macintosh 640 × 480
- 9: Macintosh 832 × 624

1 VGA 720 × 400

Clock: 25.175		Opix:	
Horizontal f_H (KHz): 31.469		Vertical f_V (Hz): 70.11	
TIMING	usec. pixels	lines	
TOTAL	31.766 800	449	
ACTIVE	25.423 640	400	
BLANKING	6.356 160	49	
F. PORCH	0.635 16	12	
SYNC nega	3.812 96	Posi 2	
B. PORCH	1.907 48	35	

2 VGA 640 × 480

Clock: 25.175		Opix:	
Horizontal f_H (KHz): 31.469		Vertical f_V (Hz): 59.94	
TIMING	usec. pixels	lines	
TOTAL	31.778 800	525	
ACTIVE	25.422 640	480	
BLANKING	6.356 160	45	
F. PORCH	0.636 16	10	
SYNC nega	3.813 96	nega 2	
B. PORCH	1.907 48	33	

3 VGA 640 × 350

Analog		Clock: 25.175 MHz		Opix:	
Horizontal f_H (KHz): 31.469		Vertical f_V (Hz): 70.08			
TIMING	usec. pixels	msec. lines			
TOTAL	31.778 800	449			
ACTIVE	25.422 640	350			
BLANKING	6.356 160	99			
F. PORCH	0.636 16	37			
SYNC Posi	3.813 96	nega 2			
B. PORCH	1.907 48	60			

4: 8514A 1024 × 768

Clock:		44.900		Opix:							
Horizontal		f _H (KHz):		35.522		Vertical		f _V (Hz):		86.96	
TIMING		usec.		pixels		lines					
TOTAL		28.151		1264		408.5					
ACTIVE		22.806		1024		2: 1 interace		768 (384)			
BLANKING		5.345		240		24.5					
F. PORCH		0.178		8		0.5/0					
SYNC		posi		3.920		176		posi		4	
B. PORCH		1.247		56		20/20.5					

5: SVGA 800 × 600 72Hz

Clock:		50.000		Opix:			
Horizontal		f _H (KHz): *48.077		Vertical		f _V (Hz): *72.188	
TIMING		usec. pixels				lines	
TOTAL		*20.800 1040				666	
ACTIVE		*16.000 800				600	
BLANKING		*4.800 240				66	
F. PORCH		*1.120 56				37	
SYNC		*2.400 120		Positive		6	
B. PORCH		*1.280 64				23	

VG900603

6: SVGA 1024 × 768 70Hz

Clock:		75.000		Opix:			
Horizontal		f _H (KHz): 58.476		Vertical		f _V (Hz): 70.069	
TIMING	usec.		pixels	lines			
TOTAL	17.707		1328	806			
ACTIVE	13.653		1024	768			
BLANKING	4.053		304	38			
F. PORCH	0.320		24	3			
SYNC	Negative	1.813	136	Negative	6		
B. PORCH	1.920		144	29			

VP901005

7: Sony Standard 1024 × 768

Analog		Clock: 64.000 MHz		Opix:	
Horizontal		f_H (KHz):	48.78	Vertical	
				f_V (Hz):	60
TIMING		usec.	pixels	msec.	lines
TOTAL		20.500	1312		813
ACTIVE		16.000	1024		768
BLANKING		4.500	288		45
F. PORCH		1.000	64		3
SYNC	negate/Sync on G	1.500	96	negate/Sync on G	3
B. PORCH		2.000	128		39

8: Macintosh 640 × 480

Analog		Clock: 30.240 MHz		Opix:	
Horizontal		f_H (KHz):	35.000	Vertical	
				f_V (Hz):	66.289
TIMING		usec.	pixels	msec.	lines
TOTAL		28.571	864		528
ACTIVE		21.164	640		480
BLANKING		7.407	224		48
F. PORCH		2.116	64		3
SYNC	Sync on G	2.116	64	Sync on G	3
B. PORCH		3.175	96		42

Sync is also corresponding to Composite Sync (OUTSIDE)

ID=1

9: Macintosh 832 × 624

		Clock: 57.283 MHz		Opix:	
Horizontal		f_H (KHz):	49.724	Vertical	
				f_V (Hz):	74.55
TIMING		usec.	pixels	msec.	lines
TOTAL		20.110	1152		667
ACTIVE		14.524	832		624
BLANKING		5.586	320		43
F. PORCH		0.559	32		1
SYNC	Sync on G	1.117	64	Sync on G	3
B. PORCH		3.910	224		39

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10 Test Timing 58kHz

Analog		Clock:	75.000	MHz	Opix:	
Horizontal	f_H (KHz):	57.87	Vertical	f_V (Hz):	71.799	
TIMING	usec.	pixels	msec.	lines		
TOTAL	17.280	1296			806	
ACTIVE	13.653	1024			768	
BLANKING	3.627	272			38	
F. PORCH	0.320	24			3	
SYNC	1.920	144			6	
B. PORCH	1.387	104			29	

11 Timing 53Hz for V linear adjustment.

Analog		Clock:	64.000	MHz	Opix:	
Horizontal	f_H (KHz):	48.78	Vertical	f_V (Hz):	53	
TIMING	usec.	pixels	msec.	lines		
TOTAL	20.500	1312			920	
ACTIVE	16.000	1024			(71dot*12+1) 853	
BLANKING	4.500	288			67	
F. PORCH	1.000	64			10	
SYNC	1.500	96			3	
B. PORCH	2.000	128			54	

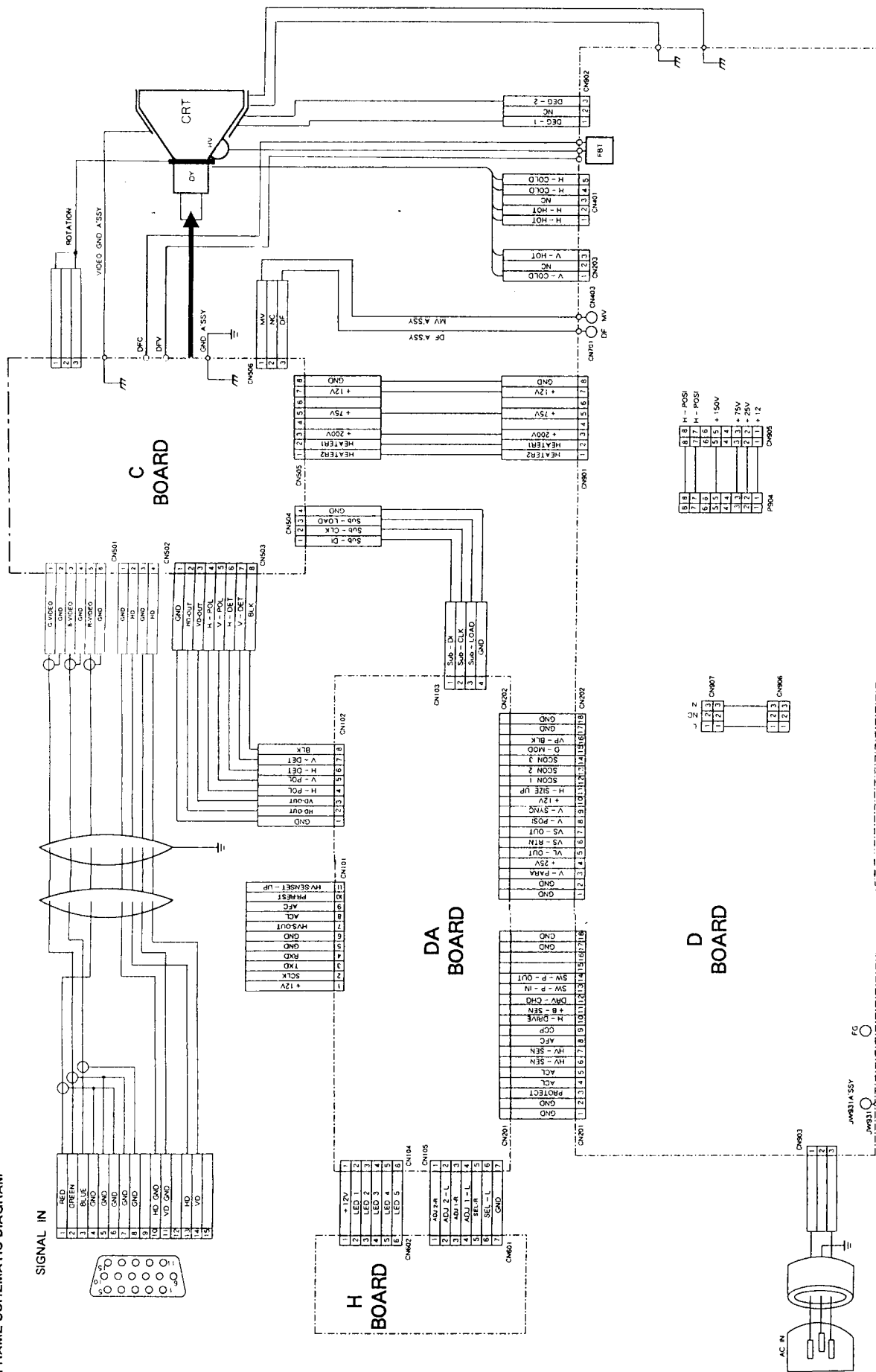
Horizontal is same as SONY STD48K.

12 Timing 103Hz for V linear adjustment

Analog		Clock:	64.000	MHz	Opix:	
Horizontal	f_H (KHz):	48.78	Vertical	f_V (Hz):	103	
TIMING	usec.	pixels	msec.	lines		
TOTAL	20.500	1312			473	
ACTIVE	16.000	1024			(36*12+1) 433	
BLANKING	4.500	288			40	
F. PORCH	1.000	64			5	
SYNC	1.500	96			5	
B. PORCH	2.000	128			30	

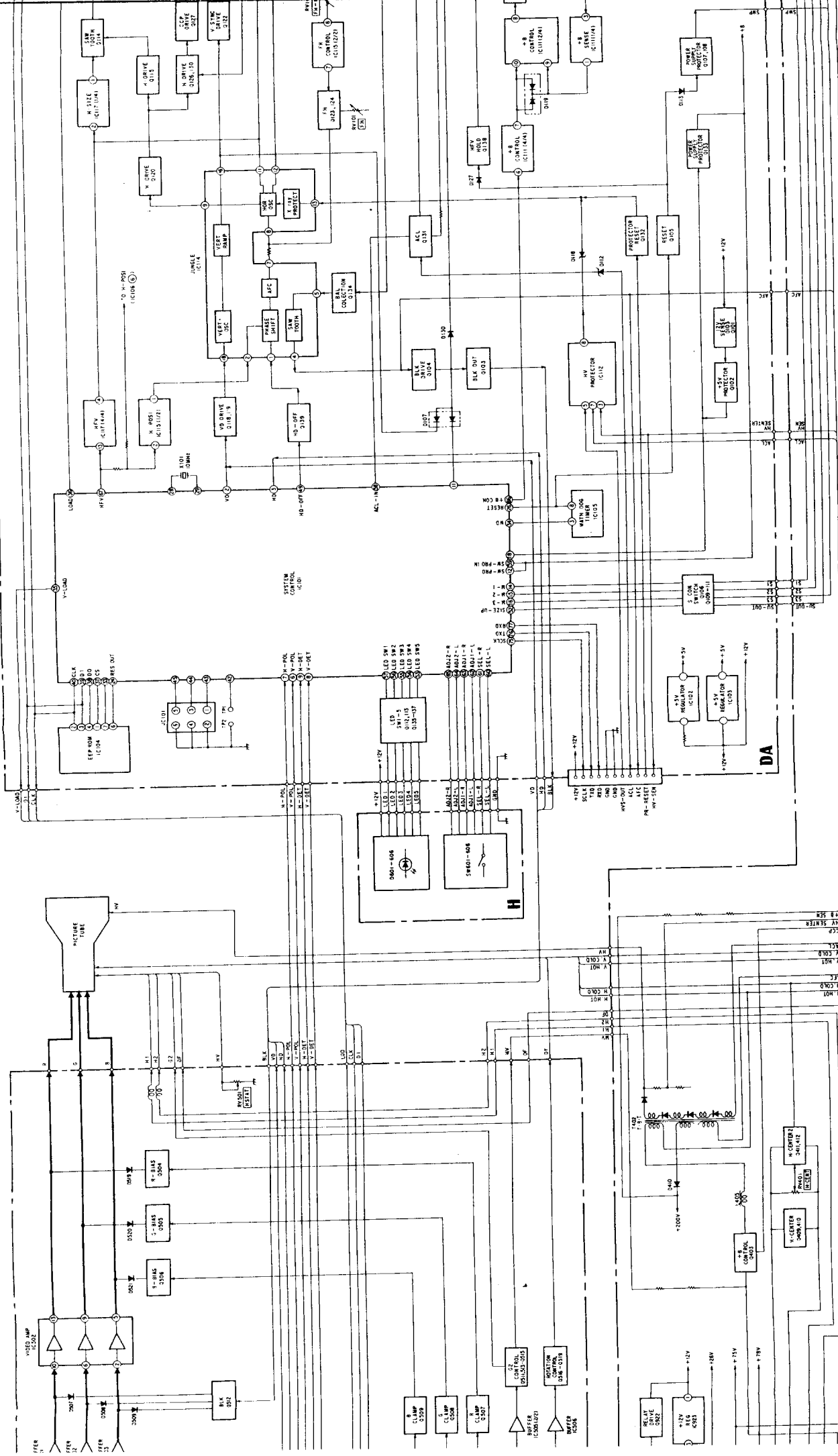
SECTION 7
DIAGRAMS

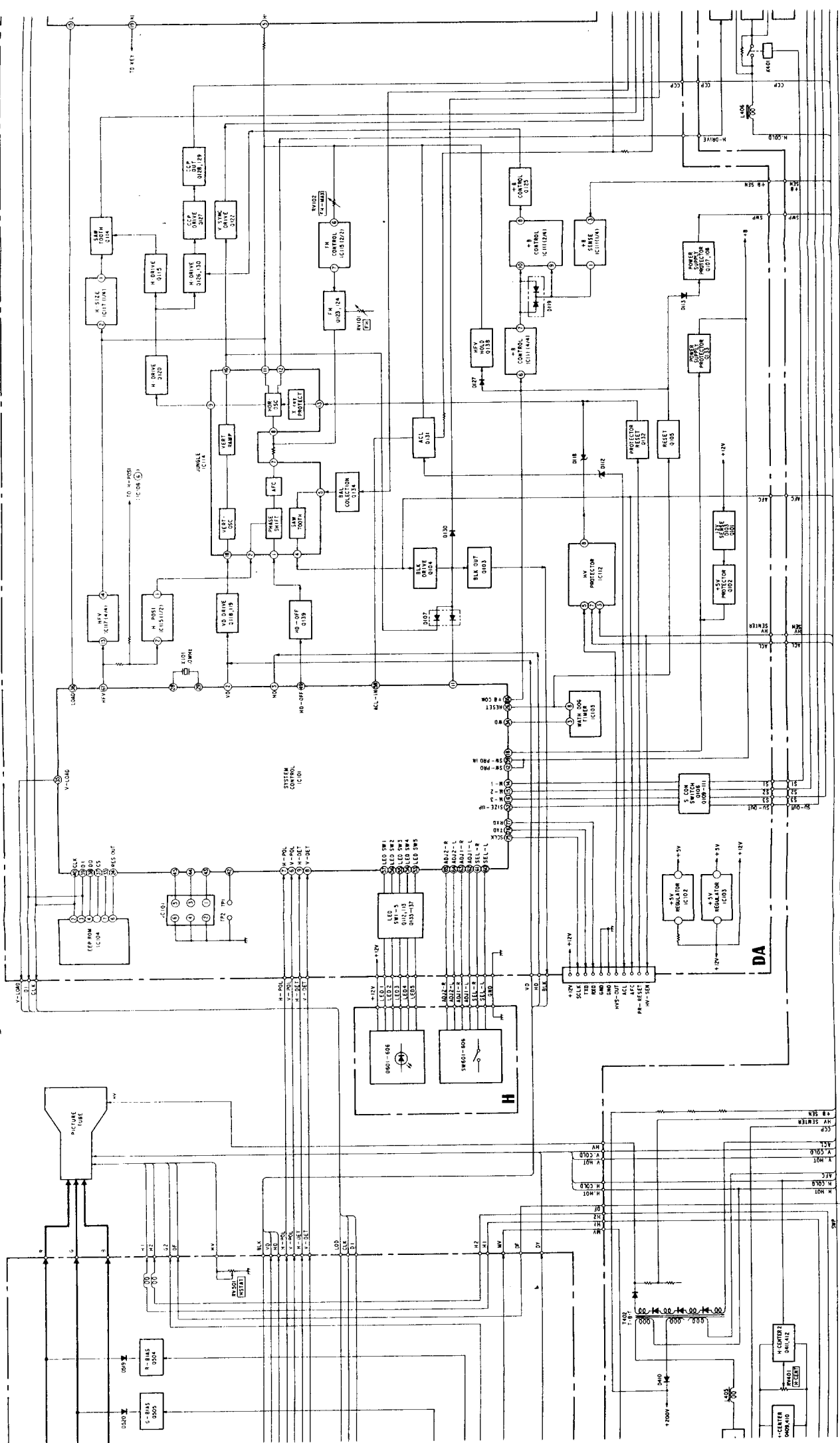
7-1. FRAME SCHEMATIC DIAGRAM

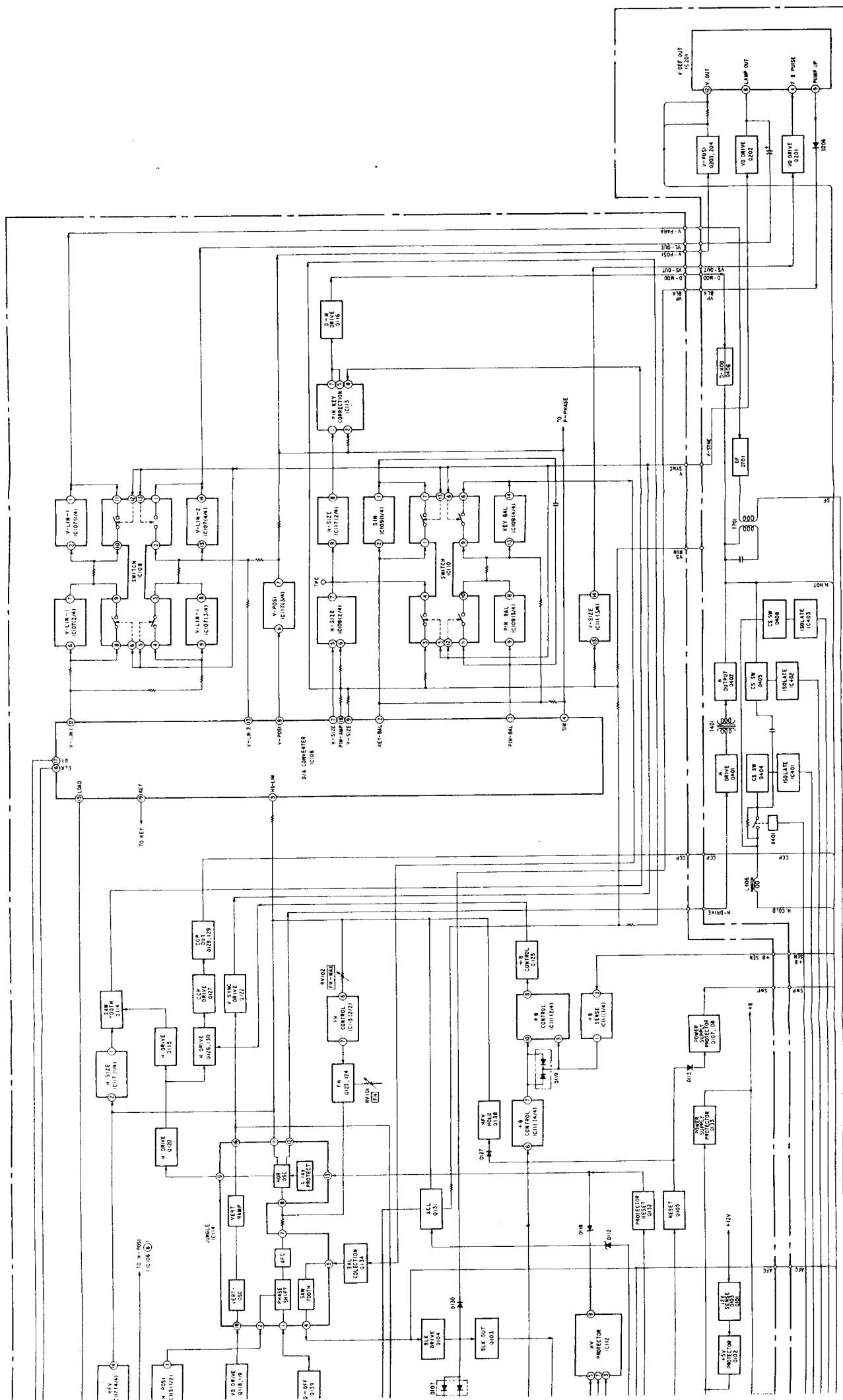


7-2. BLOCK DIAGRAM

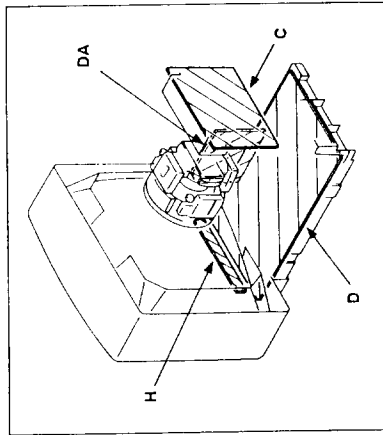








7-3. CIRCUIT BOARDS LOCATION



7-4. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note:

- All capacitors are in μF unless otherwise noted. μF , μuF , 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, $1/4\text{W}$ Unless otherwise noted but $1/10\text{W}$ in DA board.
- $k\Omega$: 1000Ω , $M\Omega$: $1000k\Omega$.
- $\frac{1}{2}\text{W}$: fusible resistor.
- $\frac{1}{4}\text{W}$: nonflammable resistor.
- \triangle : internal component.
- \square : panel designation and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- When replacing components on the circuit identified by \square , make the necessary adjustments and confirmation specified. If Confirmative results do not meet the indicated value, replace the component.

Refer to confirmation way on Page24

\square marked parts
C404, C405, C406, C407, C408, C410, C411, C412, C433, C434, C437, C438, C439, L406, R422, R423, R424, R425, R428, R429, IC101, IC901, IC922, IC923, D923, FBT (T402)

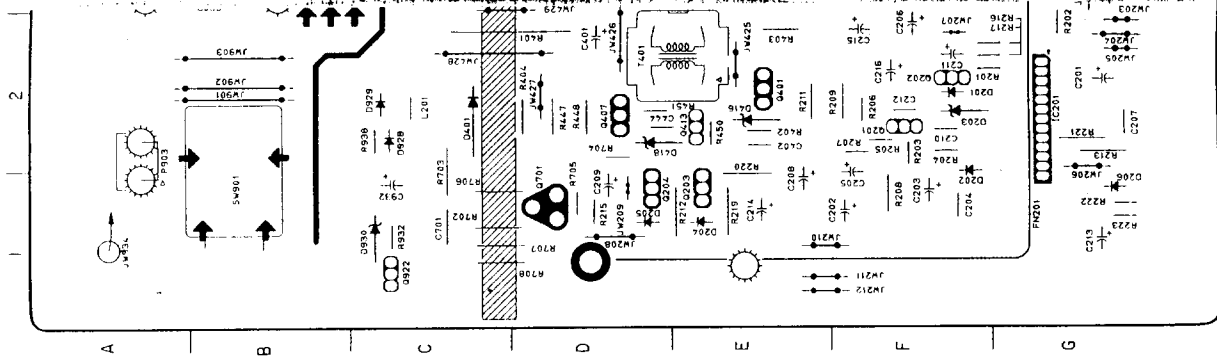
- Voltages are reference value between the ground when received color bar signal from color bar generator (digital video generator H:48.78kHz, V:60Hz). Readings are taken with a $10M\Omega$ digital multimeter.
- Voltage variations may be noted due to normal production tolerances.
- *: Can not be measured.
- All voltages are in V.
- Circled numbers are waveform references.

- \square : B + line
- \square : B - line
- (Actual measured value may be different).
- \square : signal path

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

Note: Les composants identifiés par une trame et par une marque \triangle sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié.

- D BOARD -



GRAMS AND PRINTED WIRING BOARDS

Reference information

- RESISTOR
 - RN METAL FILM
 - RC SOLID
 - FRPD NONFLAMMABLE CARBON
 - FUSE NONFLAMMABLE FUSIBLE
 - RW NONFLAMMABLE WIREWOUND
 - RS NONFLAMMABLE METAL OXIDE
 - RB NONFLAMMABLE CEMENT
 - ※ ADJUSTMENT RESISTOR
- COIL
 - LF-8L MICRO INDUCTOR
- CAPACITOR
 - TA TANTALUM
 - PS STYROL
 - PP POLYPROPYLENE
 - PT MYLAR
 - MPS METALIZED POLYESTER
 - MPP METALIZED POLYPROPYLENE
 - ALB BIPOLAR
 - ALT HIGH TEMPERATURE
 - ALR HIGHRIFFLE

355 otherwise noted. pF: uF
 cated except for electrolytics

4W Unless otherwise noted

istor.

nt.

and adjustment for repair.
 resistors have characteristic

ted.

on the circuit identified by ☒
 ljustments and confirmation
 suits do not meet the indi-
 ponent.

Page 24

1 parts

408, C410, C411, C412,

439, L406, R422, R423,

2101, IC901, IC922.

ue between the ground when
 m color bar generator (digital
 : V/80Hz). Readings are
 ullimeter.
 noted due to normal produc-

m references.

