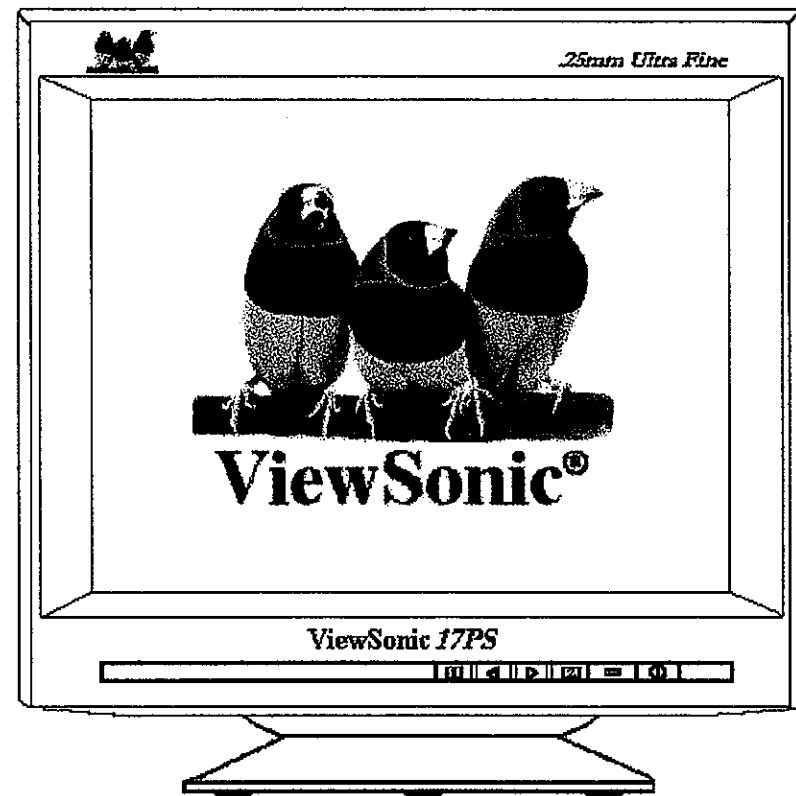


Service Manual

ViewSonic 17PS-2
Model No. 1786PS-M/-E/-A

***17" Digital Controlled Color Monitor
Professional Series***



(Rev. 1 - July 1996)

ViewSonic® 381 Brea Canyon Road, Walnut, California 91789 USA - (800) 888-8583

Copyright

Copyright © 1997 by ViewSonic Corporation. All rights reserved. No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language or computer language, in any form or by any means, electronic, mechanical, magnetic, optical, chemical, manual or otherwise, without the prior written permission of ViewSonic Corporation.

Disclaimer

ViewSonic makes no representations or warranties, either expressed or implied, with respect to the contents hereof and specifically disclaims any warranty of merchantability or fitness for any particular purpose. Further, ViewSonic reserves the right to revise this publication and to make changes from time to time in the contents hereof without obligation of ViewSonic to notify any person of such revision or changes.

Trademarks

*ViewSonic is a registered trademark of ViewSonic Corporation.
All other trademarks used within this document are the property of their respective owners.*

CONTENTS

Service Warning	1
Safety Precautions.....	2
General Information	3
Specifications.....	3
Dimensions	13
Disassembly Instructions.....	15
Control Location.....	18
Caution For Adjustment And Repair.....	19
Caution For Servicing.....	19
Adjustment And Check Procedure.....	20
Adjustment Software	22
Service Adjustment Control Location	23
Required Adjustment Procedure After a Part is Replaced	24
Adjustment Procedure	25
Block Diagram.....	34
Conductor View	42
Schematic Diagram	45
Troubleshooting Tips.....	56
Exploded View	62
Replacement Parts List.....	63

!WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.

It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.

Products powered by electricity should be serviced or repaired only by experienced professional technicians.

Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

SAFETY PRECAUTIONS

1 CAUTION:

No modification of any circuit should be attempted. Service work should only be performed after you are thoroughly familiar with all of the following safety checks and servicing guide lines.

2 SAFETY CHECK

Care should be taken while servicing this CRT display because of the high voltage used in the deflection circuits. These voltages are exposed in such areas as the associated flyback and yoke circuits.

3 FIRE & SHOCK HAZARD

- 3-1 Insert an isolation transformer between the CRT display and AC power line before servicing the chassis.
 - 3-2 In servicing pay attention to original lead dress especially in the high voltage circuit. If a short circuit is found, replace all parts which have been overheated as a result of the short circuit.
 - 3-3 All the protective devices must be reinstalled per original design.
 - 3-4 Soldering must be inspected for possible cold solder joints, frayed leads, damaged insulation, solder splashes or sharp solder points. Be certain to remove all foreign material.

4 LEAKAGE CURRENT COLD CHECK

- 4-1 Unplug the AC cord and connect a jumper between the two prongs on the plug.
 - 4-2 Turn the CRT display power switch "on".
 - 4-3 Measure the resistance value with an ohmmeter between the jumpered AC plug and each exposed metallic part on the CRT display such as the metal frame, screwheads, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be 1.8 megohm minimum.

5 LEAKAGE CURRENT HOT CHECK

- 5-1 Plug the AC cord directly into the AC outlet. Do not use an isolation transformer during this check.
 - 5-2 Connect a 1500 ohm, 10 watt resistor, paralleled by a $0.15\mu\text{F}$ capacitor between each exposed metallic part and a good earth ground (as shown in Fig.1).
 - 5-3 Use an AC voltmeter with 1000 ohm/volt or more sensitivity and measure the AC voltage across the combination 1500 ohm resistor and $0.15\mu\text{F}$ capacitor.
 - 5-4 Move the resistor connection to each exposed metallic part and measure the voltage.
 - 5-5 Reverse the polarity of the AC plug in the AC outlet and repeat the above measurement.
 - 5-6 Voltage measured must not exceed 7.5 volt RMS, from any exposed metallic part to ground. A leakage current tester may be used in the above hot check, in which case any current measured must not exceed 5.0 milliamp. In the case of a measurement exceeding the 5.0 milliamp value, a rework is required to eliminate the chance of a shock hazard.

Note: High voltage is present when this CRT display is operating. Always discharge the anode of the picture tube to the display chassis to prevent shock hazard.

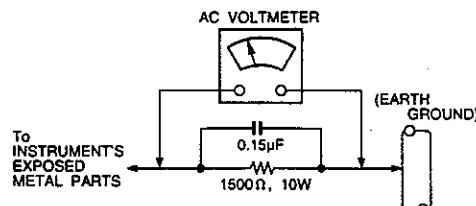


Fig.1

6 IMPLOSION PROTECTION

Picture tubes are equipped with an integral implosion protection system, but care should be taken to avoid damage and scratching during installation. Use only ViewSonic replacement picture tubes.

7 X-RADIATION

WARNING : The only potential source of X-Radiation is the picture tube. However when the high voltage circuitry is operating properly there is no possibility of X-Radiation problem. The basic precaution which must be exercised is to keep the high voltage at the following factory-recommended level.

Note: It is important to use an accurate periodically calibrated high voltage meter.

- 7-1 The procedure for adjustment high voltage is as shown on page 27.
 - 7-2 If can not be adjust 25.0 kV at immediate service is required to prevent the possibility of premature component failure.
 - 7-3 To prevent X-Radiation possibility it is essential to use the specified picture tube.

IMPORTANT SAFETY NOTICE

There are special components used in this CRT displays which are important for safety. These parts are identified by the international symbol  on the schematic diagram and on the replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent X-RADIATION, shock, fire or other hazards. Do not modify the original design or this will void the original parts and labor guarantee.

GENERAL INFORMATION

1. OUTLINE

1786PS is a 17 inch multi-scan color CRT display with the following features.

- Multi scan • Digital control • OSD (On Screen Display) control • Power saving • High contrast and fine dot pitch CRT

2. FEATURES

2-1 Power Saving

- Built in Power Saving function based on VESA-DPMS standard. Power energy shall be saved by controlling the circuit in accordance with power save signal from computer.

2-2 OSD (on screen display) function

- OSD (5 languages) is a man-machine interface. Any one is able to set up the picture as he like through OSD menu.

2-3 Self Test function

- With a touch of a button ([1]) the self-test function quickly identifies a "no signal condition." This time saving function simplifies diagnostics and prevents unnecessary service calls.

2-4 Ergonomic design

- Low emission design to meet MPR II
- ESF (Electro static field) free coating on CRT

2-5 Multi scan with digital technology

- 8 bit micro computer controls the circuit operation to meet with wide range signal of $f_u=30\text{--}86\text{kHz}$ and $f_v=50\text{--}160\text{ Hz}$. So VGA640x350, VGA640x400, VGA640x480, SVGA800x600, 1024x768 and 1280x1024 mode are applicable.

2-6 1 Factory preset, (+7 Reservation), 13 user memories.

- 1 standard modes are preset at the factory.
- 7 modes are reserved at the factory.
- 13 user memories are available to set the users own timing and display information.

2-7 Flat Face and fine dot pitch

- Flat face CRT with a fine dot pitch of 0.25 mm provides for comfortable viewing.

2-8 Superior display performance

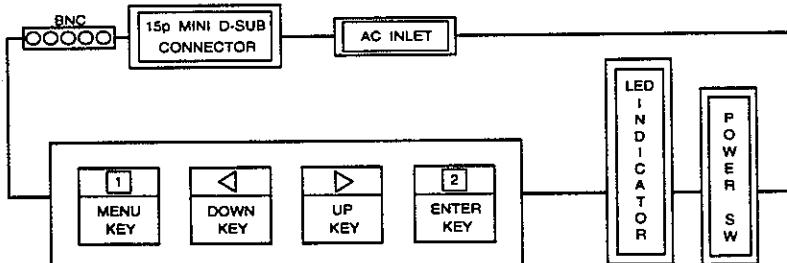
- Good focus by sophisticated gun and dynamic focus circuit
- High contrast
- Minimized distortion by correction circuit
- Good convergence
- Users enjoy full scan image for graphics

2-9 Additional function

- Moire reduction circuit
- Rotation control circuit
- VESA/DDC1 & DDC2B (Display Data Channel) Compatible

SPECIFICATION

1. DIAGRAM



1.1 POWER SW, LED, [1]-key (MENU), </>-key (DOWN), >/<-key (UP), and [2]-key (ENTER) are located on the front panel.

1.2 Signal connector and AC inlet are located on the back side of the cabinet.

1.3 OSD menu includes the following function.

CONTRAST	BRIGHTNESS	DEGAUSS
RECALL	H. POSITION	H. SIZE
V. POSITION	V. SIZE	V. PINCUSHION
TRAPEZOID	PARALLELOGRAM	ROTATION
COLOR SELECT	DISPLAY FREQUENCY	

VIDEO INPUT LEVEL VIDEO INPUT SELECT

H. MOIRE V. MOIRE LANGUAGES

※) CONTRAST can be directly controlled with </>-key.

※) VIDEO INPUT SELECT can be directly controlled by pushing [2]-key.

※) With sync signal, OSD menu appears by pushing [1]-key.

Without sync signal, self test menu appears by pushing [1]-key.

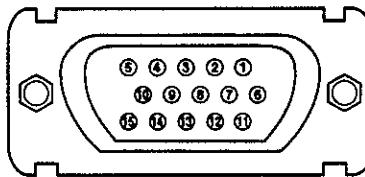
2. MECHANICAL SPECIFICATIONS

- refer to the attached drawing
- 2.1 Dimension Height : 416 mm (16.4") typ.
 Width : 410 mm (16.1") typ.
 Depth : 444 mm (17.5") typ.
- 2.2 Net Weight : 18.0 kg (39.5 lbs) typ.
- 2.3 Maximum Viewable Phosphor Display Area : 406.4 mm (16.0") typ.

3. CONNECTORS

- 3.1 Signal connector: 15P Mini D-Sub connector
 BNC CONNECTOR x 5
- 3.2 AC inlet: CEE 22 typed connector

<15P Mini D-Sub Pin assignment>



1 ... RED	6 ... GROUND	11 ... GROUND
2 ... GREEN	7 ... GROUND	12 ... SDA (DDC)
3 ... BLUE	8 ... GROUND	13 ... H. SYNC.
4 ... GROUND	9 ... - (OPEN)	14 ... V. SYNC.
5 ... GROUND (DCC)	10 ... GROUND	15 ... SCL (DDC)

4. CRT SPECIFICATIONS

Part No.	M41KXH147X
Type	17", 90°, 29°, in-line gun (16.0" Viewable)
Dot Pitch	0.25 mm
Phosphor	R, G, B Short Persistence (Hi-Eu RED)
CIE Color point	Red x: 0.635 (± 0.020) y: 0.333 (± 0.020) Green x: 0.280 (± 0.020) y: 0.595 (± 0.020) Blue x: 0.152 (± 0.015) y: 0.063 (± 0.015)
Bulb	DARK TINT
Face	NEW AGRAS COAT
Total Transmission	42.5 %

5. ELECTRICAL SPECIFICATIONS

5.1 Standard conditions ... Except special items

Display image	Green, full "H" characters with a border line. (7 x 9 dots) Video signal : 100% duty Display area : 300 mm x 225 mm
Video signal level	0.7 V pp
Contrast, Brightness	Contrast : Max., Brightness : center point
Ambient Temperature	20±5°C (68 ± 9°F)
Input Voltage	AC 120 V, 60 Hz or 220 V 50 Hz
Terrestrial magnetism	Vertical field : northern hemisphere field (40 μ T) (southern hemisphere field -40 μ T) Horizontal field : no field
Viewing direction	Parallel to the CRT axis
Measurements	After an initial warming up time of more than 30 minutes.
Ambient light	200±50 Ix
Display mode	1024 x 768 (60.02 kHz, 75.03 Hz)

5.2 POWER

5.2.1 Power supply ... Commercial power source

Input voltage	AC 90 - 132 V, AC 198 - 264 V
Power frequency	50 Hz ± 3 Hz, 60 Hz ± 3 Hz
Input current	2.0 A Max. (100V)
Inrush current (at 20°C)	40 A op Note: Cold Start
Power consumption	120 W (Typ.)

5.2.2 Power Management for Power Saving ...

Power saving system is designed based upon VESA DPMS standard (Version : 1.0)

1) Power consumption and recovery time.

*1 APM State	SIGNALS			MONITOR POWER CONSUMP- TION	RECOVERY TIME TO ON STATE	INDICATOR
	H. Sync	V. Sync	VIDEO			
ON	*3 NOR- MAL	*3 NOR- MAL	*2 ACTIVE	*4 100%	—	Green
STAND- BY	No Sync or *5 <6 kHz	> 40 Hz	BLANK	< 30 W	< 4s	Yellow
SUS- PEND	>10 kHz	No Sync or *5 <20 Hz	BLANK	< 30 W	< 4s	Yellow
OFF	No Sync or *5 <6 kHz	No Sync or *5 <20 Hz	BLANK	< 8 W	< 20s	Yellow

** The transition time from ON state to each APM state is 5 seconds minimum.

*1 : APM : Advanced Power Management.

*2 : Means. Condition of power consumption for ON state.

DISPLAY IMAGE : WHITE full "H" characters with a border line (7 X 9 dots).

*3 : NORMAL : See "7.4 ACCEPTABLE TIMING".

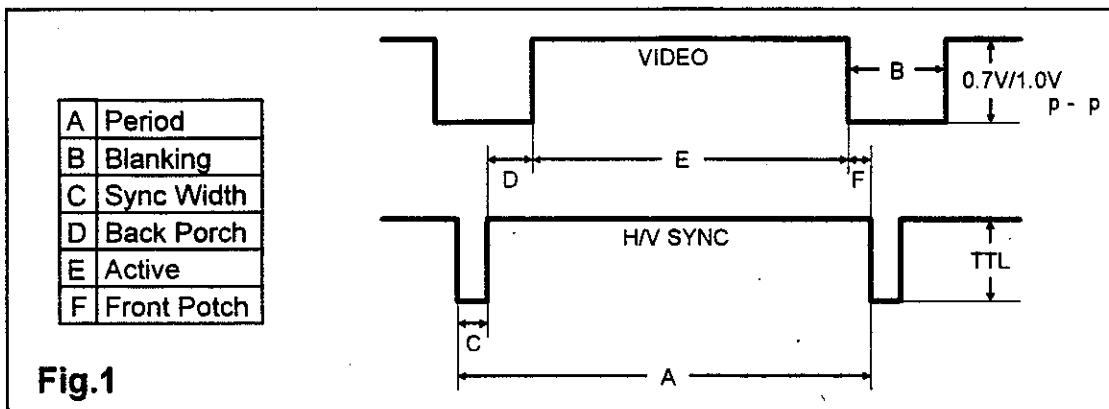
*4 : Power Consumption is measured at AC 100-240V.

*5 : Power saving operation is done at least less than specified value in the list.

5.3 Standard timing (Standard mode)

- Following 1 mode (7 modes) are preset (reserved) in the memory as standard timing at the factory.
- Fig-1 shows a definition of timing and signal level.
- Electrical performance is specified This SPECIFICATION is specified at STD (1024 x 768) mode unless otherwise mentioned. (MODE-1)

TIMING CHART



	PRESET	RESERVATION	RESERVATION
	MODE - 1	MODE - 2	MODE - 3
	1024 × 768 (75)	640 × 480 (60)	640 × 480 (75)
DOT CLOCK	78.7500 MHz	25.1745 MHz	31.5000 MHz
f H	60.0229 kHz	31.4681 kHz	37.5000 kHz
A - PERIOD	16.660 µs (1,312 dots)	31.778 µs (800 dots)	26.667 µs (840 dots)
B - BLANKING TIME	3.657 µs (288 dots)	6.356 µs (160 dots)	6.349 µs (200 dots)
H C - SYNC WIDTH	1.219 µs (96 dots)	3.813 µs (96 dots)	2.032 µs (64 dots)
D - BACK PORCH	2.235 µs (176 dots)	1.907 µs (48 dots)	3.810 µs (120 dots)
E - ACTIVE TIME	13.003 µs (1,024 dots)	25.423 µs (640 dots)	20.317 µs (640 dots)
F - FRONT PORCH	0.203 µs (16 dots)	0.636 µs (16 dots)	0.508 µs (16 dots)
f V	75.0286 Hz	59.9393 Hz	75.0000 Hz
A - PERIOD	13.328 ms (800 lines)	16.684 ms (525 lines)	13.333 ms (500 lines)
B - BLANKING TIME	0.533 ms (32 lines)	1.430 ms (45 lines)	0.533 ms (20 lines)
V C - SYNC WIDTH	0.050 ms (3 lines)	0.064 ms (2 lines)	0.080 ms (3 lines)
D - BACK PORCH	0.466 ms (28 lines)	1.049 ms (33 lines)	0.427 ms (16 lines)
E - ACTIVE TIME	12.795 ms (768 lines)	15.254 ms (480 lines)	12.800 ms (480 lines)
F - FRONT PORCH	0.017 ms (1 lines)	0.318 ms (10 lines)	0.027 ms (1 lines)
SYNC POLARITY(H/V)	Positive / Positive	Negative / Negative	Negative / Negative

FOR PRESET	RESERVATION	RESERVATION	RESERVATION
	MODE - 4	MODE - 5	MODE - 6
	800 × 600 (75)	MAC 832 × 624	1024 × 768 (70)
DOT CLOCK	49.5000 MHz	57.2832 MHz	75.0000 MHz
f H	46.8750 kHz	49.7250 kHz	56.4759 kHz
A - PERIOD	21.333 µs (1,056 dots)	20.111 µs (1,152 dots)	17.707 µs (1,328 dots)
B - BLANKING TIME	5.172 µs (256 dots)	5.586 µs (320 dots)	4.053 µs (304 dots)
H C - SYNC WIDTH	1.616 µs (80 dots)	1.117 µs (64 dots)	1.813 µs (136 dots)
D - BACK PORCH	3.232 µs (160 dots)	3.910 µs (224 dots)	1.920 µs (144 dots)
E - ACTIVE TIME	16.162 µs (800 dots)	14.524 µs (832 dots)	13.653 µs (1,024 dots)
F - FRONT PORCH	0.323 µs (16 dots)	0.559 µs (32 dots)	0.320 µs (24 dots)
f V	75.0000 Hz	74.5502 Hz	70.0694 Hz
A - PERIOD	13.333 ms (625 lines)	13.414 ms (667 lines)	14.272 ms (806 lines)
B - BLANKING TIME	0.533 ms (25 lines)	0.865 ms (43 lines)	0.673 ms (38 lines)
V C - SYNC WIDTH	0.064 ms (3 lines)	0.060 ms (3 lines)	0.106 ms (6 lines)
D - BACK PORCH	0.448 ms (21 lines)	0.784 ms (39 lines)	0.513 ms (29 lines)
E - ACTIVE TIME	12.800 ms (600 lines)	12.549 ms (624 lines)	13.599 ms (768 lines)
F - FRONT PORCH	0.021 ms (1 lines)	0.020 ms (1 lines)	0.053 ms (3 lines)
SYNC POLARITY(H/V)	Positive / Positive	Negative / Negative	Negative / Negative

RESERVATION		RESERVATION	
		MODE - 7	MODE - 8
		MAC 1024 × 768	1280 × 1024 (75)
DOT CLOCK		80.0000 MHz	135.0000 MHz
H	f H	60.2410 kHz	79.9763 kHz
	A - PERIOD	16.600 µs (1,328 dots)	12.504 µs (1,688 dots)
	B - BLANKING TIME	3.800 µs (304 dots)	3.022 µs (408 dots)
	C - SYNC WIDTH	1.200 µs (96 dots)	1.067 µs (144 dots)
	D - BACK PORCH	2.200 µs (176 dots)	1.837 µs (248 dots)
	E - ACTIVE TIME	12.800 µs (1,024 dots)	9.481 µs (1,280 dots)
V	F - FRONT PORCH	0.400 µs (32 dots)	0.119 µs (16 dots)
	f V	74.9266 Hz	75.0247 Hz
	A - PERIOD	13.346 ms (804 lines)	13.329 ms (1,066 lines)
	B - BLANKING TIME	0.598 ms (36 lines)	0.525 ms (42 lines)
	C - SYNC WIDTH	0.050 ms (3 lines)	0.038 ms (3 lines)
	D - BACK PORCH	0.498 ms (30 lines)	0.475 ms (38 lines)
	E - ACTIVE TIME	12.749 ms (768 lines)	12.804 ms (1,024 lines)
	F - FRONT PORCH	0.050 ms (3 lines)	0.013 ms (1 lines)
SYNC POLARITY(H/V)		Negative / Negative	Positive / Positive

ADJUSTMENT		ADJUSTMENT	ADJUSTMENT
		1	2
DOT CLOCK		22.6000 MHz	40.2479 MHz
H	f H	29.5039 kHz	38.9999 kHz
	A - PERIOD	33.894 µs (766 dots)	25.641 µs (1,032 dots)
	B - BLANKING TIME	6.018 µs (136 dots)	5.988 µs (241 dots)
	C - SYNC WIDTH	4.115 µs (93 dots)	2.832 µs (114 dots)
	D - BACK PORCH	1.283 µs (29 dots)	2.435 µs (98 dots)
	E - ACTIVE TIME	27.876 µs (630 dots)	19.653 µs (791 dots)
V	F - FRONT PORCH	0.619 µs (14 dots)	0.721 µs (29 dots)
	f V	48.0520 Hz	77.0749 Hz
	A - PERIOD	20.811 ms (614 lines)	12.974 ms (506 lines)
	B - BLANKING TIME	0.915 ms (27 lines)	0.744 ms (29 lines)
	C - SYNC WIDTH	0.102 ms (3 lines)	0.103 ms (4 lines)
	D - BACK PORCH	0.712 ms (21 lines)	0.513 ms (20 lines)
	E - ACTIVE TIME	19.896 ms (587 lines)	12.231 ms (477 lines)
	F - FRONT PORCH	0.102 ms (3 lines)	0.128 ms (5 lines)
SYNC POLARITY(H/V)		Negative / Negative	Negative / Negative

ADJUSTMENT		6
DOT CLOCK		190.9800 MHz
H	f H	86.0270 kHz
	A - PERIOD	11.624 µs (2,220 dots)
	B - BLANKING TIME	2.932 µs (560 dots)
	C - SYNC WIDTH	0.984 µs (188 dots)
	D - BACK PORCH	1.623 µs (310 dots)
	E - ACTIVE TIME	8.692 µs (1,660 dots)
V	F - FRONT PORCH	0.325 µs (62 dots)
	f V	165.1191 Hz
	A - PERIOD	6.056 ms (521 lines)
	B - BLANKING TIME	0.430 ms (37 lines)
	C - SYNC WIDTH	0.035 ms (3 lines)
	D - BACK PORCH	0.384 ms (33 lines)
	E - ACTIVE TIME	5.626 ms (484 lines)
	F - FRONT PORCH	0.012 ms (1 lines)
SYNC POLARITY(H/V)		Negative / Negative

5.4 Acceptable timing

- If your timing is within following specification, this CRT display can automatically function with a certain size and position.

Horizontal: Sync frequency: 30.0 ~ 86.0 kHz
 Blanking Time: $\geq 3.0 \mu\text{s}$
 Back Porch: $\geq 1.25 \mu\text{s}$
 Front Porch: \leq Back Porch
 Sync Width: $\geq 1.2 \mu\text{s}$

Vertical: Sync frequency: 50.0 ~ 160.0 Hz
 Blanking Time: $\geq 0.5 \text{ ms}$
 Back Porch: $\geq 0.4 \text{ ms}$
 Sync Width: $\geq 0.045 \text{ ms}$

- Several items like size, position and distortion can be adjusted through OSD menu, and if you want to keep it, please push the key [1] for memory, or keep the key untouched for about 20 seconds, it is automatically memorized.

NOTE : In case of RECALL, the key is untouched for about 30 seconds, RECALL function will be cancelled.

Please note, however, that there is the case you can not get the size and/or position you want,
 (for example, in case Display video Time is too short, you can't get bigger size of the image.)

- The CRT adopted in this CRT display is designed to minimize the moire phenomenon at suitable size for typical display modes. However, there might be a display format among many formats, in which the moire phenomenon appears on this display.

5.5 Signal level and input impedance

5.5.1 Video Signal level

- This CRT display is adjusted at the factory using 0.7V p-p Video Signal, Black level is 0V.
- This CRT display is compatible with 1.0V p-p Video Signal by using Video input level selection.

5.5.2 Sync Signal level

- H/V Separate, H/V Mixed : TTL level
- Sync on Green : 0.3 V p-p $\pm 0.015 \text{ V}$

5.5.3 Input impedance

- Video input: 75Ω
- Sync input: $\geq 1 \text{ k}\Omega$

5.6 Display performance

5.6.1 Display area

1) PRESET TIMING

MODE 1,

WIDTH : $300 \text{ mm} \pm 5 \text{ mm}$

HEIGHT : $225 \text{ mm} \pm 5 \text{ mm}$

5.6.2 Centering

1) PRESET TIMING (MODE1)

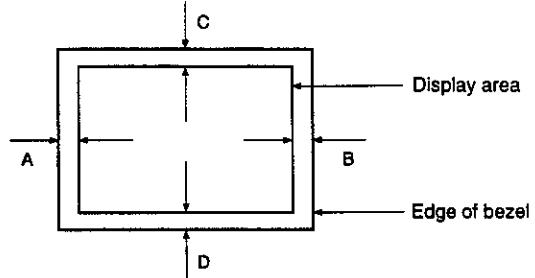
$|IA - BI| \leq 4 \text{ mm}$

$|IC - DI| \leq 4 \text{ mm}$

2) RESERVATION TIMING (MODE2~8)

$|IA - BI| \leq 7 \text{ mm}$

$|IC - DI| \leq 7 \text{ mm}$



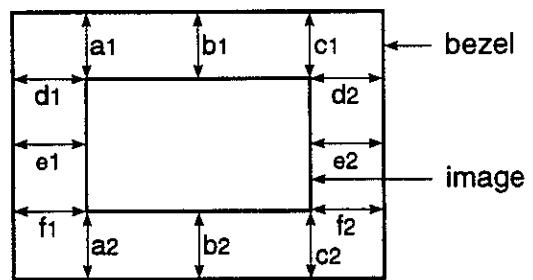
5.6.3 Distortion

$|la_1 - b_1|, |lb_1 - c_1|, |lc_1 - a_1| \leq 2 \text{ mm}$

$|la_2 - b_2|, |lb_2 - c_2|, |lc_2 - a_2| \leq 2 \text{ mm}$

$|ld_1 - e_1|, |le_1 - f_1|, |lf_1 - d_1| \leq 2 \text{ mm}$

$|ld_2 - e_2|, |le_2 - f_2|, |lf_2 - d_2| \leq 2 \text{ mm}$



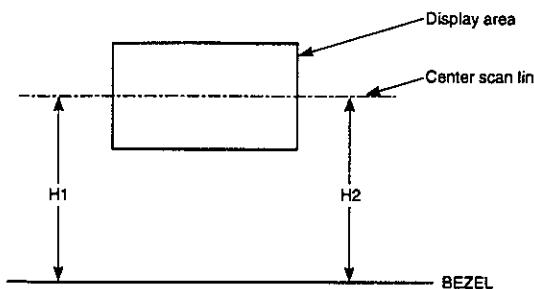
• Test condition: 7.1 Standard Condition

• Image Size: $300 \times 225 \text{ mm}$

• User control: AS Shipped

5.6.4 Rotation

$|H1 - H2| \leq 2.0 \text{ mm}$
 $\leq 0 \text{ mm} \text{ (after user adjustment)}$



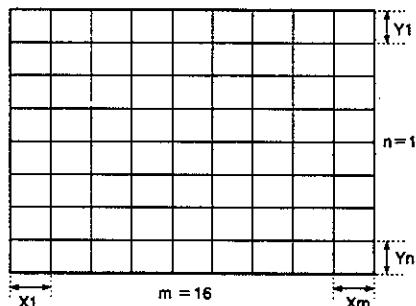
5.6.5 Linearity

Horizontal linearity

$$= \frac{X_{\max.} - X_{\min.}}{X_{\max.} + X_{\min.}} \times 100 \% \leq 6 \%$$

Vertical linearity

$$= \frac{Y_{\max.} - Y_{\min.}}{Y_{\max.} + Y_{\min.}} \times 100 \% \leq 5 \%$$



<Conditions>

Display image ----- crosshatch pattern
 Maximum and minimum values should not be adjacent to each other.

X max. is maximum value among $X_1 \sim X_m$
 X min. is minimum value among $X_1 \sim X_m$

Y max. is maximum value among $Y_1 \sim Y_n$
 Y min. is minimum value among $Y_1 \sim Y_n$

5.7 General performance

5.7.1 Video output

Bandwidth	135 MHz (Typ.)
-----------	----------------

5.7.2 Maximum luminance

Value	130 cd/m² (Typ.) for 5% white field at the center of the display area. 110 cd/m² (Typ.) for 100% white field at the center of the display area. Specified by 9300 K + 8 MPCD
Conditions	Display image : White full flat field Luminance : Max. (Contrast : Max.) (Brightness : Detent point)

5.7.3 Minimum luminance

Value	$\leq 26 \text{ cd/m}^2$ at the center of the display area. Specified by 9300 K + 8 MPCD
Conditions	Display image : White full flat field Luminance : Min. (Contrast : Min.) (Brightness : Detent point)

5.7.4 Brightness variation

Value	70 % (Min.) Variation = C/A X 100
Conditions	Display image : White full flat field Luminance : MAX (Contrast : MAX) (Brightness : Detent point) A ; Luminance at center position C ; Luminance at position of lowest brightness

5.7.5 Display area regulation

	Display area variation	Range of variation
Due to Luminance	within 3 mm	26~110 cd/m ² (white flat field)
Due to Power Supply	within 3 mm	AC : 90-132 V or 180-264 V
Due to Temperature	within 4 mm	0 - 40° C

5.7.6 Color Point

< Conditions >

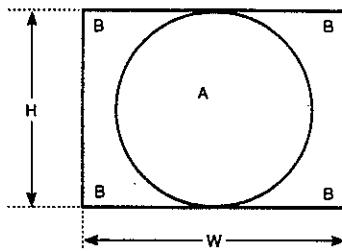
Display image : White flat field at the center of the display area.

Luminance : Brightness Detent point.

Contrast	max	min
Value	9300 K + 8 MPCD $x = 0.283 \pm 0.020$ $y = 0.298 \pm 0.020$	9300 K + 8 MPCD $x = 0.283 \pm 0.020$ $y = 0.298 \pm 0.020$

5.7.7 Misconvergence

Center area of display (A) : 0.3 mm (Max.)
Corner area of display (B) : 0.4 mm (Max.)



<Conditions>

Display image : Crosshatch pattern mixed with R, G and B colors.

Convergence gauge : KLEIN CM7AG or equivalent.

Display area : W x H .300 x 225 mm

5.7.8 Purity

Conspicuous mislanding shall not be visible within display area at a distance of 60cm from CRT surface.

<Conditions>

Display image : White flat field

Luminance : Contrast max, Brightness Detent point.

5.7.9 Jitter

Invisible at a distance of 60 cm from CRT surface.

6. ENVIRONMENTS

6.1 Ambient temperature, humidity and altitude

	Operating	Storage and shipment
Temperature	0 ~ 40° C ** (f _h = 30-65 kHz)	-20 ~ +60° C (-4 ~ 140° F)
Humidity	5 ~ 90 % *	5 ~ 90 % *
Altitude	3,000 m (Max.) (10,000 ft)	12,000 m (Max.) (40,000 ft)

* Non-condensation

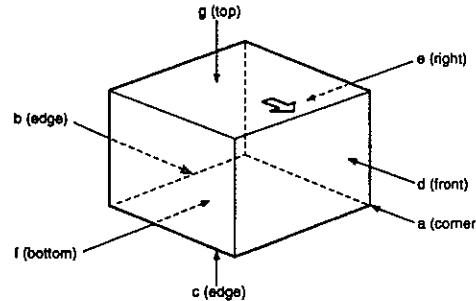
6.2 Vibration and shock

6.2.1 Vibration

	Order of tests	Direction of vibration		Acceleration		Frequency	Sweep	Test time		
				Non-operation	Storage and shipment					
Unpacked	1	Vertical	Up to down	2.9 m/s ² (0.3 G)		5 - 55 Hz	120 s	30 min.		
	2	Horizontal	Front to back					15 min.		
	3		Right to left							
Packed	1	Vertical	Up to down		12.3 m/s ² (1.25 G)	5 - 50 Hz	810 s Logsweep	40 min.		
	2	Horizontal	Front to back		7.4 m/s ² (0.75 G)					
	3		Right to left					20 min.		

6.2.2 Shock (Drop test)

Unpacked	20 G One time for each face (6 faces) (non-operation)			
Packed	Order of drop	Face to drop is to face the floor. (See the figure)	Height	Number of drop
	1	a, b, c, d, e, g	60 cm	1 time for each
	2	f	70 cm	



7. REGULATORY STANDARDS

7.1 Safety standards

Applicable standards

UL 1950, Listing

CSA 22.2 No. 950, Products Certification

TÜV (IEC-950)/GS (ZH1)

DHHS, 21 CFR subchapter J, X-Ray Radiation

PTB, X-Ray Radiation, Approval

HWC

NORDIC

Energy Star

7.2 EMC standards

Designed to meet following standards

VCC I class II

FCC: FCC part 15, subpart B, class-B

VDE 0878/06.83

Vfg 243/1991

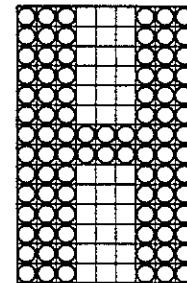
CISPR22 class B

MPR-II Radiation

TCO'92 Radiation

<EMI test pattern>

White, full "H" characters (9 x 14 dots), block (12 x 24 dots) "H" character font is as follows:



8. POWER CORD

- Northern Hemisphere Version ... UL/CSA approved power cord (North America and Japan) (Wall Type)
- European Version ... VDE approved power cord (PC Type)
- Australia, New Zealand Version ... None

9. SIGNAL CABLE

Signal cable with Mini D-Sub 15P connectors at both end is put in package.

Length : 1.5 meter (4.93 feet)

10. RELIABILITY

>55.000hrs (demonstrated MTBF)

11. COLOR CRT DEFECTIVE STANDARD

11.1 Specification of screen blemishes

This instruction is applied to inspection of the screen faults and of the glass quality of the faceplate.

11.2 Test procedure

11.2.1 Tests are to be done under the following two conditions:

- (a) With a blanked white raster at $80 \mu\text{A}$.
- (b) With incident light (white light of 700 - 1000 lux at the center of the screen; tube is not operated).

11.2.2 Viewing distance should be 60 cm minimum. Faults not visible at this viewing distance are permitted.

11.2.3 The Following quality areas are specified:

Zone A: Rectangular area (sides X and Y) of which the point of intersection of the diagonals coincides with the mechanical center of the screen.

11.3 Permissible limit

11.3.1 Screen faults

Missing phosphor dots, black spots, filled mask holes and copper stains

Size of defects			Max. permissible number	Min. permissible distance between defects	Max. permissible number in circle of $\phi 50 \text{ mm}$
Entire defects	A	A1	3 adjacent trios or more	0	—
		A2	3 adjacent same color dots or more	0	
		A3	More than 6 adjacent dots	0	
	B	B1	2 adjacent trio	0	—
		B2	4 or 5 adjacent dots	0	
		B3	2 adjacent same color dots	1	
	C	C1	1 trio	1	20 mm
		C2	2 adjacent different color dots	2	
		C3	1 dot	7	
B + C			—	20 mm	—
Partial defects	D	Partial defects	—	—	5
Total pieces of defects excluding partial defects			7	—	—

— Entire defects having separation less than min. permissible distance are defined as an adjacent defects.

— Defects of remaining part more than 75% is ignored, except for concentration having diameter more than $\phi 8 \text{ mm}$.

Zone B: The remaining screen area except zone A.

Specified zone is applied to glass faceplate defects.

	Screen size	
	X	Y
Zone A	320mm (12.6")	240mm (9.45")

11.2.4 Remarks concerning faults:

a) Unless otherwise specified, the size of a fault is the smallest value found with one of the two formulas:

$$\frac{a+b}{a} \cdot \frac{a}{20} + 2b \quad (a = \text{length}, b = \text{width})$$

b) For entirely or partially missing and/or non-fluorescent phosphor dots hold the following definitions:

Entire defect: Remaining part is not more than 50% of the complete dot.

Partial defect: Remaining part is between 50% and 75% of the complete dot.

11.3.2 Glass faceplate defects

(A) Air bubbles, open bubbles, stones and elongated air bubbles.

	Area	Zone A	Zone B
Permissible major defects	Air Bubble. (average dia.)	0.51 – 0.70 mm	0.51 – 0.70 mm
	Spot and open air bubble (average dia.)	0.41 – 0.60 mm	0.41 – 0.60 mm
	Maximum Permissible number	Each zone	1
		Total	2
Minimum allowable distance among defects		57 mm	
Permissible defects within any 50 mm-dia.-circle	Air Bubble. (average dia.)	0.25 – 0.50 mm	
	Spot and open air bubble (average dia.)	0.20 – 0.40 mm	
	Max. permissible number	2	
	△ Minimum allowable distance among defects	12.7 mm	
△△ Elongated air bubble (permissible size)		Width	0.10 – 0.20 mm
		Length	4.0mm
		0.10 – 0.30 mm	
		6.0 mm	

△ This is also applied to the distance to major defects.

