

GoldStar

COLOR MONITOR SERVICE MANUAL

CAUTION

BEFORE SERVICING THE UNIT, READ THE "SAFETY PRECAUTIONS" IN THIS MANUAL.

ALSO COVERS

GSEP-2112 CHASSIS

IBM 6314-002

GS 483-444A



MODEL: CS442A/CS446A
1470/1470 SSI
(CA-15 CHASSIS)



GoldStar

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SPECIFICATIONS

1. PICTURE TUBE

Size	: 14 inch
Gun	: In-Line
Deflection Angle	: 90°
Neck Diameter	: 29.1 mm
Phosphor	: P22
Transmission	: 57%

2. SIGNAL

2-1. HORIZONTAL & VERTICAL SYNC

- 1) Input Voltage Level : Low=0-0.4V, High=3.0-5.5V
 - 2) Rise/Fall Time: Max 10nS
 - 3) Over/Under Shoot: Max 10%
 - 4) SYNC. Width: Horizontal=0.8~5uS
Vertical= 15uS~1mS
 - 5) SYNC. Polarity : Positive or Negative
 - 6) Composite SYNC. Signal
 - o. Vertical SYNC. Width: 1H~10H.
 - o. Serration Pulse: NON, 0.5H, 1H, EX-OR
 - o. Equalize Pulse: MAX 5H
- * REMARK: H = Horizontal Period

2-2. VIDEO INPUT SIGNAL

- 1) Voltage Level : 0~0.7V
 - A) Color 0, 0 : 0 Vp-p
 - B) Color 7, 0 : 0.467 Vp-p
 - C) Color 15, 0 : 0.7 Vp-p
- 2) Rise/Fall Time : 5nS Max
- 3) Signal Polarity : Positive
- 4) Input Impedance : 75 Ohm
- 5) Video Color : R G B ANALOG
- 6) Signal Format : Refer To Timing Chart

2-3. SIGNAL CONNECTOR

15 PIN D-SUB Connector

2-4. SCANNING FREQUENCY

MODEL NAME	CS442A	1470	1470 SSI
HORIZONTAL	30-60KHz	30-60KHz	30-60KHz
VERTICAL	50-120Hz	50-120Hz	50-120Hz

3. POWER SUPPLY (Factory Preset)

3-1. POWER RATING

AC 100~240V 1.5A MAX. 60/50Hz
Free Voltage

4. DISPLAY AREA

- 4-1. Active Video Area : 245mm X 184mm
- 4-2. Display Color : Full Colors
- 4-3. Display Resolution : 1024 Dots X 768 Lines
- 4-4. Video Bandwidth : 75MHz

5. EXTERNAL CONTROL

5-1. Front: Power ON/OFF

Brightness
Contrast

5-2. Front: (In Door)

: MODE, UP, DOWN, RECALL
SAVE FOR H/V SIZE, SPCC, H/V POSITION
TRAPEZOID AND COLOR TEMPERATURE

6. ENVIRONMENT

- 6-1. Operating Temperature: 10° C TO 41° C (Ambient)
- 6-2. Relative Humidity: 8 TO 80% (Noncondensing)
- 6-3. Altitude: 10,000ft

7. DIMENSIONS

Width : 357mm
Depth : 400mm
Height : 389mm

8. WEIGHT (W/TILT SWIVEL)

Net Weight : 14.2Kg
Gross Weight : 16.2Kg

PREFACE

SAFETY PRECAUTIONS

SAFETY-RELATED COMPONENT WARNING!

There are special components used in GoldStar color monitor which are important for safety. These parts are marked (Δ) on the schematic diagram and on the replacement parts list. It is essential that these critical parts should be replaced with the manufacture's specified parts to prevent X-RADIATION, shock, fire or other hazards. Do not modify the original design without obtaining written permission from GoldStar or this will void the original parts and labor guarantee.

CAUTION: No modification of any circuit should be attempted.

Service work should be performed only after you are thoroughly familiar with all of the following safety checks and servicing guidelines.

SAFETY CHECK

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

FIRE & SHOCK HAZARD

- An isolation transformer must be inserted between the color monitor and AC power line before servicing the chassis.
- In servicing, attention must be paid to the 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.
- All the protective devices must be reinstalled per original design.
- Soldering must be inspected for the cold solder joints, frayed leads, damaged insulation, solder splashes or the sharp points. Be sure to remove all foreign materials.

IMPLOSION PROTECTION

All used display tubes are equipped with an integral implosion protection system, but care should be taken to avoid damage and scratching during installation. Use only same type display tubes.

X-RADIATION

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 an X-Radiation problem. The basic precaution which must be exercised is keep the high voltage at the factory-recommended level: the normal high voltage is 24KV and must not exceed 26KV at zero beam current at rated voltage. The following steps describe how to measure the high voltage and how to prevent X-radiation.

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

- To measure the high voltage, use a high impedance high voltage meter, Connect (-) to chassis and (+) to the CRT anode button.
- Turn the brightness control fully clockwise.
- Measure the high Voltage. The high voltage meter should indicate at the factory-recommended level.
- If the upper meter indication exceeds the maximum level, immediate service is required to prevent the possibility of premature component failure.
- To prevent X-Radiation possibility, it is essential to use the specified picture tube.

CAUTION:

Please use only plastic screwdriver for shock protection during service operation.

FEATURES

This Color Monitor is a high-quality, high-content Analog Display.

It has the following features:

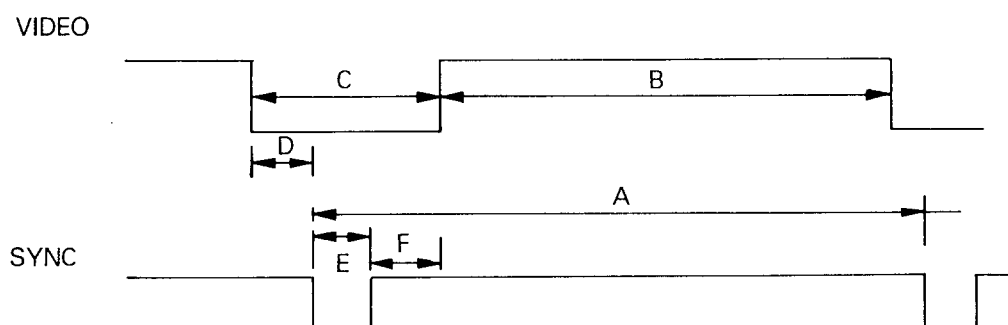
- 14 inch Color Display
- 3 Different, independent lines to drive the display a RED, a GREEN and a BLUE Line.

- 75MHz Bandwidth.

High-Resolution CDT (Color Display Tube) Display: Horizontal 1024 dots, vertical 768 lines without blurring the characters.

- Analog-Compatibility at a H-frequency of 30-60KHz

TIMING CHART



MODE		MODE 1	MODE 2	MODE 3	MODE 4	MODE 5	MODE 6	MODE 7
FREQ.		VGA 1	VGA 2	VGA 3	800x600(56Hz)	800x600(60Hz)	1024 x768(60Hz)	1024X768(70Hz)
HORIZONTAL	POLARITY	POSI	NEGA	NEGA	NEGA	POSI	POSI	NEGA
	FREQUENCY	31.47 KHz			35.16KHz	37.88KHz	48.36KHz	56.48KHz
	A	31.78 uS			28.45uS	26.40uS	20.67uS	17.71uS
	B	25.42 uS			22.22uS	20.00uS	15.75uS	13.65uS
	C	6.36 uS			6.23uS	6.40uS	4.92uS	4.06uS
	D	0.64 uS			0.67uS	1.00uS	0.60uS	0.32uS
	E	3.81 uS			2.00uS	3.20uS	3.20uS	1.81uS
	F	1.91 uS			3.56uS	2.20uS	1.12uS	1.93uS
VERTICAL	POLARITY	NEGA	POSI	NEGA	NEGA	POSI/NEGA	POSI	NEGA
	FREQUENCY	70.08 Hz	70.08 Hz	59.94 Hz	56.25Hz	60.32Hz	60.08Hz	70.07Hz
	A	14.27 mS	14.27 mS	16.68 mS	17.78mS	16.58mS	16.65mS	14.27mS
	B	11.12 mS	12.71 mS	15.25 mS	17.07mS	15.84mS	15.88mS	13.60mS
	C	3.15 mS	1.56 mS	1.43mS	0.71mS	0.74mS	0.77mS	0.67mS
	D	1.208 mS	0.413 mS	0.349mS	0.028mS	0.026mS	0.062mS	0.053mS
	E	0.064 mS	0.064 mS	0.064 mS	0.057mS	0.106mS	0.062mS	0.106mS
	F	1.874mS	1.08 mS	1.017 mS	0.626mS	0.607mS	0.641mS	0.514mS

A: SYNC. TIME

B: VIDEO ACTIVE TIME

C: BLANKING TIME

D: FRONT PORCH

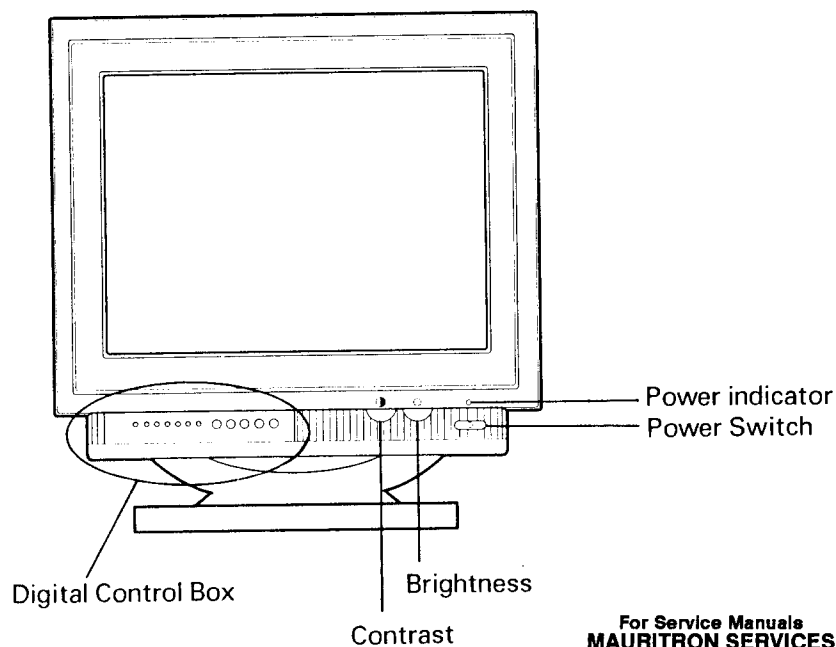
E: SYNC PULSE DURATION

F: BACK PORCH

LOCATION and Function of Controls

This high resolution color monitor uses a 15-pin "D" type connector for analog input.
Figure 1. Show the monitor controls on the front and rear panels.

Front View



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

Rear View

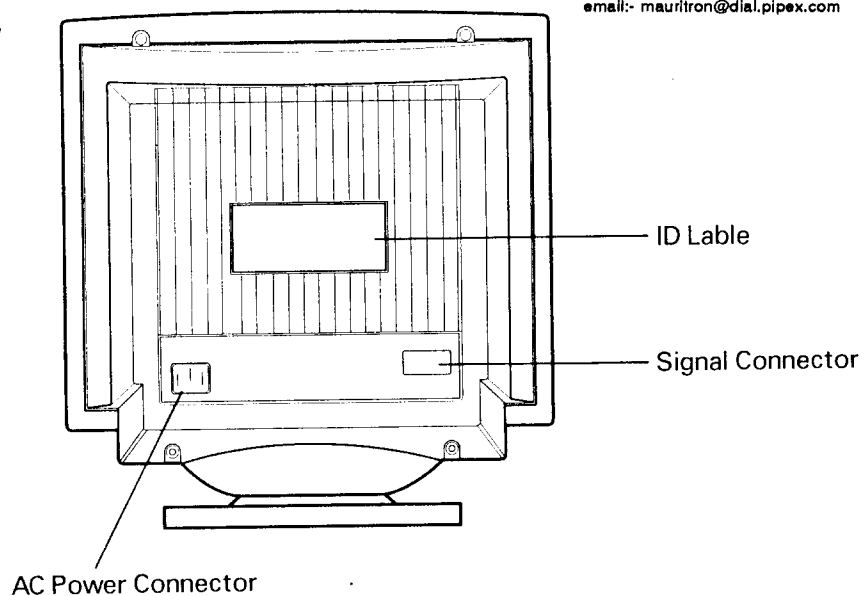


Figure 1, Monitor Controls

- **Contrast**

Adjust the Display to the contrast preferred by the user.

- **Brightness**

Used to adjust the Brightness of the screen.

- **Power Switch**

Used to turn the power On or Off.

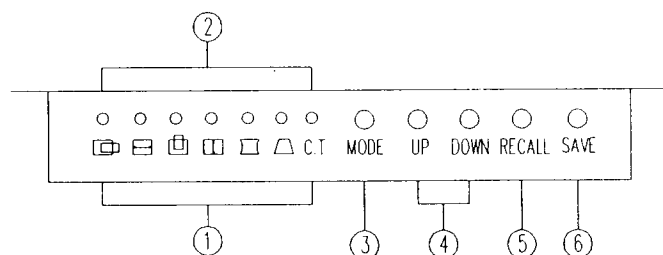
- **Power indicator**

The power indicator lights when the power is On.

- **AC Power connector**

Connect to the AC inlet with the supplied AC power cord.

Digital Control Box



1) Digital control icon

- Horizontal Position
- Horizontal Width
- Vertical Position
- Vertical Height
- Side Pincushion
- Trapezoid
- C. T. Color Temperature

2) Digital control indicator

When one of the seven digital controls is selected the LED above that digital control icon is lit for indication.

3) MODE button

Push this button for using a microprocessor and selecting an item to be adjusted.

4) UP/DOWN button

Used to set digital values preferred for each of the selected digital control item by pressing the UP button for increment or the DOWN button for decrement.

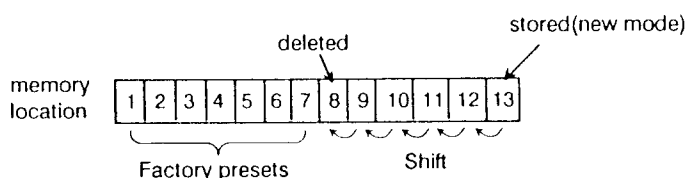
5) RECALL button

You can recall user preset data for the selected digital control item from the latest preset data by pressing this button.

6) SAVE button

When the display position, size, geometric distortion and color temperature are adjusted as desired, push the SAVE and the MODE button at the same time. And then the all digital control indicators blink 3 times. If this button is not pushed at the same time, Adjusted data is not stored in the memory.

notes; When the memory location is full, if the adjusted data is stored for new mode, all digital control indicator is blink 10 times quickly and stored mode in the eighth memory location will be deleted and stored mode in the eight memory location will be deleted and then the new mode data is stored in the thirteenth memory location.



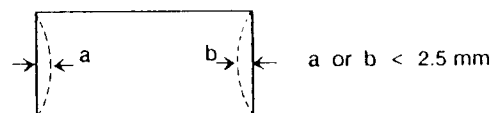
notes; The 7 standard display modes of IBM and VESA are factory preset at memory location from 1 to 7, in accordance with GS Ergonomic Rule.

therefore, do not adjust these 7 factory preset modes, as possible if, when adjust the one of these 7 factory preset modes as well as add to your special display mode.

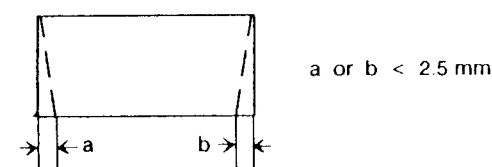
You should adjust correctly the geometric distortion with reference as follows and then save the adjusted data.

refer "How to use DIGITAL CONTROL BOX"

1) pincushion



2) trapezoid



ADJUSTMENT

GENERAL INFORMATION

All adjustment are thoroughly checked and corrected, When the monitor leave the factory.

Therefore the monitor should operate normally and produce proper color and pictures upon installation.

However, several minor adjustments may be required depending on the particular location in which the monitor is operated. The monitor is shipped completely in carton.

Carefully draw out the monitor from the carton and remove all packing materials.

Check and adjust all the customer controls such as Brightness and Contrast to obtain a normal picture.

AUTOMATIC DEGAUSSING

A degaussing coil is mounted around the picture tube so that external degaussing is normally unnecessary after moving the monitor. The monitor should be properly degaussing upon installation. The degaussing coil is switched on.

If the set is moved or faced in a different direction, the power switch must be switched off for at least 10 minutes in order that the automatic degaussing circuit operates properly.

Should the chassis or parts of the cabinet become magnetized to cause poor color purity, use an external degaussing coil. Slowly move the degaussing coil around the faceplate of the picture tube, the sides and front of the monitor, and slowly withdraw the coil to a

distance of about 2 meters before disconnecting it from the AC source. If color shading still persists, perform the convergence adjustment procedures, as mentioned later.

RASTER CENTER ADJUSTMENT.

1. Display cross-hatch pattern at Mode 7.
2. Turn the brightness volume to the maximum so that the back raster should be visible.
3. Adjust the H-center volume (VR701) so that the center of the raster should be on the mechanical center of the screen.

FOCUS ADJUSTEMENT.

1. Set the Bright VR and Contrast VR to Max.
2. Display "H" character in full screen (Mode 7, color 7.0)
3. Adjust Focus VR of FBT so that the focus should be best condition.

B / HIGH VOLTAGE / H-HOLD / V-HOLD / X-RAY PROTECTION / V-LIN / WHITE BALANCE / LUMINANCE ADJUSTMENT.

1. Install the cable for adjustment such as Fig 2.
2. Run the program delivered from GoldStar for the special adjustment.
3. Select the item on the screen you want to adjust.
4. Adjust it as the program introduction.

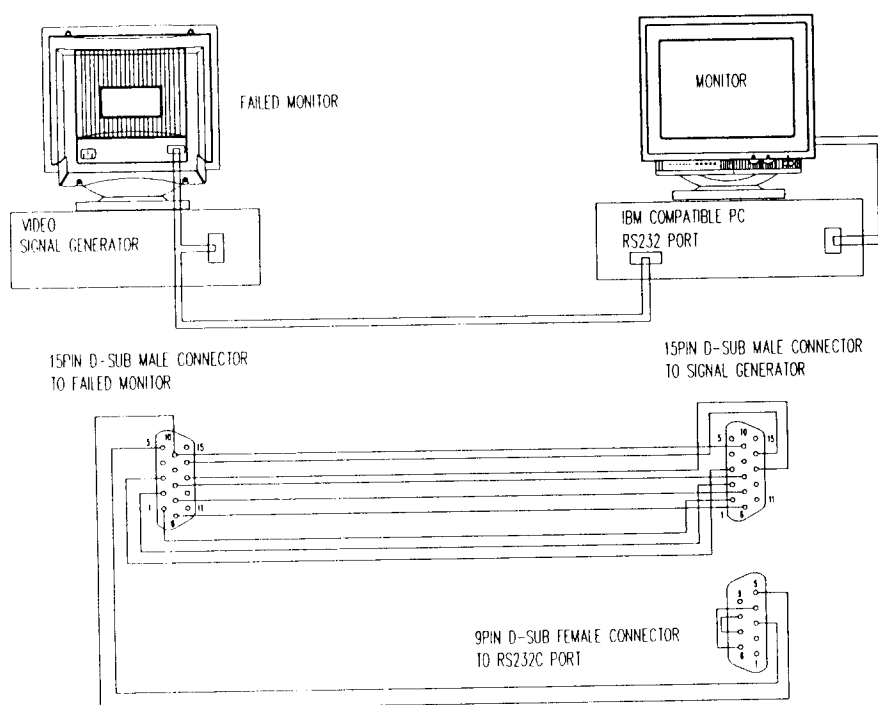
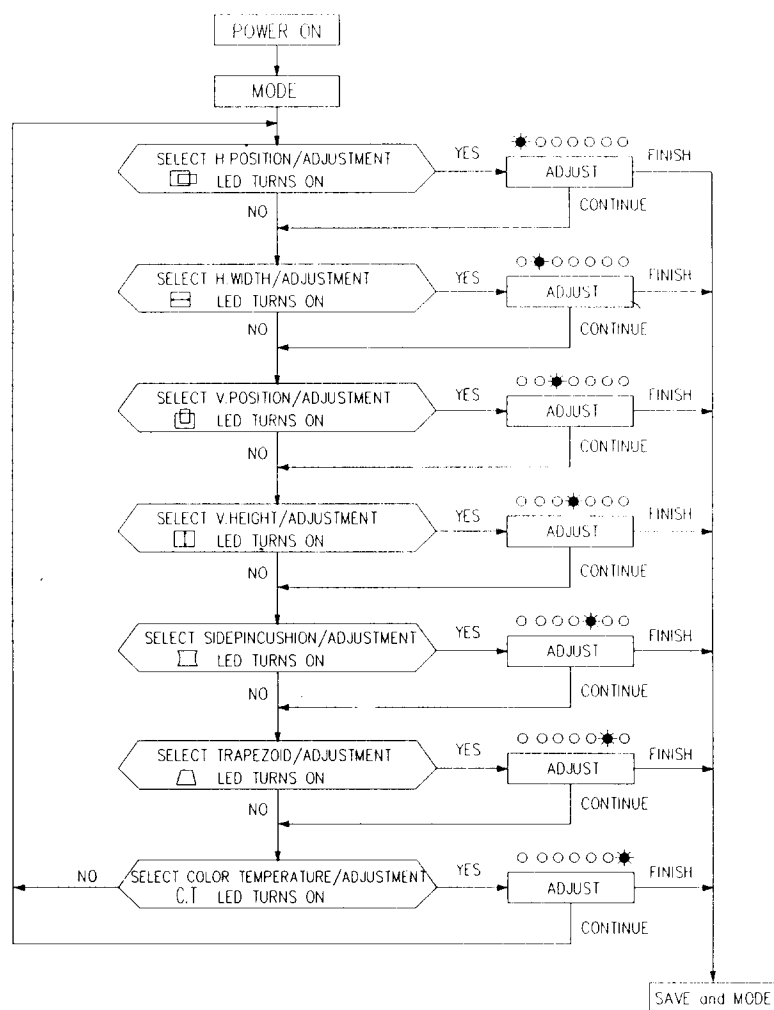


FIGURE 2, CABLE CONNECTION

H-POSITION/V-POSTION/H-WIDTH /V-HEIGHT/SIDE PINCUSION/TRAPEZOID ADJUSTMENT.

