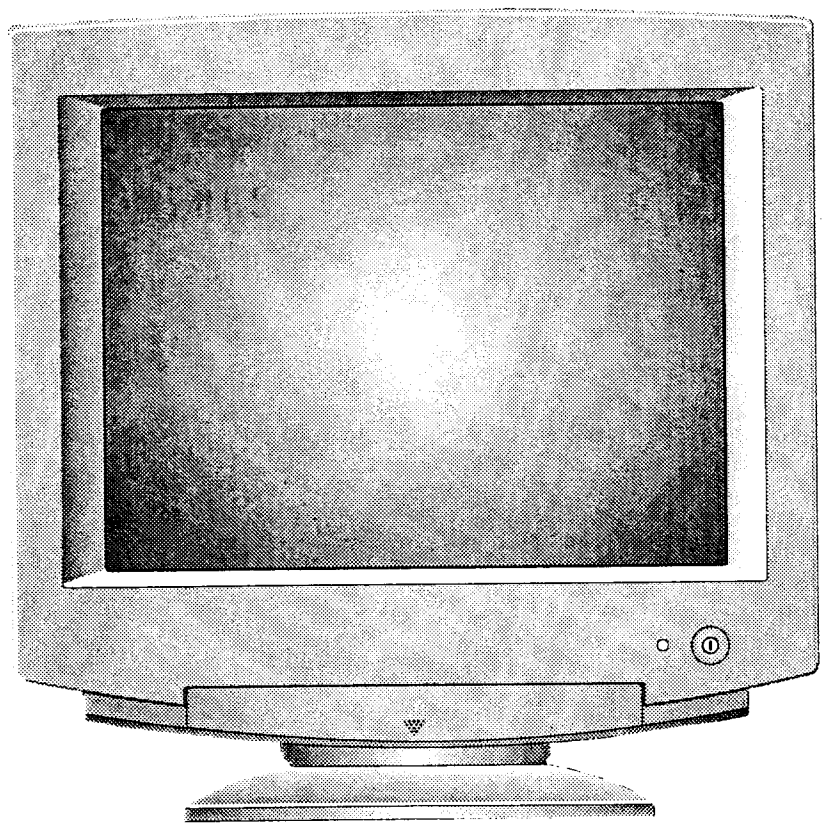
HEWLETT PACKARD

15" SUPER VGA COLOR MONITOR

SERVICE MANUAL

TEXEL

SAMTRON —— SC528TXL



Contents

1. Specification

Classification	Specification
Picture tube	15 Inches diagonal 90 degree deflection, 0.28mm dot pitch, black matrix
Input signal	Video : 0.7Vp-p Analog level positive Sync : TTL level
Display colors	Any Color
Synchronization	Horizontal : 30~48KHz(Automatically) Vertical : 50~100Hz(Automatically)
Resolution	640 dots(H) × 400Lines 640 dots(H) × 480Lines 800 dots(H) × 600Lines 1024 dots(H) × 768Lines
Video band width	60MHz
Display area	Horizontal : 260 ± 5mm Vertical : 195 ± 5mm
Ac input voltage	AC 88~264V
Power consumption	MAX. 70W
Dimension	356(W) × 368(H) × 379.5(L)mm
Weight	14Kg Net, 16kg Gross

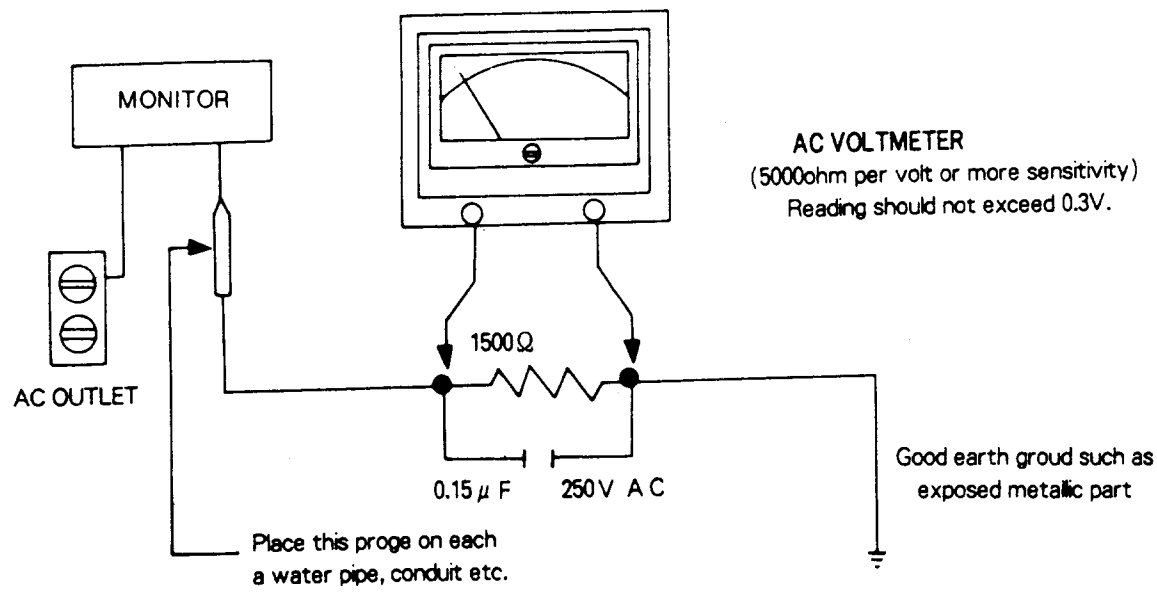
[Notice]

The information contained in this document is subject to change without notice.

2. Safety Precautions

WARNING : Service should not be attempted by anyone unfamiliar with the necessary precautions on this unit.
The following precautions are necessary during servicing.

1. Some parts such as a picture tube in this unit have special safety-related characteristics for X-RAY RADIATION protection.
   For continued safety, the parts replacement should be undertaken referring to item 2 below.
2. Many electrical and mechanical parts in this unit have special safety-related characteristics for protection against shock hazard and others.
   These characterstics are often passed unnoticed by a visual inspection and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage wattage, etc.
   Replacement parts which have these special characteristics are identified in the manual and supplements by shading on the schematic diagram and the parts list.
   Before replacing of these components read the parts list in this manual carefully
3. When replacing chassis in the cabinet, always be certain that all the protective devices are installed properly, such as insulating covers, strain relief, etc.
4. Before replacing the back cover of the set, thoroughly inspect inside the cabinet to see that no stray parts or tools have been left inside.
5. Before returning the set to the customer always perform an Ac leakage current check on the exposed metallic parts of the cabinet, such as terminal, screwheads, metal overlays, control shafts, etc. To be sure the set in safe to operate without danger of electrical shock, Plug the AC line cord directly into a 115V AC outlet (do not use a line isolation transformer during this check). Use an AC voltmenter having 5000 ohms per volt or more sensitivity in the following manner.
   Connect a 1500 ohm, 10watt resistor, paralleled by a 0.15mfd(μF), 250VAC capacitor, between a known good earth ground (water pipe, conduit, etc.) and the exposed metallic parts, one at a time.
   Measure the AC voltage across the combination of 1500 ohm resistor and 0.15mfd(μF) capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part.
   Votage measured must not exceed 0.3V RMS. This corresponds to 0.2mA AC any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.



Voltmeter Hook-up for leakage Current check

3. General Information

[Introduction]

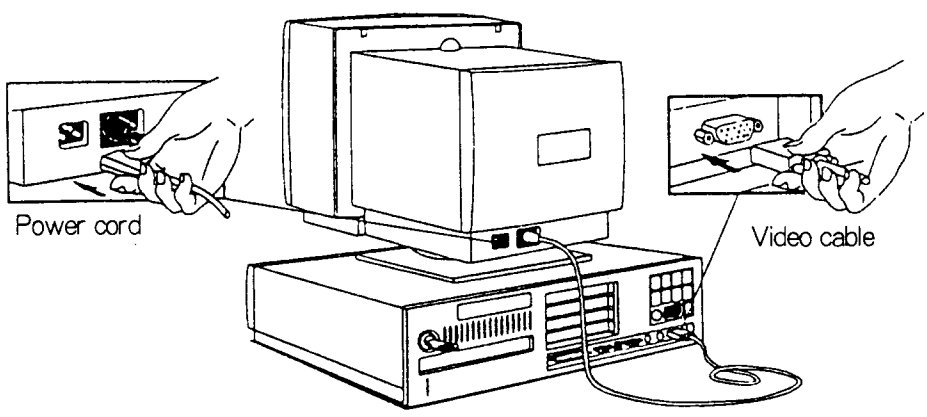
The SUPER VGA Display(TEXEL) is a 15-inch, high resolution, multisynchronous color video display.

3-1. Features

1) 15 inch Flat Square Tube reduces glare and enhances viewing area.
2) Anti-Static CRT coating eleminates static electric shock and helps keep the screen dirt free.
3) Automatically scans horizontal frequencies form 30-48KHz, and vertical frequencies from 50-100Hz.
4) Non-Interlaced screen resolution of 640 x 480, 800 x 600, 1024 x 768
5) DPMS(Display Power Management System), When used with a DPMS-capable PC, to automatically reduce the power consumption of the display in standby mode and in sleep mode.

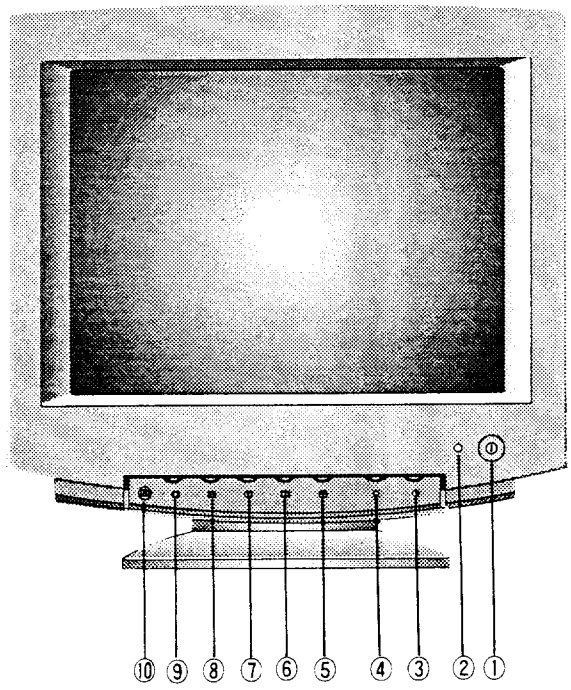
3-2. Installation

1) Make sure your computer is turned off.
2) Put the display on top of the computer, or on a flat, sturdy surface, For optimum viewing, position the display so that the top of the screen is slightly below eye level.
3) Connet the end of the video cable to the video connector on the back of your computer.(If you are not sure where this is, refer to your computer's setup manual.)
4) Connect the power cord to the display.
5) Plug the power cord into the power outlet.



3-3. Control Location & Functions.

1) Front view



2) Controls and Indicator Functions

① Power Switch

Use to switch monitor power on and off. Push the power switch once to turn monitor power on. The indicator LED glow green. Push the switch again to turn monitor power off.

② Power Indicator

When the monitor is powered on.

③ Contrast Control

To adjust the contrast (image white level), use this control. Contrast is the difference in brightness between the dark and light parts of the displayed image.

④ Brightness Control

To adjust the over all picture brightness (image black level) use this control. Set the brightness so that the dark areas of the display remain black.

⑤ Vertical Shift(V-Shift)

To adjust the vertical position of the displayed image, use this control.

⑥ Horizontal Shift(H-Shift)

To adjust the horizontal position of the displayed image, use this control.

⑦ Vertical Size(V-Size)

To adjust the vertical size of the displayed image, use this control.

⑧ Horizontal Size(H-size)

To adjust the horizontal size of the displayed image, use this control.

⑨ Side-Pincusion

To correct the displayed image if its vertical edges appear curved, use this control

⑩ Degauss

To degauss your display, press this button. Degaussing keeps the display free from unwanted magnetism that can result in color impurity. If you leave your display always switched on. We recommend that you degauss it at least every several days to remove any color impurities. Degaussing is accmpanied by brief instability of the displayed image and a brief humming sound. Each time you switch on your display it is automatically degaussed.

3-4. Electrical Characteristics

1) Input Power

The display device shall maintain the specified performances in the range described below.

NO	Description	Spec.	Remark
1	Power Source	AC 88V~264V	Universal Power
2	Frequency	47~/63Hz	Suspend : MAX. : 15W
3	Power Consumption	MAX. 70W	Power off : MAX. : 5W

2) Input Signal

The input signals shall be applied to the display devices through the signal cable which must be intended as part of the monitor.

Section	Description	Spec.	Remark
Video Signal (Red, Green, Blue)	Video input	0.0 to 0.66Vpp Analog	
	Polarity	Positive	
	Pixel Rate	Up to 65MHz	
	Rise/Fall Time	Less than 8 nsec	
	Input impedance	75 ohms	
Horizonta Sync.	Sync input	2.4 ≦ Level ≦ 5V	
	Pulse Width	1.27~3.77usec	
	Frequency	30KHz~48KHz(Automatically)	
	Front Porch	0.76~1.12usec	
	Back Porch	1.89~4.6usec	
Vertical Sync.	Sync Input	2.4 ≦ Level ≦ 5	
	Pulse Width	0.064~0.106msec	
	Frequency	50~100Hz(Automatically)	
	Front Porch	0.026~1.2msec	
	Back Porch	0.607~1.88msec	

3) CRT Electrode voltage

NO	Description	Spec.	Remark
1	Heater	6.3V ±0.5V, 630mA ±30mA	
2	Cathode(R. G. B)	70 ± 10V	
3	Gride # 1	0V~ −70V	
4	Gride # 2	600V ± 100V	Screen
5	Gride # 3	6.5KV ±0.5KV	Focus
6	Anode Voltage	24KV ± 1kV@0uA	Raster cut off

4) Display Power Management System (Power Saving Function)

The Display power Management System, depending on the capabilities of your computer, controls the power consumption of the display. For information on the capabilities of your computer refer to your computer's documentation where the capabilities may be described under power saving or security.

Standby mode is activated after a certain period of inactivity of the keyboard.

Sleep mode is activated from standby mode after an extended period of inactivity, or, depending on the CPU capabilities, at the end of the working day.

For computers that support display power management, these periods can be specified in SETUP.

NO	DESCRIPTION			STATE	POWER CONSUMPTION
	H-SYNC	V-SYNC	VIDEO		
1	Normal	Normal	Normal	NORMAL	Less than 70W
2	Cut(0V)	Normal	Blanked	SUSPEND	Less than 15W
3	Normal	Cut(0V)	Blanked		
4	Cut(0V)	Cut(0V)	Blanked	POWER-OFF	Less than 5W

3-5. Mechanical Characteristics

1) Weight

The total weight shall be less approximate 16kg

2) External Dimensions(mm)

	With Stand
Width	356
Height	368
Length	379.5

3) Tilt/Swivel

The inclination of the surface of the screen shall be adjustable at least −5deg. With a min. 1deg. from the vertical.

The swivel must be min. 180deg.

4) Tool Resin

Tool	Resin	Color
Front	VH-0853	PARCHMENT WHITE
Rear	VH-0853	PARCHMENT WHITE
Stand	VH-0853	PARCHMENT WHITE

3-6. Operation of Circuit

The circuit of this monitor could be devided into four sections.
One of them is power supply section, and the others are the interface, sweep video, and CRT drive section.

1) Power Circuit

The switching mode power supply is adopted for universal power supply.
The chassis(secondary side) is insulated from the power source(primary side) by the transformer T601.
By the winding of the transformer T601 connected to the drain of Q601 and the other winding connected to the control circuit, the IC601(KA3882) is submitted to negative feed back and it operates as a blocking oscillator.
When the voltage of power source or load current is varied, it is detected by the winding and the voltage is applied to PIN2 of IC601.
When the voltage applied to Pin2 is varied, the conducting time of IC601 is varied to compensate output voltage for the change.
Which makes output voltage of T601 stabilized.
The range of operating frequency is 22KHz~70KHz.

2) +B Voltage Regulator Circuit

PWM is a regulator for controlling +B voltage of each mode supplied to FBT(T402) Pin2. IC205(H-IC) detects the level of pulse which comes from FBT Pin3 and output signals with different duty factors and frequencies. The signals drive Q203(IRF9610) to control the adjustment of +B voltage of each mode to FBT Pin2.

3) DPMS Circuit

① Suspend MODE

If the H or V sync input is inactive for more then 2 seconds, the output of IC203(MCU) Pin14 becomes HIGH, and the output voltage of IC605(LM317) drops to 12V from 0V
Therefore the deflection circuit, the high-voltage generation circuit and the video amp circuit can not operate.
At this suspend mode, the LED on the front of this unit blinks as 1 second period.
The power consumption at suspend mode is less than 15W.