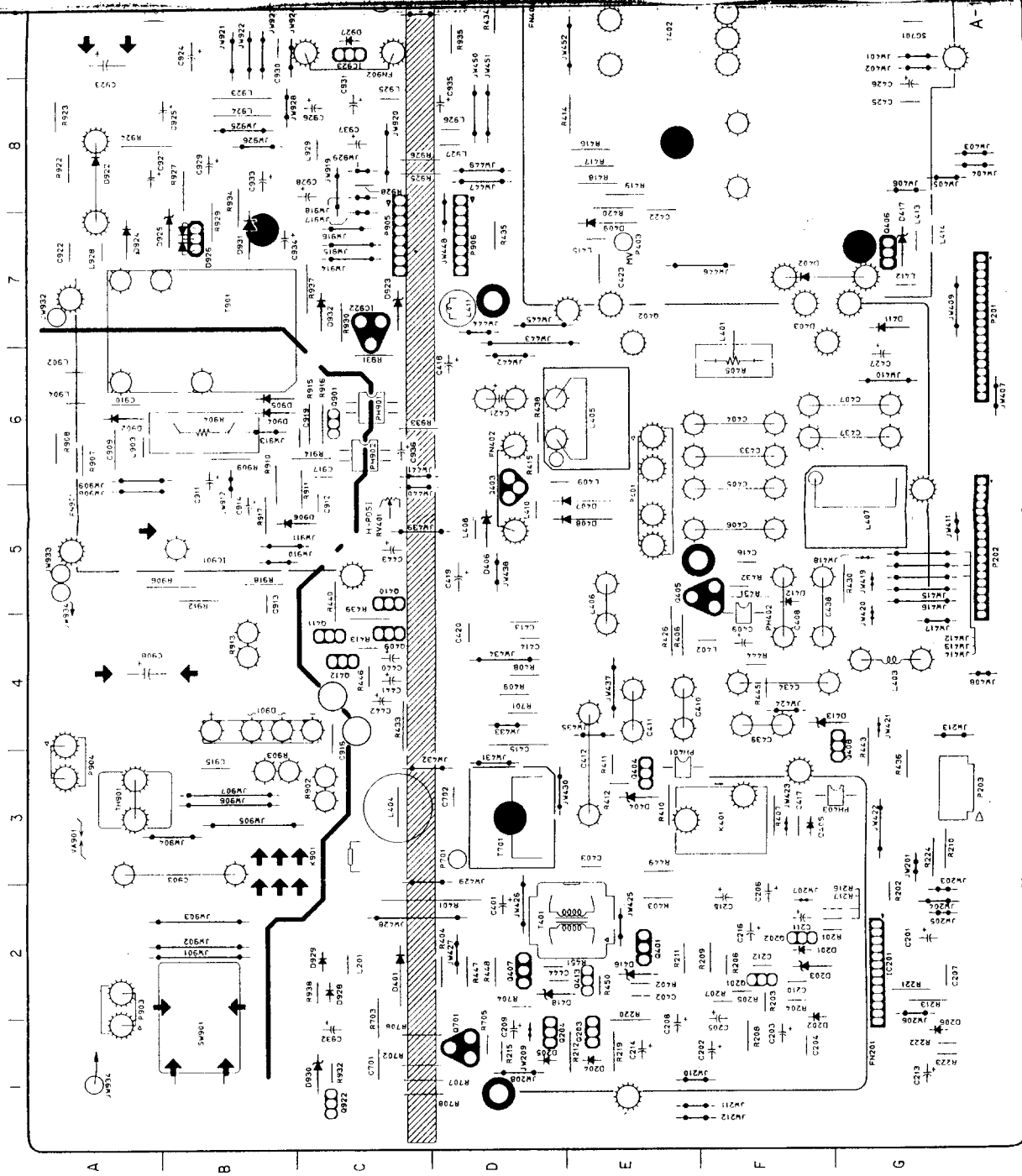
/ be different).

identified by shading and mark
 r safety. Replace only with
 fied.

identifiés par une trame et
 A sont d'une importance
 sécurité. Ne les remplacer
 ièces de numéro spécifié.

DEFLECTION DRIVE, POWER SUPPLY

- D BOARD -



WIRING BOARDS

Reference information

RESISTOR

: RN

: RC

: FRPD

: FUSE

: RW

: RS

: RB

: *

METAL FILM

SOLID

NONFLAMMABLE CARBON

NONFLAMMABLE FUSIBLE

NONFLAMMABLE WIREWOUND

NONFLAMMABLE METAL OXIDE

NONFLAMMABLE CEMENT

ADJUSTMENT RESISTOR

MICRO INDUCTOR

: LF-BL

: CAPACITOR

: TA

: PS

: PP

: PT

: MPS

: MPP

: ALB

: BIPOLAR

: ALT

: ALR

: COIL

: LF-BL

: CAPACITOR

: TA

: PS

: PP

: PT

: MPS

: MPP

: ALB

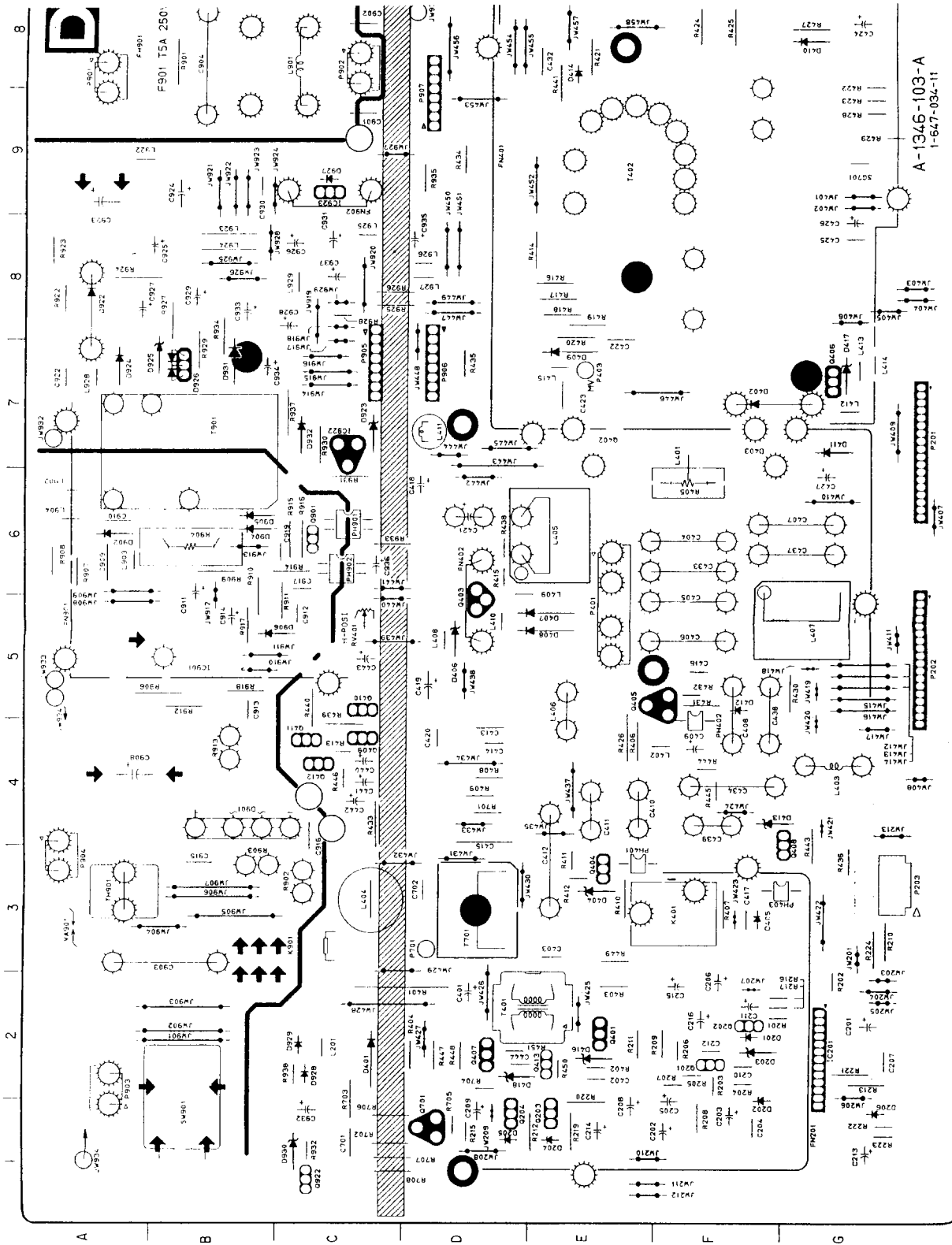
: BIPOLAR

: ALT

: ALR

D DEFLECTION DRIVE, POWER SUPPLY

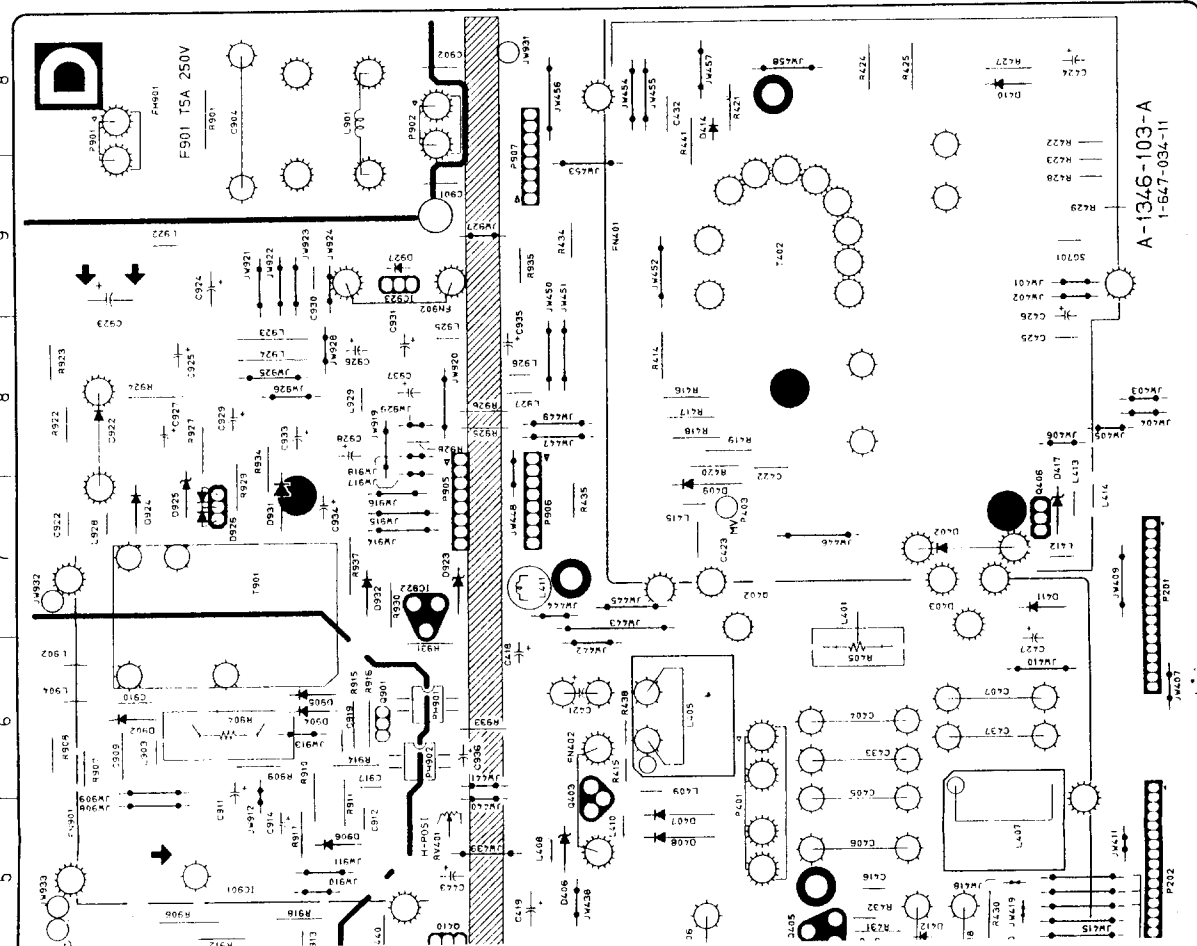
- D BOARD -



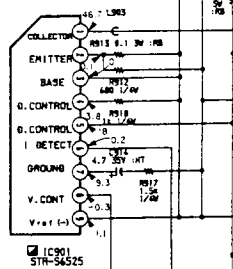
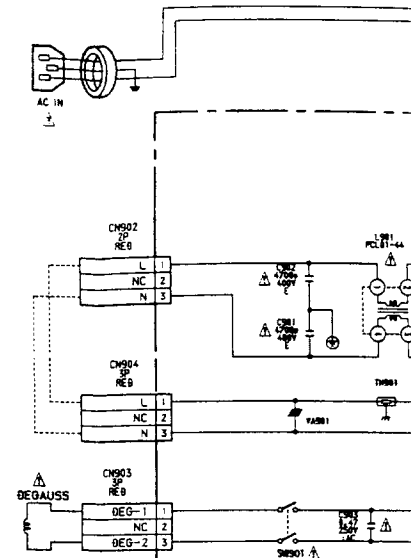
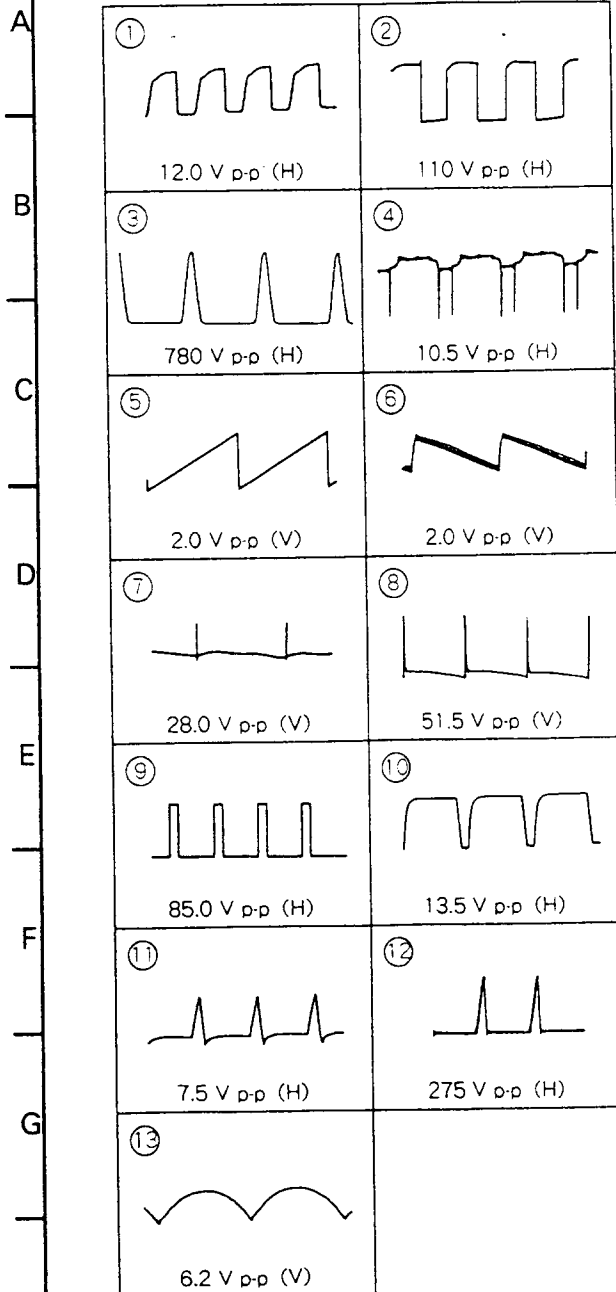
D BOARD LOCATION

IC	D401 D402 D403 D404 D405 D406 D407 D408 D409 D410 D411 D412 D413 D414 D416 D417 D418 D801 D802 D804 D805 D806 D807 D808 D809 D810 D811 D812 D813 D814 D816 D817 D818 D820 D821 D822 D823 D824 D825 D826 D827 D828 D829 D830 D831 D832 D932	C-2 F-7 F-7 F-3 F-3 D-5 E-5 E-5 E-7 G-8 G-7 F-5 F-4 E-8 E-2 G-7 D-2 B-4 A-8 B-6 B-5 B-5 A-8 C-7 A-7 B-7 C-9 C-2 C-2 C-1 B-7 C-7
TRANSISTOR	Q201 Q202 Q203 Q204 Q401 Q402 Q403 Q404 Q405 Q406 Q407 Q408 Q409 Q410 Q411 Q412 Q413 Q701 Q901 Q922	F-2 F-2 E-1 D-1 E-2 D-3 E-3 E-3 G-7 D-2 G-3 C-4 C-5 C-4 E-2 D-1 C-8 C-1
DIODE	D201 D202 D203 D204 D205 D206	F-2 F-1 F-2 E-1 D-1 G-1
VARIABLE RESISTOR	RV401	C-5

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.



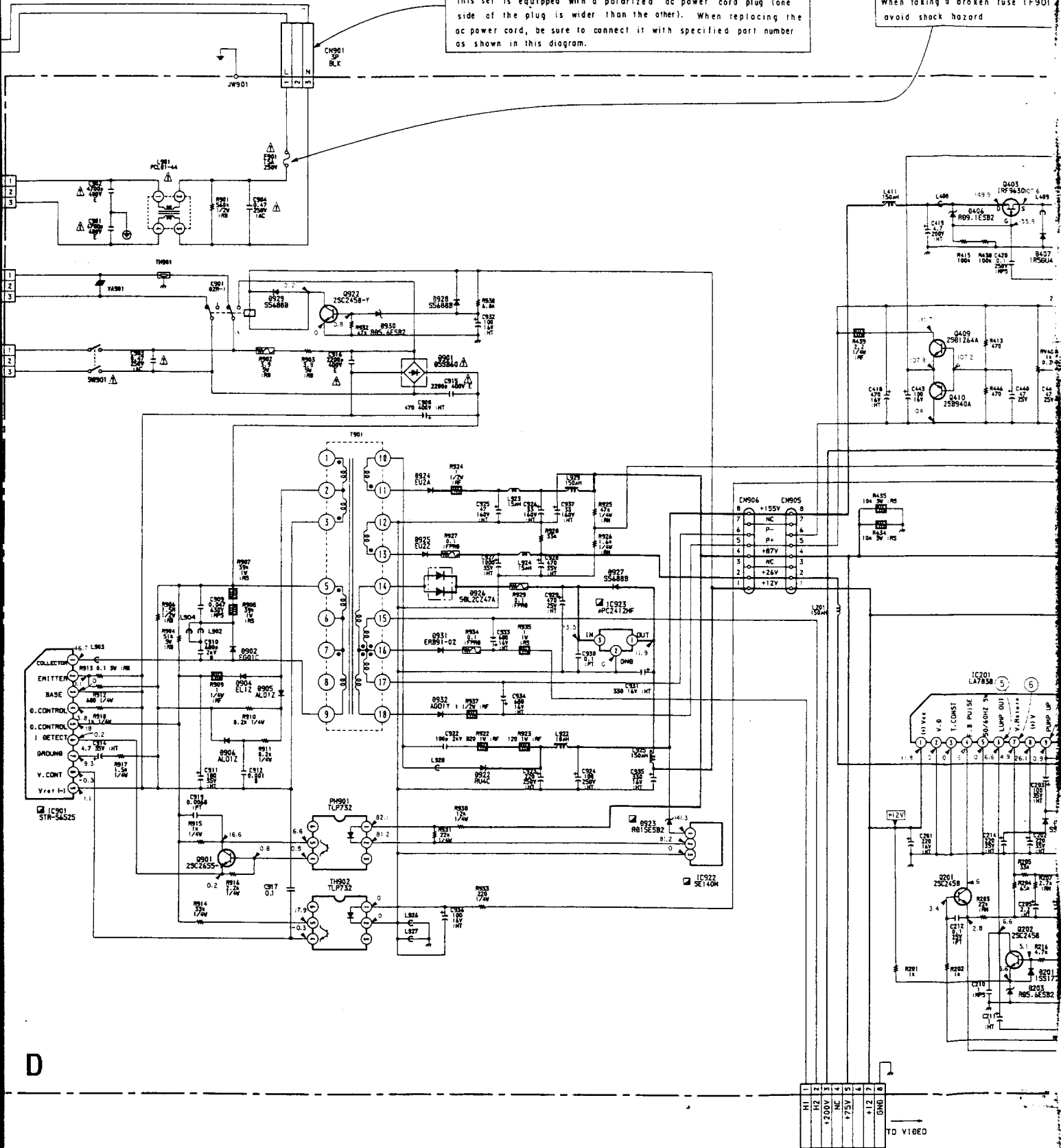
D BOARD WAVEFORMS



6 7 8 9 10 11 12 13 14

(CAUTION US MODEL ONLY)
This set is equipped with a polarized ac power cord plug (one side of the plug is wider than the other). When replacing the ac power cord, be sure to connect it with specified part number as shown in this diagram.

CAUTION
When taking a broken fuse (F901) avoid shock hazard

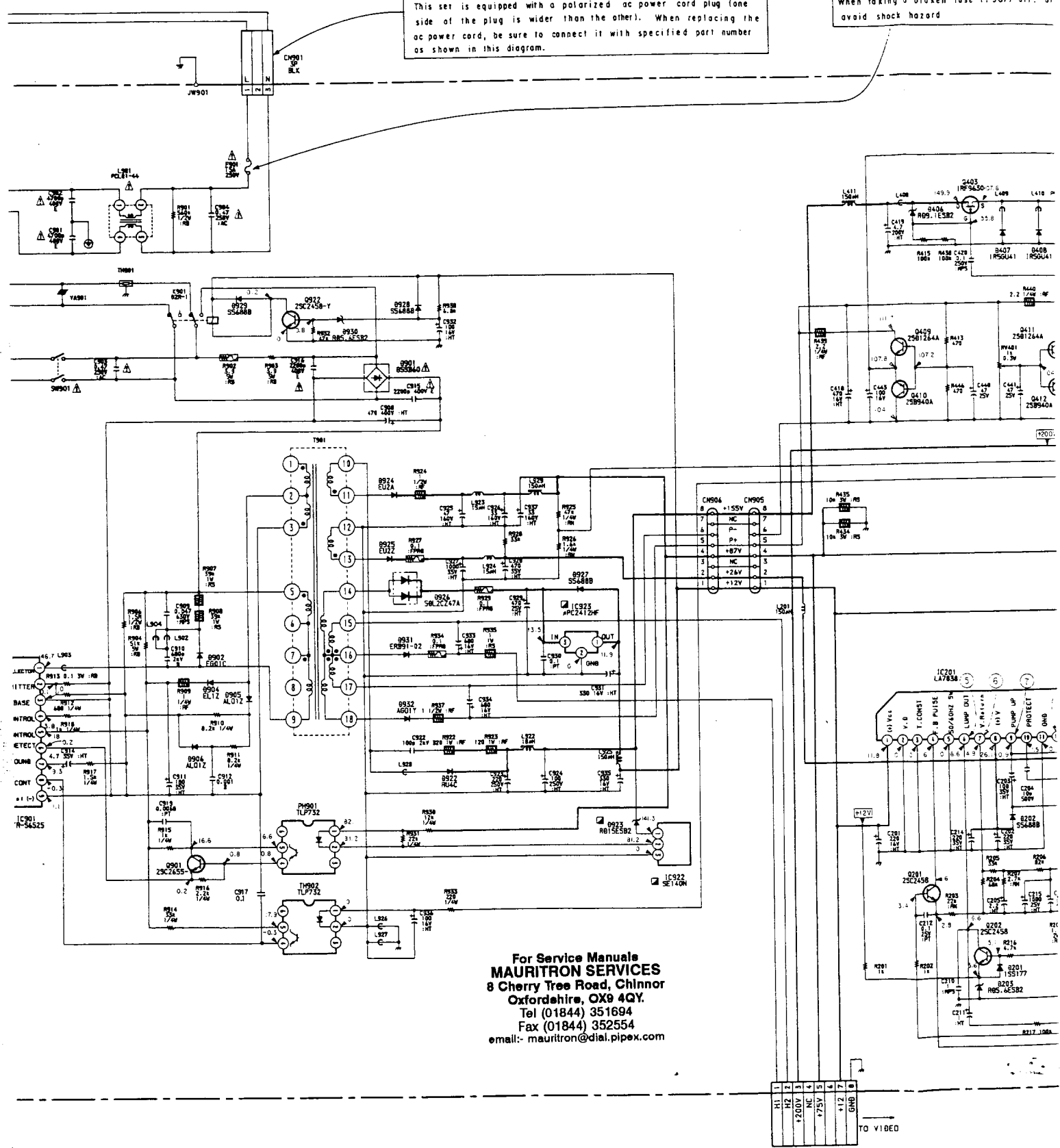


D

7 8 9 10 11 12 13 14

(CAUTION US MODEL ONLY)
This set is equipped with a polarized ac power cord plug (one side of the plug is wider than the other). When replacing the ac power cord, be sure to connect it with specified part number as shown in this diagram.

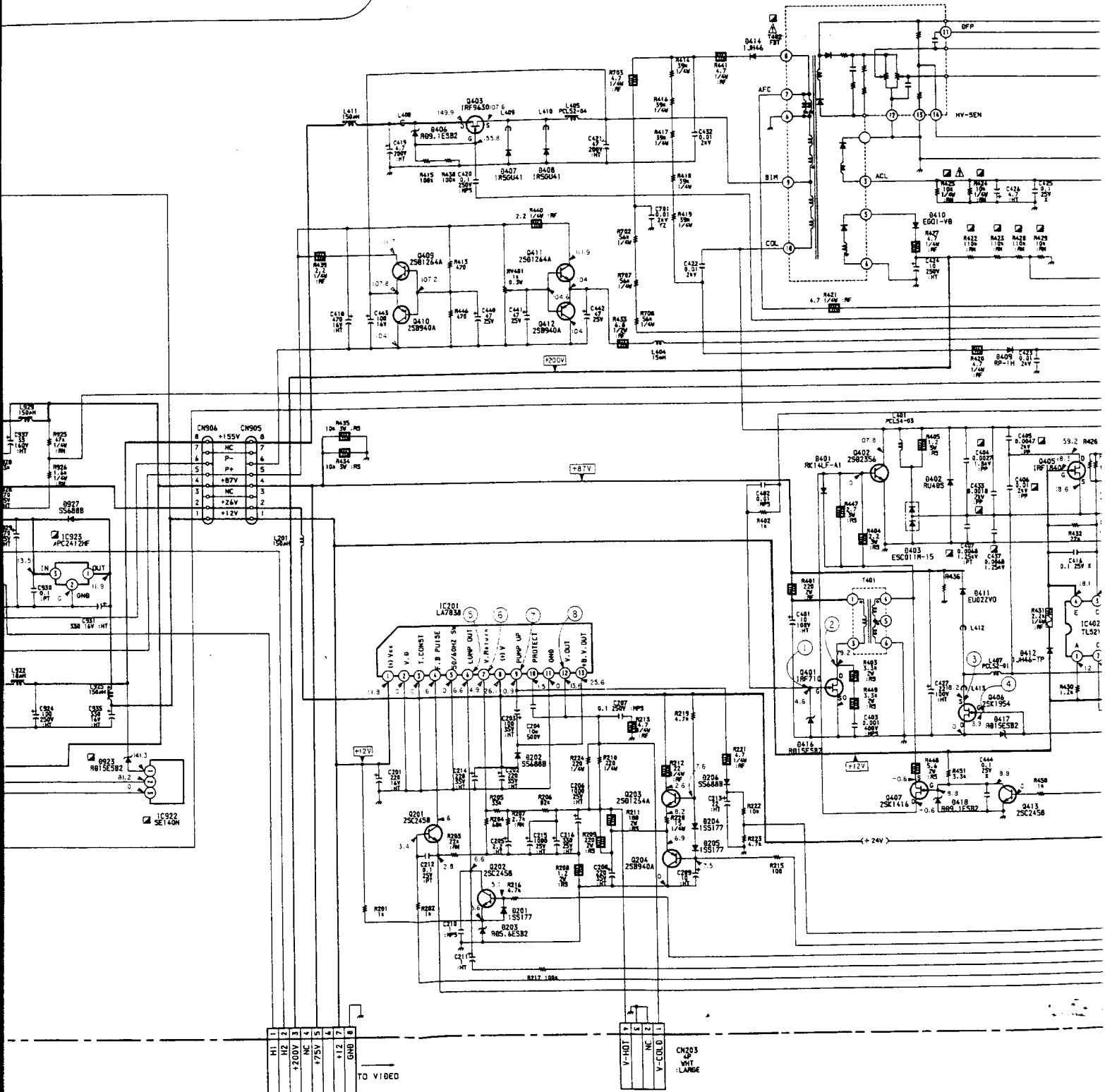
CAUTION
When taking a broken fuse (F901) off, do avoid shock hazard



For Service Manuals
MAURITRON SERVICES
8 Cherry Tree Road, Chinnor
Oxfordshire, OX9 4QY.
Tel (01844) 351694
Fax (01844) 352554
email:- mauritron@dial.pipex.com

UTION US MODEL ONLY)
ed with a polarized ac power cord plug (one
is wider than the other). When replacing the
sure to connect it with specified part number
diagram.

