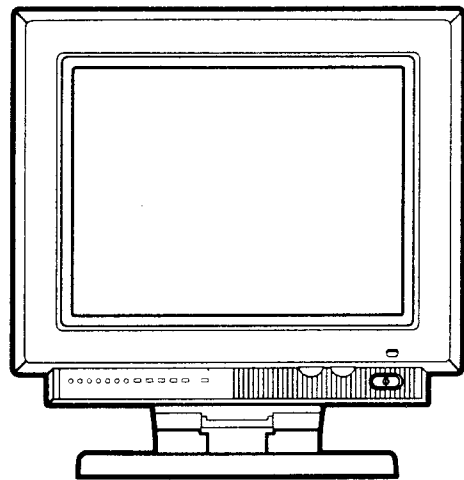


GoldStar

COLOR MONITOR SERVICE MANUAL

CAUTION

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



MODEL : CS731N/ 1710
CS730N
(CA-18 CHASSIS)



GoldStar

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SPECIFICATIONS

1. PICTURE TUBE

Size	: 17 inch
Gun	: In-Line
Deflection Angle	: 90°
Neck Diameter	: 29.1 mm
Phosphor	: P22
Transmission	: 53.5%
Dot Pitch	: 0.31 mm

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
Vertical SYNC. Width : 1H~10H.
Serration Pulse : NON, 0.5H, 1H, EX-OR
Equalize Pulse : 0.25~0.35Vpp
* 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 : 75Ohm
- 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

- HORIZONTAL : 30~60KHz
- VERTICAL : 50~120Hz

3. POWER SUPPLY

3-1. POWER RATING

AC 100~240V 2.0 A MAX. 60/50Hz
Free Voltage

4. DISPLAY AREA

- 4-1. Active Video Area : 300mm X 220mm
- 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, DEGAUSS.

6. ENVIRONMENT

- 6-1. Operating Temperature : 10° C TO 35° C(Ambient)
- 6-2. Relative Humidity : 8% TO 80% (Noncondensing)
- 6-3. Altitude : 10,000ft

7. DIMENSIONS

Width	: 424 mm
Depth	: 480 mm
Height	: 442 mm

8. WEIGHT (W/TILT SWIVEL)

Net Weight	: 22.7 Kg
Gross Weight	: 26 Kg

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. And 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 26KV and must not exceed 29KV 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

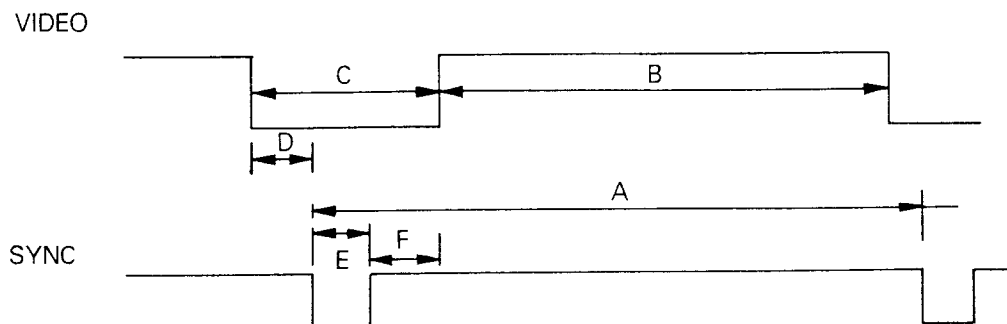
This Color Monitor is a high-quality, high-content Analog Display.

It has the following features:

- 17 inch Color Display.
- 3 Different, independent lines to drive 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 with 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)
H O R I Z O N T A L	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
V E R T I C A L	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

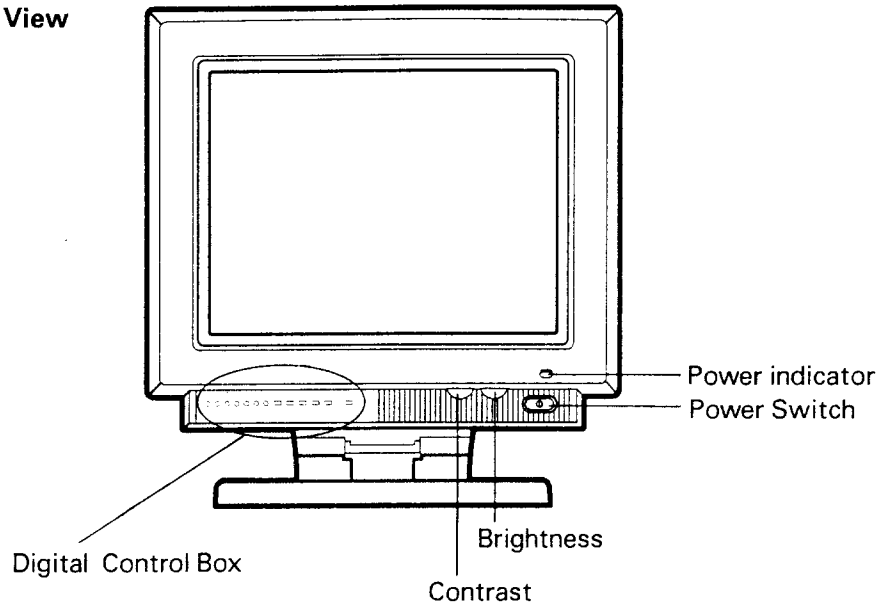
A: SYNC. TIME
B: VIDEO ACTIVE TIME
C: BLANKING TIME

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



Rear View

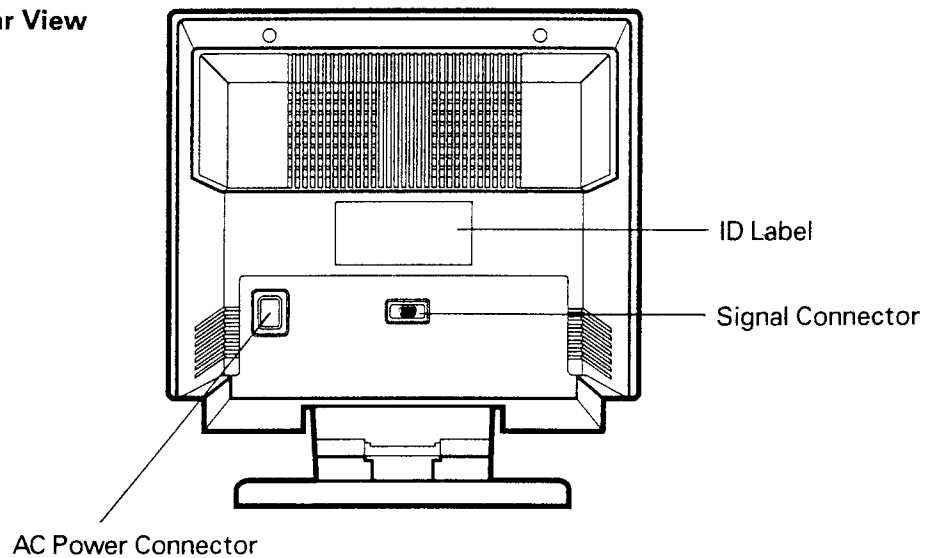
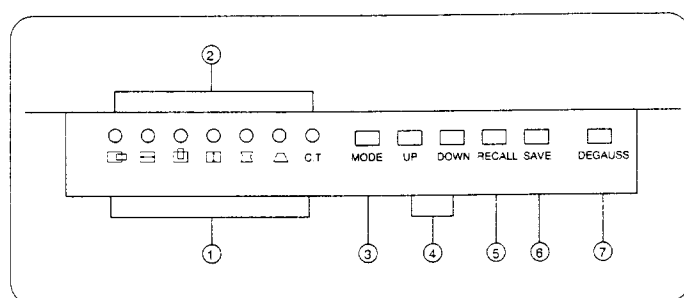


Figure 1, Controls on the front and rear panels.

- **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.

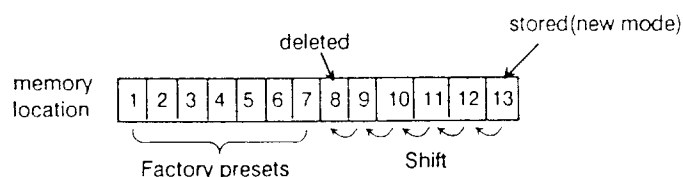
5) RECALL button

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.

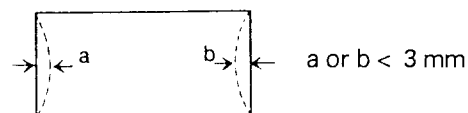
You should adjust correctly the geometric distortion with reference as follows and then save the adjusted data.

7) DEGAUSS

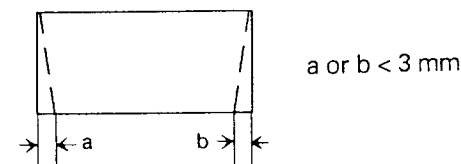
In order to eliminate the color impurity. Push in and hold the defaussing switch for a few seconds.

refer "How to use DIGITAL CONTROL BOX"

1) pincushion



2) trapezoid



ADJUSTMENT

GENERAL INFORMATION

All adjustment are thoroughly checked and corrected. Therefore the monitor should operate normally. The monitor should produce proper color and the picture be on installation.

However, several minor adjustments may be required depending on the particular location which the monitor is to operate. This monitor is shipped in complete carton.

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

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

AUTOMATIC DEGAUSSING

A degaussing coil is mounted around the picture tube so that unnecessary magnetism can be degaussed after moving the monitor. The monitor should be properly degaussed upon installation.

If the set is moved or faced in a different direction, wait for a minimum 10 minutes in order that the automatic degaussing circuit may operated properly.

Should the chassis or parts of the cabinet become magnetized to cause poor color faceplate of the picture tube, the sides and front of the monitor, Slowly draw out 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 (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.

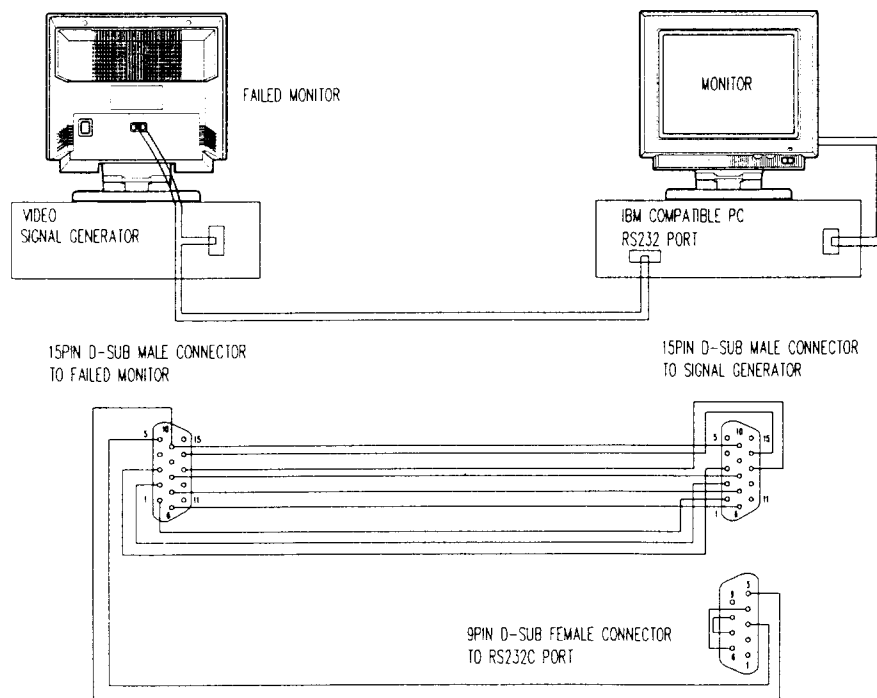
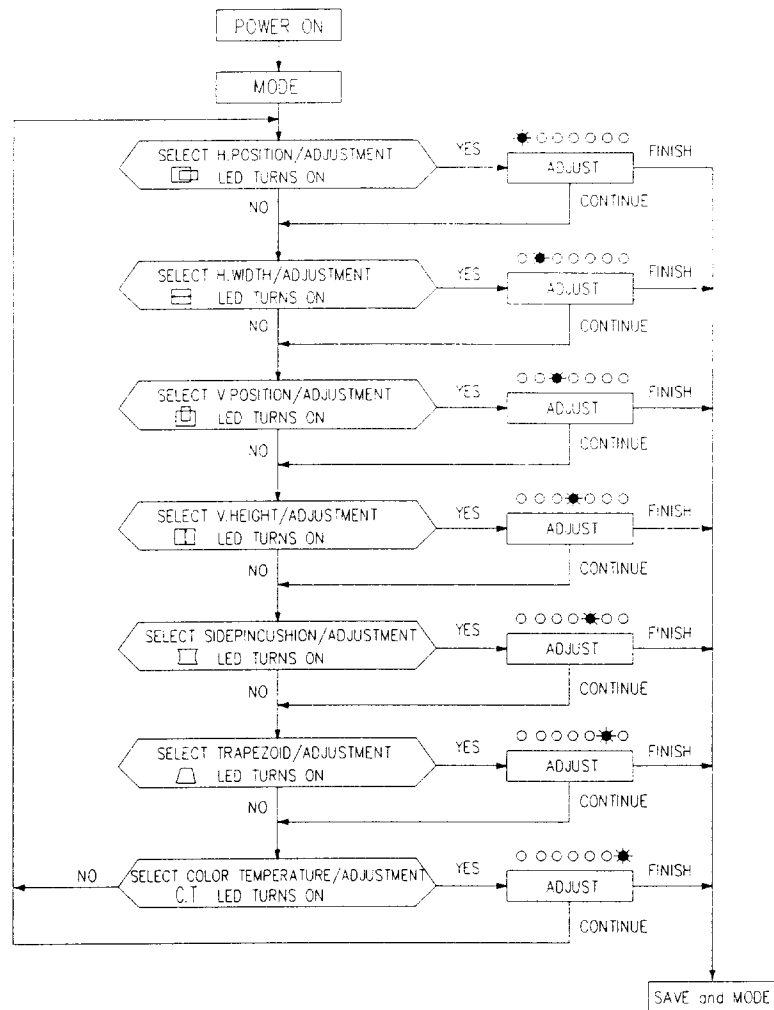


Figure 2, Cable Connection

"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.