"DIGITAL CONTROL BOX"



After pushing the SAVE and the MODE button, the image adjusted by users will be saved into the memory on the monitor CPU. Therefore, when the monitor is powered on again, the image is displayed exactly the same as saved by users.

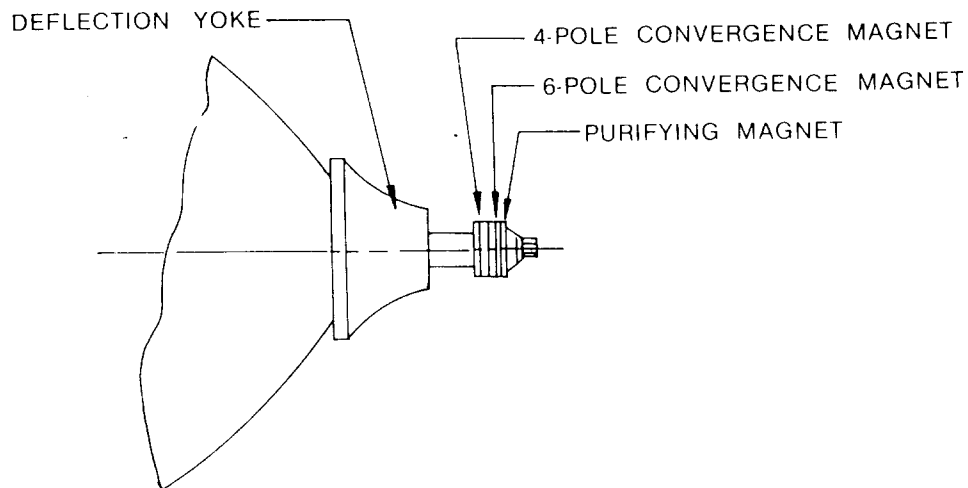
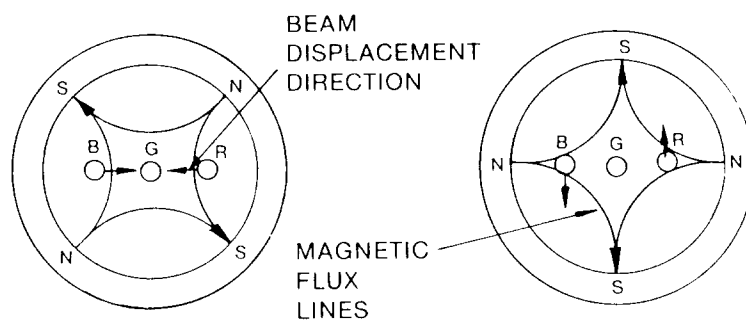


Figure 3,Relative Placement of Components



Beam Motion Produced by the six-pole and four-pole Convergence Magnet.

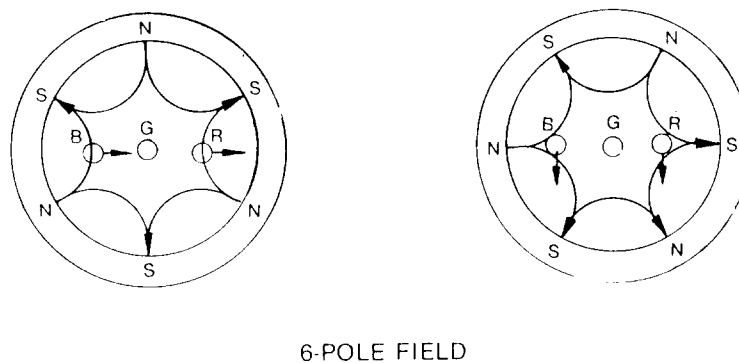
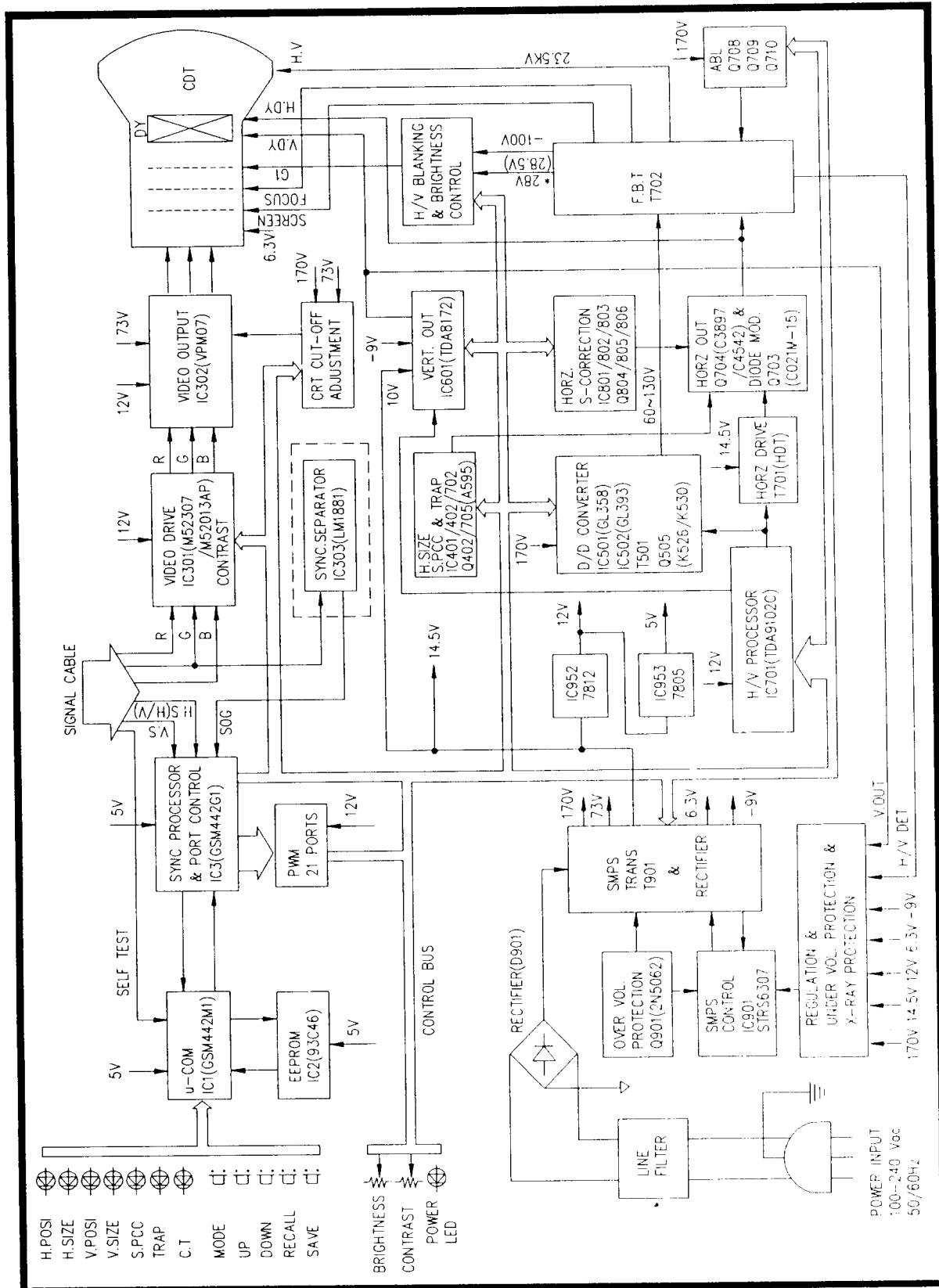


Figure 4,Static Convergence System

BLOCK DIAGRAM DESCRIPTION

1) BLOCK DIAGRAM



2) DESCRIPTION OF BLOCK DIAGRAM

LINE FILTER

This circuit is used for EMC (Electro-Magnetic Compatibility.)

When some noise is generated in this chassis. This line filter (L901, 902) can reduce interference of noise.

DEGAUSSING

The degaussing circuit consists of DEGAUSSING COIL AND POSISTER TH901.

SMPS (SWITCHING MODE POWER)

This power supply is a SMPS that consists of control IC(IC901), SMPS transformer (T901), output load sensing IC (IC902), over voltage protection transistor (Q901) and the associated compoments.

if you push on the power switch, the line voltage is applied to the retified Diode (D901) and rectified voltage is applied to the primary of transformer (T901). Depending on turn ratio of the transformer, the secondary voltage appears at the secondarg.

And it is rectified by each diode (D951 ~D955). The output voltage are as follows.

DC 170V, 73V, 14.5V, 6.3V, and-9V.

UNDER VOLTAGE PROTECTION.

The under protection circuit consists of comparator IC (IC101), switching transistor (Q101, 102, 902), photo coupler (IC902) and the associated components.

Output lines for under voltage are very sensitive.

The output of camparator IC(IC101) is Low level, switching transistor and photo coupler are turned on and control IC(IC901) stops operating at abnormal condition.

OVER VOLTAGE PROTECTION.

The over voltage protection circut consists of Zener diode (D906), SCR (Q901) and the associated components.

This circuit is turned on and control IC(IC901) stops operating at abnormal condition (over voltage)

X-RAY PROTECTION.

This chassis has high voltage detector in fly-back transformer (T702). If the high voltage of FBT approximately reach at 28.0KV in abnormal state, the primary circuit is not operated by IC901 and IC101 in normal state.

u- COM CONTROL

THE POPERAING PROCEDURE OF MICRO PROCESSOR IS AS FOLLOWS.

- 1) Sync signal is supplied from PC to sync processor (IC3).
- 2) Operating mode is distinguished H/V sync signal from micro processor and controlled design value of each mode from pulse width modulation circuit.

3) The design value of each mode data is stored a EEPROM (IC2) and can read each mode data by micro proessor.

4) Screen condition is controlled factory of users. The controlled data can store at EEPROM with mode and save key.

HORIZONTAL AND VERICAL PROCESSOR

H/V Processor has sync dectector, saw tooth generator and drive function.

HORIZONTAL DRIVE OUTPUT AND DIODE MODULATION.

This circuit is horizontal deflection amplifier for raster scan.

D/D CONVERTER.

This circuit supply variable DC voltage to the fly-back transformer and horizontal output circuit for constant high voltage.

The variable range of DC voltage is from 60V to 130V.

HORIZONTAL S-CORRECTION.

This circuit compensate horizontal linearity to proportionate horizontal frequency for each mode.

ABL (AUTO BRIGHTNESS LIMIT)

This circuit limits beam current for reliability of cathode ray tube.

VERTICAL OUTPUT

This circuit is saw tooth amplifier for vertical for raster scan.

H/V BLANKING & BRIGHTNESS CONTROL.

- 1) Branking circuit cut off the beam current at retrace period of horizontal and vertical with retrace pulse.
- 2) Bright control circuit controls DC level of G1 on CDT.

VIDEO DRIVE

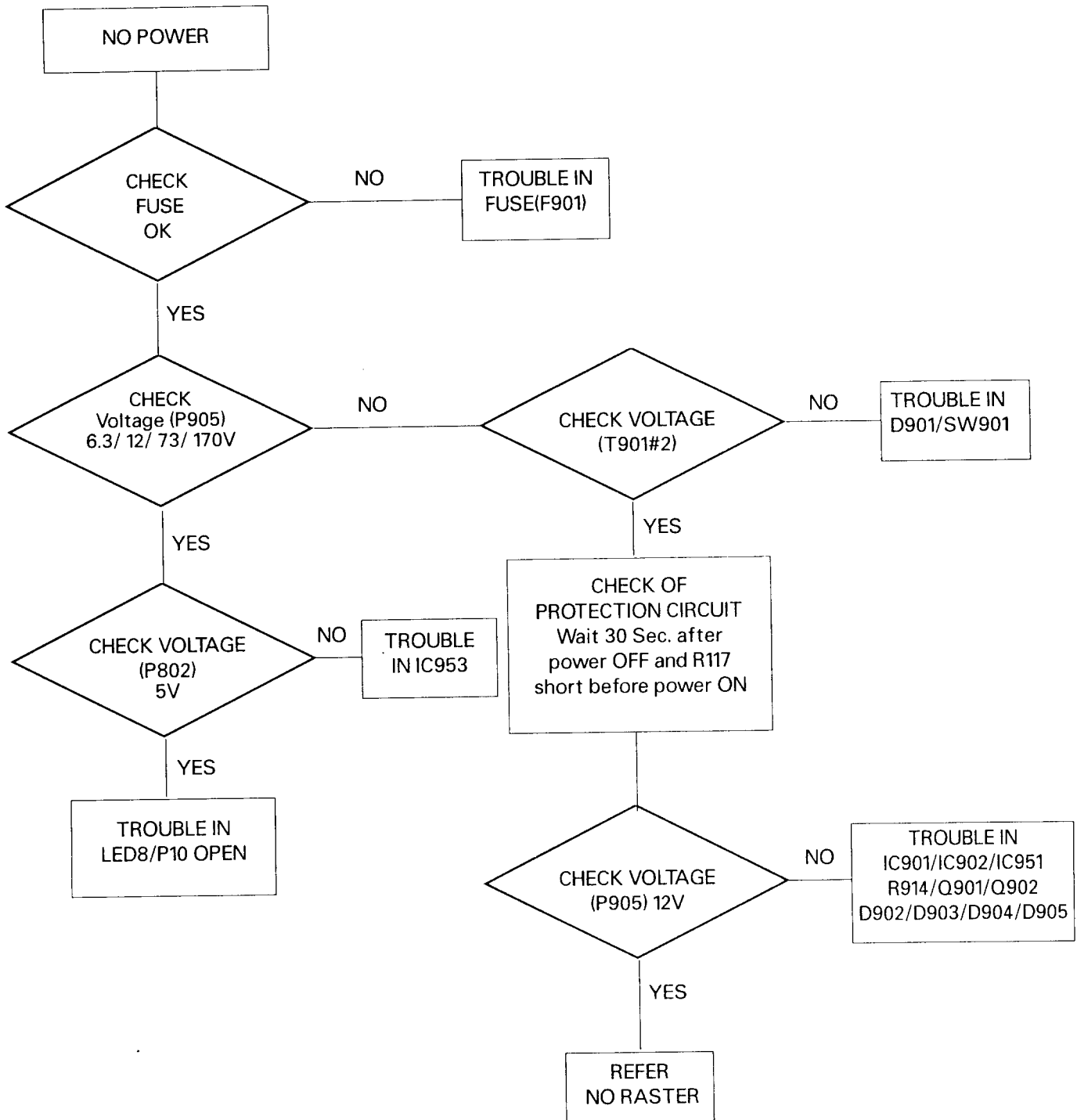
The video signal from PC is amplified, and the ampified signal is sent to VIDEO out. The VIDEO drive contains CONTRAST control function.

VIDEO OUTPUT

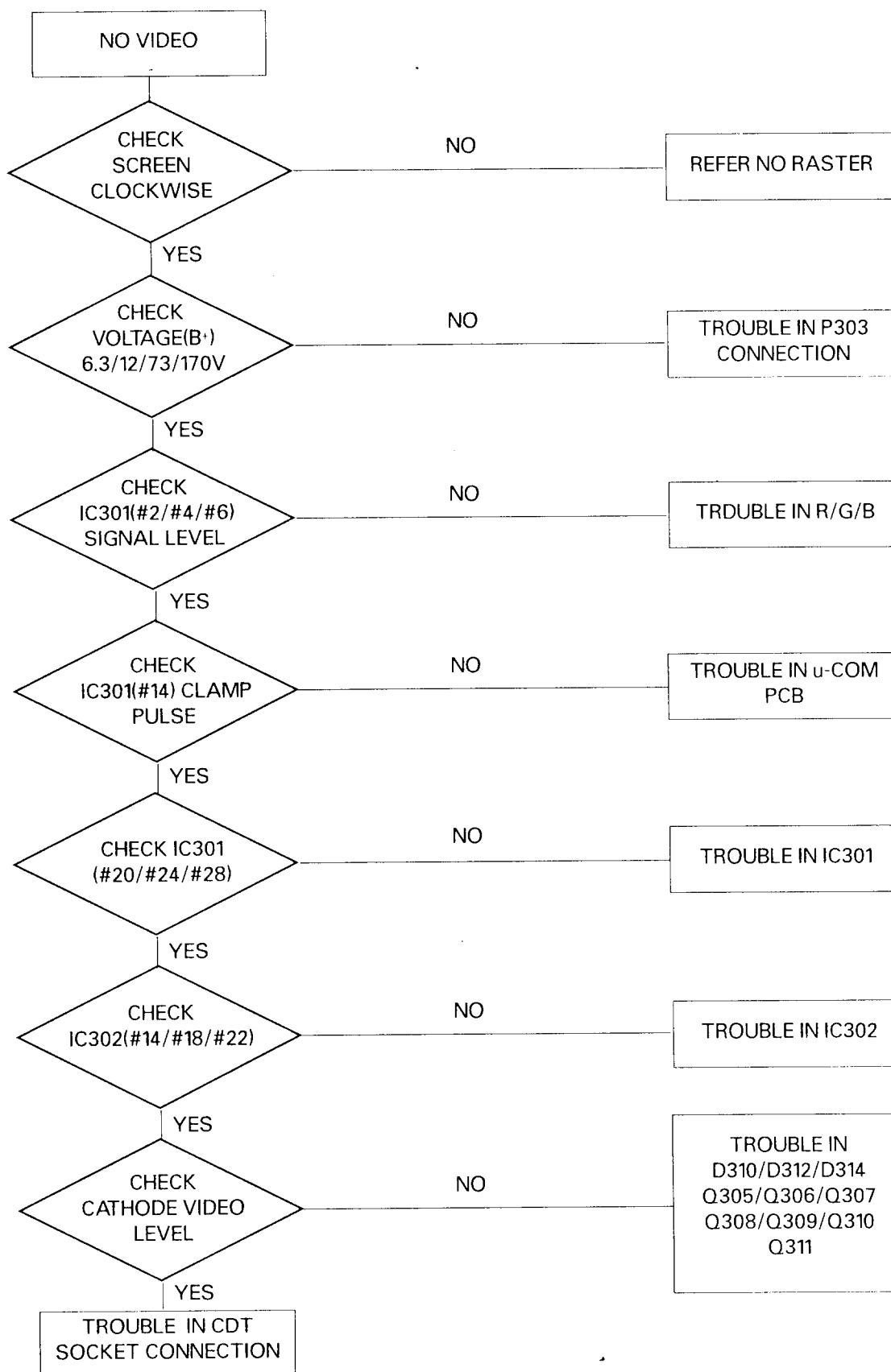
The video signal amplified by video drive IC (IC302) applied to each cathode on CDT.