CAUTION
When taking a broken fuse (F901) off, discharge across C902 to
avoid shock hazard



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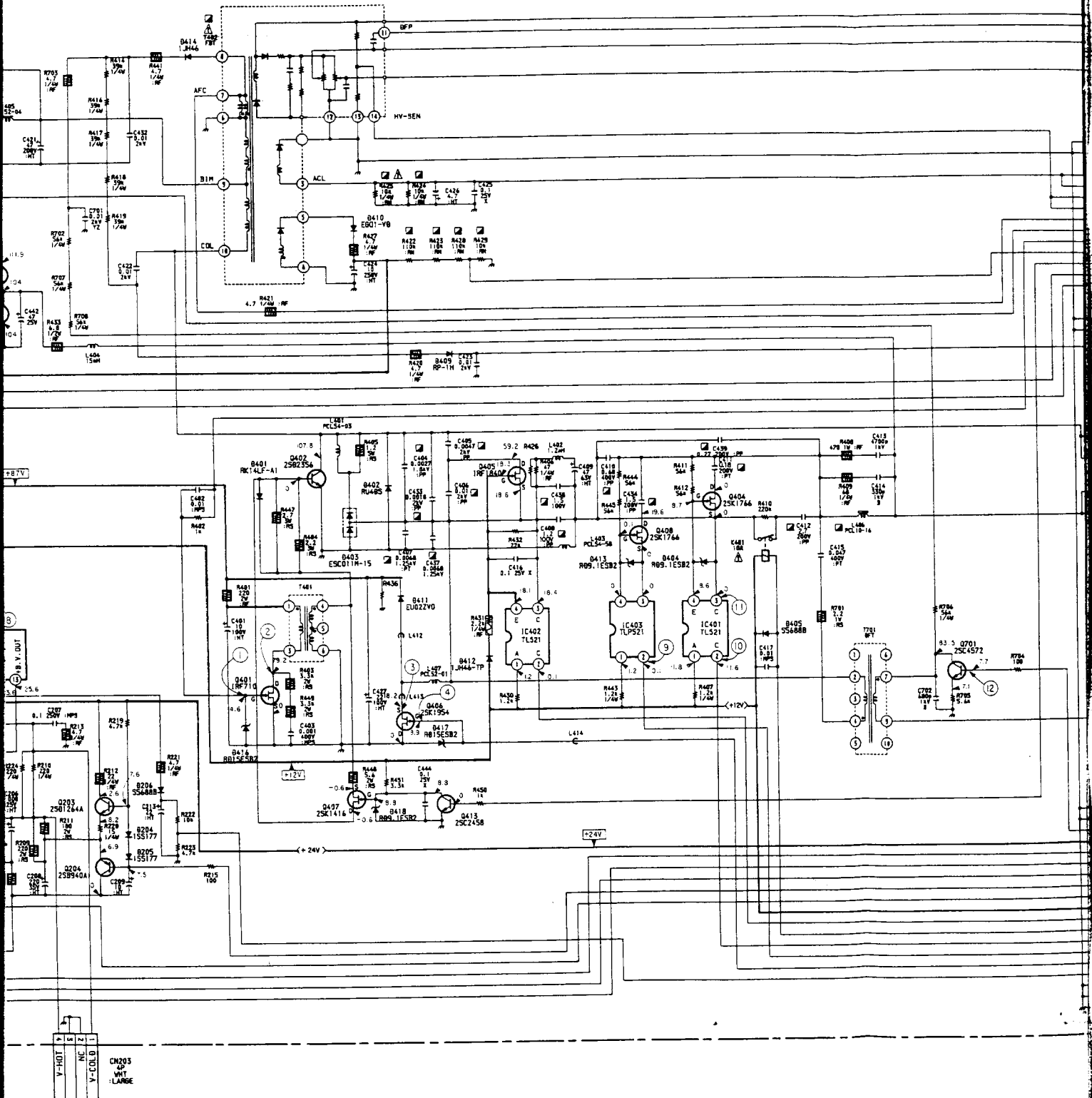
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charge across C902 to



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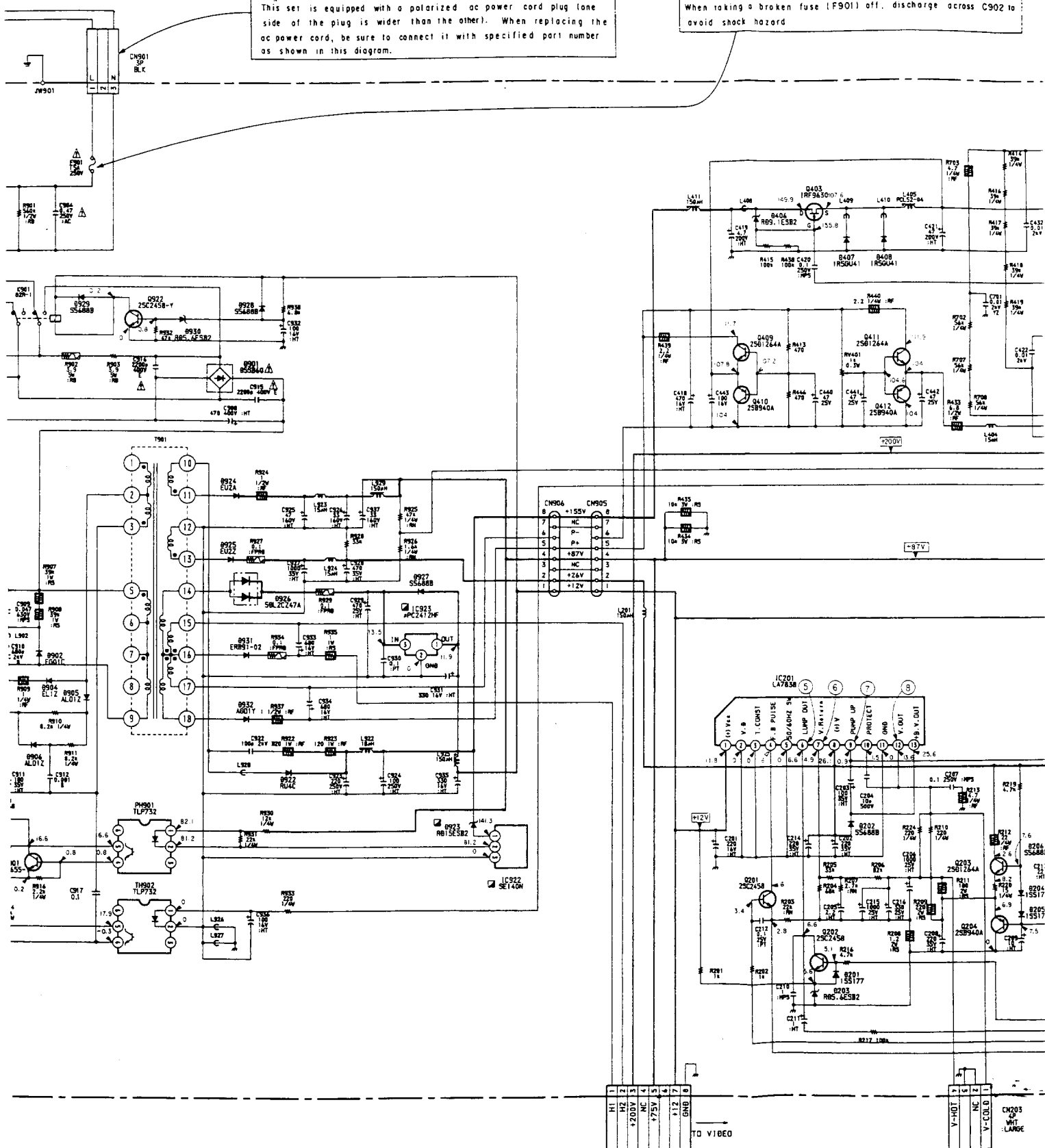
15

(CAUTION US MODEL ONLY)

This set is equipped with a polarized ac power cord plug (one side of the plug is wider than the other). When replacing the ac power cord, be sure to connect it with specified part number as shown in this diagram.

CAUTION

When taking a broken fuse (F901) off, discharge across C902 to avoid shock hazard.



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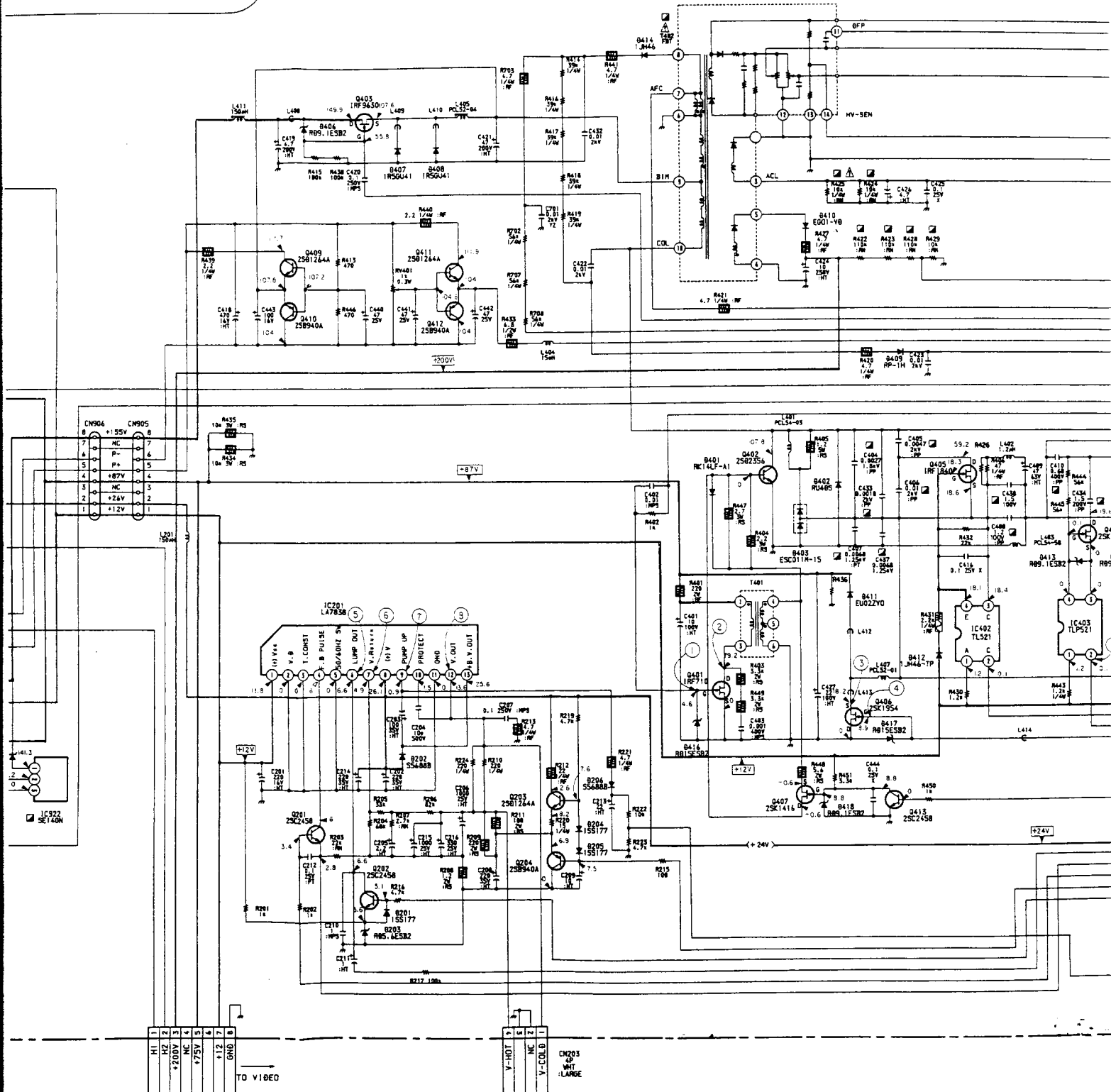
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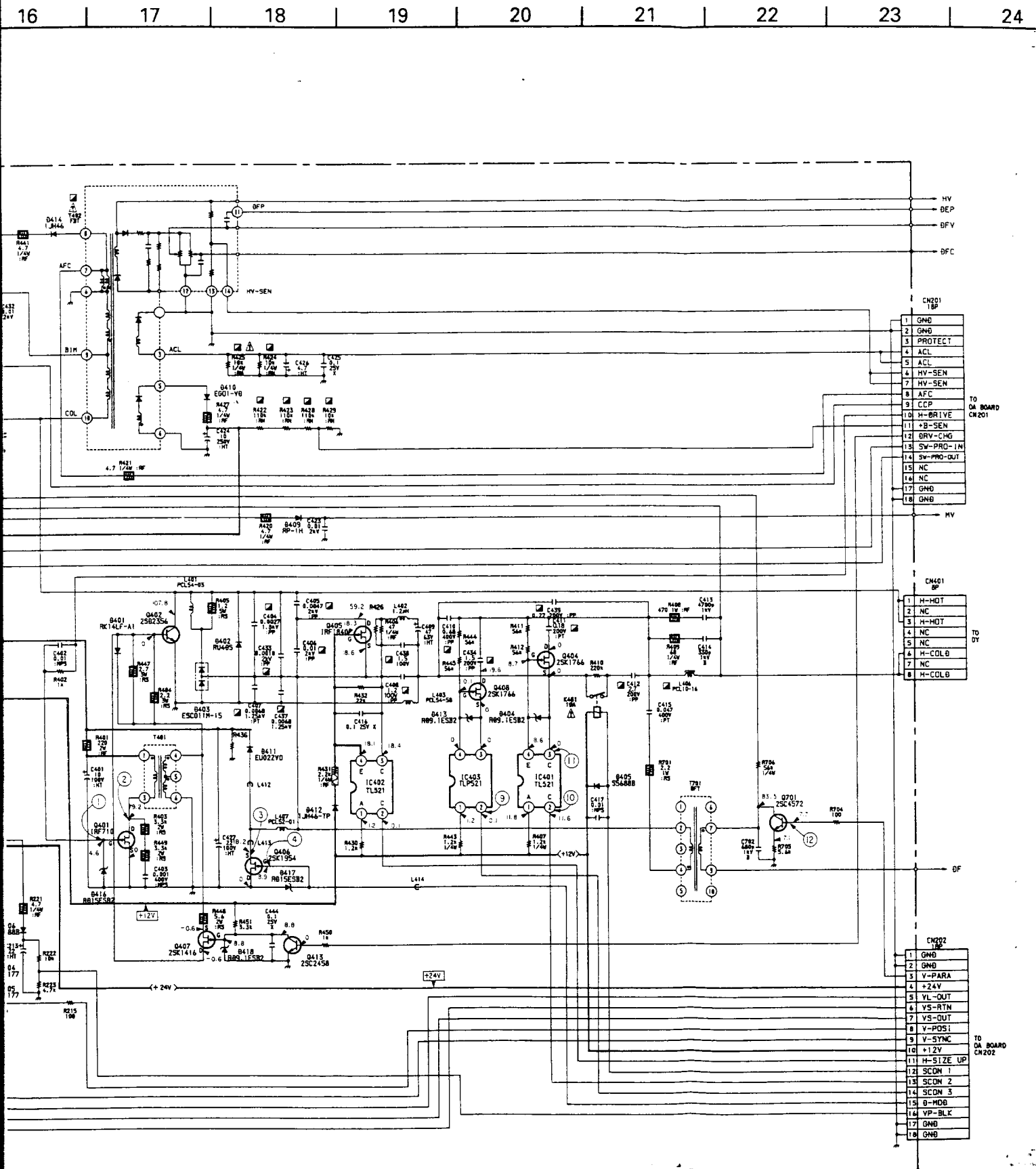
ONLY)

ac power cord plug (one
her). When replacing the
th specified part number

CAUTION

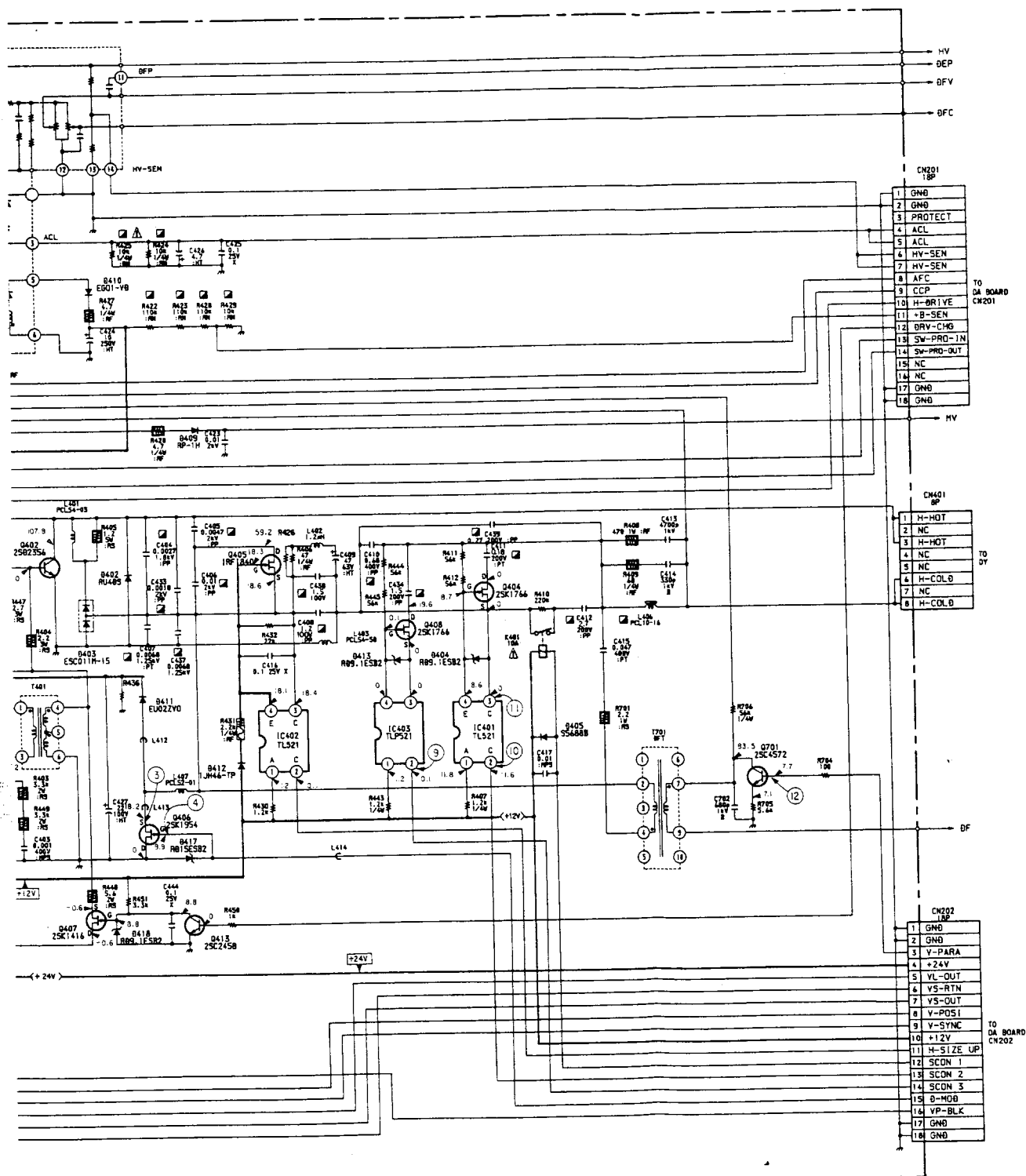
When taking a broken fuse (F901) off, discharge across C902 to
avoid shock hazard





CPD-1730 CPD-1730

17 18 19 20 21 22 23 24 25



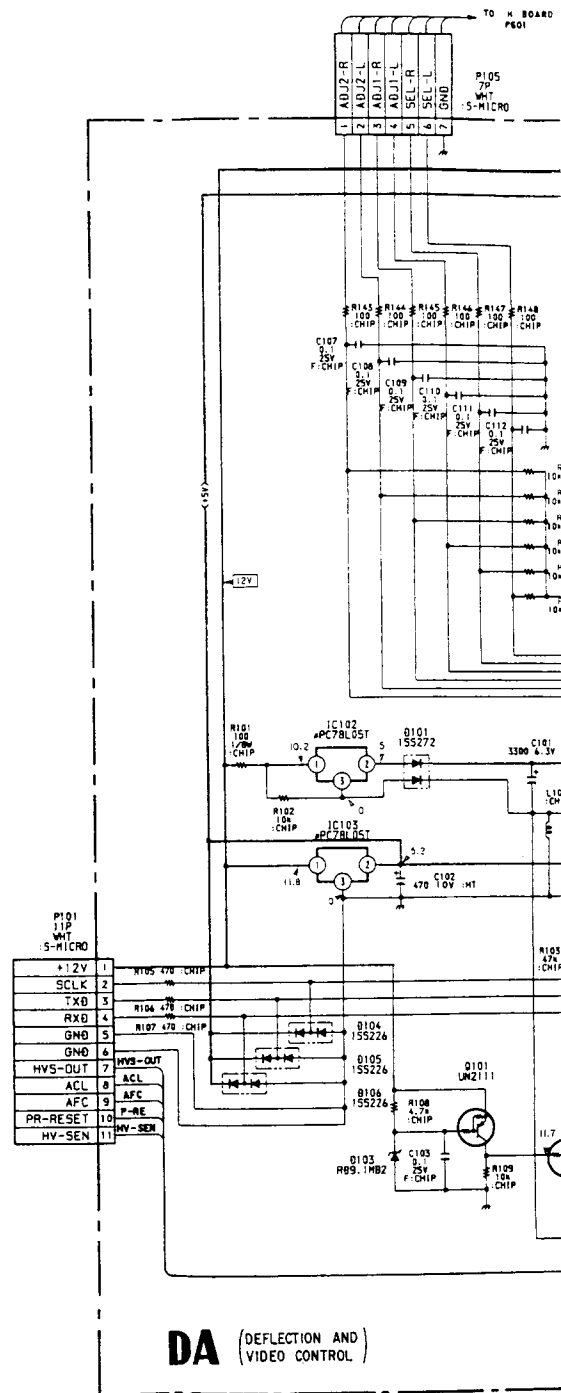
5 | 26 | 27

D BOARD

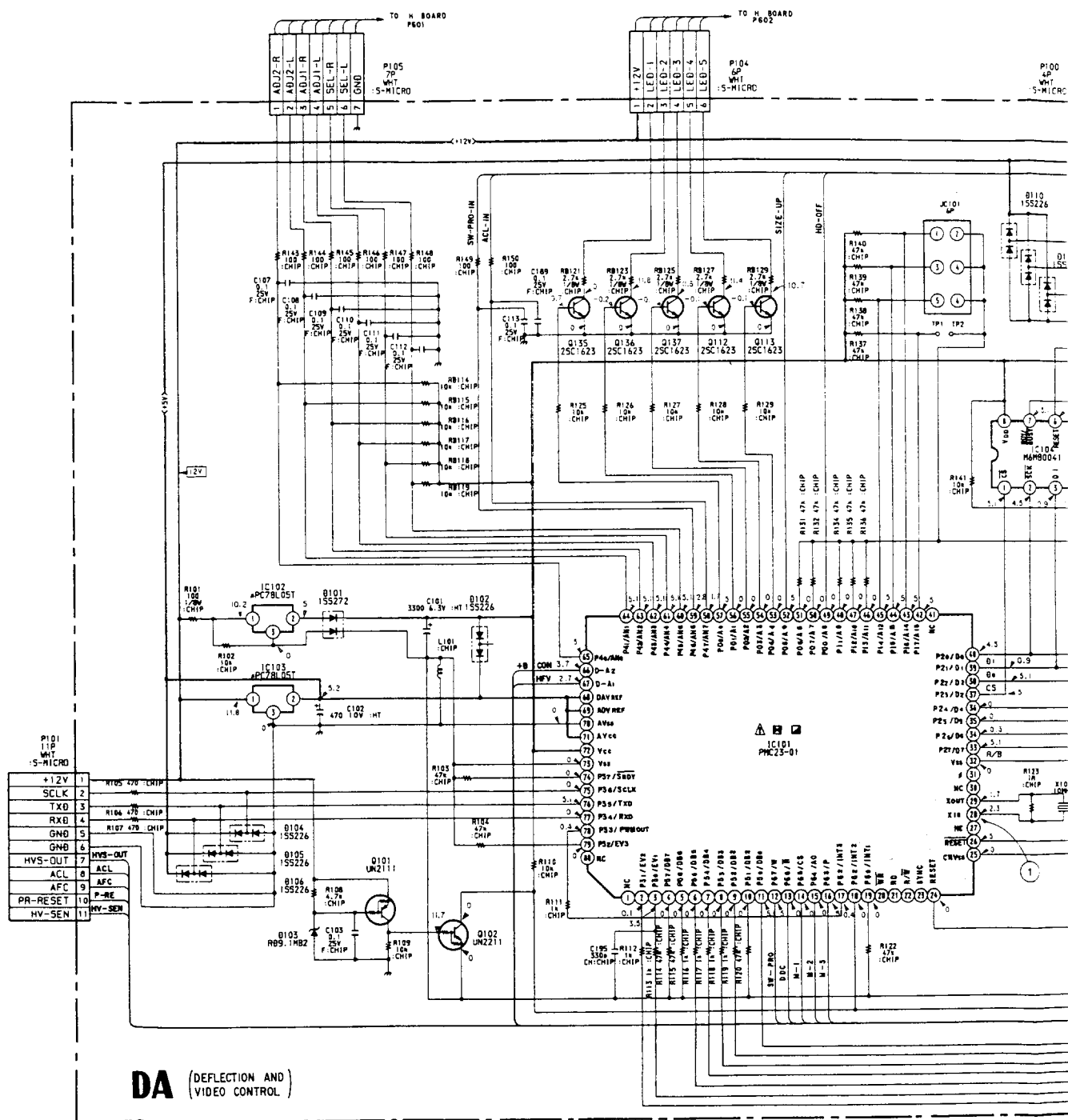
IC201	LA7838	V DEF OUT
IC401	TLP521-1GB	ISOLATE
IC402	TLP521-1GB	ISOLATE
IC403	TLP521-1GB	ISOLATE
IC901	STR-S5741	MAIN REG
IC922	SE140N	REG CONTROL
IC923	μ PC2412HF	+12V REG
Q201	2SC2785TP-HFE	VD DRIVE
Q202	2SC2785TP-HFE	VD DRIVE
Q203	2SD1264	V POSI
Q204	2SB940	V POSI
Q401	IRF710	H DRIVE
Q402	2SD2356	H OUTPUT
Q403	IRF9630	+B CONTROL
Q404	2SK1766	CS SW
Q405	IRF1840	CC SW
Q406	2SK2132	D-MOD
Q407	2SK1416	DRIVER-CHANGE
Q408	2SK1766	DRIVER-CHANGE
Q409	2SD1264A	H-CENTER
Q410	2SB940A	H-CENTER
Q411	2SD1264A	H-CENTER
Q412	2SB940A	H-CENTER
Q413	2SC2785-HFE	H-CENTER
Q701	2SC4572	DF
Q901	2SC2655-Y	REG CONTROL
Q922	2SC2785-HFE	RELAY DRIVE
D201	1SS177	VL OUT
D202	S5688B	PUMP UP
D203	RD5.6ESB2	VL OUT
D204	1SS177	V-POSI
D205	1SS177	V-POSI
D206	S5688B	PUMP UP
D401	RK14	DRIVE
D402	RU4DS	DUMPER
D403	ESCO11M	DUMPER 2
D404	RD9.1ESB2	BIAS
D405	S5688B	PROTECTOR
D406	RD9.1ESB2	BIAS
D407	IR5GU41	FLY WHELL
D408	IR5GU41	FLY WHELL
D409	RP1H	MV RECT
D410	EG01	+200V RECT
D411	EU02Z-V0	PROTECTOR
D412	1JH46	DUMP
D413	RD9.1ESB2	BIAS
D414	1JH46	RECT
D415	RD9.1ESB2	
D416	RD15ESB2	PROTECTOR
D417	RD15ESB2	PROTECTOR
D418	RD9.1ESB2	PROTECTOR
D901	D5SB60	MAIN RECT
D902	EG01Y	PROTECTOR
D904	RD18FB2	REF
D905	EG01	PROTECTOR
D906	EU02Z-V0	RECT
D922	RU4DS	+78V RECT
D923	RD15ESB2	HEATER RECT
D924	EU2A	+75V RECT
D925	EU2Z	+26V RECT
D926	5DL2CZ47A	+12V RECT
D927	S5688B	PROTECT
D928	S5688B	PROTECT
D929	S5688B	PROTECT
D930	RD5.6ESB2	RELAY DRIVE
D931	ER91-02	HEATER RECT
D932	AG01Y	PROTECTOR