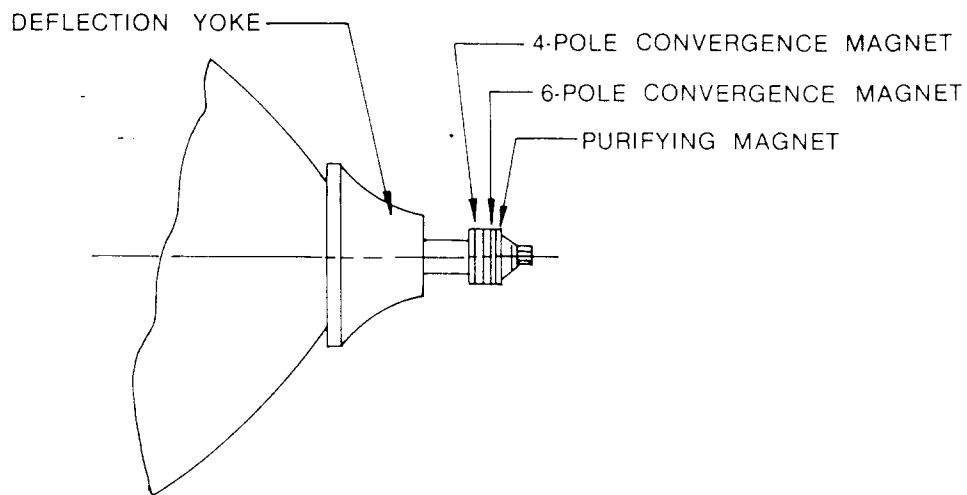
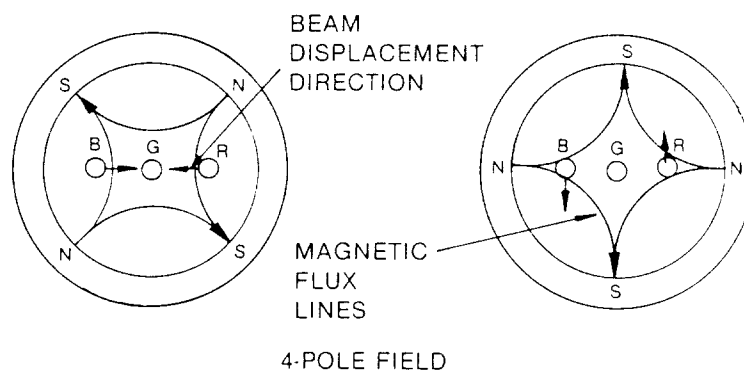


Figure 3,Relative Placement of Components



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

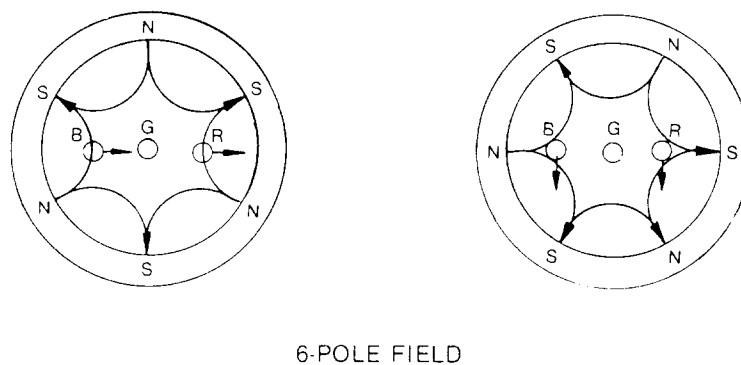
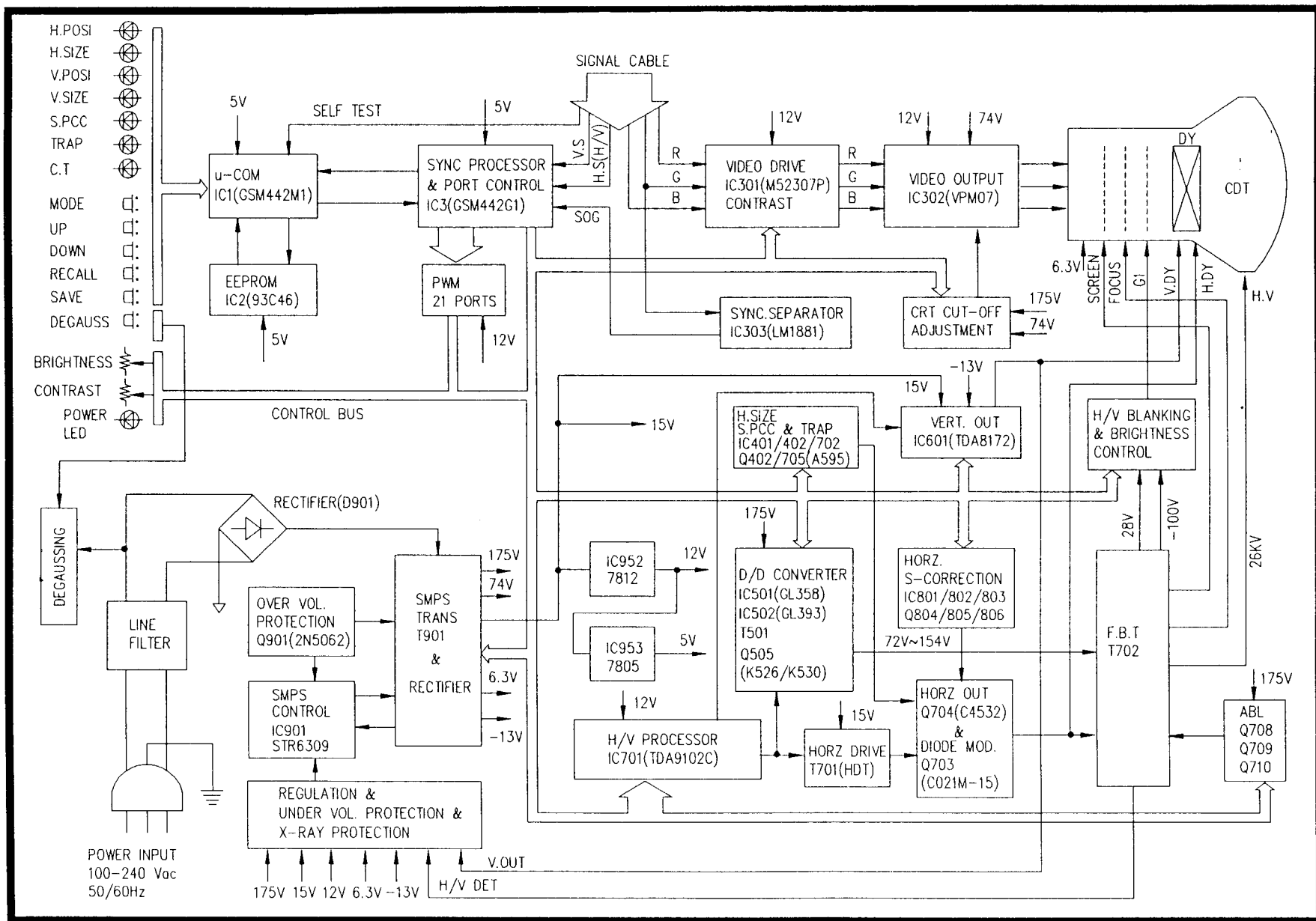


Figure 4,Static Convergence System



1) BLOCK DIAGRAM

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

This circuit consists of degaussing coil and posister.

When power SW is on, this chassis is degaussed automatically.

SMPS (SWITCHING MODE POWER SUPPLY)

This SMPS covers wide input voltage from AC 100V/60Hz to AC 240V/50Hz.

When the power SW is on, the operating procedure is as follows.

- 1) The AC input voltage is rectified by D901. The rectified DC voltage is supplied to primary of SMSP transformer (T901)
- 2) The control IC (IC901) of SMPS start switching and generate switching pulse.
- 3) The switching pulses of secondary induced from primary coil of T901 are rectified by each rectifier diodes (D951, D952, D953, D954D955) in accordance with turn ratio.
- 4) Each rectified DC voltages (6.3V, 175V, -13V, 15V, 74V) is supplied to secondary circuit.

UNDER VOLTAGE PROTECTION.

The under voltage protection circuit consists of comparator (IC 101), switching transistor (Q101, 102, 902), photo coupler (IC 902) and the related components. If the output of comparator (IC101) is low level, switching transistor and photo coupler are turned on at the abnormal conditions. Therefore, control IC (IC901) stops operating.

OVER VOLTAGE PROTECTION.

The over voltage protection circuit consists of zener diode (D906), SCR (Q901) and the related components. If the secondary DC voltage are higher than design value at abnormal condition, the over voltage protection circuit (D906, Q901) is turned on. And then control IC (IC901) shut down operating.

X-RAY PROTECTION.

This chassis has high voltage detector in fly back transformer (T702). When the high voltage is reached at 29KV, the primary circuit is stops operating by IC901 and IC101.

u- COM CONTROL

The operating procedure of micro processor is as follows.

- 1) The sync signal is supplied to sync processor (IC3).
- 2) The operating mode is discriminated by micro-processor and the operating condition of the monitor is controlled by port controller (IC3) and pulse width modulation.

3) The design value of each mode data is stored at EEPROM (IC2) and read by micro processor.

4) The screen condition can be controlled by users. The controlled data can be stored at EEPROM with MODE, SAVE key.

HORIZONTAL AND VERTICAL PROCESSOR

H/V processor has sync detector, saw tooth generator and drive function.

HORIZONTAL DRIVE OUTPUT AND DIODE MODULATION.

This circuit is horizontal deflection amplifier for horizontal raster scan.

D/D CONVERTER.

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

The variable range of DC voltage can vary from 75V to 155V.

HORIZONTAL S-CORRECTION.

This circuit compensate for horizontal linearity in proportion to horizontal frequency automatically.

ABL (AUTO BRIGHTNESS LIMIT)

This circuit limits beam current so that beam current may not flow excessively.

VERTICAL OUTPUT

This circuit is saw tooth amplifier for vertical raster scan.

H/V BLANKING & BRIGHTNESS CONTROL.

- 1) The blanking circuit cut off the beam current during retrace period horizontal and vertical.
- 2) The brightness is controlled by varying the DC level of cathode ray tube's grid 1.

VIDEO DRIVE

The video driver (IC301) amplifies the the, R, G, B video signal supplied from PC and the amplified video signal is supplied to the video amp (IC 302), varying the DC level of the contrast control port, the video driver (IC 301) controls the video gain.

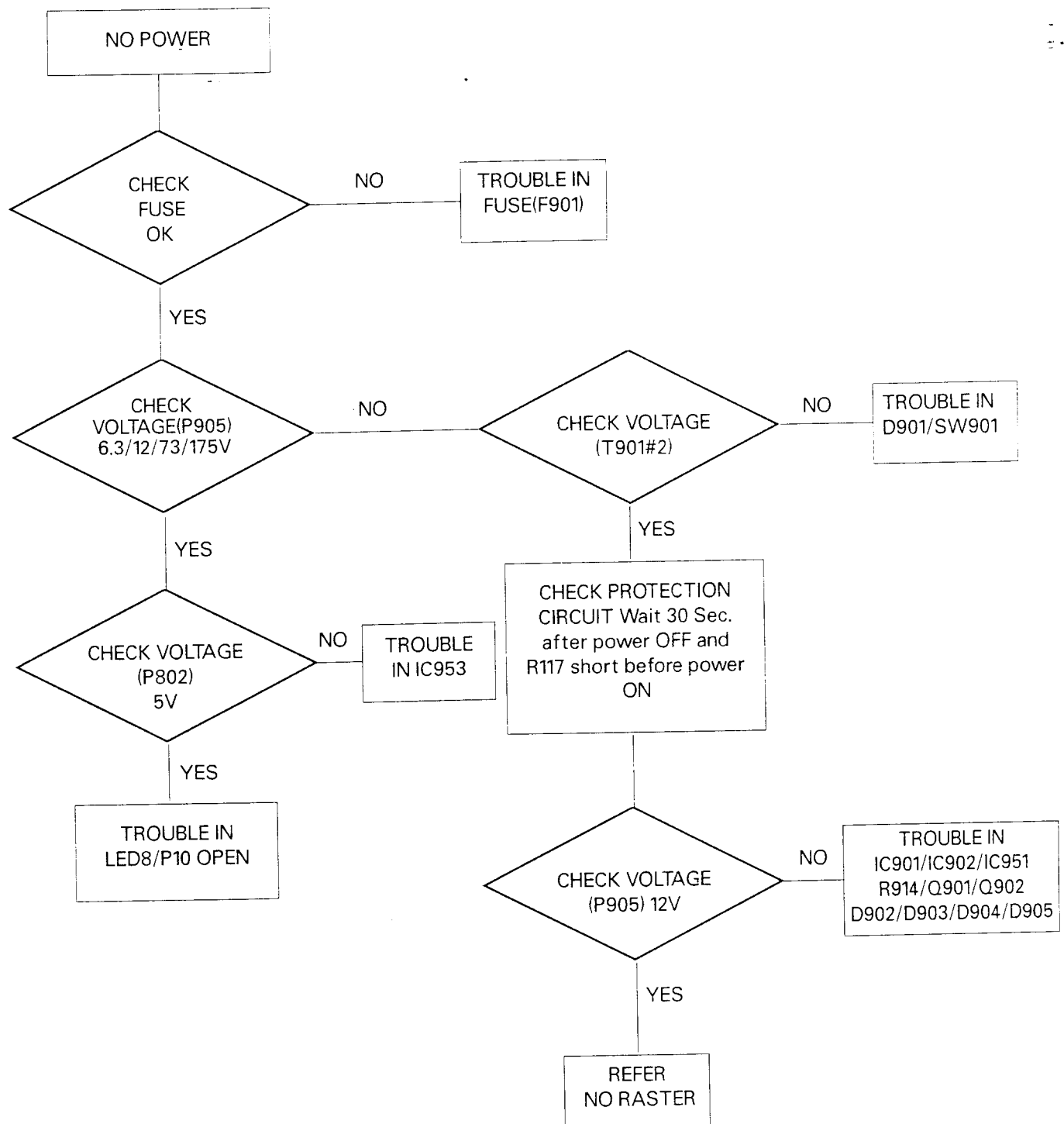
VIDEO OUTPUT

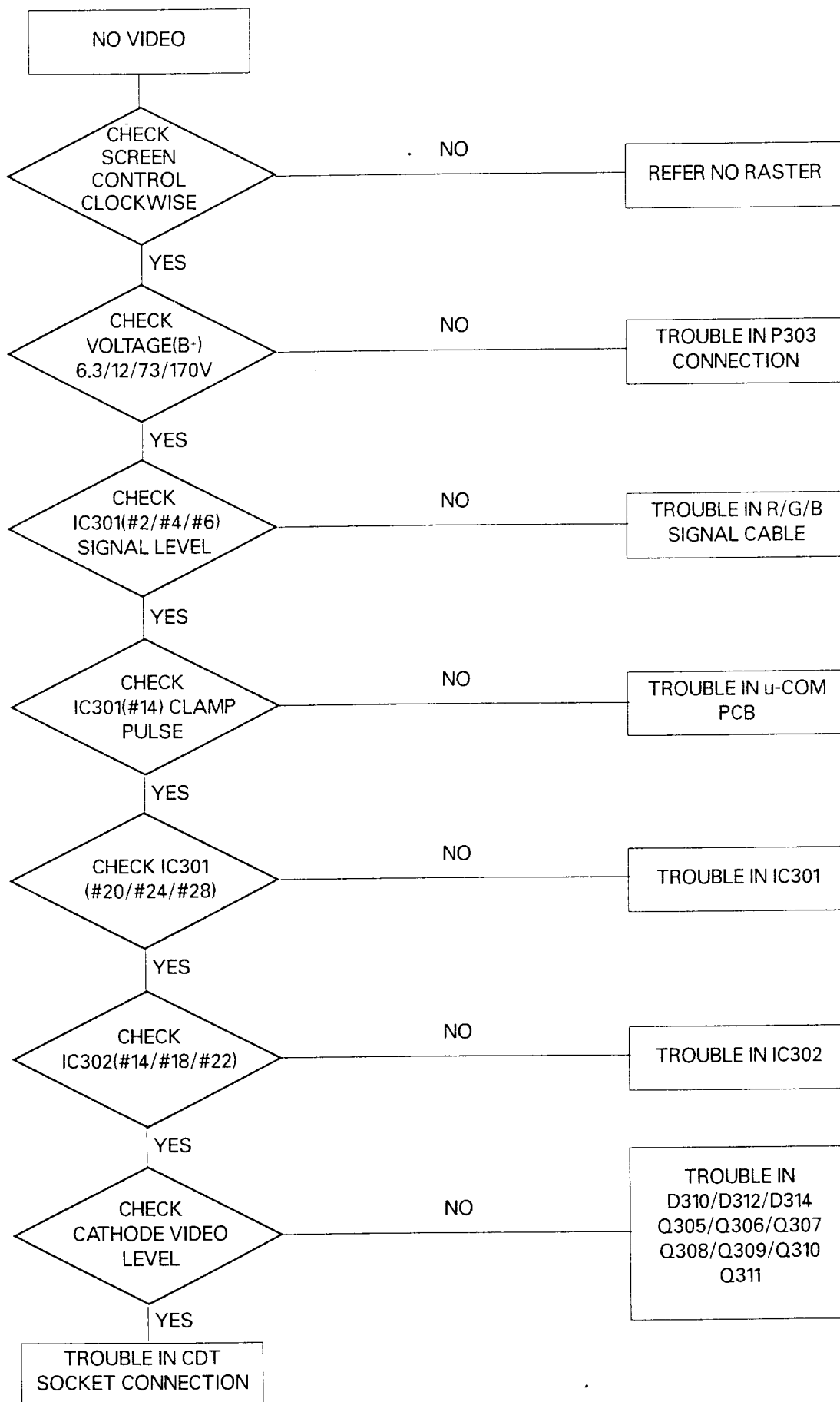
The video signal of each channel is amplified by IC302, each amplified signal drive each cathode of CDT.