② Power off MODE

If both of H and V sync are inactive for more than 2 seconds, the output of IC203 Pin1 becomes HIGH.
The transistor(Q604) is on.
The feedback circuit is not operated.
Therefore the output voltage lines except 5V line are drop.
At this power off, the LED on the front of this unit blinks as 2 second period.
The power consumption at power off mode is less than 5W.
*Inactive signal : H-sync-Less than 10KHz repetition frequency.
V-sync-Less than 20Hz repetition frequency.

4) Interface Circuit

This is composed of IC203(MCU), IC204(DAC, TDA8444) and buffer.
MCU circuit detects frequency and polarity and controls the displayed image.
MCU performs three functions as follows.
* MCU identifies each mode by processing the received frequency and polarity of the sync from signal source.
* MCU controls DAC IC to output proper signal for picture size, frequency, picture position, etc.
* When monitor is turned on or mode is changed, mute function is operated.

5) Video Drive Circuit.

The R, G and B input signals with analog level are applied to the pre-amplifier LM1203.
This section amplifies the output signal of a generator enough to drive a video output circuit.
Video gain is controlled by the DC voltage of Pin12 and pedestal level is controlled by the DC voltage of the Pin15, 19 and 24.
Clamping pulse is applied to Pin14 through IC201.(BACK PORCH CLAMP)

6) Video Output Circuit.

The preamplified R, G and B video signals are applied to the amplifier IC102.
And then, these video signals are drived to the cathodes of CRT.
The CRT bias for accurate white balance is obtained by R, G and B bias controls-VR102R, G and B.

7) Deflection Circuit.

This circuit has two ICs. IC401(TDA4852) is a monolithic IC for horizontal and vertical sync processing. And IC301 (TDA8351) is a monolithic IC for vertical power amplifier.

① Vertical Deflection Circuit.

The vertical sync signal is applied to Pin10 of IC401. The vertical frequency of the oscillator can be varied by the RC constant at Pin15, 16. Vertical screen size can be controlled by the voltage at Pin13 of IC401 and vertical screen position is determined by DC current flowing through vertical DY and can be controlled by V-SHIFT.
IC301 is the vertical power amplifier that drives vertical DY.

② Horizontal Deflection Circuit.

The horzontal sync signal with positive polarity is applied to Pin9 of IC401.
The horizontal frequency of the oscillator can be controlled by the voltage at Pin18 of IC401.
VR403 adjusts the free-running frequency and MCU traces the horizontal syncronization according to input signal(30KHz~48KHz).
The phase of horizontal saw-tooth wave is compared with that of fly back pulse and horizontal sync signal at AFC circuit of the IC401.
By adjusting the voltage of Pin20, the horizontal position of picture is varied.
The horizontal frequency oscillation is obtained from Pin17 of IC401.

8) DDC (Display Data Channel)

① DDC1

In this mode, data is transmitted on the SDA line in 8-bit bytes, each followed by the ninth bit. For syncronising, DDC1 uses the vertical sync. and a data bit is output on the rising edge of the vertical sync. The eight bits in each byte are transmitted the most significant bit first. And SCL line must be held high to rmain DDC1.

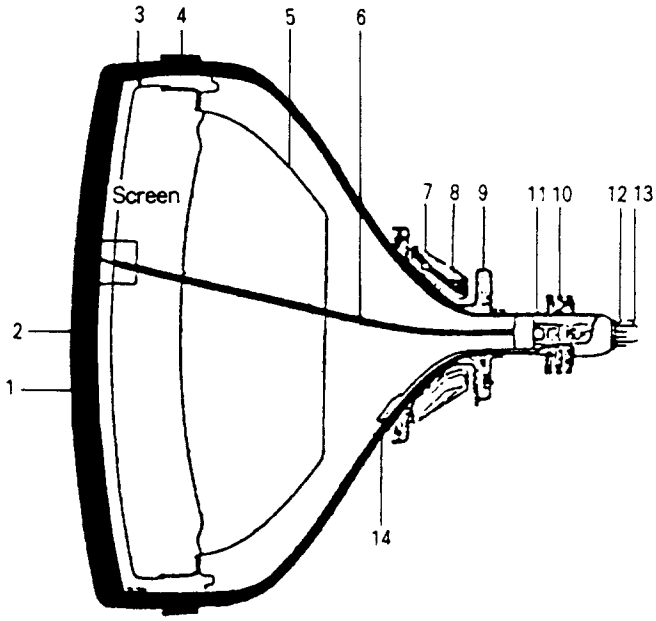
② DDC2B.

The DDC function is switched onto DDC2B by applying high to low trasition on SCL line.
In DDC2B, vertical sync line is disregarded for DDC. Each data transmition is initiated with a START condition and terminated with a STOP condition. A High to low trastion of SDA line while SCL line is high determines a START condition. And a low to high transitio of SDA line while SCL is high determines a STOP condition.
In this mode, data is transmitted on the SDA line in 8-bit bytes. the ninth bit is used as acknowledge bit(low active). For syncronising, DDC2B uses the SCL line and a data bit is output on the rising edge of this sync.
The eight bits in each byte are transmitted the most significant bit first. The state of SDA line represents valid data when the SDA line is stable for the duration of the high period of SCL line.
In DDC2B, the maximum frequency on SCL line is 100KHz.

3-7. CDT

1) Structure

CRT Basic Structure



No.
1. Panel galss
2. Phoslphor screen
3. Shadow mask
4. Tension band
5. Magnetic shield
6. Electron beam
7. Core
8. Vertical deflection coil
9. Horizontal deflection coil
10. Magnet Assembly
11. Electron gun
12. Outer lead
13. Base
14. Getter

- MASK : R. G. B electron beam pass through this mask. Each gun's beam strikes the phosphor.
- DY(Deflection Yoke) : This moves the beam right to left and up to below, vice versa.
- MAGNET : These magnets decide the centering and convergence
- MOUNT : This generates thermal electrons, controls the amount of beam, accelerates the beam and focuses the beam at the screen.

2) Magent Assembly [C.P.M(convergence purity magnet)]

2POLE, 4POLE, 6POLE

① 2 pole magnet : Purity and VRS control.
② 4 pole magnet : Convergence control-concentrates the R and B beam.
③ 6 pole magnet : Convergence control-the concentrated R and B beam by 4 pole magnet is adjusted to harmonize with G beam.

*1. Convergence : The degree of concentration of R. G. B colors.
2. Purity : The degree of pure color.

The most important part of monitor is CDT.

3) White Balance Adjustment

① Adjust R and B bias controls in order that the color analyzer indicates $X=0.281\pm0.02$, $Y=0.311\pm0.02$ without video signal.
② Apply video signal (Full Whith Pattern).
③ Adjust R and B gain controls in order that the color analyzer indicates $X=0.281\pm0.02$, $Y=0.311\pm0.02$ with max contrast.

3-8. Reliabilities

1) Environmental
The monitor unit must not be degradiated and damaged by operating over the specified range and will meet specifications when returned to the operating environment. SDD will perform these tests on the monitor prior to its release. The monitor is required to pass these tests before mass production. These tests are detailed in SDD environment specification.

2) Temperature
* Operating : −10℃ To 45℃
* Storage : −40℃ To +70℃

3) Humidity
* Operting : 15% To 80% (Non condensing)
* Storage : Maximum 90%

4) Drop : Refer to SDD ENVIRONMENTAL TESTS MANUAL.

5) Leakage current : Refer to SDD ENVIRONMENTAL TESTS MANUAL.

6) Vibration : Refer to SDD ENVIRONMENTAL TESTS MANUAL.

7) Life test (MTBF)
The monitor shall have 50,000hrs MTBF when operated under any combination of conditions as detailed specification.

8) Altitude.
* Operting : 0~10,000FT
* Non operating : MAX. 0~15,000FT

3-9. Safety and Approvals.

1) Safety regulatory
The system will be certified according to the following international safety standards.
* UL 1950 WITH D3
* CSA C22.2 No.950 WITH D3
* TUV EN60950
* I. A. A BY KOREAN SAFETY CONTROL LAW

2) Electromagnetic inteqference.
The system will be certified according to the following intemational radiation standards.
* FCC 47 CFR. Ch15, SUB. J
* DOC SOR/88-475
* BZT DIN VDE 0871/BMPT-Vfg. 243/1991
* D. O. T BY KOREANLAWS. 100

3) X-Radiation.
The X-radiation emitted from this picture tube will not exceed 0.5mR/h for anode current combination.
X-radiation at a constant anode voltage varies linearly with anode current.

The system will comply with the following international standards.

* DHHS 21 CFR SUB CH J
* SWEDAC MPR 1990 : 8, 10, SEC 2

4) Ergonomics.

The complete assembly shall be certified as complying with the following international standards.

* TUV/GS : ZH1/618/10.80
* TUV/ERGONOMIC : ISO 9241. PART 3

5) Low radiation.

* SEMCO MPR 1990 : 8. 10, SEC. 2
* TUV/ERGONOMIC MPR 1990 : 8, 10, SEC. 2

3-10. Signal Cable & Connection

1) Signal cable

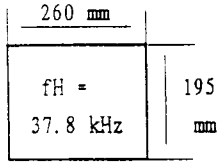
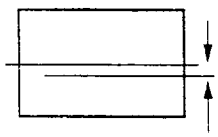
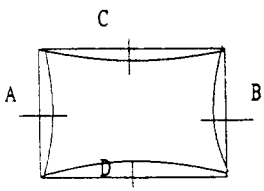
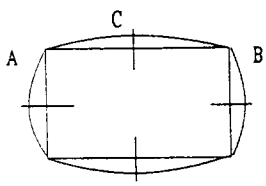
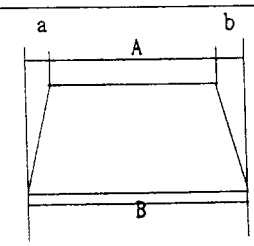
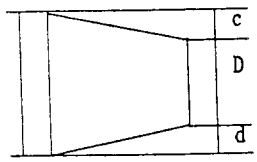
A shield signal interface cable must be intended as a part of the monitor.
The cable length shall be 1500mm with a tolerance of ±30mm
This cable shall be of a suitable type in order to comply with any specification item, and shall be terminated in a 15pin D-shell male connector type FOXCONN D973292-8 or equivalent, with pin assignment as follows.

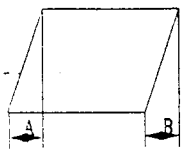
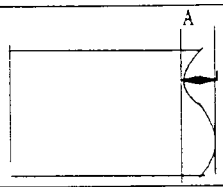
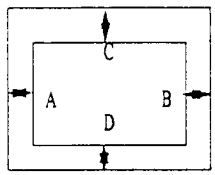
2) Signal pin connection

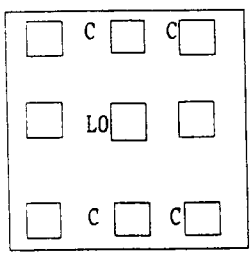
* Signal cable pin connection(15 pin d-sub miniature signal connector with cable)

NO	15 PIN D-SUB FEMALE		REMARK.
	RGB ANALOG SIGNAL	SIGNAL PIN NO.	
1	RED	PIN #1	
2	GREEN	PIN #2	
3	BLUE	PIN #3	
4	GROUND	PIN #4	
5	GROUND	PIN #5	
6	RED GND	PIN #6	
7	GREEN GND	PIN #7	
8	BLUE GND	PIN #8	
9	N.C	PIN #9	
10	SYNC. GND	PIN #10	
11	GROUND	PIN #11	
12	D1	PIN #12	
13	H-SYNC.	PIN #13	
14	V-SYNC	PIN #14	
15	D2	PIN #15	

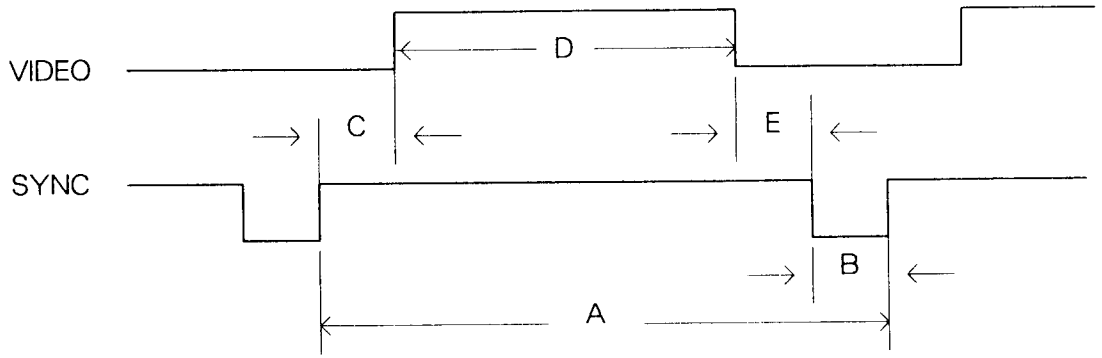
4. Visual Specification

No	Item	Specification	Requirement	Pattern
1	Visual		Standard direction : N/E(all items)	-
1-1	Display size (Standard)	 * Standard screen.	A. Display the cross hatch pattern. B. The size must be adjustable to the followings by using user's control for all specified mode. a. Horizontal size : 260 ± 5mm b. Vertical size : 195 ± 5mm	Cross-hatch (all modes)
1-2	Linearity	Adjacent : 6% Non-adjacent : 8%	A. The linearity of screen must be displayed on the CRT within the spec.(Horizontal and vertical) B. Any position.	1"square pattern (all modes)
1-3	Tilt		A. The tilt must be withen the limet of the spec.	Cross-hatch (all modes)
1-4	Distortion 1)Pincushion		* Maximum allowable error; A, B < 2.0mm MAX C, D < 2.0mm MAX	〃
	2)Barrel		* Maximum allowable error; A, B, C, D < 2.0mm MAX	〃
	3)Trapezoid	 	* | A-B | < 3.0mm * | C-D | < 3.0mm * a, b, c, d < 2.0mm	〃

No	Item	Specification	Requirement	Pattern
1-4	4) Paralle-Logram		* A, B < 2.0mm	Cross-hatch (all modes)
	5) "S" Curve		* A < 2.0mm	〃
1-5	Display-Center		* | A−B | ≤ 8mm * | C−D | ≤ 6mm * The maximum variation of the display center have to be within the spec.	〃
1-6	Focus	Visual test	* Just cut off the back raster. * Adjust contrast maximum at the full white screen. * Change pattern to "window" * Check the focus of the dots, bars, and characters.	Window pattern (800 × 600)
1-7	Jittering	Visual test	* There shall be no jitter when the screen is viewed from 45Cm	Cross-hatch (all modes)
1-8	Mis conver-Gence	* Central area (A zone : 190mm) : 0.3mm max. * Circumference : 0.4mm max.	* Measure the distance between red, green and blue lines with a microscope after the proper adjustment of white balance.	〃
1-9	Acoustic Noise	* Not any audible sound	* During the display operating, it has not to be any audible sound from more than 30cm.	Cross-hatch
1-10	Purity	* Visual test	* Set CONT. control to max. position. * Set the center area brightness to 8F/L with BRT. control. * If set con't reach up to 8F/L, set the BRT control max. position. * After power on, it must not appear any perceptible color shift in the scanning area while viewing in all direction. If it appears some perceptible color shift, it has to disappear any perceptible color shift after maunal degaussing. * tilt : max. swivel : 25°	Full red pattern (1024 × 768)
1-11	Raster Regulation	* 1.5% MAX. $\frac{\text{MAX.} - \text{MIN}}{\text{MIN.}}$	* From black level to white level * Line input range of 88 to 135Vac and 193 to 269Vac * Brightness cut off.	Full white pattern (800 × 600)