DA BOARD

IC101	PMC23-01	CPU
IC102	μ PC78L05T	+5V REGULATOR
IC103	μ PC78L05T	+5V REGULATOR
IC104	M6M80041P	EEPROM
IC105	M83773PF	WATCH DOG TIMER
IC106	M62352GP	D/A CONVERTER
IC107	μ PC324G2	V LIN 1, V LIN 2
IC108	MC14066BF	SWITCH
IC109	μ PC324G2	SIN, H SIZE, PIN BAL, KEY BAL
IC110	MC14066BF	SWITCH
IC111	μ PC324G2	+B SENSE, +B CTRL, V SIZE
IC112	PHC81-01	HV PROTECTOR
IC113	TEA2031A	PIN KEY CORRECTION
IC114	LA7856	JUNGLE
IC115	μ PC358G	H POSI, FH CTRL
IC116	TA78L20F	+20V REG
IC117	μ PC324G2	H SIZE, V POSI, H FV
IC118	μ PC358G	VS SIGNAL
IC119	NJM7812FA	+12V REG
Q101	UN2111	+12V SENSE
Q102	UN2211	+5V PROTECTOR
Q103	2SA1162	BLK OUT
Q104	2SC1623	BLK DRIVE
Q105	UN2111	RESET
Q106	2SC1623	SWITCH
Q107	2SC1623	POWER SUPPLY PROTECTOR
Q108	2SC1623	POWER SUPPLY PROTECTOR
Q109	2SC1623	S COM SW 1
Q110	2SC1623	S COM SW 2
Q111	2SC1623	S COM SW 3
Q112	2SC1623	LED SW 4
Q113	2SC1623	LED SW 5
Q114	2SA1162	SAW TOOTH
Q115	UN2211	H DRIVE
Q116	2SC1623	D-M DRIVE
Q118	2SC1623	VD DRIVE
Q119	2SA1162	VD DRIVE
Q120	2SA1162	H DRIVE
Q122	2SA1162	V SYNC DRIVE
Q123	XN2401-TW	FH
Q124	2SC1623	FH
Q125	2SC3624	+B CTRL
Q126	2SC3624	H DRIVE
Q127	2SA1162	CCP DRIVE
Q128	2SC1623	CCP OUT
Q129	2SA1162	CCP OUT
Q130	2SC1623	H DRIVE
Q131	2SA1162	ACL
Q132	2SC1623	PROTECTOR RESET
Q133	2SC1623	POWER SUPPLY PROTECTOR
Q134	2SC1623	BAL CORRECTION
Q135	2SC1623	LED SW 1
Q136	2SC1623	LED SW 2
Q137	2SC1623	LED SW 3
Q138	2SC1623	HFV HOLD
Q139	UN2211	HD OFF
D101	1SS272	PROTECTOR
D102	1SS226	PROTECTOR
D103	RD9.1M-B2	REF
D104	1SS226	PROTECTOR
D105	1SS226	PROTECTOR
D106	1SS226	PROTECTOR
D107	1SS272	PROTECTOR
D108	1SS193	PROTECTOR
D109	1SS226	PROTECTOR
D110	1SS226	PROTECTOR
D111	1SS226	PROTECTOR
D112	RD11M-B2	REF
D113	1SS193	P-HOLD
D114	RD5.6M-B2	BIAS
D115	1SS193	PROTECTOR
D116	1SS193	PROTECTOR
D117	1SS226	PROTECTOR
D118	RD9.1M-B2	PROTECTOR REG
D119	1SS272	PROTECTOR
D120	1SS226	PROTECTOR
D121	1SS226	PROTECTOR
D122	1SS226	PROTECTOR
D123	1SS226	PROTECTOR
D124	1SS226	PROTECTOR
D125	1SS226	PROTECTOR
D126	1SS226	PROTECTOR
D127	1SS193	PROTECTOR
D128	1SS193	P-HOLD
D129	1SS193	PROTECTOR
D130	1SS193	PROTECTOR
D131	1SS193	PROTECTOR



4 5 6 7 8 9 10 11 12



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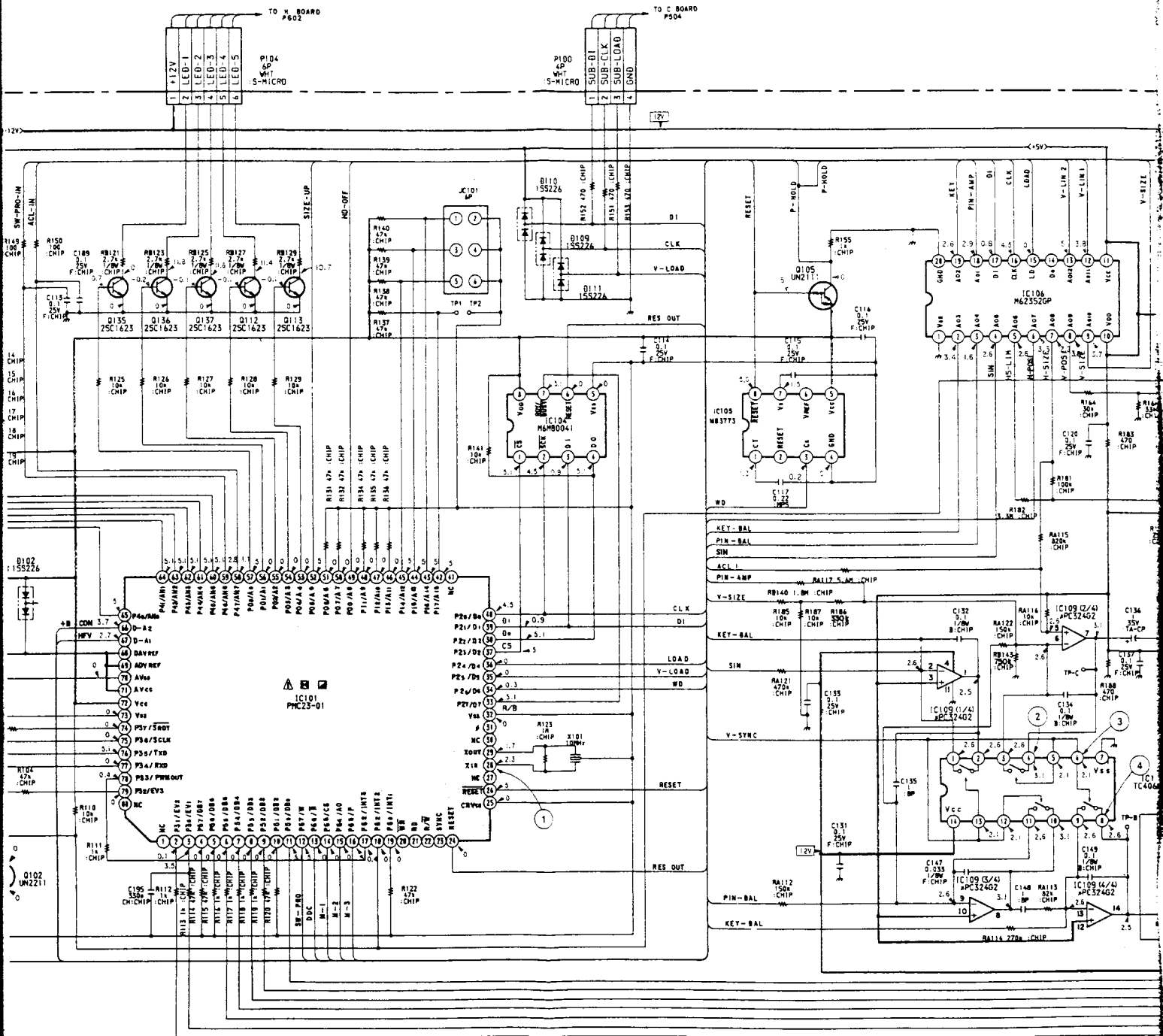
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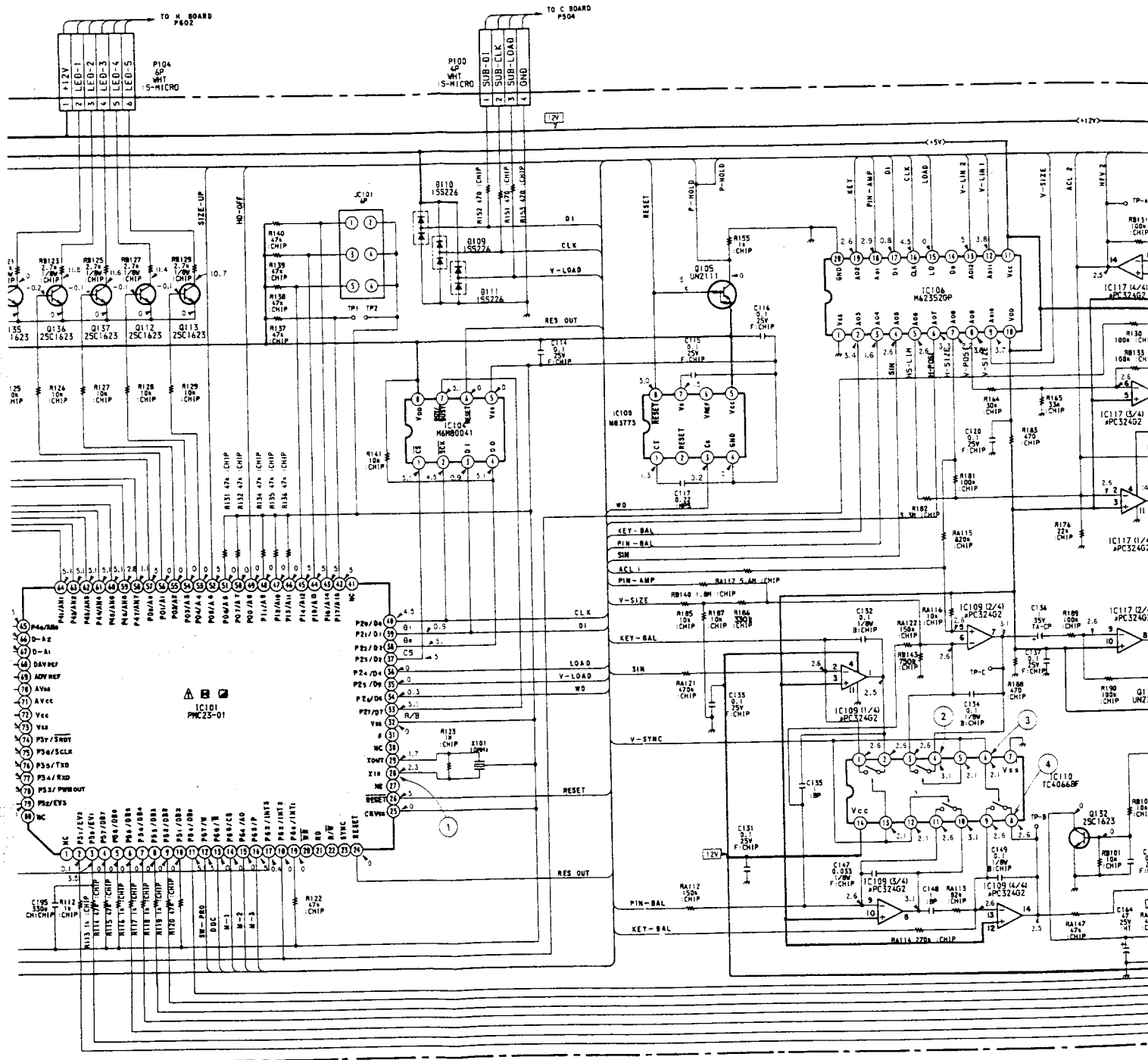
16





CPD-1730 CPD-1730

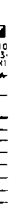
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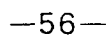




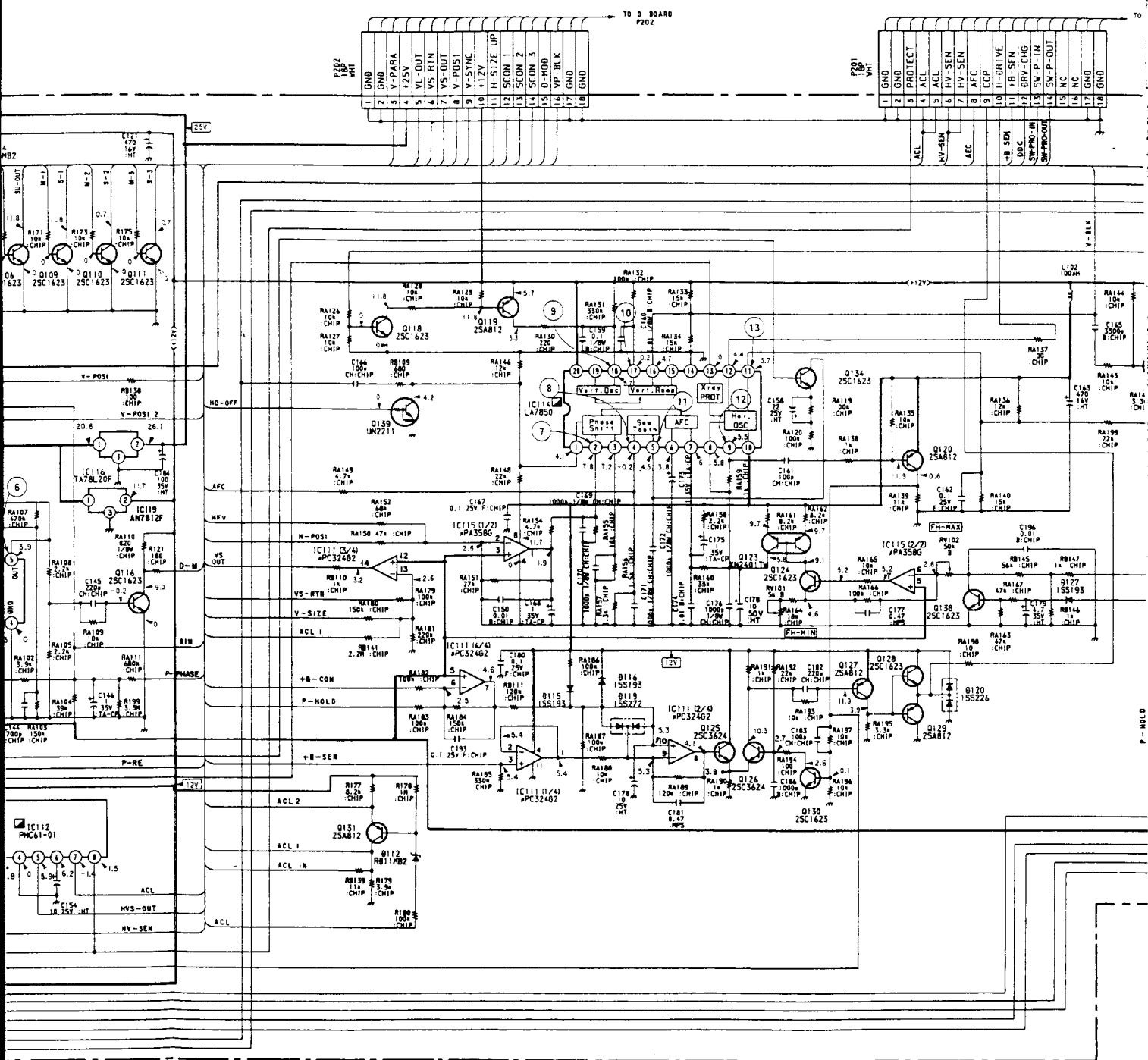
CPD-1730

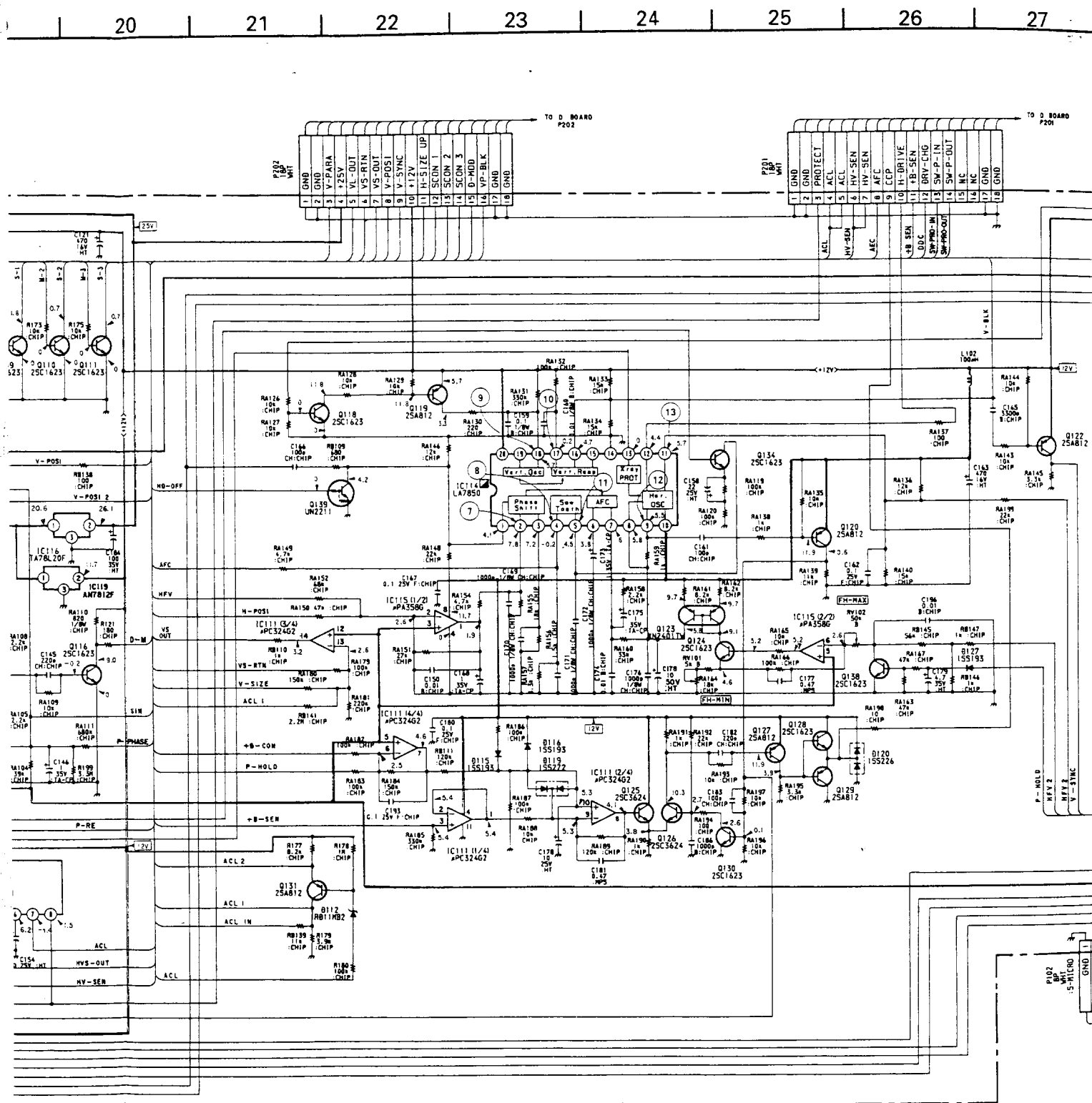
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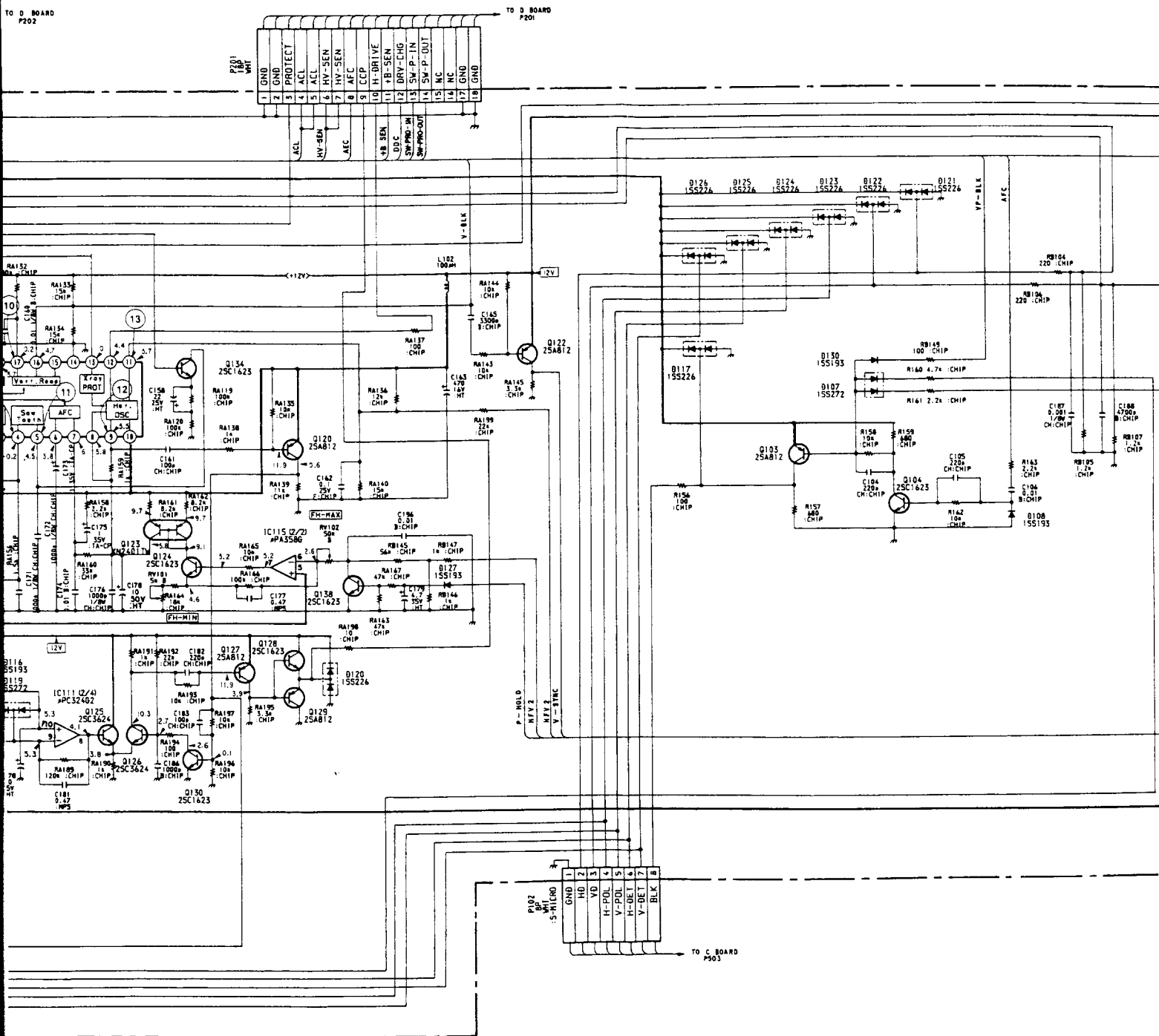
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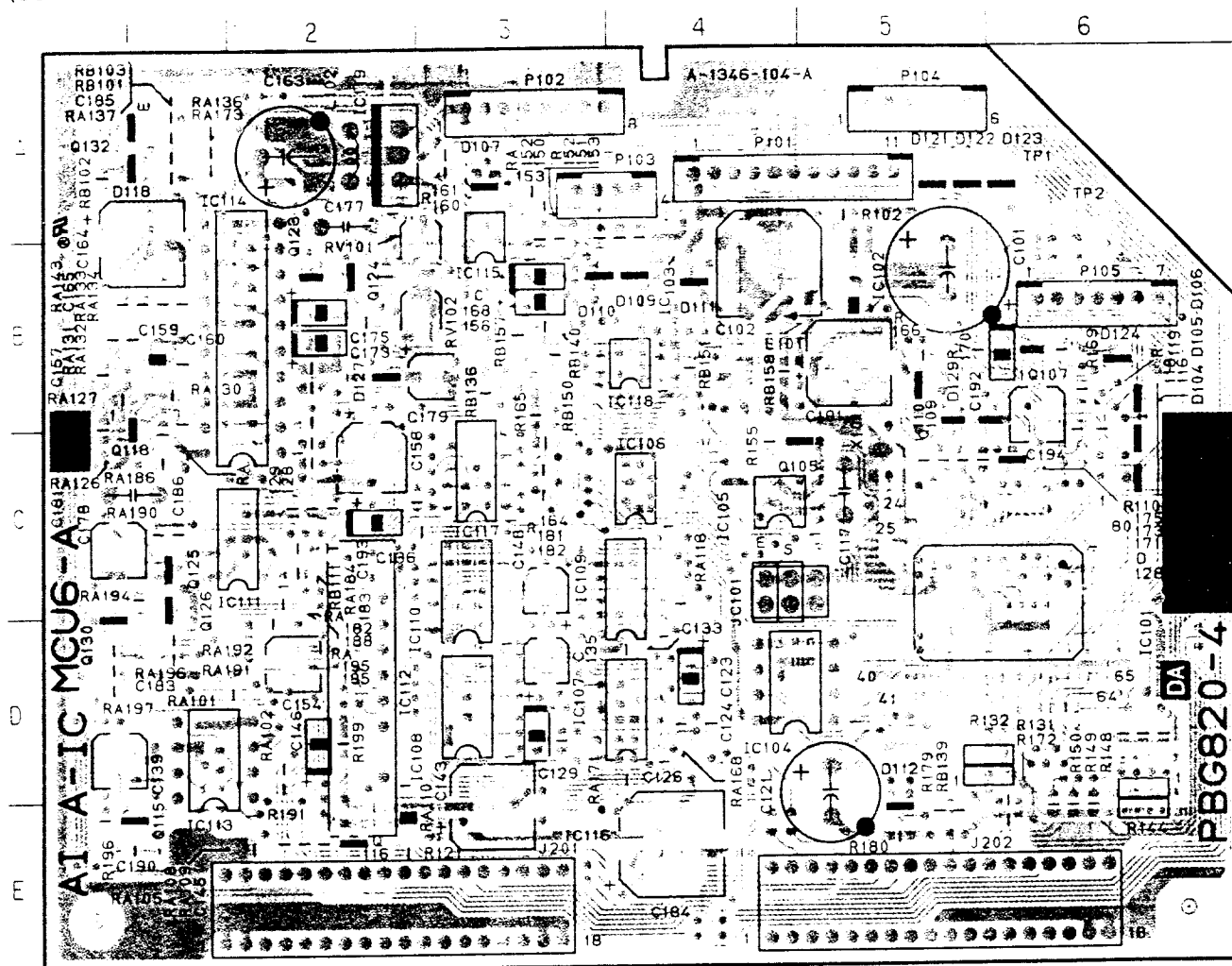
CPD-1730	CPD-1730
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31