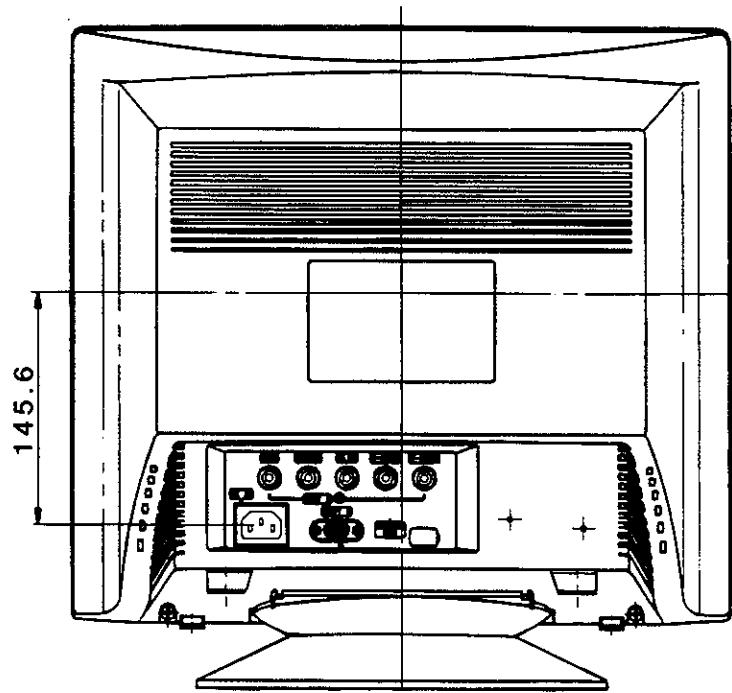
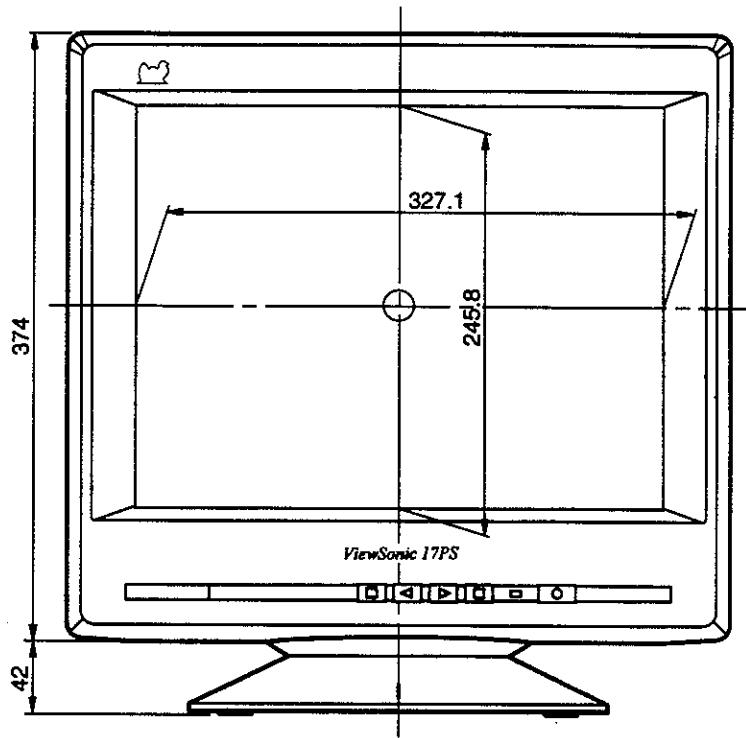
△△ This should be evaluated by its average diameter, and then relevant standards of air bubble are applied except number of defects for each zone, minimum distance among defects and maximum limit of average diameter.

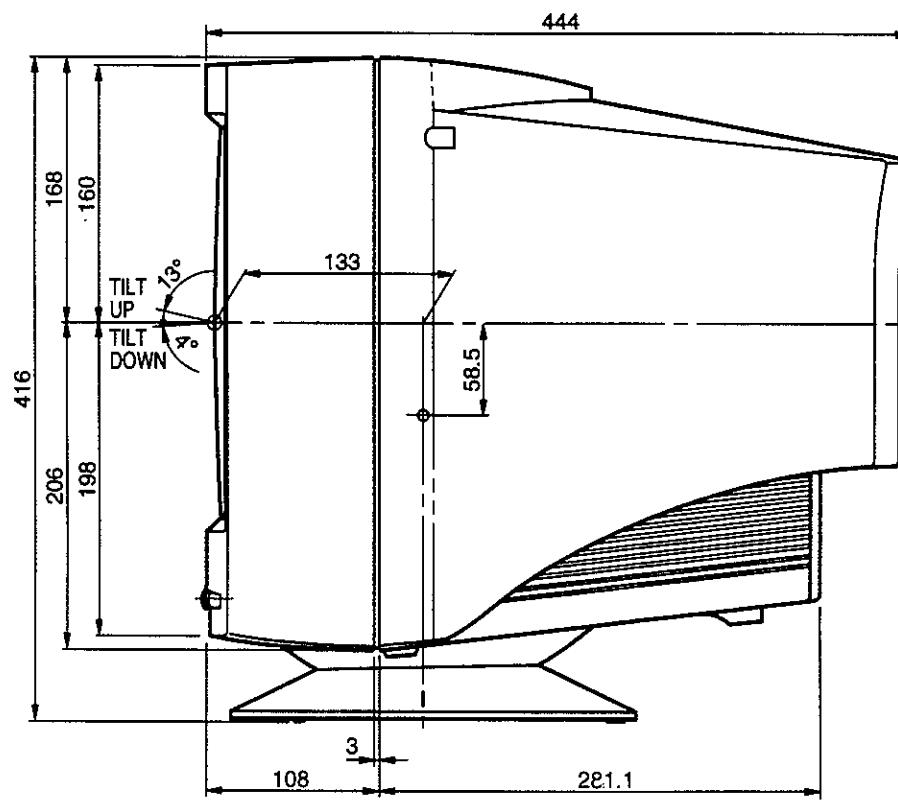
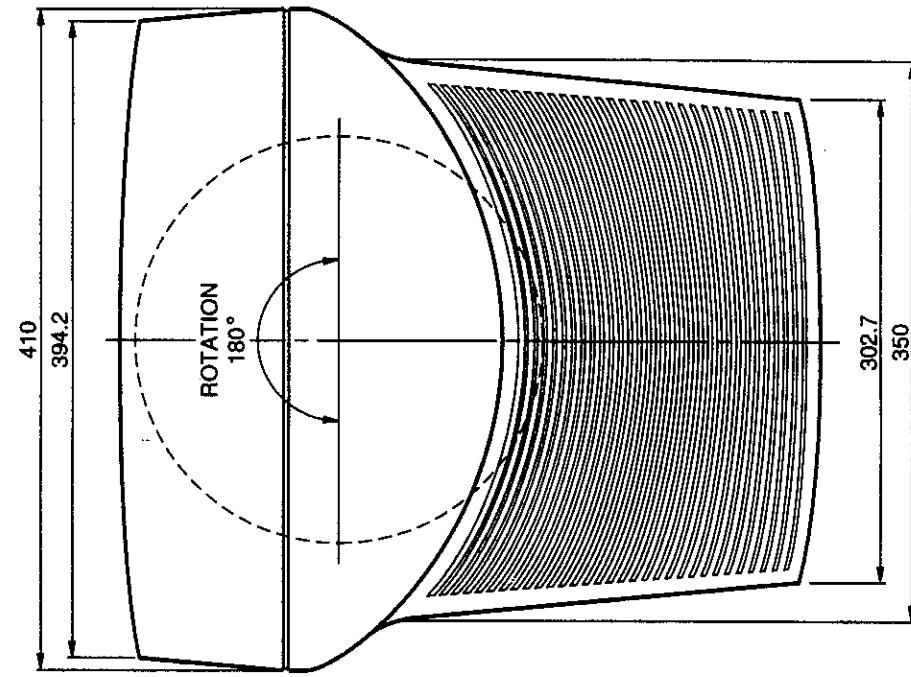
(B) Scratches

Width (mm)	Maximum allowable length (mm)
< 0.05	permitted
0.05 - 0.10	25.4
0.11 - 0.15	12.7
> 0.15	rejected

(C) Other defects not stated above such as chips, cracks, bruises, shear marks, clouds and polished patterns are not allowed when they substantially spoil appearance, viewed from the viewing distance.

DIMENSIONS



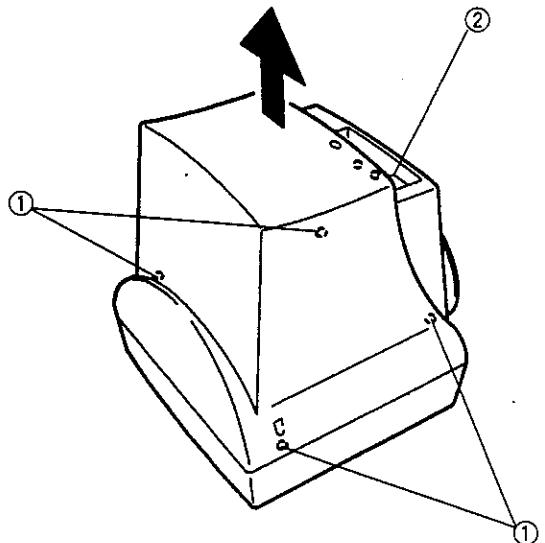
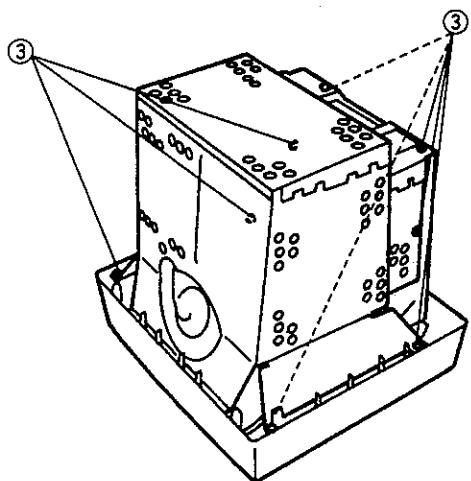


DISASSEMBLY INSTRUCTIONS

1. Rear cover removal

Note: Spread a mat underneath to avoid damaging the CRT surface.

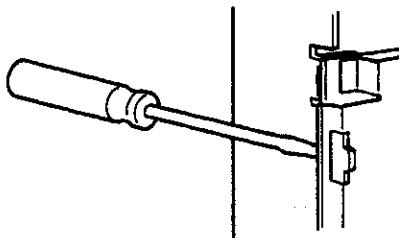
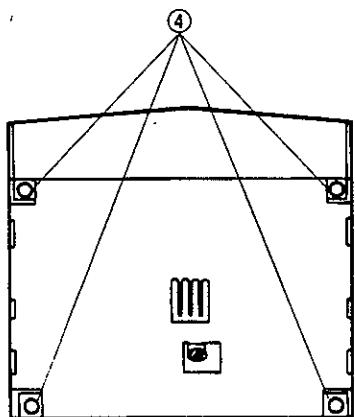
- 1) Remove four large screws ① and small screw ② from the rear cover.
- 2) Remove the cover.
- 3) Remove eight screws ③ from the shield case.
- 4) Remove the shield case.



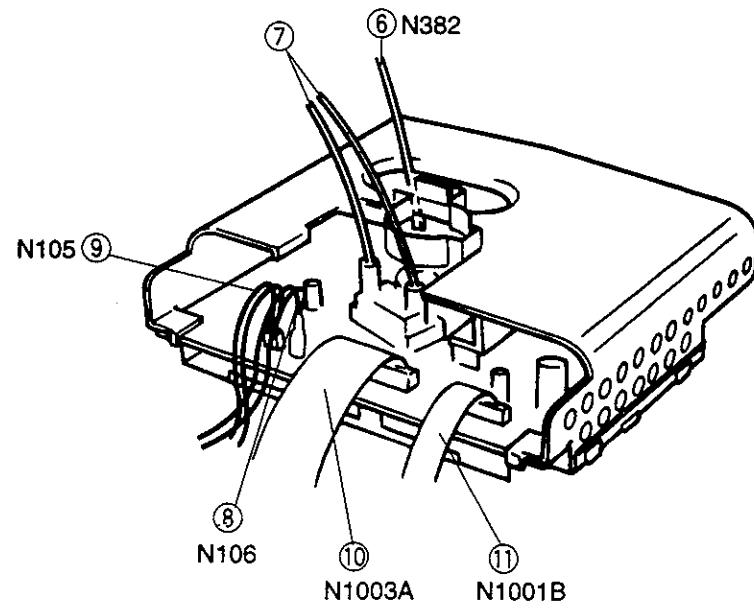
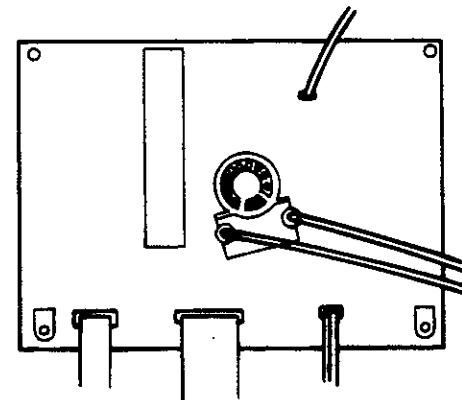
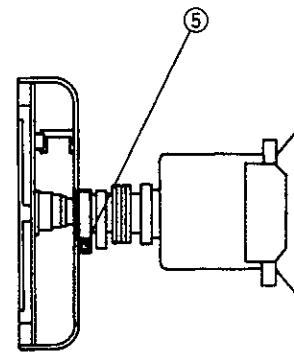
2. Video PCB removal

- 1) Remove four screws ④ securing the shield cover.
- 2) Desolder (B) and Remove the shield cover (A).

(A)

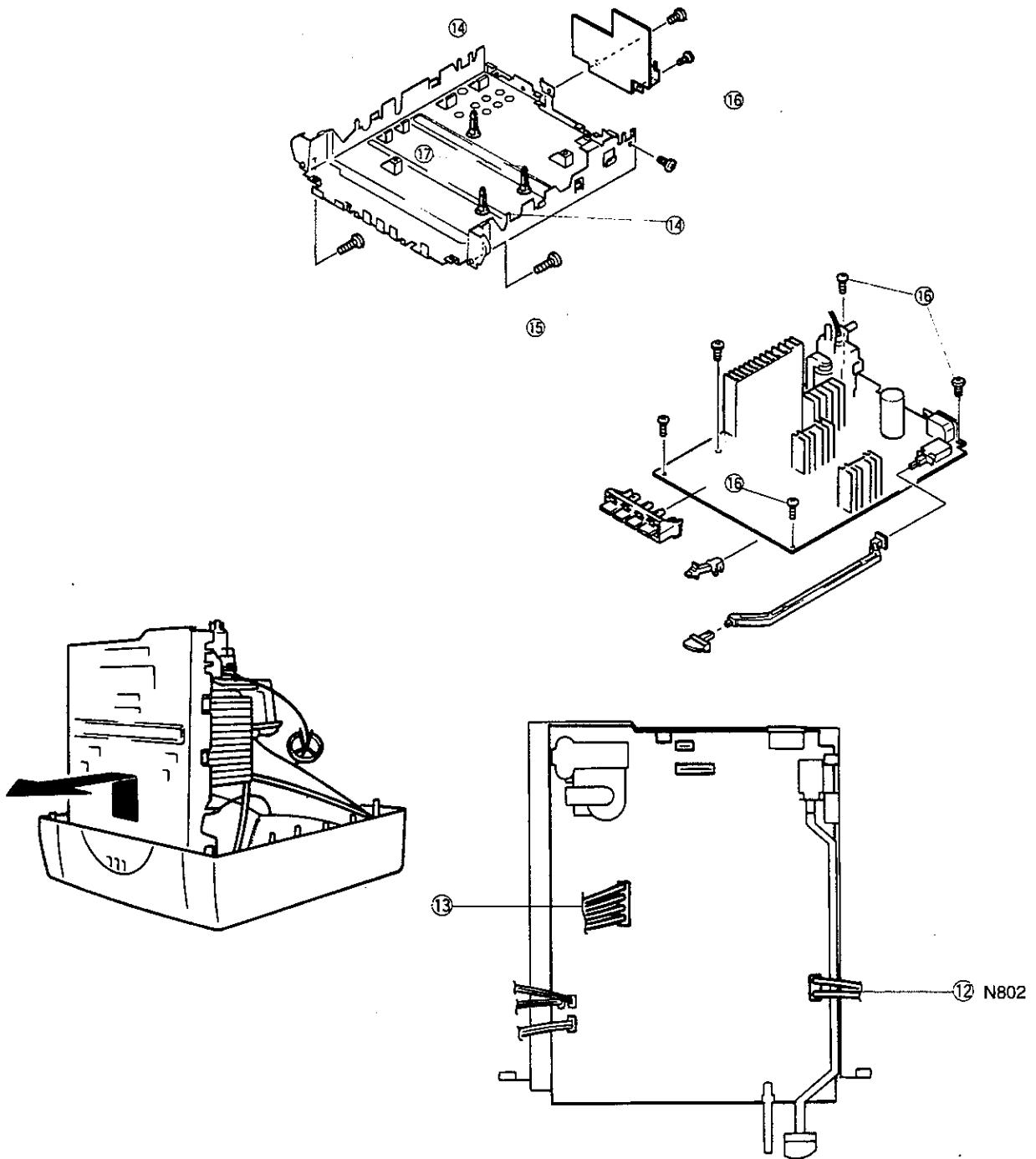


- 3) Loosen the screw ⑤ securing the CRT neck and the shield case.
- 4) Remove the PCB block from the CRT.
- 5) Remove the N382 connector ⑥.
- 6) Remove two focus leads ⑦.
- 7) Remove ground connector ⑧ (N106) connected to the PCB.
- 8) Remove N105 connector ⑨.
- 9) Remove N1003A connector ⑩.
- 10) Remove N1001B connector ⑪.
- 11) Remove the PCB from the shield case.



3. Main PCB Removal

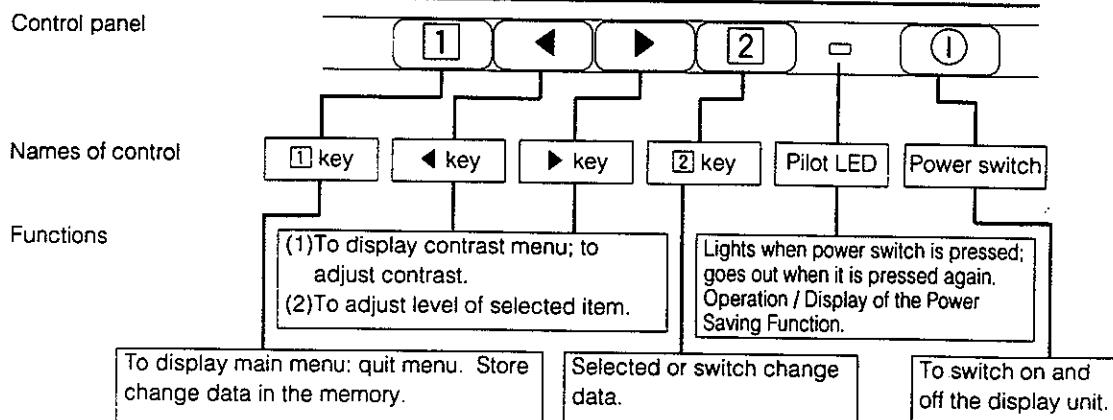
- 1) Remove the connector ⑫ (N802) of the degauss coil.
- 2) Remove the DY connector ⑬.
- 3) Remove the anode cap.
- 4) Remove two ground connector ⑭.
- 5) Move the CRT face down and remove two screws ⑮ securing the bottom fitting metal.
- 6) Remove the fitting metal and the PCB from the cabinet.
- 7) Remove ten screws ⑯ securing the fitting metal and PCB.
- 8) Remove there clamper ⑰ the fitting metal and PCB.
- 9) Remove the PCB ⑯ with the figure referenced.



CONTROL LOCATION

Basic operation of parts

Control panel



* For a detailed description of the functions of the [1] key, [◀] key, [▶] key, and [2] key, refer to the next section onward.

Examples of on-screen operation

A. Contrast adjustment

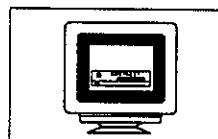
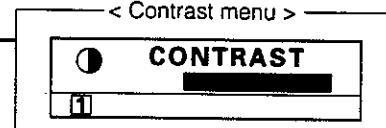
Display changes



Steps of operation

1. Display the contrast adjustment menu using the [◀] key or [▶] key.

On-screen display changes



2. Set the desired state using the [◀] key or [▶] key. If the [1] key is pressed, the set data is stored in the memory and the menu screen is cleared.

B. H. size adjustment

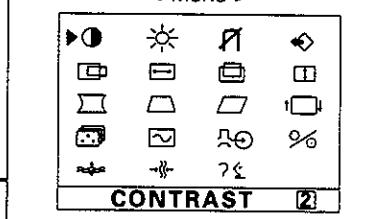
Display changes



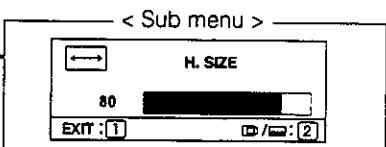
Steps of operation

1. Call the main menu on the screen by pressing the [1] key.

On-screen display changes

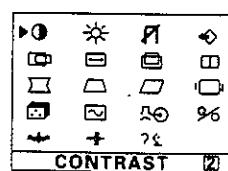


2. Move to cursor to H. SIZE using the [◀] key or [▶] key, then press the [2] key to select.



3. Set the desired state using the [◀] key or [▶] key. If the [1](EXIT) key is pressed, the set data is stored in the memory and the menu screen is cleared.

Main menu



CONTRAST	BRIGHTNESS	DEGAUS	RECALL
H.POSITION	H.SIZE	V.POSITION	V.SIZE
V.PINCUSHION	TRAPEZOID	PARALLELOGRAM	ROTATION
COLOR SELECT	DISPLAY FREQUENCY	VIDEO INPUT LEVEL	VIDEO INPUT SELECT
H.MOIRE	V.MOIRE	LANGUAGES	

CAUTION FOR ADJUSTMENT AND REPAIR

1. Degaussing is inevitably required at purity adjustment or convergence adjustment.
2. If you check or adjust electrical specification or function, more than 20 minutes burn-in is required.
3. Reforming of the lead wire is required after your repair work.
4. Prior to starting work, be sure to check that the input signal is at the specified timing and that the polarity is as specified in all modes.
5. Brightness control: After mounting the rear cover, brightness tends to decrease about 5 cd/m² on a flat white field and about 1 cd/m² on a white raster field. This should be taken into consideration.
6. Brightness stabilizing time: It takes about 20 to 50 seconds for the brightness to stabilize after turning the power off for 5 seconds (AC). Therefore, care should be taken to this.
7. Aging should be made in white raster of 30 ~ 50 cd/m² and raster size, 320 x 240 mm before adjusting the ITC.
8. Set the CONTRAST to MAX and BRIGHTNESS to CENTER using the O.S.D.

CAUTION FOR SERVICING

When servicing or replacing the CRT, high voltage sometimes remains on the anode. So, completely discharge high voltage before servicing or replacing the CRT so as to prevent a shock to the service person.

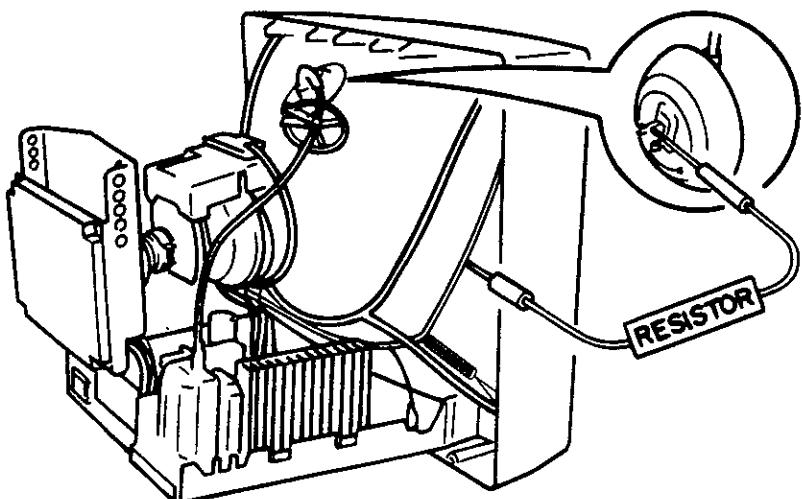
CRT Anode Discharge

1. When you check the CRT anode or replace the CRT, discharge the CRT anode to the external conductive coating (quadag) of CRT, especially when checked right after power turn-off.
2. Ground one end of a jumper wire which has a resistor (30 kV < resisting pressure 100 MΩ) and connect the other point to the CRT anode.

Note: Grounding must be done first.

This model has a section that does not share a common ground with the power supply section. The different sections are referred to as the HOT section and the COLD section in the precautions below.

1. Do not touch the HOT section and the COLD section at the same time. You may be hit by an electric shock.
2. Do not short the HOT section to the COLD section. This could blow the fuse or damage parts.
3. Never measure the HOT section and the COLD section at the same time when using tools such as oscilloscopes or multimeters.
4. Always unplug the unit before beginning any operation such as removing the chassis.



ADJUSTMENT AND CHECK PROCEDURE

INTRODUCTION

- This monitor is controlled by a microcomputer. With the exception of purity/convergence/focus all is digitally adjusted.
- Therefore a computer, the dedicated control software, the dedicated interface, a 9~12 V power supply, and a signal generator are required servicing.

TOOLS REQUIRED

• Computer

The control software is IBM PC compatible only. Therefore, it is not compatible with any other operating systems. For further information please contact Customer Support Department.

• Control Software

The 17PS-2 chassis can only use "1786PS adjustment program disk". No other program can access the EEPROM on the monitor. For further information please contact our Customer Support Department.

• Interface

The interface is dedicated to work only with the control software and the our chassis. There are no substitutes for this interface. For further information please contact Customer Support Department.

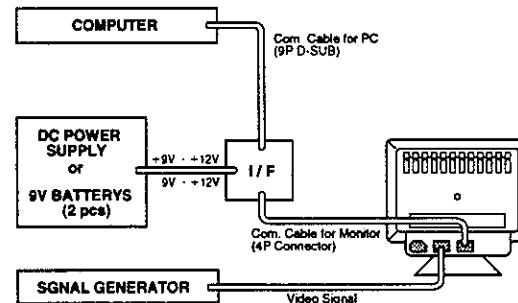
• Power Supply

A DC 9~12 V (+9~12 V/-9~12 V) power supply is required for operating the interface.

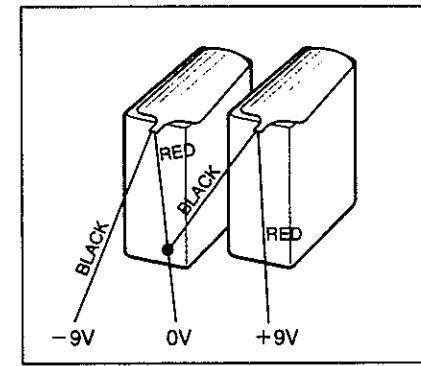
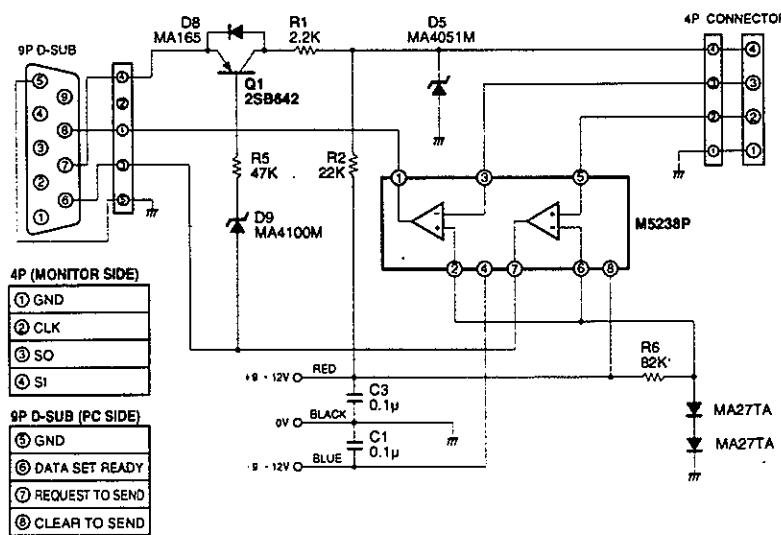
• Signal Generator

It is necessary for you to use a signal generator which operates on fH 86 kHz, fv 160 Hz, and fc 135 MHz bands.

INTERFACE CONNECTION



INTERFACE SCHEMATIC DIAGRAM



BATTERY CONNECTION

OTHER TOOLS

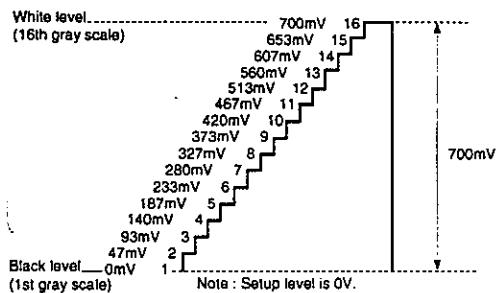
- Oscilloscope (dual trace)
- Scope probe – Attenuation: 100:1
Attenuation: 10:1
- Digital Voltmeter – Range: 0 to 1000 V DC
Accuracy: 0.1 %
- TV color Analyzer II – that reads luminance and chromaticity X and Y coordinates.
- Digital High Voltmeter
- AC power supply – Output voltage : 0 to 300 V
- Degaussing coil
- Convergence meter
- Scale
- Double-faced scale
- Microscope – Scale factor: 50
- White lacquer (Paint)

STANDARD CONDITION OF ADJUSTMENT

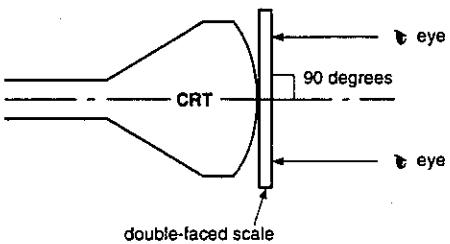
PROCEDURE

- Signal timing : Standard timing 1024 x 768
(See page 5)
- Display pattern : White, full "H" character
- Signal level : V/H: TTL level video: 700 mV
- Input source : AC 120 V, 60 Hz
- Ambient temperature : Room temperature
- Warm-up time : More than 30 minutes
- Brightness control : Center
- Contrast control : Max.
- Magnetic field : Vertical: 40 μ T
Horizontal: 0 μ T
- Signal cable : Attached

Video input signal from PC.



- Use a Helmholtz device to adjust an unit with no horizontal magnetic field and a vertical field of 40 μ T. Inspect the unit under the same conditions.
- The ambient illuminance must be 200 lux.
- Use an external degaussing coil any time the DEGAUSS switch does not remove color shading.
- To check the image width, height, linearity and distortion, proceed as below.



Measure level with respect to tube axis.

ADJUSTMENT SOFTWARE

1. Software operating procedure

- A) Power on the computer.
- B) Connect the Communication cable for monitor adjustment.
- C) Insert the adjustment disk into the drive.
- D) At the A:> prompt type "VSR", then press [ENTER].

A function to identify the connected monitor is provided to prevent accidents due to erroneous use of the 17PS-2 chassis program. If this program is used for any monitor other than the 17PS-2 the message reading "This monitor is not an 17PS-2 chassis. All further activity has been prevented" is displayed and the operation is stopped.

- E) Refer to the adjustment procedures.

2. Adjustment Program

Main Menu of Adjustment Program

<<17PS-2 ADJUST PROGRAM MAIN MENU>> (e: exit) <Ver *.*>	
1) Load data from FILE	6) Clear User preset
2) Adjust H. OSC freerun	7) Save data to FILE
3) Adjust VSR setting	8) Special ADJUST
4) Adjust OTHER setting	9) Information Service
5) Adjust Factory preset	10) Show Version & Error

Description of Function of Each Menu

1) Load Data from File

This transfers the data file from the disk to the EEPROM on the monitor.

2) Adjust H. OSC Freerun

To guarantee that the full range of horizontal frequencies operate correctly. The reference oscillation frequency should be set.

3) Adjust VSR Setting

To guarantee that the full range of horizontal frequencies operate correctly. The reference voltage and the distortion offset data should be set.

4) Adjust Other Setting

This is used to control the brightness and color.

5) Adjust Factory Preset

Makes adjustments to the factory presets. This data is also referenced when in modes other than the preset mode.

6) Clear User Preset

Clear the data written in the user preset domain. There is no data in the user presets when the product shipped from the factory.

7) Save Data to File

Transfers the data from the EEPROM on the monitor to a data file on a floppy disk or hard drive. The data file can be named anything as long as it is less than 8 characters long.

8) Special Adjust

This menu has the following functions

① Related data is automatically set on the basis of adjustment results to save the time for adjustment.

(Example: Color adjustment applies only to the 9300 K, while 6550 K and user color data are automatically set.)

9) Information Service

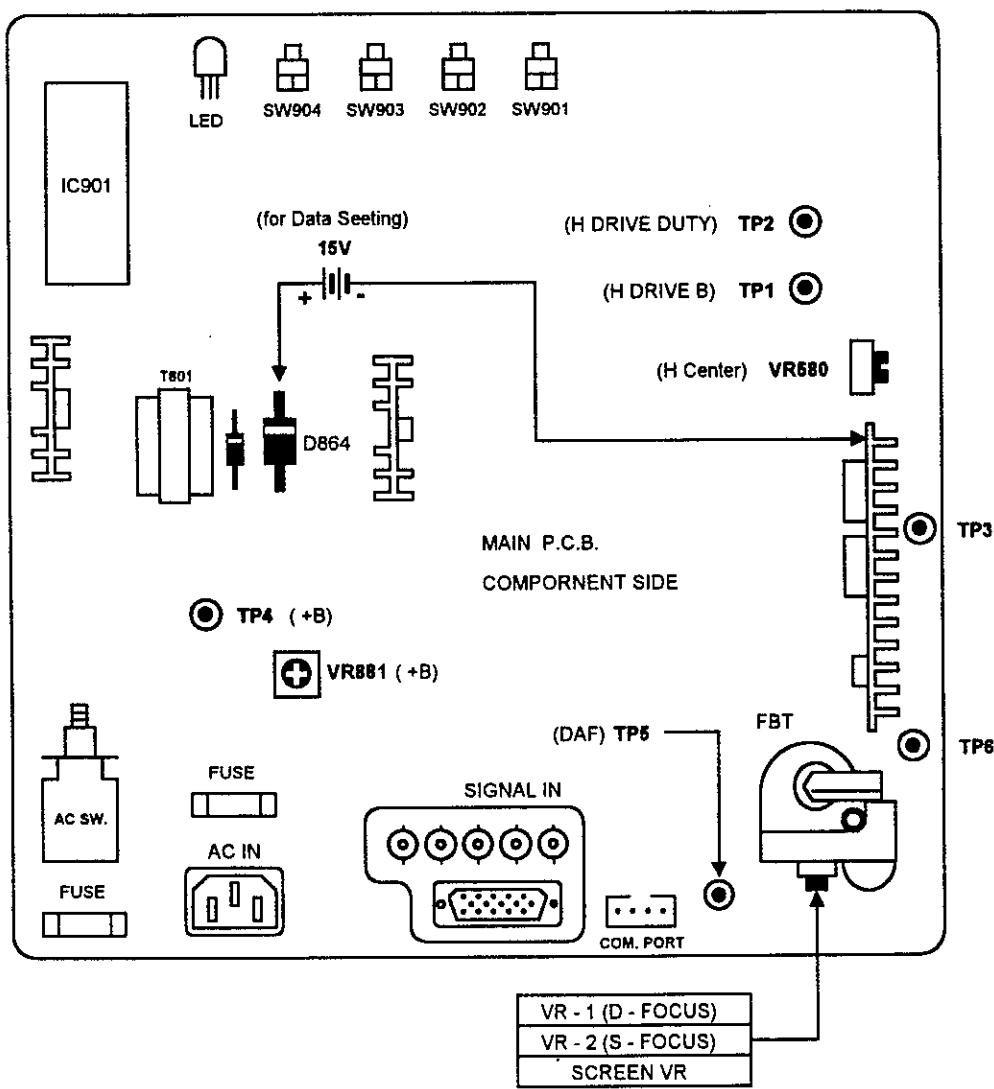
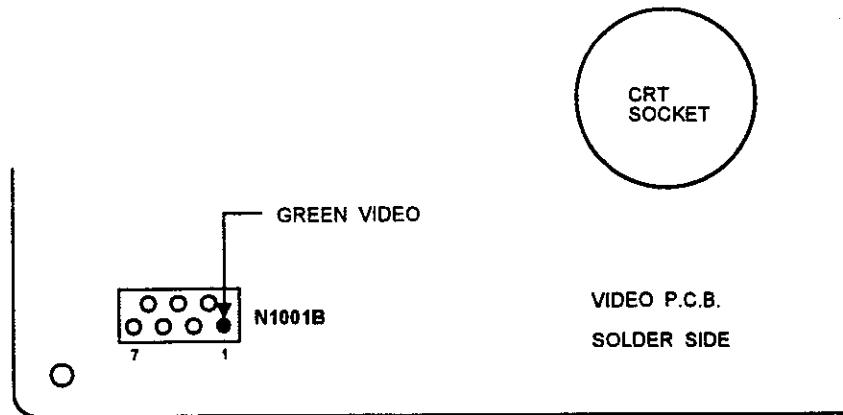
Displays the H/V frequencies that is being supplied to the monitor and gives the operational status of the monitor.

10) Show Version and Error

Shows the version of the microprocessor that is in the monitor. Also, if there is an error in the operation of the monitor.

The error is displayed on the screen of the PC.

SERVICE ADJUSTMENT CONTROL LOCATION



REQUIRED ADJUSTMENT PROCEDURE AFTER A PARTS IS REPLACED (✓ IS REQUIRED)

ADJUSTMENT ITEM	MAIN P.C.B.	VIDEO P.C.B.	CRT DY	REPLACED PARTS								
				IC1302 C1303 IC1401	IC901 Q821	IC821 Q821	IC490	IC501	IC550	Q549 Q550 Q855	Q719	FBT Q680 Q690
A DATA SETTING*	✓				✓							
B +B ADJUST	✓				✓	✓						
C H.FREE RUN	✓				✓	✓						
D H.DRIVE DUTY	✓				✓	✓						
E H.DRIVE +B	✓				✓	✓						
F EHT	✓				✓	✓						
G H.CENTER	✓				✓	✓						
H V.SIZE / POSI DISTORTION	✓				✓	✓						
I H.SIZE / POSI DISTORTION	✓				✓	✓						
J PRESET	✓				✓	✓						
K DAF	✓				✓	✓						
L FOCUS	✓				✓	✓						
M CUT-OFF & BRIGHTNESS	✓				✓	✓						
N FINAL TUNE	✓				✓	✓						
O DATA SAVING	✓				✓	✓						
PURITY & CONVERGENCE	✓				✓	✓						
SCREEN CHECK	✓	✓	✓		✓	✓						

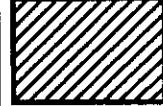
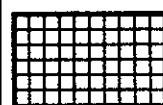
* DATA SETTING : Do not load standard data except when main PCB and IC901 are replaced.