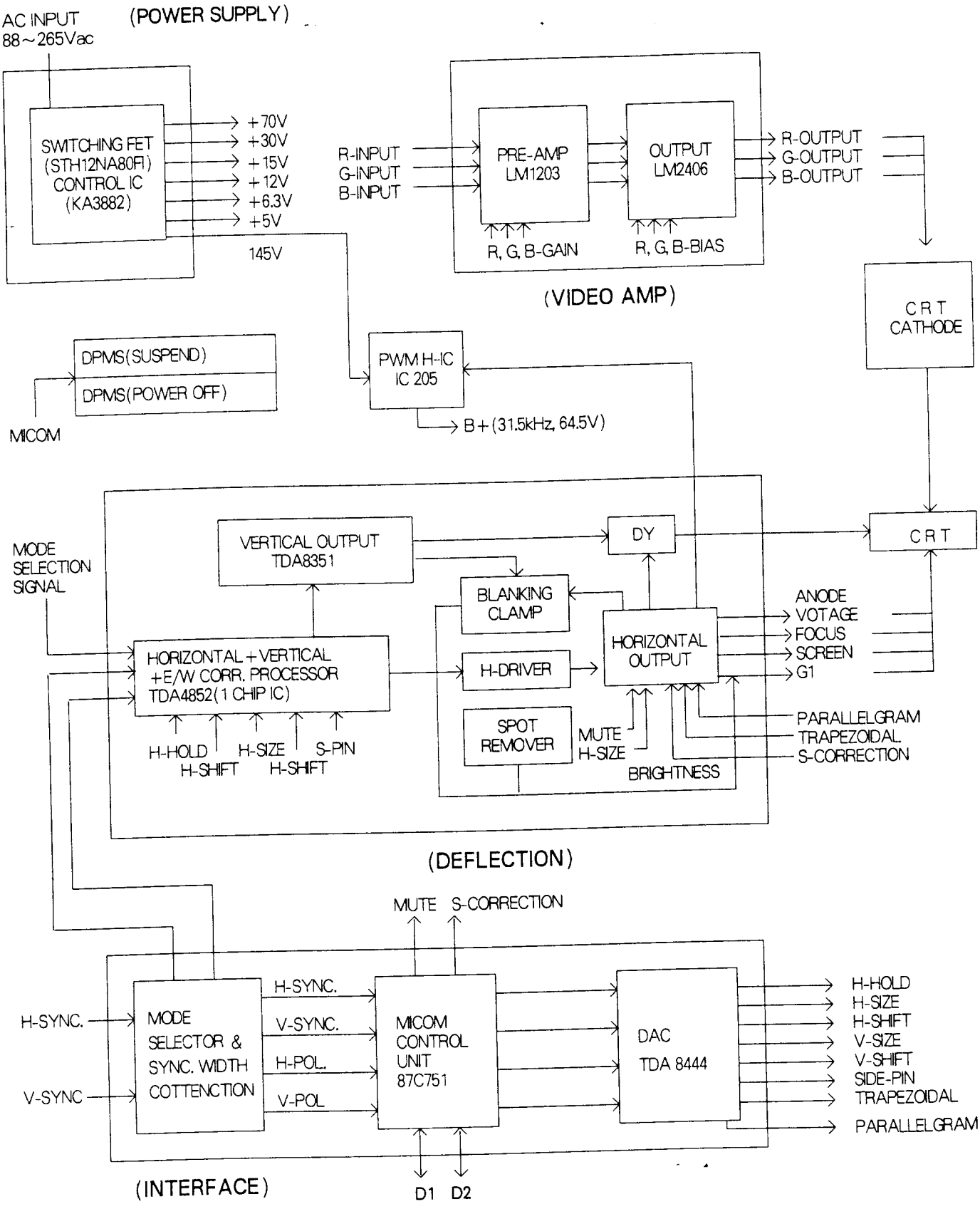
No	Item	Specification	Requirement	Pattern
1-12	Brightness Uniformity	Better than 75%	*Measure it after adjusting brightness to 25F/L at central area. *Display size : 260 × 195mm	5 circles pattern (800 × 600)
1-13	White Balance	*Color coordinate X=0.281±0.02 Y=0.311±0.02	*Measure it after setting the brightness to cut-off and adjusting the contrast for 10F/L *Measutr it after setting the brightness to maximum and adjusting the contrast for 25F/L *Raster : 0.1~1.0F/L	White balance pattern (0.66V level)
1-14	White Color Tracking	*X=X(center)±0.02 Y=Y(center)±0.02	*The white color coordiantes in the center of the surface of CRT after proper adjustment of white balance.	White balance pattern (0.66V level)
1-15	Maximum Light Output	*More than 27F/L	*Measured at center of CRT faceplate. *Contrast control set to maximum. *Brightness control set to maximum.	〃
1-16	Minimum Light Output	*Less than 3F/L	*Measured at center of CRT faceplate. *Contrast control set to minimum. *Brightness control set to minimum.	〃
1-17	Laster Level Luminance	1.0F/L	*Brightness control set at maximum. *Contrast control set at maximum. *Measured at center of CRT faceplate.	Black-level
1-18	White Uniformity		* | LO-C | ≤ 0.015	Full white pattern
1-19	Moire	Visual test	*Not visible at 20F/L	〃
1-20	Ringing	Visual test	*Not visible *Display size : 260±5mm 195±5mm	〃
1-21	Mode Change	Visual test	*Screen must display within 2 seconds.	〃
1-22	DDC1/2B	*DDC1 is checked *DDC2B is checked	*First, DDC1 check *Press the key DDC1 on DDC jig. *Second, DDC2B check *Press the key DDC2 on DDC jig.	MODE 02

5. Timming Chart



DESCRIPTION			RESOLUTION							
			640X400	640X480			800X600			1024X768
H	fH	KHz	31.47	31.47	37.86	37.50	37.88	46.88	48.08	48.36
	A	uS	31.778	31.778	26.410	26.667	26.400	21.333	20.800	20.667
	B	uS	3.813	3.813	1.270	2.032	3.200	1.616	2.400	2.092
	C	uS	1.907	1.907	4.063	3.810	2.200	3.232	1.280	2.462
	D	uS	25.423	25.423	20.317	20.317	20.000	16.162	16.000	15.754
	E	uS	0.636	0.636	0.762	0.508	1.000	0.323	1.120	0.369
	POL.		NEG.	NEG.	NEG.	NEG.	POS.	POS.	POS.	NEG.
V	fV	Hz	69.930	59.940	72.809	75.000	60.316	75.000	72.187	60.003
	A	mS	14.300	16.683	13.735	13.333	16.579	13.333	13.852	16.666
	B	mS	0.064	0.064	0.079	0.080	0.106	0.064	0.125	0.124
	C	mS	0.826	1.049	0.740	0.427	0.607	0.448	0.478	0.600
	D	mS	12.711	15.253	12.678	12.800	15.840	12.800	12.480	15.880
	E	mS	0.381	0.381	0.238	0.027	0.026	0.021	0.770	0.062
	POL.		POS.	NEG.	NEG.	NEG.	POS.	POS.	POS.	NEG.

6. Block Diagram



7. Adjustments

7-1. +B & Adjustment

* Disconnect the signal cable from signal source.
* Adjust contrast and brightness controls to maxinum, and G2 control to minimum.
* Make sure the AC power supply voltage is at the specified value.
* Adjust VR601 (+B ADJ. volume) for the voltage equal to 145.0 ± 0.5V
* And Adjust VR204 (H/V ADJ. volume) for the voltage equal to 64.5 ± 0.5V

7-2. Deflection Circuit Adjustment

1) Horizontal oscillation frequency adjustment. (H-HOLD)

* Disconnect the signal cable from signal source.
* Adjust VR403(H-HOLD) for the horizontal frequency equal to 31.5 ± 0.2KHz

2) Screen position adjustment. (H-SHIFT, V-SHIFT)

* Receive a cross-hatch pattern signal of 800 x 600(fH=37.8KHz) mode.
* Adjust VR404(H-SHIFT), VR201(V-SHIFT) for the screen position to center.

※ NOTE : VR404(H-SHIFT), VR201(V-SHIFT), VR503(H-SIZE), VR401(V-SIZE), VR402(SIDE-PIN) are external control, and these are located at the bottom side of front bezel.

3) Horizontal size adjustment. (H-SIZE)

* Adjust contrast and brightness controls to maxinum.
* Receive a cross-hatch pattern signal of 800 x 600(fH=37.8KHz) mode.
* Adjust VR503(H-SIZE) for the horizontal size equal to 260 ± 5mm

4) Vertical size adjustment. (V-SIZE)

* Adjust contrast and brightness controls to maximum.
* Receive a cross-hatch pattern signal of 800 x 600(fH=37.8KHz) mode.
* Adjust VR401(V-SIZE) for the vertical size equal to 195 ± 5mm

5) Side-Pin adjustment. (S-PIN)

* Receive a cross-hatch pattern signal of 800 x 600(fH=37.8KHz) mode.
* Adjust VR402(S-PIN) for to compensate the east/west distortion.

7-3. Video Circuit Adjustment

1) Controls function

* Brightness control. (VR501)
  This knob controls the black level of the image. (the raster luminance)
* Contrast control. (VR103)
  This knob controls the contrast of the screen, and determines the gain of the video amplifier.
* Sub-contrast control. (VR502 : SUB-CONT)
  This controls is used for adjusting the optimum contrast

* R, G, B-GAIN controls. (VR101R, G, B)
  These controls are used for adjusting the gain of RED, GREEN, BLUE video signals.
* R, G, B-BIAS controls. (VR102R, G, B)
  These controls are used for adjusting the bias-voltage of RED, GREEN, BLUE cathode. CRT)
* Screen control. (On the FBT)
  This controls is used for adjusting the screen voltage of the CRT.
* Focus control. (On the FBT)
  This controls determines the optinum focus of the screen.

7-4. The Adjustment Of White Balance

* Adjust R, G, B-GAIN and R, G, B-BIAS controls to mechanical center before power on.
* Operate the monitor for 15 minutes in order to warm up the CRT and circuits.
* Degauss the CRT face fully with degaussing tool.
* Adjust brightness at maximum position, and screen control at minimum position.
* Adjust screen control slowly so that raster luminance is equal to 2~3 F/L
* Adjust R, G, B-BIAS controls so that the raster becomes white.
* Adujst the screen control for the raster luminance is equal to 0.2~0.3F/L.
* Receive a full white screen of 800 x 600(fH=37.8KHz) mode.
* Adjust R, G, B-GAIN controls for the specified white color with the color analyzer.

◆ Specifications.

※ Standard color coordinate. (10F/L, 25F/L)
  X=0.281 ± 0.02 Y=0.311 ± 0.02
※ Maximum brightness : More then 27F/L.
  • With full white pattern. (37.8KHz, 800 x 600)
  • Brightnrss V/R : Set to maximum.
  • Contrast V/R : Set to maximum.
  • Adjust the sub-contrast control for more then 27F/L
  • Checking area : Center of display.

7-5. DDC (Display Data Channel)

1) In the case of using Bar code redader (with serial number)

* Connect the signal cable to the monitor.
* Press the key MODE 02 on DDC jig.
* Read the bar code on the label with bar code reader.
* If it is fail, repeat the above procedure again.

2) In the case of using KEY on jig (without serial number)

* Connect the signal cable to the monitor.
* press the key MODE 02 on DDC jig.
* Press the key RESERVE KEY on DDC jig.
* If it is fail. repeat the above procedure again.

7-6. Focus Adjustment

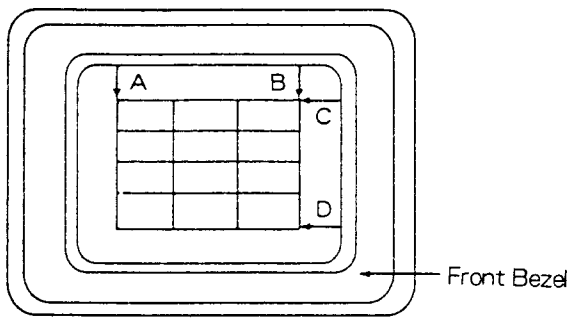
* Display the character pattern so that adjust the focus can be done.(the highest resolution is recommended)
* Turn the contrast and the brightness controls fully clockwised.
* Adjust the focus control of FBT, so that the focus is to be at the best conition.

7-7. Purity Adjustment

* Be sure that the display is not exposed to any external magnetic fields.
* Ensure that the spacing between the convergence purity magnet(CPM) assembly and the CRT stem is 29mm ±1mm
* Produce a complete, red pattern on display. Adjust the purity magnet rings on the CPM assembly to obtain a complete field of the color red. This is done by moving the two tabs in such a manner that they advance is an opposite direction but at the same time to obtain the same angle between the two tags, which should be approximately 180°
* Check the complete blue and complete green patterns to observe their respective color purity. Make minor adjustment be needed.

7-8. CRT Tilt Adjustment

* Reassemble the CRT with fastening screws so that the dimension A, B and C, D are separately equal.



7-9. Static(Center) Convergence

* Switch the monitor on and warm up for 15 minutes. Operate the computer in such a way that the cross hatch pattern is displayed on screen. Convrgence error should not exceed than following table.

Position	Error In(mm)	CRT Dot-Pitch
Center	0.3	0.28
corner	0.4	0.28

* Proceed as follows :

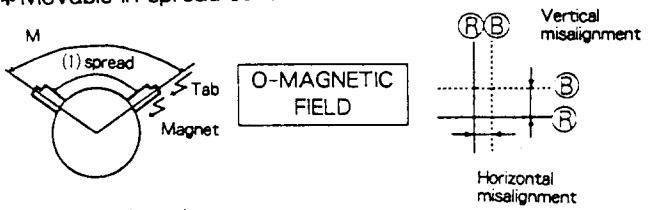
① Locate the pair of four pole magnet rings.
② Rotate the individual rings(change spacing between tabs) to converge the verical red and blue lines.
③ Rotate the pair of rings(maintaining spacing between tabs) to converge the horizontal red and blue lines.
④ After completing the red and blue center convergence, locate the pair of six pole magnet ring.
⑤ Rotate the individual rings(change spacing between tabs) to converge the vertical red and blue(magenta) and green lines.
⑥ Ratate the pair of rings(maintaining spacing between tabs) to converge the horizontal red and blue(magenta) and green lines.
⑦ Magnet position is 2 pole/4 pole/6 pole(from the front of CRT).
⑧ Don't ratate the 2 pole magnet because it's object is to adjust the purity.

7-10. Dynamic Convergence

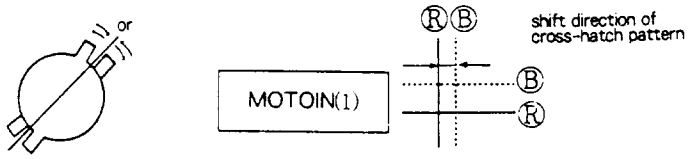
* Dynamic convergence(convergence of the three color fields at the edge of the CRT screen) is accomplished by the proper insertion and positioning of the three wedges between the edge of deflection yoke and the funnel of the CRT.

1) Alignment of (R) and (B) with the 4pole magnet

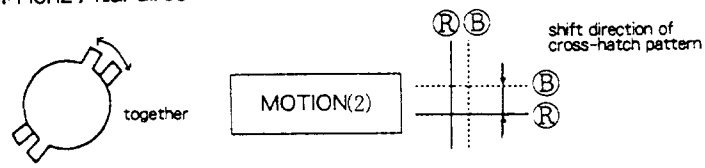
* Movable in spread condition



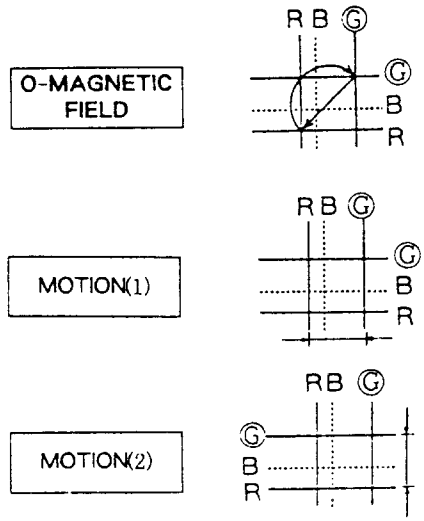
* Vertical direction



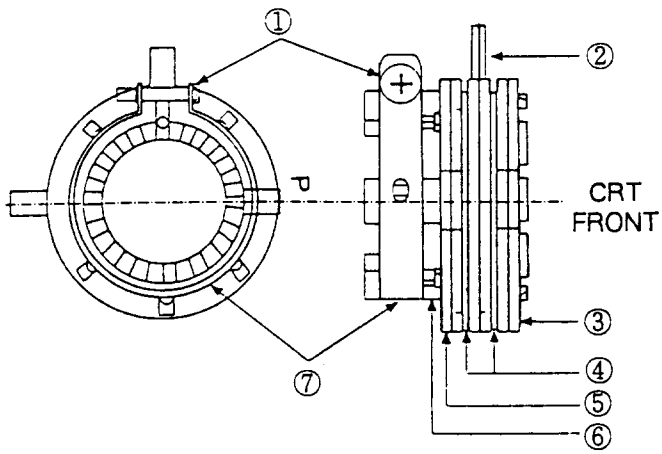
* Horizontal direction



2) Alignment of (R) and (B) with (G) (6 pole magnet)