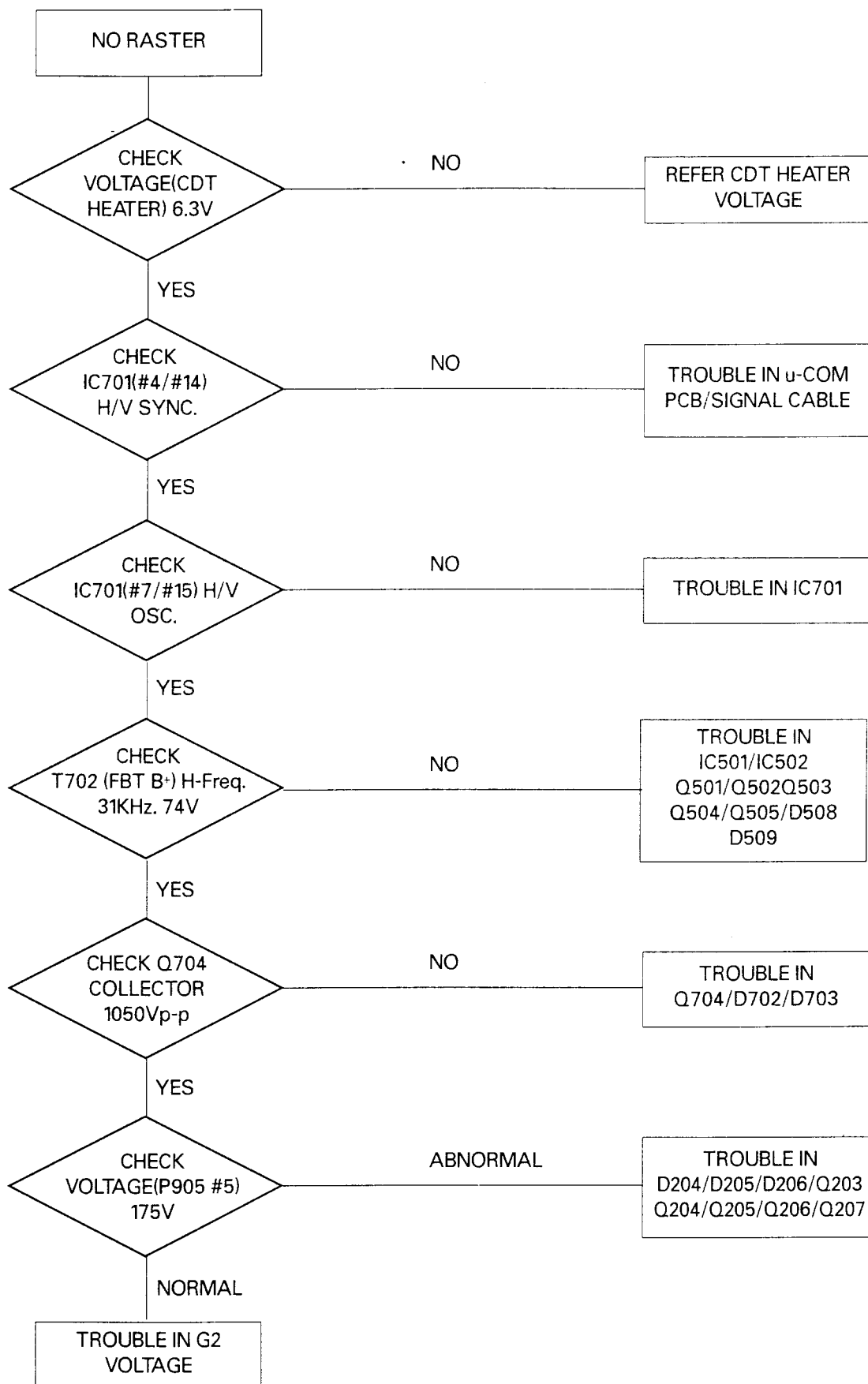
CDT CUT-OFF ADJUSTEMENT.

This circuit compensate for the voltage variation of each cathode and adjust the white balance of back ground.

TROUBLE SHOOTING GUIDE

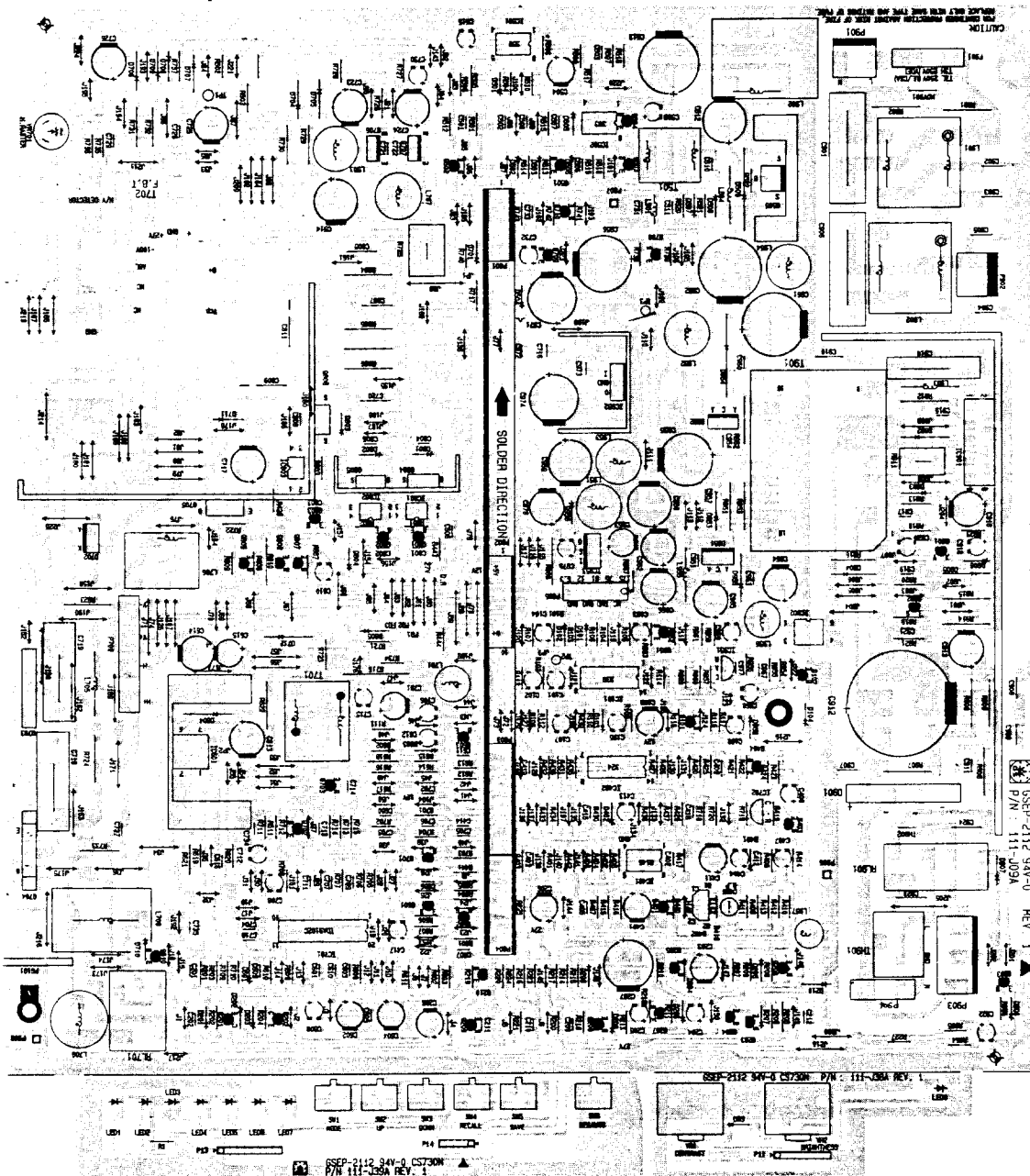




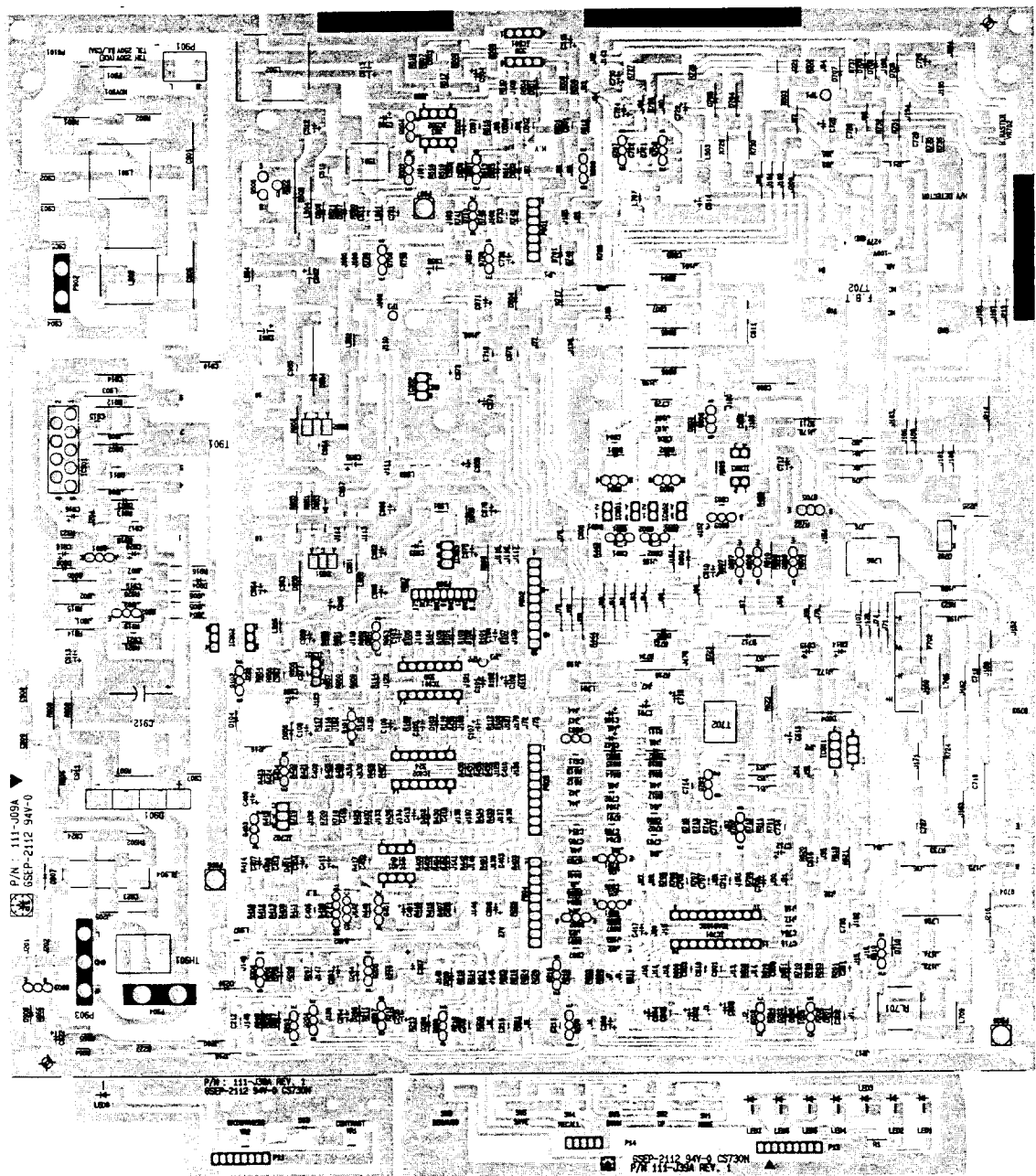


PRINTED CIRCUIT BOARD

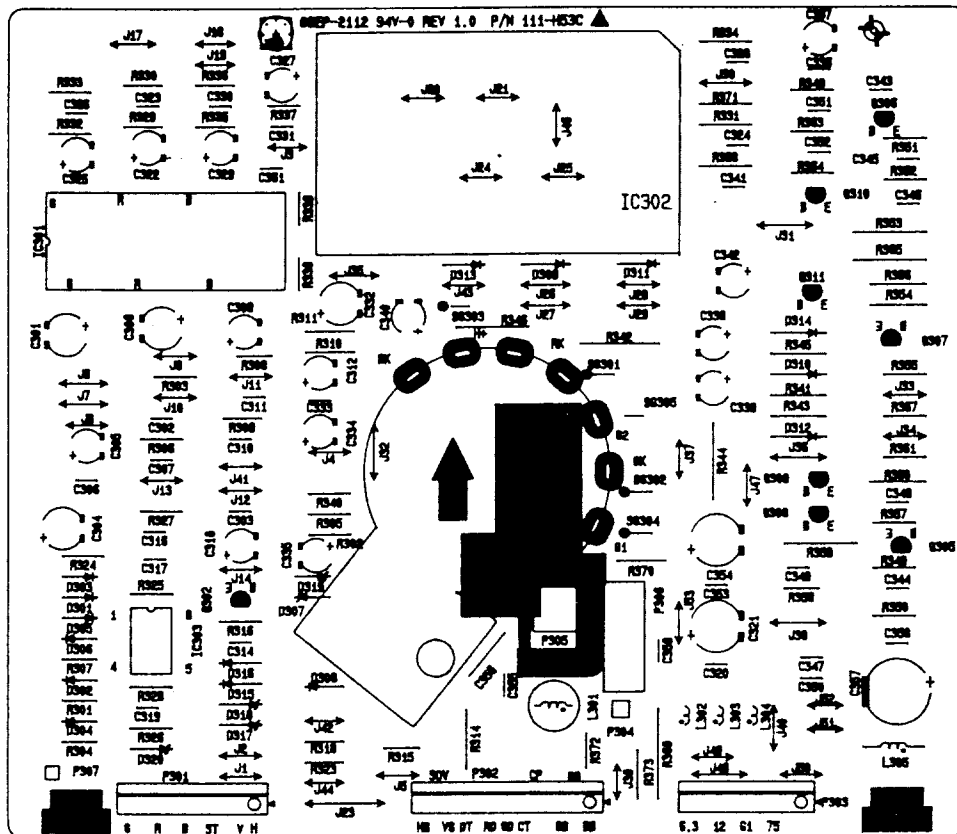
1. Main Board (Top Side)



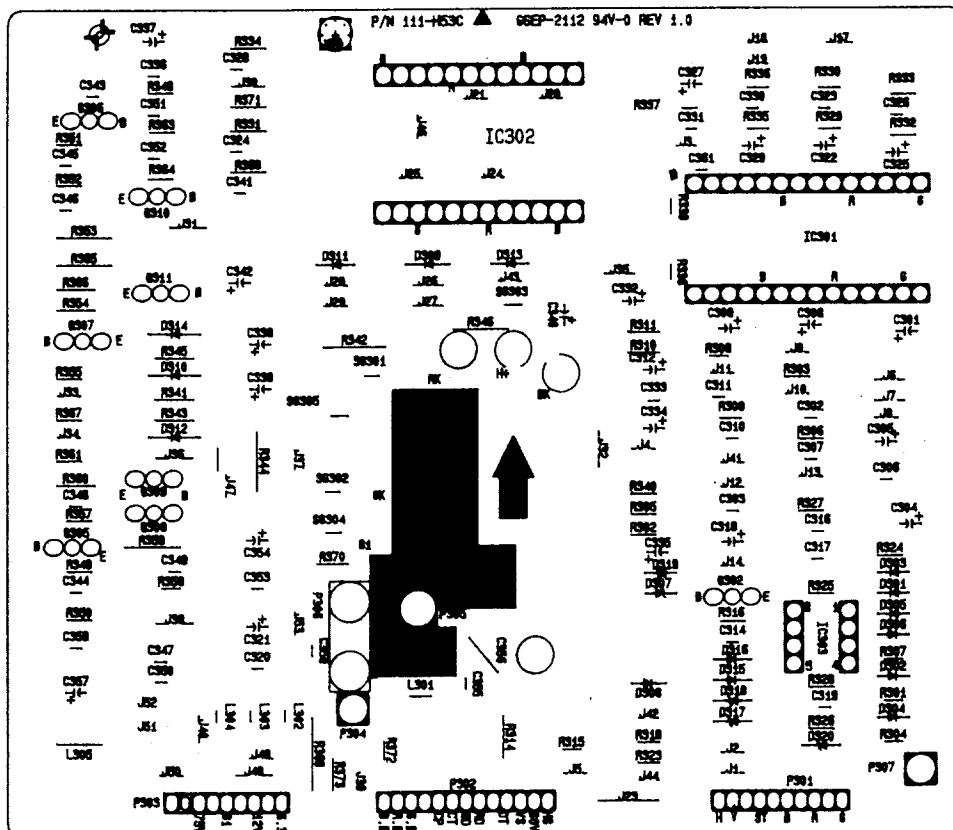
2. Main Board (Bottom Side)