DA

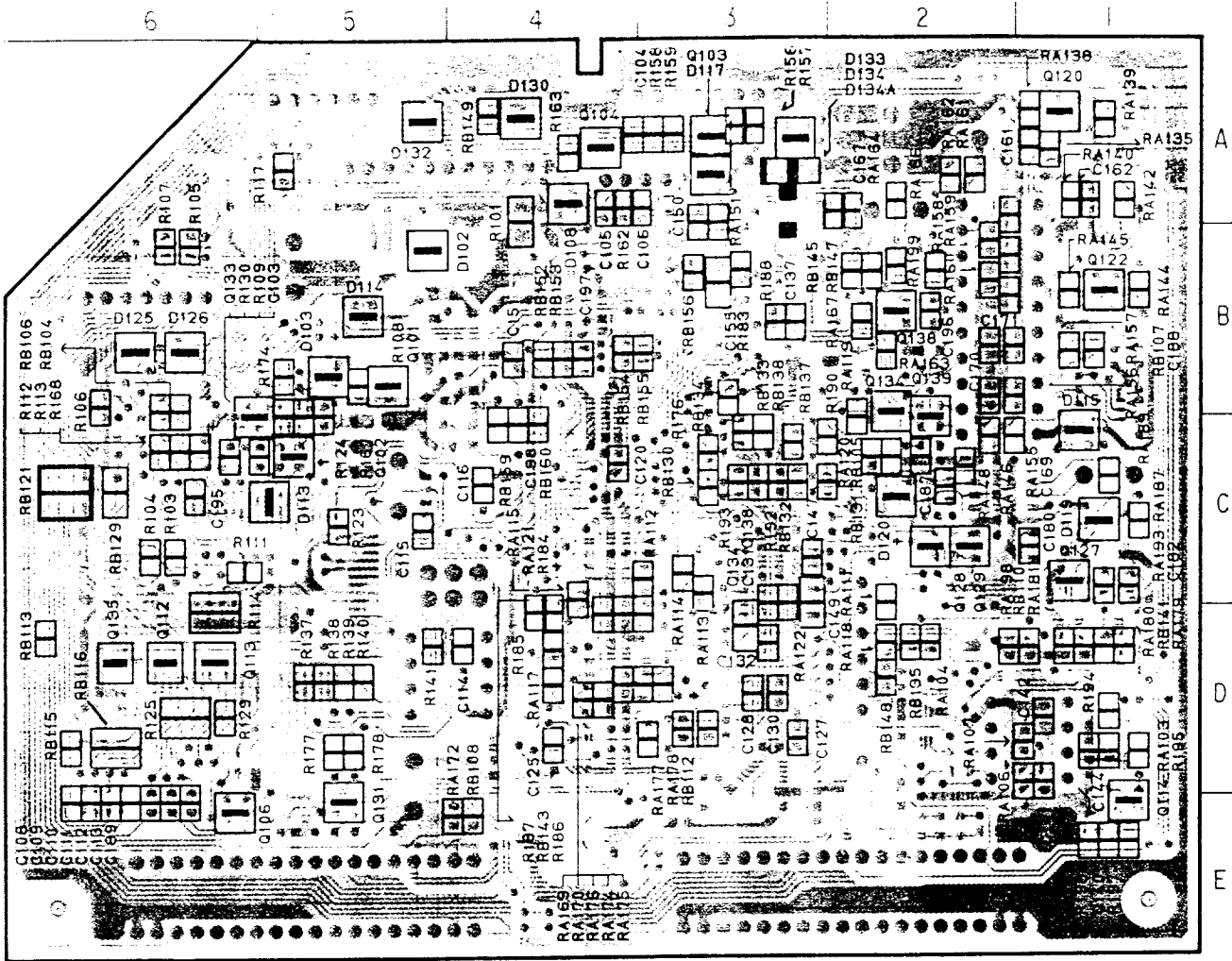
DEFLECTION AND
VIDEO CONTROL- DA BOARD -
(COMPONENT SIDE)DA BOARD
COMPONENT SIDE

IC	TRANSISTOR	DIODE	VARIABLE RESISTOR
IC101 D-6	Q105 C-4	D104 C-6	RV101 B-1 RV102 B-3
IC102 B-5	Q107 B-6	D105 C-6	
IC103 B-4	Q108 C-1	D106 B-6	
IC104 D-4	Q109 B-5	D107 A-3	
IC105 C-4	Q110 B-5	D109 B-4	
IC106 C-4	Q115 E-1	D110 B-3	
IC107 D-3	Q116 E-2	D111 B-4	
IC108 D-3	Q118 C-1	D112 D-5	
IC109 C-3	Q123 B-2	D121 A-5	
IC110 C-3	Q124 B-2	D122 A-5	
IC111 C-2	Q125 C-1	D123 A-6	
IC112 D-2	Q126 C-1	D124 B-6	
IC113 D-1	Q130 D-1	D127 B-2	
IC114 B-2	Q132 A-1	D128 C-6	
IC115 B-3		D129 B-5	
IC116 E-4			
IC117 C-3			
IC118 B-4			
IC119 A-2			

DA BOARD
CONDUCTOR SIDE

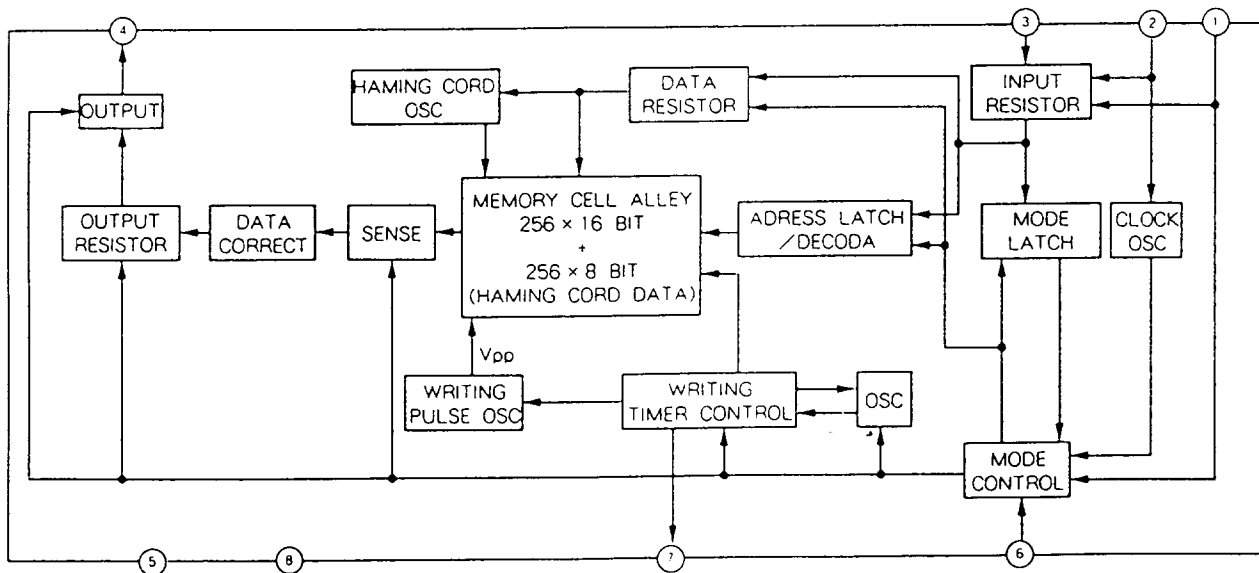
TRANSISTOR	DIODE
Q101 B-5	D102 B-5
Q102 C-5	D103 B-5
Q103 A-3	D108 A-4
Q104 A-4	D113 C-5
Q106 E-6	D114 B-5
Q112 D-6	D117 A-3
Q113 D-6	D119 C-1
Q114 E-1	D120 C-2
Q120 A-1	D125 B-6
Q122 B-1	D126 B-6
Q127 C-1	D130 A-4
Q128 C-1	D132 A-5
Q129 C-2	D133 A-2
Q131 E-5	D134 A-2
Q133 B-6	D134A A-2
Q134 B-2	
Q135 D-6	
Q138 B-2	
Q139 B-2	

(CONDUCTOR SIDE)

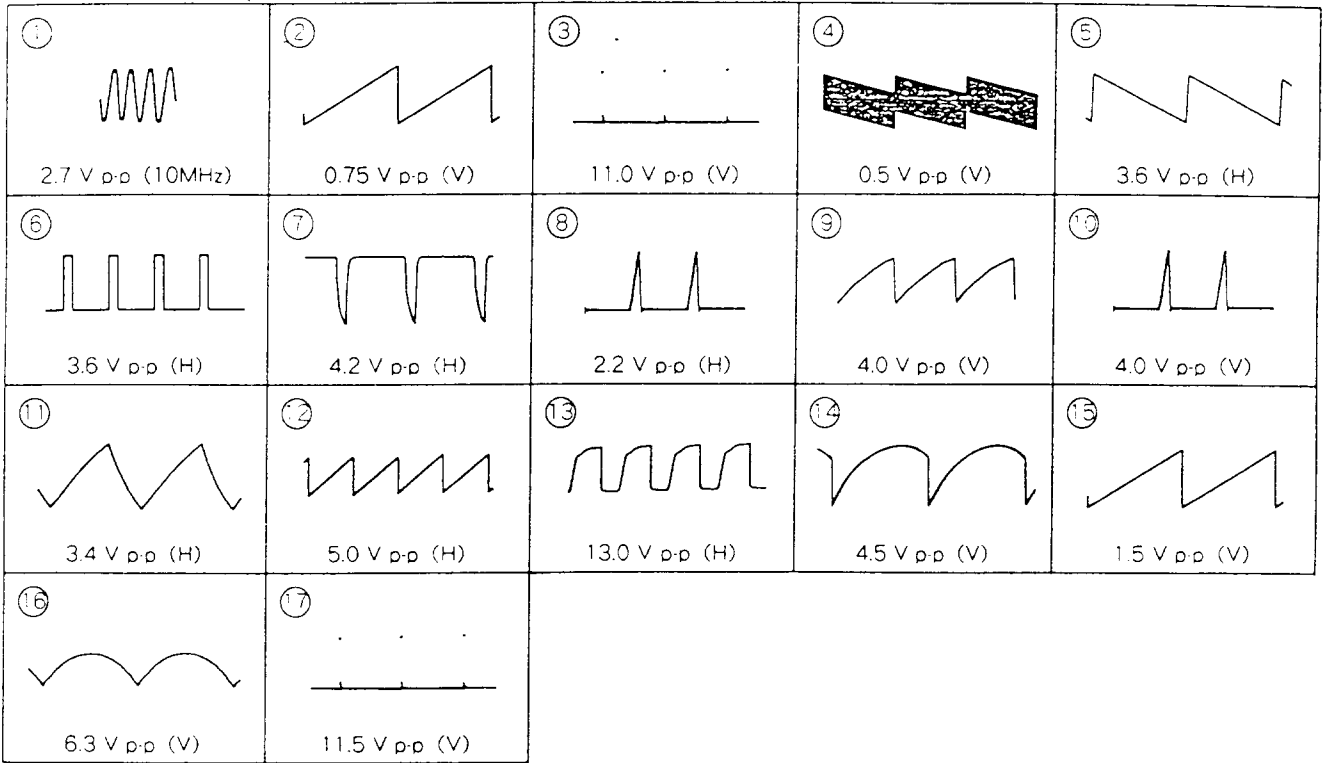


For Service Manuals
MAURITRON SERVICES
 8 Cherry Tree Road, Chinnor
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 email:- mauritron@dial.pipex.com

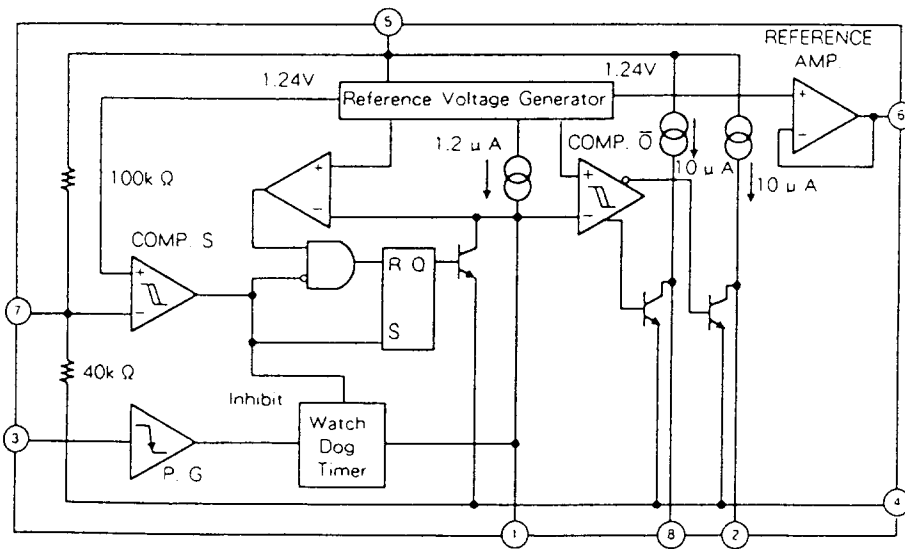
DA BOARD IC104 M6M80041



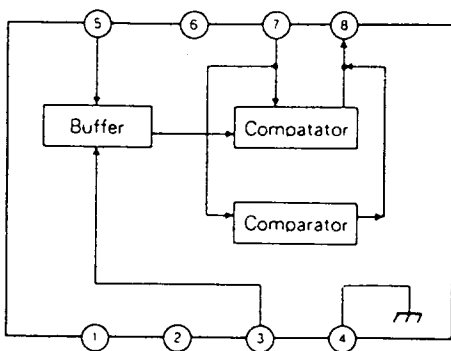
DA BOARD WAVEFORMS



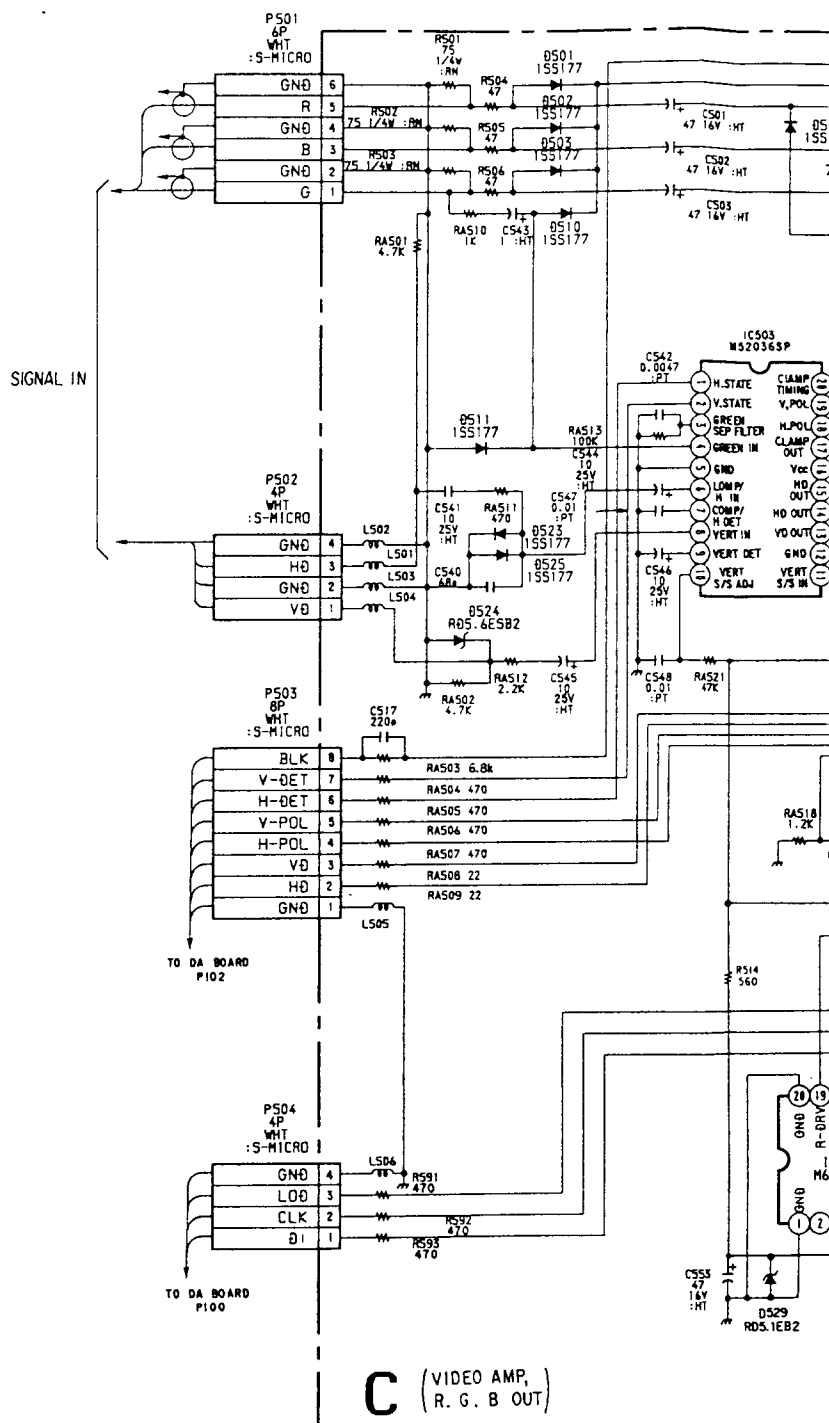
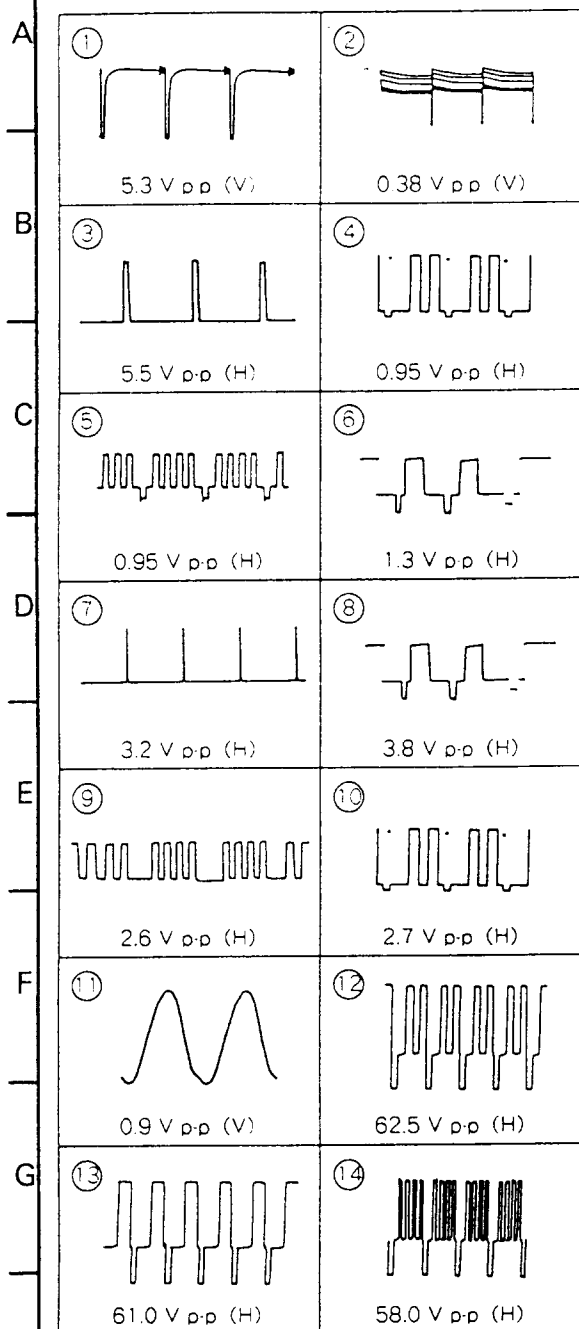
DA BOARD IC105 MB3773



DA BOARD IC112 PHC61-01

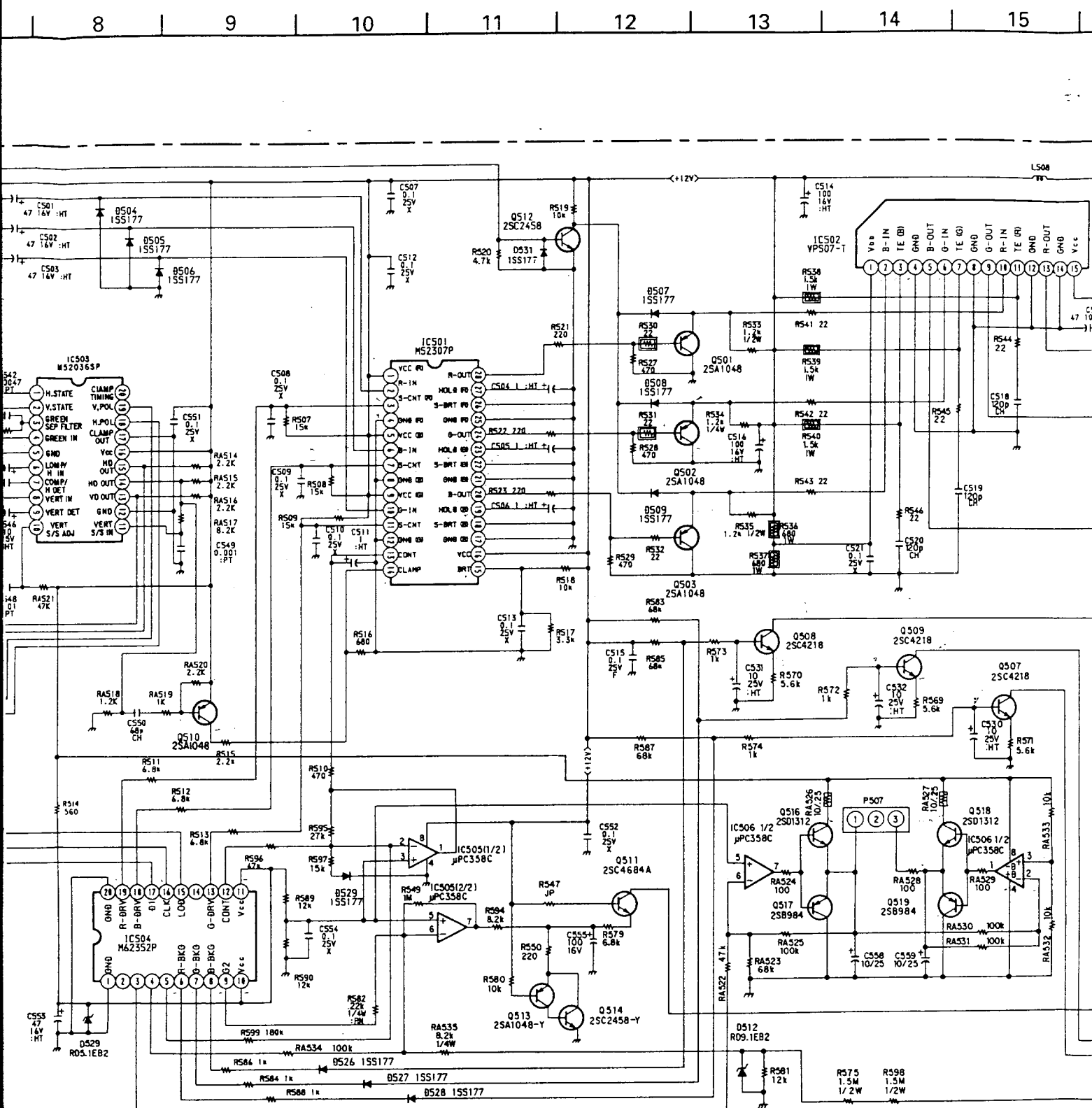


C BOARD WAVEFORMS



B BOARD

IC501	M52307P	PREAMP	Q512	25C2785-HFE	BLK	Q510	1SS
IC502	VPS07T	VIDEO AMP	Q513	25A1175-HFE	G2-CONTROL	Q511	1SS
IC503	M52036SP	SYNC SEP	Q514	25C2785-HFE	G2-CONTROL	Q512	1R09
IC504	M62352P	DA CONVERTER	Q515	25CA634A	G2-CONTROL	Q513	1SS
IC505	μ PC358C	BUFFER	Q516	25D1312-L	ROTATION CONTROL	Q514	1SS
IC506	μ PC358C	BUFFER	Q517	25B984-K	ROTATION CONTROL	Q515	1SS
			Q518	25D1312-L	ROTATION CONTROL	Q516	1SS
			Q519	25B984-K	ROTATION CONTROL	Q517	1SS
Q501	25A1175-HFE	R-BUFFER				Q518	1SS
Q502	25A1175-HFE	G-BUFFER				Q519	1SS
Q503	25A1175-HFE	G-BUFFER	D501	1SS177	PROTECTOR	D519	1SS
Q504	25A1824	R-BIAS	D502	1SS177	PROTECTOR	D520	1SS
Q505	25A1824	G-BIAS	D503	1SS177	PROTECTOR	D521	1SS
Q506	25A1824	B-BIAS	D504	1SS177	PROTECTOR	D523	1SS
Q507	25C4218	R-CLP	D505	1SS177	PROTECTOR	D524	1R05
Q508	25C4218	G-CLP	D506	1SS177	PROTECTOR	D525	1SS
Q509	25C4218	B-CLP	D507	1SS177	R-DRIVE	D529	1R05
Q510	25A1175-HFE	CLAMP	D508	1SS177	G-DRIVE	D530	1SS
Q511	25CA634A	G2-CONTROL	D509	1SS177	B-DRIVE	D531	1SS