※ Convergence Purity Magnet

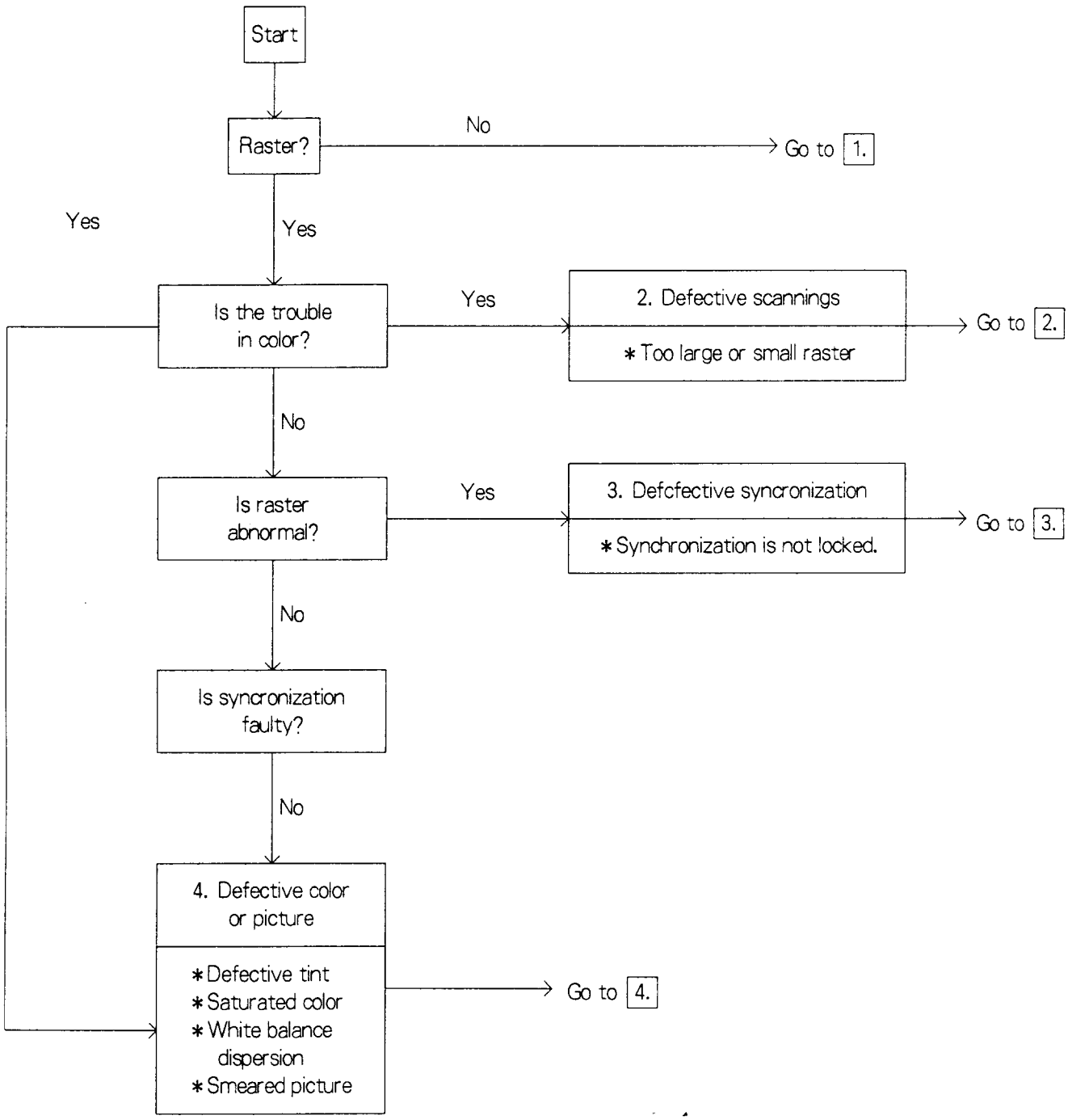


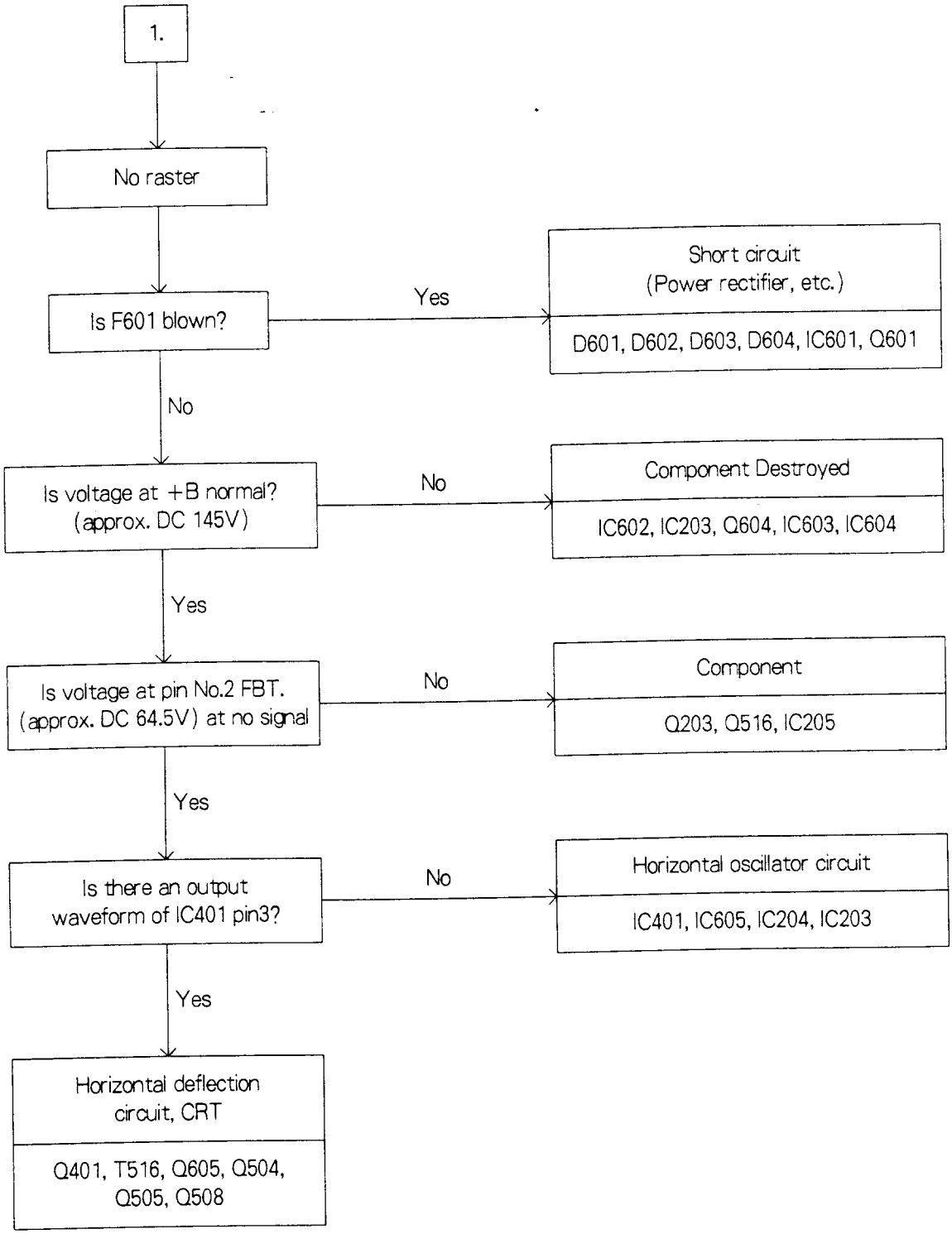
① Setup Bolt ② 4 pole Magnet ③ Purity Magnet(2 ple Magnet)
④ Spacers ⑤ 6 pole Magnet ⑥ Holder ⑦ Band

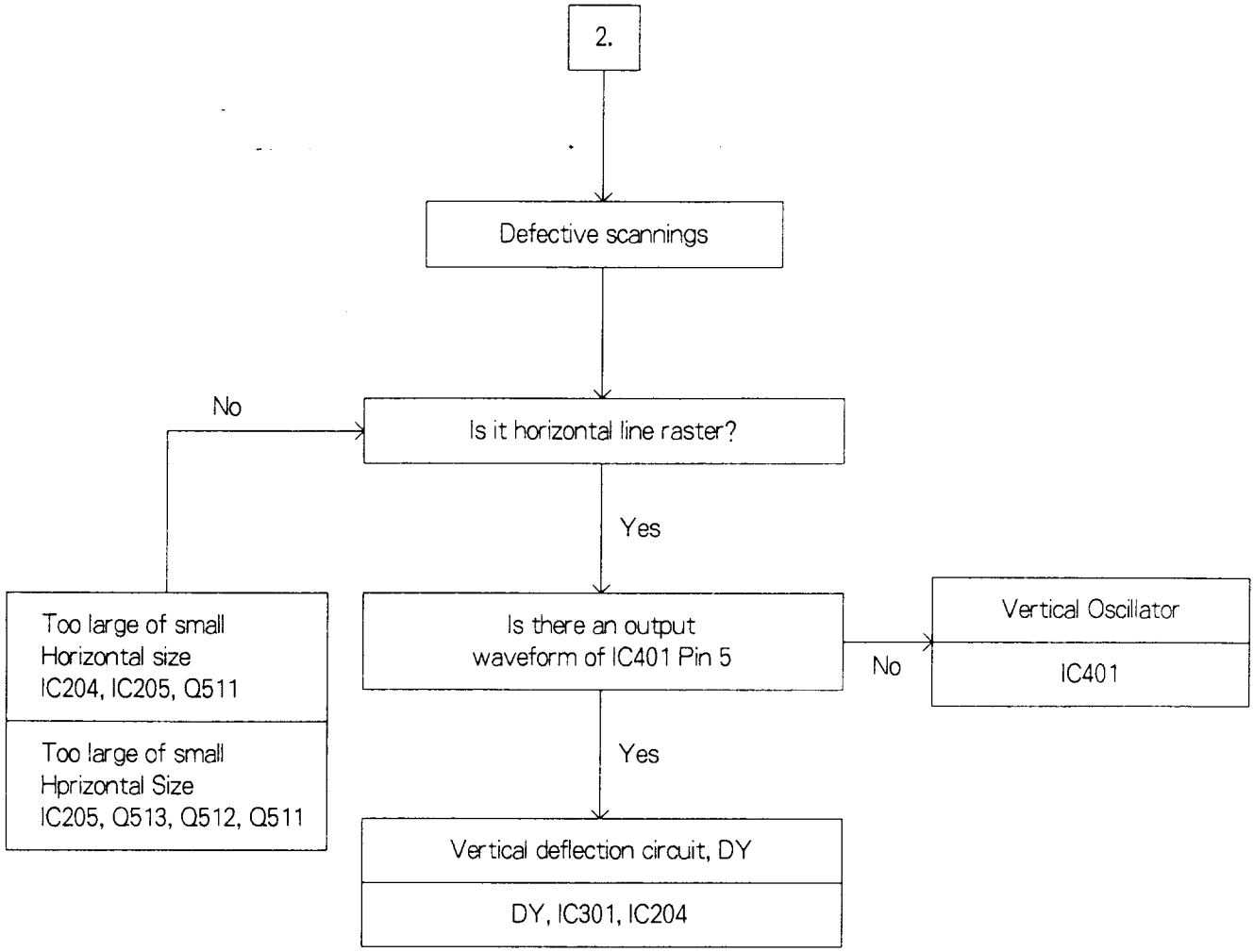
8. Trouble Shooting

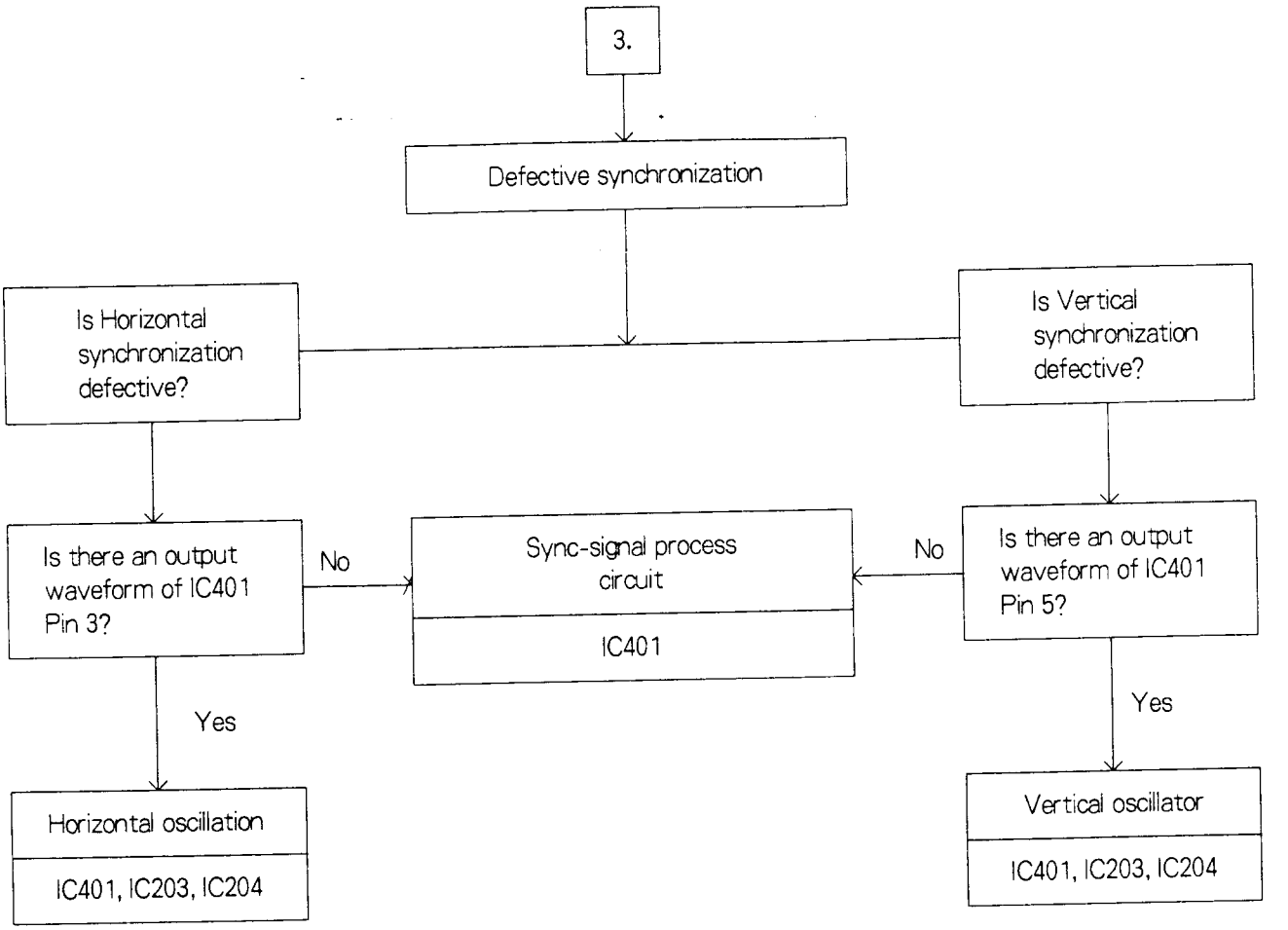
[Note]

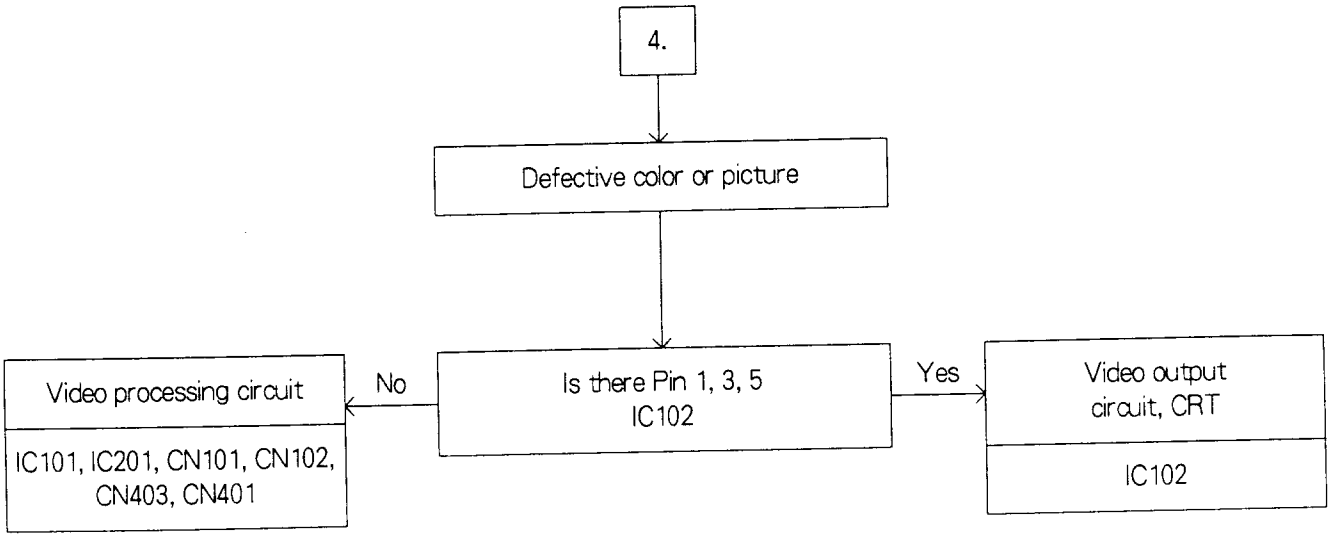
1. If picture does not appear, fully rotate the brightness and contrast control clockwise before inspection.
2. Circuit to be checked
   ① No raster appear : Power circuits, Horizontal output circuits
   ② A high voltage develops but no raster appears : Video output circuits
   ③ A high voltage is not developed : Horizontal output circuits.