TROUBLE SHOOTING GUIDE

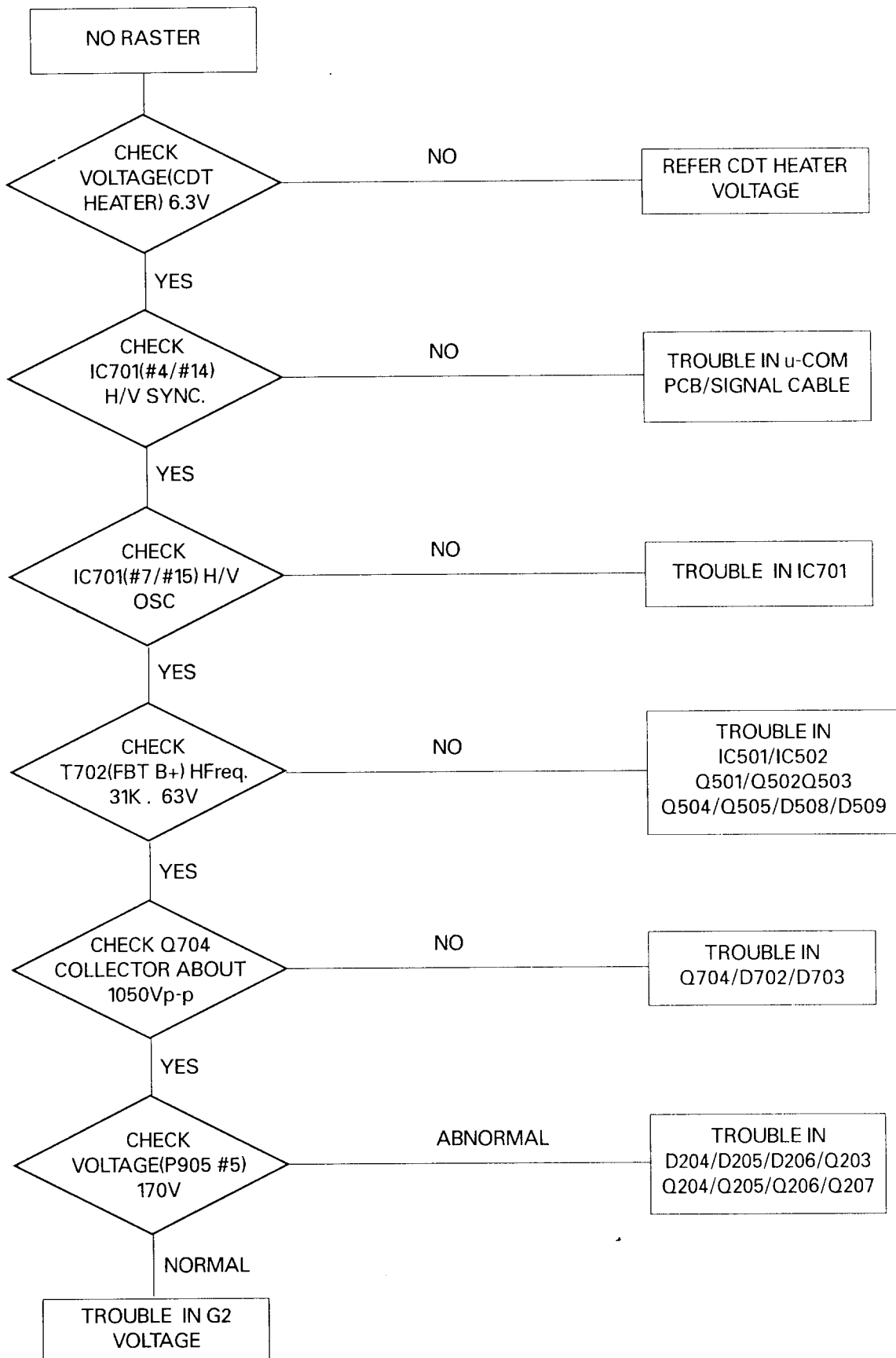
1. NO POWER



2. NO VIDEO

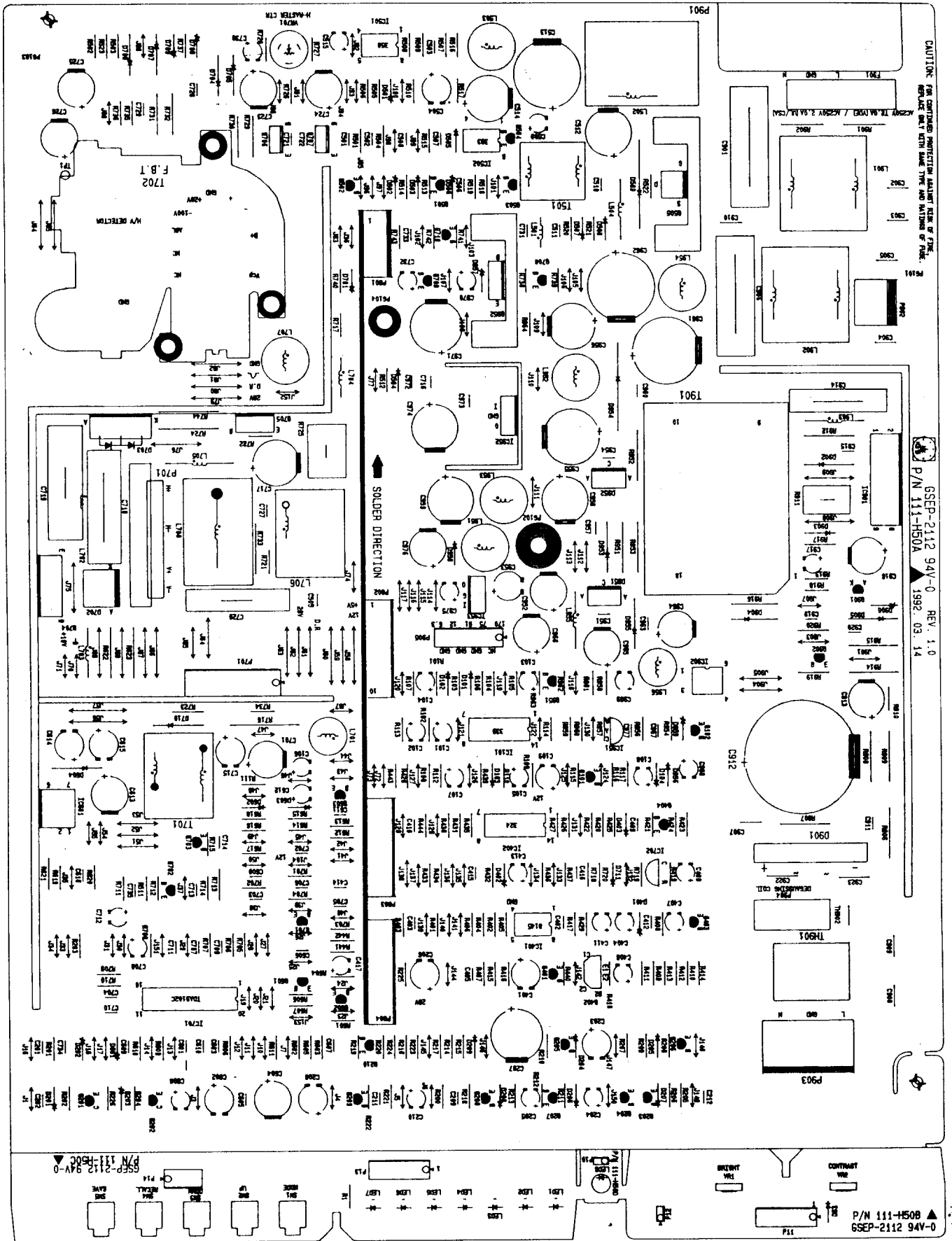


3. NO RASTER

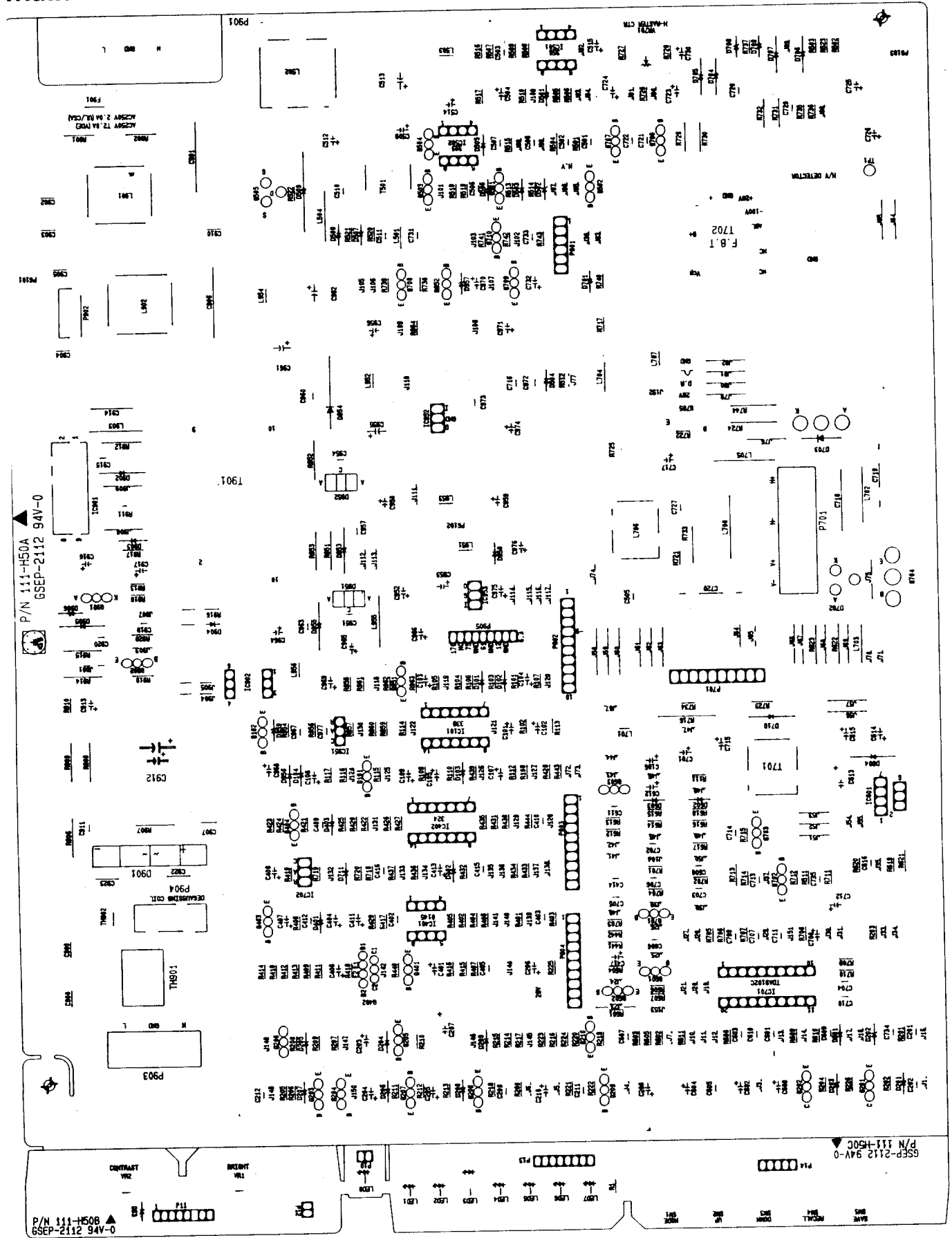


Printed Circuit Board

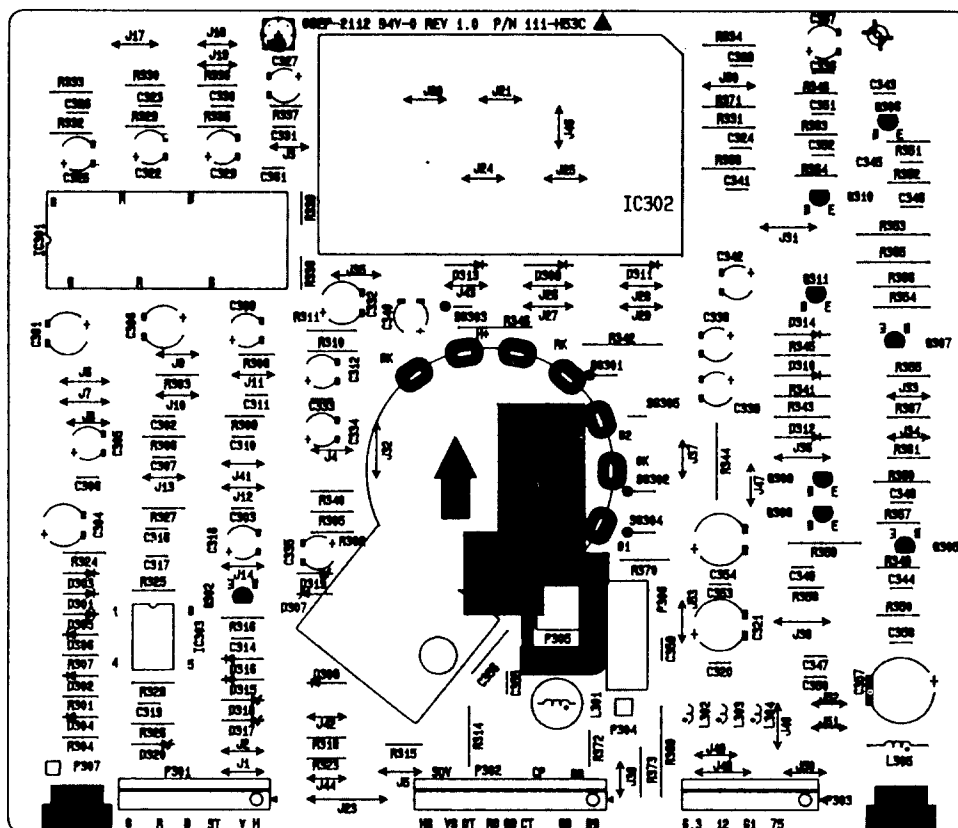
Main Board(Top Side)



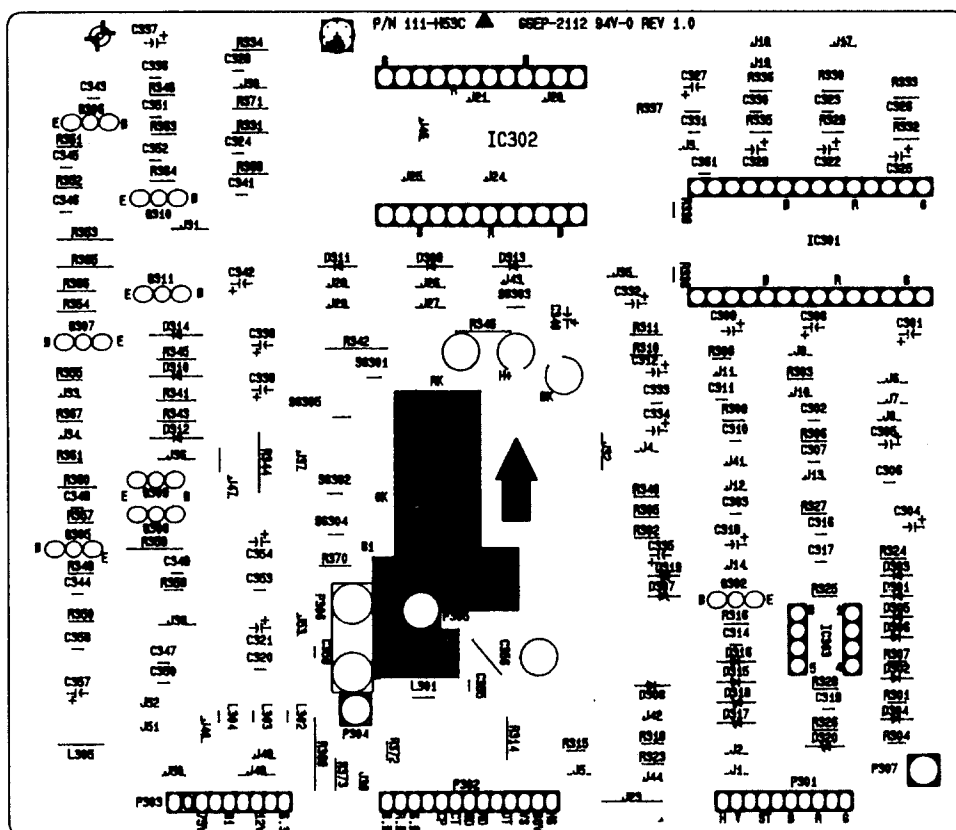
Main Board(Bottom Side)



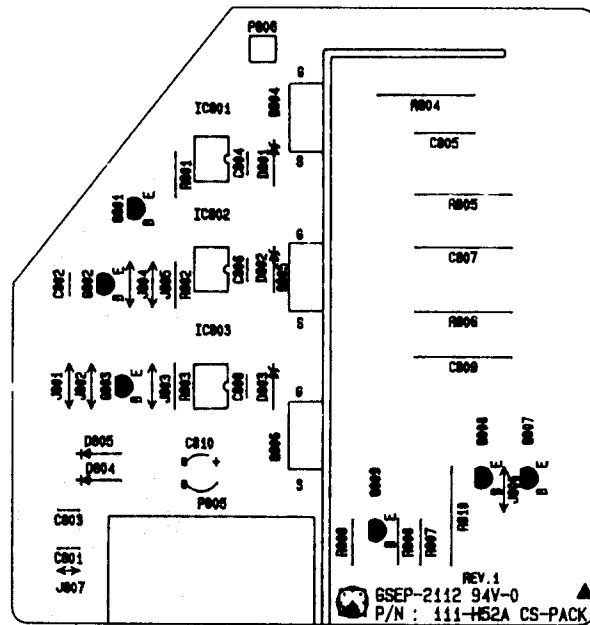
Video Board(Top Side)



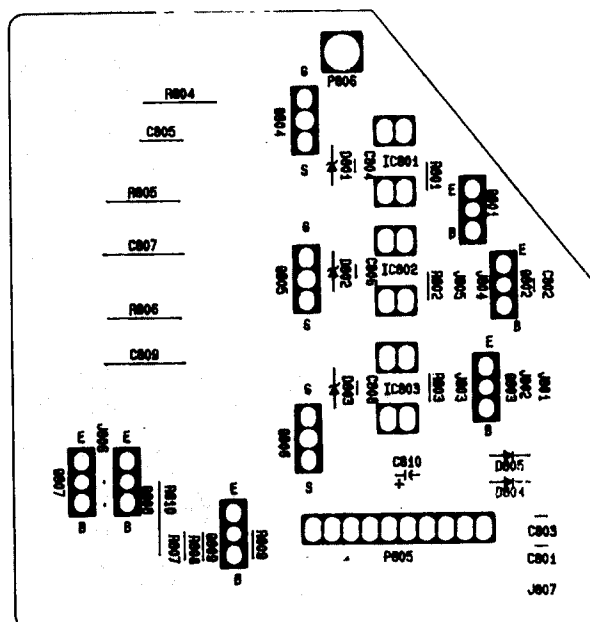
Video Board(Bottom Side)



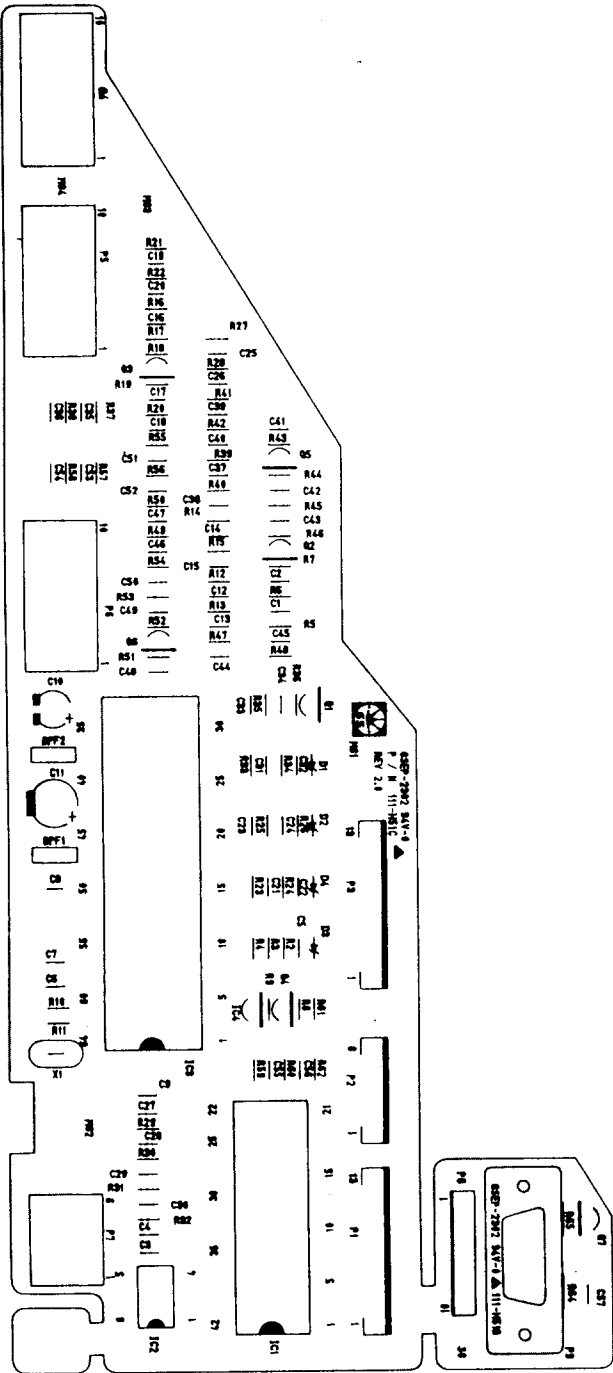
CS Pack(Top Side)



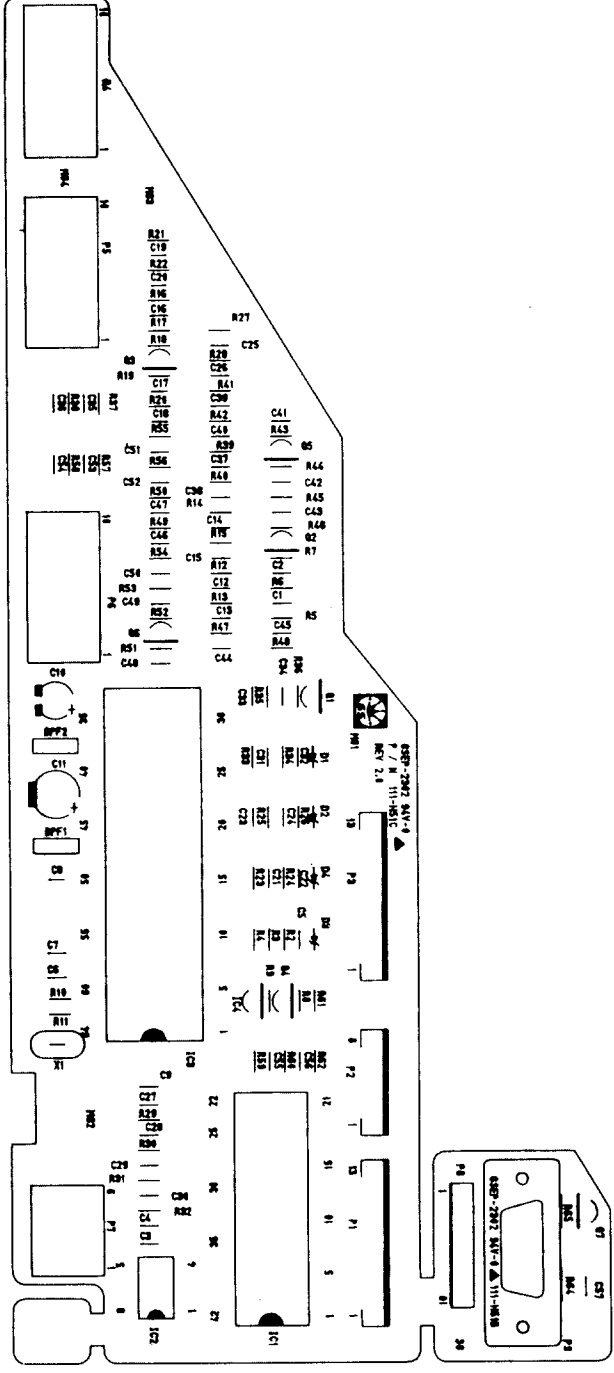
CS Pack(Bottom Side)