ADJUSTMENT PROCEDURE

1. Description of Adjustment Method

Program Menu Item		◆ Test Meter □ Test Point □ Pattern	JOB CODE	Input Signal	Operation	Adjusting Value
A	STANDARD DATA SETTING	<input type="checkbox"/> D864 - GND Refer to service adjustment control location for connect point.	A1		Do not connect the power and signal cable to monitor. Apply 15V to D864 CATHODE and GND. (Do not apply 5V to IC901. Because IC833 will supply the 5V and RESET signal to IC901)	
	1) Load data from FILE		A2		Set the cell to the menu at left and press [J].	
			A3		A message FILE -> EEPROM FILE NAME (q or Q escape) []: is displayed. So key in the DACDATA.DAT (when using the standard data) and press [J].	
			A4		Disconnect 15V cable, then turn on the power switch of the monitor.	
			AE			

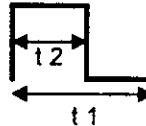
Do not load standard data except when Main P.C.B. and IC901 are replaced.

B	+B ADJUST	◆ Digital voltmeter □ TP4 ~ GND □ RGB OFF (SYNC ONLY)	B1	1	Check that the input signal to the monitor is [fH 29.5kHz] and [fV 48.0Hz]. Make the adjustment to the value shown at right by turning the VR881 on the main PCB.	82V +0.5 -1.0
C	H. FREE RUN 2) Adjust H. OSC freerun	<input type="checkbox"/> Crosshatch	C1	1	Set the cell to the menu at left and press [J]. Set the cell to the adjusting mode <u>INTP [0]</u> and press [J].	 
			C2		Check that the input signal to the monitor is [fH 29.5kHz] and [fV 48.0Hz] and press [J]. When the screen image has stabilized, press [J] to return to menu of C2.	
			C3	1		
			C4			
			C5	2	Input signal [fH 39.0kHz] and [fV 77.1Hz] Select Adjusting mode <u>INTP [1]</u> , and repeat above procedure.	
			C6			
			C7	4	Input signal [fH 64.5kHz] and [fV 105.0Hz] Select Adjusting mode <u>INTP [2]</u> , and repeat above procedure.	
			C8			
			C9	6	Input signal [fH 86.0kHz] and [fV 165.1Hz] Select Adjusting mode <u>INTP [3]</u> , and repeat above procedure. Press [E] to return to main menu.	
			C10			
			CE			

Note 1 : Check to be sure that the program disk name is **1786PS** before making necessary adjustment.

Note 2 : Unless otherwise specified, the monitor state is as given at right.

Note 3 : The underlined places indicate the adjustment items on the screen of the PC.

Program Menu Item	Test Meter ↓ Test Point ↓ Pattern	JOB CODE	Input Signal	Operation	Adjusting Value								
H. DRIVE DUTY 3) Adjust VSR setting	<ul style="list-style-type: none"> ♦ Oscilloscope ↓ TP2 ~ GND ↓ Crosshatch <p style="margin-top: 10px;">Oscilloscope Range</p> <table style="margin-left: 20px; border-collapse: collapse;"> <tr><td>1</td><td>10μs/div.</td></tr> <tr><td>2</td><td>5μs/div.</td></tr> <tr><td>4</td><td>5μs/div.</td></tr> <tr><td>6</td><td>2μs/div.</td></tr> </table>	1	10μs/div.	2	5μs/div.	4	5μs/div.	6	2μs/div.	D1		Set the cell to the menu at left and press [↓]. Set the cell to the adjusting mode <u>INTP [0]</u> and press [↓].	
1	10μs/div.												
2	5μs/div.												
4	5μs/div.												
6	2μs/div.												
D2													
D3	1	Check that the input signal to the monitor is [fH 29.5kHz] and [fV 48.0Hz] and press [↓]. Set the cell to <u>H. DRIVE DUTY</u> and press [↓]. Make the adjustment to the value shown at right by using [←] and [→].	 $t_2 + t_1 \times 100 =$										
D4			$52\% \pm 2.5\%$										
D5													
D6		Register by pressing [↓] and return to menu of D2 by pressing [E].											
D7	2	Input signal [fH 39.0kHz] and [fV 77.1Hz] Select Adjusting mode <u>INTP [1]</u> , and repeat above procedure.	51% $\pm 2.5\%$										
D8													
D9	4	Input signal [fH 64.5kHz] and [fV 105.0Hz] Select Adjusting mode <u>INTP [2]</u> , and repeat above procedure.	47% $\pm 2.5\%$										
D10													
D11	6	Input signal [fH 86.0kHz] and [fV 165.1Hz] Select Adjusting mode <u>INTP [3]</u> , and repeat above procedure.	42% $\pm 2.5\%$										
D12													
DE		Press [E] to return to main menu.											
H. DRIVE +B 3) Adjust VSR setting	<ul style="list-style-type: none"> ♦ Digital voltmeter ↓ TP1 ~ GND ↓ Crosshatch 	E1		Set the cell to the menu at left and press [↓]. Set the cell to the adjusting mode <u>INTP [0]</u> and press [↓].									
		E2											
		E3	1	Check that the input signal to the monitor is [fH 29.5kHz] and [fV 48.0Hz] and press [↓]. Set the cell to <u>H. DRIVE +B</u> and press [↓]. Make the adjustment to the value shown at right by using [←] and [→].									
		E4											
		E5											
		E6		Register by press [↓] and return to menu of E2 by press [E].	$21.0V \pm 0.3V$								
		E7	2	Input signal [fH 39.0kHz] and [fV 77.1Hz] Select Adjusting mode <u>INTP [1]</u> , and repeat above procedure.	19.5V $\pm 0.3V$								
		E8											
		E9	4	Input signal [fH 64.5kHz] and [fV 105.0Hz] Select Adjusting mode <u>INTP [2]</u> , and repeat above procedure.	17.0V $\pm 0.3V$								
		E10											
		E11	6	Input signal [fH 86.0kHz] and [fV 165.1Hz] Select Adjusting mode <u>INTP [3]</u> , and repeat above procedure.	14.5V $\pm 0.3V$								
		E12											
		EE		Press [E] to return to main menu.									

Program Menu Item		◆ Test Meter U Test Point II Pattern	JOB CODE	Input Signal	Operation	Adjusting Value
F	EHT ADJUST 4) Adjust OTHER setting	◆ Digital voltmeter ◆ High Voltage Probe U Anode Cap ~ GND II RGB off (Sync only)	F1		Turn the power switch of the monitor OFF. Connect high voltage probe to Anode Cap and GND.	
			F2		Turn the power switch of the monitor ON. Set the cell to the menu at left and press [↓].	
			F3		Set the cell to the menu at left and press [↓].	
			F4		Check that the input signal to the monitor is [fH 86.0kHz] and [fV 165.1Hz].	
			F5	6	Set the cell to EHT and press [↓].	
			F6		Make the adjustment to the value shown at right by using [←] and [→].	
			F7		Register by press [↓] after adjustment and return to main menu by press [E].	25.0kV ±0.3kV
			FE			
G	H. CENTER	II RGB off (Sync only)	G1		Set the Brightness to MAX on the OSD.	A A=B B
			G2	6	Check that the input signal to the monitor is [fH 86.0kHz] and [fV 165.1Hz].	Back raster
			G3		Make the adjustment as shown at right by turning the VR580 on the main PCB.	Set the raster to the center with respect to the bezel.
H	V. SIZE / POSI and DISTORTION 5) Adjust OTHER setting	II Crosshatch	H1		Set the cell to the menu at left and press [↓].	
			H2	Mode-1	Check that the input signal to the monitor is [fH 60.0kHz] and [fV 75.0Hz] and press [↓].	H : 300mm ±5 V : 225mm ±5
			H3		Set the cell to following items, press [↓] and make the adjustment to the value shown at right by using [←] and [→].	H/V Posi : Center
			HE		① * <u>H. SIZE</u> ⑥ <u>V. PCC BARANCE</u> ② * <u>H. POSITION</u> ⑦ <u>PARALLELOGRAM</u> ③ <u>V. SIZE</u> ⑧ <u>TRAPEZOID</u> ④ <u>V. POSITION</u> ⑨ <u>V. LIN (C)</u> ⑤ * <u>V. PCC</u>	V. PCC : Best point
					H. SIZE, H. POSI and V. PCC is dose not register to interpolation data.	
					After adjustment, return to the main menu by using [E].	
			I1		Set the cell to the menu at left and press [↓].	
			I2		Set the cell to the adjusting mode INTP [0] and press [↓].	
I	H. SIZE / POSI, V. PCC and V.LIN 3) Adjust VSR Setting	II Crosshatch	I3	1	Check that the input signal to the monitor is [fH 29.5kHz] and [fV 48.0Hz] and press [↓].	H : 300mm ±5 V : 225mm ±5
			I4		Set the cell to following items, press [↓] and make the adjustment to the value shown at right by using [←] and [→].	H/V Posi : Center
					① <u>H. SIZE</u> ④ <u>V. PCC CORNER</u> ② <u>H. POSI</u> ⑤ <u>V. LIN (S)</u> ③ <u>V. PCC</u>	V. PCC : V. LIN Best point
					- To be continued -	

Program Menu Item	◆ Test Meter □ Test Point □ Pattern	JOB CODE	Input Signal	Operation	Adjusting Value
I	H. SIZE / POSI, V. PCC and V.LIN 3) Adjust VSR Setting	I1 Crosshatch I6 I7 I8 I9 I10 I11 IE	I5 2 3 4 5 6	After adjusting the above, return to menu of I2 by using [E]. Input signal [fH 39.0kHz] and [fV 77.1Hz] Select Adjusting mode <u>INTP [1]</u> , and repeat above (I4~I5) procedure. Input signal [fH 64.5kHz] and [fV 105.0Hz] Select Adjusting mode <u>INTP [2]</u> , and repeat above procedure. Input signal [fH 86.0kHz] and [fV 165.1Hz] Select Adjusting mode <u>INTP [3]</u> , and repeat above procedure. After adjustment, return to the main menu by press [E].	H : 300mm ±5 V : 225mm ±5 H/V Posi : Center V. PCC : V. LIN : Best point
J	PRESET ADJUST 4) Adjust Factory preset	I1 Crosshatch J1 J2 J3 J4 JE	Mode-1 M2~M8	Set the cell to the menu at left and press [J]. Check that the input signal to the monitor is [fH 60.0kHz] and [fV 75.0Hz] and press [J]. Set the cell to following items, press [J] and make the adjustment to the value shown at right by using [←] and [→]. ① H. SIZE ⑤ V. PCC ② H. POSI ⑥ PARALLEL ③ V. SIZE ⑦ TRAPEZOID ④ V. POSI Make above adjustment when out of adjusting value by changing input signal to Mode-2~8 and check screen image. After adjustment, return to the main menu by using [E] and [N].	Mode-1 H : 300mm ±5 V : 225mm ±5 Mode-2~7 H : 300mm ±7 V : 225mm ±7 Mode-8 H : 286mm ±7 V : 229mm ±7 H/V Posi : Center V. PCC : Best point
K	DAF ADJUST 8) Special ADJUST Oscilloscope Range 2μs/div.	I1 White flat field ◆ Oscilloscope □ TP5~GND 100:1 probe □ N1001B(2) ~ GND 10:1 probe	K1 K2 K3 K4 KE	Set the cell to the menu at left and press [J]. Select the 3: <u>ADJUST H.DAF GAIN</u> . Check that the input signal to the monitor is [fH 64.5KHz] and [fV 105.0Hz]. Adjust as shown at right by using [←] and [→]. Press [E] to return to menu of K2 and return to main menu by press [E] [J].	380V ±10V Refer to Fig.K for adjustment.

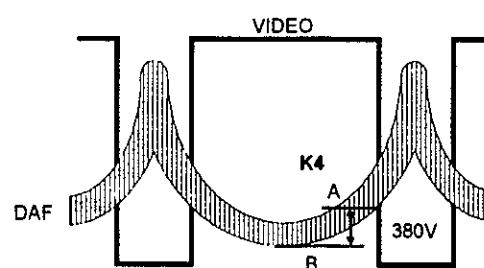
Fig.K

Adjusting Value of K4

K4 : Set to voltage A B

A : Clossing VIDEO and DAF

B : Bottom of DAF



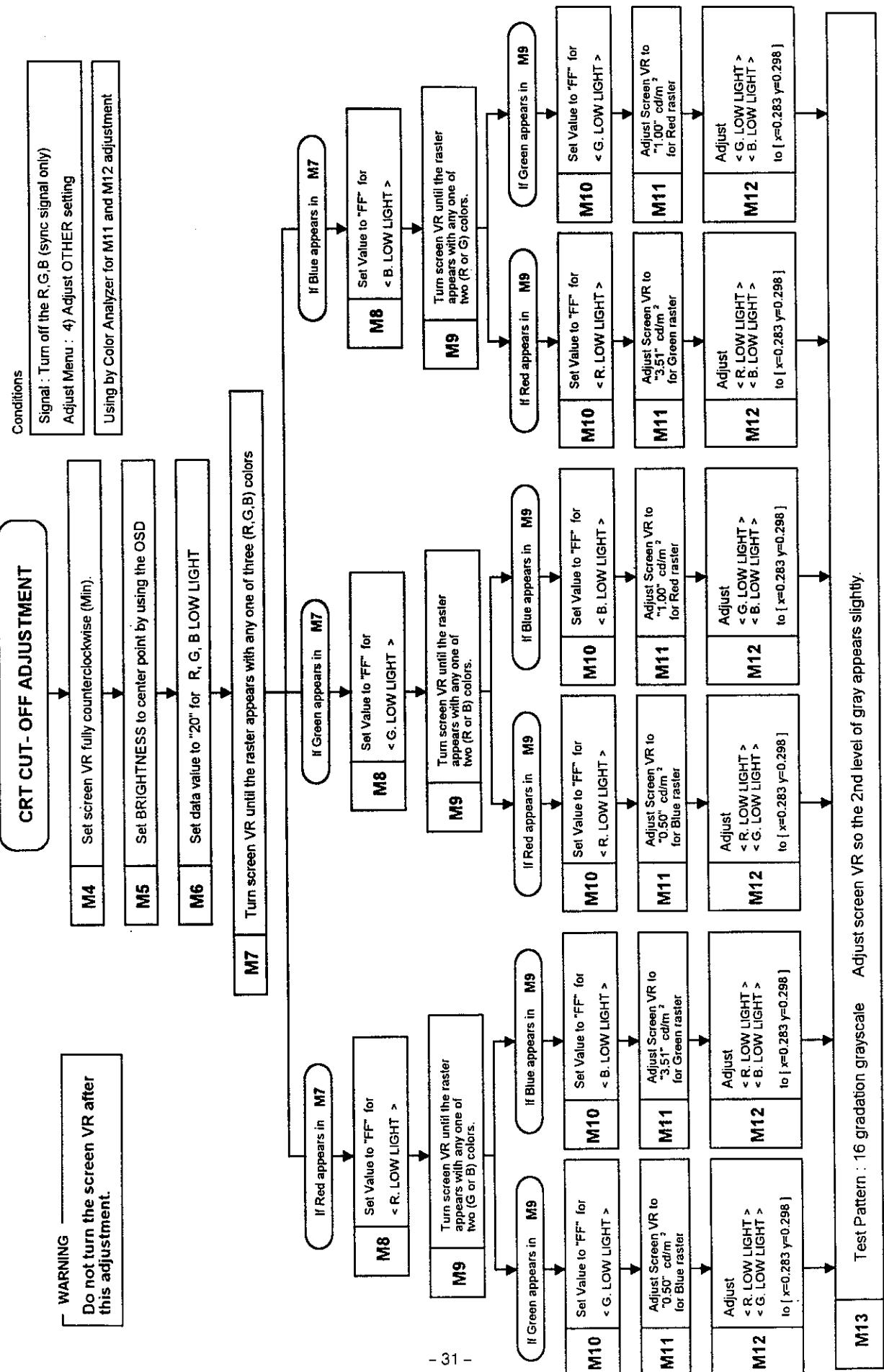
Program Menu Item		♦ Test Meter U Test Point II Pattern	JOB CODE	Input Signal	Operation	Adjusting Value
L	FOCUS	II Character	L1	Mode-1	Check that the input signal to the monitor is [fH 60.0kHz] and [fV 75.0Hz].	
			L2		Make the corner sections of the screen optimum by turning FOCUS VR 1 on the FBT.	
			L3		Make the center section optimum by turning FOCUS VR 2 on the FBT.	
			L4		Repeat L2 and L3 to make it optimum.	
M	CRT CUT-OFF 4) Adjust OTHER setting	♦ TV Color Analyzer II II RGB Off (Sync only)	M1		Set the Contrast to MAX, Brightness to Center and Color is 9300K by using the OSD.	
			M2	Mode-1	Check that the input signal to the monitor is [fH 60.0kHz], [fV 75.0Hz] and turn off the RGB signal.	
			M3		Set the cell to the menu at left and press [-].	
			M4		Make the adjustment <u>R_G and B Low Light</u> by using [<left>], [<right>] and Screen VR to CRT cut-off.</right></left>	
			-		Please refer to flow chart for this adjustment on page 31.	
			M14			
			M15	Mode-1	Change to the pattern at left.	
			M16		Move the cell to the following items and make the adjustment to the value shown at right by using [<left>] and [<right>].</right></left>	
			M17		<u>R. SUB CONT 9300K</u>	
			M18		<u>G. SUB CONT 9300K</u>	
			M19		<u>B. SUB CONT 9300K</u>	
M	BRIGHTNESS & COLOR ADJUST	II White window (5cm×5cm at the center)	M20		Set CONTRAST to MIN by using the OSD.	
			M21		Move the cell to the following items and make the adjustment to the value shown at right by using [<left>] and [<right>].</right></left>	
			M22		<u>R. LOW LIGHT</u> Adjust two colors only	
			M23		<u>G. LOW LIGHT</u> out of these (RGB) three as	
			M24		<u>B. LOW LIGHT</u> shown in M12 on page 31.	
M	ABL	II White flat field (full window)	M25	Mode-1	Set CONTRAST to MAX by using the OSD	
			M26		Change to the pattern at left.	
			M27		Move the cell to <u>ABL 9300K</u> and make the adjustment to the value shown at right by using [<left>] and [<right>].</right></left>	
			M28		Press [E] to return to main menu.	
M	DATA SETTING 8) Special ADJUST				Set the cell to the menu at left and press [-].	
					Select the <u>2: ADJUST COLOR</u> from the menu.	
					This messages will appear :	
					Calculate COLOR 6550K data automatically . OK ? >, press[Y]and [J].	
					Calculate USER COLOR data automatically . OK ? >, press[Y]and [J].	

- To be continued -

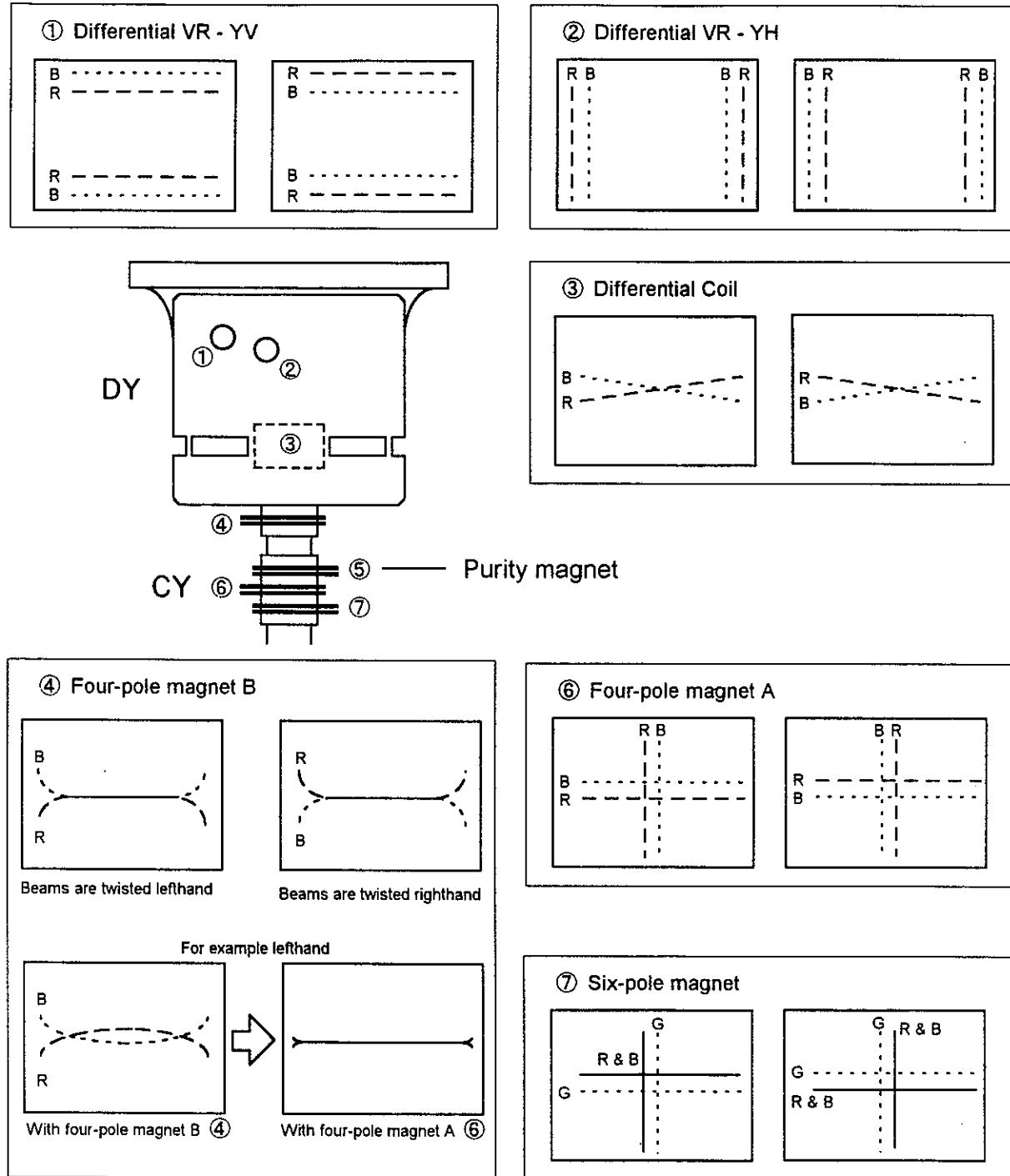
Program Menu Item	◆ Test Meter □ Test Point II Pattern	JOB CODE	Input Signal	Operation	Adjusting Value
M 1.0V ADJUST M 8) Special ADJUST	◆ TV Color Analyzer II II White window (5cm×5cm at center) 1.0V p-p video	M29 M30 M31 M32 M33 M34 M35 M36 ME	Mode-1	<p>Calculate ABL data automatically . OK ? >, press[Y]and [↓]. finished . (Hit return key).</p> <p>Press [↓], to menu of M26.</p> <p>Press[E] [↓], to return to the main menu.</p> <p>Set Input Video Level 1.0V using the OSD of the monitor.</p> <p>Set the cell to the menu at left and press [↓]. Select the <u>1: ADJUST VIDEO 1.0Vpp</u> from the menu.</p> <p>Change to the pattern and signal level at left. Make the adjustment to the value shown at right by using [←] and [→].</p> <p>Press [↓] to return to menu of M34, then press [E] [↓] to return to the main menu.</p>	Y=130 cd/m ²
N FINAL TUNE 8) Special ADJUST		N1 N2 N3 N4 N5 N6 N7 NE		<p>Set the cell to the menu at left and press [↓]. Select the <u>9:FINAL TUNE</u> from the menu.</p> <p>(Step 1):Data tuning.</p> <p>This messages will appear :</p> <p><loading EEPROM data> ...end <tuning EEPROM data> ... end <saving data to EEPROM> ... end <RECALL data - PRESET data> wait a moment</p> <p>(Step 2):Erase user preset data.</p> <p>Erase All ' user preset data OK ? ></p> <p>Press[Y]or[N]and [↓], go to N4.</p> <p>(Step 3):Calculate color data.</p> <p>Calculate COLOR 6550K data automatically . OK ? >, press[Y]and [↓].</p> <p>Calculate USER COLOR data automatically . OK ? >, press[Y]and [↓].</p> <p>Calculate ABL data automatically . OK ? >, press[Y]and [↓].</p> <p>finished . (Hit return key)</p> <p>Press [↓], to menu of N2.</p> <p>Press[E] [↓], to return to the main menu.</p>	
O DATA SAVING 7) Save data to file		O1 O2		<p>Set the cell to the menu at left and press [↓]. Key in the file name after [] :.</p> <p>Use serial number as a file name (EXAMPLE : FF6110001 = "F6110001.DAT")</p>	

CRT CUT-OFF ADJUSTMENT

WARNING — Do not turn the screen VR after this adjustment.



2. Adjustment Location for Purity and Convergence



TECHNICAL INFORMATION FOR DDC

• It must be noted that this monitor is designed to be applicable to DDC1 communication the following points are different from ordinary monitors.

1. Use the signal cable, the which is furnished as an accessory (applicable to DDC1) only.
2. When replacing a PCB on which ROM for DDC1 is mounted, data writing is required.
In addition to the above, a computer applicable to WINDOWS and a 5V power supply unit are required.

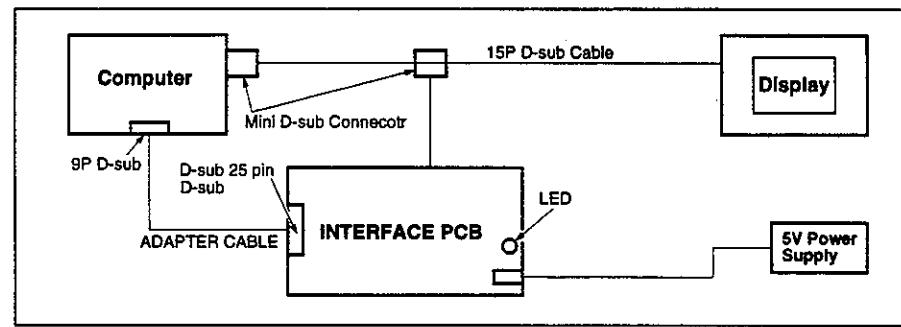
• DDC1 Data Read/write System

1. Communication jig

(1) The composition of Communication jig

① Interface PCB. ② Adapter cable (D-SUB 25P → 9P) ③ 15P D-SUB cable

(2) Connection diagram for communication jig.



(3) Procedure to turn on the power:

- ① Make connections as shown above.
- ② Turn on the computer.
- ③ Turn on the power supply of communication jig.
- ④ Turn on the power supply of the MONITOR.

(Note) If the above-mentioned operation is normal, LED of the communication jig turns green after step (4).

If this LED is red, repeat the steps (3) and (4).

(4) Confirmation of DDC mode

LED is mounted on the communication jig. According to its color, the DDC mode can be discriminated.

- When LED is green. DDC1 mode.
- When LED is orange. DDC2B mode.
- When LED is red. Transmission error.
- When LED is not lit. Obsolete.

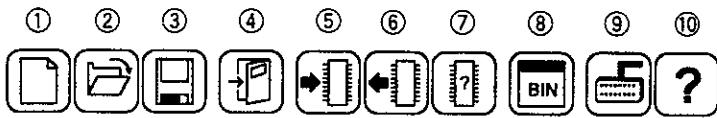
2. Preliminary arrangements for using DDC data read/write software

- (1) Copy DDC WRITE. EXE from floppy disk to hard disk drive (Name: \ViewTool Directory).
- (2) Register DDC data read/write software (DDCWRITE.EXE) in the Icon.
 - ① Click the menu bar "Icon" of the program manager.
 - ② Select "register and group create" from the pull down menu.
 - ③ Select "group create."
 - ④ Name the group ViewTool and register the group.
 - ⑤ Repeat (1) and (2) again and select "Icon registration."
 - ⑥ Enter "DDC1/2B" for [Title] and "Hard disk drive name: \ViewTool\DDCWRITE. EXE" for [Command line]. Then select [OK]

3. How to use DDC data read/write software.

- (1) Start of DDC data read/write software.
Double-click the "DDC1/2B" Icon in the ViewTool group.
- (2) Meaning of a button displayed.
The tool bar indicates the nine icons shown below.

These icons are explained, from left to right :



- Icon ① : Initialization of screen display contents.
- Icon ② : File is opened and displayed on the screen.
- Icon ③ : Data are stored in a file.
- Icon ④ : Finish the DDC data read/write software.
- Icon ⑤ : Data displayed on the screen are written in EEPROM.
- Icon ⑥ : Contents of EEPROM are displayed on the screen.
- Icon ⑦ : Contents of EEPROM are compared with the data displayed on the screen.
- Icon ⑧ : Check binary data by text format.
Contents of setting : PORT → Using Communication port No.
Baud rate → 9600, Data → 8 bits, Parity → Nil, Stop → 1 bits
- Icon ⑩ : Version information display.

- (3) Using the tool bar explained in (2) above, write data in EEPROM and make operations of reading, etc.
A pop-up window may be displayed on the way. In such a case, select a proper one according to the message.

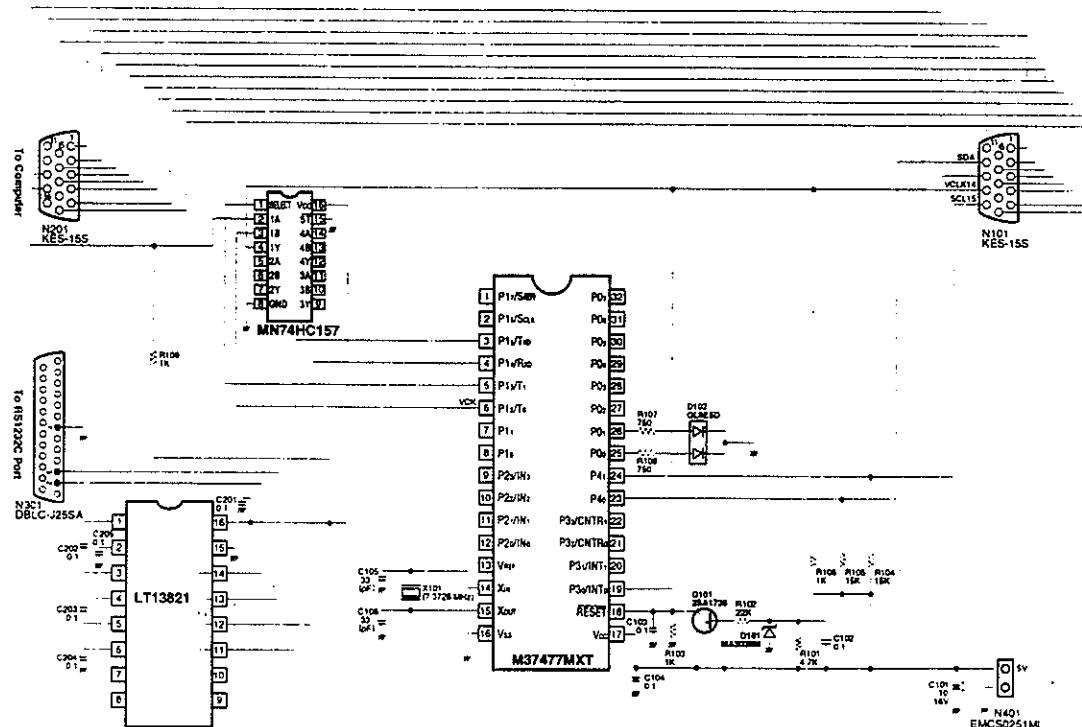
(Example 1) EEPROM data are displayed on the screen.

- ① Click the icon (6th from the left) in the tool bar, with the arrow pointing from the memory chip.
- ② Decided whether reading is started in DDC1 mode or DDC2B mode.
- ③ Select START.

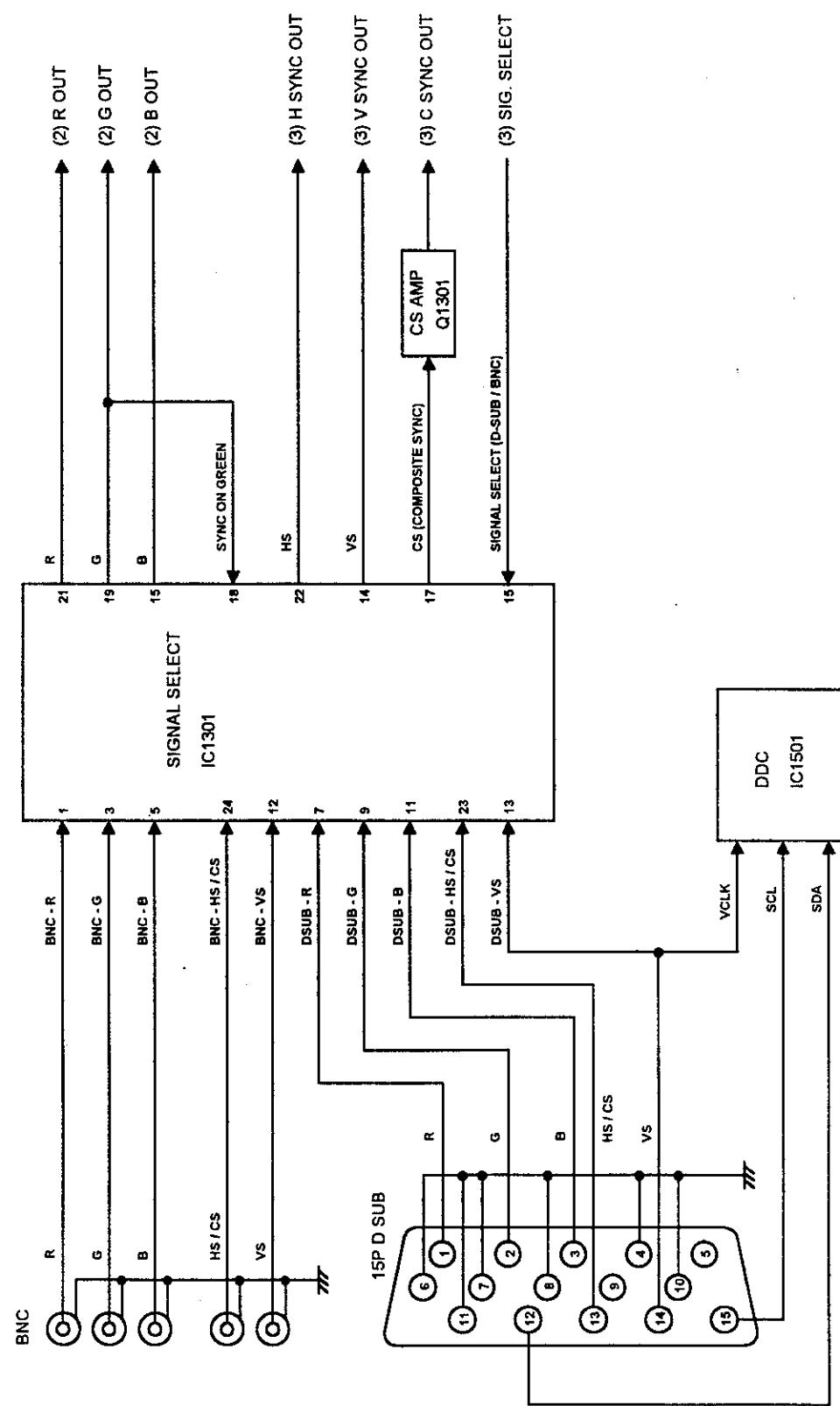
(Example 2) Data displayed on the screen are written in EEPROM.

- ① Click the icon (5th from the left) in the tool bar, with the arrow pointing toward in the memory chip.
- ② Select START.