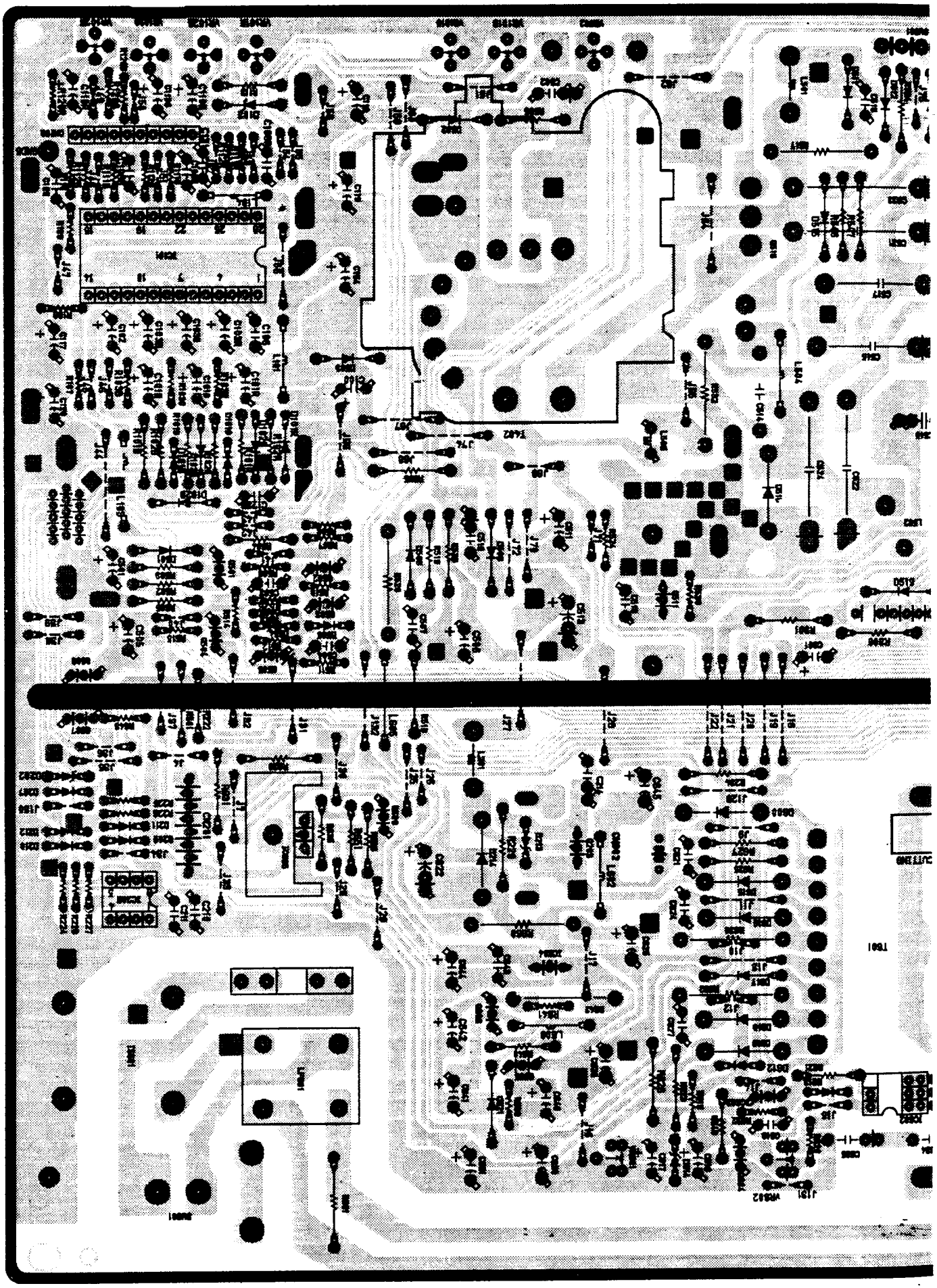


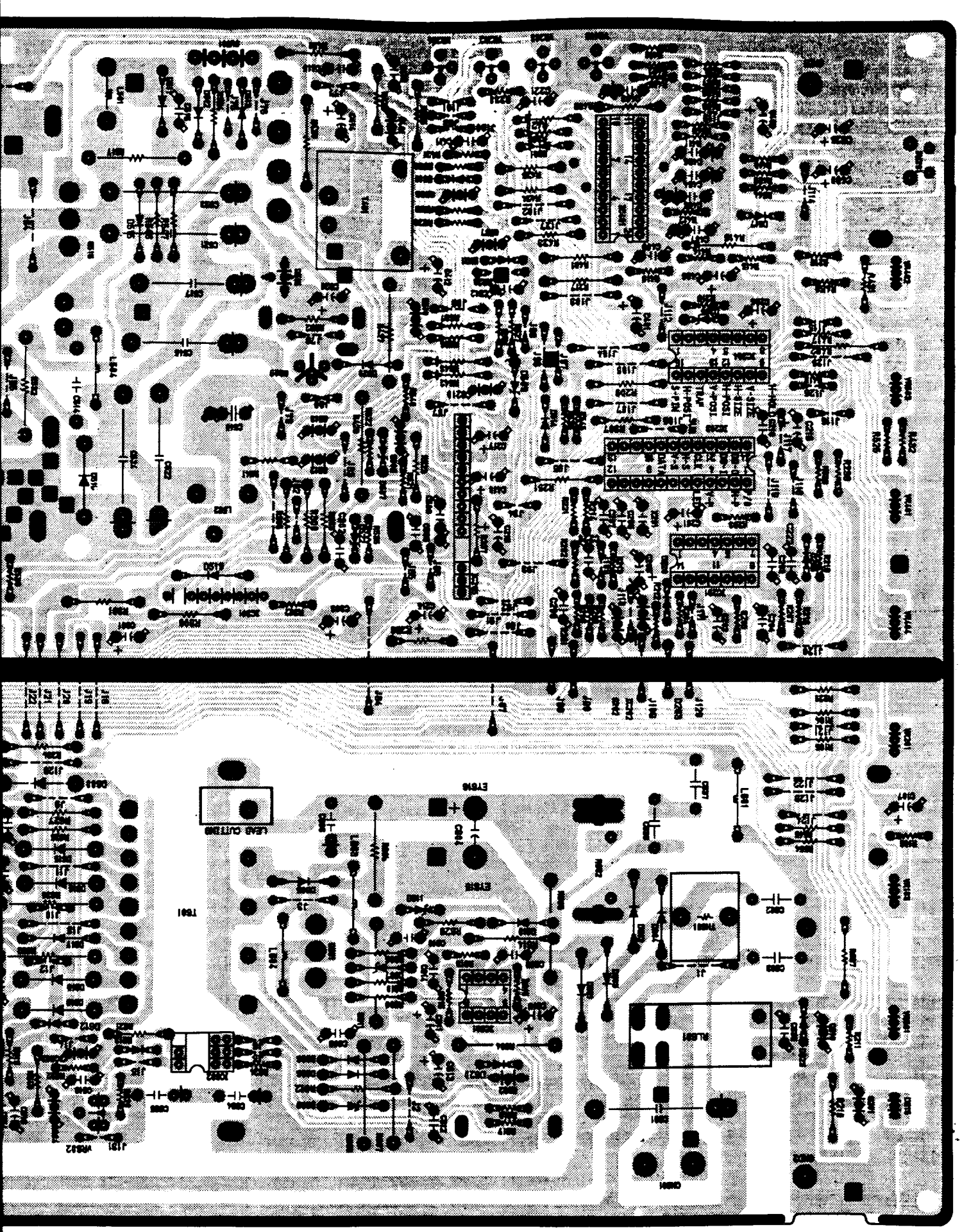

1.
No raster
Is F601 blown?
Yes
Short circuit
(Power rectifier, etc.)
D601, D602, D603, D604, IC601, Q601
No
Is voltage at +B normal?
(approx. DC 145V)
No
Component Destroyed
IC602, IC203, Q604, IC603, IC604
Yes
Is voltage at pin No.2 FBT.
(approx. DC 64.5V) at no signal
No
Component
Q203, Q516, IC205
Yes
Is there an output
waveform of IC401 pin3?
No
Horizontal oscillator circuit
IC401, IC605, IC204, IC203
Yes
Horizontal deflection
circuit, CRT
Q401, T516, Q605, Q504,
Q505, Q508


2.
Defective scannings
No
Is it horizontal line raster?
Yes
Too large of small
Horizontal size
IC204, IC205, Q511
Too large of small
Hprizontal Size
IC205, Q513, Q512, Q511
Is there an output
waveform of IC401 Pin 5
No
Vertical Oscillator
IC401
Yes
Vertical deflection circuit, DY
DY, IC301, IC204

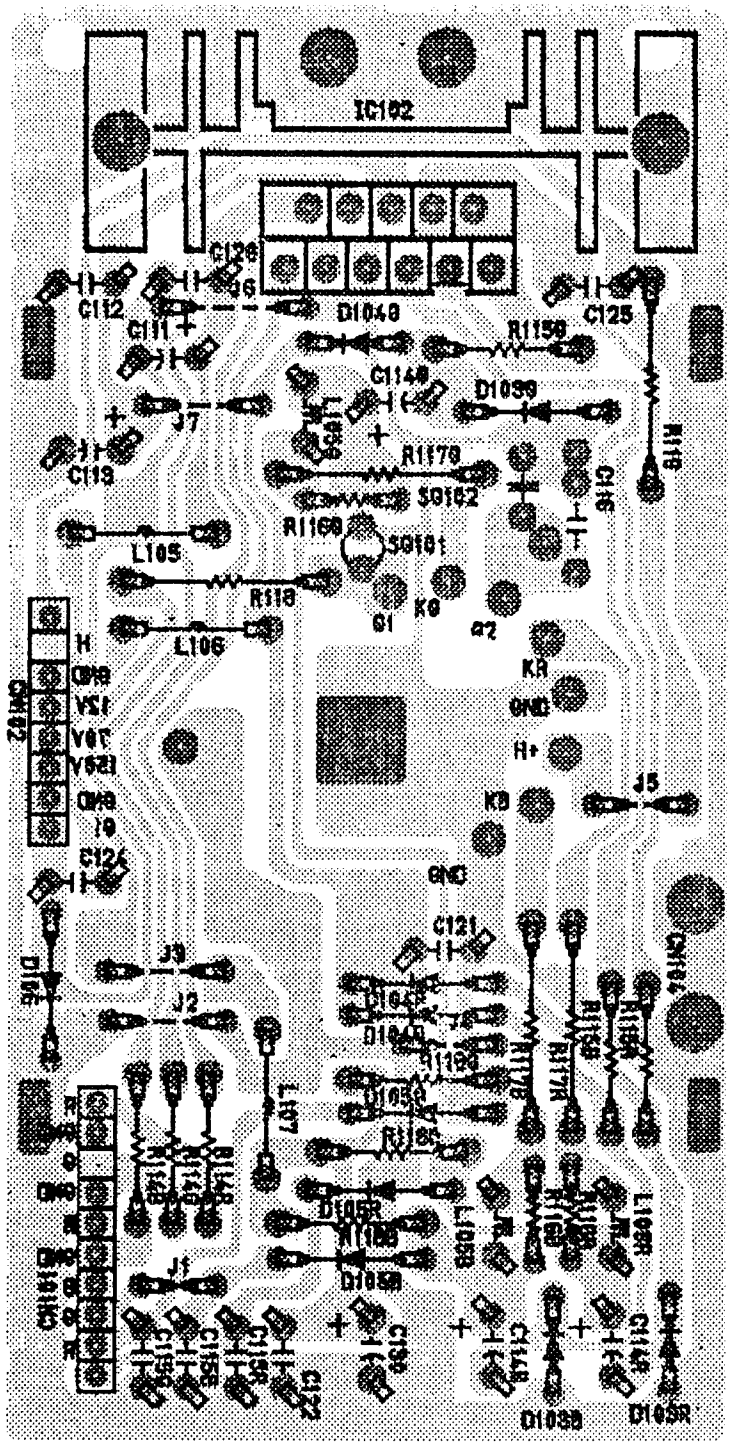

3.
Defective synchronization
Is Horizontal synchronization defective?
Is Vertical synchronization defective?
Is there an output waveform of IC401 Pin 3?
No
Sync-signal process circuit
IC401
No
Is there an output waveform of IC401 Pin 5?
Yes
Yes
Horizontal oscillation
IC401, IC203, IC204
Vertical oscillator
IC401, IC203, IC204


4.
Defective color or picture
Video processing circuit
IC101, IC201, CN101, CN102, CN403, CN401
No
Is there Pin 1, 3, 5 IC102
Yes
Video output circuit, CRT
IC102





10-2. Socket Board



11. Parts List

Sub Ass'y/Cdt Ass'y

CKT. NO.	CODE	DESCRIPTION	SPEC	ECO NO	DATE
	0112300378	SUB ASS'Y, CPT SOCKET	TEXEL		
	0116101443	SUB ASS'Y, HEAT SINK	TOPAZ, KA317		
	0116102039	SUB ASS'Y, HEAT SINK	SC-428UXLJ MJE800		
	0116102146	SUB ASS'Y, HEAT SINK	SC-428VS(VI), LM2406T		
	0116102158	SUB ASS'Y, HEAT SINK	SC-428VS(VI), IRF9610		
	0116102214	SUB ASS'Y, HEAT SINK	TEXEL, TDA8351		
	0116102226	SUB ASS'Y, HEAT SINK	TEXEL, 2SC3503		
	0116102238	SUB ASS'Y, HEAT SINK	TEXEL, 2SC4762, 5TUZ47C		
	0116102241	SUB ASS'Y, HEAT SINK	TEXEL, IRF630		
	0116102369	SUB ASS'Y, HEAT SINK	RASCALS, SSH6N80		
	0116200211	SUB ASS'Y, SHIELD COVER	TEXEL		
	0121100502	ASS'Y CDT	M36KUK35*03, 0.28D, 15˝+380MG		
	MG21700805	PCB ASS'Y	FREE, ANALG, M.V.S		

Mechanical

CKT. NO.	CODE	DESCRIPTION	SPEC	ECO NO	DATE
	0211100776	ASS'Y, HEAT SINK-SC-726MX/L	3111400684/3111900048		
	0211100975	ASS'Y, MAIN CHASSIS	TEXEL, KJU, GY8070		
	0212102859	ASS'Y, STAND	TEXEL		
	0212102862	ASS'Y, FRONT BEZEL	TEXEL, KJU, GY8070		

Capacitor

CKT. NO.	CODE	DESCRIPTION	SPEC	ECO NO	DATE
C100	111920107B	CAP, AL-ELECT, GP	100UF, 20%, 16V, -40/85'C, RT, SMALL		
C101R, G, B	111950106B	CAP, AL-ELECT, GP	10UF, 20%, 50V, -40/85'C, RT, SMALL		
C102	111950106B	CAP, AL-ELECT, GP	10UF, 20%, 50V, -40/85'C, RT, SMALL		
C103R, G, B	111950475B	CAP, AL-ELECT, GP	4.7UF, 20%, 50V, -40/85'C, RT, SMALL		
C104	111920107B	CAP, AL-ELECT, GP	100UF, 20%, 16V, -40/85'C, RT, SMALL		
C106	1312601045	CAP, IND-POLYESTER	0.1UF, 10%, 100V, RT, CQ92MT		
C107	111920476B	CAP, AL-ELECT, GP	47UF, 20%, 16V, -40/85'C, RT, SMALL		
C108G, B	1218203303	CAP, DISC CERAMIC, CC45	33PF, 5%, 50V-25/85'C, RT, TC		
C109	1237101033	CAP, DISC CERAMIC, CK	0.01UF, -20/80%, 50V, -25/85'C, RT		
C110R, G, B	111950106B	CAP, AL-ELECT, GP	10UF, 20%, 50V, -40/85'C, RT, SMALL		
C111	111920106B	CAP, AL-ELECT, GP	10UF, 20%, 16V, -40/85'C, RT, SMALL		
C112	1233501033	CAP, DISC, CERAMIC, CK	0.01UF, -20/80%, 500V, -25/85'C, RT		
C113	1119701069	CAP, AL-ELECT, GP	10UF, 20%, 160V, -40/85'C, RT		
C114R, G, B	1119701057	CAP, AL-ELECT, GP	1UF, 20%, 160V, -40/85'C, RT		
C115R, G, B	1233501033	CAP, DISC, CERAMIC, CK	0.01UF, -20/80%, 500V, -25/85'C, RT		
C116	1233202728	CAP, DISC CERAMIC, CK	2700PF, 10%, 2KV, -25/85'C, RT		
C117	111920107B	CAP, AL-ELECT, GP	100UF, 20%, 16V, -40/85'C, RT, SMALL		
C118	1119701069	CAP, AL-ELECT, GP	10UF, 20%, 160V, -40/85'C, RT		
C119	1119801069	CAP, AL-ELECT, GP	10UF, 20%, 250V, -40/85'C, RT		
C120	111920476B	CAP, AL-ELECT, GP	47UF, 20%, 16V, -40/85'C, RT, SMALL		
C121	1233501033	CAP, DISC, CERAMIC, CK	0.01UF, -20/80%, 500V, -25/85'C, RT		
C122	1233501033	CAP, DISC, CERAMIC, CK	0.01UF, -20/80%, 500V, -25/85'C, RT		
C123R	1218203303	CAP, DISC CERAMIC, CC45	33PF, 5%. 50V-25/85'C, RT, TC		
C124	1233501033	CAP, DISC, CERAMIC CK	0.01UF, -20/80%, 500V, -25/85'C, RT		
C125	1237101045	CAP, DISC CERAMIC, CK-45	0.1UF, -20/80%, 50V, -25/85'C, RT		
C126	1237101045	CAP, DISC CERAMIC, CK-45	0.1UF, -20/80%, 50V, -25/85'C, RT		
C130	1119801069	CAP, AL-ELECT, GP	10UF, 20%, 250V, -40/85'C, RT		
C131	1237101045	CAP, DISC CERAMIC, CK-45	0.1UF, -20/80%, 50V, -25/85'C, RT		
C201	111920106B	CAP, AL-ELECT, GP	10UF, 20%, 16V, -40/85'C, RT, SMALL		
C202	111920106B	CAP, AL-ELECT, GP	10UF, 20%, 16V, -40/85'C, RT, SMALL		
C203	1218201018	CAP, DISC CERAMIC, CC	100PF, 5%, 50V, -25/85'C, RT		