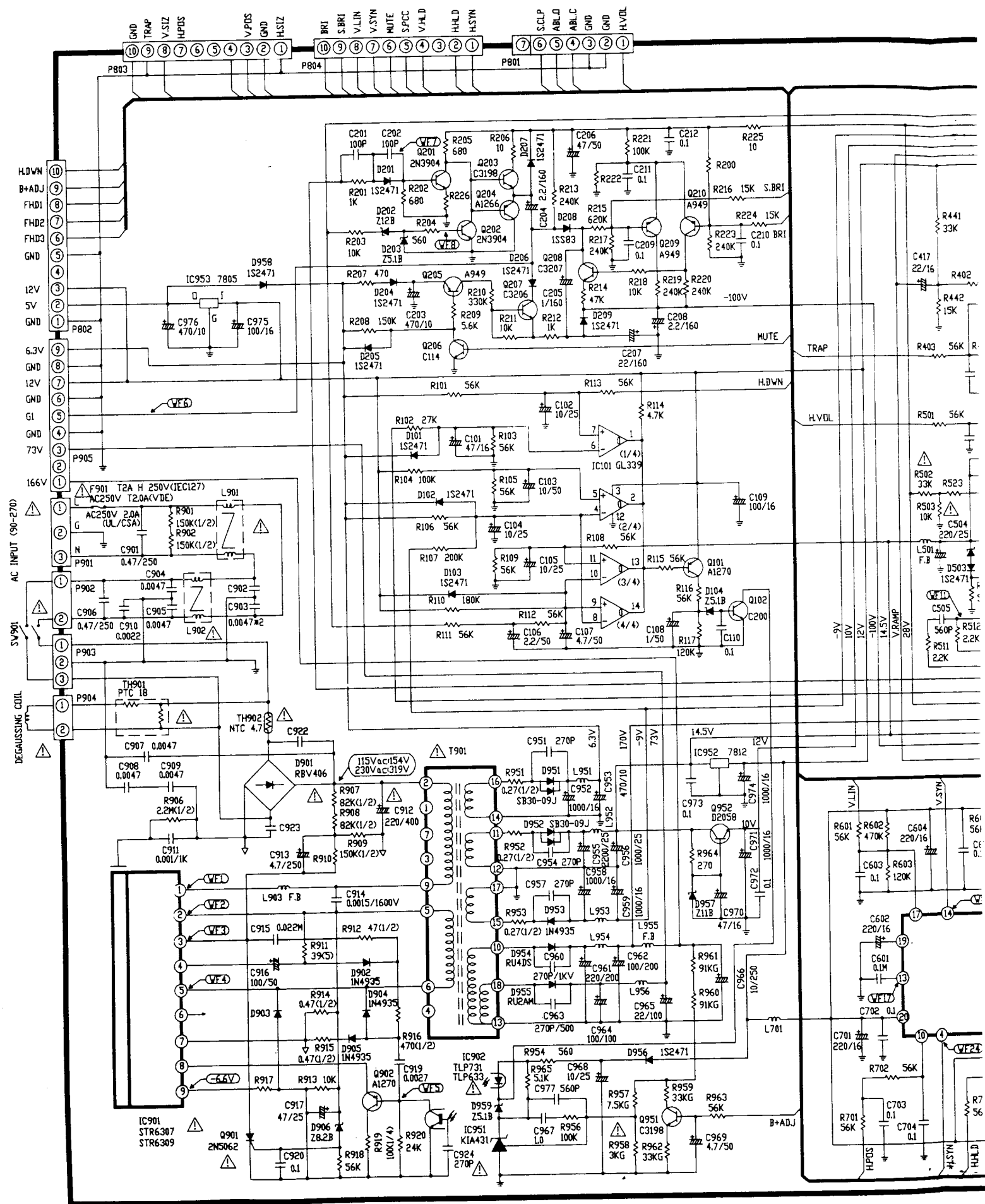


u-Com Board(Top Side)

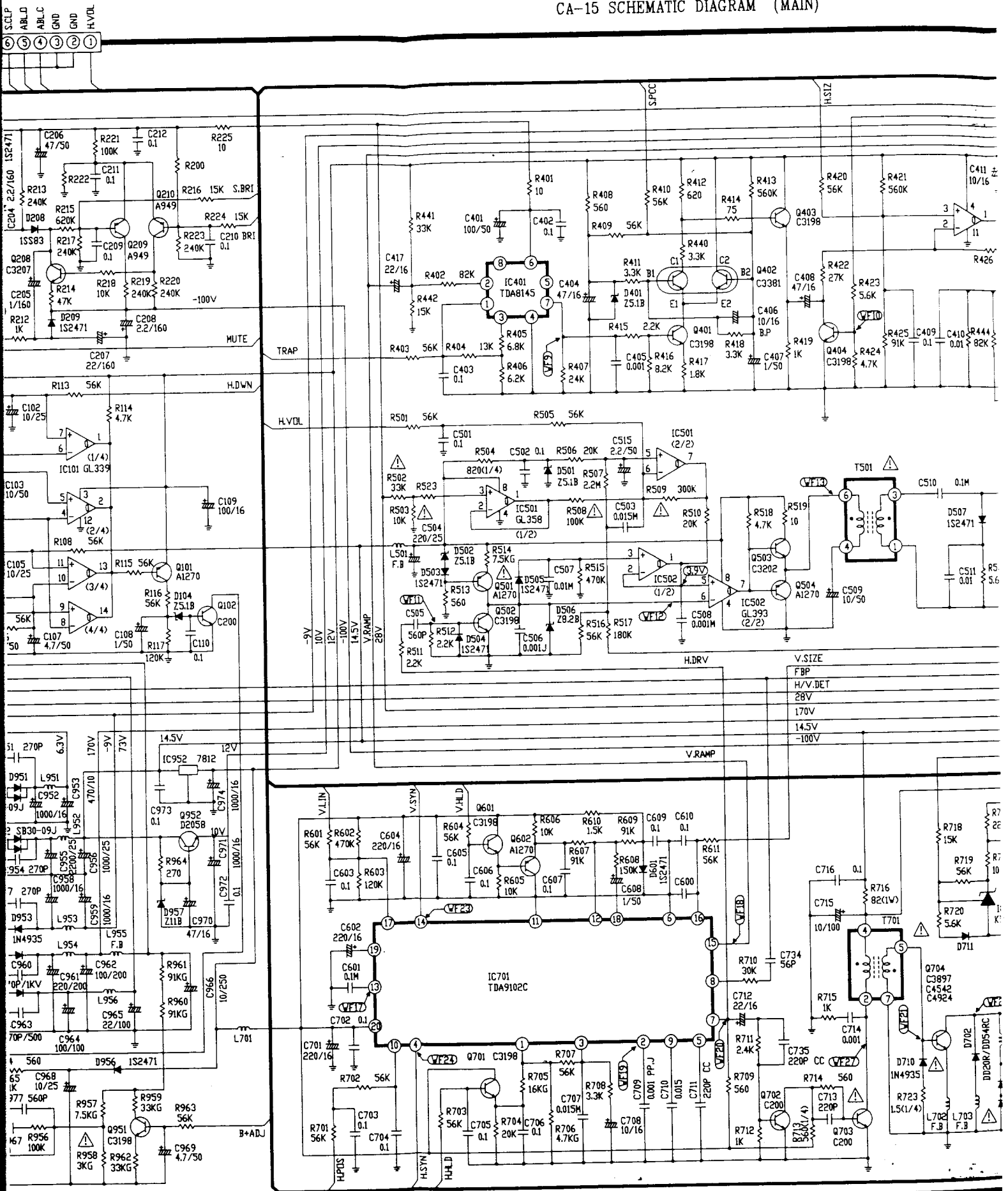


u-Com Board(Bottom Side)

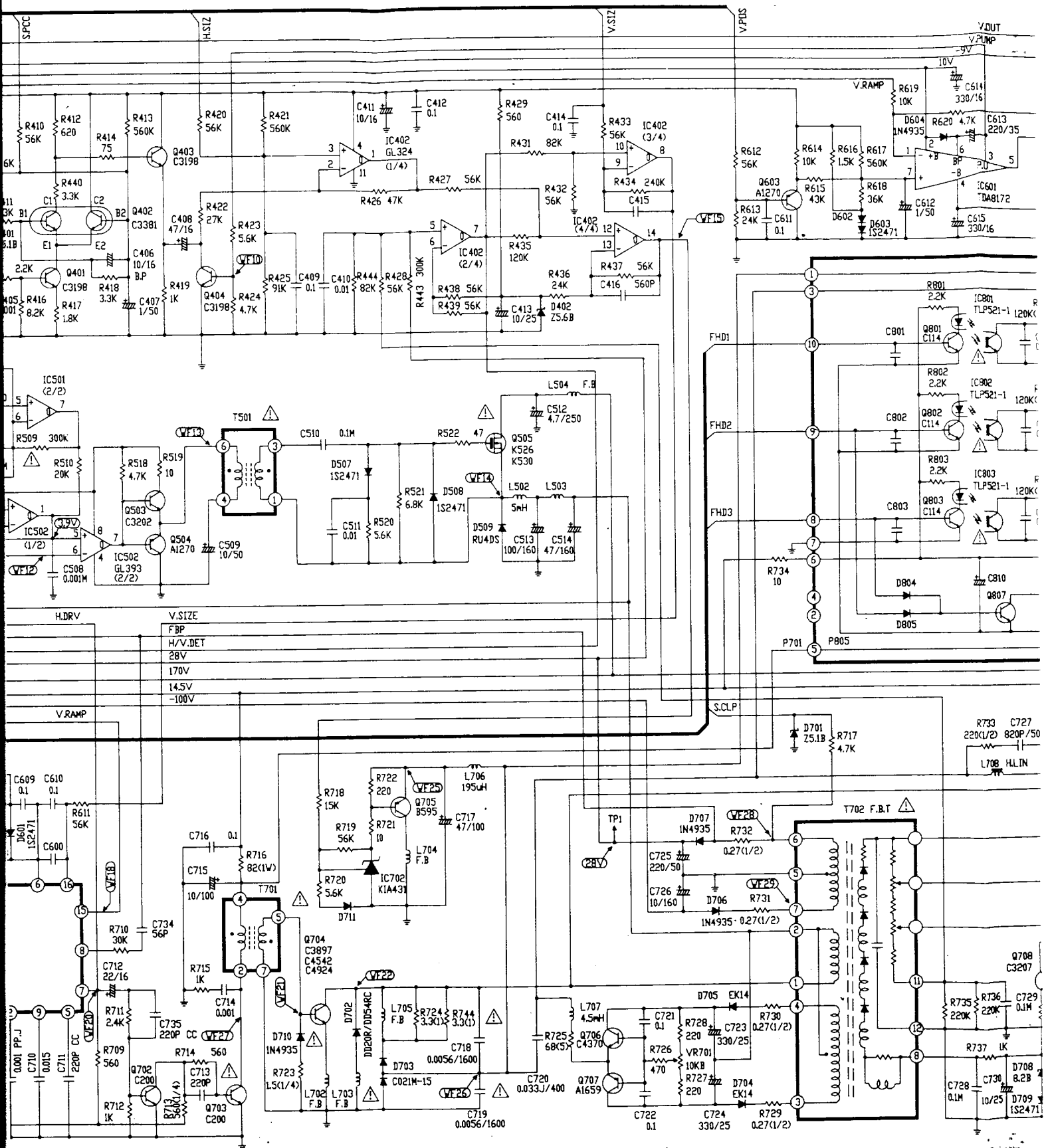




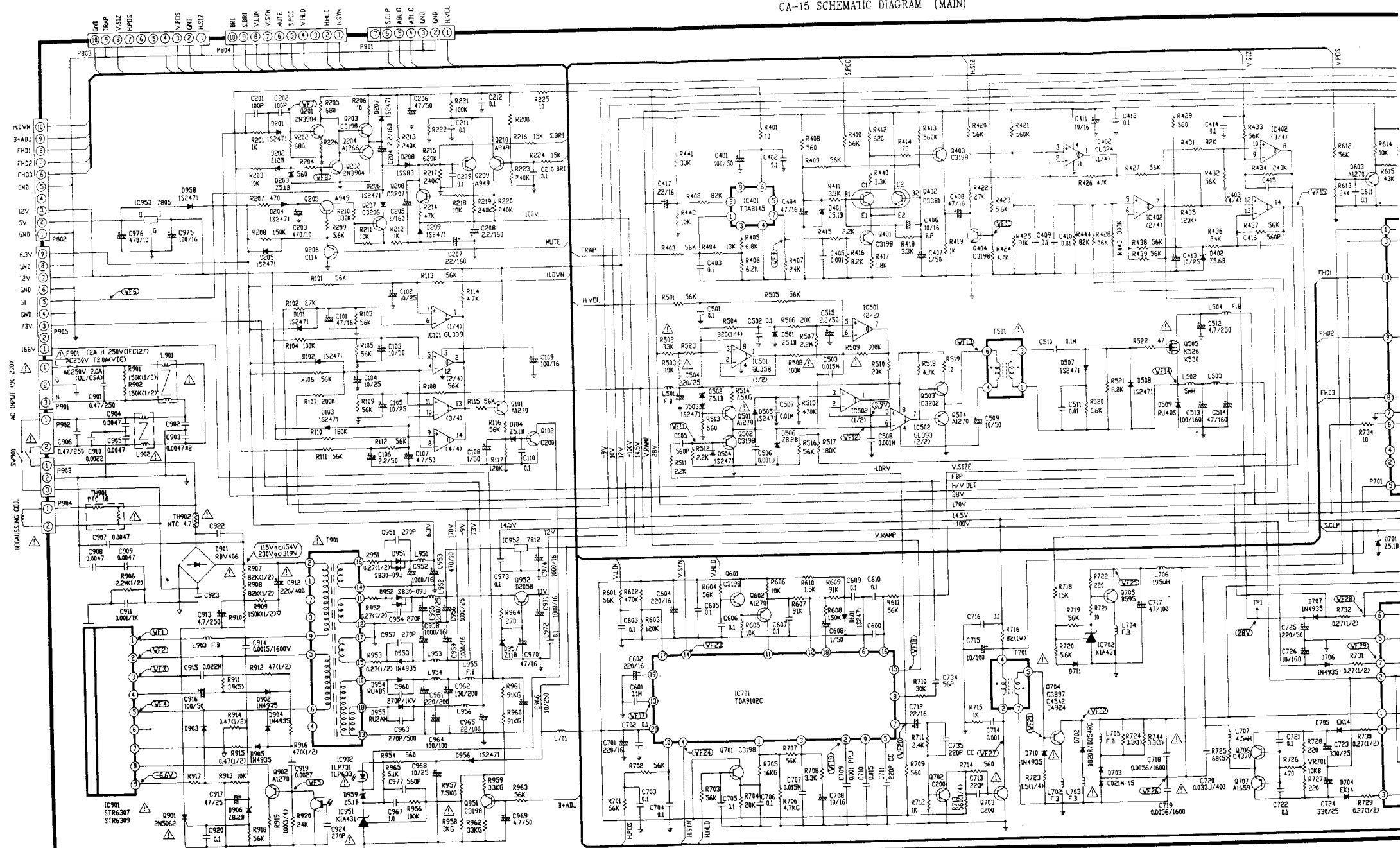
CA-15 SCHEMATIC DIAGRAM (MAIN)



HEMATIC DIAGRAM (MAIN)





CA-15 SCHEMATIC DIAGRAM (MAIN)





The schematic diagram illustrates the internal circuitry of a television receiver, organized into several functional sections:

- Power Supply Section:** Located at the top, it features a power transformer (V501) and a full-wave rectifier (V502) to convert AC from the wall outlet. The resulting DC is regulated by a zener diode (V503) and a voltage divider (V504) to provide stable 28V and 18V rails for the various stages.
- Video Processing Section:** This section, occupying the middle, handles the video signal. It includes a video amplifier (V201) with a feedback network (R201, R202, R203), a video detector (V202) with a diode (D201) and a video detector (V203) with a diode (D202). The video signal is then processed by a video processor (V204) and a video output stage (V205) to drive the video output (V206).
- Audio Processing Section:** The audio section, located on the right, includes an audio amplifier (A201) with a feedback network (R201, R202, R203) and an audio output stage (A202) with a diode (D201) and an audio output (A203).
- Video Output Section:** This section, at the bottom, includes a video output stage (V204) with a diode (D201) and a video output (V205) with a diode (D202).
- Other Components:** The diagram also includes a horizontal sync section (H201) with a diode (D201) and a horizontal sync output (H202) with a diode (D202). It also includes a vertical sync section (V201) with a diode (D201) and a vertical sync output (V202) with a diode (D202).

The diagram is a complex network of interconnected components, with each component labeled with its value and a reference designator. The layout is organized to show the flow of signals and power through the system, from the power supply to the final output stages.

THE  SYMBOL MARK OF THIS SCHEMATIC DIAGRAM INCORPORATES 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 THE CRITICAL COMPONENTS IN THE  SYMBOL MARK OF THE SCHEMATIC.

LA  SYMBOLE MARQUE DE CE DIAGRAMME SCHEMATIQUE COMPREND IMPORTANTES CARACTÉRISTIQUES SPÉCIALES CONÇUES POUR PROTÉGER DES RAYONS X ET DES DANGERS D'INCENDIE ET DE SECOURS ÉLECTRIQUES. EN CAS DE RÉSIDU SI DES PIÈCES DE CETTE  SYMBOLE MARQUE DOIVENT ÊTRE REMPLACÉES MULTISÉLÉ QUE DES PIÈCES SPÉCIFIÉES PAR LE MANUFACTURIER.

1. ALL RESISTORS ARE 1/6W, +/- 5 % VALUES IN OHMS
G = +/- 2 % K = 1000, M = 1000000
2. ALL CAPACITORS ARE SHOWN IN uF, p = 10E-12F
3. ALL POINT VOLTAGE ARE DC VOLTAGE.
4. MODEL NAME