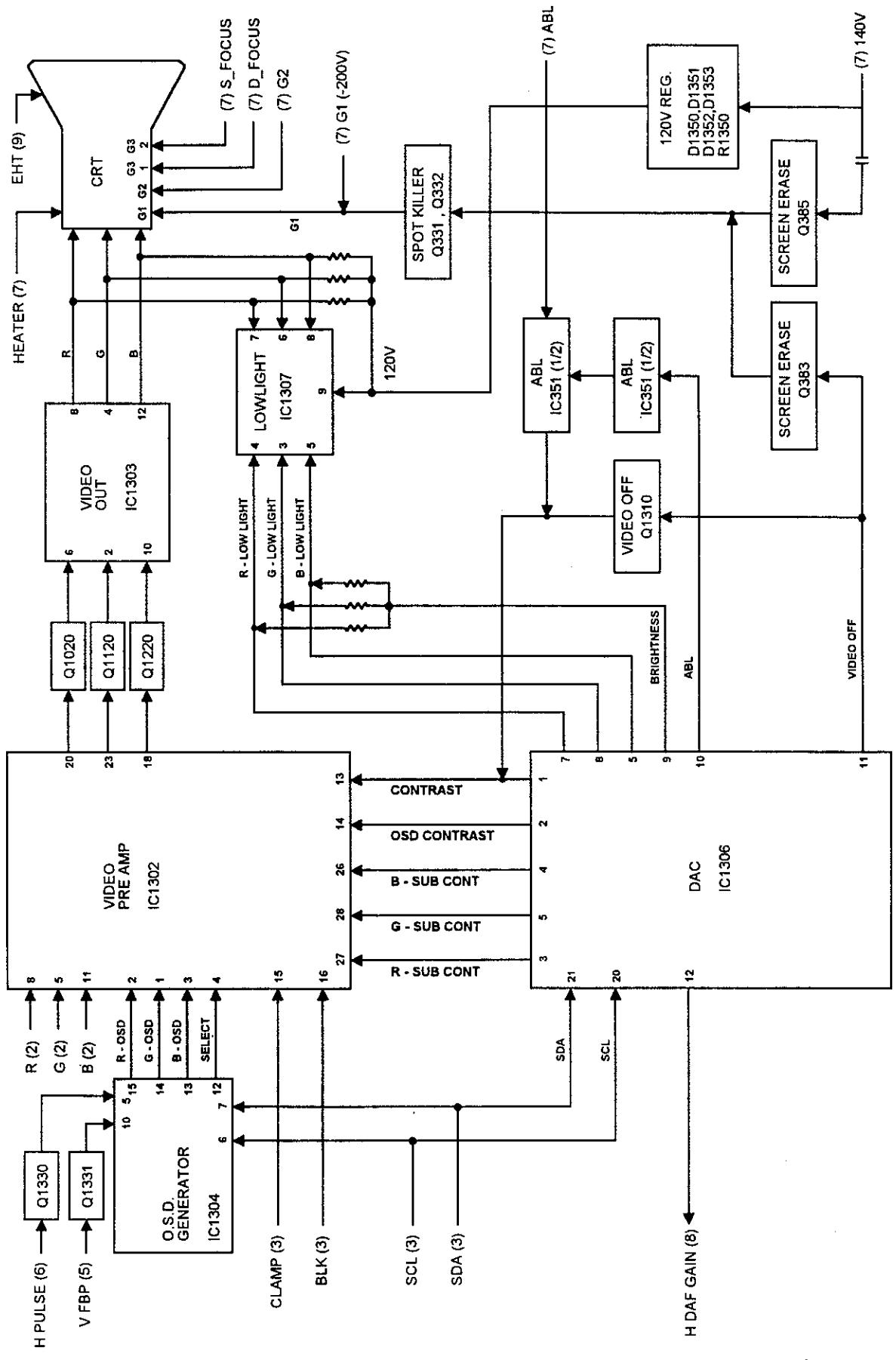
SCHEMATIC DIAGRAM FOR INTERFACE



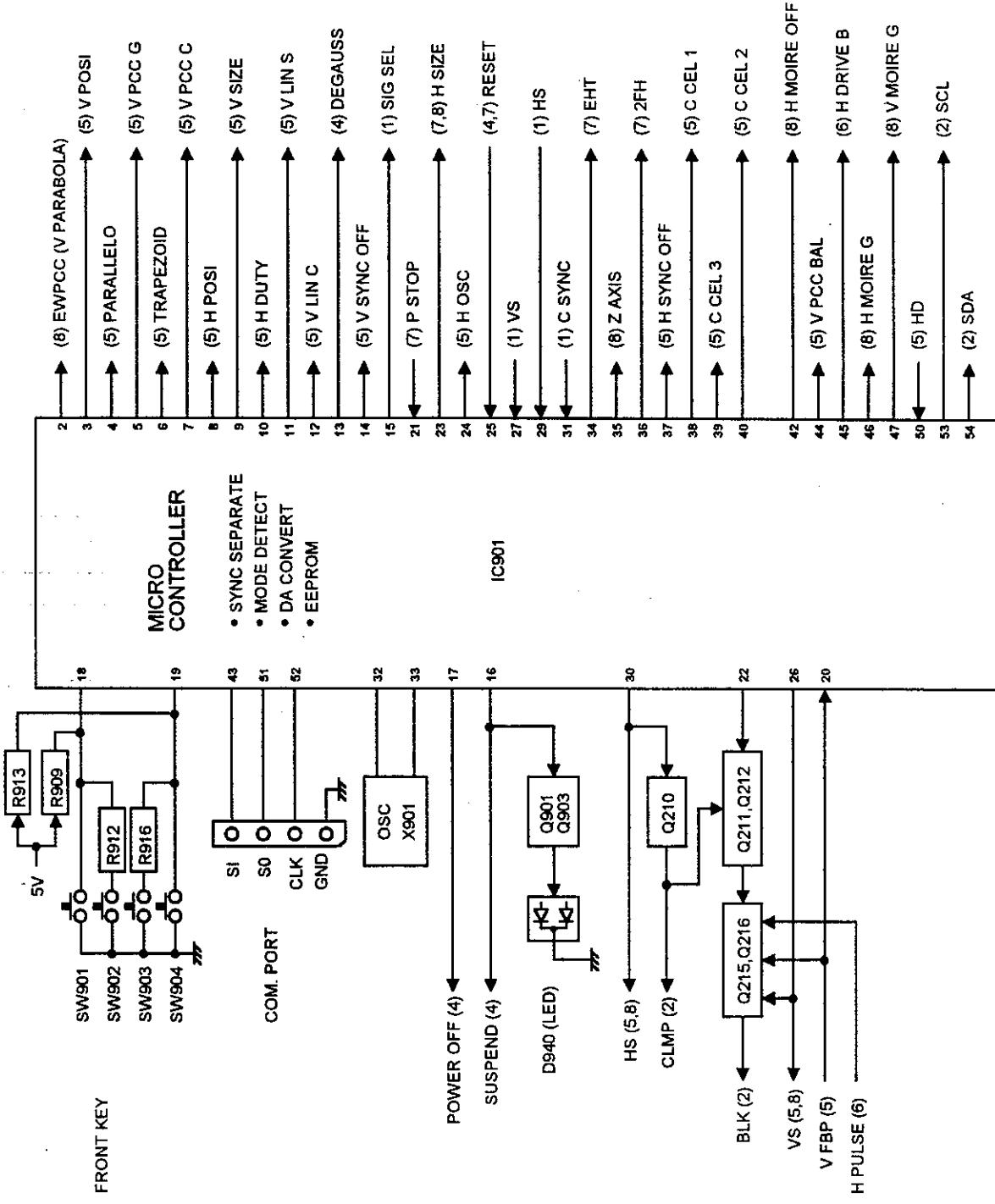
SHEET (1) SIGNAL SELECT



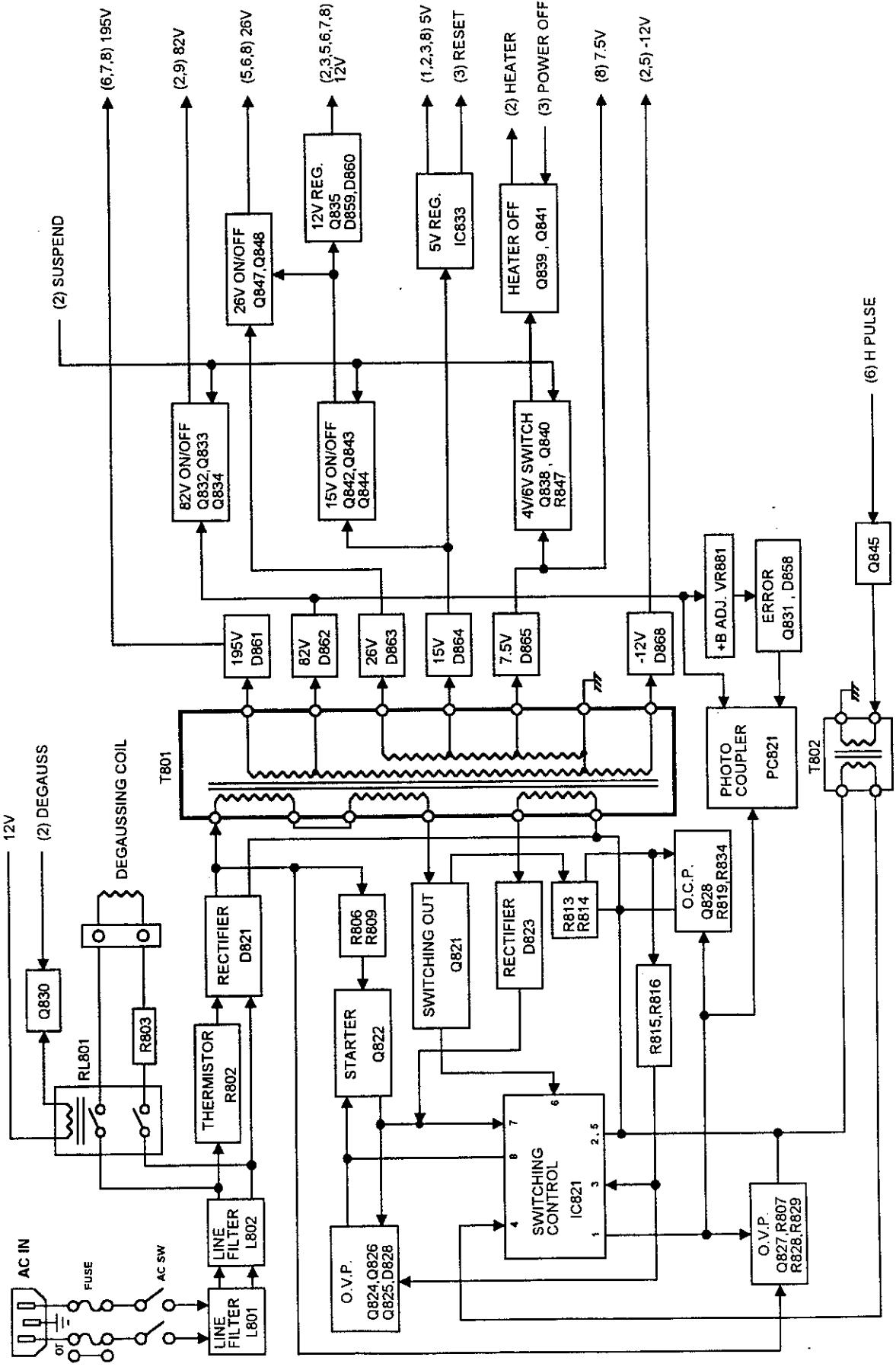
SHEET (2) VIDEO OUT



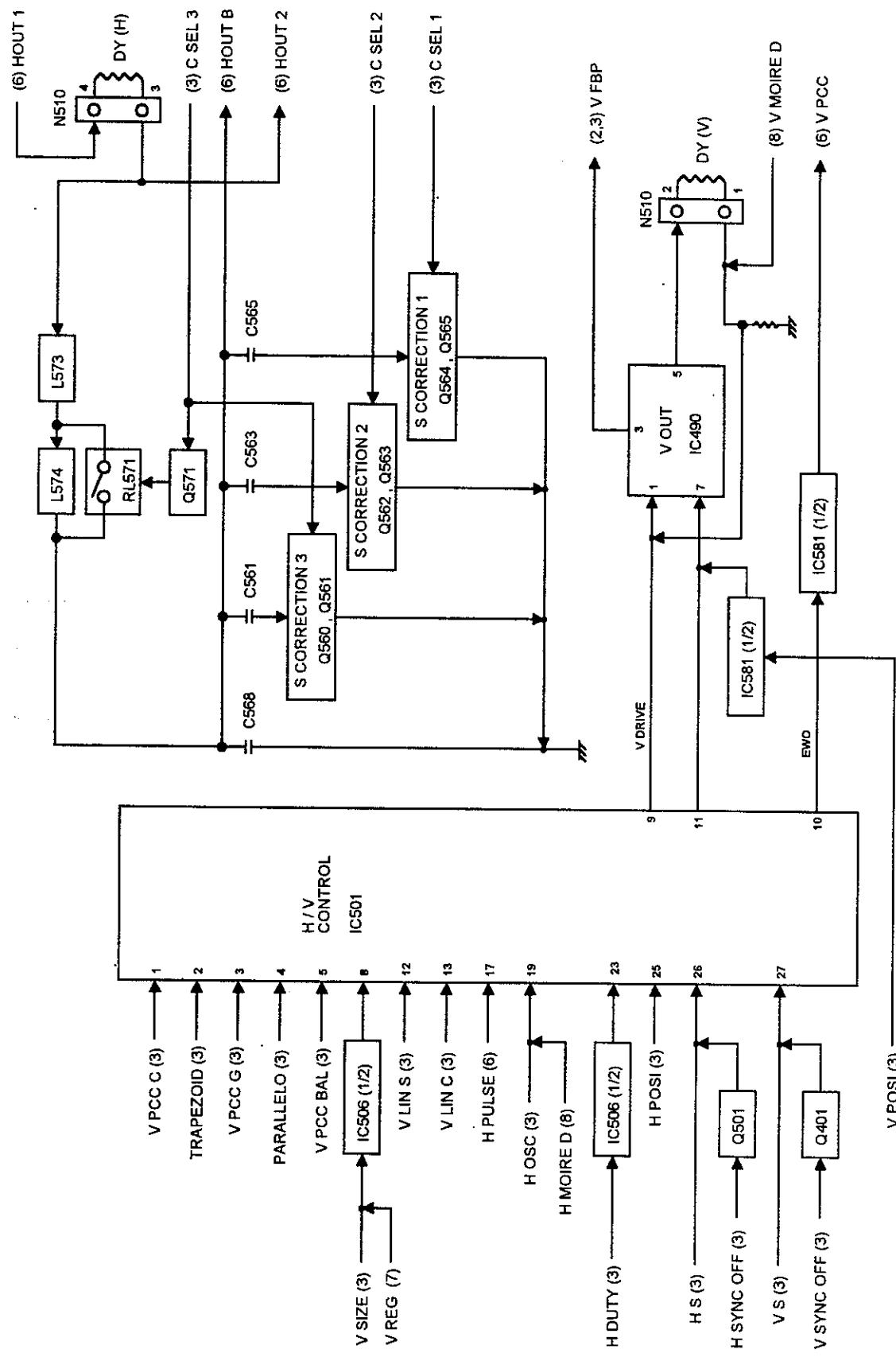
SHEET (3) MICRO CONTROLLER



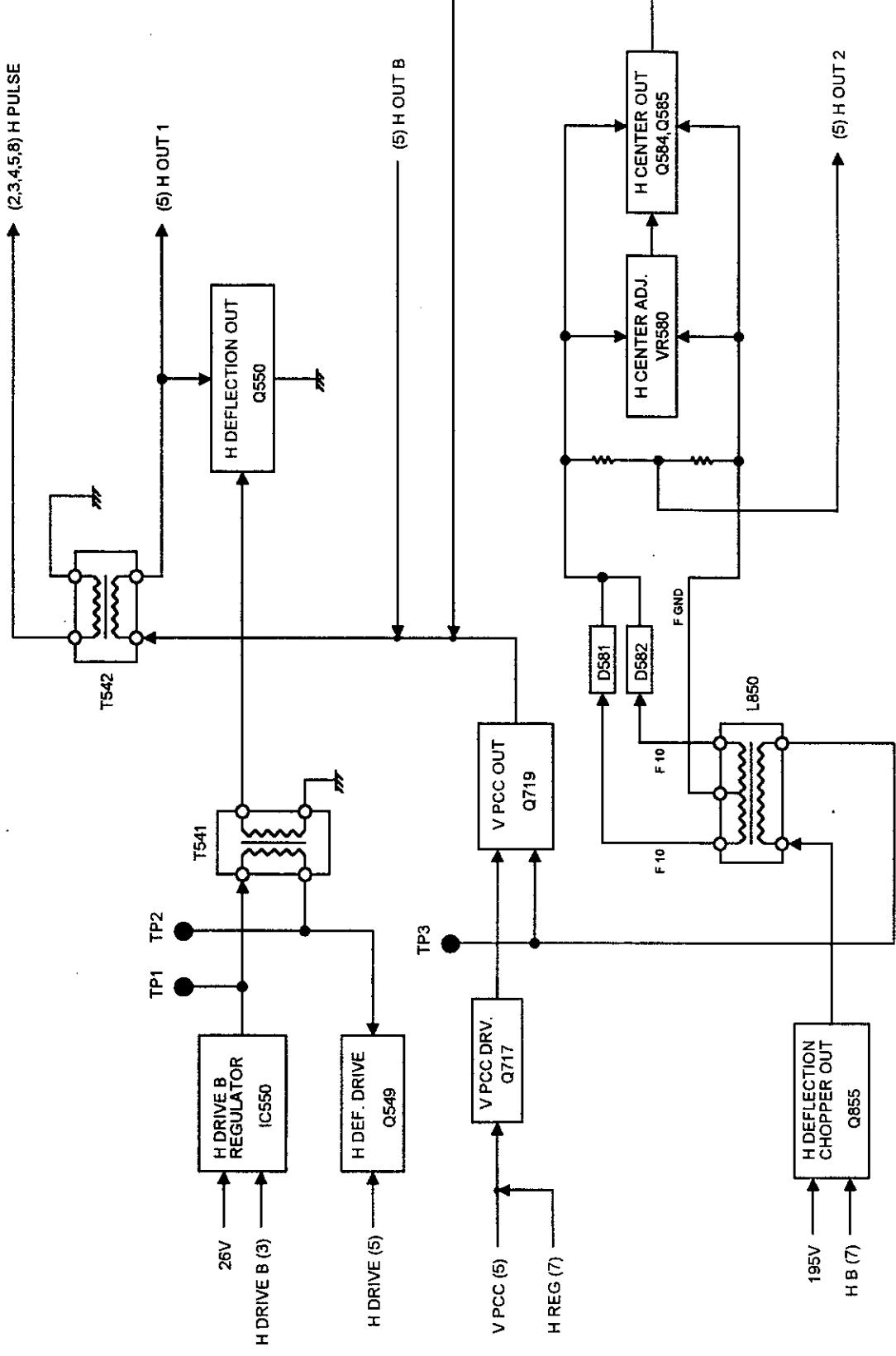
SHEET (4) POWER SUPPLY



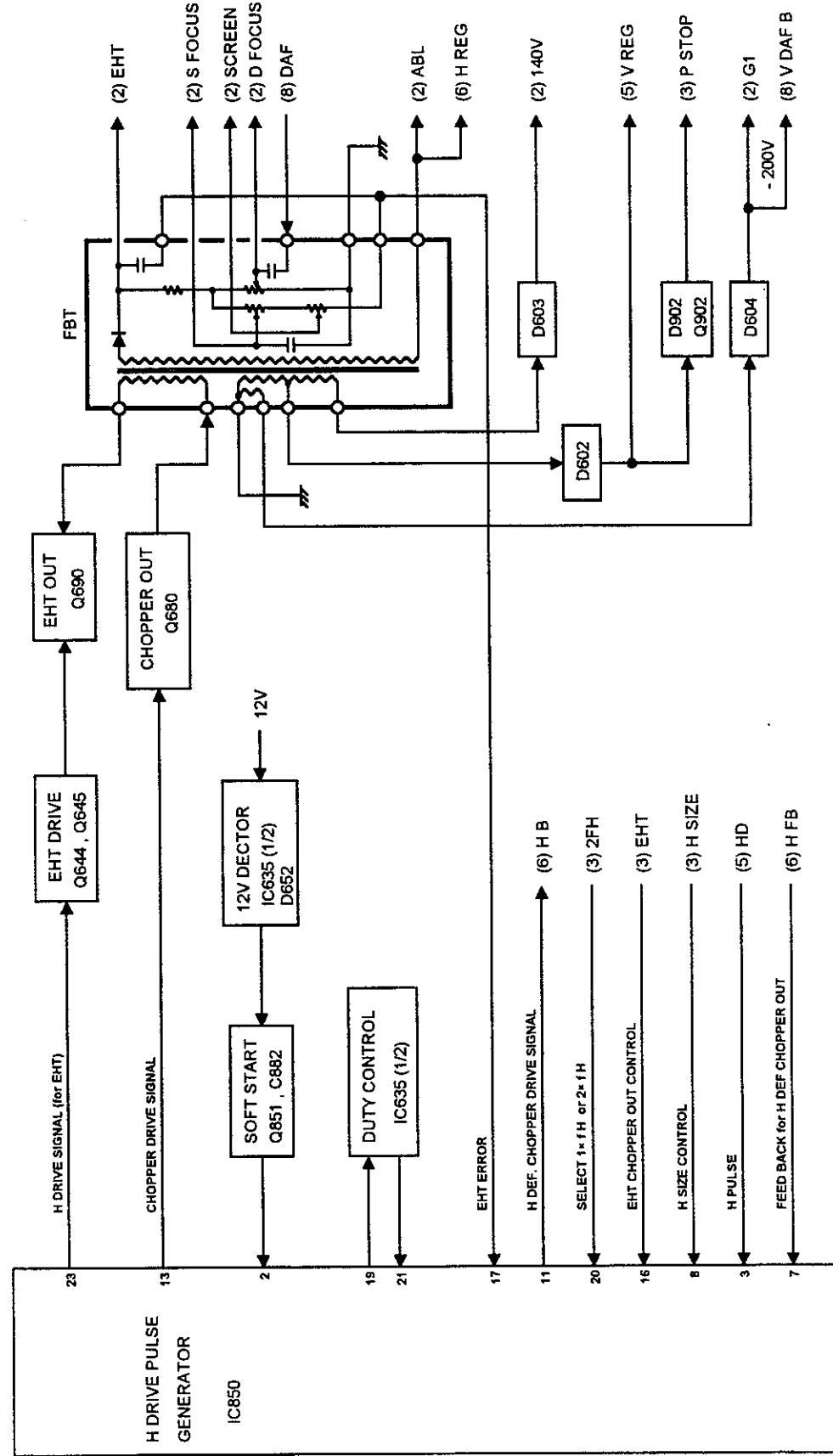
SHEET (5) H. V. CONTROL / H. LIN. / V. OUT



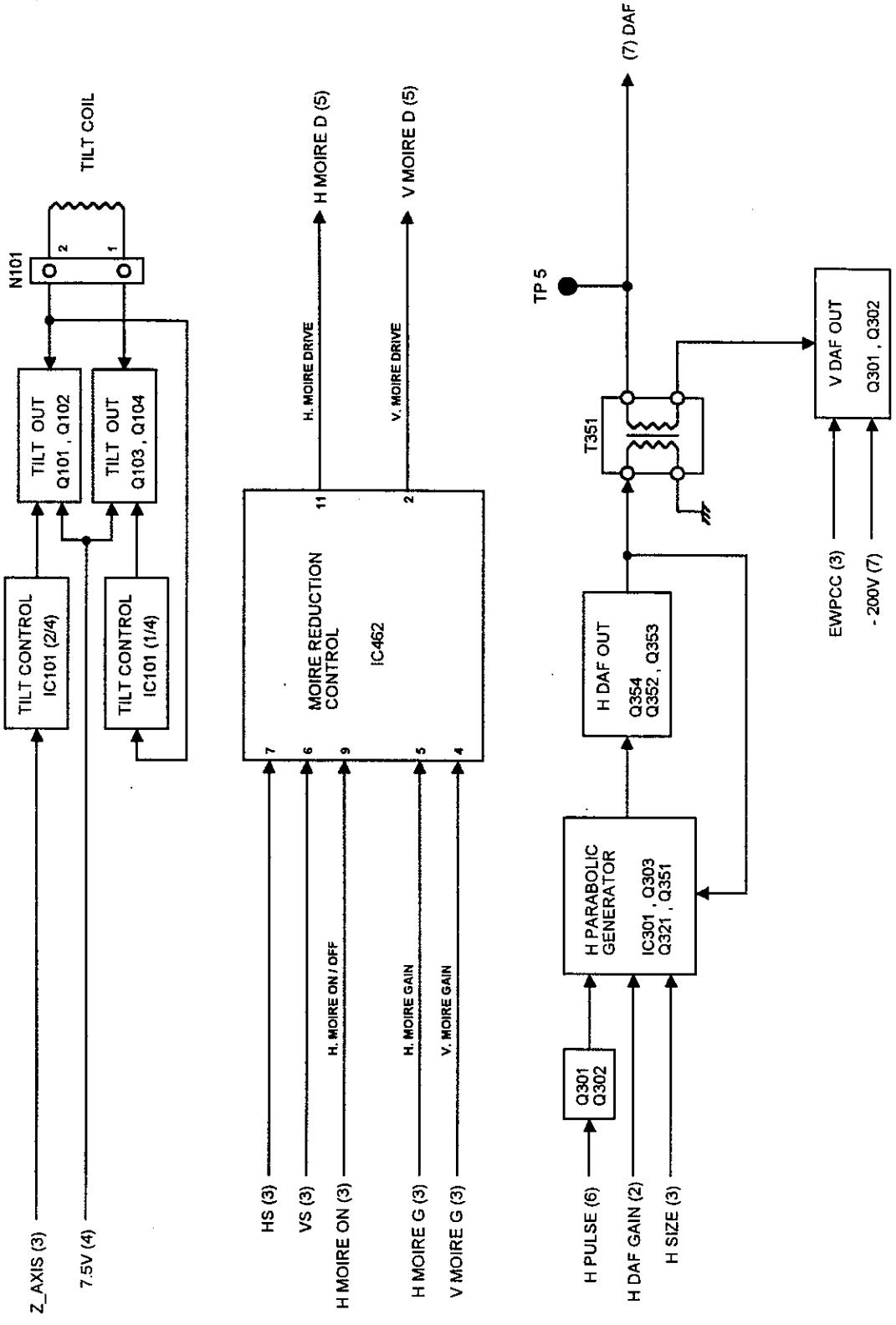
SHEET (6) H DEFLECTION OUT



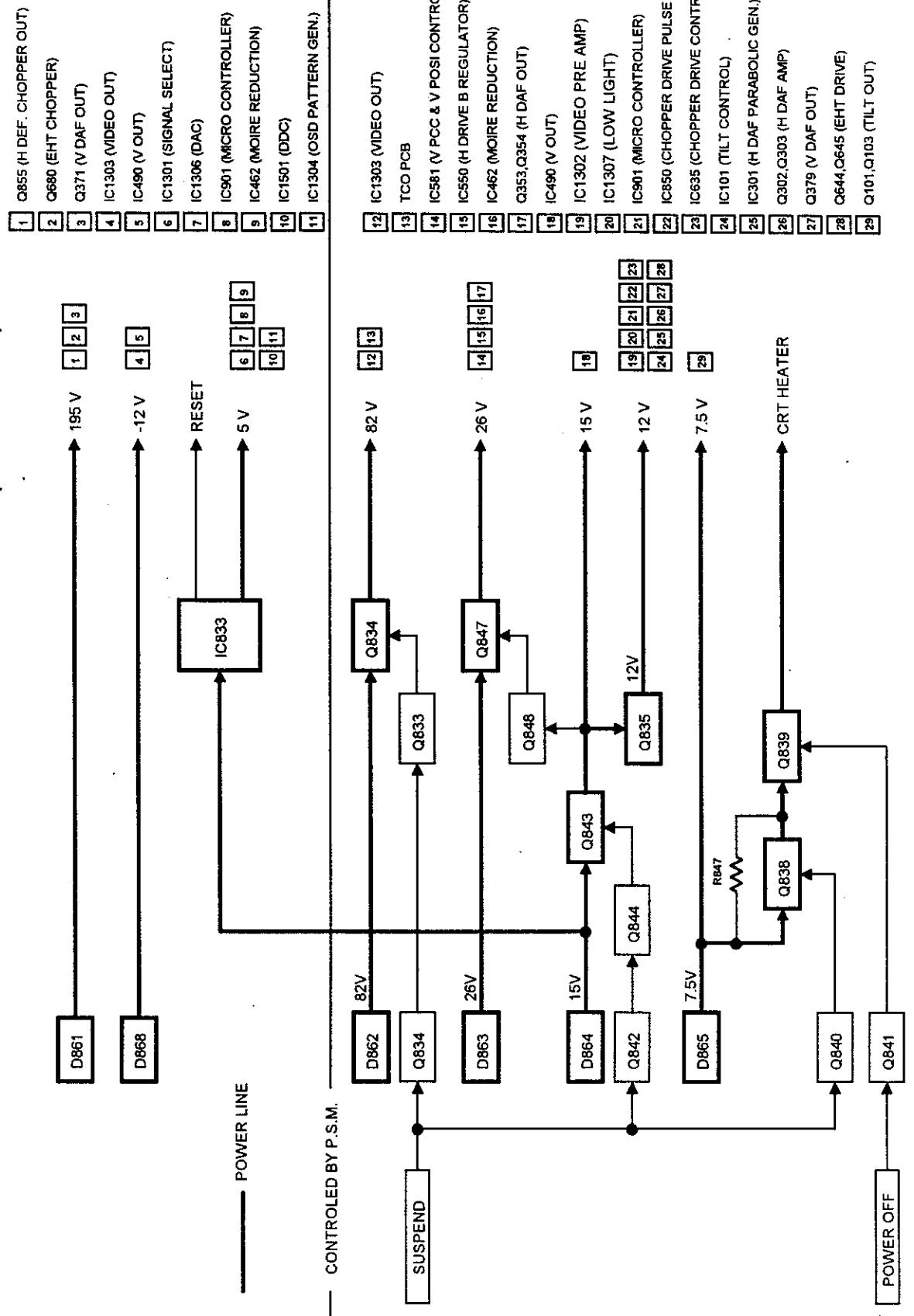
SHEET (7) H DRIVE / EHT OUT



SHEETT (8) TILT CONTROL / DAF OUT / MOIRE REDUCTION

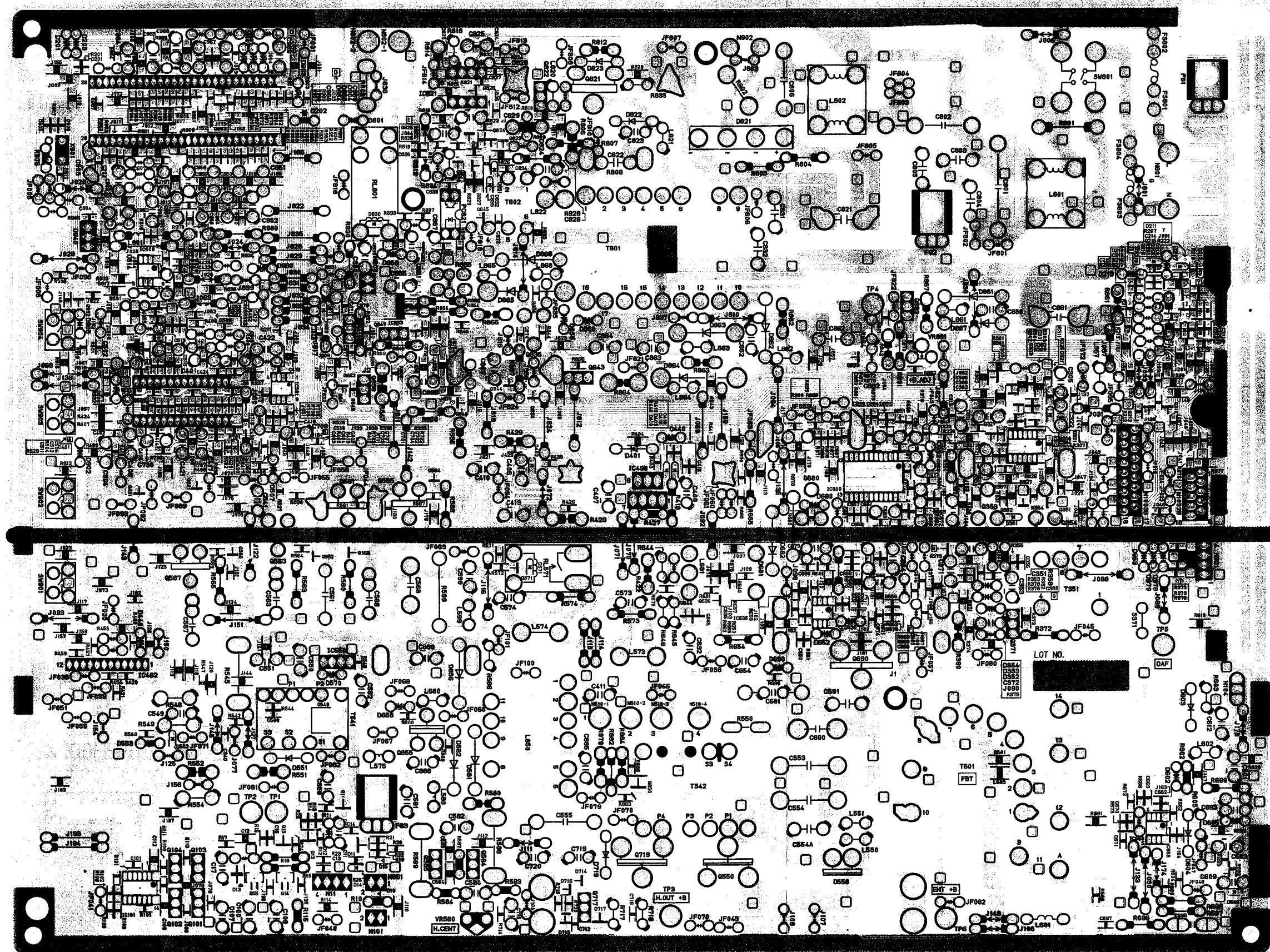


REPAIR HINTS FOR POWER SAVE (HV8 CHASSIS)

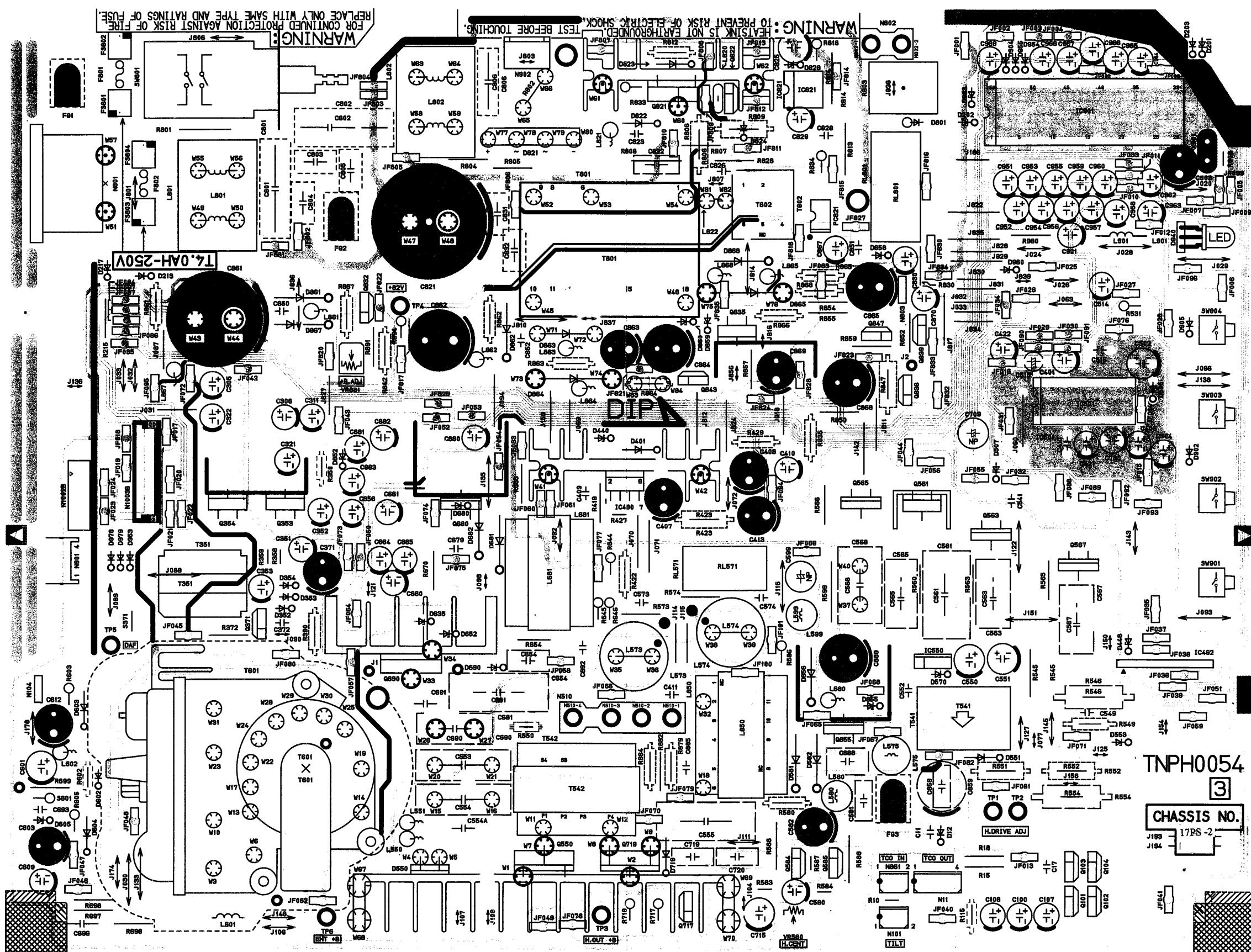


— CONDUCTOR VIEW —

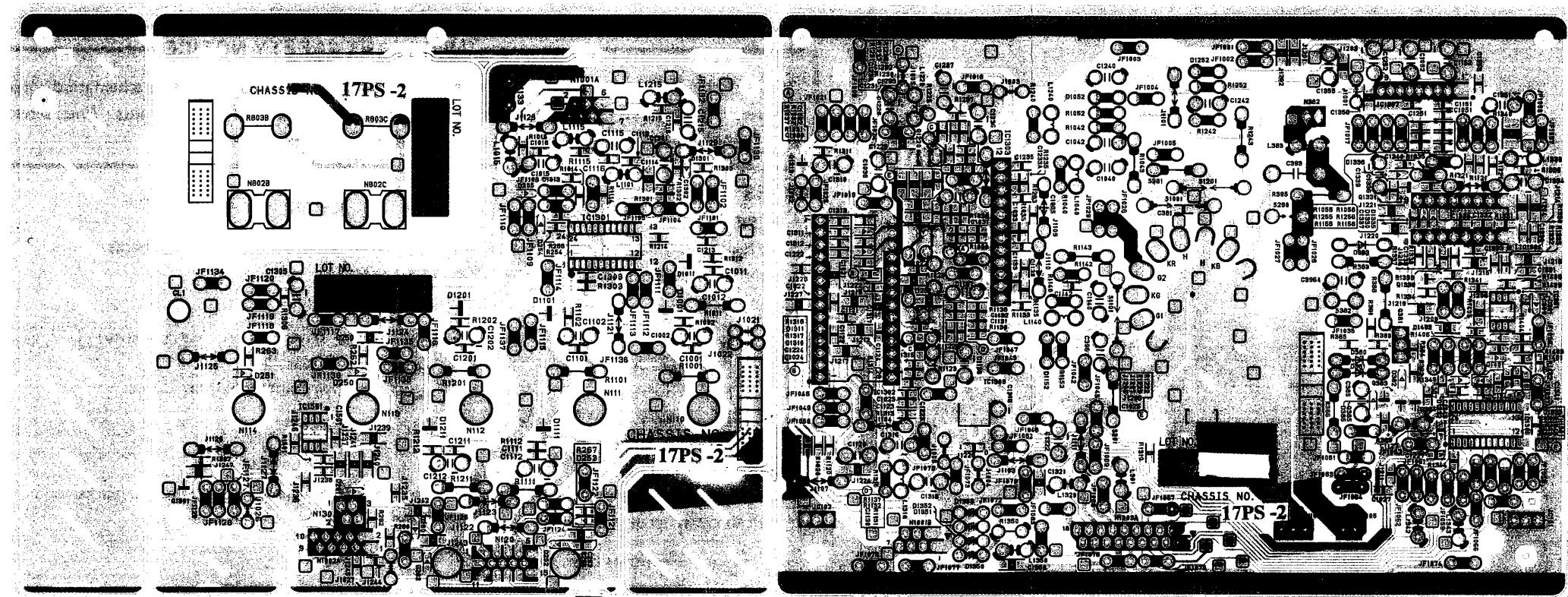
MAIN BOARD (Solder side)



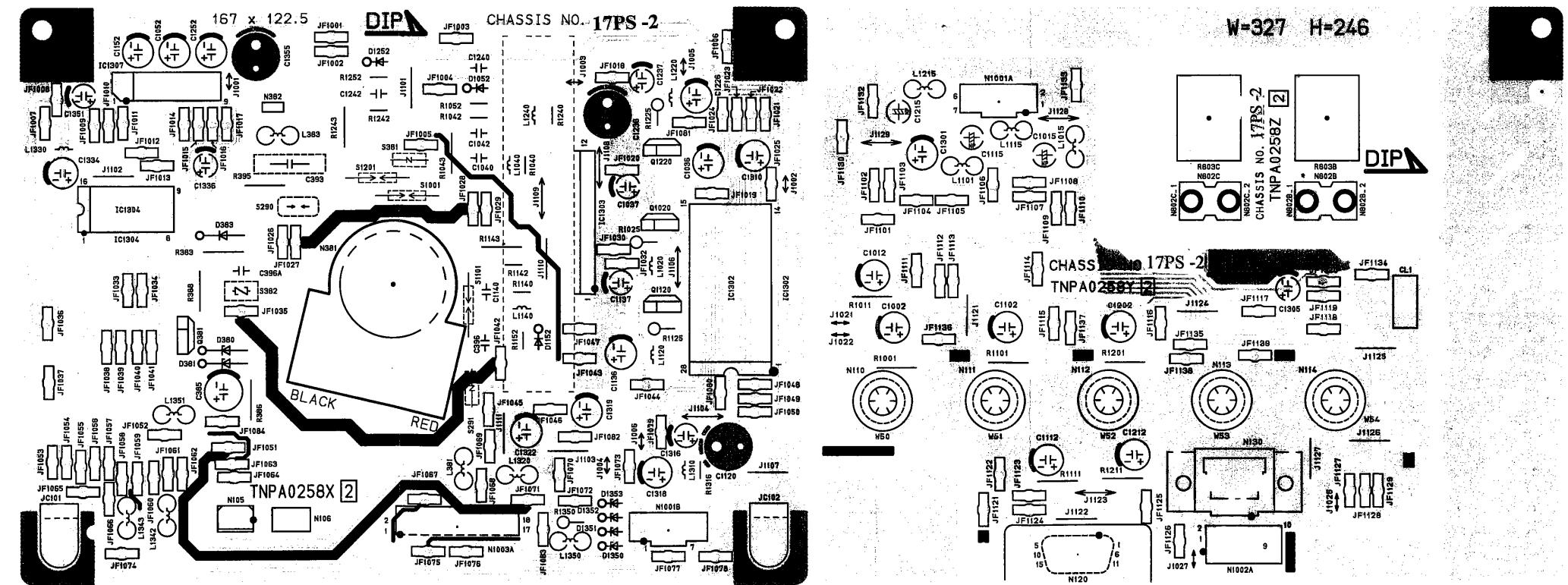
MAIN BOARD (Parts side)



VIDEO BOARD (Solder side)



VIDEO BOARD (Parts side)



SCHEMATIC DIAGRAM

IMPORTANT SAFETY NOTICE

The component identified by shading or international symbol Δ on the following schematic diagrams incorporate special features important for protection from X-Radiation, fire and electrical shock hazards. When servicing it is essential that only manufacturer's specified parts be used for those critical components.