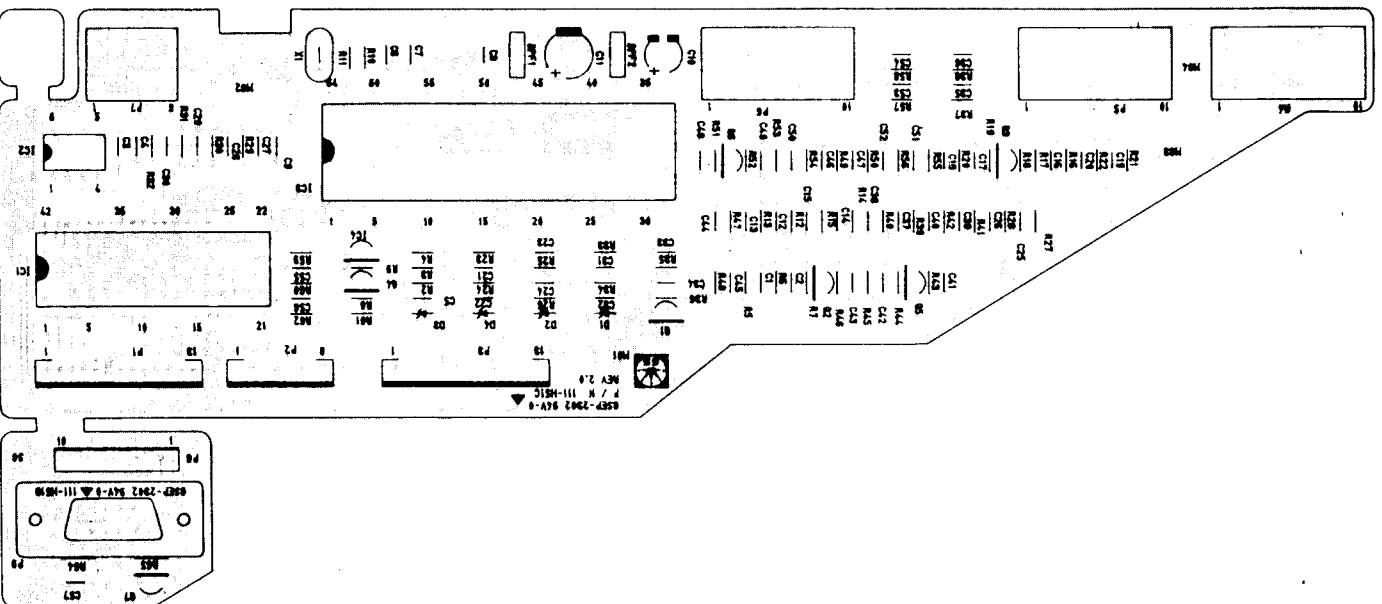
3. Video Board (Top Side)



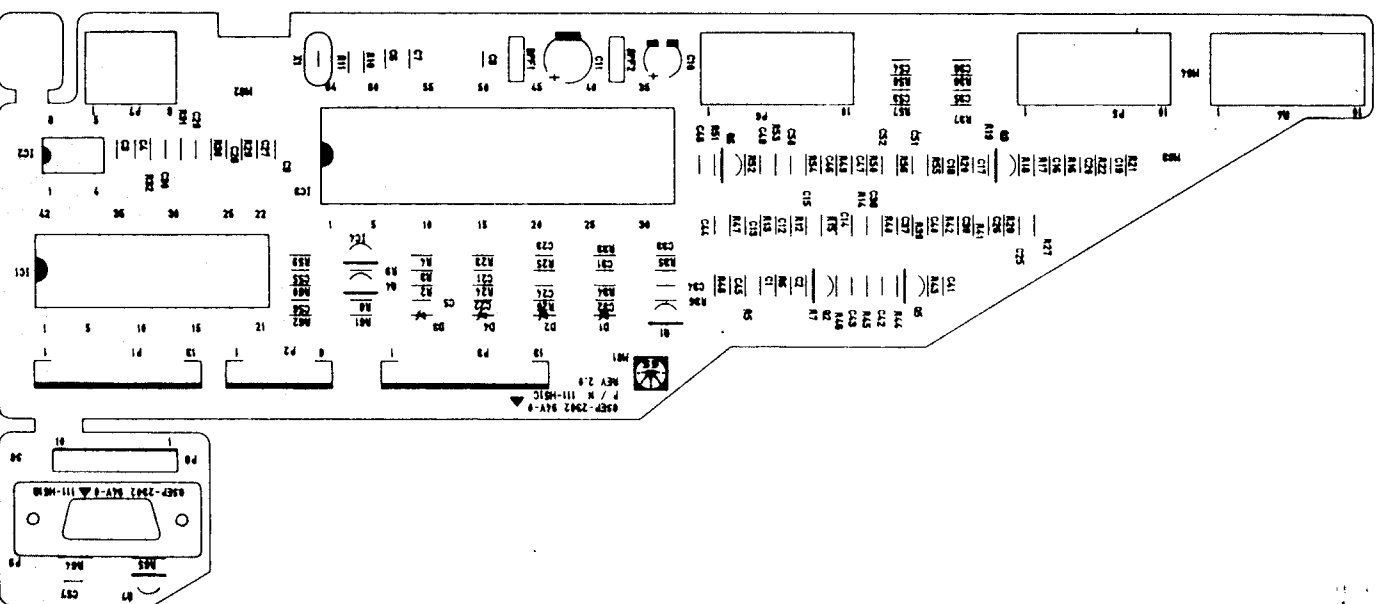
4. Video Board (Bottom Side)

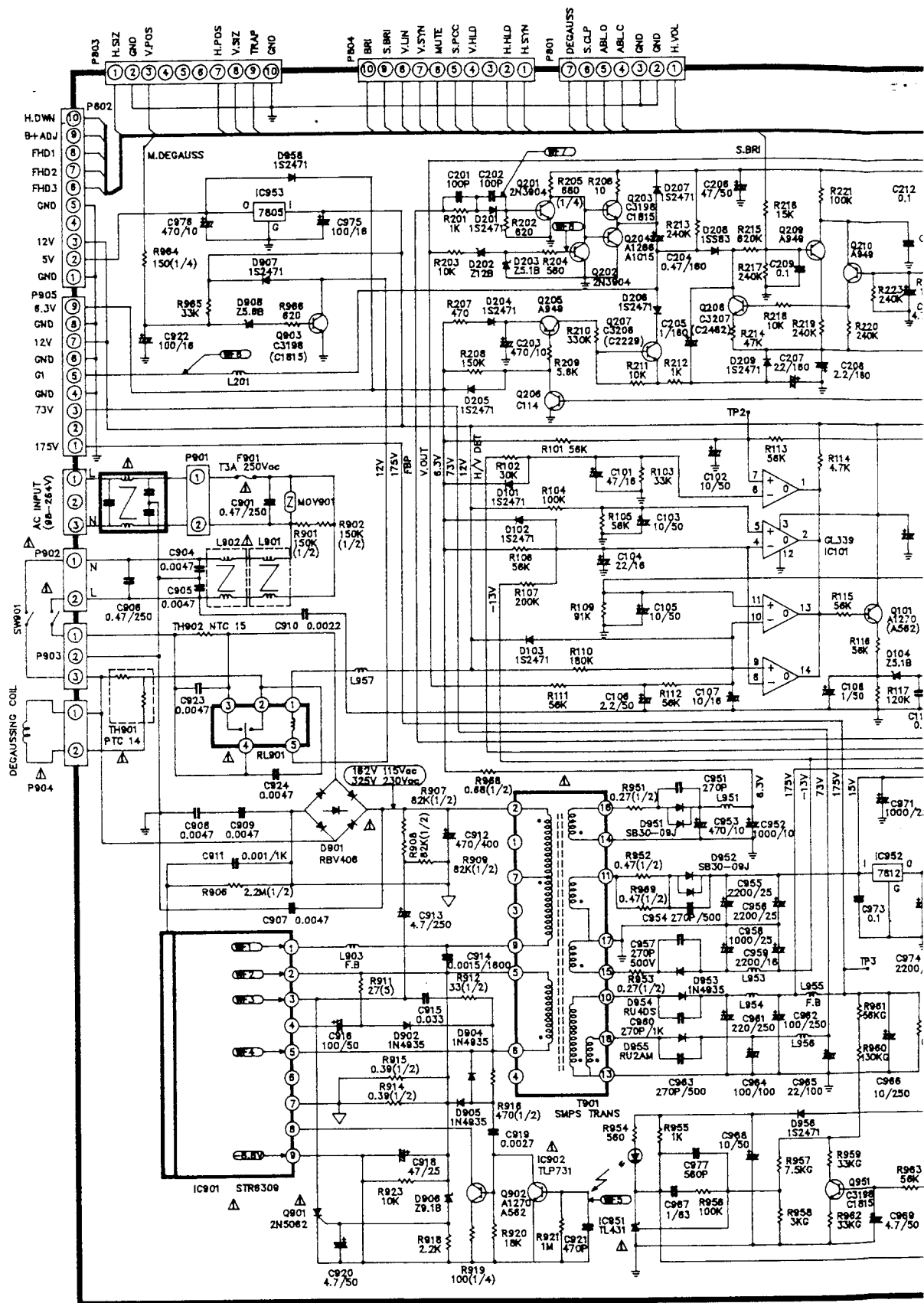


5. u-Com Board (Top Side)

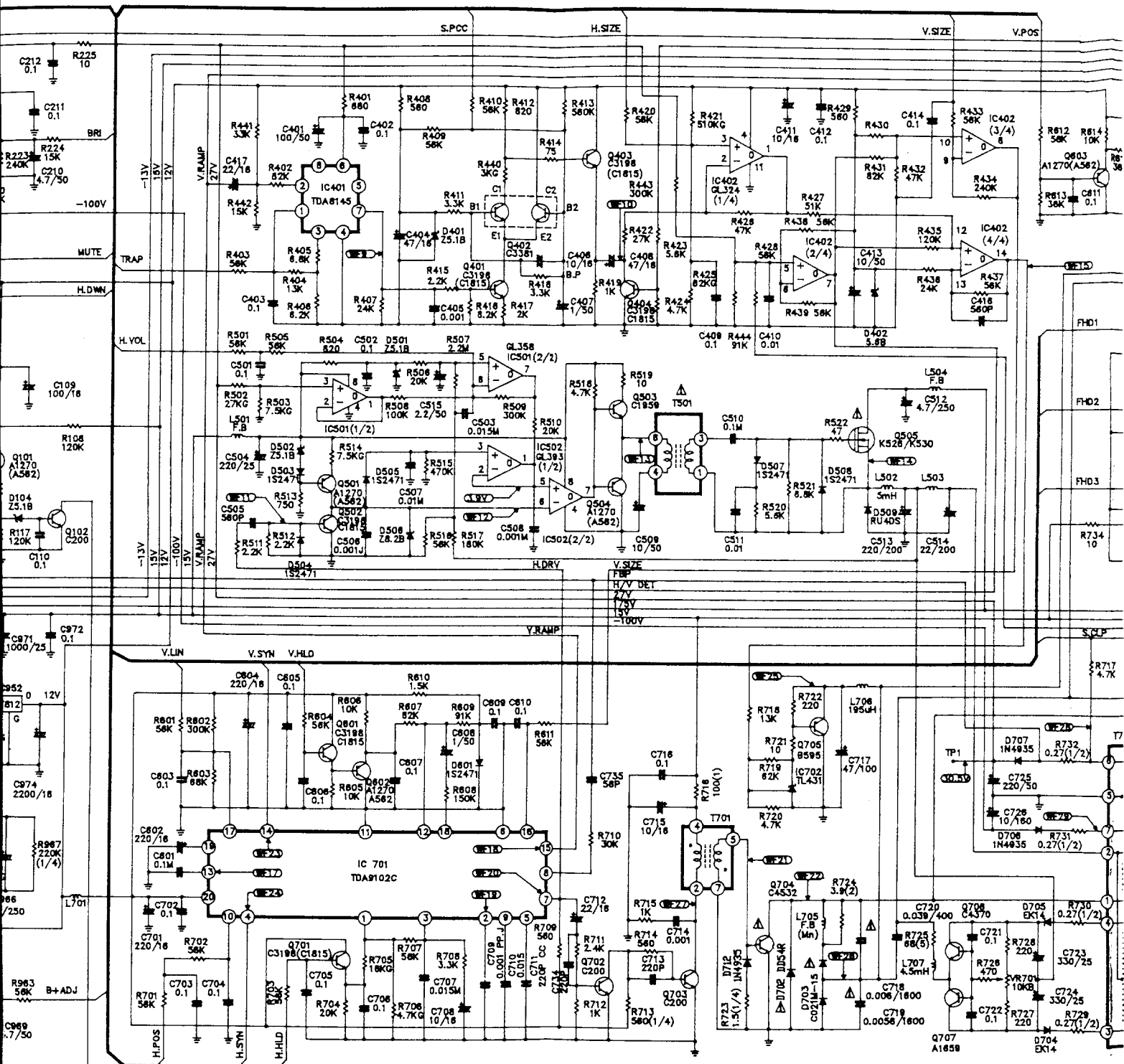


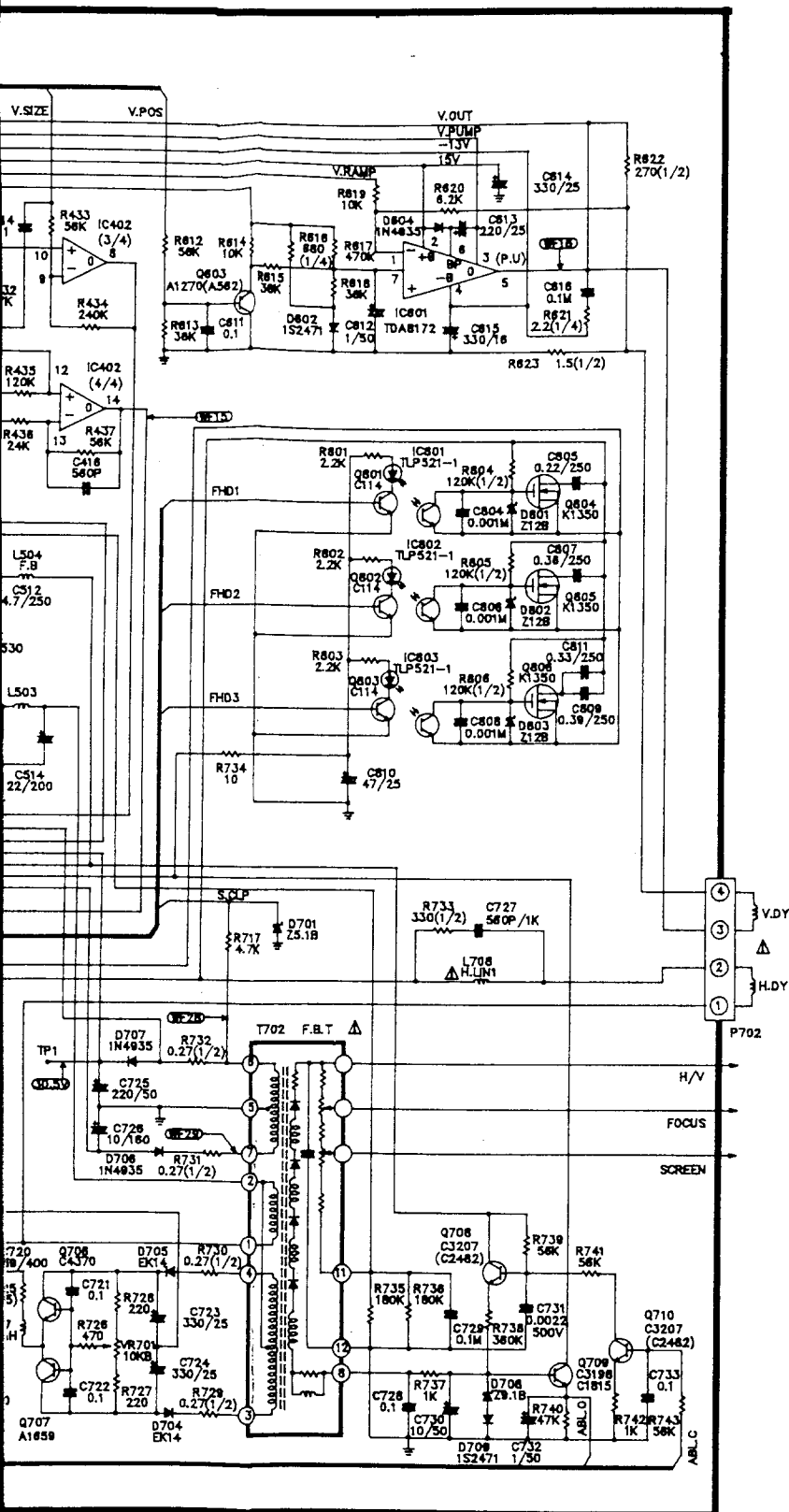
6. u-Com Board (Bottom Side)





CA-18 SCHEMATIC DIAGRAM (MAIN)









NOTES ; UNLESS OTHERWISE SPECIFIED

1. ALL RESISTORS ARE 1/8W, +/- 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

IMPORTANT SAFETY NOTICE

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 MANUFACTURERS SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE  SYMBOL MARK OF THE SCHEMATIC.