5. CD

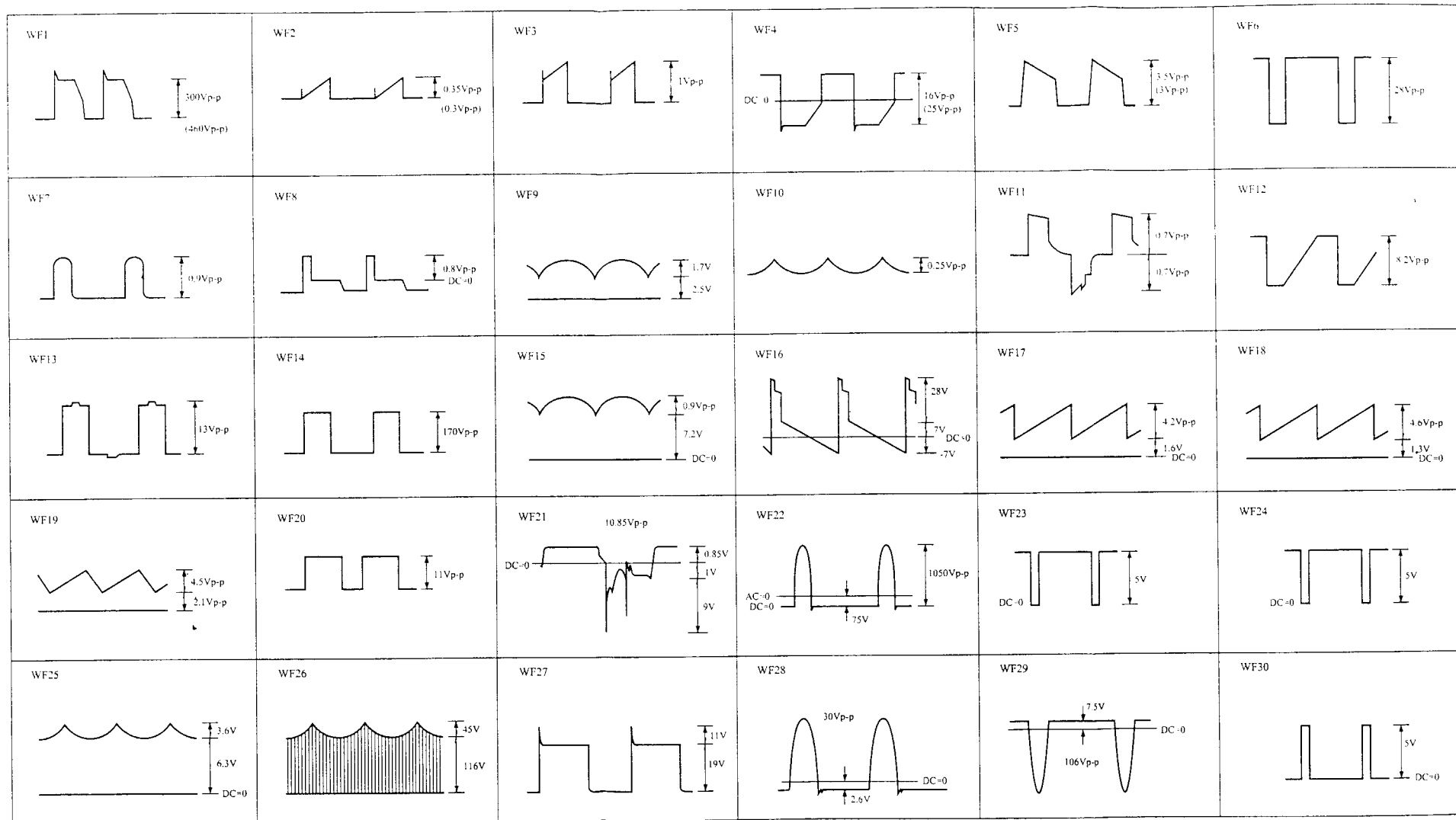
6. VERSION

7. OPTION

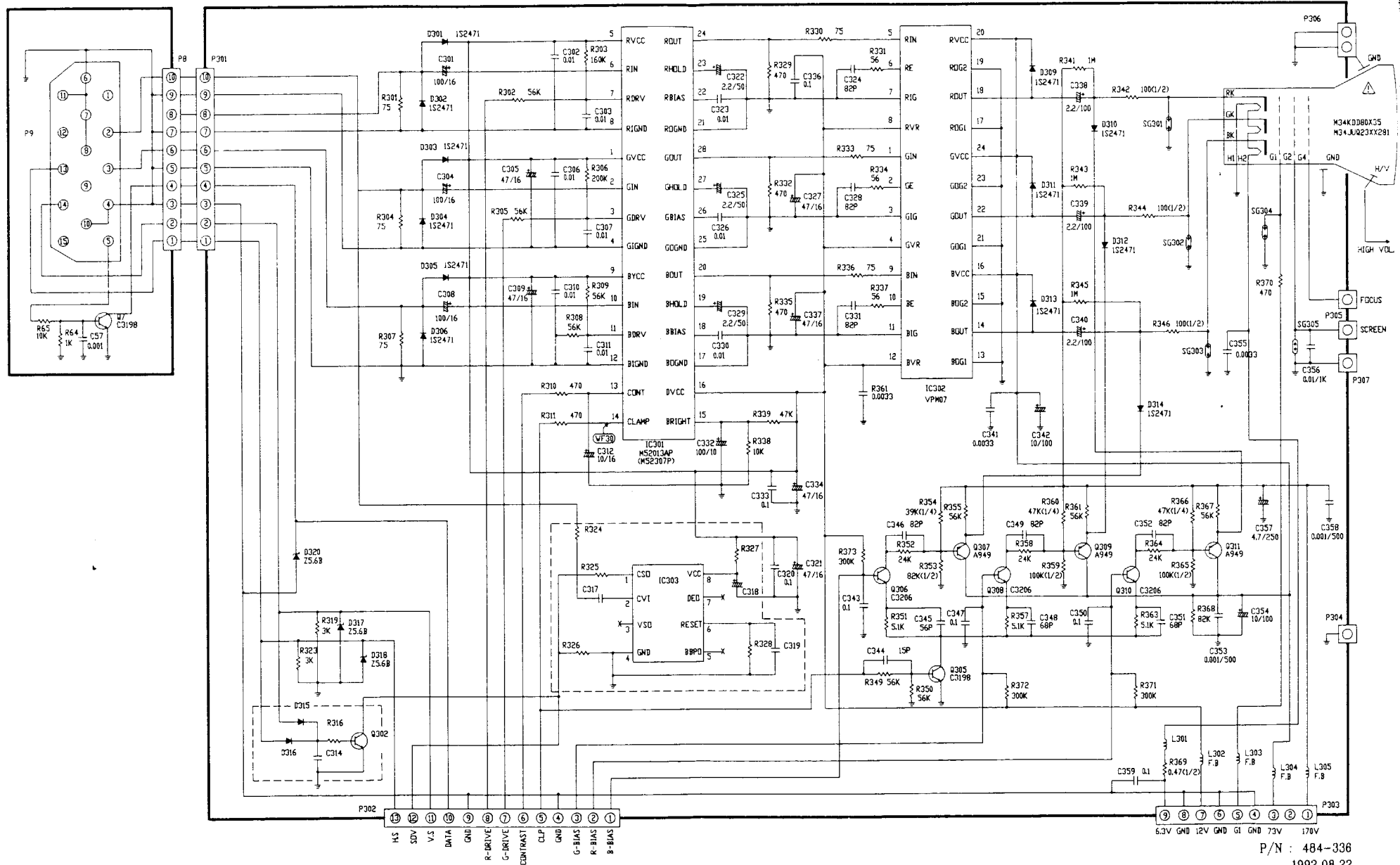
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VLMF	M34JUQ23XX281(S)	M34KDD80X3
MPRII	M34JUQ23XX281(T4XS)	M34KDD80X3

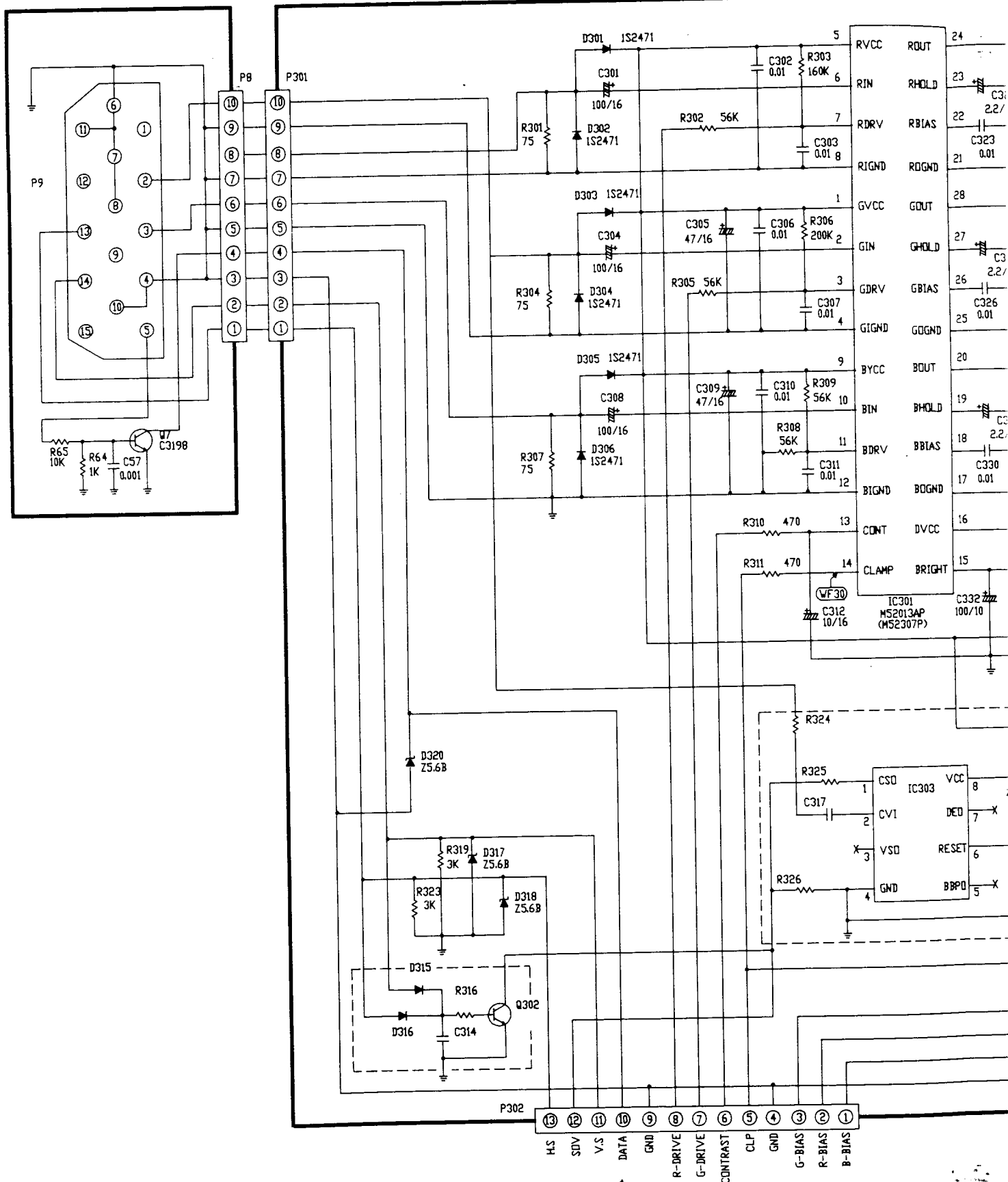
- 21 -

WAVE FORM (AT VGA MODE 2)

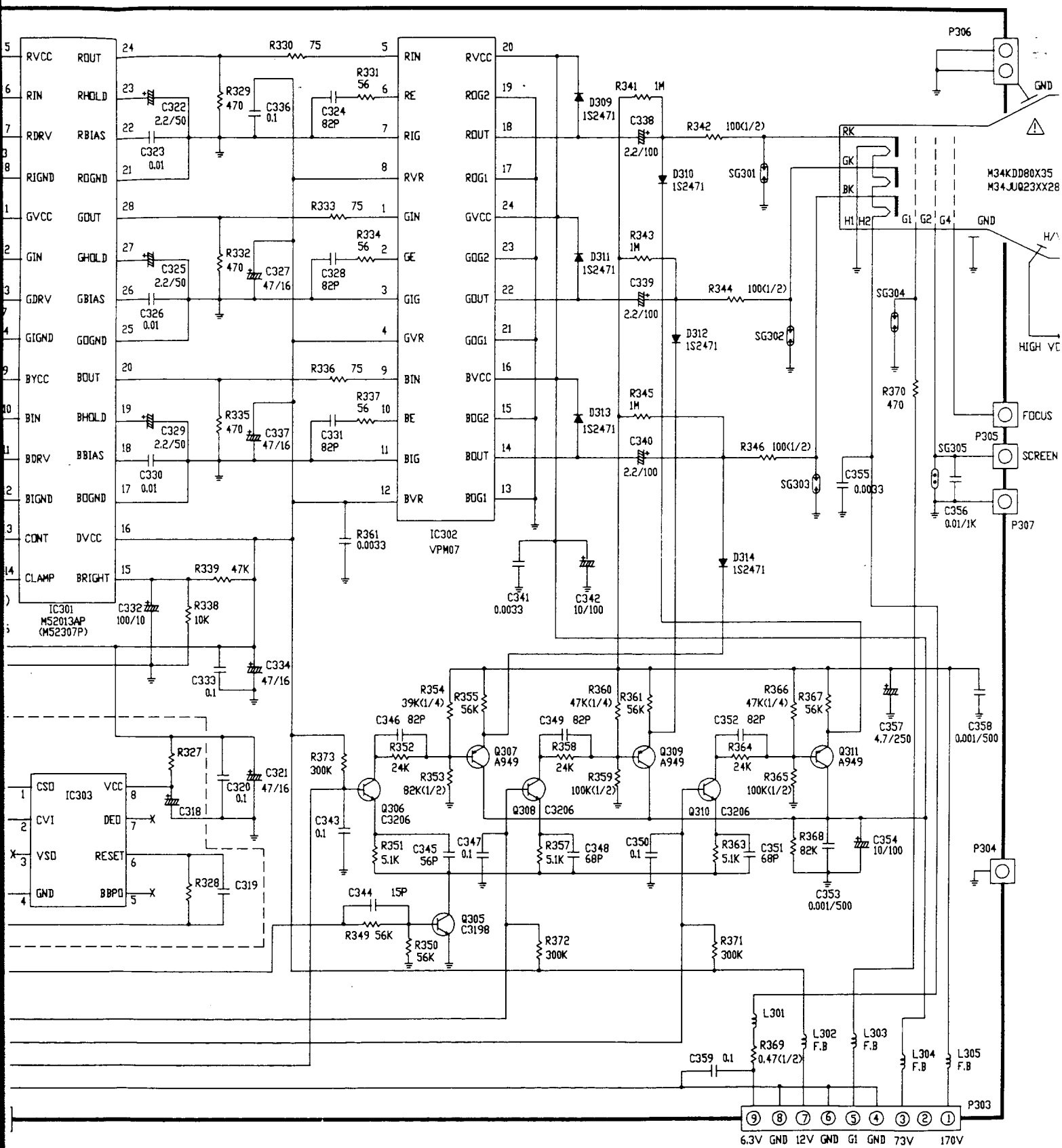


CA-15 SCHEMATIC DIAGRAM (VIDEO)



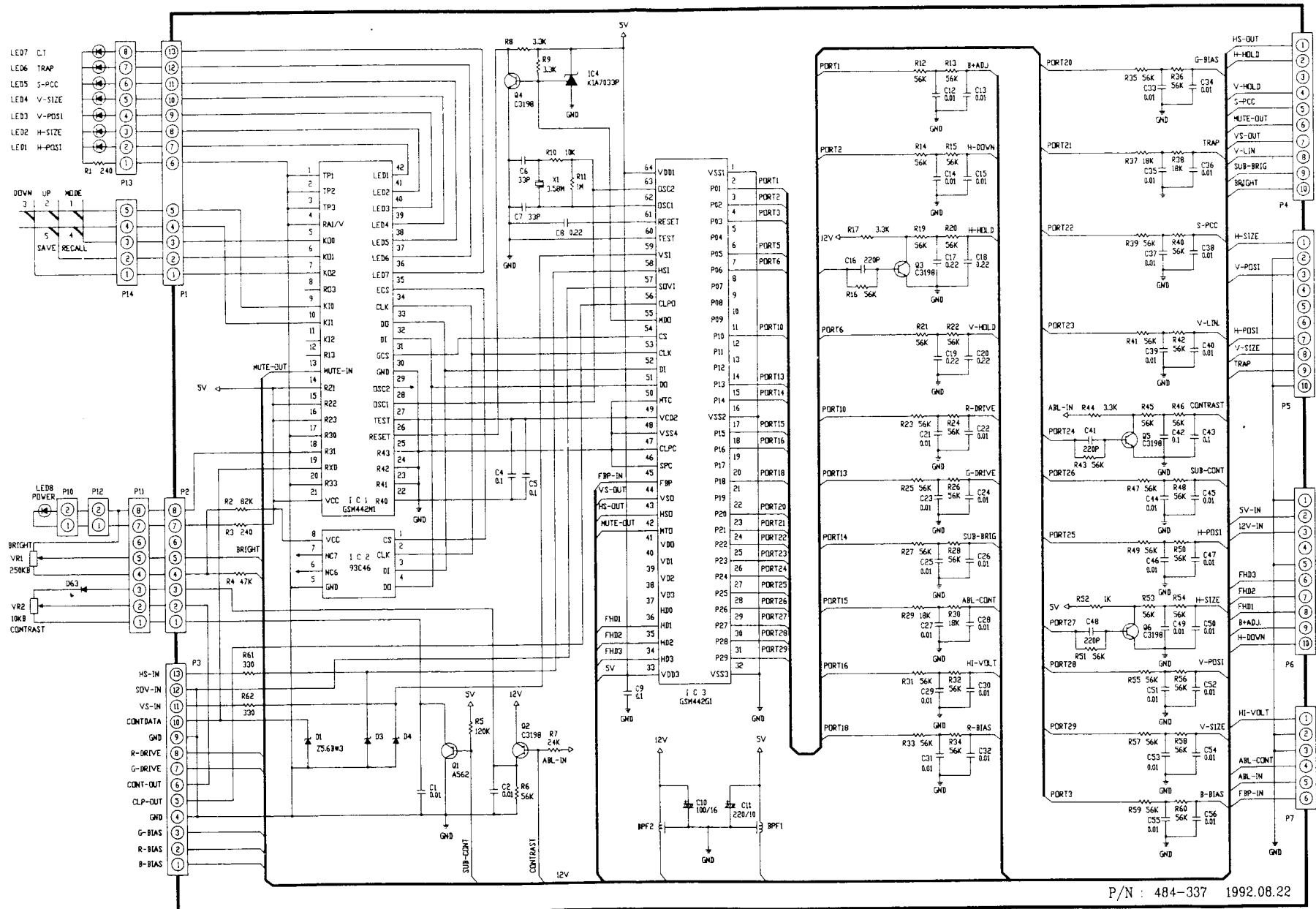


CA-15 SCHEMATIC DIAGRAM (VIDEO)

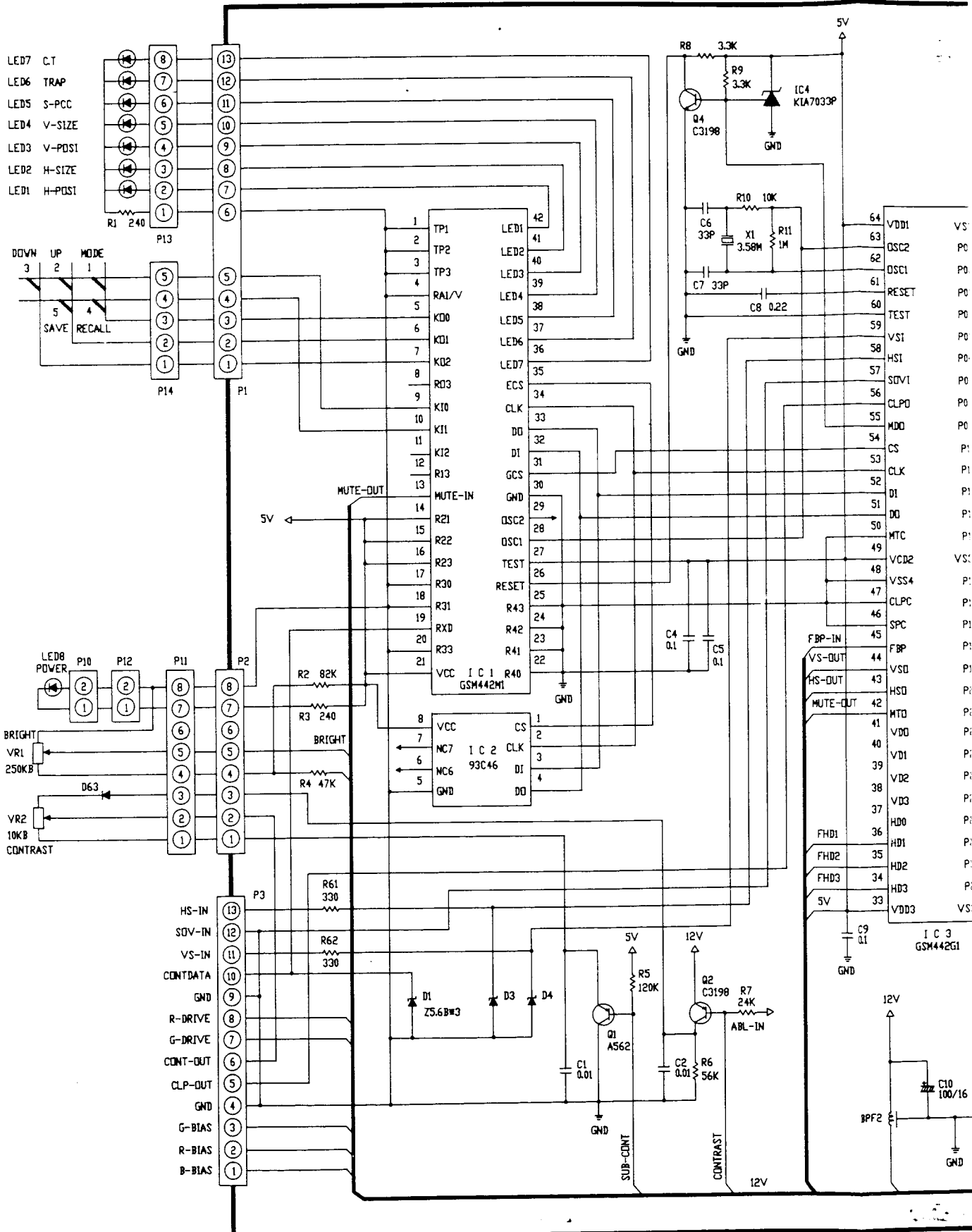


P/N : 484-336
1992.08.22

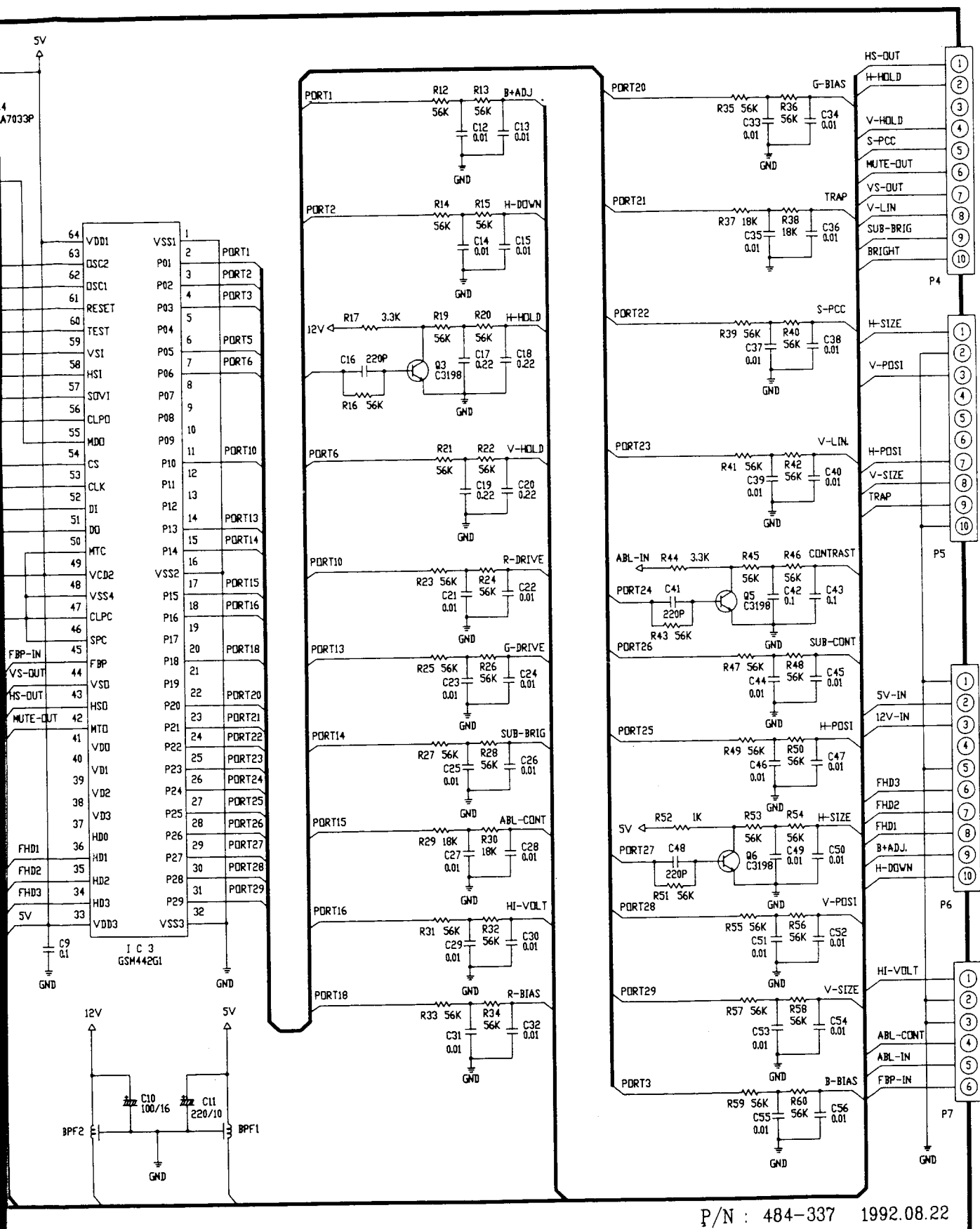
CA-15 SCHEMATIC DIAGRAM (MICOM)