Capacitor

CKT. NO.	CODE	DESCRIPTION	SPEC	ECO NO	DATE
C204	1312601045	CAP, IND-POLYESTER	0.1UF, 10%, 100V, RT, CQ92MT		
C205	111950105B	CAP, AL-ELECT, GP	1UF, 20%, 50V, -40/85'C, RT, SMALL		
C206	1218203303	CAP, DISC CERAMIC, CC45	33PF, 5%, 50V-25/85'C, RT, TC		
C207	1218203303	CAP, DISC CERAMIC, CC45	33PF, 5%, 50V-25/85'C, RT, TC		
C208	111920107B	CAP, AL-ELECT, GP	100UF, 20%, 16V, -40/85'C, RT, SMALL		
C209	1218203303	CAP, DISC CERAMIC, CC45	33PF, 5%, 50V-25/85'C, RT, TC		
C210	1237101045	CAP, DISC CERAMIC, CK-45	0.1UF, -20/80%, 50V, -25/85'C, RT		
C211	1218202716	CAP, DISC CERAMIC, CC	270PF, 5%, 50V, -25/85'C, RT		
C214	1316501045	CAP, METALZ-POLYESTER	0.1UF, 5%, 250V, RT		
C215	111950106B	CAP, AL-ELECT, GP	10UF, 20%, 50V, -40/85'C, RT, SMALL		
C216	111950106B	CAP, AL-ELECT, GP	10UF, 20%, 50V, -40/85'C, RT, SMALL		
C217	111930107B	CAP, AL-ELECT, GP	100UF, 20%, 25V, -40/85'C, RT, SMALL		
C218	111920107B	CAP, AL-ELECT, GP	100UF, 20%, 16V, -40/85'C, RT, SMALL		
C219	1237101045	CAP, DISC CERAMIC, CK-45	0.1UF, -20/80%, 50V, -25/85'C, RT		
C220	1237101045	CAP, DISC CERAMIC, CK-45	0.1UF, -20/80%, 50V, -25/85'C, RT		
C221	111920107B	CAP, AL-ELECT, GP	100UF, 20%, 16V, -40/85'C, RT, SMALL		
C222	1218203303	CAP, DISC CERAMIC, CC45	33PF, 5%, 50V-25/85'C, RT, TC		
C301	1119402277	CAP, AL-ELECT, GP	220UF, 20%, 35V, -40/85'C, RT		
C302	1218204707	CAP, DISC CERAMIC, CC	47PF, 5%, 50V, -25/85'C, RT		
C303	1119304773	CAP, AL-ELECT, GP	470UF, 20%, 25V, -40/85'C, RT		
C400	111950105B	CAP, AL-ELECT, GP	1UF, 20%, 50V, -40/85'C, RT, SMALL		
C401	1119204773	CAP, AL-ELECT, GP	470UF, 16V, 20%, -40/85'C, RT		
C402	111930106B	CAP, AL-ELECT, GP	10UF, 20%, 25V, -40/85'C, RT, SMALL		
C403	1319101045	CAP, METALZ-POLYESTER	0.1UF, 100V, 5% RT		
C404	1331101028	CAP, PP, GP	1000PF, 5%, 100V, RB		
C405	1312604734	CAP, IND-POLYESTER	0.047UF, 10%, 100V, -, RT		
C406	1319101045	CAP, METALZ-POLYESTER	0.1UF, 100V, 5% RT		
C407	1319101033	CAP, METALZ-POLYESTER	0.01UF, 5%, 100V, RT		
C408	111930106B	CAP, AL-ELECT, GP	10UF, 20%, 25V, -40/85'C, RT, SMALL		
C409	1312601535	CAP, IND-POLYESTER	0.015UF, 10%, 100V, RT		
C410	111950105B	CAP, AL-ELECT, GP	1UF, 20%, 50V, -40/85'C, RT, SMALL		
C411	1218203303	CAP, DISC CERAMIC, CC45	33PF, 5%, 50V-25/85'C, RT, TC		

CKT. NO.	CODE	DESCRIPTION	SPEC	ECO NO	DATE
C412	111940476B	CAP, AL-ELECT, GP	47UF, 20%, 35V, -40/85'C, RT, SMALL		
C413	1312601523	CAP, IND-POLYESTER	0.0015UF, 10%, 100V, RT, CQ92MT		
C414	1119502277	CAP, AL-ELECT, GP	220UF, 50V, 20%, -40/85'C, RT		
C415	1312604722	CAP, IND-POLYESTER	0.0047UF, 10%, 100V, RT		
C501	111950336B	CAP, AL-ELECT, GP	33 UF, 20%, 50V, -40/85'C, RT, SMALL		
C502	131620334B	CAP, METALZ-POLYESTER	0.33UF, 100V, 10%, RT		
C503	1312601033	CAP, IND-POLYESTER	0.01UF, 10%, 100V, RT, CQ92MT		
C504	1312601045	CAP, IND-POLYESTER	0.1UF, 10%, 100V, RT, CQ92MT		
C505	1119201084	CAP, AL-ELECT, GP	1000UF, 16V, 20%, -40/85'C, RT		
C506	1119801069	CAP, AL-ELECT, GP	10UF, 20%, 250V, -40/85'C, RT		
C507	1233302214	CAP, DISK CERAMIC, EPOXY	220PF, 10%, 1KV, RT		
C508	1316501045	CAP, METALZ-POLYESTER	0.1UF, 5%, 250V, RT		
C509	1312602238	CAP, IND-POLYESTER	0.022UF, 10%, 100V, -, RT		
C510	1319101045	CAP, METALZ-POLYESTER	0.1UF, 100V, 5% RT		
C511	1119302277	CAP, AL-ELECT, GP	220UF, 20%, 25V, -40/85'C, RT		
C512	111920476B	CAP, AL-ELECT, GP	47UF, 20%, 16V, -40/85'C, RT, SMALL		
C513	1119701072	CAP, AL-ELECT, GP	100UF, 20%, 160V, -40/85'C, RT		
C514	1331903936	CAP, PP	0.039UF, 5%, 250V, RB		
C515	1335206247	CAP. METALZ-PP	0.62UF, 5%, 200V, RB		
C516	1233305612	CAP, DISC-CERAMIC, CK45	560PF, 10%, 1KV, -25/85'C, RT		
C517	1335405648	CAP, METALZ-PP, GP	0.56UF, 250V, 5%, RB		
C518	1156304758	CAP, AL-ELECT, GP	4.7UF, 20%, 25V, -40/85'C, RT		
C519	1312602226	CAP, IND-POLYESTER	0.0022UF, 10%, 100V, RT, CQ92MT		
C520	111950105B	CAP, AL-ELECT, GP	1UF, 20%. 50V, -40/85'C, RT, SMALL		
C521	1337702823	CAP, PP, HIGH-VOL	2800PF, 1.6KV, 5%, RT		
C522	1331501033	CAP, PP	0.01 UF, 5%, 1KV, RB		
C523	1337702823	CAP, PP, HIGH-VOL	2800PF, 1.6KV, 5%, RT		
C524	1331707523	CAP, PP, HIGH-VOL	7500 PF, 5%, 1.6KV, RB		
C525	111950105B	CAP, AL-ELECT, GP	1UF, 20%, 50V, -40/85'C, RT, SMALL		
C601	1315494746	CAP, METALZ-POLYESTER	0.47UF, 10%, 250VAC, RB		
C602	1315492226	CAP, METALZ-POLYESTER	2200PF, 10%, 250VAC, RB		
C603	1315492226	CAP, METALZ-POLYSTER	2200PF, 10%, 250VAC, RB		

Capacitor

CKT. NO.	CODE	DESCRIPTION	SPEC	ECO NO	DATE
C604	1123302277	CAP, AL-ELECT	220UF, 20%, 400V, -40/85'C, RT		
C606	1228501033	CAP, DISC CERAMIC, CK	0.01UF, -20/80%, 1KV, -25/85'C, RB		
C608	1233303315	CAP, DISC CERAMIC, CK	330PF, 10%, 1KV, -25/85'C, RT		
C609	1218202716	CAP, DISC CERAMIC, CK	270PF, 5%, 50V, -25/85'C, RT		
C610	1319101033	CAP, METALZ-POLYESTER	0.01UF, 5%, 100V, RT		
C611	111930476B	CAP, AL-ELECT, GP	47UF, 20%, 25V, -40/85'C, SMALL		
C612	1237101045	CAP, DISC CERAMIC, CK-45	0.1UF, -20/80%, 50V, -25/85'C, RT		
C613	111960686B	CAP, AL-ELECT, GP	68UF, 20%, 100V, -40/85'C, RT		
C614	1218201018	CAP, DISC CERAMIC, CC	100PF, 5%, 50V, -25/85'C, RT		
C616	111920106B	CPA, AL-ELECT, GP	10UF, 20%, 16V, -40/85'C, RT, SMALL		
C617	111930106B	CAP, AL-ELECT, GP	10UF, 20%, 25V, -40/85'C, RT, SMALL		
C618	1233401021	CAP, DISC CERAMIC CK45	1000PF, 10%, 500V, -25/85'C, RT, HDC		
C619	111950475B	CAP, AL-ELECT, GP	4.7UF, 20%, 50V, -40/85'C, RT, SMALL		
C621	1233402226	CAP, DISC CERAMIC, CK-45	2200PF, 10%, 500V, -25/85'C, RT		
C622	1119701072	CAP, AL-ELECT, GP	100UF, 20%, 160V, -40/85'C, RT		
C624	1233301018	CAP, DISK CERAMIC, EPOXY	100PF, 10%, 1KV, RT		
C625	1119601072	CAP, AL-ELECT, GP	100UF, 100V, 20%, -40/85'C, RT		
C627	1233301018	CAP, DISK CERAMIC, EPOXY	100PF, 10%, 1KV, RT		
C628	1119401084	CAP, AL-ELECT, GP	1000UF, 20%, 35V, -40/'85'C, RT		
C630	1119301084	CAP, AL-ELECT, GP	1000UF, 20%, 20V, -40/'85'C, RT		
C631	1119201084	CAP, AL-ELECT, GP	1000UF, 16V, 20%, -40/'85'C, RT		
C634	1230704722	CAP, DISC CERAMIC, CK	4700PF, 20%, 400VAC, -25/85'C, RT		
C635	1230704722	CAP, DISC CERAMIC, CK	4700PF, 20%, 400VAC, -25/85'C, RT		
C636	1315492226	CAP, METALZ-POLYESTER	2200PF, 10%, 250VAC, RB		
C637	1315492226	CAP, METALZ-POLYESTER	2200PF, 10%, 250VAC, RB		
C639	1237101045	CAP, DISC CERAMIC, CK-45	0.1UF, -20/80%, 50V, -25/85'C, RT		
C640	111950105B	CAP, AL-ELECT, GP	1UF, 20%, 50V, -40/85'C, RT, SMALL		
C641	1119402277	CAP, AL-ELECT, GP	220UF, 20%, 35V, -40/85'C, RT		
C642	1119701057	CAP, AL-ELECT, GP	1UF, 20%, 160V, -40/85'C, RT		
C643	1237101033	CAP, DISC CERAMIC, CK	0.01UF, -20/80%, 50V, -25/85'C, RT		
C644	111920107B	CAP, AL-ELECT, GP	100UF, 20%, 16V, -40/85'C, RT, SMALL		
C645	1119401084	CAP, AL-ELECT, GP	1000UF, 20%, 35V, -40/85'C, RT		
SG102	139110002B	CAP, SPARK-GAP	1KV, S-23		

CKT. NO.	CODE	DESCRIPTION	SPEC	ECO NO	DATE
R101R, G, B	1413407508	RES, CARBON, AT	75 OHM, 1/4M, 5%		
R102R, G, B	1413404707	RES, CARBON, AT	47 OHM, 1/4W, 5%		
R103R, G, B	1412101033	RES, CARBON, AT	10K OHM, 1/6W, 5%		
R104	1413401021	RES, CARBON, AT	1K OHM, 1/4W, 5%		
R105	1412105624	RES, CARBON, AT	5.6K OHM, 1/6W, 5%		
R106	1412102728	RES, CARBON, AT	2.7K OHM, 1/6W, 5%		
R107	1412102728	RES, CARBON, AT	2.7K OHM, 1/6W, 5%		
R108	1412105624	RES, CARBON, AT	5.6K OHM, 1/6W, 5%		
R109	1412108238	RES, CARBON, AT	82K OHM, 1/6W, 5%		
R110	1412101137	RES, CARBON, AT	11K OHM, 1/6W, 5%		
R111R, G, B	1412102015	RES, CARBON, AT	200 OHM, 1/6W, 5%		
R112R, G, B	1412103912	RES, CARBON, AT	390 OHM, 1/6W, 5%		
R113	1413401033	RES, CARBON, AT	10K OHM, 1/4W, 5%		
R114R, G, B	1413404707	RES, CARBON, AT	47 OHM, 1/4W, 5%		
R115R, G, B	1413402704	RES, CARBON, AT	27 OHM, 1/4W, 5%		
R116R, G, B	1412101021	RES, CARBON, AT	1K OHM, 1/6W, 5%		
R117R, G, B	1414201018	RES, CARBON, AT	100 OHM, 1/2W, 5%		
R118	1414202214	RES, CARBON, AT	220 OHM, 1/2W, 5%		
R118R, G, B	1413402241	RES, CARBON, AT	220K OHM, 1/4W, 5%		
R119	141420R508	RES, CARBON, AT	0.5 OHM, 1/2W, 5%		
R120R, G, B	1412102238	RES, CARBON, AT	22K OHM, 1/6W, 5%		
R201	1412101021	RES, CARBON, AT	1K OHM, 1/6W, 5%		
R202	1412101523	RES, CARBON, AT	1.5K OHM, 1/6W, 5%		
R203	1412102226	RES, CARBON, AT	2.2K OHM, 1/6W, 5%		
R204	1412101523	RES, CARBON, AT	1.5K OHM, 1/6W, 5%		
R205	1412102214	RES, CARBON, AT	220 OHM, 1/6W, 5%		
R206	1412101045	RES, CARBON, AT	100K OHM, 1/6W, 5%		
R207	1412101021	RES, CARBON, AT	1K OHM, 1/6W, 5%		
R208	1412102728	RES, CARBON, AT	2.7K OHM, 1/6W, 5%		
R209	1412101021	RES, CARBON, AT	1K OHM, 1/6W, 5%		
R210	1412103315	RES, CARBON, AT	330 OHM, 1/6W, 5%		