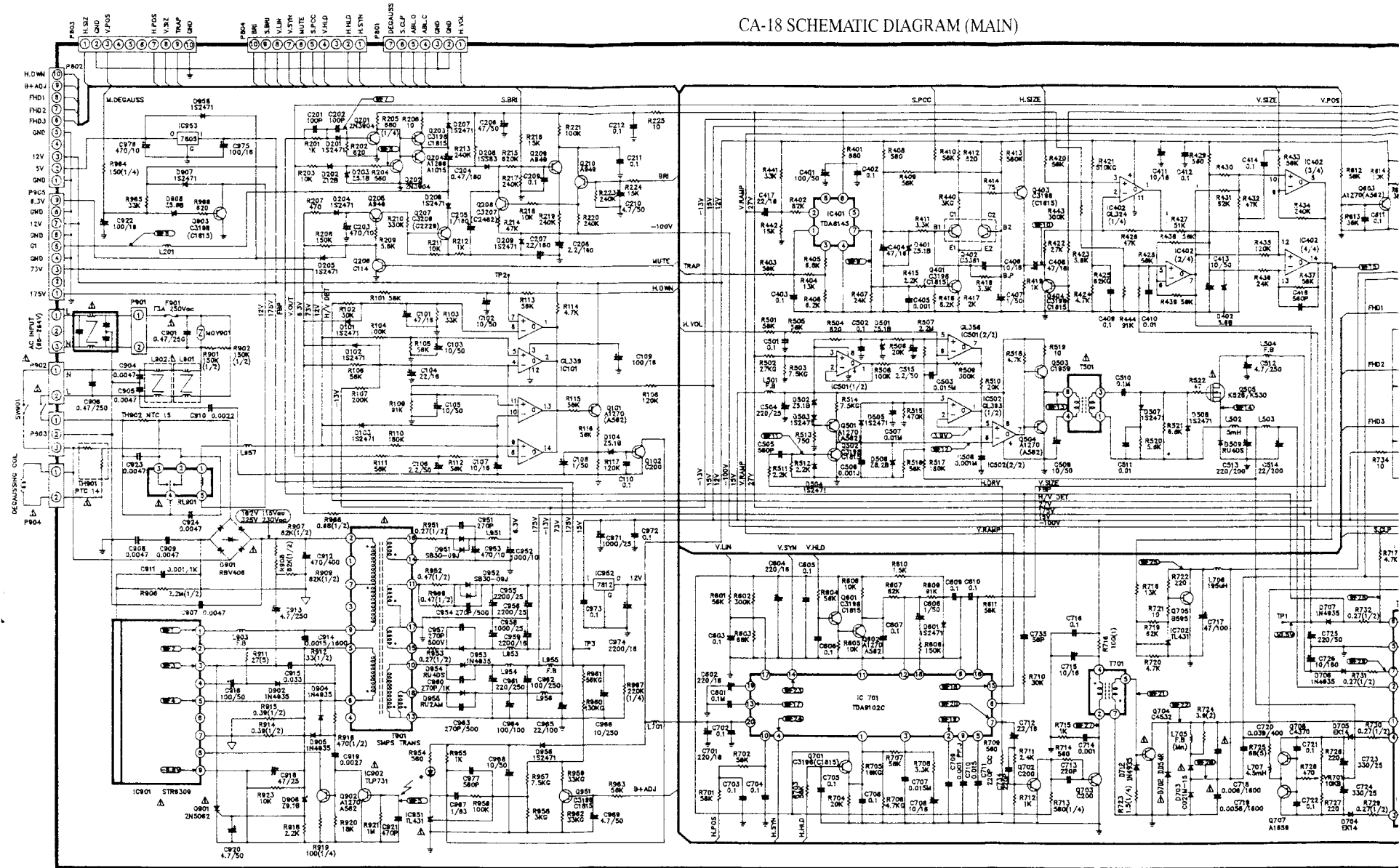
IMPORTANT AVIS SUR LA SECURITE

LA  SYMBOLE MARQUE DE CE DIAGRAMME SCHEMATIQUE COMPREND D'IMPORTANTES CARACTERISTIQUES SPECIALES CONÇUES POUR PROTÉGER DES RAYONS X, ET DES DANGERS D'INCENDIE ET DE SECOURS ELECTRIQUES. EN CAS DE BESOIN SI DES PIÉCES DE CETTE  SYMBOLE MARQUE DOIVENT ETRE REMPLACÉES N'UTILISEZ QUE DES PIÉCES SPECIFIÉES PAR LE MANUFACTURIER.

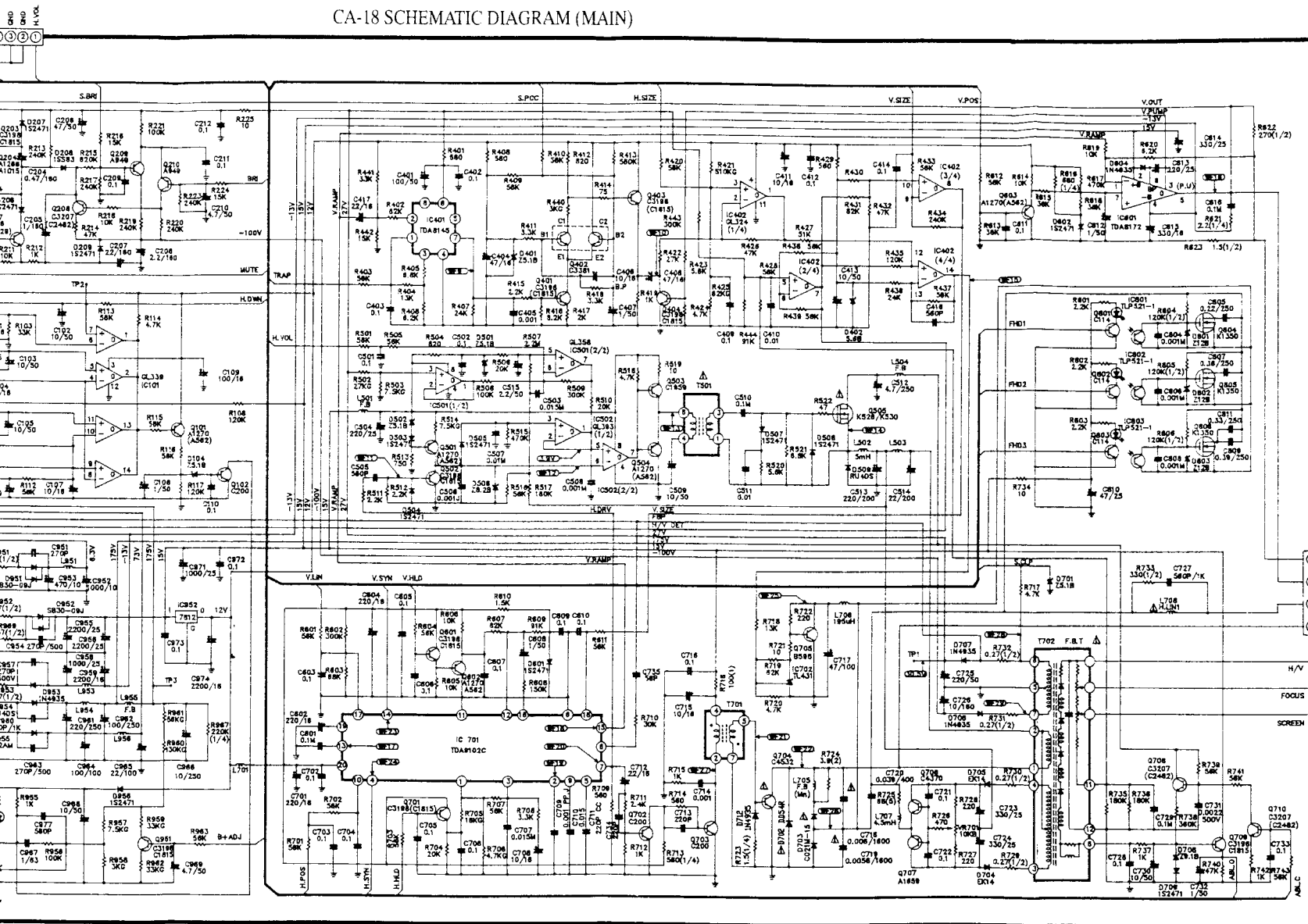
P/N : 484-342A

1992. 10. 20

CA-18 SCHEMATIC DIAGRAM (MAIN)



CA-18 SCHEMATIC DIAGRAM (MAIN)



- NOTES : UNLESS OTHERWISE SPECIFIED
1. ALL RESISTORS ARE 1/8W, $\pm 5\%$ VALUES IN OHMS
G = $\pm 2\%$, K = 1000, M = 1000000
 2. ALL CAPACITORS ARE SHOWN IN μF , $p = 10^{-12}$
 3. ALL POINT VOLTAGE ARE DC VOLTAGE

IMPORTANT SAFETY NOTICE

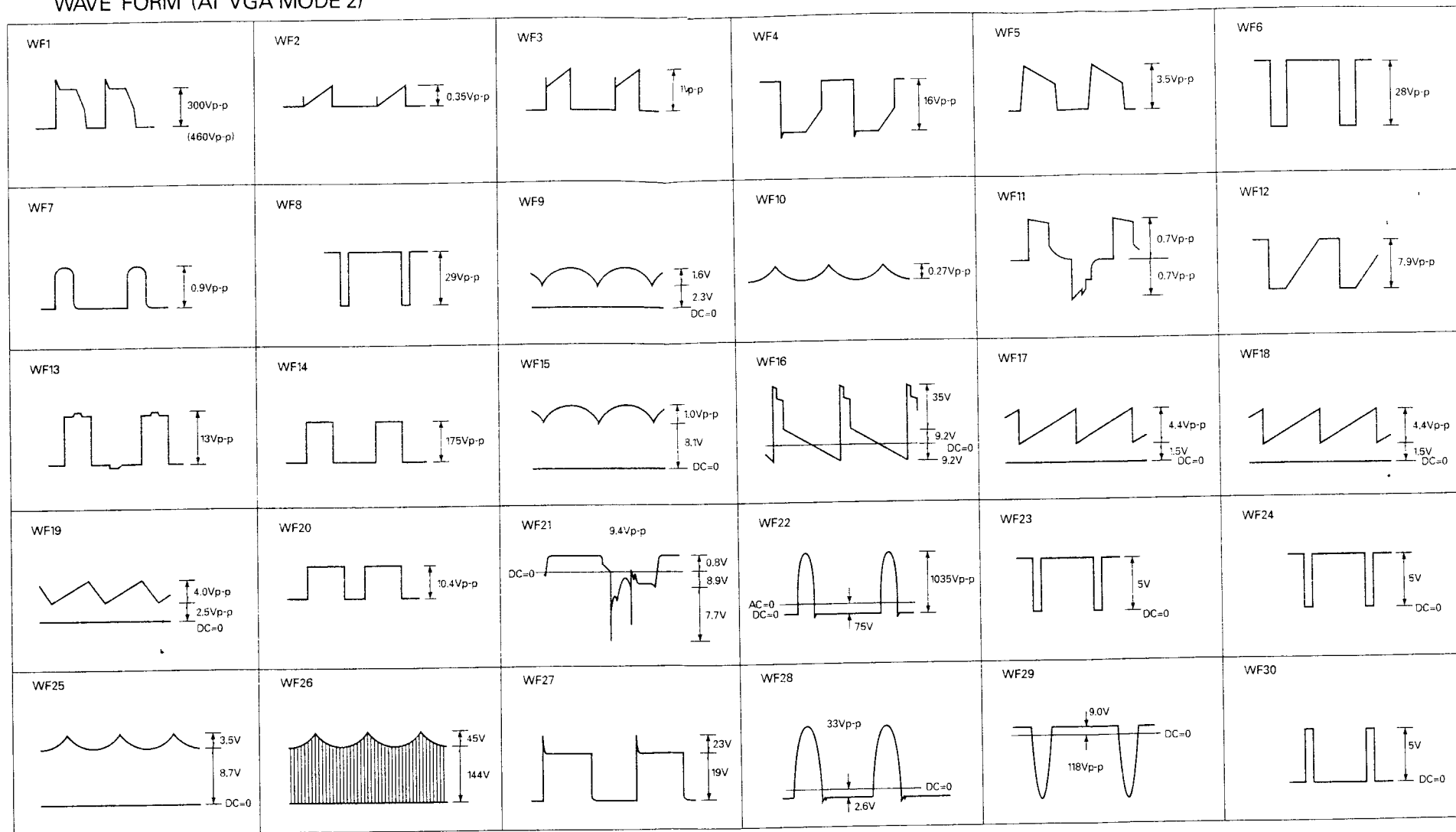
THE Δ SYMBOL MARK OF THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM X-RADIATION, FIRE AND ELECTRICAL SHOCK HAZARDS. WHEN SERVICING IT IS ESSENTIAL THAT ONLY MANUFACTURERS SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE Δ SYMBOL MARK OF THE SCHEMATIC.

IMPORTANT AINS SUR LA SÉCURITÉ

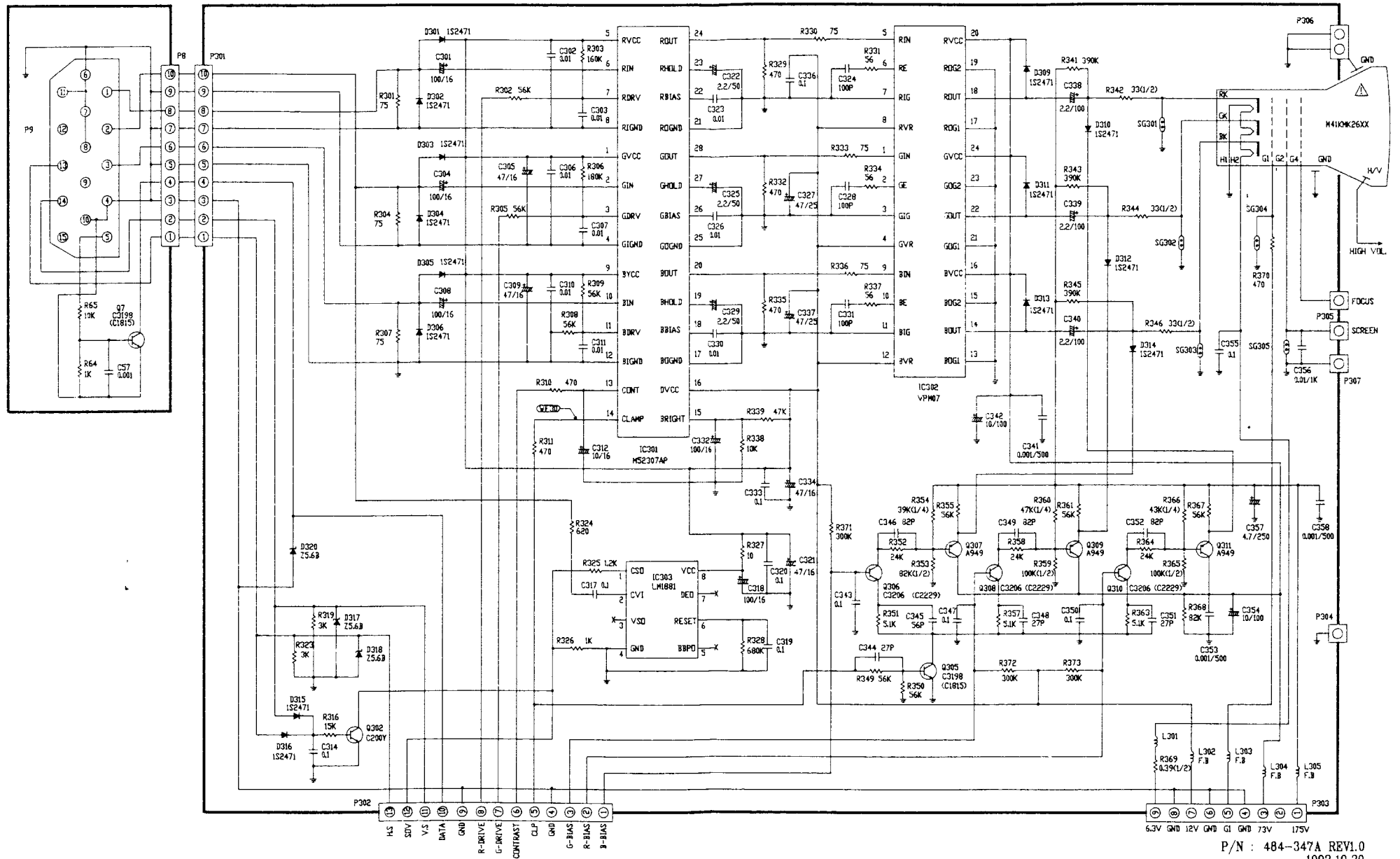
LA Δ SYMBOLE MARQUE DE CE DIAGRAMME SCHEMATIQUE COMPREND IMPORTANTES CARACTÉRISTIQUES SPÉCIALES CONÇUES POUR PROTÉGER DES RAYONS X, ET DES DANGERS INCENDIE ET DE SECOURS ÉLECTRIQUES. EN CAS DE RÉPARATION, IL EST ESSENTIEL QUE SEULES LES PIÈCES DE CE TYPE, SYMBOLE MARQUE DOIVENT ÊTRE REPLACÉES. N'UTILISEZ QUE DES PIÈCES SPÉCIFIÉES PAR LE MANUFACTURIER.