P/N : 484-337 1992.08.22

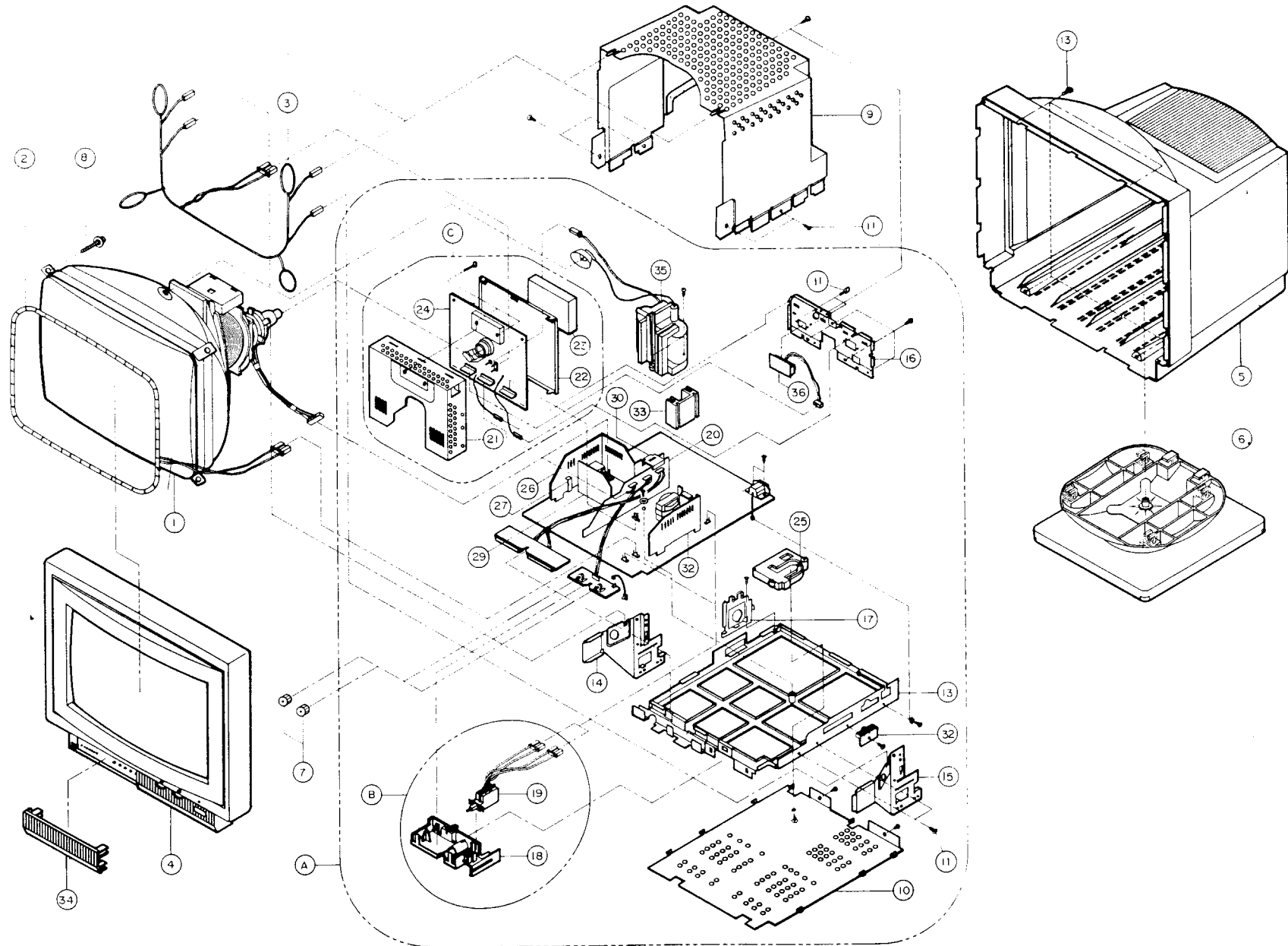


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P/N : 484-337 1992.08.22

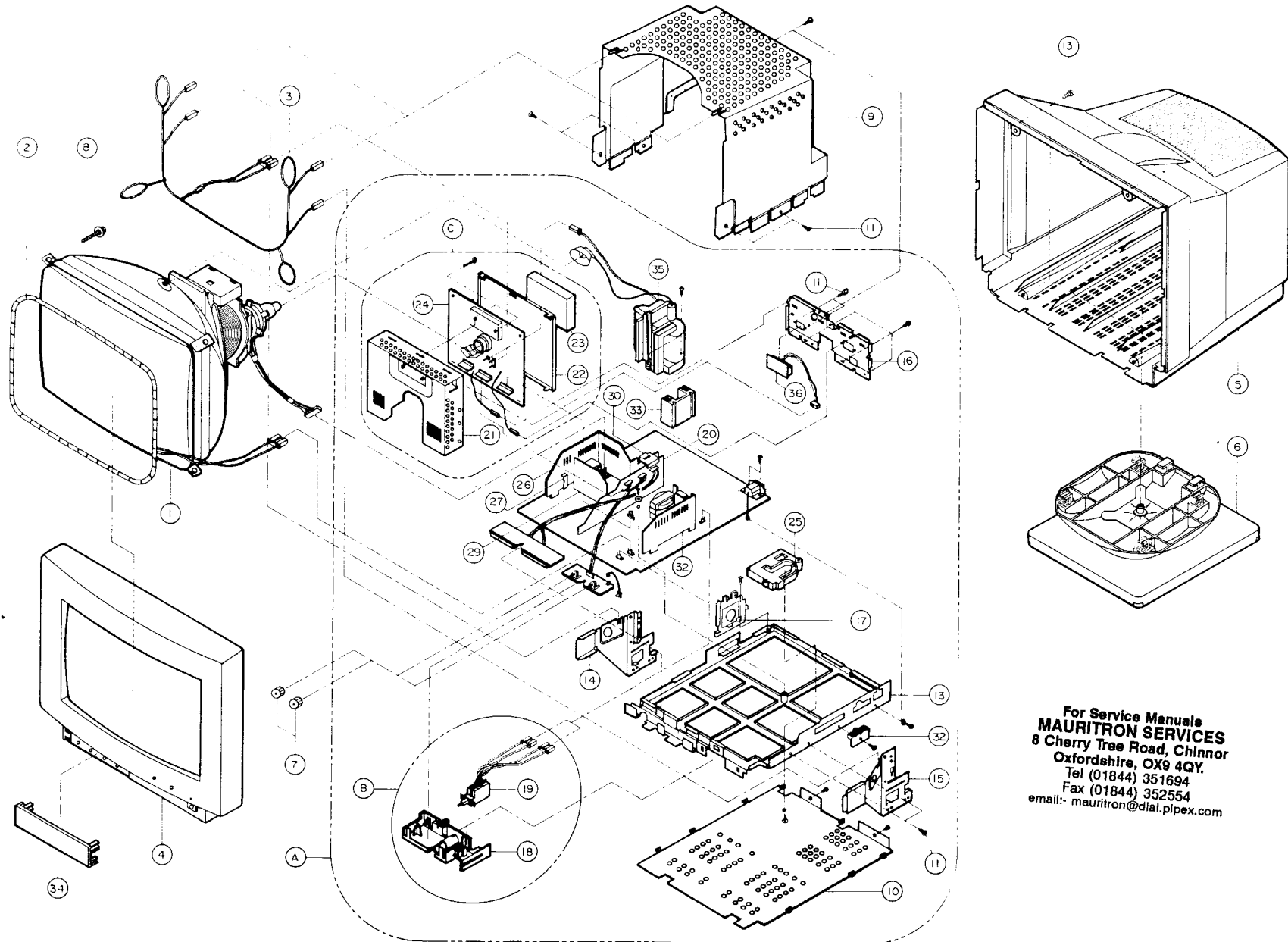
CS422A(1470 / 1470 SSI) Exploded View



MATERIAL LIST CS442A(1470/1470 SSI)

NO.	PART NO.	DESCRIPTION	MATERIALS	REMARKS
1	112 - 836B	CRT (M34KDD80X35)(S)		
2	150 - 954A/425R	COIL, DEGAUSSING		
3	170 - 121C	LEAD SET, CPT EARTH		
4	300 - 538D	CABINET ASSY	ABS AF 303S	UL 94 V0
5	303 - F49C	COVER ASSY, BACK	ABS AF 303S	UL 94 V0
6	231 - 023C	TILT SWIVEL ASSY	ABS AF 312-12218	UL 94 V0
7	440 - 840E	KNOB, CONTROL		
8	339 - 002B	SCREW ASSY PHP+5 * 30	MSWR(FZMY)	
9	340 - 449A	BRACKET, SHIELD TOP	SBHG1-A	t=0.6
10	340 - 437A	BRACKET, SHIELD BOTTOM		
11	332 - 095A	SCREW PZP + 3 * 8	MSWR(FZMY)	
12	332 - 102F	SCREW PTP+4 * 20		
13	340 - 448E	BRACKET, MAIN	SBHG1-A	t=1.0
14	340 - 485A	BRACKET, SIDE(L)		
15	340 - 486A	BRACKET, SIDE(R)		
16	340 - 482A	BRACKET, SIGNAL		t=0.8
17	340 - 428A	BRACKET, FBT		t=1.0
18	340 - 427A	BRACKET, VOLUME	ABS 303S BK	UL 94 V0
19	387 - 759A	CONNECTOR ASSY, SWITCH		
20	110 - S95	PCB ASSY, MICOM		
21	407 - N50A	PLATE, HEAT SINK	AL	t=1.0
22	407 - N51A	PLATE, SHIELD VIDEO	SPTE-C	t=0.3
23	325 - 032A	CUSHION SPONGE		
24	110 - W37	PCB ASSY, VIDEO		
25	340 - 442A	BRACKET, FBT FIX	ABS 303S BK	UL 94 V0
26	409 - 049B	PLATE ASSY, HEAT SINK		
27	320 - 171B	SPRING, FOR TR	SBHG1-A	t=1.2
28	407 - N51A	PLATE, SHIELD VIDEO	SPTE-C	t=0.3
29	110 - S93B	PAB ASSY, CS PACK		
30	340 - 483A	BRACKET, MICOM PCB FIX	ABS AF 303S BK	UL 94 V0
31	340 - 443A	BRACKET, PCB FIX	ABS 303S BK	UL 94 V0
32	409 - 045A	PLATE ASSY, HEAT SINK		
33	407 - C42P	PLATE, HEAT SINK	AL	
34	315 - 511A	DOOR	ABS AF 303S	UL 94 V0
35	154 - 212A	FBT		
36	387 - 780A	CONNECTOR ASSY, SIGNAL		
A	309 - 442	CHASSIS ASSY, MAIN		
B	309 - 443	CHASSIS ASSY, VOLUME		
C	110 - W36	PCB ASSY, VIDEO		

CS446A Exploded View



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 email:- mauritron@btinternet.com

MATERIAL LIST CS446A

NO.	PART NO.	DESCRIPTION	MATERIALS	REMARKS
1	112 - 836B	CRT (M34KDD80X35)(S)		
2	150 - 954A/425R	COIL, DEGAUSSING		
3	170 - 121C	LEAD SET, CPT EARTH		
4	300 - 569C/D	CABINET ASSY	ABS AF 312-12218	UL 94 V0
5	303 - G19C/D	COVER ASSY, BACK	ABS AF 312-12218	UL 94 V0
6	231 - 023C	TILT SWIVEL ASSY	ABS AF 312-12218	UL 94 V0
7	440 - 840E	KNOB, CONTROL		
8	339 - 002B	SCREW ASSY PHP+5 * 30	MSWR(FZMY)	
9	340 - 449A	BRACKET, SHIELD TOP	SBHG1-A	t=0.6
10	340 - 437A	BRACKET, SHIELD BOTTOM		
11	332 - 095A	SCREW PZP + 3 * 8	MSWR(FZMY)	
12	332 - 102F	SCREW PTP+4 * 20		
13	340 - 448E	BRACKET, MAIN	SBHG1-A	t=1.0
14	340 - 485A	BRACKET, SIDE(L)		
15	340 - 486A	BRACKET, SIDE(R)		
16	340 - 482A	BRACKET, SIGNAL		t=0.8
17	340 - 428A	BRACKET, FBT		t=1.0
18	340 - 427A	BRACKET, VOLUME	ABS 303S BK	UL 94 V0
19	387 - 759A	CONNECTOR ASSY, SWITCH		
20	110 - S95	PCB ASSY, MICOM		
21	407 - N50A	PLATE, HEAT SINK	AL	t=1.0
22	407 - N51A	PLATE, SHIELD VIDEO	SPTE-C	t=0.3
23	325 - 032A	CUSHION SPONGE		
24	110 - W37	PCB ASSY, VIDEO		
25	340 - 442A	BRACKET, FBT FIX	ABS 303S BK	UL 94 V0
26	409 - 049B	PLATE ASSY, HEAT SINK		
27	320 - 171B	SPRING, FOR TR	SBHG1-A	t=1.2
28	407 - N51A	PLATE, SHIELD VIDEO	SPTE-C	t=0.3
29	110 - S93B	PAB ASSY, CS PACK		
30	340 - 483A	BRACKET, MICOM PCB FIX	ABS AF 303S BK	UL 94 V0
31	340 - 443A	BRACKET, PCB FIX	ABS 303S BK	UL 94 V0
32	409 - 045A	PLATE ASSY, HEAT SINK		
33	407 - C42P	PLATE, HEAT SINK	AL	
34	315 - 543B	DOOR	ABS AF 312-12218	UL 94 V0
35	154 - 212A	FBT		
36	387 - 780A	CONNECTOR ASSY, SIGNAL		
A	309 - 442	CHASSIS ASSY, MAIN		
B	309 - 443	CHASSIS ASSY, VOLUME		
C	110 - W36	PCB ASSY, VIDEO		

REPLACEMENT PARTS LIST

CAUTION: Before replacing any these components, read carefully the "SAFETY PRECAUTION" on page 3.
Do not degrade the safety of the receiver through improper servicing.

ABBREVIATION: Capacitors... CC: Ceramic (TC), CE: Chemical, CK: Ceramic (Hi-k)
MPP(BUP): Metalized Polypropylen, BP: Bipolar, CQ: Mylar
PE: Polyester PP: Polypropylene,
Resistor.....RD: Carbon Film, RS: Metal Oxide Film,
RN: Metal Film, RV: Variable RF: Fusing, SR: Semifix

(All CC and Plastic Capacitors are $\pm 5\%$, 50 Volts and all resistor, $\pm 5\%$, 1/8W unless otherwise noted).
S: Recommend Service, **R:** Replacement Service Parts.

PRODUCT SAFETY NOTE: Components (Δ) have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this service manual.
Don't degrade the safety of the receiver improper servicing.

1. MAIN BOARD

REF.NO.	PART NO.	DESCRIPTION	REMARK
CAPACITOR			
C101	OCE4766F618	CE,47/16	R
C102	OCE1066H618	CE,10/25	R
C103	OCE1066K618	CE,10/50	R
C104	OCE1066H618	CE,10/25	R
C105	OCE1066H618	CE,10/25	R
C106	OCE2256K618	CE,2.2/50	R
C107	OCE4756K618	CE,4.7/50	R
C108	OCE1056K618	CE,1/50	R
C109	OCE1076F618	CE,100/16	R
C110	OCK1040K945	CK,0.1	R
C201	OCK1010K405	CC,100P	R
C202	OCK1010K405	CC,100P	R
C203	OCE2776D618	CE,470/10	R
C204	OCE4746P618	CE,0.47/160	R
C205	OCE1056P618	CE,1/160	R
C206	OCE4766K618	CE,47/50	R
C207	OCE2261P630	CE,22/160	R
C208	OCE2256P618	CE,2.2/160	R
C209	OCK1040K945	CK,0.1	R
C210	OCK1040K945	CK,0.1	R
C211	OCK1040K945	CK,0.1	R
C212	OCK1040K945	CK,0.1	R
C401	OCE1076K618	CE,100/50	R
C402	OCK1040K945	CK,0.1	R
C403	OCK1040K945	CK,0.1	R
C404	OCE4766F618	CE,47/16	R
C405	OCK1021N419	CQ,0.001	R
C406	181-064P	BP,10/16	R
C407	OCE1056K618	CE,1/50	R
C408	OCE4766F618	CE,47/16	R
C409	OCK1040K945	CK,0.1	R
C410	OCK1030K945	CK,0.01	R
C411	OCE1066F618	CE,10/16	R
C412	OCK1040K945	CK,0.1	R
C413	OCE1066H618	CE,10/25	R
C414	OCK1040K945	CK,0.1	R
C416	OCK5610K405	CC,560P	R
C417	OCE2266F618	CE,22/16	R
C501	OCK1040K945	CK,0.1	R
C502	OCK1040K945	CK,0.1	R
C503	OCK1531N519	CQ,0.015U	R

REF.NO.	PART NO.	DESCRIPTION	REMARK
CAPACITOR			
C504	OCE2276H618	CE,220/25	R
C505	OCK5610K405	CC,560P	R
C506	181-300A	PP,0.001J	R
C507	OCK1031N419	CQ,0.01M	R
C508	OCK1021N419	CQ,0.001	R
C509	OCE1066K618	CE,10/50	R
C510	181-288B	CQ,0.1	R
C511	OCK1030K945	CK,0.01	R
C512	OCE4751R630	CE,4.7/250	R
C513	OCE1071P650	CE,100/160	R
C514	OCE476CP618	CE,47/160	R
C515	OCE2256K618	CE,2.2/50	R
C601	181-288B	CQ,0.1	R
C602	OCE2276F618	CE,220/16	R
C603	OCK1040K945	CK,0.1	R
C604	OCE2276F618	CE,220/16	R
C605	OCK1040K945	CK,0.1	R
C606	OCK1040K945	CK,0.1	R
C607	OCK1040K945	CK,0.1	R
C608	OCE1056K618	CE,1/50	R
C609	OCK1040K945	CK,0.1	R
C610	OCK1040K945	CK,0.1	R
C611	OCK1040K945	CK,0.1	R
C612	OCE1056K618	CE,1/50	R
C613	OCE227BJ618	CE,220/35	R
C614	OCE3376F618	CE,330/16	R
C615	OCE3376F618	CE,330/16	R
C616	181-288C	CQ,0.22M	R
C701	OCE2276F618	CE,220/16	R
C702	OCK1040K945	CK,0.1	R
C703	OCK1040K945	CK,0.1	R
C704	OCK1040K945	CK,0.1	R
C705	OCK1040K945	CK,0.1	R
C706	OCK1040K945	CK,0.1	R
C707	OCK1531N519	CQ,0.015U	R
C708	OCE1066F618	CE,10/16	R
C709	181-300A	PP,0.001J	R
C710	OCK1531N519	CQ,0.015U	R
C711	OCE2210K405	CC,220P	R
C712	OCE2266F618	CE,22/16	R

REF.NO.	PART NO.	DESCRIPTION	REMARK
CAPACITOR			
C713	OCC2210K405	CC, 220P	R
C714	OCQ1021N419	CQ, 0.001	R
C715	OCE1066N618	CE, 10/100	R
C716	OCK1040K945	CK, 0.1	R
C717	181-314C	CE, 47/100	S
C718	181-309Q	MPP, 0.0056/1600	S
C719	181-309Q	MPP, 0.0056/1600	S
C720	181-304U	MPP, 0.033J/400	S
C721	OCK1040K945	CK, 0.1	R
C722	OCK1040K945	CK, 0.1	R
C723	OCE3376H618	CE, 330/25	R
C724	OCE3376H618	CE, 330/25	R
C725	OCE227CK618	CE, 220/50	R
C726	OCE106CP618	CE, 10/160	R
C727	OCK8210W515	CK, 820P/500	R
C728	181-288B	CQ, 0.1	R
C729	181-288B	CQ, 0.1	R
C730	OCE1066H618	CE, 10/25	R
C731	OCK2220W515	CK, 0.0022/500	R
C732	OCE1056K618	CE, 1/50	R
C733	OCK1040K945	CK, 0.1	R
C734	OCC5600K405	CC, 56P	R
C735	OCC2210K405	CC, 220P	R
C901	181-285E	X-CAP, 0.47/250	S
C902	181-311B	Y-CAP, 0.0047P	S
C903	181-311B	Y-CAP, 0.0047P	S
C904	181-311B	Y-CAP, 0.0047P	S
C905	181-311B	Y-CAP, 0.0047P	S
C906	181-285E	X-CAP, 0.47/250	S
C907	181-311C	Y-CAP, 0.0047M	S
C908	181-311C	Y-CAP, 0.0047M	S
C909	181-311C	Y-CAP, 0.0047M	S
C910	181-311A	Y-CAP, 0.0022M	S
C911	OCK10201515	CK, 0.001/1K	R
C912	181-124R	CE, 220/400	S
C913	OCE4751R630	CE, 4.7/250	R
C914	181-083F	PP, 0.0015/1600V	S
C915	OCQ2231N519	CQ, 0.022U	R
C916	OCE1076K618	CE, 100/50	R
C917	OCE4766H618	CE, 47/25	R
C919	181-300F	PP, 0.0027	S
C920	OCK1040K945	CK, 0.1	R
C924	OCC2710K405	CC, 270P	R
C951	OCC2710K405	CC, 270P	R
C952	OCE1086F618	CE, 1000/16	R
C953	OCE4776D618	CE, 470/10	R
C954	OCC2710K405	CC, 270P	R
C955	OCE2286H610	CE, 2200/25	R
C956	OCE1086H618	CE, 1000/25	R
C957	OCC2710K405	CC, 270P	R
C958	OCE1086F618	CE, 1000/16	R
C959	OCE1086F618	CE, 1000/16	R
C960	OCK27101515	CK, 270P/1KV	R
C961	OCE227CQ650	CE, 220/200	R
C962	OCE1076Q650	CE, 100/200	R
C963	OCK2710W515	CK, 270P/500	R
C964	OCE1076N618	CE, 100/100	R
C965	OCE2266N618	CE, 22/100	R
C966	OCE1061R630	CE, 10/250	R
C967	181-288M	CQ, 1.0	R
C968	OCE1066H618	CE, 10/25	R
C969	OCE4756K618	CE, 4.7/50	R
C970	OCE4766F618	CE, 47/16	R
C971	OCE1086F618	CE, 1000/16	R
C972	OCK1040K945	CK, 0.1	R