NOTES :

1. RESISTOR

All resistors are carbon 1/4W resistor, unless otherwise noted by the following marks.
Unit of resistance is ohm (Ω), (K = 1,000, M = 1,000,000)

\bigcirc	Non Flammable	\triangle	Solid
\blacksquare	Metal Oxide	(\odot)	Metal (Precision and high stability)
\square	Wire Wound	\blacksquare	Thermistor
\otimes	Fusible	\blacksquare	Positive coefficient Thermistor
\blacksquare	Flame Proof Rectangular		

2. CAPACITOR

All capacitors are ceramic 50V capacitor, unless otherwise noted by the following marks.
Unit of capacitance is μF , unless otherwise noted.

---	Electrolytic	(M)	Polyester
(T)	Tantalum	(m)	Metalized Polyester
NP	Bipolar	\blacksquare	Polypropylene
(S)	Polystyrene	\triangle	Mica
\otimes	Temperature Compensation	\bigcirc	Ceramic
		(\odot)	Ceramic (SL)

3. COIL

Unit of inductance is μH , unless otherwise noted.

4. VOLTAGE MEASUREMENT

Voltage is measured by a digital meter receiving normal signal.

5. This schematic diagram is the latest at the time of printing and is subject to change without notice.

SERVICE NOTES :

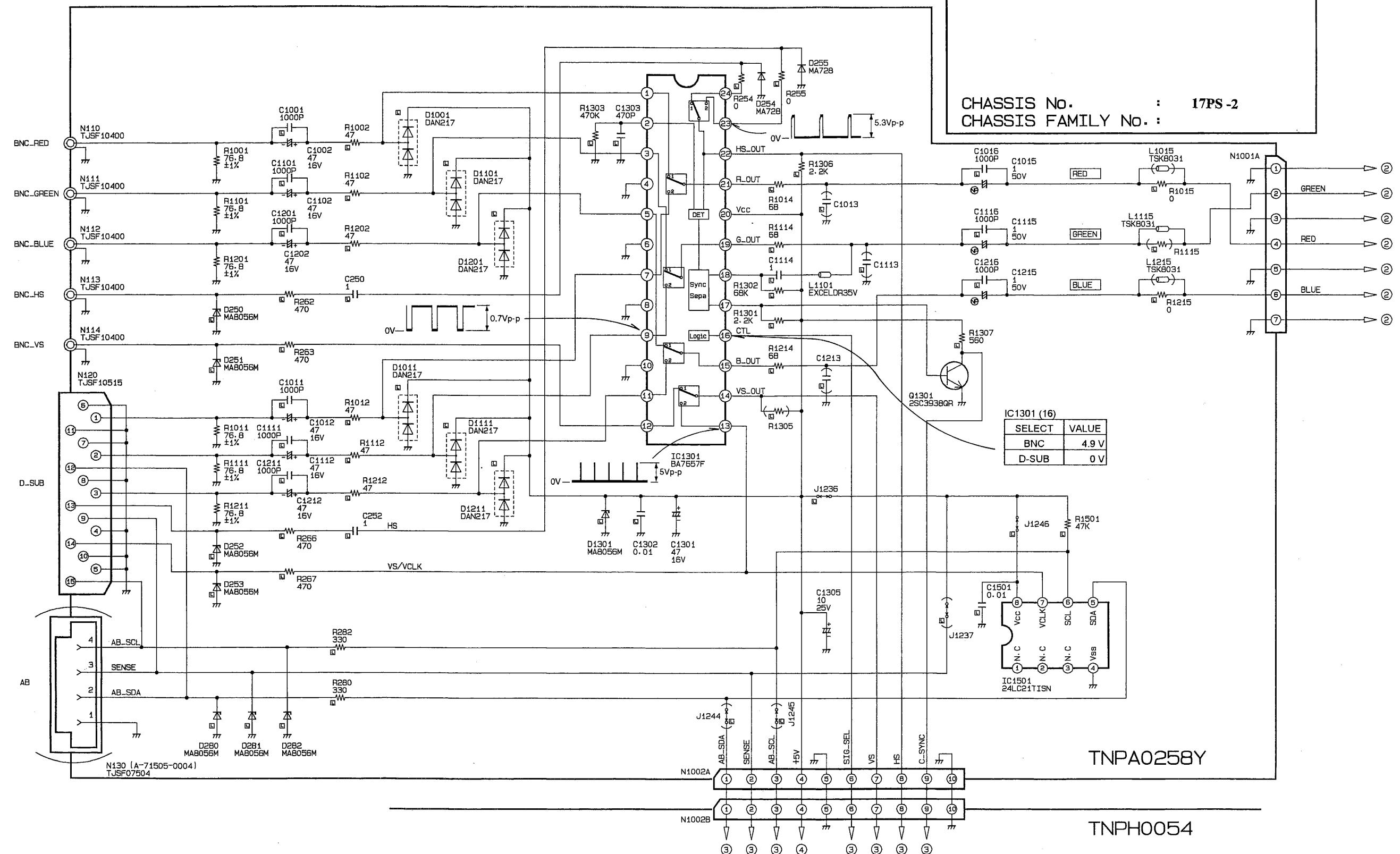
This model has a section that does not share a common ground with the power supply section. The different sections are referred to as the HOT section and the COLD section in the precautions below.

1. Do not touch the HOT section and the COLD section at the same time. You may receive an electric shock.
2. Do not short the HOT section to the COLD section. This could blow the fuse or damage parts.
3. Never measure the HOT section and the COLD section at the same time when using tools such as oscilloscopes or multimeters.
4. Always unplug the unit before beginning any operation such as removing the chassis.

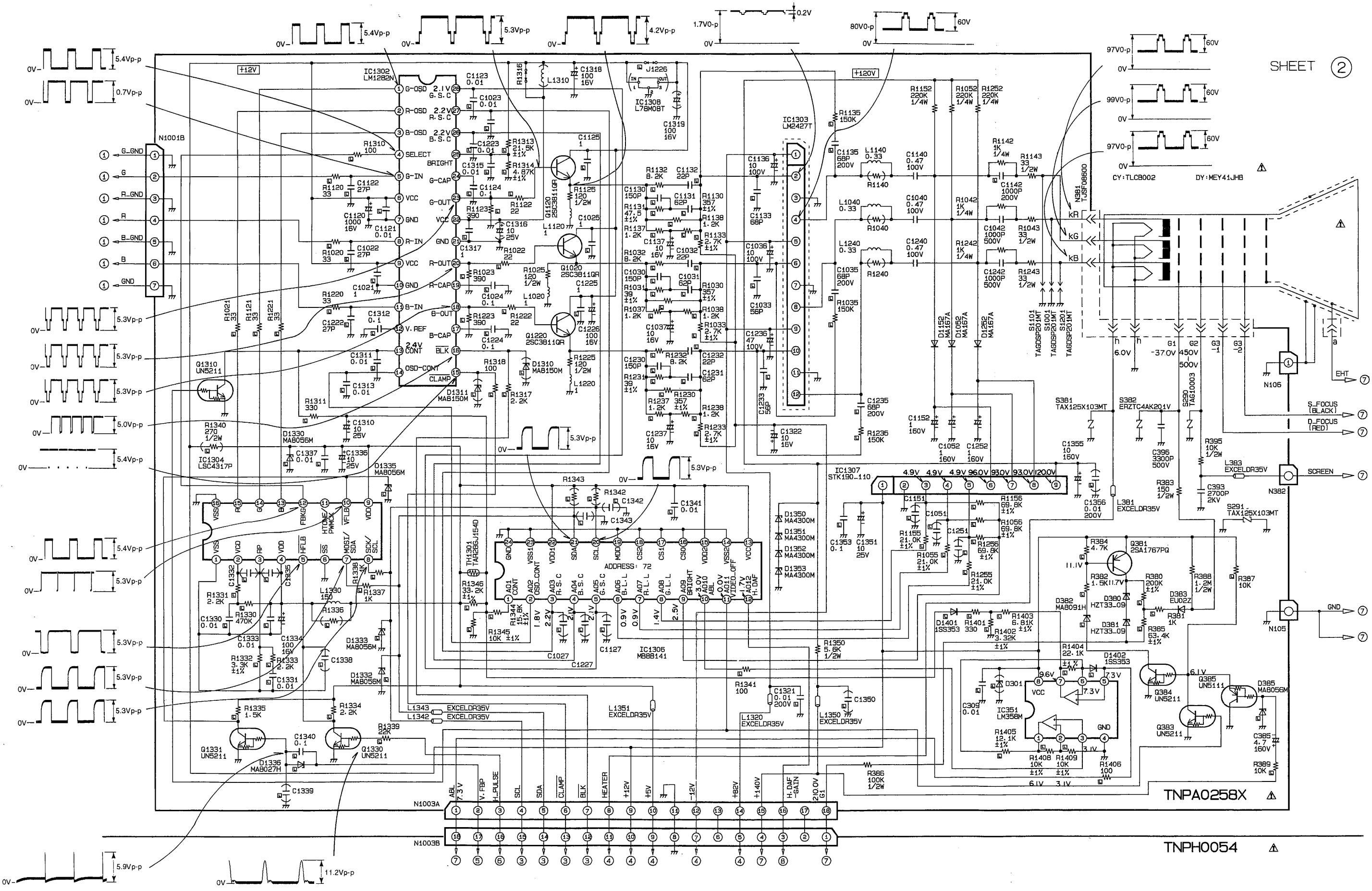
SCHEMATIC DIAGRAM FOR
MODEL No. : 1786PS

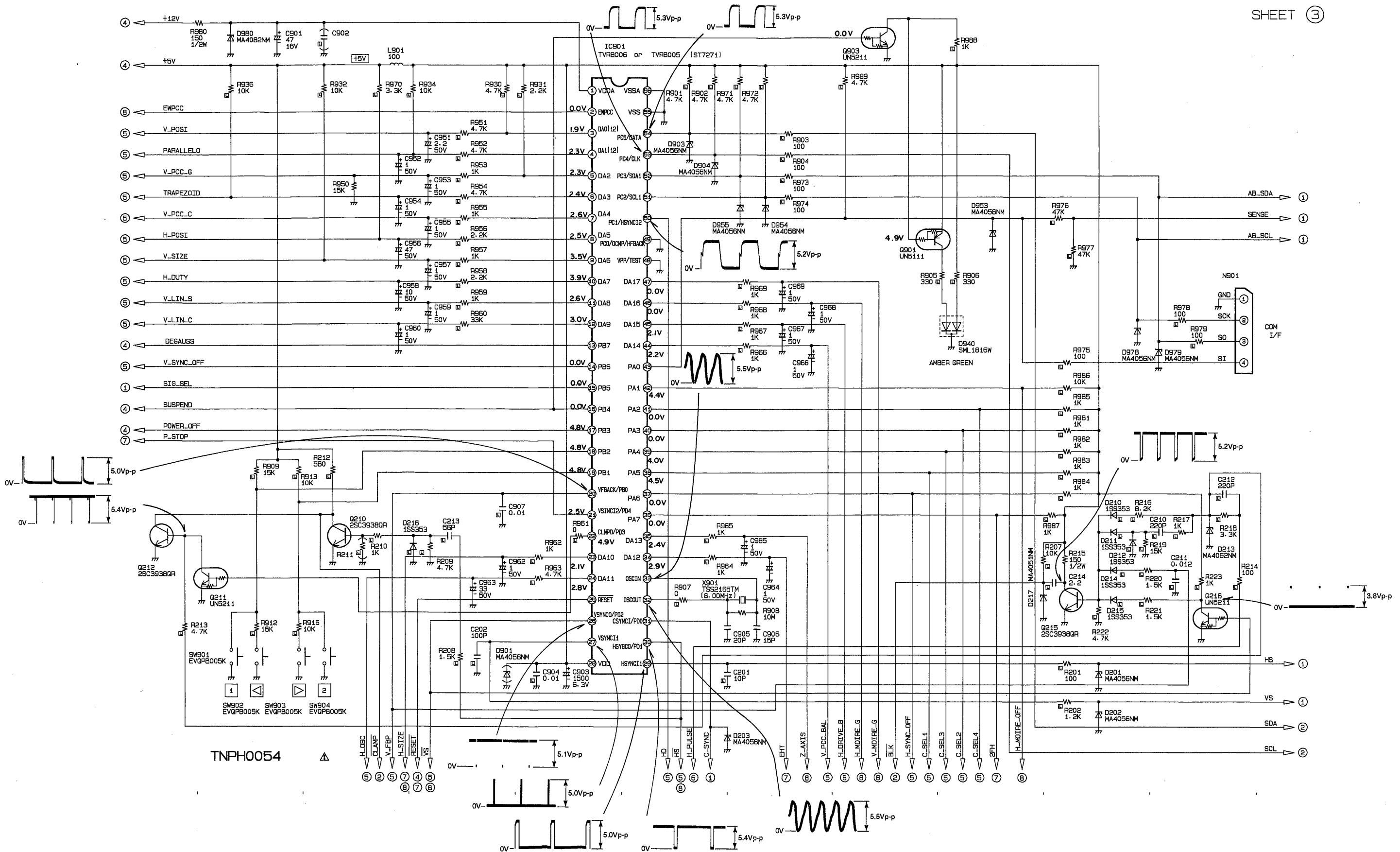
SHEET ①

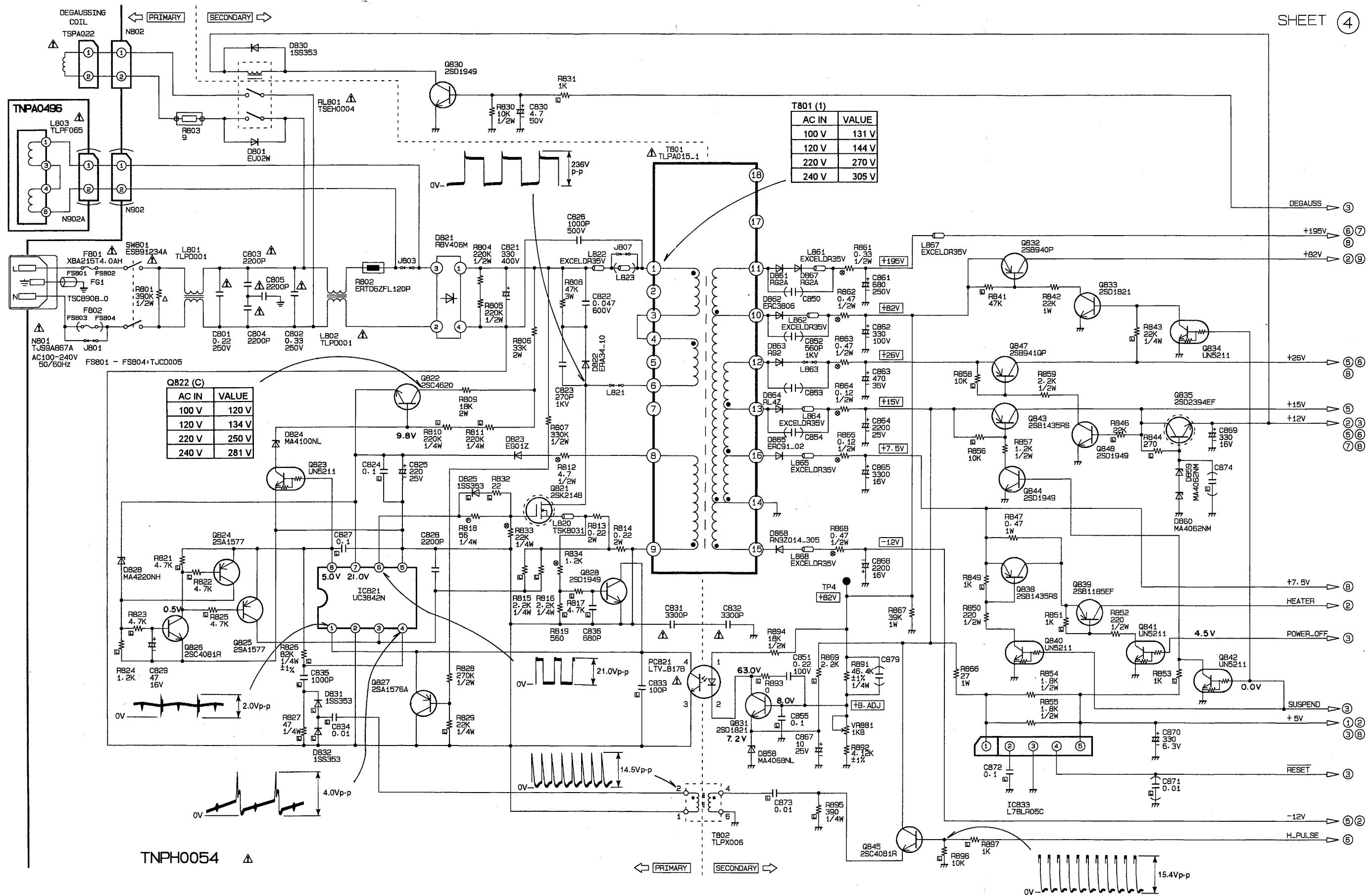
CHASSIS No. : 17PS -2
CHASSIS FAMILY No. :



SHEET ②

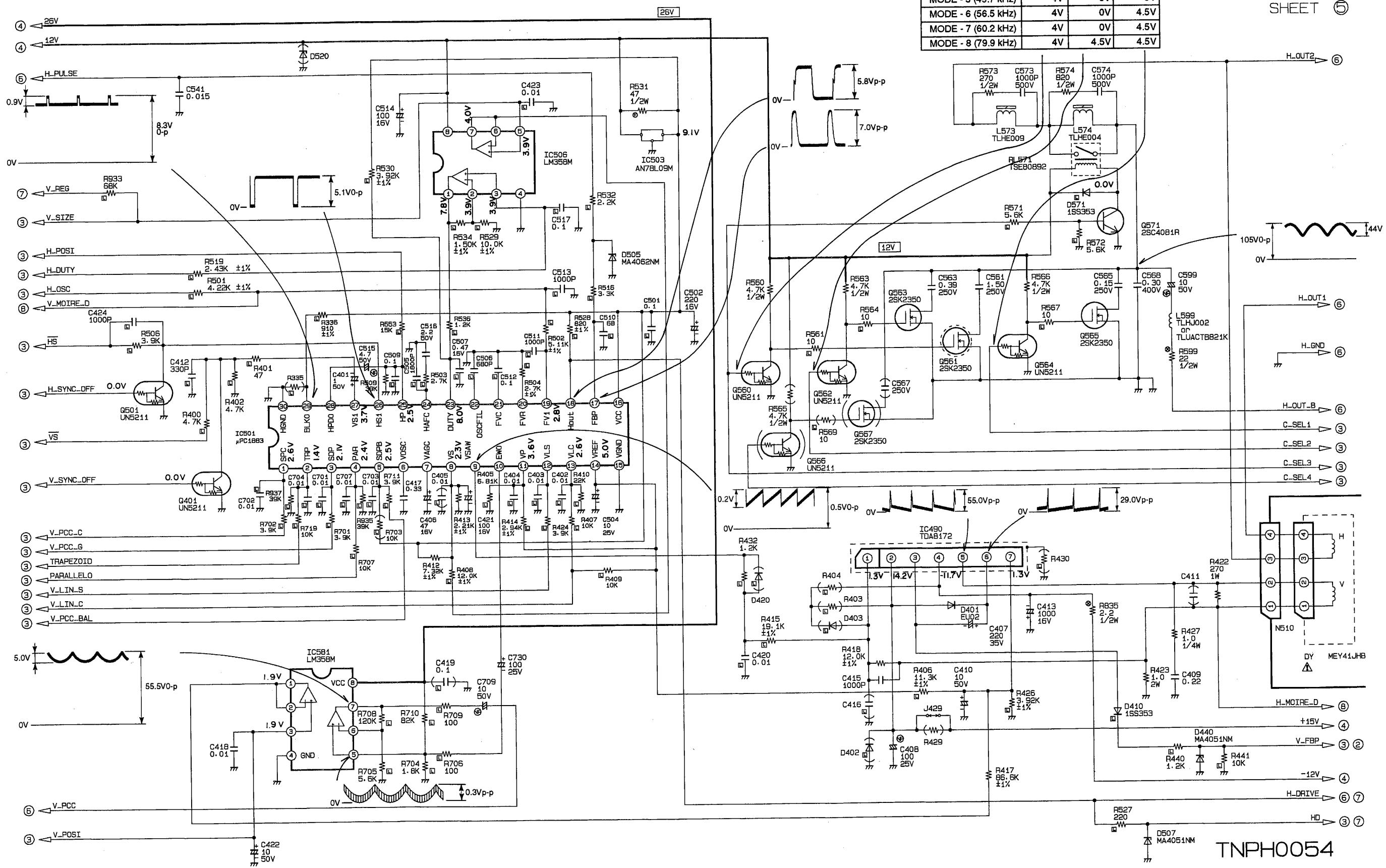


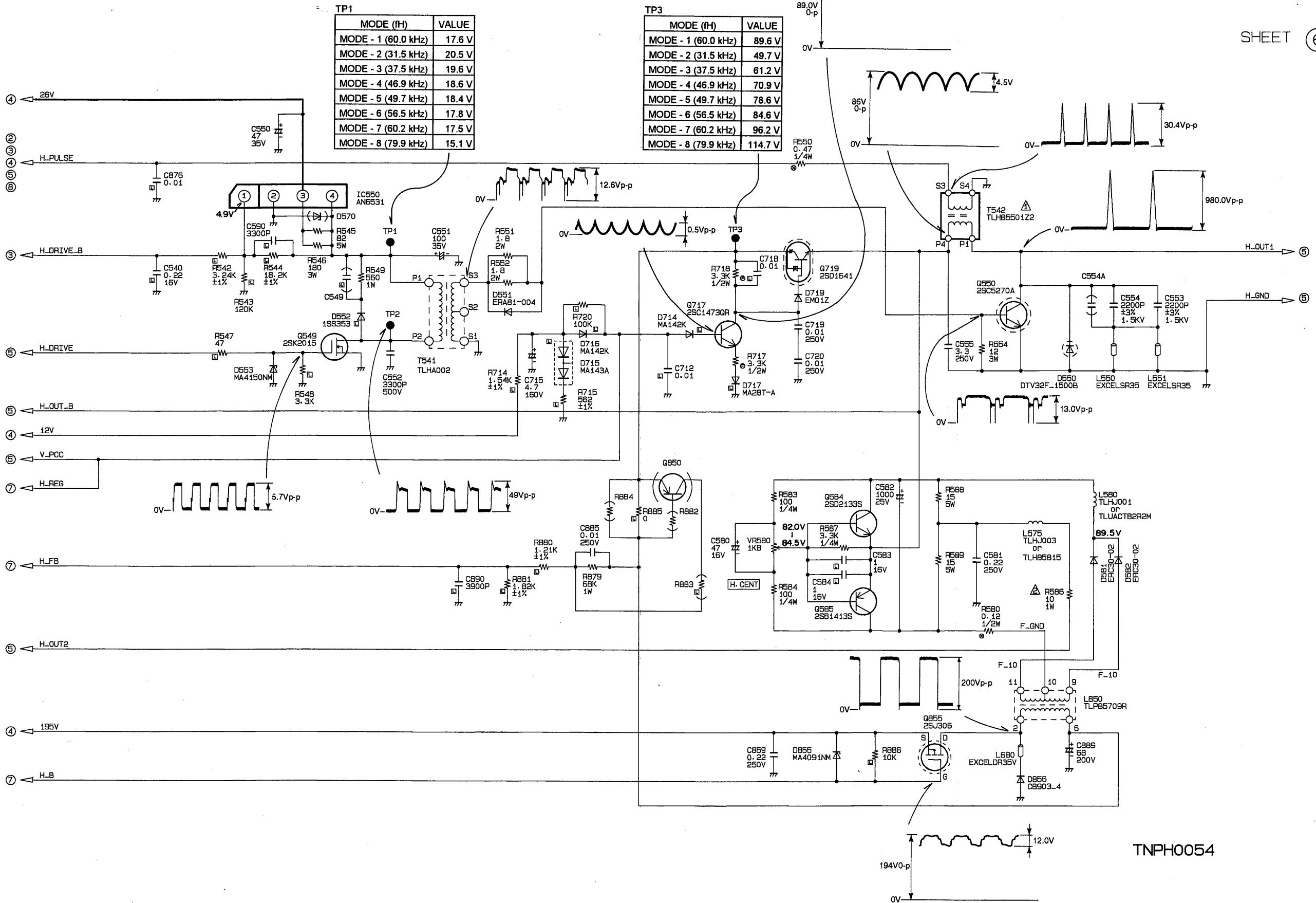




MODE (fH)	Q560(B)	Q562(B)	Q564(B)
MODE - 1 (60.0 kHz)	4V	0V	4.5V
MODE - 2 (31.5 kHz)	0V	0V	0
MODE - 3 (37.5 kHz)	0V	4.5V	4.5V
MODE - 4 (46.9 kHz)	4V	0V	0
MODE - 5 (49.7 kHz)	4V	0V	0
MODE - 6 (56.5 kHz)	4V	0V	4.5V
MODE - 7 (60.2 kHz)	4V	0V	4.5V
MODE - 8 (79.9 kHz)	4V	4.5V	4.5V

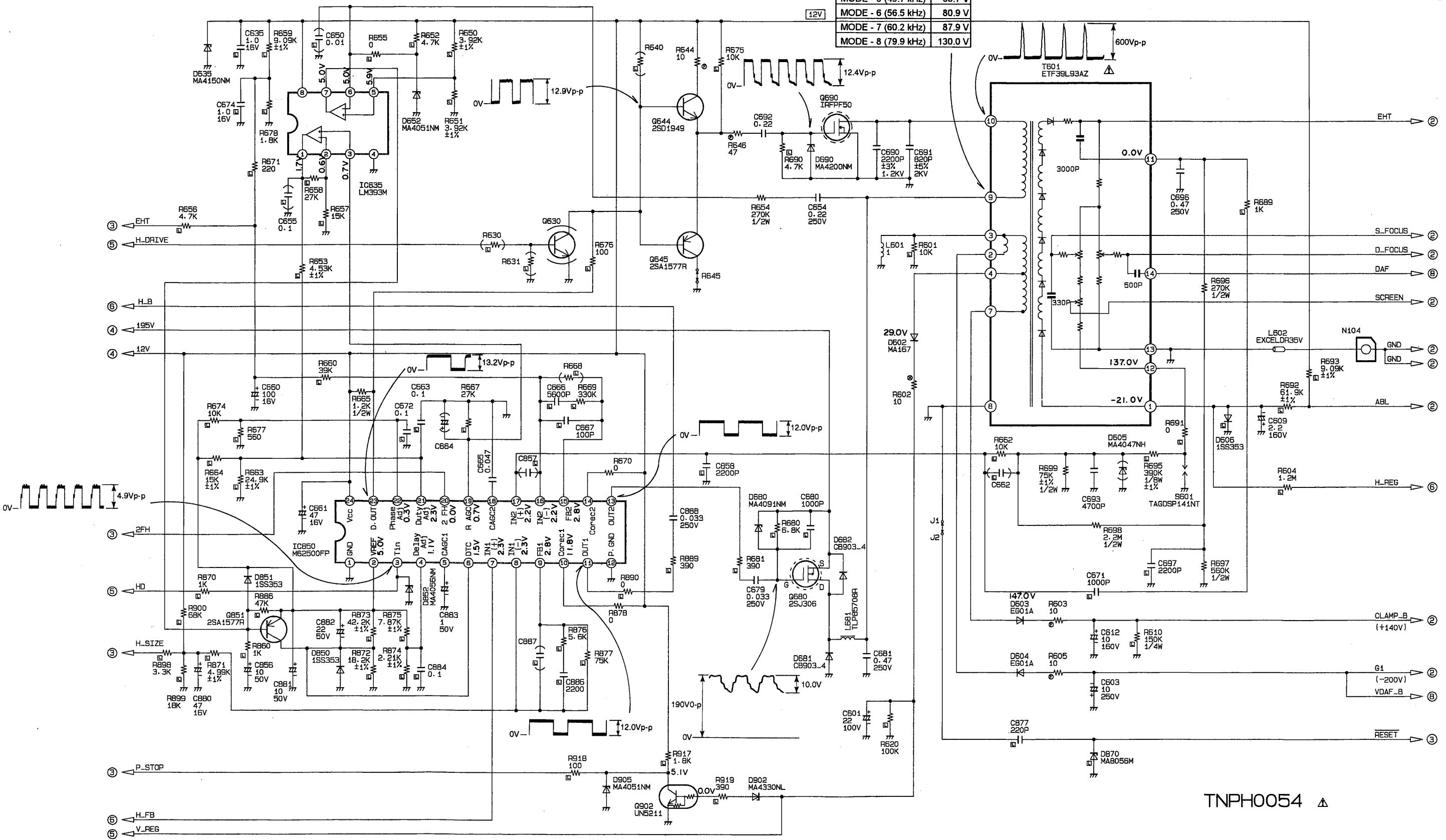
SHEET ⑤



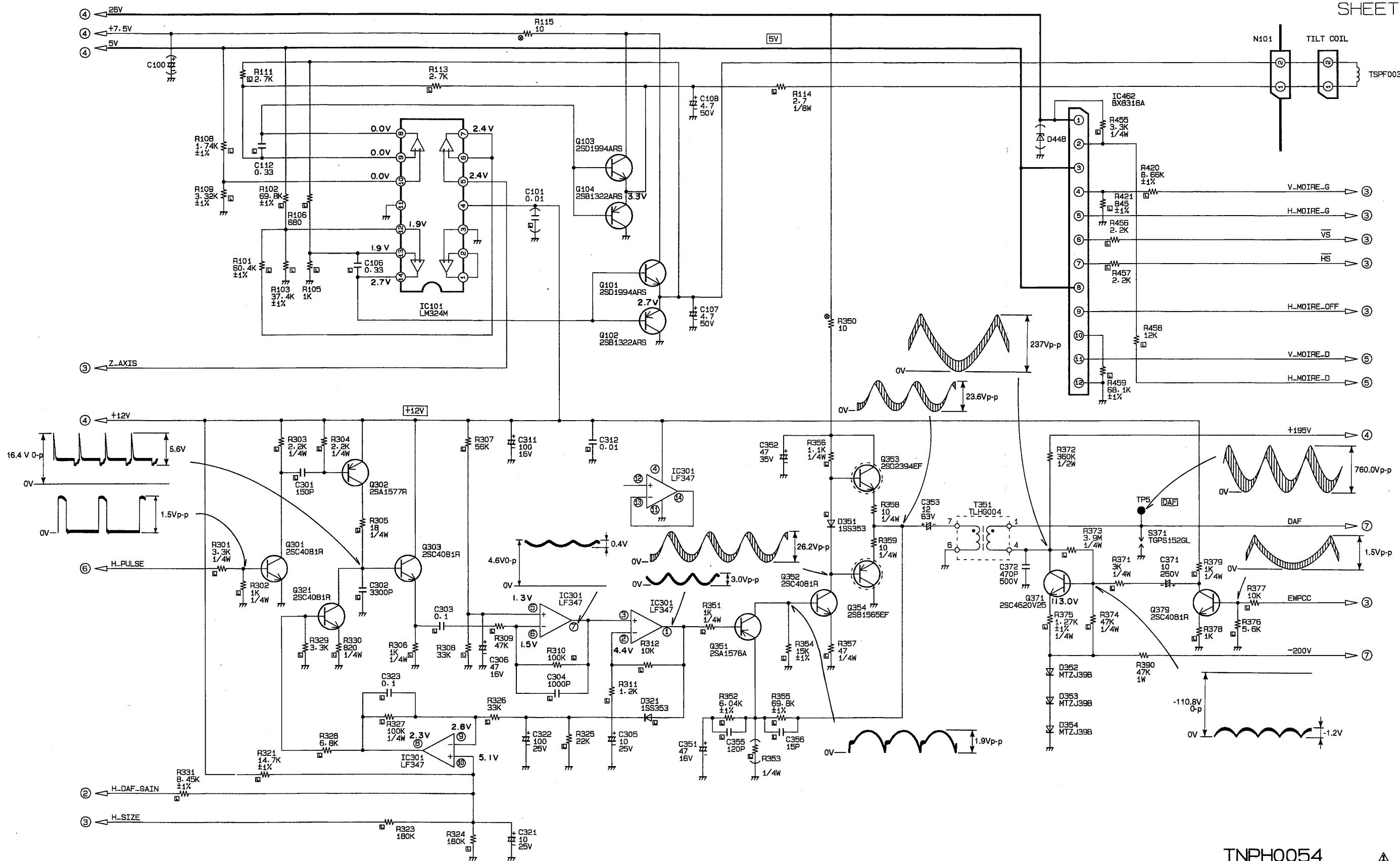


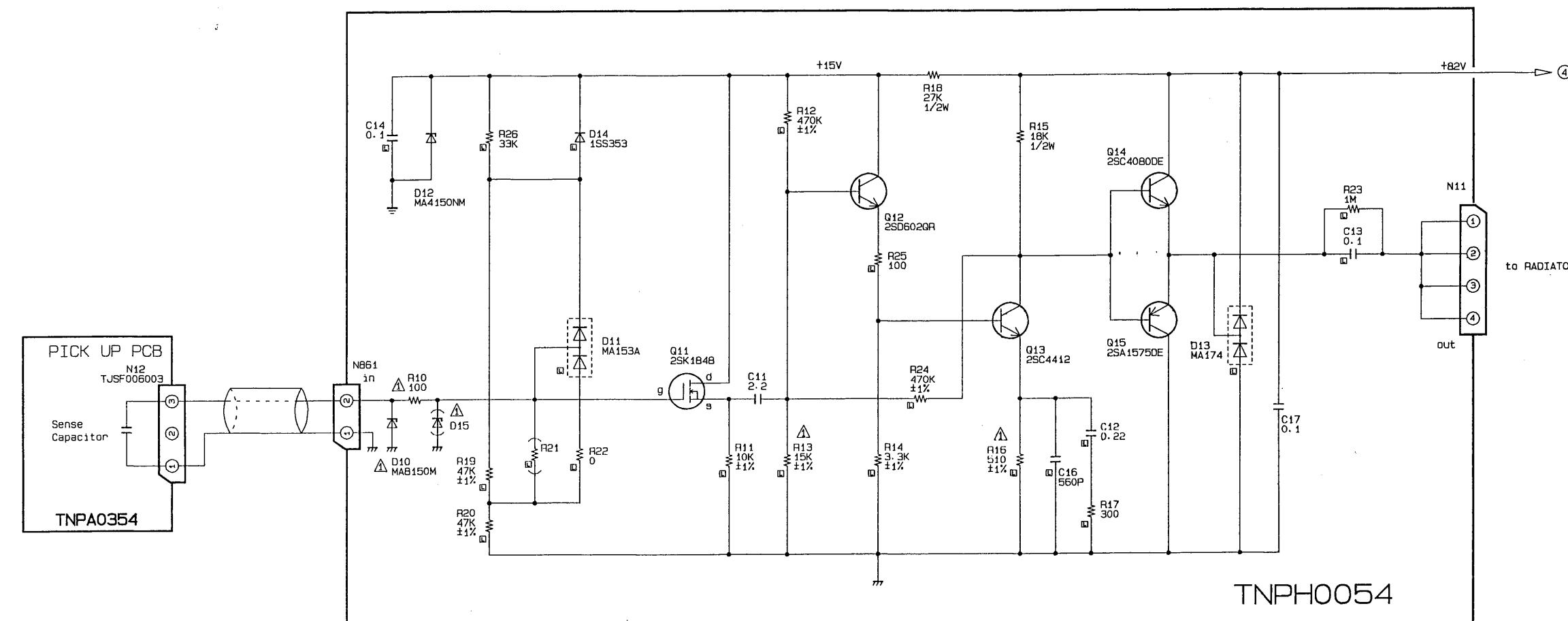
TNPH0054

FBT (9)	
MODE (fH)	VALUE
MODE - 1 (60.0 kHz)	87.5 V
MODE - 2 (31.5 kHz)	93.0 V
MODE - 3 (37.5 kHz)	119.0 V
MODE - 4 (46.9 kHz)	64.2 V
MODE - 5 (49.7 kHz)	68.7 V
MODE - 6 (56.5 kHz)	80.9 V
MODE - 7 (60.2 kHz)	87.9 V
MODE - 8 (79.9 kHz)	130.0 V