P/N : 484-342A
1992. 10. 20

WAVE FORM (AT VGA MODE 2)

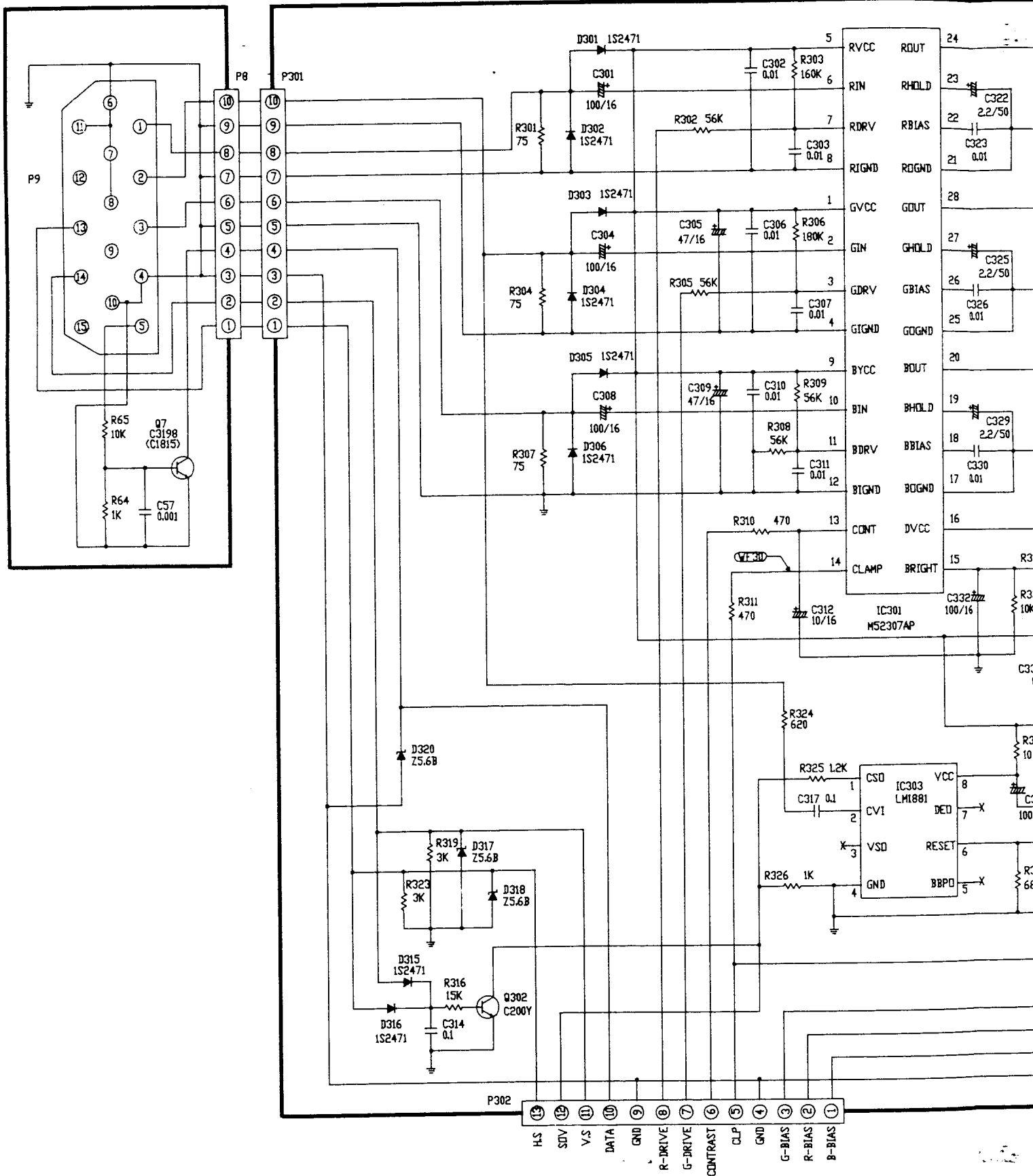


CA-18 SCHEMATIC DIAGRAM (VIDEO)

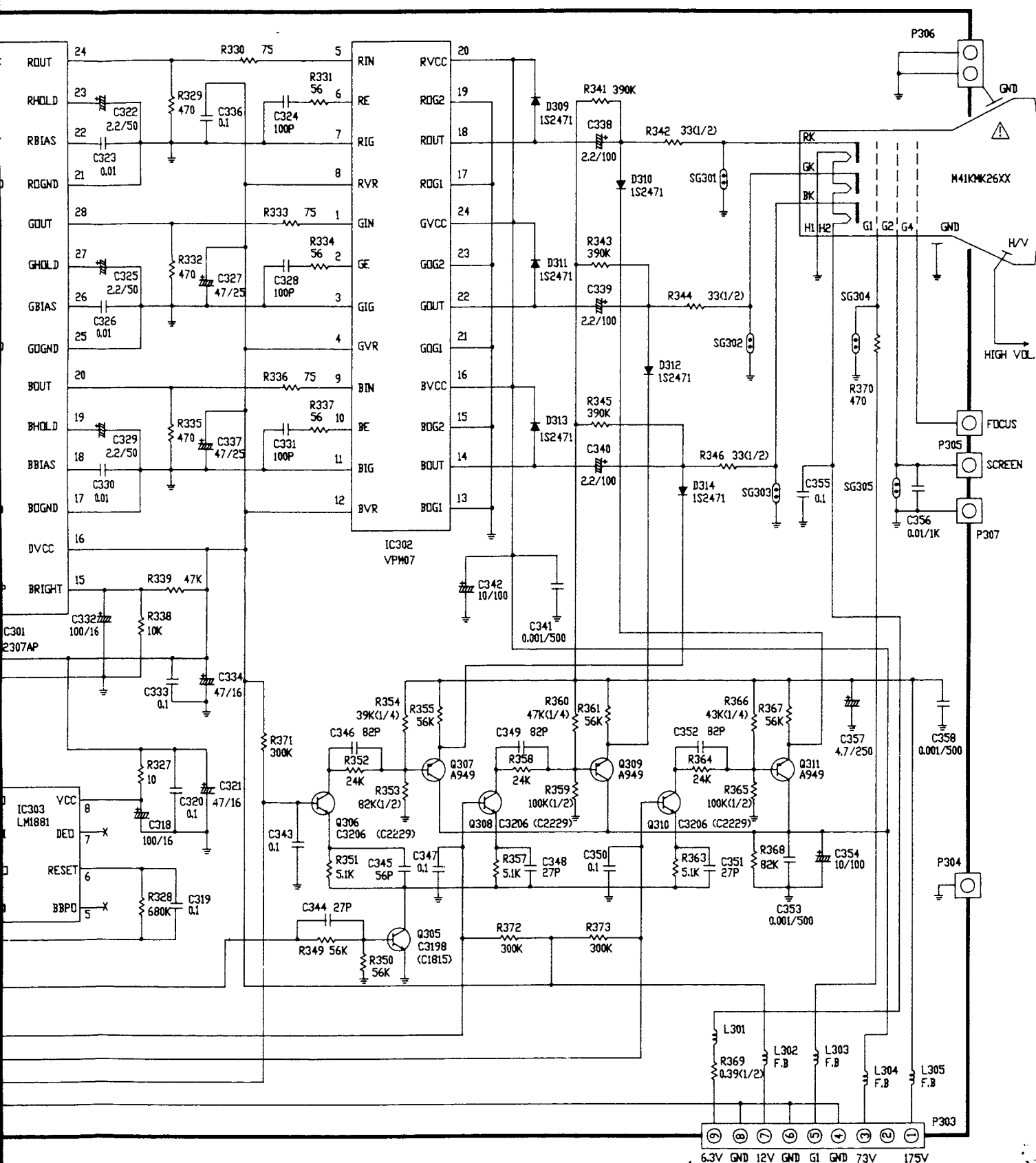


P/N : 484-347A REV1.0
1992.10.20

CA-18 SCHEMATIC DIAGRAM (VI)

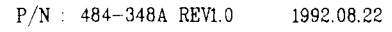


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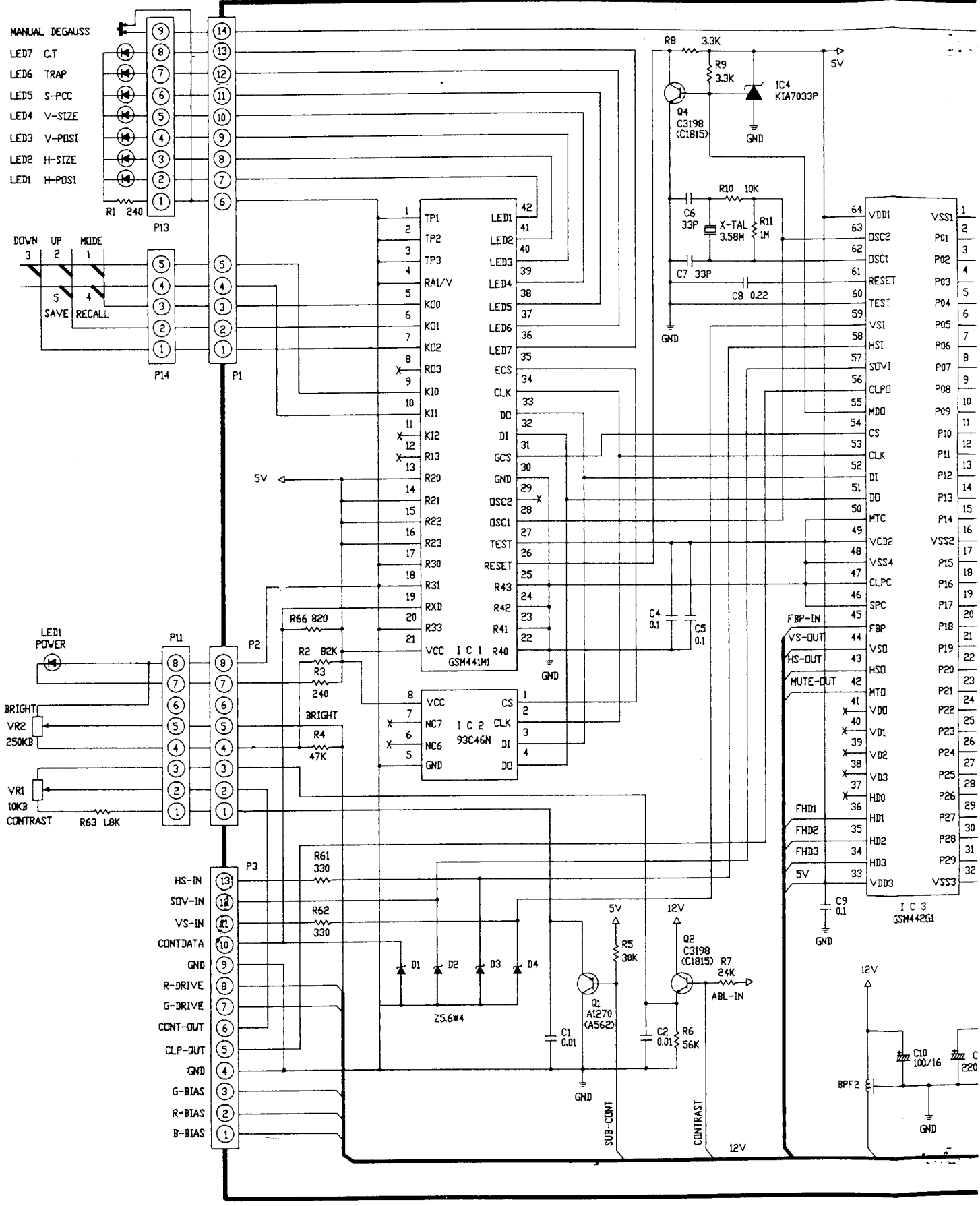


P/N : 484-347A REV1.0
1992.10.20

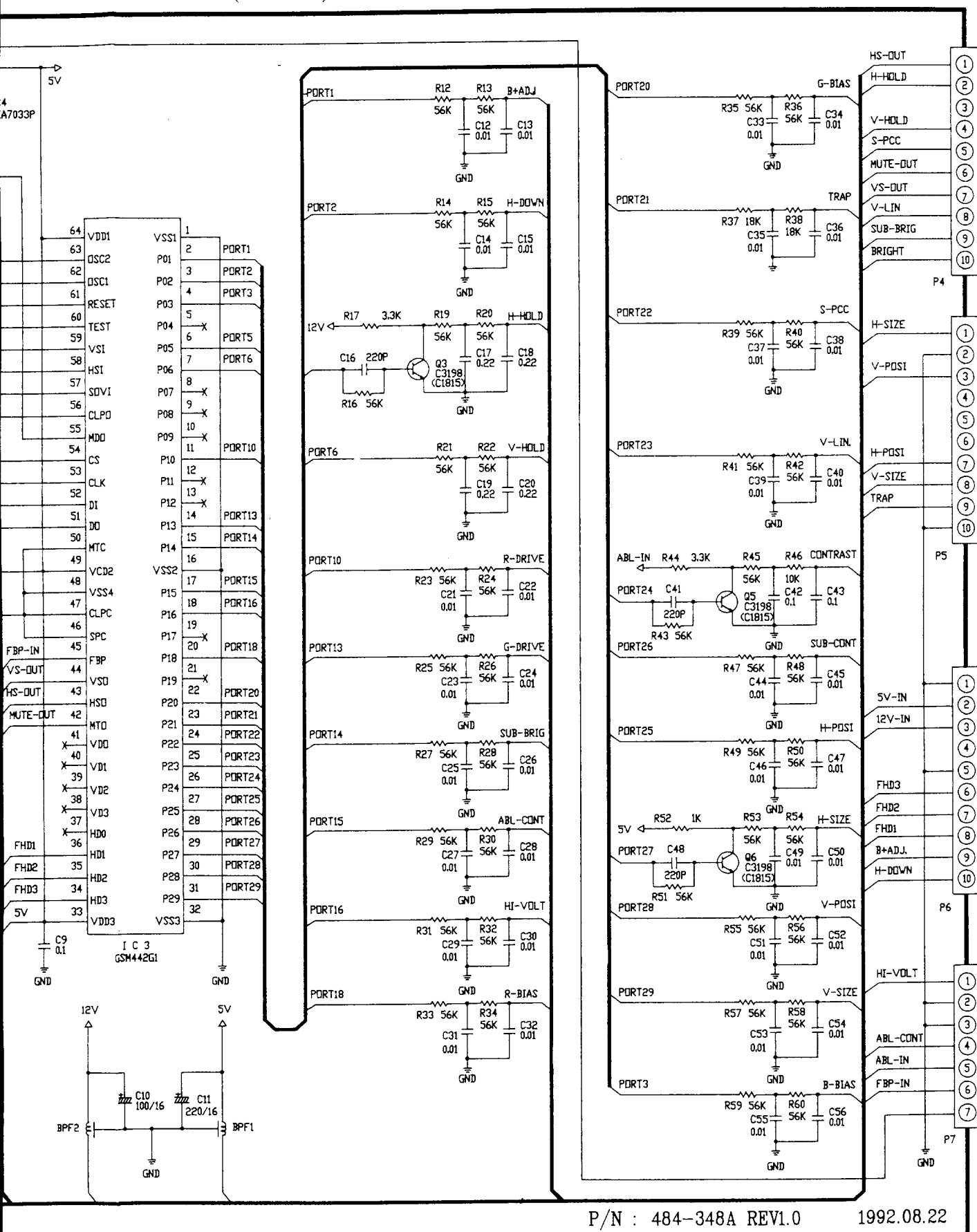
CA-18 SCHEMATIC DIAGRAM (MICOM)