Fixed Resistor

CKT. NO.	CODE	DESCRIPTION	SPEC	ECO NO	DATE
R211	1412101033	RES, CARBON, AT	10K OHM, 1/6W, 5%		
R212	1412102214	RES, CARBON, AT	220 OHM, 1/6W, 5%		
R213	1412101033	RES, CARBON, AT	10K OHM, 1/6W, 5%		
R214	1412101033	RES, CARBON, AT	10K OHM, 1/6W, 5%		
R215	1412101826	RES, CARBON, AT	1.8K OHM, 1/6W, 5%		
R216	1412107508	RES, CARBON, AT	75 OHM, 1/6W, 5%		
R217	1414201006	RES, CARBON, AT	10 OHM, 1/2W, 5%		
R218	1412101045	RES, CARBON, AT	100K OHM, 1/6W, 5%		
R219	1412101547	RES, CARBON, AT	150K OHM, 1/6W, 5%		
R220	1412101045	RES, CARBON, AT	100K OHM, 1/6W, 5%		
R221	1412101033	RES, CARBON, AT	10K OHM, 1/6W, 5%		
R222	1413401033	RES, CARBON, AT	10K OHM, 1/4W, 5%		
R224	1412101018	RES, CARBON, AT	100 OHM, 1/6W, 5%		
R225	1412104722	RES, CARBON, AT	4.7K OHM, 1/6W, 5%		
R226	1412104722	RES, CARBON, AT	4.7K OHM, 1/6W, 5%		
R227	1412101018	RES, CARBON, AT	100 OHM, 1/6W, 5%		
R228	1412101018	RES, CARBON, AT	100 OHM, 1/6W, 5%		
R229	1414201045	RES, CARBON, AT	100K OHM, 1/2W, 5%		
E230	1412101021	RES, CARBON, AT	1K OHM, 1/6W, 5%		
R234	1414202R22	RES, CARBON, AT	2.2 OHM, 1/2W, 5%		
R235	1412102226	RES, CARBON, AT	2.2K OHM, 1/6W, 5%		
R236	1413402R22	RES, CARBON, AT	2.2 OHM, 1/4W, 5%		
R237	1413402R22	RES, CARBON, AT	2.2 OHM, 1/4W, 5%		
R238	1412101033	RES, CARBON, AT	10K OHM, 1/6W, 5%		
R251	1412101033	RES, CARBON, AT	10K OHM, 1/6W, 5%		
R300	1414202R22	RES, CARBON, AT	2.2 OHM, 1/2W, 5%		
R301	1414201018	RES, CARBON, AT	100 OHM, 1/2W, 5%		
R302	1412204324	RES, CARBON, AT	4.3K OHM, 1/6W, 5%		
R303	1414202R22	RES, CARBON, AT	2.2 OHM, 1/2W, 5%		
R305	1414201511	RES, CARBON, AT	150 OHM, 1/2W, 5%		
R306	141420R508	RES, CARBON, AT	0.5 OHM, 1/2W, 5%		
R307	1412101021	RES, CARBON, AT	1K OHM, 1/6W, 5%		

CKT. NO.	CODE	DESCRIPTION	SPEC	ECO NO	DATE
R308	1412101045	RES, CARBON, AT	100K OHM, 1/6W, 5%		
R401	1414201006	RES, CARBON, AT	10 OHM, 1/2W, 5%		
R402	1412103342	RES, CARBON, AT	330K OHM, 1/6W, 5%		
R403	1412104746	RES, CARBON, AT	470K OHM, 1/6W, 5%		
R404	1412103342	RES, CARBON, AT	330K OHM, 1/6W, 5%		
R405	1412201547	RES, CARBON, AT	150K OHM, 1/6W, 5%		
R406	1412101045	RES, CARBON, AT	100K OHM, 1/6W, 5%		
R407	1212102241	RES, CARBON, AT	220K OHM, 1/6W, 5%		
R408	1412101244	RES, CARBON, AT	120K OHM, 1/6W, 5%		
R409	1412105636	RES, CARBON, AT	56K OHM, 1/6W, 5%		
R410	1412101547	RES, CARBON, AT	150K OHM, 1/6W, 5%		
R411	1412202039	RES, CARBON, AT	20K OHM, 1/6W, 2%		
R412	1412101232	RES, CARBON, AT	12K OHM, 1/6W, 5%		
R413	1412101021	RES, CARBON, AT	1K OHM, 1/6W, 5%		
R414	1412101523	RES, CARBON, AT	1.5K OHM, 1/6W, 5%		
R415	1412104722	RES, CARBON, AT	4.7K OHM, 1/6W, 5%		
R416	1412101045	RES, CARBON, AT	100K OHM, 1/6W, 5%		
R417	1412101033	RES, CARBON, AT	10K OHM, 1/6W, 5%		
R418	1412105636	RES, CARBON, AT	56K OHM, 1/6W, 5%		
R419	1412101033	RES, CARBON, AT	10K OHM, 1/6W, 5%		
R420	1412101021	RES, CARBON, AT	1K OHM, 1/6W, 5%		
R421	1412104719	RES, CARBON, AT	470 OHM, 1/6W, 5%		
R423	1413402226	RES, CARBON, AT	2.2K OHM, 1/4W, 5%		
R424	1413404719	RES, CARBON, AT	470 OHM, 1/4W, 5%		
R425	1412101021	RES, CARBON, AT	1K OHM, 1/6W, 5%		
R426	1413404719	RES, CARBON, AT	470 OHM, 1/4W, 5%		
R427	1435506805	RES, METAL OXIDE, AT	68 OHM, 3W, 5%, 63MM		
R428	1435501018	RES, METAL OXIDE, AT	100 OHM, 3W, 5%, 63MM		
R429	141420R508	RES, CARBON, AT	0.5 OHM, 1/2W, 5%		
R430	1413404707	RES, CARBON, AT	47 OHM, 1/4W, 5%		
R431	1412101033	RES, CARBON, AT	10K OHM, 1/6W, 5%		
R432	1412103327	RES, CARBON, AT	3.3K OHM, 1/6W, 5%		

Fixed Resistor

CKT. NO.	CODE	DESCRIPTION	SPEC	ECO NO	DATE
R460	1412101033	RES, CARBON, AT	10K OHM, 1/6W, 5%		
R462	1412101033	RES, CARBON, AT	10K OHM, 1/6W, 5%		
R501	1414203303	RES, CARBON, AT	33 OHM, 1/2W, 5%		
R502	1413401523	RES, CARBON, AT	1.5K OHM, 1/4W, 5%		
R503	1413405636	RES, CARBON, AT	56K OHM, 1/4W, 5%		
R504	1412101021	RES, CARBON, AT	1K OHM, 1/6W, 5%		
R505	1413401523	RES, CARBON, AT	1.5K OHM, 1/4W, 5%		
R506	1413401547	RES, CARBON, AT	150K OHM, 1/4W, 5%		
R507	1412103339	RES, CARBON, AT	33K OHM, 1/6W, 5%		
R508	1412105636	RES, CARBON, AT	56K OHM, 1/6W, 5%		
R509	1412104746	RES, CARBON, AT	470K OHM, 1/6W, 5%		
R510	1412103339	RES, CARBON, AT	33K OHM, 1/6W, 5%		
R511	1412108226	RES, CARBON, AT	8.2K OHM, 1/6W, 5%		
R512	1412105624	RES, CARBON, AT	5.6K OHM, 1/6W, 5%		
R513	1412101523	RES, CARBON, AT	1.5K OHM, 1/6W, 5%		
R514	1412101021	RES, CARBON, AT	1K OHM, 1/6W, 5%		
R515	1412104722	RES, CARBON, AT	4.7K OHM, 1/6W, 5%		
R516	1413405636	RES, CARBON, AT	56K OHM, 1/4W, 5%		
R517	1435506805	RES, METAL OXIDE, AT	68 OHM, 3W, 5%, 63MM		
R518	1414201547	RES, CARBON, AT	150K OHM, 1/2W, 5%		
R519	1413401511	RES, CARBON, AT	150 OHM, 1/4W, 5%		
R520	1433602R2B	RES, METAL OXIDE, AT	2.2 OHM, 1W, 5%, 63MM TAPING		
R521	1412102226	RES, CARBON, AT	2.2K OHM, 1/6W, 5%		
R522	1412101021	RES, CARBON, AT	1K OHM, 1/6W, 5%		
R523	1413401021	RES, CARBON, AT	1K OHM, 1/4W, 5%		
R524	1412104722	RES, CARBON, AT	4.7K OHM, 1/6W, 5%		
R525	1412103327	RES, CARBON, AT	3.3K OHM, 1/6W, 5%		
R527	1412106829	RES, CARBON, AT	6.8K OHM, 1/6W, 5%		
R528	1412106929	RES, CARBON, AT	6.8K OHM, 1/6W, 5%		
R529	1412101033	RES, CARBON, AT	10K OHM, 1/6W, 5%		
R530	1412101021	RES, CARBON, AT	1K OHM, 1/6W, 5%		
R531	1412101033	RES, CARBON, AT	10K OHM, 1/6W, 5%		

Fixed Resistor

CKT. NO.	CODE	DESCRIPTION	SPEC	ECO NO	DATE
R532	1435501018	RES, METAL OXIDE, AT	100 OHM, 3W, 5%, 63MM		
R533	1414205648	RES, CARBON, AT	560K OHM, 1/2W, 5%		
R535	1412102238	RES, CARBON, AT	22K OHM, 1/6W, 5%		
R536	1412102728	RES, CARBON, AT	2.7K OHM, 1/6W, 5%		
R537	1412104722	RES, CARBON, AT	4.7K OHM, 1/6W, 5%		
R538	1412102238	RES, CARBON, AT	22K OHM, 1/6W, 5%		
R539	1412101826	RES, CARBON, AT	1.8K OHM, 1/6W, 5%		
R540	1412104734	RES, CARBON, AT	47K OHM, 1/6W, 5%		
R541	1412101244	RES, CARBON, AT	120K OHM, 1/6W, 5%		
R542	1413401523	RES, CARBON, AT	1.5K OHM, 1/4W, 5%		
R543	1412101045	RES, CARBON, AT	100K OHM, 1/6W, 5%		
R544	1412102743	RES, CARBON, AT	270K OHM, 1/6W, 5%		
R545	1412106844	RES, CARBON, AT	680K OHM, 1/6W, 5%		
R546	1414202214	RES, CARBON, AT	220 OHM, 1/2W, 5%		
R547	1414202214	RES, CARBON, AT	220 OHM, 1/2W, 5%		
R549	1412108238	RES, CARBON, AT	82K OHM, 1/6W, 5%		
R552	1413404734	RES, CARBON, AT	47K OHM, 1/4W, 5%		
R553	1412104719	RES, CARBON, AT	470 OHM, 1/6W, 5%		
R554	1413401547	RES, CARBON, AT	150K OHM, 1/4W, 5%		
R555	1413405636	RES, CARBON, AT	56K OHM, 1/4W, 5%		
R601	1414203342	RES, CARBON, AT	330K OHM, 1/2W, 5%		
R602	1475703R3B	RES, CEMENT, RB, (S)	3.3 OHM, 7W, 5%, Q, SHORT		
R603	1435506832	RES, METAL OXIDE, AT	68K OHM, 3W, 5%, 63MM		
R604	1435506832	RES, METAL OXIDE, AT	68K OHM, 3W, 5%, 63MM		
R605	1435506832	RES, METAL OXIDE, AT	68K OHM, 3W, 5%, 63MM		
R606	1435508226	RES, METAL OXIDE, AT	8.2K OHM, 3W, 5%, 63MM		
R607	1435508226	RES, METAL OXIDE, AT	8.2K OHM, 3W, 5%, 63MM		
R608	1412101045	RES, CARBON, AT	100K OHM, 1/6W, 5%		
R609	1413403303	RES, CARBON, AT	33 OHM, 1/4W, 5%		
R610	1412101021	RES, CARBON, AT	1K OHM, 1/6W, 5%		
R611	146510R229	RES, WIRE WOUND AT(NON)	0.22 OHM, 1W, 5%		
R612	1414201033	RES, CARBON, AT	10K OHM, 1/2W, 5%		

Fixed Resistor

CKT. NO.	CODE	DESCRIPTION	SPEC	ECO NO	DATE
R613	1412107535	RES, CARBON, AT	75K OHM, 1/6W, 5%		
R614	1414201523	RES, CARBON, AT	1.5K OHM, 1/2W, 5%		
R615	1412106829	RES, CARBON, AT	6.8K OHM, 1/6W, 5%		
R616	1412101045	RES, CARBON, AT	100K OHM, 1/6W, 5%		
R617	1412102728	RES, CARBON, AT	2.7K OHM, 1/6W, 5%		
R618	1412105636	RES, CARBON, AT	56K OHM, 1/6W, 5%		
R619	1412104734	RES, CARBON, AT	47K OHM, 1/6W, 5%		
R620	1412106829	RES, CARBON, AT	6.8K OHM, 1/6W, 5%		
R621	1412101021	RES, CARBON, AT	1K OHM, 1/6W, 5%		
R622	1412105636	RES, CARBON, AT	56K OHM, 1/6W, 5%		
R623	1414204719	RES, CARBON, AT	470 OHM, 1/2W, 5%		
R624	1412102253	RES, CARBON, AT	2.2M OHM, 1/6W, 5%		
R625	1414201045	RES, CARBON, AT	100K OHM, 1/2W, 5%		
R626	1412105624	RES, CARBON, AT	5.6K OHM, 1/6W, 5%		
R627	1412106829	RES, CARBON, AT	6.8K OHM, 1/6W, 5%		
R628	1413406817	RES, CARBON, AT	680 OHM, 1/4W, 5%		
R629	1414201547	RES, CARBON, AT	150K OHM, 1/2W, 5%		
R630	1435504719	RES, METAL OXIDE, AT	470 OHM, 3W, 5%, 63MM		
R631	1414201045	RES, CARBON, AT	100K OHM, 1/2W, 5%		
R632	1434601006	RES, METAL OXIDE, AT	10 OHM, 2W, 5%, 63MM TAPING		
R635	1413401814	RES, CARBON, AT	180 OHM, 1/4W, 5%		
R636	1413401826	RES, CARBON, AT	1.8K OHM, 1/4W, 5%		
R637	1414201018	RES, CARBON, AT	100 OHM, 1/2W, 5%		
R638	1412104722	RES, CARBON, AT	4.7K OHM, 1/6W, 5%		
R639	1412101045	RES, CARBON, AT	100K OHM, 1/6W, 5%		
R640	1412103924	RES, CARBON, AT	3.9K OHM, 1/6W, 5%		
R641	1412106832	RES, CARBON, AT	68K OHM, 1/6W, 5%		
R642	1435508214	RES, METAL OXIDE, AT	820 OHM, 3W, 5%, 63MM TAPING		
R643	1412102238	RES, CARBON, AT	22K OHM, 1/6W, 5%		
R649	1413401523	RES, CARBON, AT	1.5K OHM, 1/4W, 5%		
R651	1413403303	RES, CARBON, AT	33 OHM, 1/4W, 5%		
R660	1434601511	RES, METAL OXIDE, AT	150 OHM, 2W, 5%, 63MM TAPING		

Varible Resistor

CKT. NO.	CODE	DESCRIPTION	SPEC	ECO NO	DATE
TH601	1562190087	THERMISTOR, PTC	14 OHM, 20%, 220V, 2PIN		
VR101R, G, B	1527190075	VAR, NO-HANDLE, CAP, H-TYPE, RT	200 OHM, B, 0.1W		
VR102R, G, B	1527190024	VAR, NO-HANDLE, CAP, H-TYPE, RT	50K OHM, B, 0.1W		
VR103	1536400012	VAR, HANDLE, PCB-MOUNT, ARRAY, H-TYPE, D9	5K/10K OHM, 20%, B, 0.05W, 25F (P27)		
VR201	1536300012	VAR, HANDLE, PCB-MOUNT, ARRAY, H-TYPE	100K OHM*5, 20%, B, 0.05W, 25F		
VR202	1527190012	VAR, NO-HANDLE, CAP, H-TYPE, RT	10K OHM, B, 0.1W		
VR203	1527190012	VAR, NO-HANDLE, CAP, H-TYPE, RT	10K OHM, B, 0.1W		
VR204	1527190099	VAR, NO-HANDLE, CAP, H-TYPE, RT	1K OHM, B, 0.1W		
VR401	1536300012	VAR, HANDLE, PCB-MOUNT, ARRAY, H-TYPE	100K OHM*5, 20%, B, 0.05W, 25F		
VR402	1536300012	VAR, HANDLE, PCB-MOUNT, ARRAY, H-TYPE	100K OHM*4, 20%, B, 0.05W, 25F		
VR403	1527190087	VAR, NO-HANDLE, CAP, H-TYPE, RT	500 OHM, B, 0.1W		
VR404	1536300012	VAR, HANDLE, PCB-MOUNT, ARRAY, H-TYPE	100K OHM*5, 20%, B, 0.05W, 25F		
VR501	1536400012	VAR, HANDLE, PCB-MOUNT, ARRAY, H-TYPE, D9	5K/10K OHM, 20%, B, 0.05W, 25F (P27)		
VR502	1527190048	VAR, NO-HANDLE, CAP, H-TYPE, RT	200K OHM, B, 0.1W		
VR503	1536300012	VAR, HANDLE, PCB-MOUNT, ARRAY, H-TYPE	100K OHM*5, 20%, B, 0.05W, 25F		
VR601	1527290036	VAR, NO-HANDLE, CAP, V-TYPE, RT	500 OHM, B, 0.1W		
VR602	1527290075	VAR, NO-HANDLE, CAP, V-TYPE, RT	5K OHM, B, 0.1W		

Coil Transformer

CKT. NO.	CODE	DESCRIPTION	SPEC	ECO NO	DATE
IS601	1731490155	FILTER, EMI SOCKET	250V, 3A, 0.047UF, 2200PF, 1.2MH, PCB MOUNT		
L101	1731300128	FILTER, CORE	BEAD, 130OHM, 3.5*8.0		
L103	1731300063	FILTER, CORE	2.4UH, 5.5MM, BEAD, 0.032 OHM, CGA/VII, AT		
L104	1731300063	FILTER, CORE	2.4UH, 5.5MM, BEAD, 0.032 OHM, CGA/VII, AT		
L105	1731300063	FILTER, CORE	2.4UH, 5.5MM, BEAD, 0.032 OHM, CGA/VII, AT		
L105R, G, B	1722100087	COIL, PEAKING	0.82UH+-25%, SC-726V		
L106	1731300063	FILTER, CORE	2.4UH, 5.5MM, BEAD, 0.032 OHM, CGA/VII, AT		
L107	1731300063	FILTER, CORE	2.4UH, 5.5MM, BEAD, 0.032 OHM, CGA/VII, AT		
L201	1722200366	COIL, CHOKE	2.5MH, 10&		