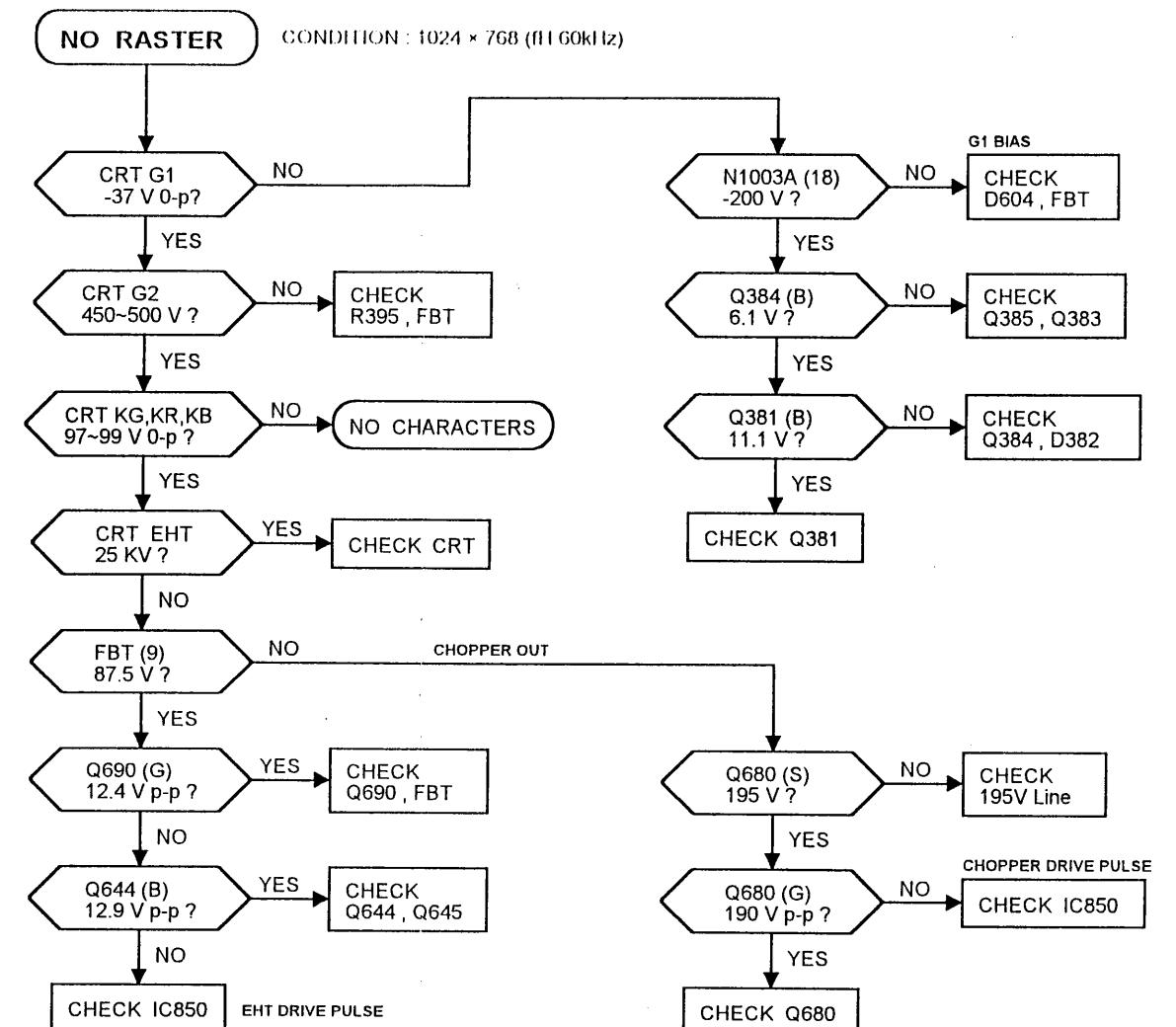
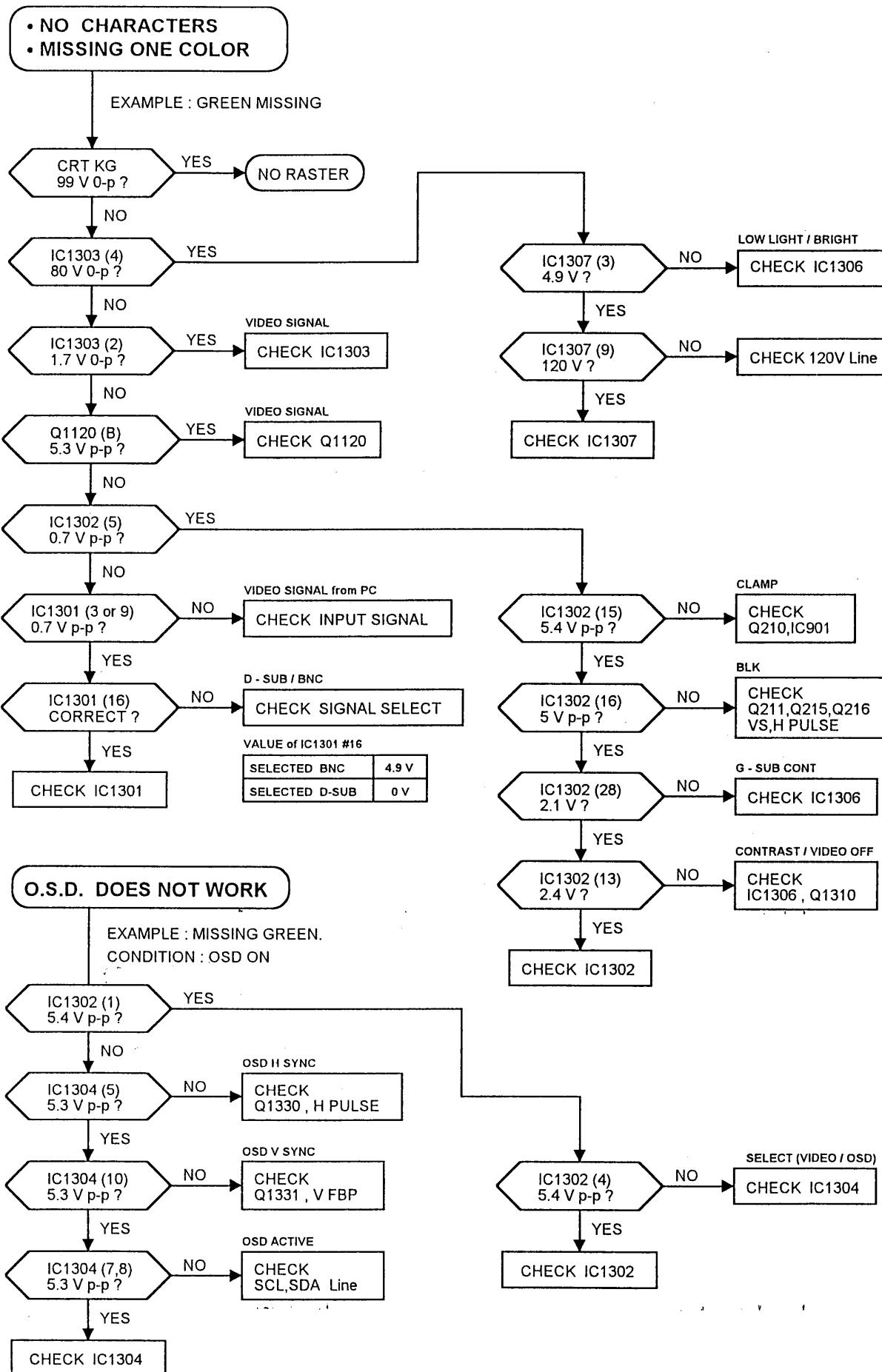


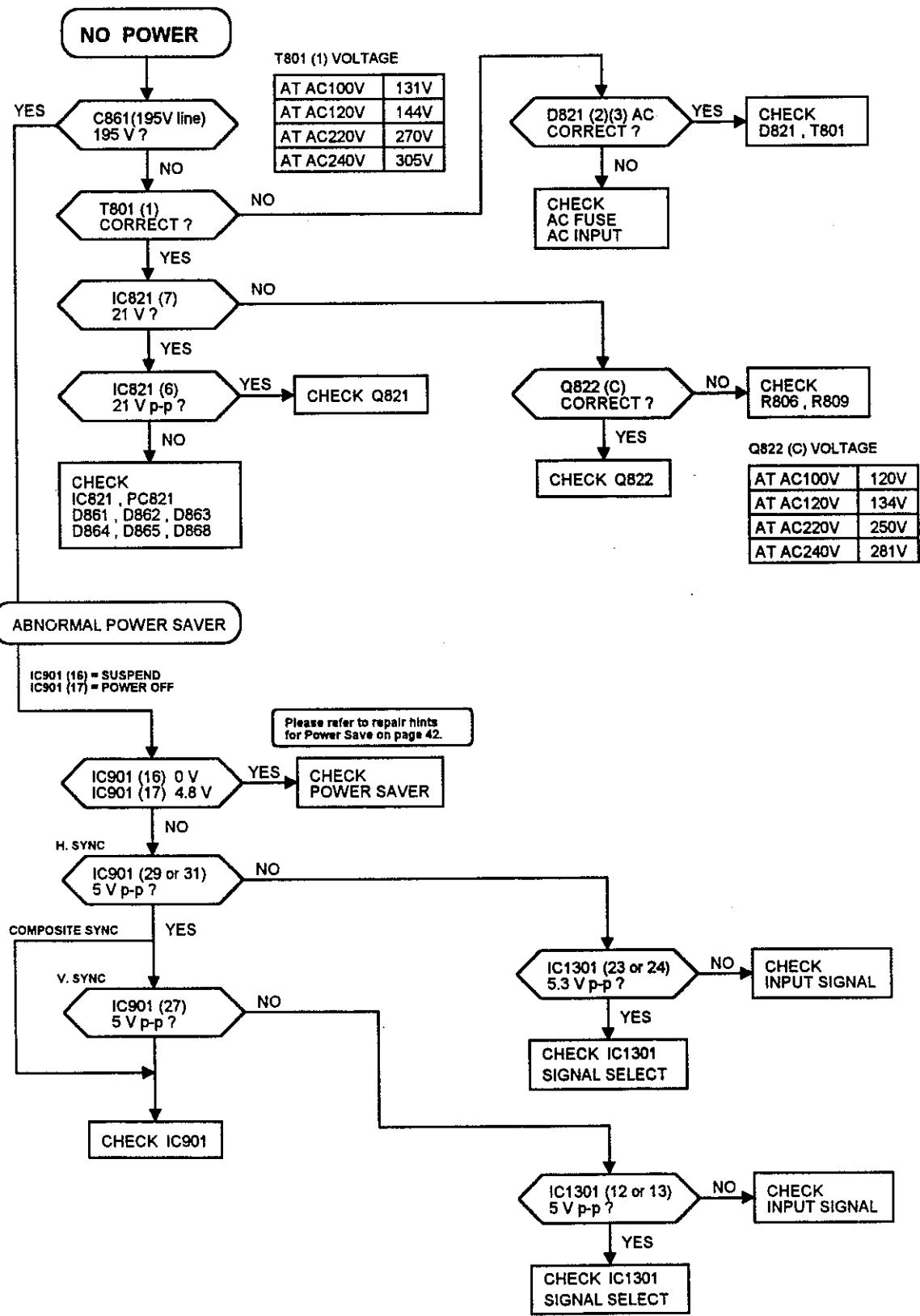
TNPH0054

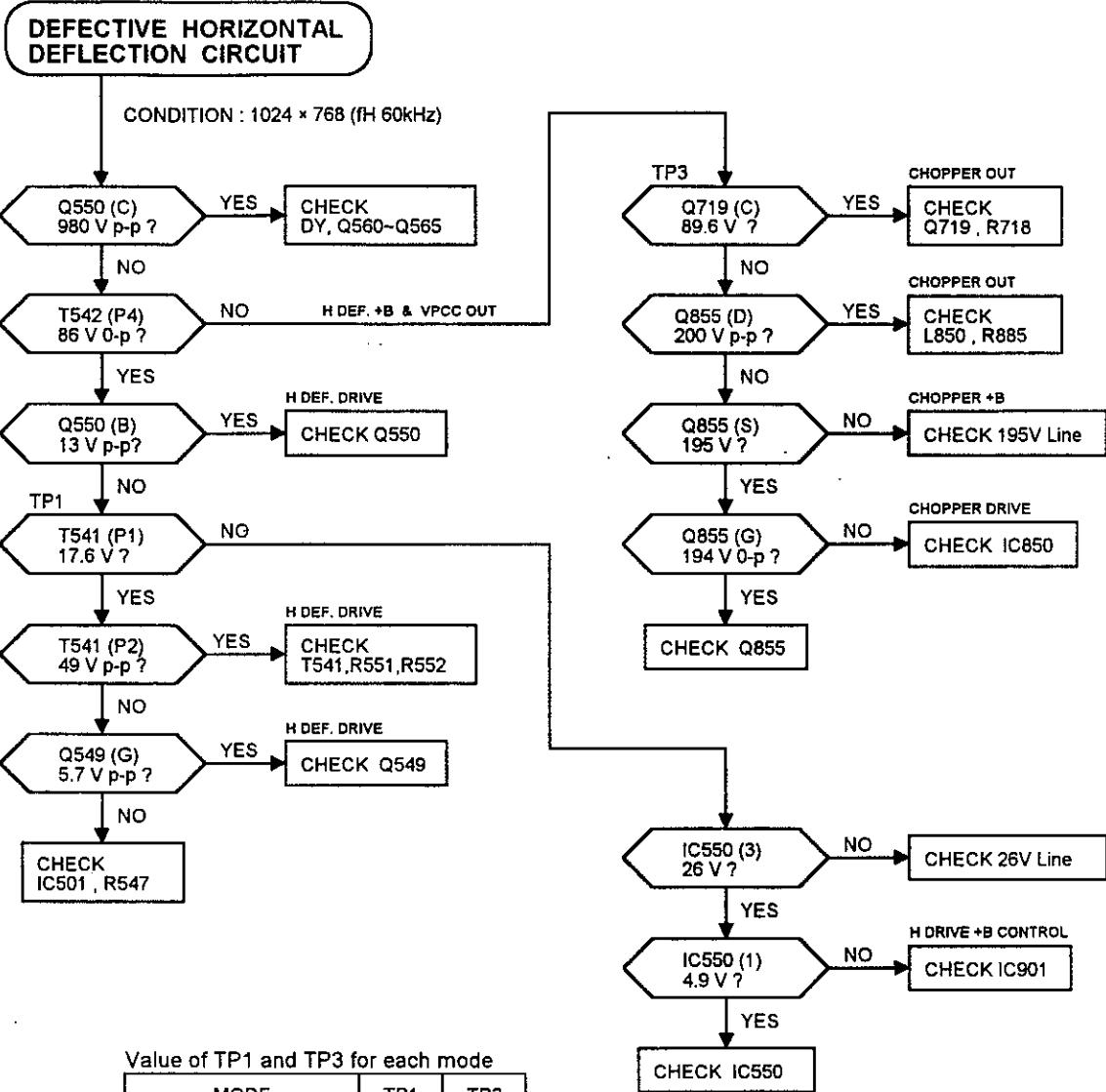




TROUBLE SHOOTING HINTS



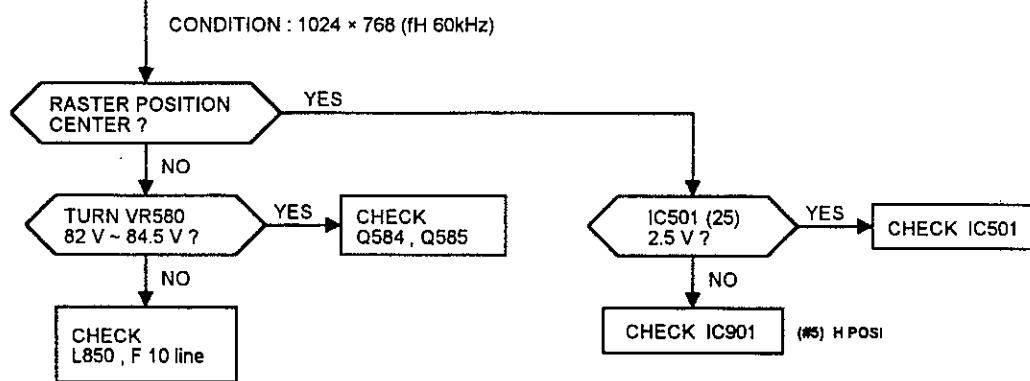




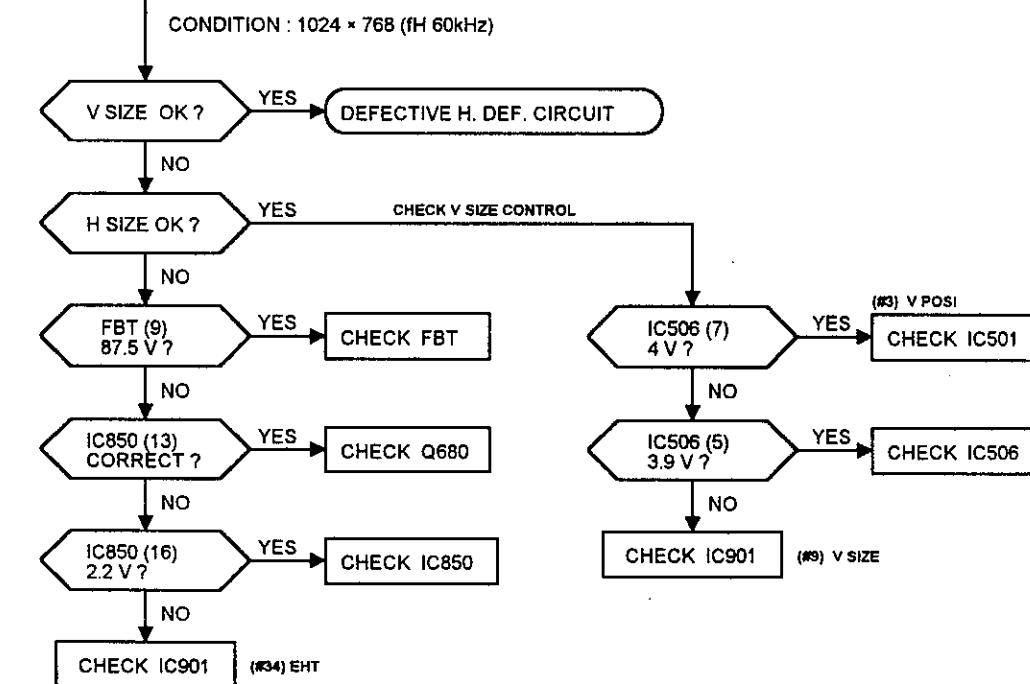
Value of TP1 and TP3 for each mode

MODE	TP1	TP3
MODE - 1 (fH 60.0kHz)	17.6 V	89.6 V
MODE - 2 (fH 31.5kHz)	20.5 V	49.7 V
MODE - 3 (fH 37.5kHz)	19.6 V	61.2 V
MODE - 4 (fH 46.9kHz)	18.6 V	70.9 V
MODE - 5 (fH 49.7kHz)	18.4 V	78.6 V
MODE - 6 (fH 56.5kHz)	17.8 V	84.6 V
MODE - 7 (fH 60.2kHz)	17.5 V	96.2 V
MODE - 8 (fH 80.0kHz)	15.1 V	114.7 V

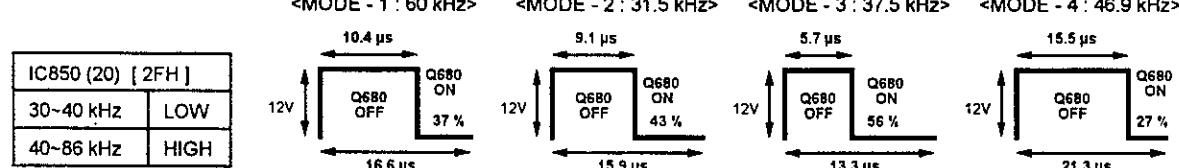
INCORRECT H. POSITION CONTROL



INCORRECT SCREEN SIZE

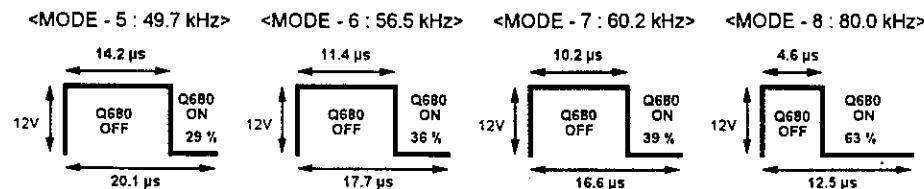


IC850 (13) Wave



When Low level is applied to 20 pin, IC850 will supply $\times 2$ fH signal to Q680 and Q690.

(IC850 13 & 23 pin)



H. SYNC DOES NOT HOLD

CHECK IC501

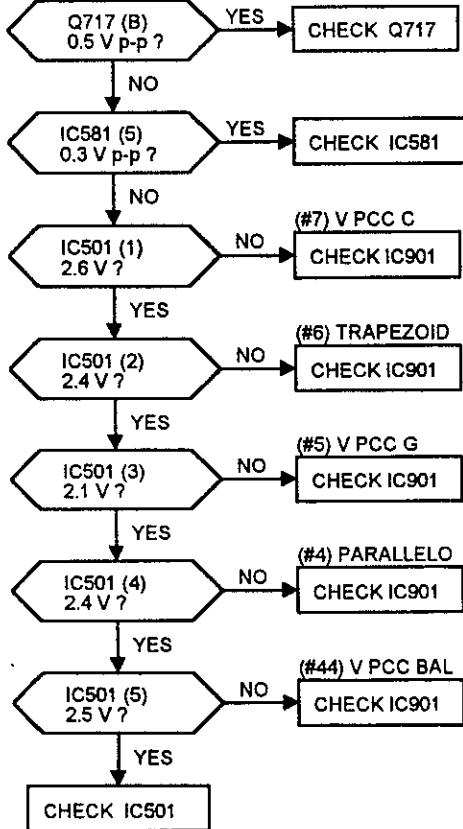
If no horizontal and/or vertical sync from PC,
then the power save circuit becomes active.

V. SYNC DOES NOT HOLD

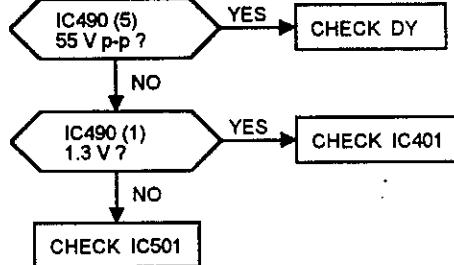
CHECK IC501

INCORRECT V.PCC

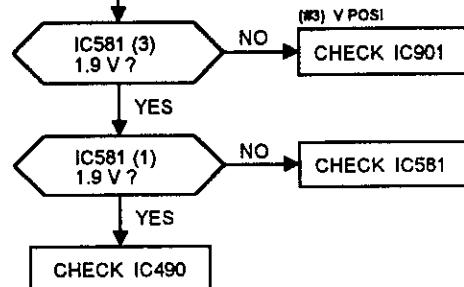
CONDITION : 1024 × 768 (fH 60kHz)



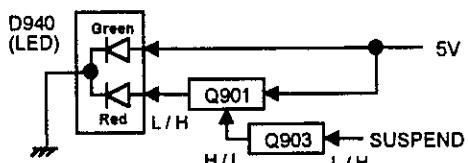
BRIGHT HORIZONTAL LINE APPEARS ON THE SCREEN



INCORRECT V. POSITION CONTROL

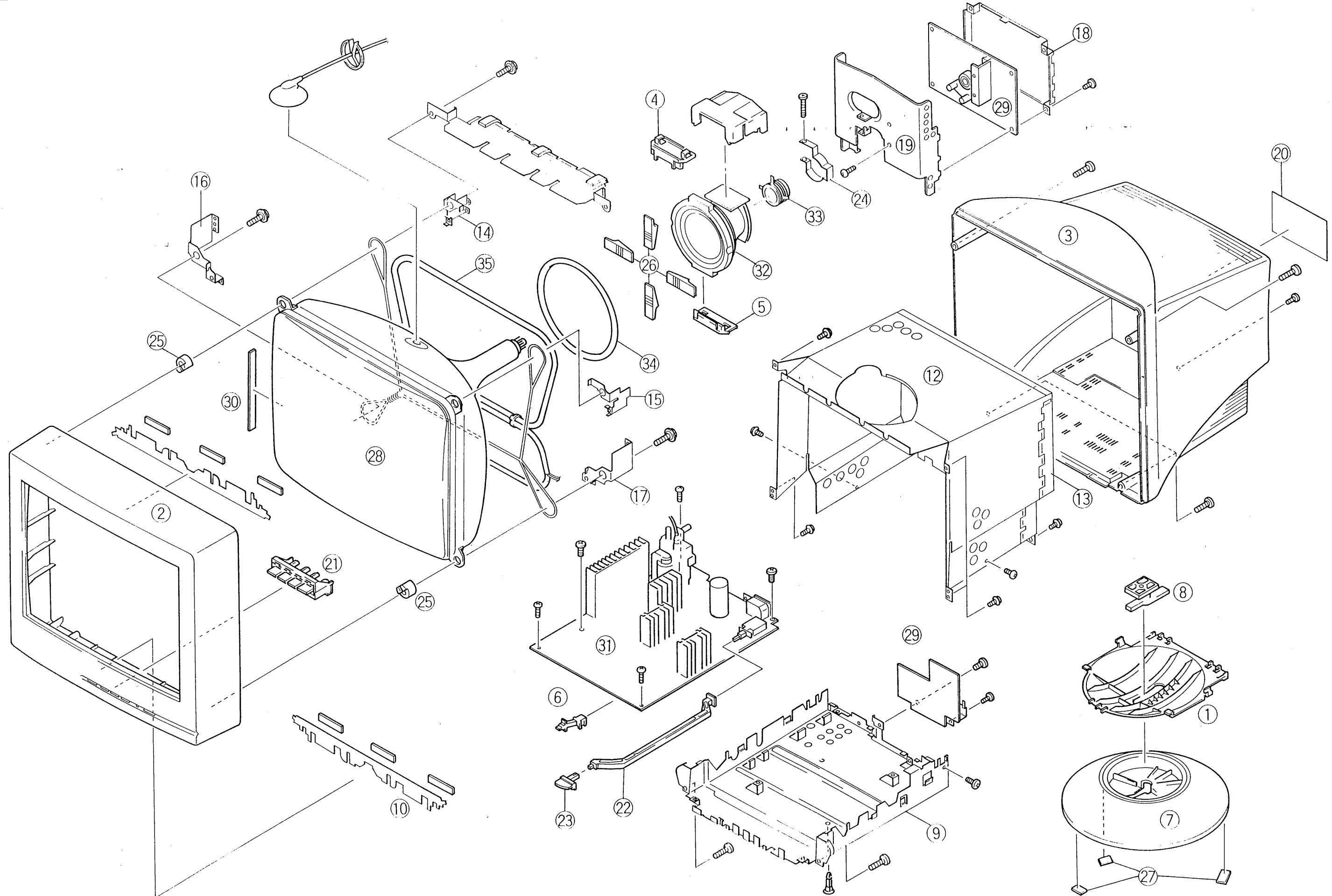


ABNORMAL POWER INDICATOR



HS	VS	SUSPEND	COLOR
ON	ON	LOW	GREEN
OFF	ON	HIGH	YELLOW
ON	OFF	HIGH	YELLOW
OFF	OFF	HIGH	YELLOW

EXPLODED VIEW



REPLACEMENT PARTS LIST

Important Safety Notice

Components identified by the International symbol  have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

RESISTOR

PART NAME & DESCRIPTION	
TYPE	ALLOWANCE
C Carbon	F ± 1%
F Fuse	J ± 5%
M Metal Oxide	K ± 10%
S Solid	M ± 20%
W Wire Wound	G ± 2%

CAPACITOR

PART NAME & DESCRIPTION	
TYPE	ALLOWANCE
C Ceramic	C ± 0.25pF
E Electrolytic	D ± 0.5pF
P Polyester	F ± 1pF
S Styrol	J ± 5%
T Tantalum	K ± 10%
PP Polypropylene	L ± 15%
	M ± 20%
	P +100% - 0%
	Z +80% - 20%

Part No. Description
Example ERD25TJ104 C 100K J 1/4W

Part No. Description
Example ECKF1H103ZF C 0.01μF Z 50V

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
		CABINET & MAIN PARTS	△	27 TMKG035	SPONGE(FOR RADIATOR)
1	TKYAO1201	BOTTOM CABINET	△	TMK84990	SET LEG
2	TTEAO0701-2	ESCUOTCHEON	△	TMK85570	FERRITE STICK(WEAK)
3	TKUCO0751	REAR COVER	△	TMK85572	FERRITE STICK(STRONG)
4	TKXA00701	TIILT COIL HOLDER(UPPER)	△	THECO019	SCREW(FOR CRT PCB HOLDER)
5	TKXA00801	TIILT COIL HOLDER(UNDER)	△	THT1027	SCREW(FOR CRT)
6	TKKC5017	LED GUIDE	△	THT1069	SCREW(FOR SHIELD CASE)
	TKK859745	CONNECTOR COVER	△	XTB4+12J	SCREW
7	TKK859979-4	PEDESTAL	△	XTN5+16A	SCREW
8	TKK859980	CENTER POST	△	XTV3+10A	SCREW
9	TUAA02301	BOTTOM PLATE	△	XTV3+6J	SCREW
10	TSAA3001-1	RADIATOR	△	XTV3+8J	SCREW
	TUCC5055-1	SHIELD PLATE(UPPER)	△	XYA4+E8	SCREW
12	TUCC5071	SHIELD CASE	△	XTV3+8A	SCREW
13	TUCC5072	SHIELD CASE(REAR)	△	28 M41KXH147X-J	PICTURE TUBE
14	TUCC5073	EARTH METAL(R-UPPER)	△	29 TNPA0258-21	PC BOARD W/COMPONENT (VIDEO INPUT/CRT)
15	TUCC5074	EARTH METAL(L-UPPER)	△	30 TNPA0354-21	PC BOARD W/COMPONENT(TCO)
16	TUXC5001	EARTH METAL(R-UNDER)	△	31 TNPH0054-24	PC BOARD W/COMPONENT (MAIN)
17	TUXC5002	EARTH METAL(L-UNDER)	△	32 MEY41JHB	DEFLECTION YOKE
18	TUSA008	SHIELD CASE(CRT PCB)	△	33 TLCB002	CONVERGENCE COIL
19	TUSDO05	SHIELD PLATE(CRT PCB)	△	34 TLK858005T	TIILT COIL
20	TBMC358	MODEL PLATE	△	35 TSPA022	DEGAUSS COIL
22	TBXAO2104	POWER SWITCH SHAFT	△	TSXA014	POWER CORD<-E, -A>
23	TBXAO3501	KNOB(POWER)	△	TSXA023	POWER CORD<-M>
21	TBXAO3601	KNOB(CONTROL)	△	TSXL009	FLAT CORD(18P)
	TESAO07	FBT SPRING	△	TSX4515-3	SIGNAL CORD
24	TESAO20	CRT PCB HOLDER	△	TSX9807	FLAT CORD(7P)
	TES9148-4	SPRING(CRT EARTH)	△	TSXX009	1P TERMINAL ASSY
	TMM15404-1	SPACER RING	△	TSXX028	4P CONNECTOR ASSY
	TMM7468	CLAMPER	△	TXA3A2D1734M	CRT EARTH LEAD
	TMM85576-1	CRT RUBBER	△	TSMA002	MAGNET
26	TMM85586	RUBBER(WEDGE)	△	T4F31519Q	POLYESTER TAPE(50M)
	TMM87408	LEAD CLAMPER(SMALL)	△	T4F72425Q	COTTON TAPE(55M)
	TMX13418	PCB SPACER	△	T4F90240	MAIRA TAPE
	TMKG032	CRT RUBBER	△	TPCA21401	OUTER CARTON

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description	
△	TXAPD2D1734B	FILLER(BOTTOM)	Q351	2SA1576A	TRANSISTOR	
△	TXAPD2D1734T	FILLER(TOP)	Q352	2SC4081R	TRANSISTOR	
△	TPE814109-2	SET COVER	Q353	2SD2394EF	TRANSISTOR	
△	TQE8513-2	FUN BAG COVER	Q354	2SB1565EF	TRANSISTOR	
△	TQBE0053	INSTRUCTION BOOK<-M>	Q371	2SC4620V25	TRANSISTOR	
△	TQBE0058	INSTRUCTION BOOK<-E, -A>	Q379	2SC4081R	TRANSISTOR	
△	TQDE14010	REGISTRATION CARD<-M>	Q381	2SA1767Q	TRANSISTOR	
△	TQDE14011	COLOR CARD<-M>	Q383	UN5211AI	TRANSISTOR	
△	TQF80720	NHW LABEL	Q384	UN5211AI	TRANSISTOR	
△	TQF82880	HIGH VOLTAGE LABEL	Q385	UN5111AI	TRANSISTOR	
△	TQF83825-6	SERIAL NO. LABEL	Q401	UN5211AI	TRANSISTOR	
△	TQF85363-1	CARTON LABEL<-M>	Q501	UN5211AI	TRANSISTOR	
△	TQF85363-5	CARTON LABEL<-A>	Q549	2SK2015	TRANSISTOR	
△	TQF85363-8	CARTON LABEL<-E>	Q550	2SC5270AO2FD	TRANSISTOR	
△	TQF86553	PTB LABEL(INNER)	Q560	UN5211AI	TRANSISTOR	
△	TQF86574	US PATENTS LABEL	Q561	2SK2350	TRANSISTOR	
△	TQF86608	EARTH CAUTION LABEL	Q562	UN5211AI	TRANSISTOR	
△	TQF86621	BAR CODE LABEL	Q563	2SK2350	TRANSISTOR	
	I.C		Q564	UN5211AI	TRANSISTOR	
IC101	LM324MX	IC	Q565	2SK2350	TRANSISTOR	
IC301	LF347MX	IC	Q571	2SC4081R	TRANSISTOR	
IC351	LM358MX	IC	Q584	2SD2133S	TRANSISTOR	
IC462	BX8318A	HYBRID IC	Q585	2SB1413S	TRANSISTOR	
IC490	TDA8172	IC	Q644	2SD1949Q	TRANSISTOR	
	IC501	UPC1883	Q645	2SA1577R	TRANSISTOR	
	IC503	AN78L09M-E1		Q680	2SJ306RB11LB	TRANSISTOR
	IC506	LM358MX		Q690	IRFPF50	TRANSISTOR
	IC550	AN6531		Q717	2SC1473QNC	TRANSISTOR
	IC581	LM358MX		Q719	2SD1641	TRANSISTOR
	IC635	LM393MX		Q821	2SK2148	TRANSISTOR
	IC821	UC3842N		Q822	2SC4620V25	TRANSISTOR
	IC833	L78LR05C		Q823	UN5211AI	TRANSISTOR
	IC850	M62500FP		Q824	2SA1577R	TRANSISTOR
	IC901	TVRBO06		Q825	2SA1577R	TRANSISTOR
	IC1301	BA7657F		Q826	2SC4081R	TRANSISTOR
	IC1302	LM1282N		Q827	2SA1576A	TRANSISTOR
	IC1303	LM2427T		Q828	2SD1949Q	TRANSISTOR
	IC1304	LSC4317P		Q830	2SD1949Q	TRANSISTOR
	IC1306	MB88141PFTF		Q831	2SD1821S	TRANSISTOR
	IC1307	STK190-110		Q832	2SB940P	TRANSISTOR
	IC1501	24LC21TISN		Q833	2SD1821S	TRANSISTOR
		HYBRID IC		Q834	UN5211AI	TRANSISTOR
		TRANSISTORS		Q835	2SD2394EF	TRANSISTOR
	Q11	2SK1848		Q838	2SB1435R	TRANSISTOR
	Q12	2SD602R		Q839	2SB1185EF	TRANSISTOR
	Q13	2SC4412-45				
	Q14	2SC4080DET				
	Q15	2SA1575DET				
	Q101	2SD1994AR				
	Q102	2SB1322AR				
	Q103	2SD1994AR				
	Q104	2SB1322AR				
	Q210	2SC3938R				
	Q211	UN5211AI				
	Q212	2SC3938R				
	Q215	2SC3938R				
	Q216	UN5211AI				
	Q301	2SC4081R				
	Q302	2SA1577R				
	Q303	2SC4081R				
	Q321	2SC4081R				

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
Q1310	UN5211AI	TRANSISTOR	D715	MA143A	DIODE
Q1330	UN5211AI	TRANSISTOR	D716	MA142K	DIODE
Q1331	UN5211AI	TRANSISTOR	D717	MA28T-A	DIODE
		DIODES	D719	EMO1Z	DIODE
			D801	EU02W	DIODE
D11	MA153A	DIODE	D821	RBV406M	DIODE
D12	MA4150NM	DIODE	D822	ERA34-10	DIODE
D13	MA174	DIODE	D823	EGO1Z	DIODE
D14	1SS353	DIODE	D824	MA4100NL	DIODE
D201	MA4056NM	DIODE	D825	1SS353	DIODE
D202	MA4056NM	DIODE	D828	MA4220NH	DIODE
D203	MA4056NM	DIODE	D830	1SS353	DIODE
D210	1SS353	DIODE	D831	1SS353	DIODE
D211	1SS353	DIODE	D832	1SS353	DIODE
D212	1SS353	DIODE	D850	1SS353	DIODE
D213	MA4062NM	DIODE	D851	1SS353	DIODE
D214	1SS353	DIODE	D852	MA4056NM	DIODE
D215	1SS353	DIODE	D855	MA4091NM	DIODE
D216	1SS353	DIODE	D856	CB903-4	DIODE
D217	MA4051NM	DIODE	D858	MA4068NL	DIODE
D250	MA8056M	DIODE	D859	MA4062NM	DIODE
D251	MA8056M	DIODE	D860	MA4062NM	DIODE
D252	MA8056M	DIODE	D861	TVSRG2A	DIODE
D253	MA8056M	DIODE	D862	ERC3806	DIODE
D254	MA728	DIODE	D863	TVSRG2	DIODE
D255	MA728	DIODE	D864	RL4Z	DIODE
D280	MA8056M	DIODE	D865	ERC91-02	DIODE
D281	MA8056M	DIODE	D867	TVSRG2A	DIODE
D282	MA8056M	DIODE	D868	RN3Z014-305	DIODE
D321	1SS353	DIODE	D870	MA8056M	DIODE
D351	1SS353	DIODE	D902	MA4330NL	DIODE
D352	MTZU39B	DIODE	D903	MA4056NM	DIODE
D353	MTZU39B	DIODE	D904	MA4056NM	DIODE
D354	MTZU39B	DIODE	D905	MA4051NM	DIODE
D380	HZT33-09TD	DIODE	D940	SML1816W	DIODE(LED)
D381	HZT33-09TD	DIODE	D953	MA4056NM	DIODE
D382	MA8091H	DIODE	D954	MA4056NM	DIODE
D383	EU02Z	DIODE	D955	MA4056NM	DIODE
D385	MA8056M	DIODE	D978	MA4056NM	DIODE
D401	EU02	DIODE	D979	MA4056NM	DIODE
D410	1SS353	DIODE	D980	MA4082NM	DIODE
D440	MA4051NM	DIODE	D1001	DAN217	DIODE
D505	MA4062NM	DIODE	D1011	DAN217	DIODE
D507	MA4051NM	DIODE	D1052	MA167A	DIODE
D550	DTV32F-1500B	DIODE	D1101	DAN217	DIODE
D551	ERA81004	DIODE	D1111	DAN217	DIODE
D552	1SS353	DIODE	D1152	MA167A	DIODE
D553	MA4150NM	DIODE	D1201	DAN217	DIODE
D571	1SS353	DIODE	D1211	DAN217	DIODE
D581	ERC30-02	DIODE	D1252	MA167A	DIODE
D582	ERC30-02	DIODE	D1301	MA8056M	DIODE
D602	MA167	DIODE	D1330	MA8056M	DIODE
D603	EGO1A	DIODE	D1332	MA8056M	DIODE
D604	EGO1A	DIODE	D1333	MA8056M	DIODE
D606	1SS353	DIODE	D1335	MA8056M	DIODE
D635	MA4150NM	DIODE	D1336	MA8027H	DIODE
D652	MA4051NM	DIODE	D1350	MA4300M	DIODE
D680	MA4091NM	DIODE	D1351	MA4300M	DIODE
D681	CB903-4	DIODE	D1352	MA4300M	DIODE
D682	CB903-4	DIODE	D1353	MA4300M	DIODE
D690	MA4200NM	DIODE	D1401	1SS353	DIODE
D714	MA142K	DIODE	D1402	1SS353	DIODE