CA-18 SCHEMATIC DIAGRA



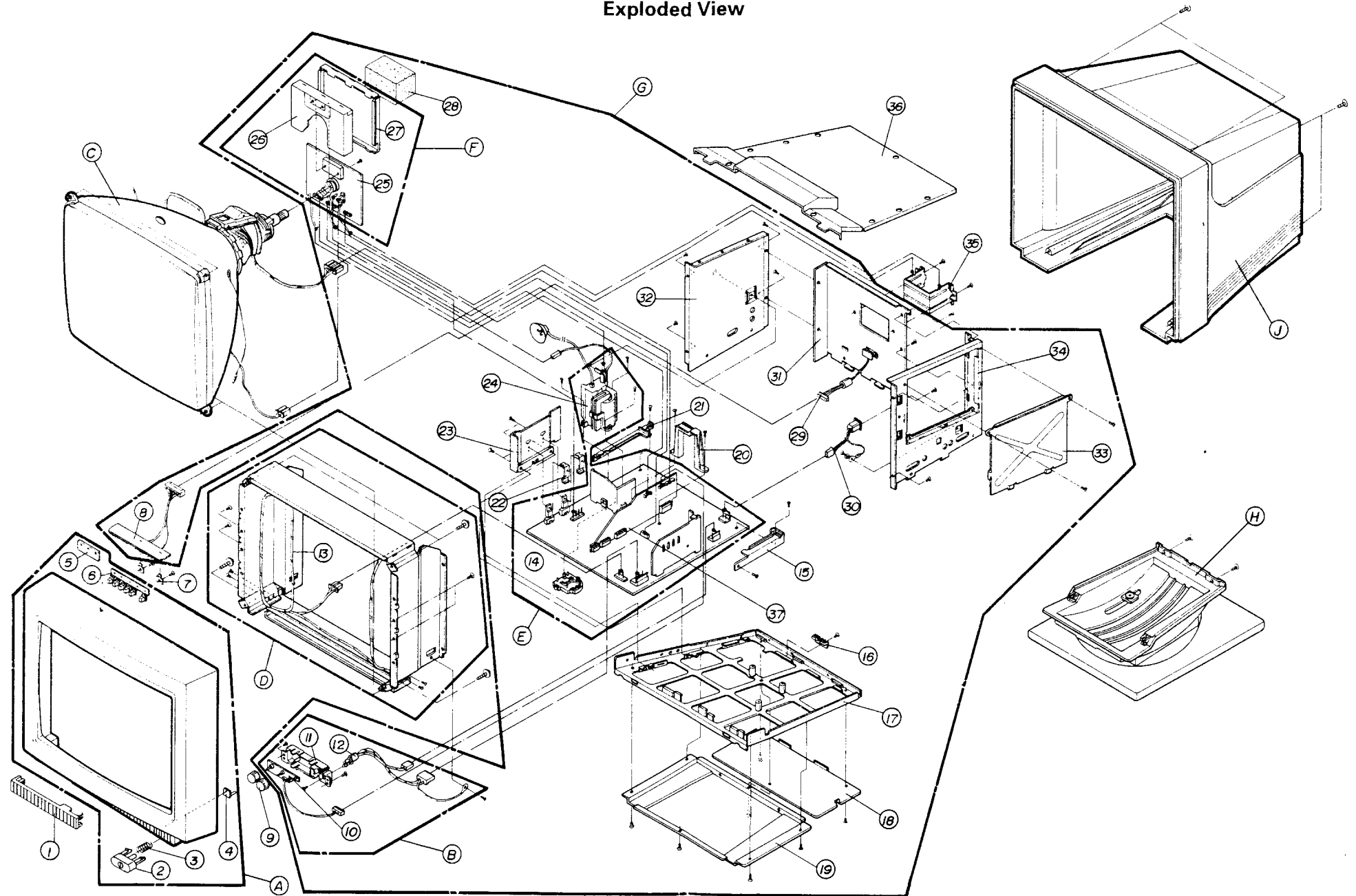
SCHEMATIC DIAGRAM (MICOM)



P/N : 484-348A REV1.0

1992.08.22

Exploded View



MATERIAL LIST

NO.	PART NO.	DESCRIPTION	Q'TY	MATERIAL	REMARK
1	315-526A	DOOR MICOM, CS730N	1	LUCKY ABS 303S	UL94V ₀
	315-551A	DOOR MICOM, CS731N/1710	1	LUCKY ABS 303S	UL94V ₀
2	440-863A	KNOB POWER, CS730N	1	LUCKY ABS 303S	UL94V ₀
	440-872A	KNOB POWER, CS731N/1710	1	LUCKY ABS 303S	UL94V ₀
3	320-160G	SPRING COIL, CS730N	1	SCST 304(T=0.4)	
	320-160F	SPRING COIL, CS731N/1710	1	SCST 304(T=0.4)	
4	316-128A	WINDOW POWER LED, CS730N	1	LUCKY PMMA IH-830	UL94HL
	316-132A	WINDOW POWER LED, CS731N/1710	1	LUCKY PMMA IH-830	UL94HB
5	316-125A	WINDOW MICOM LED	1	LUCKY PMMA IH-830	UL94HB
6	440-862A	KNOB ASSY MICOM	1	LUCKY ABS 303S	UL94V ₀
7	340-474A	BRACKET MICOM PCB	2	SBHG-I-A(T=1.0)	
8	110-U61A	PCB ASSY U-COM CONTROL	1		
9	440-840B	KNOB CONTROL	2	LUCKY ABS 303S	UL94V ₀
10	110-U60A	PCB ASSY, VOL ASSY	1		
11	341-702A	HOLDER VOLUME	1	LUCKY ABS 303S	UL94V ₀
12	387-759B	CONNECTOR ASSY	1	POWER SWITCH	
13	150-920A	COIL DEGAUSSING	1		
14	340-494A	BRACKET FBT SUPPORT	1	LUCKY ABS 303S	UL94V ₀
15	340-496A	BRACKET PCB SUP(R)	1	LUCKY ABS 303S	UL94V ₀
16	340-443A	BRACKET PDB FIX	1	LUCKY ABS 303S	UL94V ₀
17	340-468B	BRACKET MAIN	1	SBHG-I-A(T=1.0)	
18	340-469A	BRACKET BASE SHIELD	1	SBHG-I-A(T=0.5)	
19	340-470A	BRACKET T/S BASE	1	SBHG-I-A(T=1.0)	
20	340-495A	BRACKET MICOM PCB	1	LUCKY ABS 303S	UL94V ₀
21	340-496B	BRACKET PCB SUP(L)	1	LUCKY ABS 303S	UL94V ₀
22	407-N71A	PLATE IC FIX	3	SBHG-I-A(T=1.0)	
23	407-P16A	PLATE HEAT SINK	1	AL(T=2.0)	
24	154-217A	FBT	1		
25	110-U63A	PCB ASSY VIDEO	1		
26	407-N50A	PLATE HEAT SINK	1	AL(T=2.0)	
27	407-N51A	PLATE SHIELD	1	STPE(T=3.0)	
28	325-032A	CUSHION SPONGE	1	POLYURETHANE FOAM	
29	387-763F	CONNECTOR ASSY	1		
30	387-019X	CONNECTOR ASSY	1	AC SOCKET	
31	340-463B	BRACKET REAR VIDEO	1	SBHG-I-A(T=1.0)	
32	340-471B	BRACKET SIDE SHIELD	1	SBHG-I-A(T=0.5)	
33	340-467A	BRACKET SMPS SHIELD	1	SBHG-I-A(T=0.5)	
34	340-465A	BRACKET SMPS	1	SBHG-I-A(T=1.0)	
35	340-502A	BRACKET REAR SUPPORT	1	SBHG-I-A(T=0.5)	
36	340-473B	BRACKET TOP SHIELD	1	SBHG-I-A(T=0.5)	
37	110-U67A	PCB ASSY U-COM	1		
38	170-120B	LEAD SET, CRT EARTH	1		
39					
40					

NO.	PART NO.	DESCRIPTION	Q'TY	MATERIAL	REMARK
A	300-566B	CABINET ASSY, CS730N	1	LUCKY ABS RF225, AF315	UL945V
	300-A58B	CABINET ASSY, CS731N/1710	1	LUCKY ABS RF225, AF315	UL945V
B	309-345A	CHASSIS ASSY VOLUME	1		
C	112-854A	CPT	1	M41KMK26XX01	
D	312-359B	FRAME ASSY	1		
E	110-U65A	PCB ASSY MAIN	1		
F	110-U62A	PCB ASSY VIDEO	1		
G	309-434A	CHASSIS ASSY MAIN TOTAL	1		
H	231-022A	T/S ASSY	1	TOP : LUCKY ABS RF225, AF315 MIDDLE : LUCKY ABS HF350 BOTTOM : LUCKY ABS HF350	UL945V UL94HB UL94HB
J	303-G33B	COVER ASSY BRACKET	1	LUCKY ABS RF225, AF315	UL945V

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.

ABBREVIATIONS: 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.

1. MAIN BOARD

REF.NO.	PART NO.	DESCRIPTION	REMARK
CAPACITOR			
C101	OCE4766F618	CE, 47/16	R
C102	OCE1066K618	CE, 10/50	R
C103	OCE1066K618	CE, 10/50	R
C104	OCE2266F618	CE, 22/16	R
C105	OCE1066K618	CE, 10/50	R
C106	OCE2256K618	CE, 2.2/50	R
C107	OCE1066F618	CE, 10/16	R
C108	OCE1056K618	CE, 1/50	R
C109	OCE1076F618	CE, 100/16	R
C201	OCC1010K405	CC, 100P	R
C202	OCC1010K405	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	OCE4756K618	CE, 4.7/50	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	OCK1020K515	CK, 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	OCE1066K618	CE, 10/50	R
C414	OCK1040K945	CK, 0.1	R
C416	OCC5610K405	CC, 560P	R
C417	OCE2266F618	CE, 22/16	R
C501	OCK1040K945	CK, 0.1	R
C502	OCK1040K945	CK, 0.1	R
C503	OCQ1531N519	CQ, 0.015U	R
C504	OCE2276H618	CE, 220/25	R
C505	OCC5610K405	CC, 560P	R
C506	181-300A	PP, 0.001J	R
C507	OCQ1031N419	CQ, 0.01M	R
C508	OCQ1021N419	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	OCE227CQ650	CE, 220/200	R
C514	OCE226CQ618	CE, 22/200	R
C515	OCE2256K618	CE, 2.2/50	R



REF.NO.	PART NO.	DESCRIPTION	REMARK
CAPACITOR			
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	OCE2276H618	CE, 220/25	R
C614	OCE337BH638	CE, 330/25	R
C615	OCE337BF638	CE, 330/16	R
C616	181-288B	CQ, 0.1M	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	OCQ1531N519	CQ, 0.015U	R
C708	OCE1066F618	CE, 10/16	R
C709	181-300A	PP, 0.001J	R
C710	OCQ1531N519	CQ, 0.015U	R
C711	OCC2210K405	CC, 220P	R
C712	OCE2266F618	CE, 22/16	R
C713	OCC2210K405	CC, 220P	R
C714	OCQ1021N419	CQ, 0.001	R
C715	OCE1066F618	CE, 10/16	R
C716	OCK1040K945	CK, 0.1	R
C717	181-314A	CE, 47/100	S
C718	181-131S	MPP, 0.006/1600	S
C719	181-309Q	MPP, 0.0056/1600	S
C720	181-304V	MPP, 0.039J/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	OCE2276K618	CE, 220/50	R
C726	OCE1066P618	CE, 10/160	R
C727	OCK56101515	CK, 560P/1000	R
C728	OCK1040K945	CK, 0.1	R
C729	181-288B	CQ, 0.1	R
C730	OCE1066K618	CE, 10/50	R
C731	OCK2220W515	CK, 0.0022/500	R
C732	OCE1056K618	CE, 1/50	R
C733	OCK1040K945	CK, 0.1	R
C734	OCC2210K405	CC, 220P	R
C735	OCC5600K405	CC, 56P	R
C804	OCQ1021N419	CQ, 0.001M	R

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.

REF.NO.	PART NO.	DESCRIPTION	REMARK
CAPACITOR			
C805	181-305E	MPP,0.22/250	S
C806	0CQ1021N419	CQ,0.001M	S
C807	181-305U	MPP,0.36/250	S
C808	0CQ1021N419	CQ,0.001M	S
C809	181-305H	MPP,0.39/250	S
C810	0CE4766H618	CE,47/25	S
C811	181-305G	MPP,0.33/250	S
C901	181-285E	X-CAP,0.47	S
C904	181-311B	Y-CAP,472P	S
C905	181-311B	Y-CAP,472P	R
C906	181-285E	X-CAP,0.47	S
C907	181-311C	Y-CAP,472M	R
C908	181-311C	Y-CAP,472M	R
C909	181-311C	Y-CAP,472M	R
C910	181-311A	Y-CAP,222M	S
C911	0CK10201515	CK,1000P/1KV	R
C912	181-296D	CE,470/400	R
C913	0CE4751R630	CE,4.7/250	R
C914	181-309C	MPP,152/1600V	R
C915	0CQ3331N519	CQ,0.033M	R
C916	0CE1076K618	CE,100/50	R
C918	0CE4766H618	CE,47/25	R
C919	181-300F	PL,272/100	R
C920	0CE4756K618	CE,4.7/50	R
C921	0CK4710K515	CK,470P	R
C922	0CE1076F618	CE,100/16	R
C923	181-311C	Y-CAP,472M	R
C924	181-311C	Y-CAP,472M	R
C951	0CC2710K405	CC,270P	R
C952	0CE1086D618	CE,1000/10	R
C953	0CE4776D618	CE,470/10	R
C954	0CK2710W515	CK,270P/500	R
C955	0CE228CH618	CE,2200/25	R
C956	0CE228CH618	CE,2200/25	R
C957	0CK2710W515	CK,270P/500V	R
C958	0CE108CH618	CE,1000/25	R
C959	0CE228CF618	CE,2200/16	R
C960	0CK27101515	CK,270P/1000V	R
C961	0CE227CR650	CE,220/250V	R
C962	0CE107CR650	CE,100/250	R
C963	0CK2710W515	CK,270P/500	R
C964	0CE107CN618	CE,100/100	R
C965	0CE2266N618	CE,22/100V	R
C966	0CE106CR630	CE,10/250V	R
C967	181-288M	CQ,1/63	R
C968	0CE1066K618	CE,10/50	R
C969	0CE4756K618	CE,4.7/50	R
C971	0CE108CH618	CE,1000/25	R
C972	0CK1040K945	CK,0.1	R
C973	0CK1040K945	CK,0.1	R
C974	0CE228CF618	CE,2200/16	R
C975	0CE1076F618	CE,100/16	R
C976	0CE4776D618	CE,470/10	R
C977	0CC5610K405	CC,560P	R

REF.NO.	PART NO.	DESCRIPTION	REMARK
RESISTOR			
R101	ORD5602F609	RD, 1/6W 56K	R
R102	ORD3002F609	RD, 1/6W 30K	R
R103	ORD3302F609	RD, 1/6W 33K	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	ORD1203F609	RD, 1/6W 120K	R
R109	ORD9102F609	RD, 1/6W 91K	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	ORD6200F609	RD, 1/6W 620	R
R203	ORD1002F609	RD, 1/6W 10K	R
R204	ORD5600F609	RD, 1/6W 560	R
R205	ORD6800G609	RD, 1/4W 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	ORD6800F609	RD, 1/6W 680	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
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	ORD2001F609	RD, 1/6W 2K	R
R418	ORD3301F609	RD, 1/6W 3.3K	R
R419	ORD1001F609	RD, 1/6W 1K	R
R420	ORD5602F609	RD, 1/6W 56K	R
R421	ORD5103F609	RD, 1/6W 510K	R
R422	ORD2702F609	RD, 1/6W 27K	R
R423	ORD5601F609	RD, 1/6W 5.6K	R

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.