REF.NO.	PART NO.	DESCRIPTION	REMARK
CAPACITOR			
C973	OCK1040K945	CK, 0.1	R
C974	OCE1086F618	CE, 1000/16	R
C975	OCE1076F618	CE, 100/16	R
C976	OCE4776D618	CE, 470/10	R
C977	OCC5610K405	CC, 560P	R
RESISTOR			
R101	ORD5602F609	RD, 1/6W 56K	R
R102	ORD2702F609	RD, 1/6W 27K	R
R103	ORD5602F609	RD, 1/6W 56K	R
R104	ORD1003F609	RD, 1/6W 100K	R
R105	ORD5602F609	RD, 1/6W 56K	R
R106	ORD5602F609	RD, 1/6W 56K	R
R107	ORD2003F609	RD, 1/6W 200K	R
R108	ORD5601F609	RD, 1/6W 56K	R
R109	ORD6802F609	RD, 1/6W 68K	R
R110	ORD1803F609	RD, 1/6W 180K	R
R111	ORD5602F609	RD, 1/6W 56K	R
R112	ORD5602F609	RD, 1/6W 56K	R
R113	ORD5602F609	RD, 1/6W 56K	R
R114	ORD4701F609	RD, 1/6W 4.7K	R
R115	ORD5602F609	RD, 1/6W 56K	R
R116	ORD5602F609	RD, 1/6W 56K	R
R117	ORD1203F609	RD, 1/6W 120K	R
R201	ORD1001F609	RD, 1/6W 1K	R
R202	ORD6801F609	RD, 1/6W 680	R
R203	ORD1002F609	RD, 1/6W 10K	R
R204	ORD5600F609	RD, 1/6W 560	R
R205	ORD6800F609	RD, 1/6W 680	R
R206	ORD0102F609	RD, 1/6W 10	R
R207	ORD4700F609	RD, 1/6W 470	R
R208	ORD1503F609	RD, 1/6W 150K	R
R209	ORD5601F609	RD, 1/6W 5.6K	R
R210	ORD3303F609	RD, 1/6W 330K	R
R211	ORD1002F609	RD, 1/6W 10K	R
R212	ORD1001F609	RD, 1/6W 1K	R
R213	ORD2403F609	RD, 1/6W 240K	R
R214	ORD4702F609	RD, 1/6W 47K	R
R215	ORD6203F609	RD, 1/6W 620K	R
R216	ORD1502F609	RD, 1/6W 15K	R
R217	ORD2403F609	RD, 1/6W 240K	R
R218	ORD1002F609	RD, 1/6W 10K	R
R219	ORD2403F609	RD, 1/6W 240K	R
R220	ORD2403F609	RD, 1/6W 240K	R
R221	ORD1003F609	RD, 1/6W 100K	R
R223	ORD2403F609	RD, 1/6W 240K	R
R224	ORD1502F609	RD, 1/6W 15K	R
R225	ORD0102F609	RD, 1/6W 10	R
R401	ORD0102F609	RD, 1/6W 10	R
R402	ORD8202F609	RD, 1/6W 82K	R
R403	ORD5602F609	RD, 1/6W 56K	R
R404	ORD1302F609	RD, 1/6W 13K	R
R405	ORD6801F609	RD, 1/6W 6.8K	R
R406	ORD6201F609	RD, 1/6W 6.2K	R
R407	ORD2402F609	RD, 1/6W 24K	R
R408	ORD5600F609	RD, 1/6W 560	R
R409	ORD5602F609	RD, 1/6W 56K	R
R410	ORD5602F609	RD, 1/6W 56K	R
R411	ORD3301F609	RD, 1/6W 3.3K	R
R412	ORD8200F609	RD, 1/6W 820	R

REF.NO.	PART NO.	DESCRIPTION	REMARK
RESISTOR			
R413	ORD5603F609	RD, 1/6W 560K	R
R414	ORD0752F609	RD, 1/6W 75	R
R415	ORD2201F609	RD, 1/6W 2.2K	R
R416	ORD8201F609	RD, 1/6W 8.2K	R
R417	ORD1801F609	RD, 1/6W 1.8K	R
R418	ORD3301F609	RD, 1/6W 3.3K	R
R419	ORD1001F609	RD, 1/6W 1K	R
R420	ORD5602F609	RD, 1/6W 56K	R
R421	ORD5603F609	RD, 1/6W 560K	R
R422	ORD2702F609	RD, 1/6W 27K	R
R423	ORD5601F609	RD, 1/6W 5.6K	R
R424	ORD4701F609	RD, 1/6W 4.7K	R
R425	ORD9102F609	RD, 1/6W 91K	R
R426	ORD4702F609	RD, 1/6W 47K	R
R427	ORD5602F609	RD, 1/6W 56K	R
R428	ORD5602F609	RD, 1/6W 56K	R
R429	ORD5600F609	RD, 1/6W 560	R
R431	ORD8202F609	RD, 1/6W 82K	R
R432	ORD5602F609	RD, 1/6W 56K	R
R433	ORD5602F609	RD, 1/6W 56K	R
R434	ORD2403F609	RD, 1/6W 240K	R
R435	ORD1203F609	RD, 1/6W 120K	R
R436	ORD2402F609	RD, 1/6W 24K	R
R437	ORD5602F609	RD, 1/6W 56K	R
R438	ORD5602F609	RD, 1/6W 56K	R
R439	ORD5602F609	RD, 1/6W 56K	R
R440	ORD3001F609	RD, 1/6W 3K	R
R441	ORD3302F609	RD, 1/6W 33K	R
R442	ORD1502F609	RD, 1/6W 15K	R
R443	ORD3003F609	RD, 1/6W 300K	R
R444	ORD8202F609	RD, 1/6W 82K	R
R501	ORD5602F609	RD, 1/6W 56K	R
R502	ORD3302F609	RD, 1/6W 33K	R
R503	ORD1002F609	RD, 1/6W 10K	R
R504	ORD8200G609	RD, 1/4W 820	R
R505	ORD5602F609	RD, 1/6W 56K	R
R506	ORD2002F609	RD, 1/6W 20K	R
R507	ORD2204F609	RD, 1/6W 2.2M	R
R508	ORD1003F609	RD, 1/6W 100K	R
R509	ORD3003F609	RD, 1/6W 300K	R
R510	ORD2002F609	RD, 1/6W 20K	R
R511	ORD2201F609	RD, 1/6W 2.2K	R
R512	ORD2201F609	RD, 1/6W 2.2K	R
R513	ORD5600F609	RD, 1/6W 560	R
R514	ORD7501F509	RD, 1/6W 7.5KG	R
R515	ORD4703F609	RD, 1/6W 470K	R
R516	ORD5602F609	RD, 1/6W 56K	R
R517	ORD1803F609	RD, 1/6W 180K	R
R518	ORD4701F609	RD, 1/6W 4.7K	R
R519	ORD0102F609	RD, 1/6W 10	R
R520	ORD5601F609	RD, 1/6W 5.6K	R
R521	ORD6801F609	RD, 1/6W 6.8K	R
R522	ORD0472F609	RD, 1/6W 47	R
R601	ORD5602F609	RD, 1/6W 56K	R
R602	ORD4703F609	RD, 1/6W 470K	R
R603	ORD6802F609	RD, 1/6W 68K	R
R604	ORD5602F609	RD, 1/6W 56K	R
R605	ORD1002F609	RD, 1/6W 10K	R
R606	ORD1002F609	RD, 1/6W 10K	R
R607	ORD9102F609	RD, 1/6W 91K	R
R608	ORD1503F609	RD, 1/6W 150K	R
R609	ORD9102F609	RD, 1/6W 91K	R
R610	ORD1501F609	RD, 1/6W 1.5K	R
R611	ORD5602F609	RD, 1/6W 56K	R
R612	ORD5602F609	RD, 1/6W 56K	R

REF.NO.	PART NO.	DESCRIPTION	REMARK
RESISTOR			
R613	ORD5602F609	RD, 1/6W 56K	R
R614	ORD1002F609	RD, 1/6W 10K	R
R615	ORD4302F609	RD, 1/6W 43K	R
R616	ORD1501F609	RD, 1/6W 1.5K	R
R617	ORD5603F609	RD, 1/6W 560K	R
R618	ORD3602F609	RD, 1/6W 36K	R
R619	ORD1002F609	RD, 1/6W 10K	R
R620	ORD4701F609	RD, 1/6W 4.7K	R
R621	ORD0221G609	RD, 1/4W 2.2	R
R622	ORD5600H609	RD, 1/2W 560	R
R623	ORD0151H609	RD, 1/2W 1.5	R
R701	ORD5602F609	RD, 1/6W 56K	R
R702	ORD5602F609	RD, 1/6W 56K	R
R703	ORD5602F609	RD, 1/6W 56K	R
R704	ORD2002F609	RD, 1/6W 20K	R
R705	ORD1602F509	RD, 1/6W 16KG	R
R706	ORD4701F509	RD, 1/6W 4.7KG	R
R707	ORD5602F609	RD, 1/6W 56K	R
R708	ORD3301F609	RD, 1/6W 3.3K	R
R709	ORD5600F609	RD, 1/6W 560	R
R710	ORD3002F609	RD, 1/6W 30K	R
R711	ORD2401F609	RD, 1/6W 2.4K	R
R712	ORD1001F609	RD, 1/6W 1K	R
R713	ORD5600G609	RD, 1/4W 560	R
R714	ORD5600F609	RD, 1/6W 560	R
R715	ORD1001F609	RD, 1/6W 1K	R
R716	ORS0822J665	RS, 1W 82	R
R717	ORD4701F609	RD, 1/6W 4.7K	R
R718	ORD1502F609	RD, 1/6W 15K	R
R719	ORD5602F609	RD, 1/6W 56K	R
R720	ORD5601F609	RD, 1/6W 5.6K	R
R721	ORD0102F609	RD, 1/6W 10	R
R722	ORD2200F609	RD, 1/6W 220	R
R723	ORD0151G609	RD, 1/4W 1.5	R
R724	ORS0331J609	RS, 1W 3.3	R
R725	180-465D	CEMENT, 5W 68	S
R726	ORD4700F609	RD, 1/6W 470	R
R727	ORD2200F609	RD, 1/6W 220	R
R728	ORD2200F609	RD, 1/6W 220	R
R729	ORN0270H609	RN, 1/2W 0.27	R
R730	ORN0270H609	RN, 1/2W 0.27	R
R731	ORN0270H609	RN, 1/2W 0.27	R
R732	ORN0270H609	RN, 1/2W 0.27	R
R733	ORD2200H609	RD, 1/2W 220	R
R734	ORD0102F609	RD, 1/6W 10	R
R735	ORD2203F609	RD, 1/6W 220K	R
R736	ORD2203F609	RD, 1/6W 220K	R
R737	ORD1001F609	RD, 1/6W 1K	R
R738	ORD3903F609	RD, 1/6W 390K	R
R739	ORD5602F609	RD, 1/6W 56K	R
R740	ORD4702F609	RD, 1/6W 47K	R
R741	ORD5602F609	RD, 1/6W 56K	R
R742	ORD1001F609	RD, 1/6W 1K	R
R743	ORD5602F609	RD, 1/6W 56K	R
R744	ORS0331J609	RS, 1W 3.3	R
R901	ORD1503H609	RD, 1/2W 150K	R
R902	ORD1503H609	RD, 1/2W 150K	R
R906	ORD2204H609	RD, 1/2W 2.2M	R
R907	ORD8202H609	RD, 1/2W 82K	R
R908	ORD8202H609	RD, 1/2W 82K	R
R909	ORD1503H609	RD, 1/2W 150K	R
R911	180-465C	CEMENT, 5W 39	S
R912	ORD0472H609	RD, 1/2W 47	R
R913	ORD1002F609	RD, 1/6W 10K	R
R914	QRN0470H609	RN, 1/2W 0.47	R

REF.NO.	PART NO.	DESCRIPTION	REMARK
RESISTOR			
R915	ORN0470H609	RN, 1/2W 0.47	R
R916	ORD4700H609	RD, 1/2W 470	R
R918	ORD4701F609	RD, 1/6W 4.7K	R
R919	ORD1000G609	RD, 1/4W 100	R
R920	ORD2402F609	RD, 1/6W 24K	R
R951	ORN0270H609	RN, 1/2W 0.27	R
R952	ORN0270H609	RN, 1/2W 0.27	R
R953	ORN0270H609	RN, 1/2W 0.27	R
R954	ORD5600F609	RD, 1/6W 560	R
R956	ORD1003F609	RD, 1/6W 100K	R
R957	ORD7501F509	RD, 1/6W 7.5KG	R
R958	ORD3001F509	RD, 1/6W 3KG	R
R959	ORD3302F509	RD, 1/6W 33KG	R
R960	ORD9102F509	RD, 1/6W 91KG	R
R961	ORD9102F509	RD, 1/6W 91KG	R
R962	ORD3302F509	RD, 1/6W 33KG	R
R963	ORD5602F609	RD, 1/6W 56K	R
R964	ORD2700F609	RD, 1/6W 270	R
R965	ORD5101F609	RD, 1/6W 5.1K	R
R1	ORD2400F609	RD, 1/6W 240	R
TRANSISTOR			
Q101	OTR127009AA	KTA1270	R
Q102	OTR200009AB	KTC200Y	R
Q201	OTR390409AA	2N3904	R
Q202	OTR390409AA	2N3904	R
Q203	OTR319809AA	KTC3198	R
Q204	OTR126609AA	KTA1266	R
Q205	OTR949009AA	KTA949	R
Q206	OTR114009AB	DTC114ES	R

REF.NO.	PART NO.	DESCRIPTION	REMARK
TRANSISTOR			
Q207	OTR320609AB	KTC3206	R
Q208	OTR320709AA	KTC3207	R
Q209	OTR949009AA	KTA949	R
Q210	OTR949009AA	KTA949	R
Q401	OTR319809AA	KTC3198	R
Q402	OTR338100AA	2SC3381-BL	R
Q403	OTR319809AA	KTC3198	R
Q404	OTR319809AA	KTC3198	R
Q501	OTR127009AA	KTA1270	R
Q502	OTR319809AA	KTC3198	R
Q503	OTR320209AA	KTC3202	R
Q504	OTR127009AA	KTA1270	R
Q505	OTF526000AA	FET, 2SK526	R
Q601	OTR319809AA	KTC3198	R
Q602	OTR127009AA	KTA1270	R
Q603	OTR127009AA	KTA1270	R
Q701	OTR319809AA	KTC3198	R
Q702	OTR200009AB	KTC200Y	R
Q703	OTR200009AB	KTC200Y	R
Q704	OTR389700AA	2SC3897	R
	OTR492400AA	2SC3897	R
Q705	OTR595000AB	KT8595-0	R
Q706	OTR437000AA	KTC4370Y	R
Q707	OTR165900AA	KTA1659Y	R
Q708	OTR320709AA	KTC3207	R
Q709	OTR319809AA	KTC3198	R
Q710	OTR320709AA	KTC3207	R
Q901	OTR506209AA	SCR, 2N5062	R
Q902	OTR127009AA	KTA1270	R
Q951	OTR319809AA	KTC3198	R
Q952	OTR205800AA	KTD2058-0	R

REF.NO.	PART NO.	DESCRIPTION	REMARK
DIODE			
D101	ODD247109AA	DD, 1S2471	R
D102	ODD247109AA	DD, 1S2471	R
D103	ODD247109AA	DD, 1S2471	R
D104	ODZ510009AB	DZ, MTZ5.1B	R
D201	ODD247109AA	DD, 1S2471	R
D202	ODZ120009AA	DZ, MTZ12B	R
D203	ODZ510009AB	DZ, MTZ5.1B	R
D204	ODD247109AA	DD, 1S2471	R
D205	ODD247109AA	DD, 1S2471	R
D206	ODD247109AA	DD, 1S2471	R
D207	ODD247109AA	DD, 1S2471	R
D208	ODD830009AA	DD, 1SS83	R
D209	ODD247109AA	DD, 1S2471	R
D401	ODZ510009AB	DZ, MTZ5.1B	R
D402	ODZ560009AA	DZ, MTZ5.6B	R
D501	ODZ510009AB	DZ, MTZ5.1B	R
D502	ODZ510009AB	DZ, MTZ5.1B	R
D503	ODD247109AA	DD, 1S2471	R
D504	ODD247109AA	DD, 1S2471	R
D505	ODD247109AA	DD, 1S2471	R
D506	ODZ820009AA	DZ, MTZ8.2B	R
D507	ODD247109AA	DD, 1S2471	R
D508	ODD247109AA	DD, 1S2471	R
D509	ODD400000AB	DD, RU4DS	R
D601	ODD247109AA	DD, 1S2471	R
D602	ODD247109AA	DD, 1S2471	R

REF.NO.	PART NO.	DESCRIPTION	REMARK
DIODE			
D604	ODD493509AA	DD, 1N4935	R
D701	ODZ510009AB	DZ, MTZ5.1B	R
D702	ODD200000DA	DD, DD20R/DD54RC	R
D703	ODD021150AA	DD, C021M-15	R
D704	ODD140009AA	DD, EK14	R
D705	ODD140009AA	DD, EK14	R
D706	ODD493509AA	DD, 1N4935	R
D707	ODD493509AA	DD, 1N4935	R
D708	ODZ910009AA	DZ, MTZ9.1B	R
D709	ODD247109AA	DD, 1S2471	R
D710	ODD493509AA	DD, 1N4935	R
D901	ODD406000AA	DD, RBV406	R
D902	ODD493509AA	DD, 1N4935	R
D904	ODD493509AA	DD, 1N4935	R
D905	ODD493509AA	DD, 1N4935	R
D906	ODZ820009AA	DZ, MTZ8.2B	R
D951	ODD300900AA	DD, SB30-09J	R
D952	ODD300900AA	DD, SB30-09J	R
D953	ODD493509AA	DD, 1N4935	R
D954	ODD400000AB	DD, RU4DS	R
D955	ODD200000AH	DD, RU2AM	R
D956	ODD247109AA	DD, 1S2471	R
D957	ODZ110009AA	DZ, MTZ11B	R
D958	ODD247109AA	DD, 1S2471	R
D959	ODZ510009AB	DZ, MTZ5.1B	R

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC			
IC101	01GS339000A	IC, GL339	R
IC401	01SG814500A	IC, TDA8145	R
IC402	01GS324000B	IC, GL324	R
IC501	01GS358000A	IC, GL358	R
IC502	01GS393000B	IC, GL393	R
IC601	01SG817200A	IC, TDA8172	R
IC701	01GS910200A	IC, TDA9102C	R
IC702	01KE431000A	IC, KIA431	R
IC901	01SK630700A	STR-6307	R
IC902	01T0633420A	IC, TLP633	R
	01T0731000A	IC, TLP731	R
IC951	01KE431000A	IC, KIA431	R
IC952	01GS781200A	IC, GL7812	R
IC953	01GS780500A	IC, GL7805	R
TRANS			
T501	151-414E	D/D PULSE TRANS	S
	151-403E	D/D PULSE TRANS	S
T701	151-396D	H.DRIVE TRANS	S
T702	154-212A	F.B.T (2436871)	S
T901	151-413A	SMPS TRANS	S
	151-413B	SMPS TRANS	S
PIN & CONNECTOR			
P701	366-920J	PIN, GSC-10P	S
P702	366-139A	PIN WAFER(WB-706	S
P801	366-920E	PIN, GIL-6P-S3EN2	S
P802	366-920J	PIN, GSC-10P	S
P803	366-920J	PIN, GSC-10P	S
P804	366-920J	PIN, GSC-10P	S
P901	387-019W	AC SOCKET ASSY	S
P902	366-059A	MOLE5096-02C	S
P903	366-059B	MOLE5096-03C	S
P904	366-112B	PIN, PLUG(2P)	S
P905	387-780A	CONNECTOR ASSY	S
P11	387-763A	CONNECTOR ASSY	S
P10/P12	387-763E	CONNECTOR ASSY	S
P13/P14	387-763B	CONNECTOR ASSY	S
SW901	387-759A	SWITCH ASSY	S