Ref.No.	Part No.	Description			Ref.No.	Part No.	Description		
	COIL & TRANSFORMERS				C108	ECEA1HGE4R7	E	4.7UF	50V
L381	EXCELDR35C	LC COMBINATION			C112	ECUX1E334ZFW	C	0.33UF	Z 25V
L383	EXCELDR35C	LC COMBINATION			C201	ECUX1H100DCN	C	10PF	D 50V
L550	EXCELSR35S	LC COMBINATION			C202	ECUX1H101JCG	C	100PF	J 50V
L551	EXCELSR35S	LC COMBINATION			C210	ECUX1H221KBN	C	220PF	K 50V
△ L573	TLHE009	COIL			C211	ECUX1H123KBX	C	0.012UF	K 50V
△ L574	TLHE004	COIL			C212	ECUX1H221KBN	C	220PF	K 50V
L575	TLH85815T	COIL			C213	ECUX1H560JCG	C	56PF	J 50V
L580	TLUACNB2R2M	PEAKING COIL			C214	ECUX1C225ZFW	C	2.2UF	Z 16V
L599	TLUACNB821K	PEAKING COIL			C250	ECUX1C105ZFW	C	1.0UF	Z 16V
L601	ELEMH1ROKA	PEAKING COIL			C252	ECUX1C105ZFW	C	1.0UF	Z 16V
L602	EXCELDR35C	LC COMBINATION			C301	ECUX1H151JCG	C	150PF	J 50V
L680	EXCELDR35C	LC COMBINATION			C302	ECUX1H332KBN	C	3300PF	K 50V
△ L681	TLP85708R	CHOKE COIL			C303	ECUX1H104ZFX	C	0.1UF	Z 50V
△ L801	TLPOO1	LINE FILTER			C304	ECUX1H102KBN	C	1000PF	K 50V
△ L802	TLPOO1	LINE FILTER			C305	ECEA1EGE100	E	10UF	25V
L820	TSK8031	FERRITE CORE			C306	ECEA1CGE470	E	47UF	16V
L822	EXCELDR35C	LC COMBINATION			C309	ECUX1H103KBG	C	0.01UF	K 50V
△ L850	TLP85709R	CHOKE COIL			C311	ECEA1CGE101	E	100UF	16V
L861	EXCELDR35C	LC COMBINATION			C312	ECUX1H103KBG	C	0.01UF	K 50V
L862	EXCELDR35C	LC COMBINATION			C321	ECEA1EGE100	E	10UF	25V
L864	EXCELDR35C	LC COMBINATION			C322	ECEA1EGE101	E	100UF	25V
L865	EXCELDR35C	LC COMBINATION			C323	ECUX1H104ZFX	C	0.1UF	Z 50V
L867	EXCELDR35C	LC COMBINATION			C351	ECEA1CGE470	E	47UF	16V
L868	EXCELDR35C	LC COMBINATION			C352	ECEA1VGE470	E	47UF	35V
L901	TLU1O1K106	PEAKING COIL			C353	ECA1JFQ120	E	12UF	63V
L1020	ELEXH1ROKA	PEAKING COIL			C355	ECUX1H121JCG	C	120PF	J 50V
L1040	ELEXHR33KA	PEAKING COIL			C356	ECUX1H150JCN	C	15PF	J 50V
L1101	EXCELDR35C	LC COMBINATION			C371	ECA2EHG100	E	10UF	250V
L1115	TSK8031	FERRITE CORE			C372	ECKD2H471KB5	C	470PF	K 500V
L1120	ELEXH1ROKA	PEAKING COIL			C385	ECA2CHG4R7	E	4.7UF	160V
L1140	ELEXHR33KA	PEAKING COIL			C393	ECKD3D272KBP	C	2700PF	K 2KV
L1220	ELEXH1ROKA	PEAKING COIL			C396	ECKD2H332KB5	C	3300PF	K 500V
L1240	ELEXHR33KA	PEAKING COIL			C401	ECEA1HGE010	E	1UF	50V
L1320	EXCELDR35C	LC COMBINATION			C402	ECUX1H103KBG	C	0.01UF	K 50V
L1330	ELEXH151KA	PEAKING COIL			C403	ECUX1H103KBG	C	0.01UF	K 50V
L1342	EXCELDR35C	LC COMBINATION			C404	ECUX1H103KBG	C	0.01UF	K 50V
L1343	EXCELDR35C	LC COMBINATION			C406	ECEA1CGE470	E	47UF	16V
L1350	EXCELDR35C	LC COMBINATION			C407	ECEA1VGE221	E	220UF	35V
L1351	EXCELDR35C	LC COMBINATION			C408	ECEA1EGN101	E	100UF	25V
△ T351	TLHG004	D.A.F. TRANSFORMER			C409	ECQV1H224JL	P	0.22UF	J 50V
△ T541	TLHA002	TRANSFORMER			C410	ECEA1HGE100	E	10UF	50V
△ T542	TLH85501Z1	COIL			C412	ECUX1H331KBN	C	330PF	K 50V
△ T601	ETF39L93AZ	FLYBACK TRANSFORMER			C413	ECEA1CGE102	E	1000UF	16V
△ T801	TLPA015-1	POWER TRANSFORMER			C415	ECUX1H102KBN	C	1000PF	K 50V
△ T802	TLPX006	TRANSFORMER			C417	ECQV1H334JL	P	0.33UF	J 50V
	CONTROL				C418	ECUX1H103KBG	C	0.01UF	K 50V
VR580	EVND1AA00B13	CONTROL B	1K OHM		C420	ECUX1H103KBG	C	0.01UF	K 50V
VR881	EVNDXAA03B13	CONTROL B	1K OHM		C421	ECEA1CGE101	E	100UF	16V
	CAPACITORS				C422	ECEA1HGE100	E	10UF	50V
C11	ECQV1H225JL	P	2.2UF	J 50V	C423	ECUX1H103KBG	C	0.01UF	K 50V
C12	ECUX1C224KBW	C	0.22UF	K 16V	C424	ECUX1H102KBN	C	1000PF	K 50V
C13	ECUX1H104ZFX	C	0.1UF	Z 50V	C501	ECUX1H104ZFX	C	0.1UF	Z 50V
C14	ECUX1H104ZFX	C	0.1UF	Z 50V	C502	ECEA1CGE221	E	220UF	16V
C16	ECUX1H561KBN	C	560PF	K 50V	C504	ECEA1EGE100	E	10UF	25V
C17	ECQE2104KF	P	0.1UF	K 200V	C505	ECUX1H182JCX	C	1800PF	J 50V
C106	ECUX1E334ZFW	C	0.33UF	Z 25V	C506	ECUX1H681KBN	C	680PF	K 50V
C107	ECEA1HGE4R7	E	4.7UF	50V	C507	ECUX1C474ZFX	C	0.47UF	Z 16V
					C509	ECUX1H104ZFX	C	0.1UF	Z 50V
					C510	ECUX1H680JCG	C	68PF	J 50V
					C511	ECUX1H102KBN	C	1000PF	K 50V
					C512	ECUX1H104KBW	C	0.1UF	K 50V

Ref.No.	Part No.	Description				Ref.No.	Part No.	Description				
C513	ECUX1H1O2KBN	C	1000PF	K	50V	△	C801	ECQU2A224MNF	PP	0.22UF	M	250V
C514	ECEA1CGE101	E	100UF		16V	△	C802	ECQU2A334MVZ	PP	0.33UF	M	250V
C515	ECEA1HGN4R7	E	4.7UF		50V	△	C803	ECKDRS222ME	C	2200PF	M	
C516	ECQV1H225JL	P	2.2UF	J	50V	△	C804	ECKDRS222ME	C	2200PF	M	
C517	ECUX1H1O4ZFX	C	0.1UF	Z	50V	△	C805	ECKDRS222ME	C	2200PF	M	
C540	ECUX1C224ZFX	C	0.22UF	Z	16V		C821	TAC1094Z331A	E	330UF		400V
C541	ECQB1H153JF	P	0.015UF	J	50V		C822	ECQE6473KF	P	0.047UF	K	600V
C550	ECEA1VGE470	E	47UF		35V		C823	ECKD3A271KBP	C	270PF	K	1KV
C551	ECA1VHG101	E	100UF		35V		C824	ECUX1H1O4ZFX	C	0.1UF	Z	50V
C552	ECKD2H332KB5	C	3300PF	K	500V		C825	ECEA1EGE221	E	220UF		25V
C553	ECWH15H222HN	PP	2200PF	H	1.5KV		C826	ECKD2H1O2KB5	C	1000PF	K	500V
C554	ECWH15H222HN	PP	2200PF	H	1.5KV		C827	ECUX1H1O4ZFX	C	0.1UF	Z	50V
C555	ECQE2335KF	P	3.3UF	K	200V		C828	ECKF1H222KB	C	2200PF	K	50V
C561	ECWF2155HB	PP	1.5UF	H	200V		C829	ECEA1CGE470	E	47UF		16V
C563	ECWF2394HBB	PP	0.39UF	H	200V		C830	ECEA1HGE4R7	E	4.7UF		50V
C565	ECWF2154HBB	PP	0.15UF	H	200V	△	C831	ECKDRS332ME	C	3300PF	M	
C568	ECWF4304HBP	PP	0.3UF	H	400V	△	C832	ECKDRS332ME	C	3300PF	M	
C573	ECKD2H1O2KB5	C	1000PF	K	500V		C833	ECUX1H1O1JCG	C	100PF	J	50V
C574	ECKD2H1O2KB5	C	1000PF	K	500V		C834	ECUX1H1O3KBG	C	0.01UF	K	50V
C580	ECEA1CGE470	E	47UF		16V		C835	ECUX1H1O2KBN	C	1000PF	K	50V
C581	ECQE2224KF	P	0.22UF	K	200V		C836	ECUX1H681KBN	C	680PF	K	50V
C582	ECA1EHG102	E	1000UF		25V		C851	ECQE1224KF	P	0.22UF	K	100V
C583	ECUX1C105ZFW	C	1.0UF	Z	16V		C855	ECUX1H104ZFX	C	0.1UF	Z	50V
C584	ECUX1C105ZFW	C	1.0UF	Z	16V		C856	ECEA1HGE100	E	10UF		50V
C590	ECUX1H1O3KBG	C	0.01UF	K	50V		C858	ECUX1H222KBN	C	2200PF	K	50V
C599	ECEA1HGN100	E	10UF		50V		C859	ECQE2224KF	P	0.22UF	K	200V
C601	ECEA2AGE220	E	22UF		100V		C861	TAC1232E687	E	680UF		250V
C603	ECA2EHG100	E	10UF		250V		C862	ECA2AHG331	E	330UF		100V
C609	ECA2CHG2R2	E	2.2UF		160V		C863	ECA1VHG471	E	470UF		35V
C612	ECA2CHG100	E	10UF		160V		C864	ECA1EHG222	E	2200UF		25V
C635	ECUX1C105ZFX	C	1.0UF	Z	16V		C865	ECA1CHG332	E	3300UF		16V
C654	ECQE2224KF	P	0.22UF	K	200V		C867	ECEA1EGE100	E	10UF		25V
C660	ECEA1HGE100	E	10UF		50V		C868	ECA1CHG222	E	2200UF		16V
C661	ECEA1CGE470	E	47UF		16V		C869	ECEA1CGE331	E	330UF		16V
C663	ECUX1H1O4ZFX	C	0.1UF	Z	50V		C870	ECEAOJGE331	E	330UF		6.3V
C665	ECQB1H473JF	P	0.047UF	J	50V		C872	ECUX1H104ZFX	C	0.1UF	Z	50V
C666	ECUX1H562KBG	C	5600PF	K	50V		C873	ECUX1H1O3KBG	C	0.01UF	K	50V
C667	ECUX1H1O1JCG	C	100PF	J	50V		C876	ECUX1H1O3KBG	C	0.01UF	K	50V
C671	ECUX1H1O2KBN	C	1000PF	K	50V		C877	ECUX1H221KBN	C	220PF	K	50V
C672	ECUX1H1O4ZFX	C	0.1UF	Z	50V		C880	ECEA1CGE470	E	47UF		16V
C674	ECUX1C105ZFX	C	1.0UF	Z	16V		C881	ECEA1HGE100	E	10UF		50V
C679	ECQB2333KF	P	0.033UF	K	200V		C882	ECEA1HGE220	E	22UF		50V
C680	ECUX1H1O2KBN	C	1000PF	K	50V		C883	ECEA1HGE010	E	1UF		50V
C681	ECQE2474KF	P	0.47UF	K	200V		C884	ECUX1H104ZFX	C	0.1UF	Z	50V
C690	ECWH12H222HS	PP	2200PF	H	1.2KV		C885	ECQB2103KF	P	0.01UF	K	200V
C691	ECKC3D821JBP	C	820PF	J	2KV		C886	ECUX1H222KBN	C	2200PF	K	50V
C692	ECQB1H224JF	P	0.22UF	J	50V		C888	ECQB2333KF	P	0.033UF	K	200V
C693	ECKF1H472KB	C	4700PF	K	50V		C889	ECA2DGE680Y	E	68UF		200V
C696	ECQE2474KF	P	0.47UF	K	200V		C890	ECUX1H1392KBN	C	3900PF	J	50V
C697	ECUX1H222KBN	C	2200PF	K	50V		C901	ECEA1CGE470	E	47UF		16V
C701	ECUX1H1O3KBG	C	0.01UF	K	50V		C903	ECAOJFQ152	E	1500UF		6.3V
C702	ECUX1H1O3KBG	C	0.01UF	K	50V		C904	ECUX1H1O3KBG	C	0.01UF	K	50V
C703	ECUX1H1O3KBG	C	0.01UF	K	50V		C905	ECUX1H200JCN	C	20PF	J	50V
C704	ECUX1H1O3KBG	C	0.01UF	K	50V		C906	ECUX1H150JCG	C	15PF	J	50V
C707	ECUX1H1O3KBG	C	0.01UF	K	50V		C907	ECUX1H1O3KBG	C	0.01UF	K	50V
C709	ECEA1HGN100	E	10UF		50V		C951	ECEA1HGE2R2	E	2.2UF		50V
C712	ECUX1H1O3KBG	C	0.01UF	K	50V		C952	ECEA1HGE010	E	1UF		50V
C715	ECA2CHG4R7	E	4.7UF		160V		C953	ECEA1HGE010	E	1UF		50V
C718	ECUX1H1O3KBG	C	0.01UF	K	50V		C954	ECEA1HGE010	E	1UF		50V
C719	ECQB2103KF	P	0.01UF	K	200V		C955	ECEA1HGE010	E	1UF		50V
C720	ECQB2103KF	P	0.01UF	K	200V		C956	ECEA1HGE470	E	47UF		50V
C730	ECEA1EGE101	E	100UF		25V		C957	ECEA1HGE010	E	1UF		50V

Ref.No.	Part No.	Description			Ref.No.	Part No.	Description				
C958	ECEA1HGE100	E	10UF	50V	C1223	ECUX1H103KBG	C	0.01UF	K	50V	
C959	ECEA1HGE010	E	1UF	50V	C1224	ECUX1H104ZFX	C	0.1UF	Z	50V	
C960	ECEA1HGE010	E	1UF	50V	C1225	ECUX1C105ZFW	C	1.0UF	Z	16V	
C962	ECEA1HGE010	E	1UF	50V	C1226	ECEA1CGE101	E	100UF		16V	
C963	ECEA1HGE330	E	33UF	50V	C1230	ECUX1H151JCG	C	150PF	J	50V	
C964	ECEA1HGE010	E	1UF	50V	C1231	ECUX1H620JCG	C	62PF	J	50V	
C965	ECEA1HGE010	E	1UF	50V	C1232	ECUX1H220JCN	C	22PF	J	50V	
C966	ECEA1HGE010	E	1UF	50V	C1233	ECUX1H560JCG	C	56PF	J	50V	
C967	ECEA1HGE010	E	1UF	50V	C1235	TAC1212Z680H	C	68PF	J	200V	
C968	ECEA1HGE010	E	1UF	50V	C1236	ECEA2AGE470	E	47UF		100V	
C969	ECEA1HGE010	E	1UF	50V	C1237	ECEA1CGE100	E	10UF		16V	
C1001	ECUX1H102KBN	C	1000PF	K	50V	C1240	ECQV1474JM	P	0.47UF	J	100V
C1002	ECEA1CGE470	E	47UF		16V	C1242	ECKD2H102KB5	C	1000PF	K	500V
C1011	ECUX1H102KBN	C	1000PF	K	50V	C1252	ECA2CHG010	E	1UF		160V
C1012	ECEA1CGE470	E	47UF		16V	C1301	ECEA1CGE470	E	47UF		16V
C1015	ECEA1HGN010	E	1UF	50V	C1302	ECUX1H103KBG	C	0.01UF	K	50V	
C1016	ECUX1H102KBN	C	1000PF	K	50V	C1303	ECUX1H471JCX	C	470PF	J	50V
C1021	ECUX1C105ZFW	C	1.0UF	Z	16V	C1305	ECEA1EGE100	E	10UF		25V
C1022	ECUX1H270JCG	C	27PF	J	50V	C1310	ECEA1EGE100	E	10UF		25V
C1023	ECUX1H103KBG	C	0.01UF	K	50V	C1311	ECUX1H103KBG	C	0.01UF	K	50V
C1024	ECUX1H104ZFX	C	0.1UF	Z	50V	C1312	ECUX1H104ZFX	C	0.1UF	Z	50V
C1025	ECUX1C105ZFW	C	1.0UF	Z	16V	C1313	ECUX1H103KBG	C	0.01UF	K	50V
C1030	ECUX1H151JCG	C	150PF	J	50V	C1315	ECUX1H103KBG	C	0.01UF	K	50V
C1031	ECUX1H620JCG	C	62PF	J	50V	C1317	ECUX1C105ZFW	C	1.0UF	Z	16V
C1032	ECUX1H220JCN	C	22PF	J	50V	C1318	ECEA1CGE101	E	100UF		16V
C1033	ECUX1H560JCG	C	56PF	J	50V	C1321	TACCG103P200	C	0.01UF		200V
C1035	TAC1212Z680H	C	68PF	J	200V	C1322	ECEA1CGE100	E	10UF		16V
C1036	ECEA2AGE100	E	10UF		100V	C1330	ECUX1H103KBG	C	0.01UF	K	50V
C1037	ECEA1CGE100	E	10UF		16V	C1331	ECUX1H103KBG	C	0.01UF	K	50V
C1040	ECQV1474JM	P	0.47UF	J	100V	C1333	ECUX1H103KBG	C	0.01UF	K	50V
C1042	ECKD2H102KB5	C	1000PF	K	500V	C1334	ECEA1CGE101	E	100UF		16V
C1052	ECA2CHG010	E	1UF		160V	C1336	ECEA1EGE100	E	10UF		25V
C1101	ECUX1H102KBN	C	1000PF	K	50V	C1337	ECUX1H103KBG	C	0.01UF	K	50V
C1102	ECEA1CGE470	E	47UF		16V	C1340	ECUX1H104ZFX	C	0.1UF	Z	50V
C1111	ECUX1H102KBN	C	1000PF	K	50V	C1341	ECUX1H103KBG	C	0.01UF	K	50V
C1112	ECEA1CKG470	E	47UF		16V	C1351	ECEA1EGE100	E	10UF		25V
C1114	ECUX1C105ZFW	C	1.0UF	Z	16V	C1353	ECUX1H104ZFX	C	0.1UF	Z	50V
C1115	ECEA1HGN010	E	1UF	50V	C1355	ECA2CHG100	E	10UF		160V	
C1116	ECUX1H102KBN	C	1000PF	K	50V	C1501	ECUX1H103KBG	C	0.01UF	K	50V
C1120	ECEA1CGE102	E	1000UF		16V	RESISTORS					
C1121	ECUX1H103KBG	C	0.01UF	K	50V	J001	ERJ8GCYOR00	M	0 OHM		1/8W
C1122	ECUX1H270JCG	C	27PF	J	50V	J002	ERJ8GCYOR00	M	0 OHM		1/8W
C1123	ECUX1H103KBG	C	0.01UF	K	50V	J003	ERJ6GEYOR00	M	0 OHM		1/10W
C1124	ECUX1H104ZFX	C	0.1UF	Z	50V	J004	ERJ6GEYOR00	M	0 OHM		1/10W
C1125	ECUX1C105ZFW	C	1.0UF	Z	16V	J005	ERJ6GEYOR00	M	0 OHM		1/10W
C1130	ECUX1H151JCG	C	150PF	J	50V	J006	ERJ6GEYOR00	M	0 OHM		1/10W
C1131	ECUX1H620JCG	C	62PF	J	50V	J007	ERJ6GEYOR00	M	0 OHM		1/10W
C1132	ECUX1H220JCN	C	22PF	J	50V	J008	ERJ8GCYOR00	M	0 OHM		1/8W
C1133	ECUX1H680JCG	C	68PF	J	50V	J009	ERJ8GCYOR00	M	0 OHM		1/8W
C1135	TAC1212Z680H	C	68PF	J	200V	J010	ERJ8GCYOR00	M	0 OHM		1/8W
C1136	ECEA2AGE100	E	10UF		100V	J011	ERJ8GCYOR00	M	0 OHM		1/8W
C1137	ECEA1CGE100	E	10UF		16V	J012	ERJ8GCYOR00	M	0 OHM		1/8W
C1140	ECQV1474JM	P	0.47UF	J	100V	J013	ERJ6GEYOR00	M	0 OHM		1/10W
C1142	TACCG102P200	C	1000PF		200V	J014	ERJ8GCYOR00	M	0 OHM		1/8W
C1152	ECA2CHG010	E	1UF		160V	J015	ERJ8GCYOR00	M	0 OHM		1/8W
C1201	ECUX1H102KBN	C	1000PF	K	50V	J016	ERJ6GEYOR00	M	0 OHM		1/10W
C1202	ECEA1CGE470	E	47UF		16V	J017	ERJ8GCYOR00	M	0 OHM		1/8W
C1211	ECUX1H102KBN	C	1000PF	K	50V	J018	ERJ8GCYOR00	M	0 OHM		1/8W
C1212	ECEA1CKG470	E	47UF		16V	J019	ERJ6GEYOR00	M	0 OHM		1/10W
C1215	ECEA1HGN010	E	1UF	50V	J021	ERJ8GCYOR00	M	0 OHM		1/8W	
C1216	ECUX1H102KBN	C	1000PF	K	50V	J022	ERJ6GEYOR00	M	0 OHM		1/10W
C1222	ECUX1H270JCG	C	27PF	J	50V						

Ref.No.	Part No.	Description			Ref.No.	Part No.	Description				
J023	ERJ8GCYOROO	M	O	OHM	1/8W	J114	ERD25TCO	C	O	OHM	1/4W
J027	ERJ8GCYOROO	M	O	OHM	1/8W	J115	ERD25TCO	C	O	OHM	1/4W
J031	ERD25TCO	C	O	OHM	1/4W	J118	ERJ8GCYOROO	M	O	OHM	1/8W
J034	ERJ8GCYOROO	M	O	OHM	1/8W	J119	ERJ8GCYOROO	M	O	OHM	1/8W
J035	ERJ8GCYOROO	M	O	OHM	1/8W	J120	ERJ8GCYOROO	M	O	OHM	1/8W
J036	ERJ8GCYOROO	M	O	OHM	1/8W	J126	ERJ8GCYOROO	M	O	OHM	1/8W
J037	ERJ6GEYOROO	M	O	OHM	1/10W	J128	ERJ8GCYOROO	M	O	OHM	1/8W
J038	ERJ6GEYOROO	M	O	OHM	1/10W	J129	ERJ8GCYOROO	M	O	OHM	1/8W
J039	ERJ8GCYOROO	M	O	OHM	1/8W	J130	ERJ8GCYOROO	M	O	OHM	1/8W
J040	ERJ8GCYOROO	M	O	OHM	1/8W	J131	ERJ8GCYOROO	M	O	OHM	1/8W
J041	ERJ8GCYOROO	M	O	OHM	1/8W	J132	ERJ6GEYOROO	M	O	OHM	1/10W
J042	ERJ8GCYOROO	M	O	OHM	1/8W	J134	ERJ6GEYOROO	M	O	OHM	1/10W
J043	ERJ8GCYOROO	M	O	OHM	1/8W	J139	ERJ6GEYOROO	M	O	OHM	1/10W
J044	ERJ6GEYOROO	M	O	OHM	1/10W	J140	ERJ8GCYOROO	M	O	OHM	1/8W
J045	ERJ8GCYOROO	M	O	OHM	1/8W	J141	ERJ8GCYOROO	M	O	OHM	1/8W
J046	ERJ6GEYOROO	M	O	OHM	1/10W	J142	ERD25TCO	C	O	OHM	1/4W
J047	ERJ6GEYOROO	M	O	OHM	1/10W	J144	ERJ8GCYOROO	M	O	OHM	1/8W
J048	ERJ8GCYOROO	M	O	OHM	1/8W	J146	ERJ6GEYOROO	M	O	OHM	1/10W
J049	ERJ8GCYOROO	M	O	OHM	1/8W	J147	ERJ8GCYOROO	M	O	OHM	1/8W
J050	ERJ8GCYOROO	M	O	OHM	1/8W	J152	ERJ8GCYOROO	M	O	OHM	1/8W
J051	ERJ6GEYOROO	M	O	OHM	1/10W	J153	ERJ6GEYOROO	M	O	OHM	1/10W
J052	ERJ6GEYOROO	M	O	OHM	1/10W	J155	ERJ8GCYOROO	M	O	OHM	1/8W
J053	ERJ6GEYOROO	M	O	OHM	1/10W	J157	ERJ8GCYOROO	M	O	OHM	1/8W
J054	ERJ8GCYOROO	M	O	OHM	1/8W	J158	ERJ8GCYOROO	M	O	OHM	1/8W
J055	ERJ8GCYOROO	M	O	OHM	1/8W	J159	ERD25TCO	C	O	OHM	1/4W
J056	ERJ8GCYOROO	M	O	OHM	1/8W	J160	ERJ8GCYOROO	M	O	OHM	1/8W
J057	ERJ8GCYOROO	M	O	OHM	1/8W	J161	ERJ8GCYOROO	M	O	OHM	1/8W
J058	ERJ6GEYOROO	M	O	OHM	1/10W	J162	ERJ8GCYOROO	M	O	OHM	1/8W
J059	ERJ8GCYOROO	M	O	OHM	1/8W	J163	ERJ6GEYOROO	M	O	OHM	1/10W
J060	ERD25TCO	C	O	OHM	1/4W	J164	ERJ6GEYOROO	M	O	OHM	1/10W
J064	ERJ6GEYOROO	M	O	OHM	1/10W	J165	ERJ6GEYOROO	M	O	OHM	1/10W
J065	ERJ8GCYOROO	M	O	OHM	1/8W	J166	ERJ6GEYOROO	M	O	OHM	1/10W
J067	ERJ8GCYOROO	M	O	OHM	1/8W	J167	ERJ8GCYOROO	M	O	OHM	1/8W
J070	ERD25TCO	C	O	OHM	1/4W	J168	ERJ8GCYOROO	M	O	OHM	1/8W
J071	ERD25TCO	C	O	OHM	1/4W	J169	ERJ6GEYOROO	M	O	OHM	1/10W
J073	ERJ8GCYOROO	M	O	OHM	1/8W	J170	ERJ8GCYOROO	M	O	OHM	1/8W
J074	ERJ8GCYOROO	M	O	OHM	1/8W	J171	ERJ6GEYOROO	M	O	OHM	1/10W
J075	ERJ8GCYOROO	M	O	OHM	1/8W	J172	ERJ8GCYOROO	M	O	OHM	1/8W
J076	ERJ8GCYOROO	M	O	OHM	1/8W	J173	ERJ6GEYOROO	M	O	OHM	1/10W
J078	ERJ6GEYOROO	M	O	OHM	1/10W	J175	ERJ8GCYOROO	M	O	OHM	1/8W
J079	ERJ8GCYOROO	M	O	OHM	1/8W	J176	ERJ6GEYOROO	M	O	OHM	1/10W
J080	ERJ6GEYOROO	M	O	OHM	1/10W	J179	ERJ8GCYOROO	M	O	OHM	1/8W
J082	ERJ8GCYOROO	M	O	OHM	1/8W	J180	ERJ6GEYOROO	M	O	OHM	1/10W
J083	ERJ6GEYOROO	M	O	OHM	1/10W	J183	ERJ8GCYOROO	M	O	OHM	1/8W
J084	ERJ8GCYOROO	M	O	OHM	1/8W	J184	ERJ6GEYOROO	M	O	OHM	1/10W
J085	ERJ8GCYOROO	M	O	OHM	1/8W	J185	ERJ8GCYOROO	M	O	OHM	1/8W
J086	ERJ8GCYOROO	M	O	OHM	1/8W	J186	ERD25TCO	C	O	OHM	1/4W
J087	ERD25TCO	C	O	OHM	1/4W	J188	ERJ8GCYOROO	M	O	OHM	1/8W
J091	ERJ6GEYOROO	M	O	OHM	1/10W	J192	ERJ8GCYOROO	M	O	OHM	1/8W
J094	ERD25TCO	C	O	OHM	1/4W	J194	ERD25TCO	C	O	OHM	1/4W
J095	ERJ8GCYOROO	M	O	OHM	1/8W	J195	ERJ6GEYOROO	M	O	OHM	1/10W
J097	ERJ8GCYOROO	M	O	OHM	1/8W	J196	ERJ6GEYOROO	M	O	OHM	1/10W
J099	ERJ6GEYOROO	M	O	OHM	1/10W	J197	ERJ8GCYOROO	M	O	OHM	1/8W
J100	ERJ8GCYOROO	M	O	OHM	1/8W	J198	ERJ6GEYOROO	M	O	OHM	1/10W
J101	ERJ8GCYOROO	M	O	OHM	1/8W	J199	ERJ6GEYOROO	M	O	OHM	1/10W
J102	ERJ6GEYOROO	M	O	OHM	1/10W	J200	ERJ8GCYOROO	M	O	OHM	1/8W
J103	ERJ8GCYOROO	M	O	OHM	1/8W	J201	ERJ8GCYOROO	M	O	OHM	1/8W
J105	ERJ8GCYOROO	M	O	OHM	1/8W	J202	ERJ6GEYOROO	M	O	OHM	1/10W
J109	ERJ6GEYOROO	M	O	OHM	1/10W	J203	ERJ8GCYOROO	M	O	OHM	1/8W
J110	ERJ8GCYOROO	M	O	OHM	1/8W	J429	ERJ6GEYOROO	M	O	OHM	1/10W
J112	ERJ8GCYOROO	M	O	OHM	1/8W	J804	ERJ6GEYOROO	M	O	OHM	1/10W
J113	ERJ8GCYOROO	M	O	OHM	1/8W	J805	ERJ6GEYOROO	M	O	OHM	1/10W

Ref.No.	Part No.	Description			Ref.No.	Part No.	Description		
J808	ERJ6GEYOROO	M	O OHM	1/10W	J1228	ERJGGEYOROO	M	O OHM	1/10W
J809	ERJ8GCYOROO	M	O OHM	1/8W	J1235	ERJ6GEYOROO	M	O OHM	1/10W
J811	ERD25TCO	C	O OHM	1/4W	J1236	ERJ6GEYOROO	M	O OHM	1/10W
J812	ERD25TCO	C	O OHM	1/4W	J1238	ERJ6GEYOROO	M	O OHM	1/10W
J813	ERJ8GCYOROO	M	O OHM	1/8W	J1239	ERJ8GCYOROO	M	O OHM	1/8W
J815	ERJ8GCYOROO	M	O OHM	1/8W	J1240	ERJ8GCYOROO	M	O OHM	1/8W
J817	ERD25TCO	C	O OHM	1/4W	J1241	ERJ8GCYOROO	M	O OHM	1/8W
J818	ERD25TCO	C	O OHM	1/4W	J1242	ERJ8GCYOROO	M	O OHM	1/8W
J819	ERJ8GCYOROO	M	O OHM	1/8W	J1243	ERJ8GCYOROO	M	O OHM	1/8W
J820	ERJ8GCYOROO	M	O OHM	1/8W	J1246	ERJGGEYOROO	M	O OHM	1/10W
J821	ERJ8GCYOROO	M	O OHM	1/8W	J1247	ERJ8GCYOROO	M	O OHM	1/8W
J822	ERD25TCO	C	O OHM	1/4W	R11	ERJ6ENF1002	M	10K OHM	F 1/10W
J823	ERJ8GCYOROO	M	O OHM	1/8W	R12	ERJ6ENF4703	M	470K OHM	F 1/10W
J824	ERD25TCO	C	O OHM	1/4W	R13	ERJ6ENF2402	M	24K OHM	F 1/10W
J825	ERJ8GCYOROO	M	O OHM	1/8W	R14	ERJ6ENF3301	M	3.3K OHM	F 1/10W
J827	ERD25TCO	C	O OHM	1/4W	R15	ERDS1FJ183	C	18K OHM	J 1/2W
J828	ERD25TCO	C	O OHM	1/4W	R16	ERJ6ENF8200	M	820 OHM	F 1/10W
J829	ERD25TCO	C	O OHM	1/4W	R17	ERJ6ENF3000	M	300 OHM	F 1/10W
J830	ERD25TCO	C	O OHM	1/4W	R18	ERDS1FJ273	C	27K OHM	J 1/2W
J831	ERD25TCO	C	O OHM	1/4W	R19	ERJ6ENF4702	M	47K OHM	F 1/10W
J832	ERD25TCO	C	O OHM	1/4W	R20	ERJ6ENF4702	M	47K OHM	F 1/10W
J833	ERD25TCO	C	O OHM	1/4W	R22	ERJGGEYOROO	M	O OHM	1/10W
J834	ERD25TCO	C	O OHM	1/4W	R23	ERJ6GEYJ105	M	1M OHM	J 1/10W
J835	ERD25TCO	C	O OHM	1/4W	R24	ERJ6ENF4703	M	470K OHM	F 1/10W
J840	ERJ8GCYOROO	M	O OHM	1/8W	R25	ERJ6ENF1000	M	100 OHM	F 1/10W
J852	ERJ6GEYOROO	M	O OHM	1/10W	R26	ERJ6GEYJ333	M	33K OHM	J 1/10W
J853	ERJ6GEYOROO	M	O OHM	1/10W	R101	ERJ6ENF6042	M	60.4K OHM	F 1/10W
J855	ERJ8GCYOROO	M	O OHM	1/8W	R102	ERJ6ENF6982	M	69.8K OHM	F 1/10W
J857	ERJ6GEYOROO	M	O OHM	1/10W	R103	ERJ6ENF3742	M	37.4K OHM	F 1/10W
J1103	ERD25TCO	C	O OHM	1/4W	R105	ERJ6GEYJ102	M	1K OHM	J 1/10W
J1107	ERD25TCO	C	O OHM	1/4W	R106	ERJ6GEYJ681	M	680 OHM	J 1/10W
J1110	ERD25TCO	C	O OHM	1/4W	R108	ERJ6ENF1741	M	1.74K OHM	F 1/10W
J1111	ERD25TCO	C	O OHM	1/4W	R109	ERJ6ENF3321	M	3.32K OHM	F 1/10W
J1121	ERD25TCO	C	O OHM	1/4W	R111	ERJ6GEYJ272	M	2.7K OHM	J 1/10W
J1122	ERD25TCO	C	O OHM	1/4W	R113	ERJ6GEYJ272	M	2.7K OHM	J 1/10W
J1124	ERD25TCO	C	O OHM	1/4W	R114	ERJ8GCYK2R7	M	2.7 OHM	K 1/8W
J1125	ERD25TCO	C	O OHM	1/4W	R115	ERQ14AJ100	F	10 OHM	J 1/4W
J1126	ERD25TCO	C	O OHM	1/4W	R201	ERJ6GEYJ101	M	100 OHM	J 1/10W
J1127	ERD25TCO	C	O OHM	1/4W	R202	ERJ6GEYJ122	M	1.2K OHM	J 1/10W
J1201	ERJ8GCYOROO	M	O OHM	1/8W	R207	ERJ6GEYJ103	M	10K OHM	J 1/10W
J1202	ERJ8GCYOROO	M	O OHM	1/8W	R208	ERJ6GEYJ152	M	1.5K OHM	J 1/10W
J1203	ERJ8GCYOROO	M	O OHM	1/8W	R209	ERJ6GEYJ472	M	4.7K OHM	J 1/10W
J1204	ERJ8GCYOROO	M	O OHM	1/8W	R210	ERJ6GEYJ102	M	1K OHM	J 1/10W
J1205	ERJ8GCYOROO	M	O OHM	1/8W	R212	ERJ6GEYJ561	M	560 OHM	J 1/10W
J1206	ERJ8GCYOROO	M	O OHM	1/8W	R213	ERJ6GEYJ472	M	4.7K OHM	J 1/10W
J1207	ERJ8GCYOROO	M	O OHM	1/8W	R214	ERJ6GEYJ101	M	100 OHM	J 1/10W
J1208	ERJ8GCYOROO	M	O OHM	1/8W	R215	ERDS1FJ151	C	150 OHM	J 1/2W
J1209	ERJ8GCYOROO	M	O OHM	1/8W	R216	ERJ6GEYJ822	M	8.2K OHM	J 1/10W
J1211	ERJ6GEYOROO	M	O OHM	1/10W	R217	ERJ6GEYJ102	M	1K OHM	J 1/10W
J1212	ERJ8GCYOROO	M	O OHM	1/8W	R218	ERJ6GEYJ332	M	3.3K OHM	J 1/10W
J1213	ERJ8GCYOROO	M	O OHM	1/8W	R219	ERJ6GEYJ153	M	15K OHM	J 1/10W
J1214	ERJ8GCYOROO	M	O OHM	1/8W	R220	ERJ6GEYJ152	M	1.5K OHM	J 1/10W
J1215	ERJ8GCYOROO	M	O OHM	1/8W	R221	ERJ6GEYJ152	M	1.5K OHM	J 1/10W
J1217	ERJ8GCYOROO	M	O OHM	1/8W	R222	ERJ6GEYJ472	M	4.7K OHM	J 1/10W
J1218	ERJ6GEYOROO	M	O OHM	1/10W	R223	ERJ6GEYJ102	M	1K OHM	J 1/10W
J1219	ERJ8GCYOROO	M	O OHM	1/8W	R254	ERJ6GEYOROO	M	O OHM	1/10W
J1220	ERJ8GCYOROO	M	O OHM	1/8W	R255	ERJ6GEYOROO	M	O OHM	1/10W
J1221	ERJ8GCYOROO	M	O OHM	1/8W	R262	ERJ6GEYJ471	M	470 OHM	J 1/10W
J1222	ERJ6GEYOROO	M	O OHM	1/10W	R263	ERJ6GEYJ471	M	470 OHM	J 1/10W
J1224	ERJ8GCYOROO	M	O OHM	1/8W	R266	ERJ6GEYJ471	M	470 OHM	J 1/10W
J1226	ERJ6GEYOROO	M	O OHM	1/10W	R267	ERJ6GEYJ471	M	470 OHM	J 1/10W
J1227	ERJ8GCYOROO	M	O OHM	1/8W	R280	ERJ6GEYJ331	M	330 OHM	J 1/10W