REF.NO.	PART NO.	DESCRIPTION	REMARK
RESISTOR			
R424	ORD4701F609	RD, 1/6W 4.7K	R
R425	ORD5602F509	RD, 1/6W 56KG	R
R426	ORD4702F609	RD, 1/6W 47K	R
R427	ORD5102F609	RD, 1/6W 51K	R
R428	ORD5602F609	RD, 1/6W 56K	R
R429	ORD5600F609	RD, 1/6W 560	R
R431	ORD8202F609	RD, 1/6W 82K	R
R432	ORD4702F609	RD, 1/6W 47K	R
R433	ORD5602F609	RD, 1/6W 56K	R
R434	ORD2402F609	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	ORD9102F609	RD, 1/6W 91K	R
R501	ORD5602F609	RD, 1/6W 56K	R
R502	ORD2702F509	RD, 1/6W 27KG	R
R503	ORD7501F509	RD, 1/6W 7.5KG	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	ORD7500F609	RD, 1/6W 750	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	ORD3003F609	RD, 1/6W 300K	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	ORD8202F609	RD, 1/6W 82K	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
R613	ORD3602F609	RD, 1/6W 36K	R
R614	ORD1002F609	RD, 1/6W 10K	R
R615	ORD3602F609	RD, 1/6W 36K	R
R616	ORD6800G609	RD, 1/4W 680	R
R617	ORD4703F609	RD, 1/6W 470K	R
R618	ORD3602F609	RD, 1/6W 36K	R
R619	ORD1002F609	RD, 1/6W 10K	R
R620	ORD6201F609	RD, 1/6W 6.2K	R
R621	ORD0221G609	RD, 1/4W 2.2	R
R622	ORD2700H609	RD, 1/2W 270	R
R623	ORD0151H609	RD, 1/2W 1.5	R

REF.NO.	PART NO.	DESCRIPTION	REMARK
RESISTOR			
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	ORS1000J665	RS, 1W 100	R
R717	ORD4701F609	RD, 1/6W 4.7K	R
R718	ORD1302F609	RD, 1/6W 13K	R
R719	ORD6202F609	RD, 1/6W 62K	R
R720	ORD4701F609	RD, 1/6W 4.7K	R
R721	ORD0102F609	RD, 1/6W 10	R
R722	ORD2200F609	RD, 1/6W 220	R
R723	ORD0151G609	RD, 1/4W 1.5	R
R724	ORS0391L667	RS, 3W 3.9	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	ORD3300H609	RD, 1/2W 330	R
R734	ORD0102F609	RD, 1/6W 10	R
R735	ORD1803F609	RD, 1/6W 180K	R
R736	ORD1803F609	RD, 1/6W 180K	R
R737	ORD1001F609	RD, 1/6W 1K	R
R738	ORD3603F609	RD, 1/6W 360K	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
R63	ORD1801F609	RD, 1/6W 1.8K	R
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	ORD1202H609	RD, 1/2W 120K	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	ORD8202H609	RD, 1/2W 82K	R
R911	180-465J	CEMENT, 5W 27	S
R912	ORD0332H609	RD, 1/2W 33	R
R914	ORN0390H609	RN, 1/2W 0.39	R
R915	ORN0390H609	RN, 1/2W 0.39	R
R916	ORD4700H609	RD, 1/2W 470	R
R918	ORD2201F609	RD, 1/6W 2.2K	R
R919	ORD1000G609	RD, 1/4W 100	R
R920	ORD1802F609	RD, 1/6W 18K	R
R921	ORD1004F609	RD, 1/6W 1M	R

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REF.NO.	PART NO.	DESCRIPTION	REMARK
RESISTOR			
R923	ORD1002F609	RD, 1/6W 10K	R
R951	ORN0270H609	RN, 1/2W 0.27	R
R952	ORN0470H609	RN, 1/2W 0.47	R
R953	ORN0270H609	RN, 1/2W 0.27	R
R954	ORD5600F609	RD, 1/6W 560	R
R955	ORD1001F609	RD, 1/6W 1K	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	ORD1303F509	RD, 1/6W 130KG	R
R961	ORD5602F509	RD, 1/6W 56KG	R
R962	ORD3302F509	RD, 1/6W 33KG	R
R963	ORD5602F609	RD, 1/6W 56K	R
R964	ORD1500G609	RD, 1/4W 150	R
R965	ORD3302F609	RD, 1/6W 33K	R
R966	ORD6200F609	RD, 1/4W 620	R
R967	ORD2203G609	RD, 1/4W 220K	R
R968	ORN0680H609	RD, 1/2W 0.68	R
R969	ORN0470H609	RN, 1/2W 0.47	R
R1	ORD2400F609	RD, 1/6W 240	R
TRANSISTOR			
Q101	QTR127009AA	KTA1270	R
Q102	QTR200009AB	KTC200Y	R
Q201	QTR390409AA	2N3904	R
Q202	QTR390409AA	2N3904	R
Q203	QTR319809AA	KTC3198	R
Q204	QTR126609AA	KTA1266	R
Q205	QTR949009AA	KTA949	R
Q206	QTR114009AB	DTC114ES	R
Q207	QTR320609AB	KTC3206	R
Q208	QTR320709AA	KTC3207	R
Q209	QTR949009AA	KTA949	R
Q210	QTR949009AA	KTA949	R
Q401	QTR319809AA	KTC3198	R
Q402	QTR338100AA	2SC3381-BL	R
Q403	QTR319809AA	KTC3198	R
Q404	QTR319809AA	KTC3198	R
Q501	QTR127009AA	KTA1270	R
Q502	QTR319809AA	KTC3198	R
Q503	QTR195909AA	KTC1959	R
Q504	QTR127009AA	KTA1270	R
Q505	QTF526000AA	FET, 2SK526	R
Q601	QTR319809AA	KTC3198	R
Q602	QTR127009AA	KTA1270	R
Q603	QTR127009AA	KTA1270	R
Q701	QTR319809AA	KTC3198	R
Q702	QTR200009AB	KTC200Y	R
Q703	QTR200009AB	KTC200Y	R
Q704	QTR453200AA	2SC4532	R
Q705	QTR595000AB	KT8595-0	R
Q706	QTR437000AA	KTC4370Y	R
Q707	QTR165900AA	KTA1659Y	R
Q708	QTR320709AA	KTC3207	R
Q709	QTR319809AA	KTC3198	R
Q710	QTR320709AA	KTC3207	R
Q801	QTR114009AB	DTC114ES	R
Q802	QTR114009AB	DTC114ES	R
Q803	QTR114009AB	DTC114ES	R
Q804	QTR135000AA	2SK1350	R
Q805	QTR135000AA	2SK1350	R

REF.NO.	PART NO.	DESCRIPTION	REMARK
TRANSISTOR			
Q806	QTR135000AA	2SK1350	R
Q901	QTR506209AA	SCR, 2N5062	R
Q902	QTR127009AA	KTA1270	R
Q903	QTR319809AA	KTC3198	R
Q951	QTR319809AA	KTC3198	R
DIODE			
D101	ODD247109AA	DD, 1S2471	R
D102	ODD247109AA	DD, 1S2471	R
D103	ODD247109AA	DD, 1S2471	R
D104	ODZ510009AB	DZ, MT25.1B	R
D201	ODD247109AA	DD, 1S2471	R
D202	ODZ120009AA	DZ, MT212B	R
D203	ODZ510009AB	DZ, MT25.1B	R
D204	ODD247109AA	DD, 1S2471	R
D205	ODD247109AA	DD, 1S2471	R
D206	ODD247109AA	DD, 1S2471	R
D207	ODD247109AA	DD, 1S2471	R
D208	ODD830009AA	DD, 1S83	R
D209	ODD247109AA	DD, 1S2471	R
D401	ODZ510009AB	DZ, MT25.1B	R
D402	ODZ560009AA	DZ, MT25.6B	R
D501	ODZ510009AB	DZ, MT25.1B	R
D502	ODZ510009AB	DZ, MT25.1B	R
D503	ODD247109AA	DD, 1S2471	R
D504	ODD247109AA	DD, 1S2471	R
D505	ODD247109AA	DD, 1S2471	R
D506	ODZ820009AA	DZ, MT28.2B	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
D604	ODD493509AA	DD, 1N4935	R
D701	ODZ510009AB	DZ, MT25.1B	R
D702	ODD540000BA	DD, DD54RC	R
D703	ODD200000DA	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	ODZ910009BA	DZ, MT29.1B	R
D709	ODZ910009BA	DZ, MT29.1B	R
D712	ODD493509AA	DD, 1N4935	R
D801	ODZ120009AA	DZ, MT212B	R
D802	ODZ120009AA	DZ, MT212B	R
D803	ODZ120009AA	DZ, MT212B	R
D901	ODD406000AA	DD, RBV406	R
D902	ODD493509AA	DD, 1N4935	R
D904	ODD493509AA	DD, 1N4935	R
D905	ODD493509AA	DD, 1N4935	R
D906	ODZ910009BA	DZ, MT29.1B	R
D907	ODD247109AA	DD, 1S2471	R
D908	ODZ560009AA	DZ, MT25.6B	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
D958	ODD247109AA	DD, 1S2471	R

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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
IC801	01T0521100A	IC, TLP521-1	R
IC802	01T0521100A	IC, TLP521-1	R
IC803	01T0521100A	IC, TLP521-1	R
IC901	01SK630900A	IC, STR6309	R
IC902	01T0731000A	IC, TLP731	R
IC951	01KE431000A	IC, TL431	R
IC952	01GS781200A	IC, GL7812	R
IC953	01GS780500A	IC, GL7805	R
PIN & CONNECTOR			
P702	366-043D	PIN, PLUG 4P	S
P801	366-920F	PIN, GIL-7P	S
P802	366-920J	PIN, GSC-10P	S
P803	366-920J	PIN, GSC-10P	S
P804	366-920J	PIN, GSC-10P	S
P901	366-059A	PIN, MOLEX5096	R
P902	366-059A	PIN, MOLEX5096	R
P903	366-059B	PIN, MOLEX5096	R
P904	366-112B	PIN, PLUG 2P	R
P905	387-780B	CONNECTOR ASSY	S
P11/P2	387-779A	CONNECTOR ASSY	S
P13/P14	387-779B	CONNECTOR ASSY	S
SW901	387-759B	SWITCH ASSY	S
TRANS			
T501	151-414E	D/D PULSE TRANS	S
T701	151-396D	H.DRIVE TRANS	S
T702	154-217A	F.B.T (2437121)	S
T901	151-413A	SMPS TRANS	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
L705	125-054C	FERRITE	S
L706	150-885B	H-SIZE, 195uH	S
L707	150-539G	H-CENTER, 4.5mH	S
L708	150-370H	COIL, H-LIN	S
L901	150-314F	LINE FILTER	S
L902	150-314F	LINE FILTER	S
L903	125-022J	FERRITE, KQ-1	R
L951	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
L957	150-288A	COIL, TLN2026	S
OTHERS			
D-COIL	150-920A	DEGAUSSING COIL	S
F901	0FT3001B512	FUSE, 250V/3A	S
TH901	163-035D	TH, PTC 14	S
TH902	163-046B	TH, NTC 15	S
VR701	180-037N	VR, 10KB	S
VR1	180-185A	10KB K121L	S
VR2	180-185E	250KB K121L	S
SW1	140-058A	TACT SWITCH	S
SW2	140-058A	TACT SWITCH	S
SW3	140-058A	TACT SWITCH	S
SW4	140-058A	TACT SWITCH	S
SW5	140-058A	TACT SWITCH	S
SW6	140-058A	TACT SWITCH	S
MOV901	164-015A	VARISTER	S
RL901	141-027A	RELAY, G2R-1	R
PCB	111-J09A	PCB, MAIN	S
PCB	111-J38A	PCB, BRI/CONT	S
PCB	111-J39A	PCB, U-COM	S
CDT	112-854A	M41KMK26XX	S

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2. 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	OCC3300K405	CC, 33P	R
C7	OCC3300K405	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	OCC2210K405	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	OCC2210K405	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	OCC2210K405	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	ORD3002F609	RD, 1/6W 30K	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	ORD5602F609	RD, 1/6W 56K	R
R30	ORD5602F609	RD, 1/6W 56K	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	ORD1002F609	RD, 1/6W 10K	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

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Don't degrade the safety of the receiver improper servicing.

3. VIDEO BOARD

REF.NO.	PART NO.	DESCRIPTION	REMARK
LED			
LED1	ODL124000AA	KLG124E H-POS1	S
LED2	ODL124000AA	KLG124E H-SIZE	S
LED3	ODL124000AA	KLG124E V-POS1	S
LED4	ODL124000AA	KLG124E V-SIZE	S
LED5	ODL124000AA	KLG124E S-PCC	S
LED6	ODL124000AA	KLG124E TRAP	S
LED7	ODL124000AA	KLG124E C.T	S
LED8	ODL113000AA	KLG113L POWER	S
DIODE			
D1	ODZ560009AA	DZ, MT25.6B	R
D2	ODZ560009AA	DZ, MT25.6B	R
D3	ODZ560009AA	DZ, MT25.6B	R
D4	ODZ560009AA	DZ, MT25.6B	R
IC			
IC1	OIH1442100A	GSM442M1 REV. 1	S
IC2	OINS934600C	NM93C46W	R
IC3	OIGS442100A	GSM442G1	S
IC4	OIKE703300B	KIA7033P	R
PIN & CONNECTOR			
P1	366-155W	GIL-S-14P	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	382-114F	GIL-D(SIDE) 7S	S
P8	387-763F	CONNECTOR ASSY	S
P9	381-212A	DHSI-15UNT4	S
TRANSISTOR			
Q1	OTR127009AA	KTA1270	R
Q2	OTR319809AA	KTC3198	R
Q3	OTR319809AA	KTC3198	R
Q4	OTR319809AA	KTC3198	R
Q5	OTR319809AA	KTC3198	R
Q6	OTR319809AA	KTC3198	R
Q7	OTR319809AA	KTC3198	R
OTHERS			
X1	156-010A	CSA3.58MG000TF	S
PCB	111-H51D	u-COM/SIGNAL	S
BPF1	166-139U	1H 104MF	S
BPF2	166-139U	1H 104MF	S

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	ORD1803F609	RD, 1/6W 180K	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
R316	ORD1502F609	RD, 1/6W 15K	R
R319	ORD3001F609	RD, 1/6W 3K	R
R323	ORD3001F609	RD, 1/6W 3K	R
R324	ORD6200F609	RD, 1/6W 620	R
R325	ORD1201F609	RD, 1/6W 1.2K	R
R326	ORD1001F609	RD, 1/6W 1K	R
R327	ORD0102F609	RD, 1/6W 10	R
R328	ORD6803F609	RD, 1/6W 680K	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	ORD3903F609	RD, 1/6W 390K	R
R342	ORD0332H609	RD, 1/2W 33	R
R343	ORD3903F609	RD, 1/6W 390K	R
R344	ORD0332H609	RD, 1/2W 33	R
R345	ORD3903F609	RD, 1/6W 390K	R
R346	ORD0332H609	RD, 1/2W 33	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	ORD4302G609	RD, 1/4W 43K	R
R367	ORD5602F609	RD, 1/6W 56K	R
R368	ORD8202F609	RD, 1/6W 82K	R
R369	ORN0390H609	RN, 1/2W 0.39	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

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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
C314	OCK1040K945	CK, 0.1	R
C317	OCK1040K945	CK, 0.1	R
C318	OCE1076F618	CE, 100/16	R
C319	OCK1040K945	CK, 0.1	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	OCK1010K405	CC, 100P	R
C325	OCE225BK638	CE, 2.2/50	S
C326	OCK1030K945	CK, 0.01	R
C327	OCE4768H638	CE, 47/25	R
C328	OCK1010K405	CC, 100P	R
C329	OCE225BK638	CE, 2.2/50	S
C330	OCK1030K945	CK, 0.01	R
C331	OCK1010K405	CC, 100P	R
C332	OCE1078F638	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	OCE225BN638	CE, 2.2/100	R
C339	OCE225BN638	CE, 2.2/100	R
C340	OCE225BN638	CE, 2.2/100	R
C341	OCK1020W515	CK, 0.001/500	R
C342	OCE1068N638	CE, 10/100	S
C343	OCK1040K945	CK, 0.1	R
C344	OCK2700K405	CC, 27P	R
C345	OCK5600K405	CC, 56P	R
C346	OCK8200K405	CC, 82P	R
C347	OCK1040K945	CK, 0.1	R
C348	OCK2700K405	CC, 27P	R
C349	OCK8200K405	CC, 82P	R
C350	OCK1040K945	CK, 0.1	R
C351	OCK2700K405	CC, 27P	R
C352	OCK8200K405	CC, 82P	R
C353	OCK1020W515	CK, 0.001/500	R
C354	OCE1068N638	CE, 10/100	S
C355	OCK1040K945	CK, 0.1	R
C356	OCK10301510	CK, 0.01/1K	R
C357	OCE4751R630	CE, 4.7/250	R
C358	OCK1020W515	CK, 0.001/500	R
IC			
IC301	O1M1523070A	IC, M52307P	R
IC302	O1SA070000A	IC, VPM07	R
IC303	O1NS188100A	IC, LM1881N	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
D315	ODD247109AA	DD, 1S2471	R
D316	ODD247109AA	DD, 1S2471	R
D317	ODZ560009AA	DZ, MT25.6B	R
D318	ODZ560009AA	DZ, MT25.6B	R
D320	ODZ560009AA	DZ, MT25.6B	R
TRANSISTOR			
Q302	OTR200009AB	KTC200-Y	R
Q305	OTR319809AA	KTC3198-Y	R
Q306	OTR222909AB	KTC2229-Y	R
Q307	OTR949009AA	KTA949-Y	R
Q308	OTR222909AB	KTC2229-Y	R
Q309	OTR949009AA	KTA949-Y	R
Q310	OTR222909AB	KTC2229-Y	R
Q311	OTR949009AA	KTA949-Y	R
COIL			
L301	150-288A	COIL, TLN2026	S
L302	125-022J	FERITE KQ-1	R
L303	125-022J	FERITE KQ-1	R
L304	125-022J	FERITE KQ-1	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	387-744E	CONNECTOR ASSY	S
P307	387-744E	CONNECTOR ASSY	S
OTHERS			
SOCKET PCB	381-094B 111-H53A	CDT SOCKET VIDEO PCB CA-18	R S