REF.NO.	PART NO.	DESCRIPTION	REMARK
COIL			
L501	125-022J	FERRITE, KQ-1	R
L502	150-903A	D/D CHOKE, 5mH	S
L503	150-235F	CHOKE, 25UH	S
L504	125-022J	FERRITE, KQ-1	R
L701	150-235C	HOR CHOKE 100UH	S
L702	125-022J	FERRITE, KQ-1	R
L703	125-022J	FERRITE, KQ-1	R
L704	125-022J	FERRITE, KQ-1	R
L705	125-054C	FERRITE, OP6	S
L706	150-885B	H-SIZE, 195UH	S
L707	150-539G	H-CENTER, 4.5mH	S
L708	150-867C	COIL, H.LIN	S
L901	150-314F	LINE-FILTER 20m	S
L902	150-314F	LINE-FILTER 20m	S
L903	125-022J	FERRITE, KQ-1	R
L951	150-235F	CHOKE, 25UH	S
L952	150-235F	CHOKE, 25UH	S
L953	150-235F	CHOKE, 25UH	S
L954	150-235F	CHOKE, 25UH	S
L955	125-022J	FERRITE, KQ-1	R
L956	150-235C	HOR CHOKE 100UH	S
OTHERS			
D-COIL	150-425R	DEGAUSSING COIL	S
	150-954A	DEGAUSSING COIL	S
F901	0FT2001B533	FUSE, T2A H 250V	S
	430-858A	FUSE HOLDER	S
		(For Europe)	
	131-082B	FUSE, 250V/2A	S
		(For U.S.A)	
TH901	163-035C	TH, PTC 18	S
TH902	163-046C	TH, NTC 4.7	S
VR701	180-037N	VR, 10KB	S
VR1	180-680R/T	250KB K121K00	S
VR2	180-680P/A	10KB K121KG	S
SW1	140-058B	TACT SWITCH	S
SW2	140-058B	TACT SWITCH	S
SW3	140-058B	TACT SWITCH	S
SW4	140-058B	TACT SWITCH	S
SW5	140-058B	TACT SWITCH	S
LED1	ODL124000AA	KLGI24E H-POS1	S
LED2	ODL124000AA	KLGI24E H-SIZE	S
LED3	ODL124000AA	KLGI24E V-POS1	S
LED4	ODL124000AA	KLGI24E V-SIZE	S
LED5	ODL124000AA	KLGI24E S-PCC	S
LED6	ODL124000AA	KLGI24E TRAP	S
LED7	ODL124000AA	KLGI24E C.T	S
LED8	ODL113000AA	KLGI113L, POWER	S
CDT EART	170-121C	CDT EARTH 14"	S
PCB	111-H50E	PCB MAIN	S
CDT	112-837A	M34KDD80X35	S
	112-839B	M34JUQ23XX281	S

2.VIDEO BOARD

REF.NO.	PART NO.	DESCRIPTION	REMARK
RESISTOR			
R301	ORD0752F609	RD, 1/6W 75	R
R302	ORD5602F609	RD, 1/6W 56K	R
R303	ORD1603F609	RD, 1/6W 160K	R
R304	ORD0752F609	RD, 1/6W 75	R
R305	ORD5602F609	RD, 1/6W 56K	R
R306	ORD2003F609	RD, 1/6W 200K	R
R307	ORD0752F609	RD, 1/6W 75	R
R308	ORD5602F609	RD, 1/6W 56K	R
R309	ORD5602F609	RD, 1/6W 56K	R
R310	ORD4700F609	RD, 1/6W 470	R
R311	ORD4700F609	RD, 1/6W 470	R
R319	ORD3001F609	RD, 1/6W 3K	R
R323	ORD3001F609	RD, 1/6W 3K	R
R329	ORD4700F609	RD, 1/6W 470	R
R330	ORD0752F609	RD, 1/6W 75	R
R331	ORD0562F609	RD, 1/6W 56	R
R332	ORD4700F609	RD, 1/6W 470	R
R333	ORD0752F609	RD, 1/6W 75	R
R334	ORD0562F609	RD, 1/6W 56	R
R335	ORD4700F609	RD, 1/6W 470	R
R336	ORD0752F609	RD, 1/6W 75	R
R337	ORD0562F609	RD, 1/6W 56	R
R338	ORD1002F609	RD, 1/6W 10K	R
R339	ORD4702F609	RD, 1/6W 47K	R
R341	ORD1004F609	RD, 1/6W 1M	R
R342	ORD1000H609	RD, 1/2W 100	R
R343	ORD1004F609	RD, 1/6W 1M	R
R344	ORD1000H609	RD, 1/2W 100	R
R345	ORD1004F609	RD, 1/6W 1M	R
R346	ORD1000H609	RD, 1/2W 100	R
R349	ORD5602F609	RD, 1/6W 56K	R
R350	ORD5602F609	RD, 1/6W 56K	R
R351	ORD5101F609	RD, 1/6W 5.1K	R
R352	ORD2402F609	RD, 1/6W 24K	R
R353	ORD8202H609	RD, 1/2W 82K	R
R354	ORD3902G609	RD, 1/4W 39K	R
R355	ORD5602F609	RD, 1/6W 56K	R
R357	ORD5101F609	RD, 1/6W 5.1K	R
R358	ORD2402F609	RD, 1/6W 24K	R
R359	ORD1003H609	RD, 1/2W 100K	R
R360	ORD4702G609	RD, 1/4W 47K	R
R361	ORD5602F609	RD, 1/6W 56K	R
R363	ORD5101F609	RD, 1/6W 5.1K	R
R364	ORD2402F609	RD, 1/6W 24K	R
R365	ORD1003H609	RD, 1/2W 100K	R
R366	ORD4702G609	RD, 1/4W 47K	R
R367	ORD5602F609	RD, 1/6W 56K	R
R368	ORD8202F609	RD, 1/6W 82K	R
R369	ORN0470H609	RN, 1/2W 0.47	R
R370	ORD4700F609	RD, 1/6W 470	R
R371	ORD3003F609	RD, 1/6W 300K	R
R372	ORD3003F609	RD, 1/6W 300K	R
R373	ORD3003F609	RD, 1/6W 300K	R

REF.NO.	PART NO.	DESCRIPTION	REMARK
CAPACITOR			
C301	OCE1076F618	CE, 100/16	R
C302	OCK1030K945	CK, 0.01	R
C303	OCK1030K945	CK, 0.01	R
C304	OCE1076F618	CE, 100/16	R
C305	OCE4766F618	CE, 47/16	R
C306	OCK1030K945	CK, 0.01	R
C307	OCK1030K945	CK, 0.01	R
C308	OCE1076F618	CE, 100/16	R
C309	OCE4766F618	CE, 47/16	R
C310	OCK1030K945	CK, 0.01	R
C311	OCK1030K945	CK, 0.01	R
C312	OCE1066F618	CE, 10/16	R
C320	OCK1040K945	CK, 0.1	R
C321	OCE4766F618	CE, 47/16	R
C322	OCE225BK638	CE, 2.2/50	S
C323	OCK1030K945	CK, 0.01	R
C324	OCC8200K405	CC, 82P	R
C325	OCE225BK638	CE, 2.2/50	S
C326	OCK1030K945	CK, 0.01	R
C327	OCE4768H638	CE, 47/25	R
C328	OCC8200K405	CC, 82P	R
C329	OCE225BK638	CE, 2.2/50	S
C330	OCK1030K945	CK, 0.01	R
C331	OCC8200K405	CC, 82P	R
C332	OCE107BF638	CE, 100/16	S
C333	OCK1040K945	CK, 0.1	R
C334	OCE4766F618	CE, 47/16	R
C336	OCK1040K945	CK, 0.1	R
C337	OCE4768H638	CE, 47/25	R
C338	OCE2256N618	CE, 2.2/100	R
C339	OCE2256N618	CE, 2.2/100	R
C340	OCE2256N618	CE, 2.2/100	R
C341	OCK3320W515	CK, 0.0033/500	R
C342	OCE106BN638	CE, 10/100	S
C343	OCK1040K945	CK, 0.1	R
C344	OCC1500K405	CC, 15P	R
C345	OCC5600K405	CC, 56P	R
C346	OCC8200K405	CC, 82P	R
C347	OCK1040K945	CK, 0.1	R
C348	OCC6800K405	CC, 68P	R
C349	OCC8200K405	CC, 82P	R
C350	OCK1040K945	CK, 0.1	R
C351	OCC6800K405	CC, 68P	R
C352	OCC8200K405	CC, 82P	R
C353	OCK1020W515	CK, 0.001/500	R
C354	OCE1066N638	CE, 10/100	S
C355	OCK3320K945	CK, 0.0033	R
C356	OCK10301510	CK, 0.01/1K	R
C357	OCE4751R630	CE, 4.7/250	R
C358	OCK1020W515	CK, 0.001/500	R
C359	OCK1040K945	CK, 0.1	R
C361	OCK3320K515	CK, 0.0033	R

REF.NO.	PART NO.	DESCRIPTION	REMARK
DIODE			
D301	ODD247109AA	DD, 1S2471	R
D302	ODD247109AA	DD, 1S2471	R
D303	ODD247109AA	DD, 1S2471	R
D304	ODD247109AA	DD, 1S2471	R
D305	ODD247109AA	DD, 1S2471	R
D306	ODD247109AA	DD, 1S2471	R
D309	ODD247109AA	DD, 1S2471	R
D310	ODD247109AA	DD, 1S2471	R
D311	ODD247109AA	DD, 1S2471	R
D312	ODD247109AA	DD, 1S2471	R
D313	ODD247109AA	DD, 1S2471	R
D314	ODD247109AA	DD, 1S2471	R
D317	ODZ560009AA	DZ, MTZ5.6B	R
D318	ODZ560009AA	DZ, MTZ5.6B	R
D320	ODZ560009AA	DZ, MTZ5.6B	R
TRANSISTOR			
Q305	OTR319809AA	KTC3198-Y	R
Q306	OTR320609AB	KTC3206-Y	R
Q307	OTR949009AA	KTA949-Y	R
Q308	OTR320609AB	KTC3206-Y	R
Q309	OTR949009AA	KTA949-Y	R
Q310	OTR320609AB	KTC3206-Y	R
Q311	OTR949009AA	KTA949-Y	R
IC			
IC301	01M1523070A	IC, M52307P	R
IC302	01SA070000A	IC, VPM07	R
COIL			
L301	150-288A	COIL, TLN2026	S
L302	125-135A	BEAD, BFD3510R2F	R
L303	125-135A	BEAD, BFD3510R2F	R
L304	125-135A	BEAD, BFD3510R2F	R
L305	125-022J	FERITE KQ-1	R
SPARK GAP & PIN			
SG301	165-010A	SG, DSP-301N-104	R
SG302	165-010A	SG, DSP-301N-104	R
SG303	165-010A	SG, DSP-301N-104	R
SG304	165-010A	SG, DSP-301N-104	R
SG305	165-004A	SG, AG20PT 152F	R
P301	366-155J	PIN, GIL-S-10P-S	S
P302	366-155M	PIN, GIL-S-13P-S	S
P303	366-155H	PIN, GIL-S-9P-S	S
P304	387-744H	CONNECTOR ASSY	S
P305	366-009B	PLUG	S
P306	366-112B	PLUG(2P)	S
P307	387-744H	CONNECTOR ASSY	S
OTHERS			
SOCKET PCB	381-094B/D 111-H53C	CDT SOCKET VIDEO PCB CA-15	R S

3.CS-PACK BOARD

REF.NO.	PART NO.	DESCRIPTION	REMARK
CAPACITOR			
C804	0CQ1021N419	CQ, 0.001/100	R
C805	181-305G	MPP, 0.33/250	S
C806	0CQ1021N419	CQ, 0.001/100	R
C807	181-305L	MPP, 0.68/250	S
C808	0CQ1021N419	CQ, 0.001/100	R
C809	181-305N	MPP, 0.1/250	S
DIODE			
D801	ODZ120009AA	DZ, MTZ12B	R
D802	ODZ120009AA	DZ, MTZ12B	R
D803	ODZ120009AA	DZ, MTZ12B	R
IC			
IC801	01T0521100A	IC, TLP521-1	R
IC802	01T0521100A	IC, TLP521-1	R
IC803	01T0521100A	IC, TLP521-1	R
TRANSISTOR			
Q801	OTR114009AB	DTC114	R
Q802	OTR114009AB	DTC114	R
Q803	OTR114009AB	DTC114	R
Q804	OTF135000AA	2SK1350	R
Q805	OTF135000AA	2SK1350	R
Q806	OTF135000AA	2SK1350	R
RESISTOR			
R801	ORD2201F609	RD, 1/6W 2.2K	R
R802	ORD2201F609	RD, 1/6W 2.2K	R
R803	ORD2201F609	RD, 1/6W 2.2K	R
R804	ORD1203H609	RD, 1/2W 120K	R
R805	ORD1203H609	RD, 1/2W 120K	R
R806	ORD1203H609	RD, 1/2W 120K	R
PIN & CONNECTOR			
P805	382-114J	GIL-D(SIDE) 10S	S
P806	366-009B	PIN PLUG	S
OTHERS			
PCB	111-H52B	PCB, CS-PACK	S

4.U-COM BOARD

REF.NO.	PART NO.	DESCRIPTION	REMARK
CAPACITOR			
C1	OCK1030K945	CK, 0.01	R
C2	OCK1030K945	CK, 0.01	R
C4	OCK1040K945	CK, 0.1	R
C5	OCK1040K945	CK, 0.1	R
C6	CCC3300K405	CC, 33P	R
C7	CCC3300K405	CC, 33P	R
C8	181-288C	MKT, 0.22	R
C9	OCK1040K945	CK, 0.1	R
C10	OCE1076F618	CE, 100/16	R
C11	OCE2276D618	CE, 220/10	R
C12	OCK1030K945	CK, 0.01	R
C13	OCK1030K945	CK, 0.01	R
C14	OCK1030K945	CK, 0.01	R
C15	OCK1030K945	CK, 0.01	R
C16	CCC2210K405	CC, 220P	R
C17	181-288C	MKT, 0.22	R
C18	181-288C	MKT, 0.22	R
C19	181-288C	MKT, 0.22	R
C20	181-288C	MKT, 0.22	R
C21	OCK1030K945	CK, 0.01	R
C22	OCK1030K945	CK, 0.01	R
C23	OCK1030K945	CK, 0.01	R
C24	OCK1030K945	CK, 0.01	R
C25	OCK1030K945	CK, 0.01	R
C26	OCK1030K945	CK, 0.01	R
C27	OCK1030K945	CK, 0.01	R
C28	OCK1030K945	CK, 0.01	R
C29	OCK1030K945	CK, 0.01	R
C30	OCK1030K945	CK, 0.01	R
C31	OCK1030K945	CK, 0.01	R
C32	OCK1030K945	CK, 0.01	R
C33	OCK1030K945	CK, 0.01	R
C34	OCK1030K945	CK, 0.01	R
C35	OCK1030K945	CK, 0.01	R
C36	OCK1030K945	CK, 0.01	R
C37	OCK1030K945	CK, 0.01	R
C38	OCK1030K945	CK, 0.01	R
C39	OCK1030K945	CK, 0.01	R
C40	OCK1030K945	CK, 0.01	R
C41	CCC2210K405	CC, 220P	R
C42	OCK1040K945	CK, 0.1	R
C43	OCK1040K945	CK, 0.1	R
C44	OCK1030K945	CK, 0.01	R
C45	OCK1030K945	CK, 0.01	R
C46	OCK1030K945	CK, 0.01	R
C47	OCK1030K945	CK, 0.01	R
C48	CCC2210K405	CC, 220P	R
C49	OCK1030K945	CK, 0.01	R
C50	OCK1030K945	CK, 0.01	R
C51	OCK1030K945	CK, 0.01	R
C52	OCK1030K945	CK, 0.01	R
C53	OCK1030K945	CK, 0.01	R
C54	OCK1030K945	CK, 0.01	R
C55	OCK1030K945	CK, 0.01	R
C56	OCK1030K945	CK, 0.01	R
C57	OCK1020K515	CK, 0.001	R

REF.NO	PART NO.	DESCRIPTION	REMARK
RESISTOR			
R2	ORD8202F609	RD, 1/6W 82K	R
R3	ORD2400F609	RD, 1/6W 240	R
R4	ORD4702F609	RD, 1/6W 47K	R
R5	ORD1203F609	RD, 1/6W 120K	R
R6	ORD5602F609	RD, 1/6W 56K	R
R7	ORD2402F609	RD, 1/6W 24K	R
R8	ORD3301F609	RD, 1/6W 3.3K	R
R9	ORD3301F609	RD, 1/6W 3.3K	R
R10	ORD1002F609	RD, 1/6W 10K	R
R11	ORD1004F609	RD, 1/6W 1M	R
R12	ORD5602F609	RD, 1/6W 56K	R
R13	ORD5602F609	RD, 1/6W 56K	R
R14	ORD5602F609	RD, 1/6W 56K	R
R15	ORD5602F609	RD, 1/6W 56K	R
R16	ORD5602F609	RD, 1/6W 56K	R
R17	ORD3301F609	RD, 1/6W 3.3K	R
R19	ORD5602F609	RD, 1/6W 56K	R
R20	ORD5602F609	RD, 1/6W 56K	R
R21	ORD5602F609	RD, 1/6W 56K	R
R22	ORD5602F609	RD, 1/6W 56K	R
R23	ORD5602F609	RD, 1/6W 56K	R
R24	ORD5602F609	RD, 1/6W 56K	R
R25	ORD5602F609	RD, 1/6W 56K	R
R26	ORD5602F609	RD, 1/6W 56K	R
R27	ORD5602F609	RD, 1/6W 56K	R
R28	ORD5602F609	RD, 1/6W 56K	R
R29	ORD1802F609	RD, 1/6W 18K	R
R30	ORD1802F609	RD, 1/6W 18K	R
R31	ORD5602F609	RD, 1/6W 56K	R
R32	ORD5602F609	RD, 1/6W 56K	R
R33	ORD5602F609	RD, 1/6W 56K	R
R34	ORD5602F609	RD, 1/6W 56K	R
R35	ORD5602F609	RD, 1/6W 56K	R
R36	ORD5602F609	RD, 1/6W 56K	R
R37	ORD1802F609	RD, 1/6W 18K	R
R38	ORD1802F609	RD, 1/6W 18K	R
R39	ORD5602F609	RD, 1/6W 56K	R
R40	ORD5602F609	RD, 1/6W 56K	R
R41	ORD5602F609	RD, 1/6W 56K	R
R42	ORD5602F609	RD, 1/6W 56K	R
R43	ORD5602F609	RD, 1/6W 56K	R
R44	ORD3301F609	RD, 1/6W 3.3K	R
R45	ORD5602F609	RD, 1/6W 56K	R
R46	ORD5602F609	RD, 1/6W 56K	R
R47	ORD5602F609	RD, 1/6W 56K	R
R48	ORD5602F609	RD, 1/6W 56K	R
R49	ORD5602F609	RD, 1/6W 56K	R
R50	ORD5602F609	RD, 1/6W 56K	R
R51	ORD5602F609	RD, 1/6W 56K	R
R52	ORD1001F609	RD, 1/6W 1K	R
R53	ORD5602F609	RD, 1/6W 56K	R
R54	ORD5602F609	RD, 1/6W 56K	R
R55	ORD5602F609	RD, 1/6W 56K	R
R56	ORD5602F609	RD, 1/6W 56K	R
R57	ORD5602F609	RD, 1/6W 56K	R
R58	ORD5602F609	RD, 1/6W 56K	R
R59	ORD5602F609	RD, 1/6W 56K	R
R60	ORD5602F609	RD, 1/6W 56K	R
R61	ORD3300F609	RD, 1/6W 330	R
R62	ORD3300F609	RD, 1/6W 330	R
R64	ORD1001F609	RD, 1/6W 1K	R
R65	ORD1002F609	RD, 1/6W 10K	R
R66	ORD8200F609	RD, 1/6W 820	R

REF.NO	PART NO.	DESCRIPTION	REMARK
DIODE			
D1	00Z560009AA	DZ, MT25.68	R
D3	00Z560009AA	DZ, MT25.68	R
D4	00Z560009AA	DZ, MT25.68	R
IC			
IC1	0IH1442100B	GSM442M1	S
IC2	0INS934600C	NM93C46N	R
IC3	0IGS442100A	GSM442G1	S
IC4	0IKE703300B	K1A7033P	R
TRANSISTOR			
Q1	0TR562009AA	KTC562TM-Y	R
Q2	0TR319809AA	KTC3198	R
Q3	0TR319809AA	KTC3198	R
Q4	0TR319809AA	KTC3198	R
Q5	0TR319809AA	KTC3198	R
Q6	0TR319809AA	KTC3198	R

REF.NO	PART NO.	DESCRIPTION	REMARK
PIN & CONNECTOR			
P1	366-155M	GIL-S-13P	S
P2	366-155G	GIL-S-8P	S
P3	366-155M	GIL-S-13P	S
P4	382-114J	GIL-D(SIDE) 10S	S
P5	382-114J	GIL-D(SIDE) 10S	S
P6	382-114J	GIL-D(SIDE) 10S	S
P7	382-114E	GIL-D(SIDE) 6S	S
P8	387-763F	CONNECTOR ASSY	S
P9	381-212A	DHSI-15UNT4	S
OTHERS			
X1	156-010A	CSA3.58MG000TF	S
PCB	111-H51A	u-COM/SIGNAL	S
BPF1	166-139U	1H 104MF	S
BPF2	166-139U	1H 104MF	S

COMPARISON PARTS LIST

IF YOU REPAIR YOUR MONITOR, LOOK ON THE ID LABEL OF THE MONITOR.
YOU MUST INSERT THE CORRECT PART IN ACCORDANCE WITH AS FOLLOWS.

1. MODEL NAME

REF. NO.	CS442A(1470,1470 SS1)		CS446A	
	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
VR1	180-680R	250KB L1=15	180-680T	250KB L1=20
VR2	180-680P	10KB L1=15	180-680A	250KB L1=20

2. CDT

REF. NO.	NEC - M34JUQ23xx281(T4)(S)		HITACHI - M34KDD80x35(S)	
	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
R412	ORD8200F609	RD, 1/6W 820	ORD6200F609	RD, 1/6W 620
R440	ORD3001F609	RD, 1/6W 3K	ORD3301F609	RD, 1/6W 3.3K

3. VERSION

REF. NO.	LOW VERSION(U.S.A.)		HIGH VERSION(EUROPE)	
	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
F901	131-082B	FUSE 250V 2.0A	0FT2001B533	FUSE T2A H 250V (IEC 127) With Fuse holder
IC902	01T0731000A	TLP731	01T0633420A	TLP633
P904	150-425R	DEGAUSSING COIL	150-954A	DEGAUSSING COIL

4. OPTION

REF. NO.	N E C		H I T A C H I	
	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION
VLMF	112-839C	M34JUQ23xx281 (S)	112-836C	M34KDD80x35(L)
MPR-II	112-839B	M34JUQ23xx281 (T4) (S)	112-836B	M34KDD80x35(S)