Ref.No.	Part No.	Description			Ref.No.	Part No.	Description						
R282	ERJ6GEYJ331	M	330	OHM	J	1/10W	R413	ERJ6ENF2211	M	2.21K	OHM	F	1/10W
R301	ERJ8GCYJ332	M	3.3K	OHM	J	1/8W	R414	ERJ6ENF2941	M	2.94K	OHM	F	1/10W
R302	ERJ8GCYJ102	M	1K	OHM	J	1/8W	R415	ERJ6ENF1912	M	19.1K	OHM	F	1/10W
R303	ERJ8GCYJ222	M	2.2K	OHM	J	1/8W	R417	ERJ6ENF8662	M	86.6K	OHM	F	1/10W
R304	ERJ8GCYJ222	M	2.2K	OHM	J	1/8W	R418	ER025CKF1202	M	12K	OHM	F	1/4W
R305	ERJ8GCYJ180	M	18	OHM	J	1/8W	R420	ERJ6ENF8661	M	8.66K	OHM	F	1/10W
R306	ERJ8GCYJ102	M	1K	OHM	J	1/8W	R421	ERJ6ENF8450	M	845	OHM	F	1/10W
R307	ERJ6GEYJ563	M	56K	OHM	J	1/10W	R422	ERG1SJ271	M	270	OHM	J	1W
R308	ERJ6GEYJ333	M	33K	OHM	J	1/10W	R423	ERX2SG1RO	M	1	OHM	G	2W
R309	ERJ6GEYJ473	M	47K	OHM	J	1/10W	R424	ERJ8GCYJ392	M	3.9K	OHM	J	1/8W
R310	ERJ6GEYJ104	M	100K	OHM	J	1/10W	R426	ERJ6ENF3921	M	3.92K	OHM	F	1/10W
R311	ERJ6GEYJ122	M	1.2K	OHM	J	1/10W	R427	ERDS2TJ1RO	C	1	OHM	J	1/4W
R312	ERJ6GEYJ103	M	10K	OHM	J	1/10W	R432	ERJ6GEYJ122	M	1.2K	OHM	J	1/10W
R321	ERJ6ENF1472	M	14.7K	OHM	F	1/10W	R440	ERJ6GEYJ122	M	1.2K	OHM	J	1/10W
R323	ERJ6GEYJ184	M	180K	OHM	J	1/10W	R441	ERJ6GEYJ103	M	10K	OHM	J	1/10W
R324	ERJ6GEYJ184	M	180K	OHM	J	1/10W	R455	ERJ8GCYJ332	M	3.3K	OHM	J	1/8W
R325	ERJ6GEYJ223	M	22K	OHM	J	1/10W	R456	ERJ6GEYJ222	M	2.2K	OHM	J	1/10W
R326	ERJ8GCYJ333	M	33K	OHM	J	1/8W	R457	ERJ6GEYJ222	M	2.2K	OHM	J	1/10W
R327	ERJ8GCYJ104	M	100K	OHM	J	1/8W	R458	ERJ6GEYJ123	M	12K	OHM	J	1/10W
R328	ERJ6GEYJ682	M	6.8K	OHM	J	1/10W	R459	ERJ6ENF6812	M	68.1K	OHM	F	1/10W
R329	ERJ6GEYJ332	M	3.3K	OHM	J	1/10W	R501	ERJ6ENF4221	M	4.22K	OHM	F	1/10W
R330	ERJ8GCYJ821	M	820	OHM	J	1/8W	R502	ERJ6ENF5111	M	5.11K	OHM	F	1/10W
R331	ERJ6ENF8451	M	8.45K	OHM	F	1/10W	R503	ERJ6GEYJ272	M	2.7K	OHM	J	1/10W
R336	ERJ6ENF9100	M	910	OHM	F	1/10W	R504	ERJ6ENF2701	M	2.7K	OHM	F	1/10W
R350	ERQ14AJ100	F	10	OHM	J	1/4W	R506	ERJ6GEYJ392	M	3.9K	OHM	J	1/10W
R351	ERJ8GCYJ102	M	1K	OHM	J	1/8W	R509	ERJ6GEYJ393	M	39K	OHM	J	1/10W
R352	ERJ6ENF6041	M	6.04K	OHM	F	1/10W	R516	ERJ6GEYJ332	M	3.3K	OHM	J	1/10W
R354	ERJ6ENF1502	M	15K	OHM	F	1/10W	R519	ERJ6ENF2431	M	2.43K	OHM	F	1/10W
R355	ERJ6ENF6982	M	69.8K	OHM	F	1/10W	R527	ERJ6GEYJ221	M	220	OHM	J	1/10W
R356	ERJ8GCYJ112	M	1.1K	OHM	J	1/8W	R528	ERJ6ENF8200	M	820	OHM	F	1/10W
R357	ERJ8GCYJ470	M	47	OHM	J	1/8W	R529	ERJ6ENF1002	M	10K	OHM	F	1/10W
R358	ERDS2TJ100	C	10	OHM	J	1/4W	R530	ERJ6ENF3921	M	3.92K	OHM	F	1/10W
R359	ERDS2TJ100	C	10	OHM	J	1/4W	R531	ERDS1FJ470	C	47	OHM	J	1/2W
R371	ERJ8GCYJ302	M	3K	OHM	J	1/8W	R532	ERJ6GEYJ222	M	2.2K	OHM	J	1/10W
R372	ERDS1FJ364	C	360K	OHM	J	1/2W	R534	ERJ6ENF1002	M	10K	OHM	F	1/10W
R373	ERJ8GCYJ395	M	3.9M	OHM	J	1/8W	R536	ERJ6GEYJ122	M	1.2K	OHM	J	1/10W
R374	ERJ8GCYJ473	M	47K	OHM	J	1/8W	R542	ERJ6ENF3241	M	3.24K	OHM	F	1/10W
R375	ERJ8ENF1271	M	1.27K	OHM	F	1/8W	R543	ERJ6GEYJ124	M	120K	OHM	J	1/10W
R376	ERJ6GEYJ562	M	5.6K	OHM	J	1/10W	R544	ERJ6ENF1822	M	18.2K	OHM	F	1/10W
R377	ERJ6GEYJ103	M	10K	OHM	J	1/10W	R545	TARRS5B820J1	M	82	OHM	J	5W
R378	ERJ6GEYJ102	M	1K	OHM	J	1/10W	R546	ERG3FJ181	M	180	OHM	J	3W
R379	ERJ8GCYJ102	M	1K	OHM	J	1/8W	R547	ERJ6GEYJ470	M	47	OHM	J	1/10W
R380	ERJ6ENF2003	M	200K	OHM	F	1/10W	R548	ERJ6GEYJ332	M	3.3K	OHM	J	1/10W
R381	ERJ6GEYJ102	M	1K	OHM	J	1/10W	R549	ERG1SJ561	M	560	OHM	J	1W
R382	ERJ6GEYJ152	M	1.5K	OHM	J	1/10W	R550	ERQ14AJR47HK	F	0.47	OHM	J	1/4W
R383	ERDS1FJ151	C	150	OHM	J	1/2W	R551	ERX2SJ1R8	M	1.8	OHM	J	2W
R384	ERJ6GEYJ472	M	4.7K	OHM	J	1/10W	R552	ERX2SJ1R8	M	1.8	OHM	J	2W
R385	ERJ6ENF6342	M	63.4K	OHM	F	1/10W	R553	ERJ6GEYJ153	M	15K	OHM	J	1/10W
R386	ERDS1FJ104	C	100K	OHM	J	1/2W	R554	ERG3FJ120	M	12	OHM	J	3W
R387	ERJ6GEYJ103	M	10K	OHM	J	1/10W	R560	ERDS1FJ472	C	4.7K	OHM	J	1/2W
R388	ERDS1FJ125	C	1.2M	OHM	J	1/2W	R561	ERJ6GEYJ100	M	10	OHM	J	1/10W
R389	ERJ6GEYJ103	M	10K	OHM	J	1/10W	R563	ERDS1FJ472	C	4.7K	OHM	J	1/2W
R390	ERG1SJ473	M	47K	OHM	J	1W	R564	ERJ6GEYJ100	M	10	OHM	J	1/10W
R395	ERDS1FJ103	C	10K	OHM	J	1/2W	R566	ERDS1FJ472	C	4.7K	OHM	J	1/2W
R400	ERJ6GEYJ472	M	4.7K	OHM	J	1/10W	R567	ERJ6GEYJ100	M	10	OHM	J	1/10W
R401	ERJ6GEYJ470	M	47	OHM	J	1/10W	R571	ERJ6GEYJ562	M	5.6K	OHM	J	1/10W
R402	ERJ6GEYJ472	M	4.7K	OHM	J	1/10W	R572	ERJ6GEYJ562	M	5.6K	OHM	J	1/10W
R405	ERJ6ENF6811	M	6.81K	OHM	F	1/10W	R573	ERDS1FJ271	C	270	OHM	J	1/2W
R406	ERJ6ENF1132	M	11.3K	OHM	F	1/10W	R574	ERDS1FJ821	C	820	OHM	J	1/2W
R407	ERJ8GCYJ103	M	10K	OHM	J	1/8W	R580	ERQ12AJR12HK	F	0.12	OHM	J	1/2W
R408	ERJ6ENF1202	M	12K	OHM	F	1/10W	R583	ERDS2TJ101	C	100	OHM	J	1/4W
R412	ERJ6ENF7321	M	7.32K	OHM	F	1/10W	R584	ERDS2TJ101	C	100	OHM	J	1/4W

Ref.No.	Part No.	Description				Ref.No.	Part No.	Description			
R587	ERDS2TJ332	C	3.3K OHM	J	1/4W	R719	ERJ6GEYJ103	M	10K OHM	J	1/10W
R588	TARRS5B150J2	M	15 OHM	J	5W	R720	ERJ6GEYJ104	M	100K OHM	J	1/10W
R589	TARRS5B150J2	M	15 OHM	J	5W	R801	ERC12AGK394	S	390K OHM	K	1/2W
R599	ERQ12HJ220	F	22 OHM	J	1/2W	R802	ERTD6ZFL120P	THERMISTOR			
R601	ERJ8GCYJ103	M	10K OHM	J	1/8W	R803	TAP102Q9R0	POSISTOR			
R602	ERQ14AJ100	F	10 OHM	J	1/4W	R804	ERDS1FJ224	C	220K OHM	J	1/2W
R603	ERD25FJ100K	C	10 OHM	J	1/4W	R805	ERDS1FJ224	C	220K OHM	J	1/2W
R604	ERJ6GEYJ125	M	1.2M OHM	J	1/10W	R806	ERG2SJ333	M	33K OHM	J	2W
R605	ERD25FJ100K	C	10 OHM	J	1/4W	R807	ERDS1FJ334	C	330K OHM	J	1/2W
R610	ERJ8GCYJ154	M	150K OHM	J	1/8W	R808	TARRS3B473J2	M	47K OHM	J	3W
R620	ERJ8GCYJ104	M	100K OHM	J	1/8W	R809	ERG2SJ183	M	18K OHM	J	2W
R644	ERD25FJ100K	C	10 OHM	J	1/4W	R810	ERJ8GCYJ224	M	220K OHM	J	1/8W
R646	ERD25FJ470K	C	47 OHM	J	1/4W	R811	ERJ8GCYJ224	M	220K OHM	J	1/8W
R650	ERJ6ENF3921	M	3.92K OHM	F	1/10W	R812	ERQ12AJ4R7	F	4.7 OHM	J	1/2W
R651	ERJ6ENF3921	M	3.92K OHM	F	1/10W	R813	ERW2PKR22	W	0.22 OHM	K	2W
R652	ERJ6GEYJ472	M	4.7K OHM	J	1/10W	R814	ERW2PKR22	W	0.22 OHM	K	2W
R653	ERJ6ENF4531	M	4.53K OHM	F	1/10W	R815	ERJ8GCYJ222	M	2.2K OHM	J	1/8W
R654	ERDS1FJ274	C	270K OHM	J	1/2W	R816	ERJ8GCYJ222	M	2.2K OHM	J	1/8W
R655	ERJ6GEYOROO	M	0 OHM	J	1/10W	R817	ERJ6GEYJ472	M	4.7K OHM	J	1/10W
R656	ERJ6GEYJ472	M	4.7K OHM	J	1/10W	R818	ERD25FJ560K	C	56 OHM	J	1/4W
R657	ERJ6GEYJ153	M	15K OHM	J	1/10W	R819	ERJ6GEYJ561	M	560 OHM	J	1/10W
R658	ERJ6GEYJ273	M	27K OHM	J	1/10W	R821	ERJ6GEYJ472	M	4.7K OHM	J	1/10W
R659	ERJ6ENF9091	M	9.09K OHM	F	1/10W	R822	ERJ6GEYJ472	M	4.7K OHM	J	1/10W
R660	ERJ8GCYJ393	M	39K OHM	J	1/8W	R823	ERJ6GEYJ472	M	4.7K OHM	J	1/10W
R662	ERJ6GEYJ103	M	10K OHM	J	1/10W	R824	ERJ6GEYJ122	M	1.2K OHM	J	1/10W
R663	ERJ6ENF2492	M	24.9K OHM	F	1/10W	R825	ERJ6GEYJ472	M	4.7K OHM	J	1/10W
R664	ERJ6ENF1502	M	15K OHM	F	1/10W	R826	ERJ8ENF8202	M	82K OHM	F	1/8W
R665	ERDS1FJ122	C	1.2K OHM	J	1/2W	R827	ERJ8GCYJ470	M	47 OHM	J	1/8W
R667	ERJ6GEYJ273	M	27K OHM	J	1/10W	R828	ERDS1FJ274	C	270K OHM	J	1/2W
R669	ERJ6GEYJ334	M	330K OHM	J	1/10W	R829	ERJ8GCYJ223	M	22K OHM	J	1/8W
R671	ERJ6GEYJ221	M	220 OHM	J	1/10W	R830	ERDS1FJ103	C	10K OHM	J	1/2W
R674	ERJ6GEYJ103	M	10K OHM	J	1/10W	R831	ERJ6GEYJ102	M	1K OHM	J	1/10W
R675	ERJ6GEYJ103	M	10K OHM	J	1/10W	R832	ERJ6GEYJ220	M	22 OHM	J	1/10W
R676	ERJ8GCYJ101	M	100 OHM	J	1/8W	R833	ERD25FJ223K	C	22K OHM	J	1/4W
R677	ERJ6GEYJ561	M	560 OHM	J	1/10W	R834	ERD25FJ122K	C	1.2K OHM	J	1/4W
R678	ERJ6GEYJ182	M	1.8K OHM	J	1/10W	R835	ERQ12AJ2R2	F	2.2 OHM	J	1/2W
R680	ERJ6GEYJ682	M	6.8K OHM	J	1/10W	R841	ERJ6GEYJ473	M	47K OHM	J	1/10W
R681	ERJ6GEYJ391	M	390 OHM	J	1/10W	R842	ERG15J223	M	22K OHM	J	1W
R689	ERJ6GEYJ102	M	1K OHM	J	1/10W	R843	ERJ8GCYJ223	M	22K OHM	J	1/8W
R690	ERJ6GEYJ472	M	4.7K OHM	J	1/10W	R844	ERJ6GEYJ271	M	270 OHM	J	1/10W
R691	ERJ8GCYOROO	M	0 OHM		1/8W	R846	ERJ6GEYJ223	M	22K OHM	J	1/10W
R692	ERJ6ENF6192	M	61.9K OHM	F	1/10W	R847	ERX2SJ1R8	M	1.8 OHM	J	2W
R693	ERJ6ENF9091	M	9.09K OHM	F	1/10W	R849	ERJ6GEYJ102	M	1K OHM	J	1/10W
R695	ERJ8ENF3903	M	390K OHM	F	1/8W	R850	ERDS1FJ221	C	220 OHM	J	1/2W
R696	ERDS1FJ274	C	270K OHM	J	1/2W	R851	ERJ6GEYJ102	M	1K OHM	J	1/10W
R697	ERDS1FJ564	C	560K OHM	J	1/2W	R852	ERDS1FJ221	C	220 OHM	J	1/2W
R698	ERDS1FJ225	C	2.2M OHM	J	1/2W	R853	ERJ6GEYJ102	M	1K OHM	J	1/10W
R699	EROS1CKF7502	M	75K OHM	F	1/2W	R854	ERDS1FJ182	C	1.8K OHM	J	1/2W
R701	ERJ6GEYJ392	M	3.9K OHM	J	1/10W	R855	ERDS1FJ182	C	1.8K OHM	J	1/2W
R702	ERJ6GEYJ392	M	3.9K OHM	J	1/10W	R856	ERJ6GEYJ103	M	10K OHM	J	1/10W
R704	ERJ6GEYJ182	M	1.8K OHM	J	1/10W	R857	ERDS1FJ122	C	1.2K OHM	J	1/2W
R705	ERJ6GEYJ562	M	5.6K OHM	J	1/10W	R858	ERJ6GEYJ103	M	10K OHM	J	1/10W
R706	ERJ6GEYJ101	M	100 OHM	J	1/10W	R859	ERDS1FJ222	C	2.2K OHM	J	1/2W
R707	ERJ6GEYJ103	M	10K OHM	J	1/10W	R860	ERJ6GEYJ102	M	1K OHM	J	1/10W
R708	ERJ6GEYJ124	M	120K OHM	J	1/10W	R861	ERQ12AJR33HK	F	0.33 OHM	J	1/2W
R709	ERJ6GEYJ101	M	100 OHM	J	1/10W	R862	ERQ12AJR47	F	0.47 OHM	J	1/2W
R710	ERJ6GEYJ823	M	82K OHM	J	1/10W	R863	ERQ12AJR47	F	0.47 OHM	J	1/2W
R711	ERJ6GEYJ392	M	3.9K OHM	J	1/10W	R864	ERQ12AJR12HK	F	0.12 OHM	J	1/2W
R714	ERJ6ENF1541	M	1.54K OHM	F	1/10W	R865	ERQ12AJR12HK	F	0.12 OHM	J	1/2W
R715	ERJ6ENF5620	M	562 OHM	F	1/10W	R866	ERG15J270	M	27 OHM	J	1W
R717	ERDS1FJ332	C	3.3K OHM	J	1/2W	R867	ERG15J393	M	39K OHM	J	1W
R718	ERDS1FJ332	C	3.3K OHM	J	1/2W	R868	ERQ12AJR47	F	0.47 OHM	J	1/2W

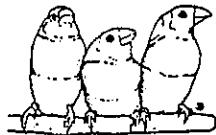
Ref.No.	Part No.	Description				Ref.No.	Part No.	Description					
R869	ERJ6GEYJ222	M	2.2K	OHM	J	1/10W	R961	ERJ6GEYOROO	M	0	OHM	1/10W	
R870	ERJ6GEYJ102	M	1K	OHM	J	1/10W	R962	ERJ6GEYJ102	M	1K	OHM	J	1/10W
R871	ERJ6ENF4991	M	4.99K	OHM	F	1/10W	R963	ERJ6GEYJ472	M	4.7K	OHM	J	1/10W
R872	ERJ6ENF1822	M	18.2K	OHM	F	1/10W	R964	ERJ6GEYJ102	M	1K	OHM	J	1/10W
R873	ERJ6ENF4222	M	42.2K	OHM	F	1/10W	R965	ERJ8GCYJ102	M	1K	OHM	J	1/8W
R874	ERJ6ENF2211	M	2.21K	OHM	F	1/10W	R966	ERJ8GCYJ102	M	1K	OHM	J	1/8W
R875	ERJ6ENF7871	M	7.87K	OHM	F	1/10W	R967	ERJ8GCYJ102	M	1K	OHM	J	1/8W
R876	ERJ6GEYJ562	M	5.6K	OHM	J	1/10W	R968	ERJ8GCYJ102	M	1K	OHM	J	1/BW
R877	ERJ6GEYJ753	M	75K	OHM	J	1/10W	R969	ERJ8GCYJ102	M	1K	OHM	J	1/BW
R878	ERJ6GEYOROO	M	0	OHM		1/10W	R970	ERJ6GEYJ332	M	3.3K	OHM	J	1/10W
R879	ERG1SJ683	M	68K	OHM	J	1W	R971	ERJ6GEYJ472	M	4.7K	OHM	J	1/10W
R880	ERJ6ENF1211	M	1.21K	OHM	F	1/10W	R972	ERJ6GEYJ472	M	4.7K	OHM	J	1/10W
R881	ERJ6ENF1821	M	1.82K	OHM	F	1/10W	R973	ERJ6GEYJ101	M	100	OHM	J	1/10W
R885	ERJ6GEYOROO	M	0	OHM		1/10W	R974	ERJ6GEYJ101	M	100	OHM	J	1/10W
R886	ERJ6GEYJ473	M	47K	OHM	J	1/10W	R975	ERJ6GEYJ101	M	100	OHM	J	1/10W
R888	ERJ6GEYJ103	M	10K	OHM	J	1/10W	R976	ERJ6GEYJ473	M	47K	OHM	J	1/10W
R889	ERJ6GEYJ391	M	390	OHM	J	1/10W	R977	ERJ8GCYJ473	M	47K	OHM	J	1/8W
R890	ERJ6GEYOROO	M	0	OHM		1/10W	R978	ERJ6GEYJ101	M	100	OHM	J	1/10W
R891	ERDS1FJ473	C	47K	OHM	J	1/2W	R979	ERJ6GEYJ101	M	100	OHM	J	1/10W
R892	ERJ6ENF4121	M	4.12K	OHM	F	1/10W	R980	ERDS1FJ151	C	150	OHM	J	1/2W
R893	ERJ6GEYOROO	M	0	OHM		1/10W	R981	ERJ6GEYJ102	M	1K	OHM	J	1/10W
R894	ERDS1FJ183	C	18K	OHM	J	1/2W	R982	ERJ6GEYJ102	M	1K	OHM	J	1/10W
R895	ERJ8GCYJ391	M	390	OHM	J	1/8W	R983	ERJ6GEYJ102	M	1K	OHM	J	1/10W
R896	ERJ6GEYJ103	M	10K	OHM	J	1/10W	R984	ERJ6GEYJ102	M	1K	OHM	J	1/10W
R897	ERJ6GEYJ102	M	1K	OHM	J	1/10W	R985	ERJ6GEYJ102	M	1K	OHM	J	1/10W
R898	ERJ6GEYJ332	M	3.3K	OHM	J	1/10W	R986	ERJ6GEYJ103	M	10K	OHM	J	1/10W
R899	ERJ6GEYJ183	M	18K	OHM	J	1/10W	R987	ERJ6GEYJ102	M	1K	OHM	J	1/10W
R900	ERJ6GEYJ683	M	68K	OHM	J	1/10W	R988	ERJ6GEYJ102	M	1K	OHM	J	1/10W
R901	ERJ6GEYJ472	M	4.7K	OHM	J	1/10W	R989	ERJ6GEYJ472	M	4.7K	OHM	J	1/10W
R902	ERJ6GEYJ472	M	4.7K	OHM	J	1/10W	R1001	ERO25CKF76R8	M	76.8	OHM	F	1/4W
R903	ERJ6GEYJ101	M	100	OHM	J	1/10W	R1002	ERJ6GEYJ470	M	47	OHM	J	1/10W
R904	ERJ6GEYJ101	M	100	OHM	J	1/10W	R1011	ERO25CKF76R8	M	76.8	OHM	F	1/4W
R905	ERJ6GEYJ331	M	330	OHM	J	1/10W	R1012	ERJ6GEYJ470	M	47	OHM	J	1/10W
R906	ERJ6GEYJ331	M	330	OHM	J	1/10W	R1014	ERJ6GEYJ680	M	68	OHM	J	1/10W
R907	ERJ6GEYOROO	M	0	OHM		1/10W	R1015	ERJ6GEYOROO	M	0	OHM		1/10W
R908	ERDS2TJ106	C	10M	OHM	J	1/4W	R1020	ERJ6GEYJ330	M	33	OHM	J	1/10W
R909	ERJ6GEYJ153	M	15K	OHM	J	1/10W	R1021	ERJ6GEYJ330	M	33	OHM	J	1/10W
R912	ERJ8GCYJ153	M	15K	OHM	J	1/8W	R1022	ERJ6GEYJ220	M	22	OHM	J	1/10W
R913	ERJ8GCYJ103	M	10K	OHM	J	1/8W	R1023	ERJ8GCYJ391	M	390	OHM	J	1/8W
R916	ERJ8GCYJ103	M	10K	OHM	J	1/8W	R1025	ERDS1FJ121	C	120	OHM	J	1/2W
R917	ERJ8GCYJ182	M	1.8K	OHM	J	1/8W	R1030	ERJ6ENF3570	M	357	OHM	F	1/10W
R918	ERJ8GCYJ101	M	100	OHM	J	1/8W	R1031	ERJ6ENF39R0	M	39	OHM	F	1/10W
R919	ERJ6GEYJ391	M	390	OHM	J	1/10W	R1032	ERJ6GEYJ822	M	8.2K	OHM	J	1/10W
R930	ERJ6GEYJ472	M	4.7K	OHM	J	1/10W	R1033	ERJ6ENF2701	M	2.7K	OHM	F	1/10W
R931	ERJ6GEYJ222	M	2.2K	OHM	J	1/10W	R1035	ERJ6GEYJ154	M	150K	OHM	J	1/10W
R932	ERJ6GEYJ103	M	10K	OHM	J	1/10W	R1037	ERJ6GEYJ122	M	1.2K	OHM	J	1/10W
R933	ERJ8GCYJ683	M	68K	OHM	J	1/8W	R1038	ERJ6GEYJ122	M	1.2K	OHM	J	1/10W
R934	ERJ6GEYJ103	M	10K	OHM	J	1/10W	R1042	ERDS2TJ102	C	1K	OHM	J	1/4W
R935	ERJ8GCYJ393	M	39K	OHM	J	1/8W	R1043	ERDS1FJ330	C	33	OHM	J	1/2W
R936	ERJ8GCYJ103	M	10K	OHM	J	1/8W	R1052	ERDS2TJ224	C	220K	OHM	J	1/4W
R937	ERJ8GCYJ393	M	39K	OHM	J	1/8W	R1055	ERJ6ENF2102	M	21K	OHM	F	1/10W
R950	ERJ6GEYJ153	M	15K	OHM	J	1/10W	R1056	ERJ6ENF6982	M	69.8K	OHM	F	1/10W
R951	ERJ6GEYJ472	M	4.7K	OHM	J	1/10W	R1101	ERO25CKF76R8	M	76.8	OHM	F	1/4W
R952	ERJ6GEYJ472	M	4.7K	OHM	J	1/10W	R1102	ERJ6GEYJ470	M	47	OHM	J	1/10W
R953	ERJ6GEYJ102	M	1K	OHM	J	1/10W	R1111	ERO25CKF76R8	M	76.8	OHM	F	1/4W
R954	ERJ6GEYJ472	M	4.7K	OHM	J	1/10W	R1112	ERJ6GEYJ470	M	47	OHM	J	1/10W
R955	ERJ6GEYJ102	M	1K	OHM	J	1/10W	R1114	ERJ6GEYJ680	M	68	OHM	J	1/10W
R956	ERJ6GEYJ222	M	2.2K	OHM	J	1/10W	R1120	ERJ6GEYJ330	M	33	OHM	J	1/10W
R957	ERJ6GEYJ102	M	1K	OHM	J	1/10W	R1121	ERJ6GEYJ330	M	33	OHM	J	1/10W
R958	ERJ6GEYJ222	M	2.2K	OHM	J	1/10W	R1122	ERJ6GEYJ220	M	22	OHM	J	1/10W
R959	ERJ6GEYJ102	M	1K	OHM	J	1/10W	R1123	ERJ8GCYJ391	M	390	OHM	J	1/8W
R960	ERJ6GEYJ333	M	33K	OHM	J	1/10W	R1125	ERDS1FJ121	C	120	OHM	J	1/2W

Ref.No.	Part No.	Description				Ref.No.	Part No.	Description					
R1130	ERJ6ENF3570	M	357 OHM	F	1/10W	R1403	ERJ6ENF6811	M	6.81K OHM	F	1/10W		
R1131	ERJ6ENF47R5	M	47.5 OHM	F	1/10W	R1404	ERJ6ENF2212	M	22.1K OHM	F	1/10W		
R1132	ERJ6GEYJ822	M	8.2K OHM	J	1/10W	R1405	ERJ6ENF1212	M	12.1K OHM	F	1/10W		
R1133	ERJ6ENF2701	M	2.7K OHM	F	1/10W	R1406	ERJ6GEYJ101	M	100 OHM	J	1/10W		
R1135	ERJ6GEYJ154	M	150K OHM	J	1/10W	R1408	ERJ6ENF1002	M	10K OHM	F	1/10W		
R1137	ERJ6GEYJ122	M	1.2K OHM	J	1/10W	R1409	ERJ6ENF1002	M	10K OHM	F	1/10W		
R1138	ERJ6GEYJ122	M	1.2K OHM	J	1/10W	R1501	ERJ6GEYJ473	M	47K OHM	J	1/10W		
R1142	ERDS2TJ102	C	1K OHM	J	1/4W			OTHERS					
R1143	ERDS1FJ330	C	33 OHM	J	1/2W			THE902N					
R1152	ERDS2TJ224	C	220K OHM	J	1/4W			D-SUB SCREW					
R1155	ERJ6ENF2102	M	21K OHM	F	1/10W			SCREW					
R1156	ERJ6ENF6982	M	69.8K OHM	F	1/10W			THTFO01					
R1201	ERO25CKF76R8	M	76.8 OHM	F	1/4W			TMKK001					
R1202	ERJ6GEYJ470	M	47 OHM	J	1/10W			TMK87919					
R1211	ERO25CKF76R8	M	76.8 OHM	F	1/4W			INSULATION SHEET					
R1212	ERJ6GEYJ470	M	47 OHM	J	1/10W			TSC8908-O					
R1214	ERJ6GEYJ680	M	68 OHM	J	1/10W			FERRITE CORE					
R1215	ERJ6GEYOROO	M	0 OHM		1/10W	△	F801	TUCC5095					
R1220	ERJ6GEYJ330	M	33 OHM	J	1/10W	FG1	XBA215T4.OAH	AC SOCKET BRACKET					
R1221	ERJ6GEYJ330	M	33 OHM	J	1/10W			TUWF008					
R1222	ERJ6GEYJ220	M	22 OHM	J	1/10W			BNC TERMINAL BRACKET					
R1223	ERJ8GCYJ391	M	390 OHM	J	1/8W			XTV3+8J					
R1225	ERDS1FJ121	C	120 OHM	J	1/2W			SCREW					
R1230	ERJ6ENF3570	M	357 OHM	F	1/10W			FUSE(4.0A)					
R1231	ERJ6ENF39R0	M	39 OHM	F	1/10W			EARTH LUG					
R1232	ERJ6GEYJ822	M	8.2K OHM	J	1/10W			FG2					
R1233	ERJ6ENF2701	M	2.7K OHM	F	1/10W			TJC85341					
R1235	ERJ6GEYJ154	M	150K OHM	J	1/10W			FG3					
R1237	ERJ6GEYJ122	M	1.2K OHM	J	1/10W			TJC85341					
R1238	ERJ6GEYJ122	M	1.2K OHM	J	1/10W			FS801					
R1242	ERDS2TJ102	C	1K OHM	J	1/4W			FS802					
R1243	ERDS1FJ330	C	33 OHM	J	1/2W			TJC85502T					
R1252	ERDS2TJ224	C	220K OHM	J	1/4W			TJC85502T					
R1255	ERJ6ENF2102	M	21K OHM	F	1/10W			JC101					
R1256	ERJ6ENF6982	M	69.8K OHM	F	1/10W			EARTH LUG					
R1301	ERJ6GEYJ222	M	2.2K OHM	J	1/10W		N11	EMCS0464M	EARTH LUG				
R1302	ERJ6GEYJ683	M	68K OHM	J	1/10W		N11A-	TSXX027	4P CONNECTOR				
R1303	ERJ6GEYJ474	M	470K OHM	J	1/10W		N101	TJS118590	2P/3P CONNECTOR ASSY				
R1306	ERJ6GEYJ222	M	2.2K OHM	J	1/10W		N104	TJC85342T	2P CONNECTOR				
R1307	ERJ6GEYJ561	M	560 OHM	J	1/10W		N105-	TXAJTV2P749A	LUG TERMINAL				
R1310	ERJ6GEYJ101	M	100 OHM	J	1/10W		N106	TJC85342T	TJSF10400				
R1311	ERJ6GEYJ331	M	330 OHM	J	1/10W		N110	TJSF10400	BNC TERMINAL				
R1313	ERJ6ENF2152	M	21.5K OHM	F	1/10W		N111	TJSF10400	BNC TERMINAL				
R1314	ERJ6ENF4871	M	4.87K OHM	F	1/10W		N112	TJSF10400	BNC TERMINAL				
R1317	ERJ6GEYJ222	M	2.2K OHM	J	1/10W		N113	TJSF10400	BNC TERMINAL				
R1318	ERJ6GEYJ101	M	100 OHM	J	1/10W		N114	TJSF10400	BNC TERMINAL				
R1330	ERJ6GEYJ474	M	470K OHM	J	1/10W		N120	TJSF10515	15P CONNECTOR(D-SUB)				
R1331	ERJ6GEYJ222	M	2.2K OHM	J	1/10W	△	N381	TJSF08600	CRT SOCKET				
R1332	ERJ6ENF3301	M	3.3K OHM	F	1/10W		N382	TJCD003	TERMINAL				
R1333	ERJ6GEYJ222	M	2.2K OHM	J	1/10W		△	N801	TJS8A9361	TERMINAL			
R1334	ERJ6GEYJ222	M	2.2K OHM	J	1/10W		N803	TJC85342T	AC SOCKET				
R1335	ERJ6GEYJ152	M	1.5K OHM	J	1/10W		N861	EMCS0264M	LUG TERMINAL				
R1337	ERJ6GEYJ102	M	1K OHM	J	1/10W		N901	EMCS0451ML	2P CONNECTOR				
R1338	ERJ6GEYJ102	M	1K OHM	J	1/10W		N1001	ATJSF05207	4P CONNECTOR(L-TYPE)				
R1339	ERJ6GEYJ223	M	22K OHM	J	1/10W		N1001	BTJSF05207	7P CONNECTOR				
R1341	ERJ6GEYJ101	M	100 OHM	J	1/10W		N1002	ATJSF07910	7P CONNECTOR				
R1344	ERJ6ENF1582	M	15.8K OHM	F	1/10W		N1002	BTJSF08010	10P CONNECTOR(L-TYPE)				
R1345	ERJ6ENF1002	M	10K OHM	F	1/10W		N1003	ATJSF07818	10P CONNECTOR				
R1346	ERJ6ENF3322	M	33.2K OHM	F	1/10W		N1003	BTJSF07818	18P CONNECTOR				
R1350	ERDS1FJ562	C	5.6K OHM	J	1/2W		N510-1	TEL302-9	18P CONNECTOR				
R1401	ERJ6GEYJ331	M	330 OHM	J	1/10W		N510-2	TEL302-9	TERMINAL				
R1402	ERJ6ENF3321	M	3.32K OHM	F	1/10W		N510-3	TEL302-9	TERMINAL				
							N510-4	TEL302-9	TERMINAL				
							N802-1	TEL302-9	TERMINAL				
							N802-2	TEL302-9	TERMINAL				
							△	PC821	TERMINAL				
							RL571	LTV-817B	PHOTO COUPLER				
							RL801	TSE80892	RELAY				
							S290	TSEH004	RELAY				
							S291	TAX125X103MA	SPARK GAP				
							S371	TGPS152GL	VARISTOR				
							S381	TAX125X103MA	SPARK GAP				
									VARISTOR				

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
S382	ERZC05DK201U	VARISTOR			
S601	TAGDSP141TT	SPARK GAP			
S1001	TAGDSP201MF	SPARK GAP			
S1101	TAGDSP201MF	SPARK GAP			
S1201	TAGDSP201MF	SPARK GAP			
△ SW801	ESB91234A	SWITCH(POWER)			
SW901	EVQPBO05K	SWITCH			
SW902	EVQPBO05K	SWITCH			
SW903	EVQPBO05K	SWITCH			
SW904	EVQPBO05K	SWITCH			
TH1301	TAR28GJ154D	THERMISTOR			
TP1	TEL302-9	TERMINAL			
TP2	TEL302-9	TERMINAL			
TP3	TEL302-9	TERMINAL			
TP4	TEL302-9	TERMINAL			
TP5	TEL302-9	TERMINAL			
TP6	TEL302-9	TERMINAL			
X901	TSS2165TM	CRYSTAL OSCILLATOR			

ViewSonic® Corporation

20480 East Business Parkway • Walnut, CA 91789 • tel. : (909) 444-8727 • Fax. : (909) 444-1244



Service Bulletin

SB # 17PS-2_002

RECEIVED
NOV 24 1997
By *Ken*

To : All authorized service providers	Date: November 4, 1997
Model # : 17PS-2	
Subject: Product service information	
Requested by: Rommel Bugay	From : Tommy W. Jue QC Field Engineer

Symptom:

Unit exhibits kinked and noisy video.

Cause(s):

Defective component in the µPC1883 H/V processing integrated circuit.

Location: C502

Part: 220 µF/16V electrolytic capacitor

The capacitor serves as the filter capacitor for the 9V power source for IC501 referred to in the above.

Supplementary Information:

Quality Control wishes to thank Jason Tang, lead repair technician, for this information.

If you have any questions regarding this service bulletin, please contact the Quality Control Department (909)444-8727.

Don't do anything