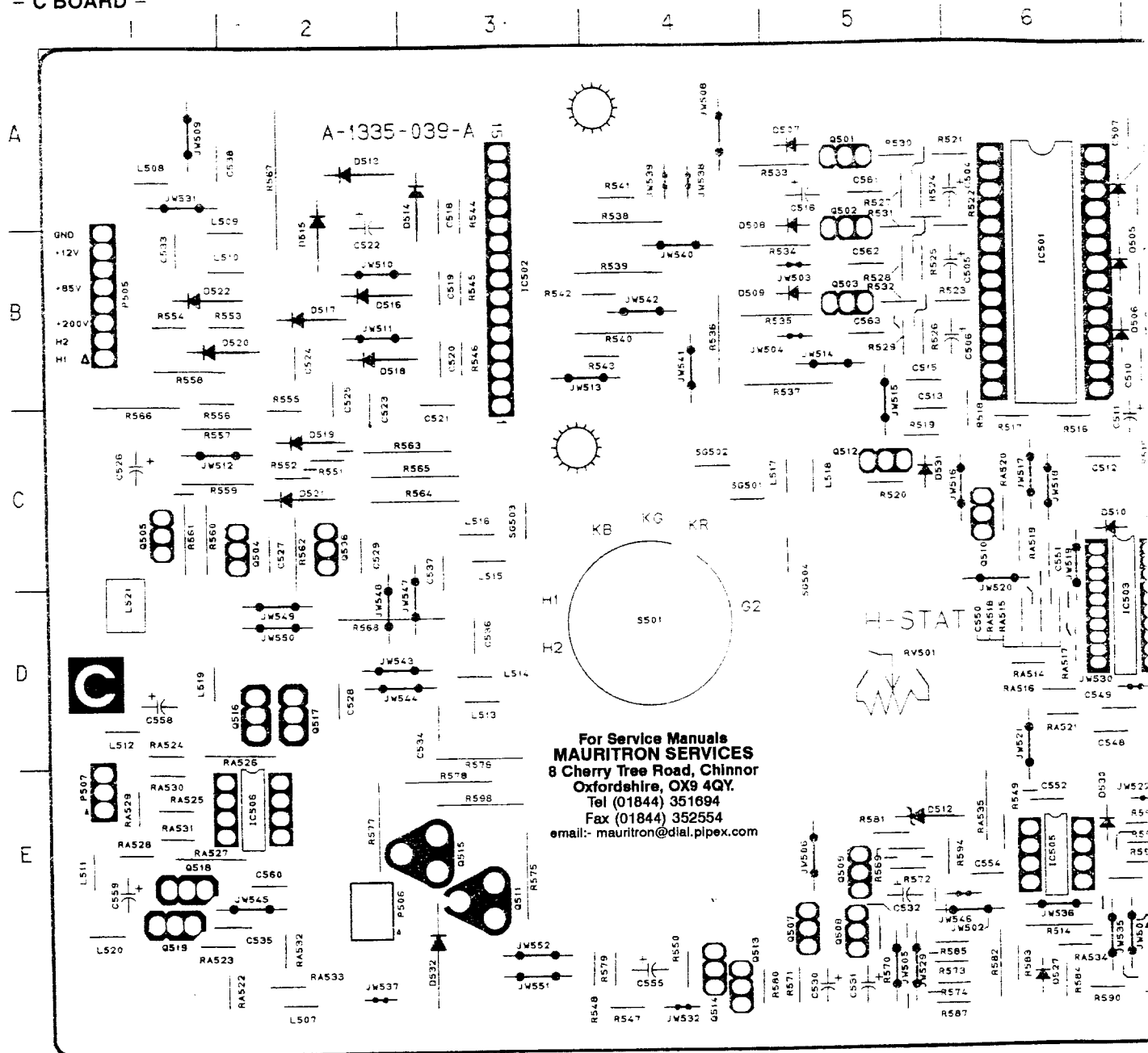


TROL	D510	1SS177	PROTECTOR
TROL	D511	1SS177	PROTECTOR
TROL	D512	RD9.1ESB2	REG
TROL	D513	1SS83	PROTECTOR
ON CONTROL	D514	1SS83	PROTECTOR
ON CONTROL	D515	1SS83	PROTECTOR
ON CONTROL	D516	1SS83	PROTECTOR
ON CONTROL	D517	1SS83	PROTECTOR
ON CONTROL	D518	1SS83	PROTECTOR
ON CONTROL	D519	1SS83	PROTECTOR
TOR	D520	1SS83	R-CLP
TOR	D521	1SS83	G-CLP
TOR	D522	1SS83	B-CLP
TOR	D523	1SS177	PROTECTOR
TOR	D524	RD5.6ESB2	VD
TOR	D525	1SS177	PROTECTOR
TOR	D526	RD5.1ESB2	+5V REG
TOR	D527	1SS177	PROTECTOR
TOR	D528	1SS177	PROTECTOR
TOR	D529	1SS177	PROTECTOR
TOR	D530	1SS177	PROTECTOR
TOR	D531	1SS177	PROTECTOR

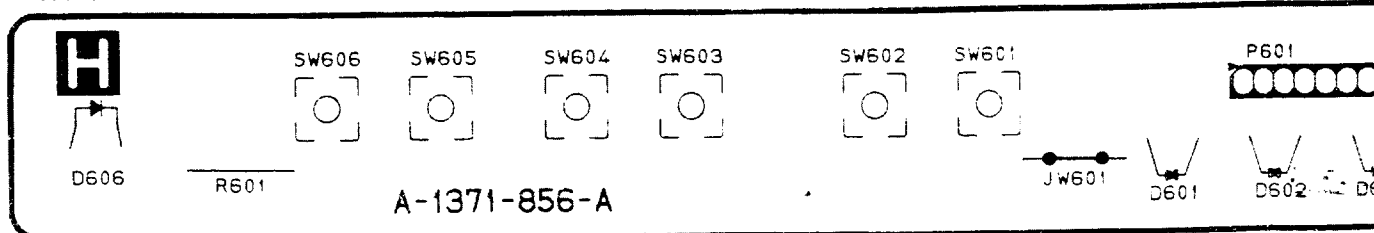
C VIDEO AMP
R·G·B OUT

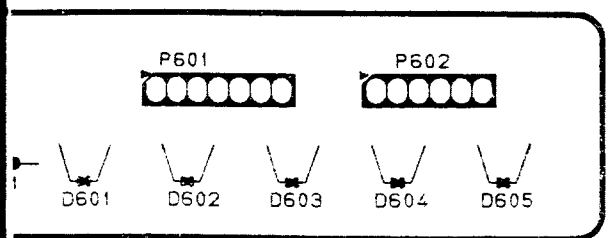
H [USER CONTROL]

- C BOARD -



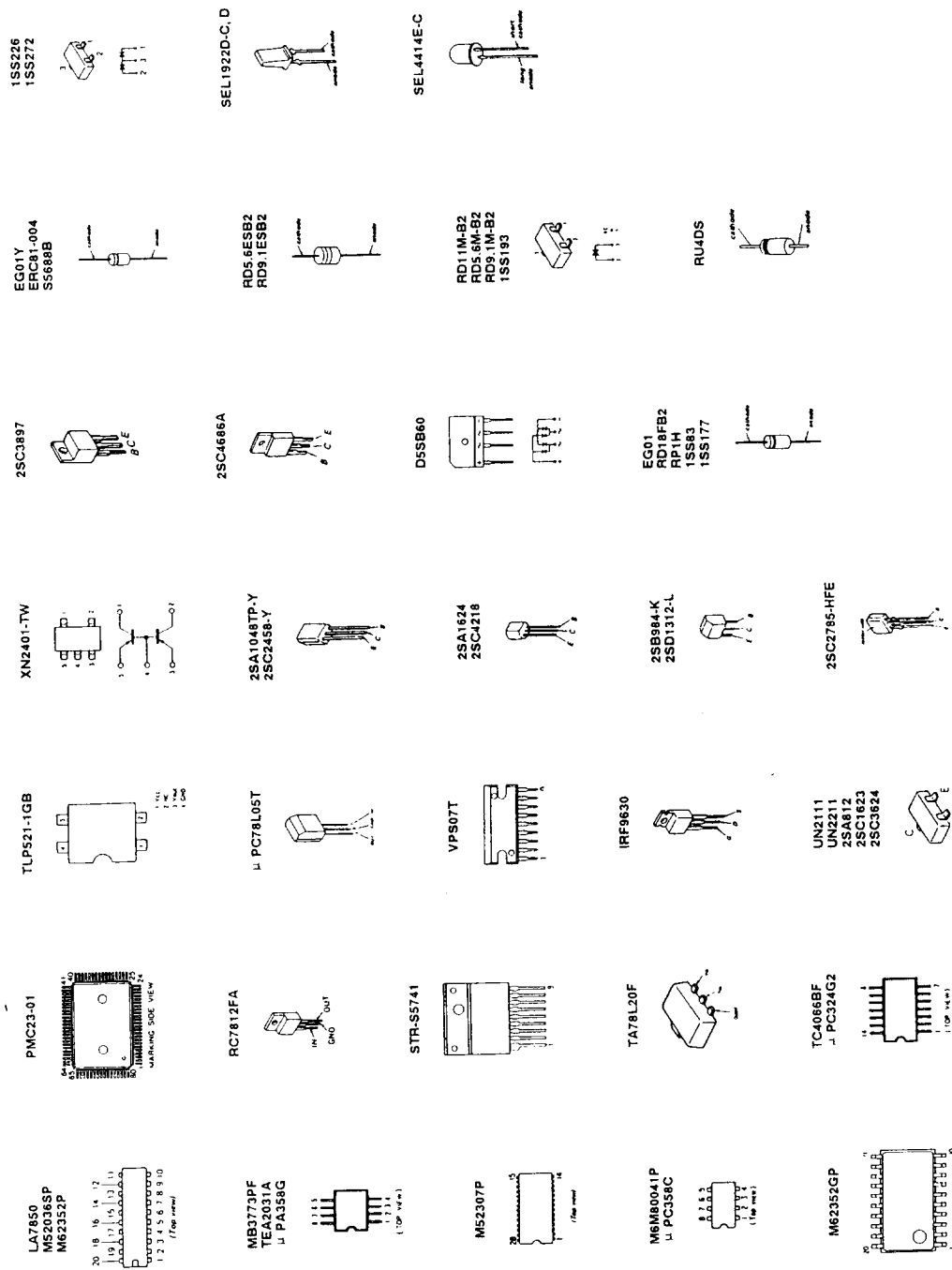
- H BOARD -





IC		DIODE		D530	E-6
IC501	B-6	D501	A-7	D531	C-5
IC502	B-3	D502	B-7	D532	E-3
IC503	D-6	D503	B-7	VARIABLE RESISTOR	
IC504	E-7	D504	A-7		
IC505	E-6	D505	B-7	RV501 D-5	
IC506	E-2	D506	B-7		
		D507	A-5		
TRANSISTOR		D508	B-4		
		D509	B-4		
		D510	C-6		
Q501	A-5	D511	C-7		
Q502	A-5	D512	E-5		
Q503	B-5	D513	A-2		
Q504	C-2	D514	A-3		
Q505	C-1	D515	B-2		
Q506	C-2	D516	B-2		
Q507	E-5	D517	B-2		
Q508	E-5	D518	B-2		
Q509	E-5	D519	C-2		
Q510	C-6	D520	B-2		
Q511	E-3	D521	C-2		
Q512	C-5	D522	B-1		
Q513	E-4	D523	C-7		
Q514	E-4	D524	C-7		
Q515	E-3	D525	D-7		
Q516	D-2	D526	E-7		
Q517	D-2	D527	E-6		
Q518	E-1	D528	E-7		
Q519	E-1	D529	E-7		

7-5. SEMICONDUCTORS





SECTION 8 EXPLODED VIEWS

CPD-1730

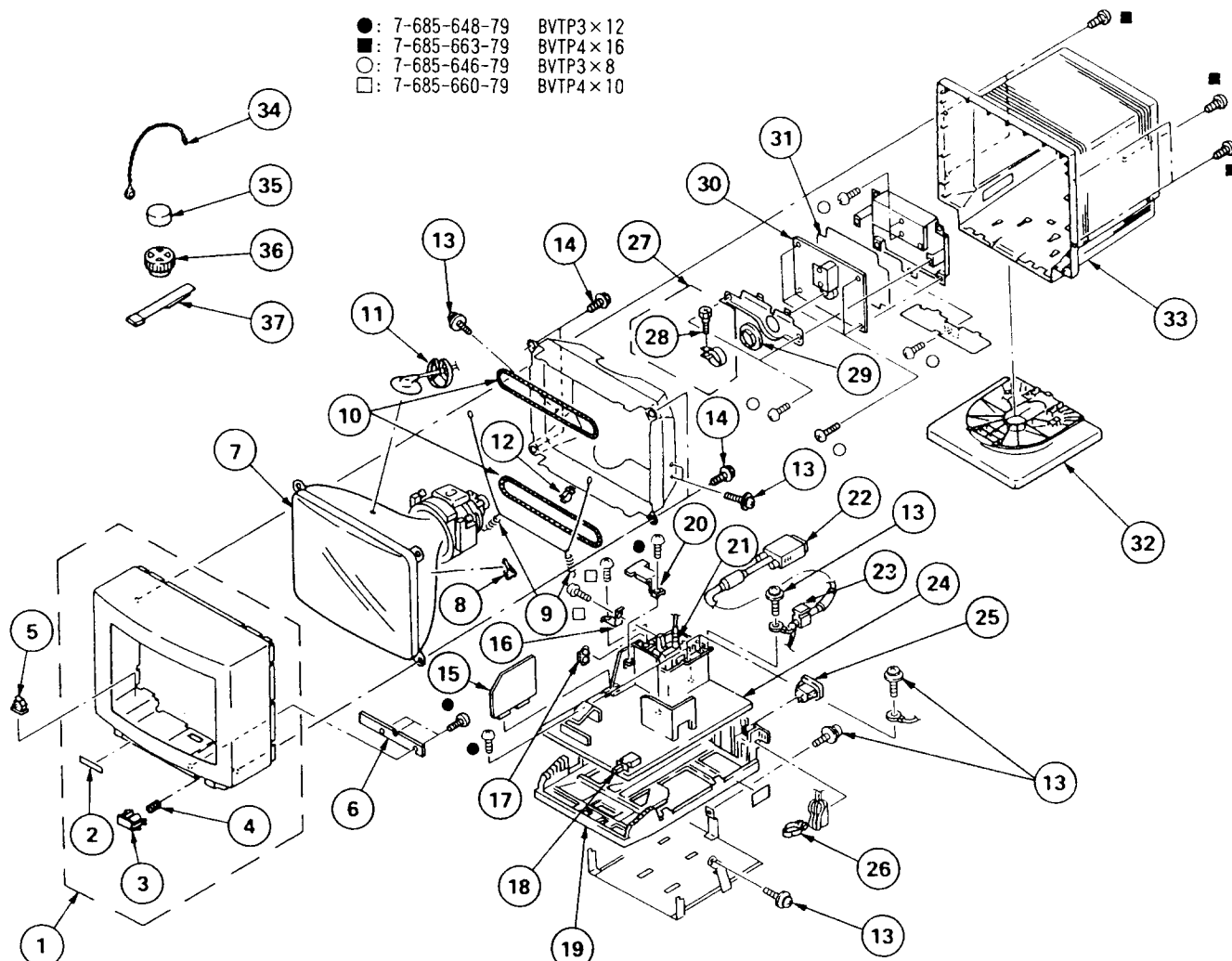
NOTE:

- 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.

Les composants identifiés par une trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- : 7-685-648-79 BVTP3×12
- : 7-685-663-79 BVTP4×16
- : 7-685-646-79 BVTP3×8
- : 7-685-660-79 BVTP4×10



REF. NO.	PART NO.	DESCRIPTION
1	X-4030-950-1	BEZEL ASSY
2	4-037-829-01	LABEL, LED
3	4-037-830-01	BUTTON, POWER
4	3-509-046-01	SPRING, COMPRESSION
5	3-621-212-01	CLAMPER, DKN
6	*1-645-541-11	H BOARD
7	Δ 8-738-576-98	ITC (17FQ2-R5)(U/C & AEP MODEL)
	Δ 8-738-578-87	ITC (17FQ2-RS5)(AUS MODEL)
8	3-703-003-00	SPACER, DY
9	4-303-774-XX	SPRING
10	Δ 1-402-745-11	COIL, DEGAUSSING
11	*4-034-856-01	HOLDER, HV CABLE
12	*4-395-824-01	HOLDER, DEGAUSSING COIL
13	4-389-025-01	SCREW (M4X8)(EXT TOOTH WASHER)
14	4-365-808-01	SCREW (5), TAPPING
15	A-1346-104-A	DA BOARD, COMPLETE
16	*4-039-382-01	HOLDER (FRT)
17	*4-039-521-01	GUIDE, FOCUS
18	Δ 1-571-433-12	SWITCH, PUSH (AC POWER)
19	*4-039-396-01	BRACKET, D
20	*4-039-383-01	BRACKET (DB)

REF. NO.	PART NO.	DESCRIPTION	REMARK
21	Δ 1-453-148-11	TRANSFORMER ASSY, FLYBACK	2-4
22	1-900-035-15	CABLE ASSY, SIGNAL	
23	*4-364-726-00	BUSHING, AC CORD	
24	*A-1346-103-A	D BOARD, COMPLETE	
25	Δ 1-526-954-11	INLET, AC	
26	4-039-381-01	HOLDER, CORE	28
27	X-4029-951-1	BAND ASSY, FASTENING	
28	*2-101-802-01	SCREW, FASTENING, SEPARATOR	
29	4-039-520-01	HOLDER, PWB	
30	*A-1335-039-A	C BOARD, COMPLETE	
31	*4-039-389-01	INSULATOR (V)	
32	X-4029-956-1	STAND ASSY	
33	4-036-816-11	CABINET	
34	4-308-870-00	CLIP, LEAD WIRE	
35	1-452-032-00	MAGNET, DISK; 10MM φ	
36	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM φ	
37	X-4308-815-0	PERMALLOY ASSY, CONVERGENCE	

SECTION 9 ELECTRICAL PARTS LIST

C

NOTE:

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

Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

• 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

COILS

• MF : μ F, PF : μ F • MMH : mH, UH : μ H

• The components identified by \boxtimes in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
• * : Selected to yield optimum performance.
• There are some cases the reference number on one board overlaps on the other board. Therefore, when ordering parts by the reference number, please include the board name.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
*A-1335-039-A C BOARD, COMPLETE *****							
<CAPACITOR>							
C501	1-124-126-00	ELECT	47MF 20% 16V	C550	1-102-525-11	CERAMIC 68PF 5% 50V	
C502	1-124-126-00	ELECT	47MF 20% 16V	C551	1-161-772-11	CERAMIC 0.1MF 10% 25V	
C503	1-124-126-00	ELECT	47MF 20% 16V	C552	1-161-772-11	CERAMIC 0.1MF 10% 25V	
C504	1-124-791-11	ELECT	1MF 20% 50V	C553	1-124-126-00	ELECT 47MF 20% 16V	
C505	1-124-791-11	ELECT	1MF 20% 50V	C554	1-161-772-11	CERAMIC 0.1MF 10% 25V	
C506	1-124-791-11	ELECT	1MF 20% 50V	C555	1-126-101-11	ELECT 100MF 20% 16V	
C507	1-161-772-11	CERAMIC	0.1MF 10% 25V	C556	1-162-116-00	CERAMIC 680PF 10% 2KV	
C508	1-161-772-11	CERAMIC	0.1MF 10% 25V	C557	1-162-116-00	CERAMIC 680PF 10% 2KV	
C509	1-161-772-11	CERAMIC	0.1MF 10% 25V	C558	1-126-096-11	ELECT 10MF 20% 25V	
C510	1-161-772-11	CERAMIC	0.1MF 10% 25V	C559	1-126-096-11	ELECT 10MF 20% 25V	
C511	1-124-791-11	ELECT	1MF 20% 50V	<DIODE>			
C512	1-161-772-11	CERAMIC	0.1MF 10% 25V	D501	8-719-820-58	DIODE 1SS177	
C513	1-161-772-11	CERAMIC	0.1MF 10% 25V	D502	8-719-820-58	DIODE 1SS177	
C514	1-126-101-11	ELECT	100MF 20% 16V	D503	8-719-820-58	DIODE 1SS177	
C515	1-161-772-11	CERAMIC	0.1MF 25V	D504	8-719-820-58	DIODE 1SS177	
C516	1-126-101-11	ELECT	100MF 20% 16V	D505	8-719-820-58	DIODE 1SS177	
C517	1-102-978-00	CERAMIC	220PF 5% 50V	D506	8-719-820-58	DIODE 1SS177	
C518	1-102-816-00	CERAMIC	120PF 5% 50V	D507	8-719-820-58	DIODE 1SS177	
C519	1-102-816-00	CERAMIC	120PF 5% 50V	D508	8-719-820-58	DIODE 1SS177	
C520	1-102-816-00	CERAMIC	120PF 5% 50V	D509	8-719-820-58	DIODE 1SS177	
C521	1-161-772-11	CERAMIC	0.1MF 10% 25V	D510	8-719-820-58	DIODE 1SS177	
C522	1-124-131-00	ELECT	47MF 20% 100V	D511	8-719-820-58	DIODE 1SS177	
C523	1-136-209-11	FILM	0.1MF 10% 250V	D512	8-719-110-13	DIODE RD9.1ESB2	
C524	1-136-209-11	FILM	0.1MF 10% 250V	D513	8-719-901-83	DIODE 1SS83	
C525	1-136-209-11	FILM	0.1MF 10% 250V	D514	8-719-901-83	DIODE 1SS83	
C526	1-124-666-11	ELECT	4.7MF 20% 250V	D515	8-719-901-83	DIODE 1SS83	
C527	1-136-209-11	FILM	0.1MF 10% 250V	D516	8-719-901-83	DIODE 1SS83	
C528	1-136-209-11	FILM	0.1MF 10% 250V	D517	8-719-901-83	DIODE 1SS83	
C529	1-136-209-11	FILM	0.1MF 10% 250V	D518	8-719-901-83	DIODE 1SS83	
C530	1-126-096-11	ELECT	10MF 20% 25V	D519	8-719-901-83	DIODE 1SS83	
C531	1-126-096-11	ELECT	10MF 20% 25V	D520	8-719-901-83	DIODE 1SS83	
C532	1-126-096-11	ELECT	10MF 20% 25V	D521	8-719-901-83	DIODE 1SS83	
C533	1-162-978-11	CERAMIC	0.01MF 2KV	D522	8-719-820-58	DIODE 1SS177	
C536	1-162-116-00	CERAMIC	680PF 10% 2KV	D523	8-719-820-58	DIODE 1SS177	
C537	1-162-116-00	CERAMIC	680PF 10% 2KV	D524	8-719-109-89	DIODE RD5.6ESB2	
C538	1-136-209-11	FILM	0.1MF 10% 250V	D525	8-719-820-58	DIODE 1SS177	
C540	1-101-888-00	CERAMIC	68PF 5% 50V	D529	8-719-109-85	DIODE RD5.1ESB2	
C541	1-126-096-11	ELECT	10MF 20% 25V	D530	8-719-820-58	DIODE 1SS177	
C542	1-130-479-00	MYLAR	0.0047MF 5% 50V	D531	8-719-820-58	DIODE 1SS177	
C543	1-124-791-11	ELECT	1MF 20% 50V	<IC>			
C544	1-126-096-11	ELECT	10MF 20% 35V	IC501	8-759-088-07	IC M52307P	
C545	1-126-096-11	ELECT	10MF 20% 35V	IC502	8-749-922-81	IC VPS07T	
C546	1-126-096-11	ELECT	10MF 20% 35V	IC503	8-759-637-31	IC M52036SP	
C547	1-130-483-00	MYLAR	0.01MF 5% 50V	IC504	8-759-636-77	IC M62352P	
C548	1-130-483-00	MYLAR	0.01MF 5% 50V	IC505	8-759-135-80	IC UPC358C	
C549	1-130-471-00	MYLAR	0.001MF 5% 50V	IC506	8-759-135-80	IC UPC358C	

C

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
<COIL>				R517	1-249-423-11	CARBON	3.3K 5% 1/4W
L501	1-410-397-21	FERRITE BEAD INDUCTOR		R518	1-249-429-11	CARBON	10K 5% 1/4W
L502	1-410-397-21	FERRITE BEAD INDUCTOR		R519	1-249-429-11	CARBON	10K 5% 1/4W
L503	1-410-397-21	FERRITE BEAD INDUCTOR		R520	1-249-425-11	CARBON	4.7K 5% 1/4W
L504	1-410-397-21	FERRITE BEAD INDUCTOR		R521	1-249-409-11	CARBON	220 5% 1/4W
L505	1-410-397-21	FERRITE BEAD INDUCTOR		R522	1-249-409-11	CARBON	220 5% 1/4W
L506	1-410-397-21	FERRITE BEAD INDUCTOR		R523	1-249-409-11	CARBON	220 5% 1/4W
L508	1-410-397-21	FERRITE BEAD INDUCTOR		R527	1-249-413-11	CARBON	470 5% 1/4W
L509	1-410-397-21	FERRITE BEAD INDUCTOR		R528	1-249-413-11	CARBON	470 5% 1/4W
L510	1-410-397-21	FERRITE BEAD INDUCTOR		R529	1-249-413-11	CARBON	470 5% 1/4W
L511	1-410-397-21	FERRITE BEAD INDUCTOR		R530	1-249-397-11	CARBON	22 5% 1/4W
L512	1-410-397-21	FERRITE BEAD INDUCTOR		R531	1-249-397-11	CARBON	22 5% 1/4W
<CONNECTOR>				R532	1-249-397-11	CARBON	22 5% 1/4W
P501	*1-506-947-11	PIN, CONNECTOR 6P		R533	1-247-714-11	CARBON	1.2K 5% 1/4W
P502	*1-506-946-11	PIN, CONNECTOR 4P		R534	1-247-714-11	CARBON	1.2K 5% 1/4W
P503	*1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P		R535	1-247-714-11	CARBON	1.2K 5% 1/4W
P504	*1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P		R536	1-247-711-11	CARBON	680 5% 1/4W
P505	*1-506-611-11	PIN, CONNECTOR 8P		R537	1-247-711-11	CARBON	680 5% 1/4W
P506	*1-506-108-41	PIN, CONNECTOR (TERMINAL PIN)		R538	1-247-715-11	CARBON	1.5K 5% 1/4W
P507	*1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P		R539	1-247-715-11	CARBON	1.5K 5% 1/4W
<TRANSISTOR>				R540	1-247-715-11	CARBON	1.5K 5% 1/4W
Q501	8-729-119-76	TRANSISTOR 2SA1175-HFE		R541	1-249-397-11	CARBON	22 5% 1/4W
Q502	8-729-119-76	TRANSISTOR 2SA1175-HFE		R542	1-249-397-11	CARBON	22 5% 1/4W
Q503	8-729-119-76	TRANSISTOR 2SA1175-HFE		R543	1-249-397-11	CARBON	22 5% 1/4W
Q504	8-729-018-01	TRANSISTOR 2SA1624		R544	1-249-397-11	CARBON	22 5% 1/4W
Q505	8-729-018-01	TRANSISTOR 2SA1624		R545	1-249-397-11	CARBON	22 5% 1/4W
Q506	8-729-018-01	TRANSISTOR 2SA1624		R546	1-249-397-11	CARBON	22 5% 1/4W
Q507	8-729-018-02	TRANSISTOR 2SC4218		R549	1-247-903-00	CARBON	1M 5% 1/4W
Q508	8-729-018-02	TRANSISTOR 2SC4218		R550	1-249-409-11	CARBON	220 5% 1/4W
Q509	8-729-018-02	TRANSISTOR 2SC4218		R551	1-247-889-00	CARBON	270K 5% 1/4W
Q510	8-729-119-76	TRANSISTOR 2SA1175-HFE		R552	1-247-889-00	CARBON	270K 5% 1/4W
Q511	8-729-022-12	TRANSISTOR 2SC4634A		R553	1-247-889-00	CARBON	270K 5% 1/4W
Q512	8-729-119-78	TRANSISTOR 2SC2785-HFE		R554	1-247-889-00	CARBON	270K 5% 1/4W
Q513	8-729-119-76	TRANSISTOR 2SA1175-HFE		R555	1-247-889-00	CARBON	270K 5% 1/4W
Q514	8-729-119-78	TRANSISTOR 2SC2785-HFE		R556	1-247-889-00	CARBON	270K 5% 1/4W
Q515	8-729-022-12	TRANSISTOR 2SC4634A		R557	1-249-469-11	CARBON	270K 5% 1/4W
Q516	8-729-111-54	TRANSISTOR 2SD1312-L		R558	1-249-469-11	CARBON	100K 5% 1/4W
Q517	8-729-111-52	TRANSISTOR 2SB984-K		R559	1-249-469-11	CARBON	100K 5% 1/4W
Q518	8-729-111-54	TRANSISTOR 2SD1312-L		R560	1-249-469-11	CARBON	100K 5% 1/4W
Q519	8-729-111-52	TRANSISTOR 2SB984-K		R561	1-249-469-11	CARBON	100K 5% 1/4W
<RESISTOR>				R562	1-249-469-11	CARBON	100K 5% 1/4W
R501	1-214-702-00	METAL	75 1% 1/4W	R563	1-246-445-15	SOLID	68 5% 1/4W
R502	1-214-702-00	METAL	75 1% 1/4W	R564	1-246-445-15	SOLID	68 5% 1/4W
R503	1-214-702-00	METAL	75 1% 1/4W	R565	1-246-445-15	SOLID	68 5% 1/4W
R504	1-249-401-11	CARBON	47 5% 1/4W	R566	1-246-521-15	CARBON	100K 5% 1/4W
R505	1-249-401-11	CARBON	47 5% 1/4W	R567	1-216-486-00	METAL OXIDE	10K 5% 3W F
R506	1-249-401-11	CARBON	47 5% 1/4W	R568	1-216-375-00	METAL OXIDE	3.3 5% 2W F
R507	1-249-431-11	CARBON	15K 5% 1/4W	R569	1-249-426-11	CARBON	5.6K 5% 1/4W
R508	1-249-431-11	CARBON	15K 5% 1/4W	R570	1-249-426-11	CARBON	5.6K 5% 1/4W
R509	1-249-431-11	CARBON	15K 5% 1/4W	R571	1-249-426-11	CARBON	5.6K 5% 1/4W
R510	1-249-413-11	CARBON	470 5% 1/4W	R572	1-249-417-11	CARBON	1K 5% 1/4W F
R511	1-249-427-11	CARBON	6.8K 5% 1/4W	R573	1-249-417-11	CARBON	1K 5% 1/4W F
R512	1-249-427-11	CARBON	6.8K 5% 1/4W	R574	1-249-417-11	CARBON	1K 5% 1/4W F
R513	1-249-427-11	CARBON	6.8K 5% 1/4W	R575	1-214-968-00	METAL	1.5M 1% 1/4W
R514	1-247-710-11	CARBON	560 5% 1/4W	R576	1-246-521-15	SOLID	100K 5% 1/4W
R515	1-249-421-11	CARBON	2.2K 5% 1/4W	R577	1-202-982-11	METAL GLAZE	470K 5% 1/2W
R516	1-249-415-11	CARBON	680 5% 1/4W	R578	1-202-982-11	METAL GLAZE	470K 5% 1/2W
				R579	1-249-427-11	METAL	6.8K 5% 1/4W
				R580	1-249-429-11	CARBON	10K 5% 1/4W
				R581	1-249-430-11	CARBON	12K 5% 1/4W
				R582	1-214-761-00	METAL	22K 1% 1/4W
				R583	1-249-439-11	CARBON	68K 5% 1/4W
				R584	1-249-417-11	CARBON	1K 5% 1/4W
				R585	1-249-439-11	CARBON	68K 5% 1/4W

C

D

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R586	1-249-417-11	CARBON	1K 5% 1/4W	*****			
R587	1-249-439-11	CARBON	68K 5% 1/4W				
R588	1-249-417-11	CARBON	1K 5% 1/4W				
R589	1-249-430-11	CARBON	12K 5% 1/4W				
R590	1-249-430-11	CARBON	12K 5% 1/4W				
R591	1-249-413-11	CARBON	470 5% 1/4W F				
R592	1-249-413-11	CARBON	470 5% 1/4W F				
R593	1-249-413-11	CARBON	470 5% 1/4W F				
R594	1-249-428-11	CARBON	8.2K 5% 1/4W				
R595	1-249-434-11	CARBON	27K 5% 1/4W				
R596	1-249-437-11	CARBON	47K 5% 1/4W				
R597	1-249-431-11	CARBON	15K 5% 1/4W				
R598	1-214-968-00	METAL FILM	1.5M 1% 1/4W				
R599	1-214-778-00	METAL FILM	180K 1% 1/4W				
RA501	1-249-425-11	CARBON	4.7K 5% 1/4W				
RA502	1-249-425-11	CARBON	4.7K 5% 1/4W				
RA503	1-249-425-11	CARBON	4.7K 5% 1/4W				
RA504	1-249-413-11	CARBON	470 5% 1/4W				
RA505	1-249-413-11	CARBON	470 5% 1/4W				
RA506	1-249-413-11	CARBON	470 5% 1/4W				
RA507	1-249-413-11	CARBON	470 5% 1/4W				
RA508	1-249-397-11	CARBON	22 5% 1/4W				
RA509	1-249-397-11	CARBON	22 5% 1/4W				
RA510	1-249-417-11	CARBON	1K 5% 1/4W				
RA511	1-249-413-11	CARBON	470 5% 1/4W				
RA512	1-249-421-11	CARBON	2.2K 5% 1/4W				
RA513	1-249-441-11	CARBON	100K 5% 1/4W				
RA514	1-249-421-11	CARBON	2.2K 5% 1/4W				
RA515	1-249-421-11	CARBON	2.2K 5% 1/4W				
RA516	1-249-421-11	CARBON	2.2K 5% 1/4W				
RA517	1-249-428-11	CARBON	8.2K 5% 1/4W				
RA518	1-249-418-11	CARBON	1.2K 5% 1/4W				
RA519	1-249-417-11	CARBON	1K 5% 1/4W				
RA520	1-249-421-11	CARBON	2.2K 5% 1/4W				
RA521	1-249-437-11	CARBON	47K 5% 1/4W				
RA522	1-249-437-11	CARBON	47K 5% 1/4W				
RA523	1-249-439-11	CARBON	68K 5% 1/4W				
RA524	1-249-405-11	CARBON	100 5% 1/4W				
RA525	1-249-441-11	CARBON	100K 5% 1/4W				
RA526	1-202-325-11	SOLID	10 5% 1/4W				
RA527	1-202-325-11	SOLID	10 5% 1/4W				
RA528	1-249-405-11	CARBON	100 5% 1/4W				
RA529	1-249-405-11	CARBON	100 5% 1/4W				
RA530	1-249-441-11	CARBON	100K 5% 1/4W				
RA531	1-249-441-11	CARBON	100K 5% 1/4W				
RA532	1-249-429-11	CARBON	10K 5% 1/4W				
RA533	1-249-429-11	CARBON	10K 5% 1/4W				
RA534	1-249-441-11	CARBON	100K 5% 1/4W				
RA535	1-249-428-11	CARBON	8.2K 5% 1/4W				
<VARIABLE RESISTOR>							
RV501	1-230-798-11	RES. ADJ. METAL GLAZE 90M					
<SOCKET>							
S501	1-526-866-11	SOCKET, CRT					
<SPARK GAP>							
SG501	1-519-421-11	GAP, DISCHARGE					
SG502	1-519-421-11	GAP, DISCHARGE					
SG503	1-519-421-11	GAP, DISCHARGE					
SG504	1-519-030-00	DISCHARGE ELEMENT					

				*A-1346-103-A D BOARD, COMPLETE			

				3-899-248-31 SCREW (M3X12)			
				4-037-233-01 SHEET (LARGE), SARCON			
				*4-341-751-01 EYELET			
				*4-341-752-01 EYELET			
				*4-381-905-01 SPRING (D)			
				4-382-854-01 SCREW (M3X8), P. SW (+)			
				<CAPACITOR>			
C201	1-124-120-11	ELECT	220MF 20% 16V				
C202	1-124-510-11	ELECT	220MF 20% 35V				
C203	1-124-122-11	ELECT	100MF 20% 35V				
C204	1-101-804-00	CERAMIC	10PF 5% 500V				
C205	1-123-381-00	ELECT	2.2MF 20% 50V				
C206	1-124-557-11	ELECT	1000MF 20% 25V				
C207	1-136-209-11	FILM	0.1MF 10% 250V				
C208	1-124-510-11	ELECT	220MF 20% 35V				
C209	1-123-875-11	ELECT	10MF 20% 50V				
C210	1-136-177-00	FILM	1MF 5% 50V				
C211	1-124-791-11	ELECT	1MF 20% 50V				
C212	1-161-772-11	CERAMIC	0.1MF 10% 25V				
C213	1-126-233-11	ELECT	22MF 20% 50V				
C214	1-124-510-11	ELECT	220MF 20% 35V				
C215	1-124-557-11	ELECT	1000MF 20% 25V				
C216	1-124-479-11	ELECT	330MF 20% 25V				
C401	1-124-667-11	ELECT	10MF 20% 100V				
C402	1-136-153-00	FILM	0.01MF 5% 50V				
C403	1-129-702-00	FILM	0.001MF 10% 630V				
C404	1-136-065-00	FILM	0.0027MF 3% 2KV				
C405	1-104-491-11	FILM	0.0047MF 3% 2KV				
C406	1-136-079-00	FILM	0.01MF 3% 2KV				
C407	1-136-613-11	FILM	0.0068MF 3% 2KV				
C408	1-107-479-11	FILM	1.2MF 5% 100V				
C409	1-126-338-11	ELECT	47MF 20% 63V				
C410	1-136-125-00	FILM	0.68MF 5% 400V				
C411	1-107-481-11	FILM	0.18MF 5% 200V				
C412	1-107-482-11	FILM	2.7MF 5% 200V				
C414	1-162-115-00	CERAMIC	330PF 10% 1KV				
C415	1-136-060-00	FILM	0.047MF 5% 400V				
C416	1-161-772-11	CERAMIC	0.1MF 10% 25V				
C417	1-136-153-00	FILM	0.01MF 5% 50V				
C418	1-126-103-11	ELECT	470MF 20% 16V				
C419	1-104-711-51	ELECT	4.7MF 0 200V				
C420	1-136-209-11	FILM	0.1MF 10% 250V				
C421	1-104-712-51	ELECT	47MF 0 200V				
C422	1-162-978-11	CERAMIC	0.01MF 2KV				
C423	1-162-978-11	CERAMIC	0.01MF 2KV				
C424	1-126-326-51	ELECT	10MF 20% 250V				
C425	1-161-772-11	CERAMIC	0.1MF 10% 25V				
C426	1-126-163-11	ELECT	4.7MF 20% 50V				
C427	1-124-929-11	ELECT	22MF 20% 100V				
C432	1-162-978-11	CERAMIC	0.01MF 2KV				
C433	1-107-483-11	PP FILM	0.0018MF 2KV				
C434	1-136-541-11	FILM	1.5MF 5% 200V				
C437	1-136-613-11	FILM	0.0068MF 3% 2KV				
C438	1-107-480-11	FILM (S)	1.5MF 100V				
C439	1-136-969-11	FILM	0.27MF 200V				
C440	1-124-126-00	ELECT	47MF 20% 25V				

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"CAUTION : For Continued Protection Against Risk of Fire Replace Only With Littelfuse Inc. Fuse(F901), Type 218, Rated 250 V, 5A."

D

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
C441	1-124-126-00	ELECT	47MF 20% 25V	D902	8-719-311-16	DIODE EG01Y	
C442	1-124-126-00	ELECT	47MF 20% 25V	D904	8-719-302-43	DIODE EL1Z	
C443	1-126-101-11	ELECT	100MF 20% 16V	D905	8-719-039-93	DIODE AL01Z	
C444	1-161-772-11	CERAMIC	0.1MF 10% 25V	D906	8-719-039-93	DIODE AL01Z	
C701	1-162-978-11	CERAMIC	0.01MF 2KV	D922	8-719-301-64	DIODE RU4DS	
C702	1-162-116-00	CERAMIC	680PF 10% 2KV	D923	8-719-110-41	DIODE RD15ESB2	
C901	Δ 1-162-578-51	CERAMIC	0.0047MF 20% 400V	D924	8-719-302-06	DIODE EU2A	
C902	Δ 1-162-578-51	CERAMIC	0.0047MF 20% 400V	D925	8-719-302-21	DIODE EU2Z	
C903	Δ 1-136-567-51	FILM	0.47MF 20% 250V	D926	8-719-030-32	DIODE 5DL3CZ47A	
C904	Δ 1-136-567-51	FILM	0.47MF 20% 250V	D927	8-719-820-56	DIODE S5688B	
C908	1-125-541-11	ELECT(BLOCK)	470MF 20% 400V	D928	8-719-820-56	DIODE S5688B	
C909	1-130-818-61	FILM	0.047MF 10% 630V	D929	8-719-820-56	DIODE S5688B	
C910	1-162-116-00	CERAMIC	680PF 10% 2KV	D930	8-719-109-89	DIODE RD5.6ESB2	
C911	1-107-466-11	ELECT	180MF 20% 35V	D931	8-719-941-74	DIODE ERB91-02	
C912	1-102-074-00	CERAMIC	0.001MF 10% 50V	D932	8-719-039-94	DIODE AG01Y	
C914	1-126-163-11	ELECT	4.7MF 20% 50V				
C915	Δ 1-162-577-51	CERAMIC	0.0022MF 20% 400V				
C916	Δ 1-162-577-51	CERAMIC	0.0022MF 20% 400V				
C917	1-108-816-11	FILM	0.1MF 5% 50V				
C919	1-108-814-11	FILM	0.0068MF 5% 50V				
C922	1-162-558-11	CERAMIC	100PF 10% 2KV				
C923	1-104-500-11	ELECT	220MF 20% 250V				
C924	1-104-499-11	ELECT	100MF 20% 250V				
C925	1-124-562-11	ELECT	47MF 20% 160V				
C926	1-126-355-11	ELECT	33MF 20% 160V				
C927	1-126-105-11	ELECT	1000MF 20% 35V				
C928	1-126-104-11	ELECT	470MF 20% 35V				
C929	1-126-376-11	ELECT	470MF 20% 25V				
C930	1-108-816-11	MYLAR	0.1MF 5% 50V				
C931	1-126-541-11	ELECT	330MF 20% 16V				
C932	1-126-101-11	ELECT	100MF 20% 16V				
C933	1-104-615-91	ELECT	680MF 20% 16V				
C934	1-104-615-91	ELECT	680MF 20% 16V				
C935	1-126-541-11	ELECT	330MF 20% 16V				
C936	1-126-101-11	ELECT	100MF 20% 16V				
C937	1-126-355-11	ELECT	33MF 20% 160V				
		<DIODE>					
D201	8-719-820-58	DIODE ISS177					
D202	8-719-820-56	DIODE S5688B					
D203	8-719-109-89	DIODE RD5.6ESB2					
D204	8-719-820-58	DIODE ISS177					
D205	8-719-820-58	DIODE ISS177					
D206	8-719-820-56	DIODE S5688B					
D401	8-719-301-45	DIODE RK14					
D402	8-719-301-64	DIODE RU4DS					
D403	8-719-991-68	DIODE ESC011M-15					
D404	8-719-110-13	DIODE RD9.1ESB2					
D405	8-719-820-56	DIODE S5688B					
D406	8-719-110-13	DIODE RD9.1ESB2					
D407	8-719-030-43	DIODE 1R5GU41					
D408	8-719-030-43	DIODE 1R5GU41					
D409	8-719-312-11	DIODE RP1H					
D410	8-719-312-26	DIODE EG01					
D411	8-719-030-35	DIODE EU02ZV0					
D412	8-719-030-48	DIODE 1JH46-TPA3					
D413	8-719-110-13	DIODE RD9.1ESB2					
D414	8-719-030-48	DIODE 1JH46-TPA3					
D415	8-719-110-13	DIODE RD9.1ESB2					
D416	8-719-110-41	DIODE RD15ESB2					
D417	8-719-110-41	DIODE RD15ESB2					
D418	8-719-110-13	DIODE RD9.1ESB2					
D901	Δ 8-719-500-16	DIODE D5SB60					
		<FUSE>					
				F901	Δ 1-532-505-31	FUSE (T5A/250V)	
				FH901	*1-533-146-00	HOLDER, FUSE	
		<IC>					
				IC201	8-759-045-23	IC LA7838	
				IC401	8-719-820-63	IC TLP521-1GB	
				IC402	8-719-820-63	IC TLP521-1GB	
				IC403	8-719-820-63	IC TLP521-1GB	
				IC901	8-749-924-40	IC STR-S6525	
				IC922	8-749-921-86	IC SE140N	
				IC923	8-759-146-55	IC UPC2412HF	
				PH901	8-759-045-81	IC TLP732GR-LF2	
				PH902	8-759-045-81	IC TLP732GR-LF2	
		<RELAY>					
				K401	Δ 1-515-969-11	RELAY	
				K901	1-515-970-11	RELAY	
		<COIL>					
				L201	1-408-119-00	INDUCTOR 15UH	
				L402	1-407-493-00	INDUCTOR 1.2MMH	
				L403	1-402-718-11	COIL, CHOKE 70UH	
				L404	1-402-777-11	COIL, CHOKE 10MMH	
				L405	1-406-849-11	COIL, CHOKE	
				L406	1-402-726-11	COIL, HORIZONTAL LINEARITY(HLC)	
				L407	1-406-850-11	COIL, CHOKE	
				L408	1-410-397-21	FERRITE BEAD INDUCTOR	
				L409	1-410-397-21	FERRITE BEAD INDUCTOR	
				L410	1-410-397-21	FERRITE BEAD INDUCTOR	
				L412	1-410-397-21	FERRITE BEAD INDUCTOR	
				L413	1-410-397-21	FERRITE BEAD INDUCTOR	
				L414	1-410-397-21	FERRITE BEAD INDUCTOR	
				L901	Δ 1-424-333-11	COIL	
				L902	1-410-397-21	FERRITE BEAD INDUCTOR	
				L903	1-410-397-21	FERRITE BEAD INDUCTOR	
				L904	1-410-397-21	FERRITE BEAD INDUCTOR	
				L905	1-410-397-21	FERRITE BEAD INDUCTOR	
				L906	1-410-397-21	FERRITE BEAD INDUCTOR	
				L922	1-459-999-11	COIL, CHOKE 18UH	
				L923	1-408-119-00	INDUCTOR 15UH	
				L924	1-408-119-00	INDUCTOR 15UH	
				L926	1-410-397-21	FERRITE BEAD INDUCTOR	
				L927	1-410-397-21	FERRITE BEAD INDUCTOR	
				L928	1-410-397-21	FERRITE BEAD INDUCTOR	
				L929	1-459-998-11	COIL, CHOKE 150UH	

D

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
<CONNECTOR>				R403	1-215-895-11	METAL OXIDE 3.3K 5% 2W	F
P201	1-750-922-11	PIN, CONNECTOR 18P		R404	1-216-393-71	METAL OXIDE 2.2 5% 3W	F
P202	1-750-922-11	PIN, CONNECTOR 18P		R405	1-208-741-11	METAL OXIDE 1.2 10% 5W	F
P203	*1-691-959-11	PIN, CONNECTOR (PC BOARD) 4P		R406	1-247-696-11	CARBON 47 5% 1/4W	F
P401	*1-750-949-11	PIN, CONNECTOR 8P		R407	1-249-418-11	CARBON 1.2K 5% 1/4W	F
P901	*1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P		R409	1-217-397-51	FUSIBLE 68 5% 1/4W	F
P902	*1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P		R410	1-202-971-11	METAL GLAZE 220K 5% 1/4W	
P903	*1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P		R411	1-249-438-11	CARBON 56K 5% 1/4W	
P904	*1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P		R412	1-249-438-11	CARBON 56K 5% 1/4W	
P905	1-808-625-11	THERMISTOR, POWER		R413	1-249-413-11	CARBON 470 5% 1/4W	
P906	1-808-625-11	THERMISTOR, POWER		R414	1-249-491-11	CARBON 39K 5% 1/2W	F
P907	*1-506-611-11	PIN, CONNECTOR 8P		R415	1-249-441-11	CARBON 100K 5% 1/4W	
<TRANSISTOR>				R416	1-249-491-11	CARBON 39K 5% 1/2W	F
Q201	8-729-119-78	TRANSISTOR 2SC2785-HFE		R417	1-249-491-11	CARBON 39K 5% 1/2W	F
Q202	8-729-119-78	TRANSISTOR 2SC2785-HFE		R418	1-249-491-11	CARBON 39K 5% 1/2W	F
Q203	8-729-401-19	TRANSISTOR 2SD1264		R419	1-249-491-11	CARBON 39K 5% 1/2W	F
Q204	8-729-401-09	TRANSISTOR 2SB940		R420	1-217-383-51	FUSIBLE 4.7 5% 1/4W	F
Q401	8-729-012-56	TRANSISTOR 1RF710		R421	1-217-383-51	FUSIBLE 4.7 5% 1/4W	F
Q402	8-729-022-09	TRANSISTOR 2SD2356		R422	1-215-470-00	METAL 110K 1% 1/4W	
Q403	8-729-931-48	TRANSISTOR 1KF9630		R423	1-215-470-00	METAL 110K 1% 1/4W	
Q404	8-729-021-58	TRANSISTOR 2SK1766		R424	Δ 1-214-753-71	METAL 10K 1% 1/4W	
Q405	8-729-927-08	TRANSISTOR 1RF1840		R425	Δ 1-214-753-71	METAL 10K 1% 1/4W	
Q406	8-729-022-14	TRANSISTOR 2SK2132		R426	1-215-427-00	METAL 1.8K 1% 1/4W	
Q407	8-729-022-13	TRANSISTOR 2SK1416		R427	1-217-383-51	FUSIBLE 4.7 5% 1/4W	F
Q408	8-729-021-58	TRANSISTOR 2SK1766		R428	1-215-470-00	METAL 110K 1% 1/4W	
Q409	8-729-022-11	TRANSISTOR 2SD1264A		R429	1-215-445-00	METAL 10K 1% 1/4W	
Q410	8-729-022-10	TRANSISTOR 2SB940A		R430	1-249-418-11	CARBON 1.2K 5% 1/4W	F
Q411	8-729-022-11	TRANSISTOR 2SD1264A		R431	1-208-738-61	FUSIBLE 2.2K 5% 1/4W	F
Q412	8-729-022-10	TRANSISTOR 2SB940A		R432	1-249-433-11	CARBON 22K 5% 1/4W	F
Q413	8-729-119-78	TRANSISTOR 2SC2785-HFE		R433	1-217-432-11	FUSIBLE 6.8 5% 1/2W	F
Q701	8-729-022-06	TRANSISTOR 2SC4572		R434	1-215-923-71	METAL OXIDE 10K 3W	F
Q901	8-729-265-52	TRANSISTOR 2SC2655-Y		R435	1-215-923-71	METAL OXIDE 10K 3W	F
Q922	8-729-119-78	TRANSISTOR 2SC2785-HFE		R436	1-215-923-71	METAL OXIDE 10K 3W	F
<RESISTOR>				R438	1-249-441-11	CARBON 100K 5% 1/4W	F
R201	1-249-417-11	CARBON 1K 5% 1/4W		R439	1-208-737-51	FUSIBLE 2.2 5% 1/4W	F
R202	1-249-417-11	CARBON 1K 5% 1/4W		R440	1-217-379-51	FUSIBLE 2.2 5% 1/4W	F
R203	1-215-453-00	METAL 22K 1% 1/4W		R441	1-212-849-00	FUSIBLE 4.7 5% 1/4W	F
R204	1-249-439-11	CARBON 68K 5% 1/4W		R442	1-216-428-00	METAL OXIDE 180 5% 1W	F
R205	1-249-435-11	CARBON 33K 5% 1/4W		R443	1-249-418-11	CARBON 1.2K 5% 1/4W	
R206	1-249-440-11	CARBON 82K 5% 1/4W		R444	1-249-438-11	CARBON 56K 5% 1/4W	
R207	1-249-422-11	CARBON 2.7K 5% 1/4W		R445	1-249-438-11	CARBON 56K 5% 1/4W	
R208	1-216-370-71	METAL OXIDE 1.2 5% 2W	F	R446	1-249-413-11	CARBON 470 5% 1/4W	
R209	1-215-888-00	METAL OXIDE 220 5% 2W	F	R447	1-216-394-00	METAL OXIDE 2.7 5% 3W	F
R210	1-247-743-11	CARBON 220 5% 1/2W	F	R448	1-216-378-71	METAL OXIDE 5.6 5% 2W	F
R211	1-216-428-00	METAL OXIDE 180 5% 2W		R449	1-215-895-11	METAL OXIDE 3.3K 5% 2W	F
R212	1-212-865-00	FUSIBLE 22 5% 1/4W	F	R450	1-249-417-11	CARBON 1K 5% 1/4W	F
R213	1-217-383-51	FUSIBLE 4.7 5% 1/4W	F	R451	1-249-423-11	CARBON 3.3K 5% 1/4W	F
R215	1-249-405-11	CARBON 100 5% 1/4W		R701	1-216-353-00	METAL OXIDE 2.2 5% 1W	F
R216	1-249-425-11	CARBON 4.7K 5% 1/4W		R702	1-249-466-11	CARBON 56K 5% 1/4W	
R217	1-249-441-11	CARBON 100K 5% 1/4W		R703	1-217-383-51	FUSIBLE 4.7 5% 1/4W	F
R219	1-249-425-11	CARBON 4.7K 5% 1/4W		R704	1-249-405-11	CARBON 100 5% 1/4W	
R220	1-249-395-11	CARBON 15 5% 1/4W		R705	1-249-426-11	CARBON 5.6K 5% 1/4W	
R221	1-217-383-51	FUSIBLE 4.7 5% 1/4W	F	R706	1-249-466-11	CARBON 56K 5% 1/4W	
R222	1-249-429-11	CARBON 10K 5% 1/4W		R707	1-249-466-11	CARBON 56K 5% 1/4W	
R223	1-249-425-11	CARBON 4.7K 5% 1/4W		R708	1-249-466-11	CARBON 56K 5% 1/4W	
R224	1-247-743-11	CARBON 220 5% 1/4W	F	R901	1-208-739-51	METAL GLAZE 560K 5% 1/2W	
R401	1-208-736-51	FUSIBLE 220 5% 2W	F	R902	1-208-619-11	CEMENT (FUSE) 3.9 5% 5W	
R402	1-249-417-11	CARBON 1K 5% 1/4W		R903	1-208-735-11	CEMENT 3.9 5% 5W	
				R904	1-208-633-11	CEMENT WIREWOUND 51K 5% 5W	
				R906	1-208-740-51	METAL GLAZE 1.5M 5% 1/2W	F
				R907	1-216-442-00	METAL OXIDE 39K 5% 1W	F
				R908	1-216-442-00	METAL OXIDE 39K 5% 1W	F
				R909	1-217-637-00	FUSIBLE 1 5% 1/4W	F

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D **DA**

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R910	1-249-428-11	CARBON 8.2K 5% 1/4W	F	C110	1-163-038-00	CERAMIC CHIP 0.1MF	25V
R911	1-249-428-11	CARBON 8.2K 5% 1/4W	F	C111	1-163-038-00	CERAMIC CHIP 0.1MF	25V
R912	1-249-415-11	CARBON 680 5% 1/4W	F	C112	1-163-038-00	CERAMIC CHIP 0.1MF	25V
R913	1-208-732-11	CEMENT 0.1 5% 3W		C113	1-163-038-00	CERAMIC CHIP 0.1MF	25V
R914	1-247-726-11	CARBON 33K 5% 1/4W		C114	1-163-038-00	CERAMIC CHIP 0.1MF	25V
R915	1-247-713-11	CARBON 1K 5% 1/4W		C115	1-163-038-00	CERAMIC CHIP 0.1MF	25V
R916	1-247-717-11	CARBON 2.2K 5% 1/4W		C116	1-163-038-00	CERAMIC CHIP 0.1MF	25V
R917	1-247-715-11	CARBON 1.5K 5% 1/4W		C117	1-136-169-00	FILM 0.22MF	5% 50V
R918	1-247-713-11	CARBON 1K 5% 1/4W		C120	1-163-038-00	CERAMIC CHIP 0.1MF	25V
R922	1-217-494-51	FUSIBLE 120 5% 1W	F	C121	1-126-103-11	ELECT 470MF	20% 16V
R923	1-217-494-51	FUSIBLE 120 5% 1W	F	C123	1-135-076-21	TANTAL. CHIP 1MF	20% 35V
R924	1-212-934-00	FUSIBLE 1 5% 1/2W	F	C124	1-163-074-00	CERAMIC CHIP 0.033MF	50V
R925	1-214-769-00	METAL 47K 1% 1/4W		C125	1-163-074-00	CERAMIC CHIP 0.033MF	50V
R926	1-214-731-71	METAL 1.6K 1% 1/4W		C126	1-163-038-00	CERAMIC CHIP 0.1MF	25V
R927	1-202-967-51	FUSIBLE 0.1 10% 1/6W		C127	1-163-038-00	CERAMIC CHIP 0.1MF	25V
R928	1-249-435-11	CARBON 33K 5% 1/4W		C128	1-163-074-00	CERAMIC CHIP 0.033MF	50V
R929	1-202-967-51	FUSIBLE 0.1 10% 1/6W		C129	1-135-076-21	TANTAL. CHIP 1MF	20% 35V
R930	1-249-459-11	CARBON 12K 5% 1/4W		C130	1-163-074-00	CERAMIC CHIP 0.033MF	50V
R931	1-249-433-11	CARBON 22K 5% 1/4W	F	C131	1-163-038-00	CERAMIC CHIP 0.1MF	25V
R932	1-249-437-11	CARBON 47K 5% 1/4W		C132	1-104-329-91	CERAMIC CHIP 0.1MF	10% 50V
R933	1-247-704-11	CARBON 220 5% 1/4W		C133	1-163-038-00	CERAMIC CHIP 0.1MF	25V
R934	1-202-967-51	FUSIBLE 0.1 10% 1/6W		C134	1-104-329-91	CERAMIC CHIP 0.1MF	10% 50V
R935	1-217-469-51	FUSIBLE 1 5% 1W	F	C135	1-128-191-11	ELECT 1MF	20% 50V
R937	1-212-934-00	FUSIBLE 1 5% 1/2W	F	C136	1-135-076-21	TANTAL. CHIP 1MF	20% 35V
R938	1-249-427-11	CARBON 6.8K 5% 1/4W		C137	1-163-038-00	CERAMIC CHIP 0.1MF	25V
		<VARIABLE RESISTOR>		C138	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
RV401	1-237-515-21	RES. ADJ. CERMET 1K		C139	1-123-875-11	ELECT 10MF	20% 50V
		<SWITCH>		C140	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
SW901	1-571-433-12	SWITCH, PUSH (AC POWER)		C142	1-163-038-00	CERAMIC CHIP 0.1MF	25V
		<TRANSFORMER>		C143	1-124-122-11	ELECT 100MF	20% 25V
T401	1-423-344-11	TRANSFORMER, HORIZONTAL DRIVE		C144	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
T402	1-453-148-11	TRANSFORMER ASSY, FLYBACK		C145	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
T701	1-423-347-11	TRANSFORMER, DYNAMIC FOCUS(DFT)		C146	1-135-076-21	TANTAL. CHIP 1MF	20% 35V
T901	1-423-755-11	TRANSFORMER, SWITCH		C147	1-163-074-00	CERAMIC CHIP 0.033MF	50V
		<THERMISTOR>		C148	1-128-191-11	ELECT 1MF	20% 50V
TH901	1-808-059-32	THERMISTOR, POSITIVE		C149	1-104-329-91	CERAMIC CHIP 0.1MF	10% 50V
		<VARISTOR>		C150	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
VA901	1-808-201-21	VARISTOR		C151	1-163-038-00	CERAMIC CHIP 0.1MF	25V
		*****		C154	1-123-875-11	ELECT 10MF	20% 50V
A-1346-104-A	DA BOARD, COMPLETE	*****		C157	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V
		<CAPACITOR>		C158	1-126-233-11	ELECT 22MF	20% 25V
C101	1-124-757-51	ELECT 3300MF	20% 10V	C159	1-104-329-91	CERAMIC CHIP 0.1MF	10% 50V
C102	1-126-103-11	ELECT 470MF	20% 10V	C160	1-163-059-00	CERAMIC CHIP 0.01MF	10% 50V
C103	1-163-038-00	CERAMIC CHIP 0.1MF		C161	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C104	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C162	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C105	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C163	1-126-103-11	ELECT 470MF	20% 16V
C106	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	C164	1-124-126-00	ELECT 47MF	20% 25V
C107	1-163-038-00	CERAMIC CHIP 0.1MF		C165	1-164-182-11	CERAMIC CHIP 0.0033MF	10% 50V
C108	1-163-038-00	CERAMIC CHIP 0.1MF		C166	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C109	1-163-038-00	CERAMIC CHIP 0.1MF		C167	1-163-038-00	CERAMIC CHIP 0.1MF	25V
				C168	1-135-076-21	TANTAL. CHIP 1MF	20% 35V
				C169	1-163-205-00	CERAMIC CHIP 0.001MF	5% 50V
				C170	1-163-205-00	CERAMIC CHIP 0.001MF	5% 50V
				C171	1-163-205-00	CERAMIC CHIP 0.001MF	5% 50V
				C172	1-163-205-00	CERAMIC CHIP 0.001MF	5% 50V
				C173	1-135-076-21	TANTAL. CHIP 1MF	20% 35V
				C174	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
				C175	1-135-076-21	TANTAL. CHIP 1MF	20% 35V
				C176	1-163-205-00	CERAMIC CHIP 0.001MF	5% 50V
				C177	1-136-173-00	FILM 0.47MF	5% 50V
				C178	1-123-875-11	ELECT 10MF	20% 50V
				C179	1-126-163-11	ELECT 4.7MF	20% 50V
				C180	1-163-038-00	CERAMIC CHIP 0.1MF	25V

DA

- The components identified by Δ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

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

Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C181	1-136-173-00	FILM 0.47MF	5%	50V	IC110	8-759-008-67	IC MC14066BF
C182	1-163-125-00	CERAMIC CHIP 220PF	5%	50V	IC111	8-759-100-95	IC UPC324G2
C183	1-163-251-11	CERAMIC CHIP 100PF	5%	50V	IC112	8-749-923-87	IC PHC61-01
C184	1-124-509-51	ELECT 100MF	20%	35V	IC113	8-759-942-16	IC TEA2031A
C185	1-163-038-00	CERAMIC CHIP 0.1MF		25V	IC114	8-759-822-53	IC LA7856
C186	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V	IC115	8-759-193-58	IC UPC358G
C187	1-163-205-00	CERAMIC CHIP 0.001MF	5%	50V	IC116	8-759-092-68	IC TA78L20F-TE12L
C188	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V	IC117	8-759-100-95	IC UPC324G2
C189	1-163-038-00	CERAMIC CHIP 0.1MF		25V	IC118	8-759-193-58	IC UPC358G
C190	1-163-243-11	CERAMIC CHIP 47PF	5%	50V	IC119	8-759-701-79	IC NJM7812FA
C191	1-126-338-11	ELECT 47MF	20%	63V	<JACK>		
C192	1-135-076-21	TANTAL. CHIP 1MF	20%	35V	JC101	1-564-952-21	PIN, CONNECTOR 6P
C193	1-163-038-00	CERAMIC CHIP 0.1MF		25V	<COIL>		
C194	1-126-233-11	ELECT 22MF	20%	16V	L101	1-412-076-11	INDUCTOR CHIP 0UH
C195	1-163-263-11	CERAMIC CHIP 330PF	5%	50V	L102	1-412-419-12	INDUCTOR 100UH
C196	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	<CONNECTOR>		
C197	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V	P100	*1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P
C198	1-163-038-00	CERAMIC CHIP 0.1MF		25V	P101	*1-564-713-11	PIN, CONNECTOR (SMALL TYPE) 11P
<DIODE>				P102	*1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P	
D101	8-719-820-13	DIODE 1SS272		P104	*1-564-708-11	PIN, CONNECTOR (SMALL TYPE) 6P	
D102	8-719-800-76	DIODE 1SS226		P105	*1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P	
D103	8-719-106-44	DIODE RD9.1M-B2		P201	1-750-922-11	PIN, CONNECTOR 18P	
D104	8-719-800-76	DIODE 1SS226		P202	1-750-922-11	PIN, CONNECTOR 18P	
D105	8-719-800-76	DIODE 1SS226		<TRANSISTOR>			
D106	8-719-800-76	DIODE 1SS226		Q101	8-729-424-08	TRANSISTOR UN2111	
D107	8-719-820-13	DIODE 1SS272		Q102	8-729-421-22	TRANSISTOR UN2211	
D108	8-719-801-48	DIODE 1SS193		Q103	8-729-216-22	TRANSISTOR 2SA1162-G	
D109	8-719-800-76	DIODE 1SS226		Q104	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D110	8-719-800-76	DIODE 1SS226		Q105	8-729-424-08	TRANSISTOR UN2111	
D111	8-719-800-76	DIODE 1SS226		Q106	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D112	8-719-106-62	DIODE RD11M-B2		Q107	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D113	8-719-801-48	DIODE 1SS193		Q108	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D114	8-719-105-91	DIODE RD5.6M-B2		Q109	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D115	8-719-801-48	DIODE 1SS193		Q110	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D116	8-719-801-48	DIODE 1SS193		Q111	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D117	8-719-800-76	DIODE 1SS226		Q112	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D118	8-719-106-44	DIODE RD9.1M-B2		Q113	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D119	8-719-820-13	DIODE 1SS272		Q114	8-729-216-22	TRANSISTOR 2SA1162-G	
D120	8-719-800-76	DIODE 1SS226		Q115	8-729-421-22	TRANSISTOR UN2211	
D121	8-719-800-76	DIODE 1SS226		Q116	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D122	8-719-800-76	DIODE 1SS226		Q118	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D123	8-719-800-76	DIODE 1SS226		Q119	8-729-216-22	TRANSISTOR 2SA1162-G	
D124	8-719-800-76	DIODE 1SS226		Q120	8-729-216-22	TRANSISTOR 2SA1162-G	
D125	8-719-800-76	DIODE 1SS226		Q122	8-729-216-22	TRANSISTOR 2SA1162-G	
D126	8-719-800-76	DIODE 1SS226		Q123	8-729-402-87	TRANSISTOR XN2401	
D127	8-719-801-48	DIODE 1SS193		Q124	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
D128	8-719-801-48	DIODE 1SS193		Q125	8-729-141-72	TRANSISTOR 2SC3624-T2L1718	
D129	8-719-801-48	DIODE 1SS193		Q126	8-729-141-72	TRANSISTOR 2SC3624-T2L1718	
D130	8-719-801-48	DIODE 1SS193		Q127	8-729-216-22	TRANSISTOR 2SA1162-G	
D131	8-719-801-48	DIODE 1SS193		Q128	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
<IC>				Q129	8-729-216-22	TRANSISTOR 2SA1162-G	
IC101	Δ8-759-155-66	IC PMC23-01		Q130	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC102	8-759-150-61	IC UPC78L05T		Q131	8-729-216-22	TRANSISTOR 2SA1162-G	
IC103	8-759-150-61	IC UPC78L05T		Q132	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC104	8-759-062-93	IC M6M80041P		Q133	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC105	8-759-988-82	IC MB3773PF					
IC106	8-759-635-27	IC M62352GP					
IC107	8-759-100-95	IC UPC324G2					
IC108	8-759-008-67	IC MC14066BF					
IC109	8-759-100-95	IC UPC324G2					

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
Q134	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R159	1-216-045-00	METAL GLAZE 680 5%	1/10W
Q135	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R160	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
Q136	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R161	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
Q137	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R162	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q138	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R163	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
Q139	8-729-421-22	TRANSISTOR UN2211		R164	1-216-084-00	METAL GLAZE 30K 5%	1/10W
<RESISTOR>				R165	1-216-085-00	METAL GLAZE 33K 5%	1/10W
R101	1-216-174-00	METAL GLAZE 100 5%	1/8W	R166	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R102	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R167	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R103	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R168	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R104	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R169	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R105	1-216-041-00	METAL GLAZE 470 5%	1/10W	R170	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R106	1-216-041-00	METAL GLAZE 470 5%	1/10W	R171	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R107	1-216-041-00	METAL GLAZE 470 5%	1/10W	R172	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R108	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W	R173	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R109	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R174	1-216-085-00	METAL GLAZE 33K 5%	1/10W
R110	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R175	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R111	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R176	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R112	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R177	1-216-071-00	METAL GLAZE 8.2K 5%	1/10W
R113	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R178	1-216-121-00	METAL GLAZE 1M 5%	1/10W
R114	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R179	1-216-063-00	METAL GLAZE 3.9K 5%	1/10W
R115	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R180	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R116	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R181	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R117	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R182	1-216-133-00	METAL GLAZE 3.3M 5%	1/10W
R118	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R183	1-216-041-00	METAL GLAZE 470 5%	1/10W
R119	1-216-049-00	METAL GLAZE 1K 5%	1/10W	R185	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R120	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R186	1-216-109-00	METAL GLAZE 330K 5%	1/10W
R121	1-216-031-00	METAL GLAZE 180 5%	1/10W	R187	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R122	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R188	1-216-041-00	METAL GLAZE 470 5%	1/10W
R123	1-216-121-00	METAL GLAZE 1M 5%	1/10W	R189	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R124	1-216-067-00	METAL GLAZE 5.6K 5%	1/10W	R190	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R125	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R191	1-216-689-11	METAL CHIP 39K 0.50%	1/10W
R126	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R192	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R127	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R193	1-216-017-00	METAL GLAZE 47 5%	1/10W
R128	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R194	1-216-089-00	METAL GLAZE 47K 5%	1/10W
R129	1-216-073-00	METAL GLAZE 10K 5%	1/10W	R195	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R130	1-216-097-00	METAL GLAZE 100K 5%	1/10W	R196	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R131	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R197	1-216-033-00	METAL GLAZE 220 5%	1/10W
R132	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R198	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R133	1-216-089-00	METAL GLAZE 47K 5%	1/10W	R199	1-216-133-00	METAL GLAZE 3.3M 5%	1/10W
R134	1-216-089-00	METAL GLAZE 47K 5%	1/10W	RA101	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R135	1-216-089-00	METAL GLAZE 47K 5%	1/10W	RA102	1-216-665-11	METAL CHIP 3.9K 0.50%	1/10W
R136	1-216-089-00	METAL GLAZE 47K 5%	1/10W	RA103	1-216-101-00	METAL GLAZE 150K 5%	1/10W
R137	1-216-089-00	METAL GLAZE 47K 5%	1/10W	RA104	1-216-689-11	METAL CHIP 39K 0.50%	1/10W
R138	1-216-089-00	METAL GLAZE 47K 5%	1/10W	RA105	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R139	1-216-089-00	METAL GLAZE 47K 5%	1/10W	RA107	1-216-113-00	METAL GLAZE 470K 5%	1/10W
R140	1-216-089-00	METAL GLAZE 47K 5%	1/10W	RA108	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R141	1-216-073-00	METAL GLAZE 10K 5%	1/10W	RA109	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R143	1-216-025-00	METAL GLAZE 100 5%	1/10W	RA110	1-216-196-00	METAL GLAZE 820 5%	1/8W
R144	1-216-025-00	METAL GLAZE 100 5%	1/10W	RA111	1-216-117-00	METAL GLAZE 680K 5%	1/10W
R145	1-216-025-00	METAL GLAZE 100 5%	1/10W	RA112	1-216-101-00	METAL GLAZE 150K 5%	1/10W
R146	1-216-025-00	METAL GLAZE 100 5%	1/10W	RA113	1-216-095-00	METAL GLAZE 82K 5%	1/10W
R147	1-216-025-00	METAL GLAZE 100 5%	1/10W	RA114	1-216-107-00	METAL GLAZE 270K 5%	1/10W
R148	1-216-025-00	METAL GLAZE 100 5%	1/10W	RA115	1-216-119-00	METAL GLAZE 820K 5%	1/10W
R149	1-216-025-00	METAL GLAZE 100 5%	1/10W	RA116	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R150	1-216-025-00	METAL GLAZE 100 5%	1/10W	RA117	1-216-288-11	METAL GLAZE 5.6M 5%	1/8W
R151	1-216-041-00	METAL GLAZE 470 5%	1/10W	RA119	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R152	1-216-041-00	METAL GLAZE 470 5%	1/10W	RA120	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R153	1-216-041-00	METAL GLAZE 470 5%	1/10W	RA121	1-216-113-00	METAL GLAZE 470K 5%	1/10W
R155	1-216-049-00	METAL GLAZE 1K 5%	1/10W	RA122	1-216-101-00	METAL GLAZE 150K 5%	1/10W
R156	1-216-025-00	METAL GLAZE 100 5%	1/10W	RA126	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R157	1-216-045-00	METAL GLAZE 680 5%	1/10W	RA127	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R158	1-216-073-00	METAL GLAZE 10K 5%	1/10W	RA128	1-216-073-00	METAL GLAZE 10K 5%	1/10W

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REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
RA129	1-216-073-00	METAL GLAZE	10K 5% 1/10W	RA195	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
RA130	1-216-033-00	METAL GLAZE	220 5% 1/10W	RA196	1-216-073-00	METAL GLAZE	10K 5% 1/10W
RA131	1-218-764-11	METAL CHIP	330K 0.50% 1/10W	RA197	1-216-073-00	METAL GLAZE	10K 5% 1/10W
RA132	1-216-699-11	METAL CHIP	100K 0.50% 1/10W	RA198	1-216-001-00	METAL GLAZE	10 5% 1/10W
RA133	1-216-077-00	METAL GLAZE	15K 5% 1/10W	RA199	1-216-081-00	METAL GLAZE	22K 5% 1/10W
RA134	1-216-077-00	METAL GLAZE	15K 5% 1/10W	RB101	1-216-073-00	METAL GLAZE	10K 5% 1/10W
RA135	1-216-073-00	METAL GLAZE	10K 5% 1/10W	RB102	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
RA136	1-216-075-00	METAL GLAZE	12K 5% 1/10W	RB103	1-216-073-00	METAL GLAZE	10K 5% 1/10W
RA137	1-216-025-00	METAL GLAZE	100 5% 1/10W	RB104	1-216-033-00	METAL GLAZE	220 5% 1/10W
RA138	1-216-049-00	METAL GLAZE	1K 5% 1/10W	RB105	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
RA139	1-216-074-00	METAL GLAZE	11K 5% 1/10W	RB106	1-216-033-00	METAL GLAZE	220 5% 1/10W
RA140	1-216-077-00	METAL GLAZE	15K 5% 1/10W	RB107	1-216-051-00	METAL GLAZE	1.2K 5% 1/10W
RA142	1-216-089-00	METAL GLAZE	47K 5% 1/10W	RB108	1-216-025-00	METAL GLAZE	100 5% 1/10W
RA143	1-216-073-00	METAL GLAZE	10K 5% 1/10W	RB109	1-216-045-00	METAL GLAZE	680 5% 1/10W
RA144	1-216-073-00	METAL GLAZE	10K 5% 1/10W	RB110	1-216-049-00	METAL GLAZE	1K 5% 1/10W
RA145	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	RB111	1-216-099-00	METAL GLAZE	120K 5% 1/10W
RA146	1-216-075-00	METAL GLAZE	12K 5% 1/10W	RB114	1-216-073-00	METAL GLAZE	10K 5% 1/10W
RA147	1-216-089-00	METAL GLAZE	47K 5% 1/10W	RB115	1-216-073-00	METAL GLAZE	10K 5% 1/10W
RA148	1-216-081-00	METAL GLAZE	22K 5% 1/10W	RB116	1-216-073-00	METAL GLAZE	10K 5% 1/10W
RA149	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	RB117	1-216-073-00	METAL GLAZE	10K 5% 1/10W
RA150	1-216-089-00	METAL GLAZE	47K 5% 1/10W	RB118	1-216-073-00	METAL GLAZE	10K 5% 1/10W
RA151	1-216-083-00	METAL GLAZE	27K 5% 1/10W	RB119	1-216-073-00	METAL GLAZE	10K 5% 1/10W
RA152	1-216-093-00	METAL GLAZE	68K 5% 1/10W	RB121	1-216-208-00	METAL GLAZE	2.7K 5% 1/8W
RA154	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	RB123	1-216-208-00	METAL GLAZE	2.7K 5% 1/8W
RA155	1-216-079-00	METAL GLAZE	18K 5% 1/10W	RB125	1-216-208-00	METAL GLAZE	2.7K 5% 1/8W
RA156	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	RB127	1-216-208-00	METAL GLAZE	2.7K 5% 1/8W
RA157	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	RB129	1-216-208-00	METAL GLAZE	2.7K 5% 1/8W
RA158	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	RB131	1-216-097-00	METAL GLAZE	100K 5% 1/10W
RA159	1-216-049-00	METAL GLAZE	1K 5% 1/10W	RB133	1-216-097-00	METAL GLAZE	100K 5% 1/10W
RA160	1-216-085-00	METAL GLAZE	33K 5% 1/10W	RB134	1-216-081-00	METAL GLAZE	22K 5% 1/10W
RA161	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	RB135	1-216-125-00	METAL GLAZE	1.5M 5% 1/10W
RA162	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	RB136	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
RA163	1-216-089-00	METAL GLAZE	47K 5% 1/10W	RB137	1-216-097-00	METAL GLAZE	100K 5% 1/10W
RA164	1-216-079-00	METAL GLAZE	18K 5% 1/10W	RB138	1-216-025-00	METAL GLAZE	100 5% 1/10W
RA165	1-216-073-00	METAL GLAZE	10K 5% 1/10W	RB139	1-216-074-00	METAL GLAZE	11K 5% 1/10W
RA166	1-216-097-00	METAL GLAZE	100K 5% 1/10W	RB140	1-216-125-00	METAL GLAZE	1.5M 5% 1/10W
RA167	1-216-089-00	METAL GLAZE	47K 5% 1/10W	RB141	1-216-129-00	METAL GLAZE	2.2M 5% 1/10W
RA168	1-216-083-00	METAL GLAZE	27K 5% 1/10W	RB143	1-216-118-00	METAL GLAZE	750K 5% 1/10W
RA169	1-216-106-00	METAL GLAZE	240K 5% 1/10W	RB145	1-216-091-00	METAL GLAZE	56K 5% 1/10W
RA170	1-216-103-00	METAL GLAZE	180K 5% 1/10W	RB146	1-216-049-00	METAL GLAZE	1K 5% 1/10W
RA171	1-216-689-11	METAL GLAZE	39K 5% 1/10W	RB147	1-216-049-00	METAL GLAZE	1K 5% 1/10W
RA172	1-216-049-00	METAL GLAZE	1K 5% 1/10W	RB148	1-216-121-00	METAL GLAZE	1M 5% 1/10W
RA173	1-216-101-00	METAL GLAZE	150K 5% 1/10W	RB149	1-216-025-00	METAL GLAZE	100 5% 1/10W
RA174	1-216-103-00	METAL GLAZE	180K 5% 1/10W	RB150	1-216-103-00	CHIP	180K 5% 1/10W
RA175	1-216-109-00	METAL GLAZE	330K 5% 1/10W	RB151	1-216-107-00	CHIP	270K 5% 1/10W
RA176	1-216-109-00	METAL GLAZE	330K 5% 1/10W	RB153	1-216-091-00	METAL GLAZE	56K 5% 1/10W
RA177	1-216-107-00	METAL GLAZE	270K 5% 1/10W	RB154	1-216-682-11	METAL CHIP	20K 0.5% 1/10W
RA178	1-216-107-00	METAL GLAZE	270K 5% 1/10W	RB155	1-216-085-00	CHIP	33K 5% 1/10W
RA179	1-216-097-00	METAL GLAZE	100K 5% 1/10W	RB156	1-216-097-00	CHIP	100K 5% 1/10W
RA180	1-216-101-00	METAL GLAZE	150K 5% 1/10W	RB157	1-216-091-00	CHIP	56K 5% 1/10W
RA181	1-216-105-00	METAL GLAZE	220K 5% 1/10W	RB158	1-216-105-00	CHIP	220K 5% 1/10W
RA182	1-216-097-00	METAL GLAZE	100K 5% 1/10W	RB159	1-216-113-00	CHIP	470K 5% 1/10W
RA183	1-216-097-00	METAL GLAZE	100K 5% 1/10W	RB160	1-216-105-00	CHIP	220K 5% 1/10W
RA184	1-216-101-00	METAL GLAZE	150K 5% 1/10W				
RA185	1-216-109-00	METAL GLAZE	330K 5% 1/10W				
RA186	1-216-097-00	METAL GLAZE	100K 5% 1/10W				
RA187	1-216-097-00	METAL GLAZE	100K 5% 1/10W				
RA188	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
RA189	1-216-099-00	METAL GLAZE	120K 5% 1/10W				
RA190	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
RA191	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
RA192	1-216-081-00	METAL GLAZE	22K 5% 1/10W				
RA193	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
RA194	1-216-025-00	METAL GLAZE	100 5% 1/10W				

H

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

Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK

	*1-645-541-11	H BOARD					

		<DIODE>					
D601	8-719-311-90	DIODE SEL1922D-C					
D602	8-719-311-90	DIODE SEL1922D-C					
D603	8-719-311-90	DIODE SEL1922D-C					
D604	8-719-311-90	DIODE SEL1922D-C					
D605	8-719-311-90	DIODE SEL1922D-C					
D606	8-719-304-37	DIODE SEL4414E-C					
		<CONNECTOR>					
P601	*1-564-709-11	PIN, CONNECTOR (SMALL TYPE) 7P					
P602	*1-564-708-11	PIN, CONNECTOR (SMALL TYPE) 6P					
		<RESISTOR>					
R601	1-249-417-11	CARBON 1K 5% 1/4W					
		<SWITCH>					
SW601	1-571-532-21	SWITCH, TACTIL					
SW602	1-571-532-21	SWITCH, TACTIL					
SW603	1-571-532-21	SWITCH, TACTIL					
SW604	1-571-532-21	SWITCH, TACTIL					
SW605	1-571-532-21	SWITCH, TACTIL					
SW606	1-571-532-21	SWITCH, TACTIL					

		MISCELLANEOUS					

	Δ 1-402-745-11	COIL, DEGAUSSING					
	1-452-032-00	MAGNET, DISK; 10MM ϕ					
	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ					
	Δ 1-526-954-11	INLET, AC					
	Δ 8-738-576-98	ITC (17FQ2-R5) (U/C & AEP MODEL)					
	Δ 8-738-578-87	ITC (17FQ2-R5S) (AUS MODEL)					

		ACCESSORIES & PACKING MATERIALS					

PART NO.	DESCRIPTION	REMARK					
Δ 1-534-827-14	CORD, POWER (7.0A/125V) (U/C MODEL)						
Δ 1-558-481-11	CORD, POWER (10A/250V) (AUS MODEL)						
Δ 1-690-447-11	CORD, SET (10A/250V) (AEP MODEL)						
3-755-833-11	MANUAL, INSTRUCTION (AEP & AUS MODEL)						
3-755-833-21	MANUAL, INSTRUCTION (U/C MODEL)						
*4-033-925-01	SPACER						
*4-036-036-01	CUSHION (UPPER) (ASSY)						
*4-036-037-01	CUSHION (LOWER) (ASSY)						
4-038-508-01	TEMPLATE, CONTROL						
*4-377-015-01	BAG, PROTECTION						