Coil Transformer

CKT. NO.	CODE	DESCRIPTION	SPEC	ECO NO	DATE
L501	1722600378	COIL, H-LIN, FIX	4.9UH, 25%, SUMI-TUBE		
L502	1721100223	COIL, MODULATION	LITZ, USTC, 88UH-100UH, T-500		
L503	1722100179	COIL, PEAKING	8.2MH, 10%		
L504	1731300128	FILTER, CORE	BEAD, 130OHM, 3.5 * 8.0		
L601	1731100298	FILTER, LINE	20MH, SC-726V		
L601	1731300128	FILTER, CORE	BEAD, 130OHM, 3.5 * 8.0		
L602	1731300063	FILTER, CORE	2.4UH, 5.5MM, BEAD, 0.032 OHM, CGA/VII, AT		
L603	1731300128	FILTER, CORE	BEAD, 130OHM, 3.5 * 8.0		
L604	1731300128	FILTER, CORE	BEAD, 130OHM, 3.5 * 8.0		
L605	1731300063	FILTER, CORE	2.4UH, 5.5MM, BEAD, 0.032 OHM, CGA/VII, AT		
L606	1731300063	FILTER, CORE	2.4UH, 5.5MM, BEAD, 0.032 OHM, CGA/VII, AT		
T401	1713200262	COIL, TRANS, H-DRIVE	10MH, 70UH, 2.2UH		
T501	1712200366	FBT, COLOR	FSA-15A006, 48KHZ		
T601	1711600657	TRANS, POWER, SWITCHING	TEXEL		
	1722400208	COIL, DEGAUSSING	115+/-1TS, 0.45, 13.7OHM, 1040MM		

Other Electricity

CKT. NO.	CODE	DESCRIPTION	SPEC	ECO NO	DATE
F601	1910490012	FUSE TIME-LAG WITHOUT LEAD	3.15A, 250V, 5 * 20MM, CERAMIC		
FC601	1911300087	FUSE CLIP	5.20 * 20MM, TAPPING		
FC602	1911300087	FUSE CLIP	5.20 * 20MM, TAPPING		
RL601	1912190087	RELAY	12VDC/240VAC, 5A		
SW201	1913800024	TACT SWITCH	2P, 12V, 50MA, SKHV17910A		
SW601	1913100223	PUSH SWITCH	SPST, 5A/80A, 250VAC, TV-5, 4P		
	1917300131	CORE, RING, FERRITE	9.9(4.7) * 5.2, 9.9 PI		
	1917300155	CORE, RING, FERRITE	14.2D * 15.1		

Transistor

CKT. NO.	CODE	DESCRIPTION	SPEC	ECO NO	DATE
Q201	2111400012	TR NPN TO-92	KSC945CY, 150MA, 60V, 250MV, AF AMP/OSC		
Q202	2111400012	TR NPN TO-92	KSC945CY, 150MA, 60V, 250MV, AF AMP/OSC		
Q210	2111400012	TR NPN TO-92	KSC945CY, 150MA, 60V, 250MV, AF AMP/OSC		
Q401	2111400116	TR NPN TO-92	KSC2331Y, 700MA, 80V, 1.0W, LF AMP		
Q501	2111400036	TR NPN TO-92	KSC1008Y, 0.7A, 80V, 800MA, LF AMP		
Q502	2111400012	TR NPN TO-92	KSC945CY, 150MA, 60V, 250MV, AF AMP/OSC		
Q503	2112400024	TR PNP TO-92	KSA733CY, 0.15A, 60V, 0.25W, LF AMP		
A504	2112400143	TR NPN TO-92	2N6520, 0.5A, 350V, 0.625W, HV, TAPING		
Q505	2111400012	TR NPN TO-92	KSC945CY, 150MA, 60V, 250MV, AF AMP/OSC		
Q506	2111400116	TR PNP TO-92	KSC2331Y, 700MA, 80V, 1.0W, LF AMP		
Q507	2111400012	TR PNP TO-92	KSC945CY, 150MA, 60V, 250MV, AF AMP/OSC		
Q508	2112400024	TR NPN TO-92	KSA733CY, 0.15A, 60V, 0.25W, LF AMP		
Q510	2111400012	TR PNP TO-92	KSC945CY, 150MA, 60V, 250MV, AF AMP/OSC		
Q512	2112400024	TR PNP TO-92	KSA733CY, 0.15A, 60V, 0.25W, LF AMP		
Q513	2112400024	TR PNP TO-92	KSA733CY, 0.15A, 60V, 0.25W, LF AMP		
Q515	2113190182	FET N-CHANNEL	2SK1351, 5A, 500V, 40W(TC), TO-220		
Q604	2111400012	TR NPN TO-92	KSC945CY, 150MA, 60V, 250MV, AF, AMP/OSC		
Q605	2111400315	TR NPN TO-92	2N5551C-Y, 0.6A, 160V, 625MW		
Q606	2112400208	TR NPN TO-92	2SA1013-Y		
Q607	2111400012	TR NPN TO-92	KSC945CY, 150MA, 60V, 250MV, AF AMP/OSC		
Q608	2111400012	TR NPN TO-92	KSC945CY, 150MA, 60V, 250MV, AF AMP/OSC		
Q609	2111400012	TR NPN TO-92	KSC945CY, 150MA, 60V, 250MV, AF AMP/OSC		
Q610	2111400036	TR NPN TO-92	KSC1008Y, 0.7A, 80V, 800MA, LF AMP		
	2111500116	TR NPN TO-126	KSC3503D, 0.1A, 300V, 7W(TC), VD O/P, ML		
	2111500131	TR NPN TO-126	KSE800, 4A, 60V, 40W		
	2111790342	TR NPN TO-3P	C4762, 7A, 1500V, 50W(TC), HOR DEF		
	2113100298	FET N-CHANNEL	IRF630, 9A, 200V, 0.4 OHM, PW, TO-220		
	2113100315	FET N-CHANNEL	SSH6N80, 6A, 800V, 1.9 OHM		
	2113200012	FET P-CHANNEL	IRF9610, 200V, 1.75A, 3 OHM		

Diode

CKT. NO.	CODE	DESCRIPTION	SPEC	ECO NO	DATE
D101R, G, B	2213200048	SWITCHING DIODE	1N4148, 150MA, 75V		
D102R, G, B	2213200048	SWITCHING DIODE	1N4148, 150MA, 75V		
D103	2212100116	ZENER DIODE	0.5W, 12V, UZ12B		
D103R, G, B	2211290167	RECTIFIER DIODE GP	BAV21, 0.25A, 250V, AT		
D104R, G, B	2213200048	SWITCHING DIODE	1N4148, 150MA, 75V		
D105R, G, B	2213200048	SWITCHING DIODE	1N4148, 150MA, 75V		
D106	2211190087	RECTIFIER DIODE FR	1A, 600V, 1N4937		
D202	2212100051	ZENDR DIODE	0.5W, 5.1V, UZ5.1B		
D203	2212100051	ZENDR DIODE	0.5W, 5.1V, UZ5.1B		
D205	2212100366	ZENDR DIODE	0.5W, 10V, MTZ 10C		
D207	2213200048	SWITCHING DIODE	1N4148, 150MA, 75V		
D208	2213200048	SWITCHING DIODE	1N4148, 150MA, 75V		
D209	2213200048	SWITCHING DIODE	1N4148, 150MA, 75V		
D210	2213200048	SWITCHING DIODE	1N4148, 150MA, 75V		
D211	2213200048	SWITCHING DIODE	1N4148, 150MA, 75V		
D212	2213200048	SWITCHING DIODE	1N4148, 150MA, 75V		
D213	2212100099	ZENER DIODE	0.5W, 9.1V, UZ9, 1B		
D214	2211190458	RECTIFIER DIODE FR	3A, 400V, 50NS UF5404		
D215	2215300012	LED GREEN/RED	SPR-39MVW3, 25MA, 75MW/20MA, 60MW, ROUND		
D220	2213200048	SWITCHING DIODE	1N4148, 150MA, 75V		
D301	2213200048	SWITCHING DIODE	1N4148, 150MA, 75V		
D501	2213200048	SWITCHING DIODE	1N4148, 150MA, 75V		
D502	2211190087	RECTIFIER DIODE FR	1A, 600V, 1N4937		
D503	2213200048	SWITCHING DIODE	1N4148, 150MA, 75V		
D504	2212100036	ZENER DIODE	0.5W, 3.3V, UZ3.3B		
D505	2213200048	SWITCHING DIODE	1N4148, 150MA, 75V		
D506	2211190087	RECTIFIER DIODE FR	1A, 600V, 1N4937		
D507	2212100051	ZENER DIODE	0.5W, 5.1V UZ5.1B		
D508	2211190087	RECTIFIER DIODE FR	1A, 600V, 1N4937		
D509	2212100087	ZENER DIODE	0.5W, 8.2V, UZ8.2B		
D510	2213200048	SWITCHING DIODE	1N4148, 150MA, 75V		
D511	2211190087	RECTIFIER DIODE FR	1A, 600V, 1N4937		

Diode

CKT. NO.	CODE	DESCRIPTION	SPEC	ECO NO	DATE
D514	2213200048	SWITCHING DIODE	1N4148, 150MA, 75V		
D515	2211190167	RECTIFIER DIODE FR	1.5A, 400V, RGP15G/FF1504		
D516	2211190458	RECTIFIER DIODE FR	3A 400V, 50NS, UF5404		
D517	2213200048	SWITCHING DIODE	1N4148 150MA, 75V		
D519	2211190087	RECTIFIER DIODE FR	1A, 600V, 1N4937		
D520	2211190087	RECTIFIER DIODE FR	1A, 600V, 1N4937		
D521	2213200048	SWITCHING DIODE	1N4148, 150MA, 75V		
D522	2212100366	ZENER DIODE	0.5W, 10V, MTZ 10C		
D600	2211190458	RECTIFIER DIODE FR	3A, 400V, 50NS, UF5404		
D601	2211290179	RECTIFIER DIODE GP	1N, 5399GP, 1.5A, 100V, AT		
D602	2211290179	RECTIFIER DIODE GP	1N, 5399GP, 1.5A, 100V, AT		
D603	2211290179	RECTIFIER DIODE GP	1N, 5399GP, 1.5A, 100V, AT		
D604	2211290179	RECTIFIER DIODE GP	1N, 5399GP, 1.5A, 100V, AT		
D605	2211190502	RECTIFIER DIODE FR	RGP02-12E, 0.5A, 1200V, 300NS, AT		
D606	2211190502	RECTIFIER DIODE FR	RGP02-12E, 0.5A, 1200V, 300NS, AT		
D607	2212100143	ZENER DIODE	0.5W, 16V, UZ16B		
D608	2211190485	RECTIFIER DIODE FR	UF4007, 1A, 100V, 75NS, AT		
D609	2212100143	ZENER DIODE	0.5W, 16V, UZ16B		
D610	2211190502	RECTIFIER DIODE FR	RGP02-12E, 0.5A, 1200V, 300NS, AT		
D611	2212100051	ZENER DIODE	0.5W, 5.1V, UZ5.1B		
D612	2213200048	SWITCHING DIODE	1N4148, 150MA, 75V		
D613	2213200048	SWITCHING DIODE	1N4148, 150MA, 75V		
D614	2212100116	ZENER DIODE	0.5W, 12V, UZ12B		
D615	2211190497	RECTIFIER DIODE FR	UF5408, 3A, 1000V, 75NS, FORMING		
D616	2211190497	RECTIFIER DIODE FR	UF5408, 3A, 1000V, 75NS, FORMING		
D617	2211190167	RECTIFIER DIODE FR	1.5A, 400V, RGP15G/FF1504		
D618	2211190458	RECTIFIER DIODE FR	3A, 400V, 50NS, UF5404		
D619	2211190458	RECTIFIER DIODE FR	3A, 400V, 50NS, UF5404		
D620	2213200048	SWITCHING DIODE	1N4148, 150MA, 75V		
D621	2211190167	RECTIFIER DIODE FR	1.5A, 400V, RGP15G/FF1504		
D623	2213200048	SWITCHING DIODE	1N4148, 150MA, 75V		
	2211190749	RECTIFIER DIODE FR	5TUZ47C, 4A, 1500V		

IC

CKT. NO.	CODE	DESCRIPTION	SPEC	ECO NO	DATE
IC101	2332190208	IC, LINEAR, DIP	1203, RGB VIDEO AMP, 28		
IC102	2331290116	IC, REGULATOR, TO-220	LM317T, ADJUSTABLE(1.2V-37V)		
IC201	2316500868	IC, HCT, DIP-14	74HCT86, QUAD 2-INPUT XOR GATES		
IC202	2332300048	IC, LINEAR, TO-92	KIA7042P, VOLTAGE DETECTOR		
IC203	2340190194	IC, CPU, DIP-24	87C751, OTP		
IC204	2332190327	IC, LINEAR, DIP-16	6 BIT DAC, TDA8444P/N4		
IC205	2351100128	IC, HYBRID, SIP-15	HIS0184A, HV1, PWM, TEXEL		
IC206	2341790051	IC, EEPROM, DIP-8	24LC21- /P, 1KBIT(128*8BIT)		
IC401	2332190342	IC, LINEAR, DIP-20	TDA4852, HV DEFLECTION CONTROLLER		
IC601	2332100485	IC, LINEAR, DIP-8	KA3882, PWM CONTROLLER		
IC602	2330190063	IC OPTO-COUPLER DIP-6	CQY80NG, ISOLATOR		
IC603	2331300012	IC, REGULATOR, TO-92	KA431AZTA PROGRAMMABLE PRECISION		
IC604	2331200128	IC, REGULATOR, TO-220	7805C, 1.5A, 5V		
	2332190339	IC, LINEAR, SIP-9	TDA8351, VERTICAL DEFLECTION		
	2332990128	IC, LINEAR, SPECIAL	COLOR CRT DRIVER, LM2406		

Metal

CKT. NO.	CODE	DESCRIPTION	SPEC	ECO NO	DATE
	3111100143	COM, HEAT SINK-TR	SPCC, T1.0, SN, FT-2		
	3111400618	HEAT SINK-N	30*15*23.5, A6063S		
	3111400868	HEAT SINK-N, SC-428UXLJ	36*14.5*50 A1050P AL		
	3111400883	COM, HEAT SINK-POWER	A1050S-H14, T2.0		
	3111400924	HEAT SINK-N, SC-428SVGA/N.I	50*18*40, W/SOLDER PIN		
	3112100235	IMP, SPRING-TR(A)	SUS304-1/2H, T0.17/T0.5		
	3113100012	BEAD PIN	D2.36*14.1, BRASS, SN		

Plastic

CKT. NO.	CODE	DESCRIPTION	SPEC	ECO NO	DATE
	3211103924	PLA, EXT-H, REAR HOUSING TEXEL	335 * 364 * 337, KJU, GY8070		
	3261105651	PAL, LED, HOLDER, SC-428UX/UXL	7 * 6 * 7, ABS, OEM-3357		
	3261107482	PLA, V/R KNOB-A, TEXEL	D20 * 32, KJU, GY8070		
	3261107494	PAL, V/R KNOB-B, TEXEL	D23 * 32, KJU, GY8070		
	3261107511	PAL, BOTTOM SUPPORT, TEXEL	70 * 49 * 7.7, KJU, GY8070		
	3261107547	PAL, POWER S/W SHAFT, TEXEL	271.7 * 24 * 7.3, KJU, GY8070		

Connection

CKT. NO.	CODE	DESCRIPTION	SPEC	ECO NO	DATE
	3314200012	MS+, PAN, W/P.W, ZPW	M3 * 8, SWRCH1018AK		
	3314200024	MS+, PAN, W/P.W, ZPW	M3 * 10, SWRCH1018AK		
	3347400024	SPECIAL, TAPTITE, BH+, HB+, M4 * 16	B, BH+, M4, L16, ZPC3, SWCH18A, FZY		
	3347400048	TAPTITE, B, BH, +, M3, L8, ZPC3	B, BH, +, M3, L8, ZPC3, SWRCH18A		
	3347400063	TAPTITE, SCREW-CRT	BH+, P/W, D18, M5, L30, ZPC3, SWCH18		
	3361400012	PS+, PAN, W/F, ZPW(WHR-9), 471P/472P	M4 * 12(SWRCH1018AK)		
	3385200012	NUT, HEX, 2, ZPW	M3 * 0.5P, S10C		
	3393100036	EYELET	3.1 * 2.0 * 2.8, BSP, SN		
	3393100063	MISCEL, PIN-EYELET	BSS3-1/2H, T0.25, ID2.2, OD2.7, L3.1		

Packing

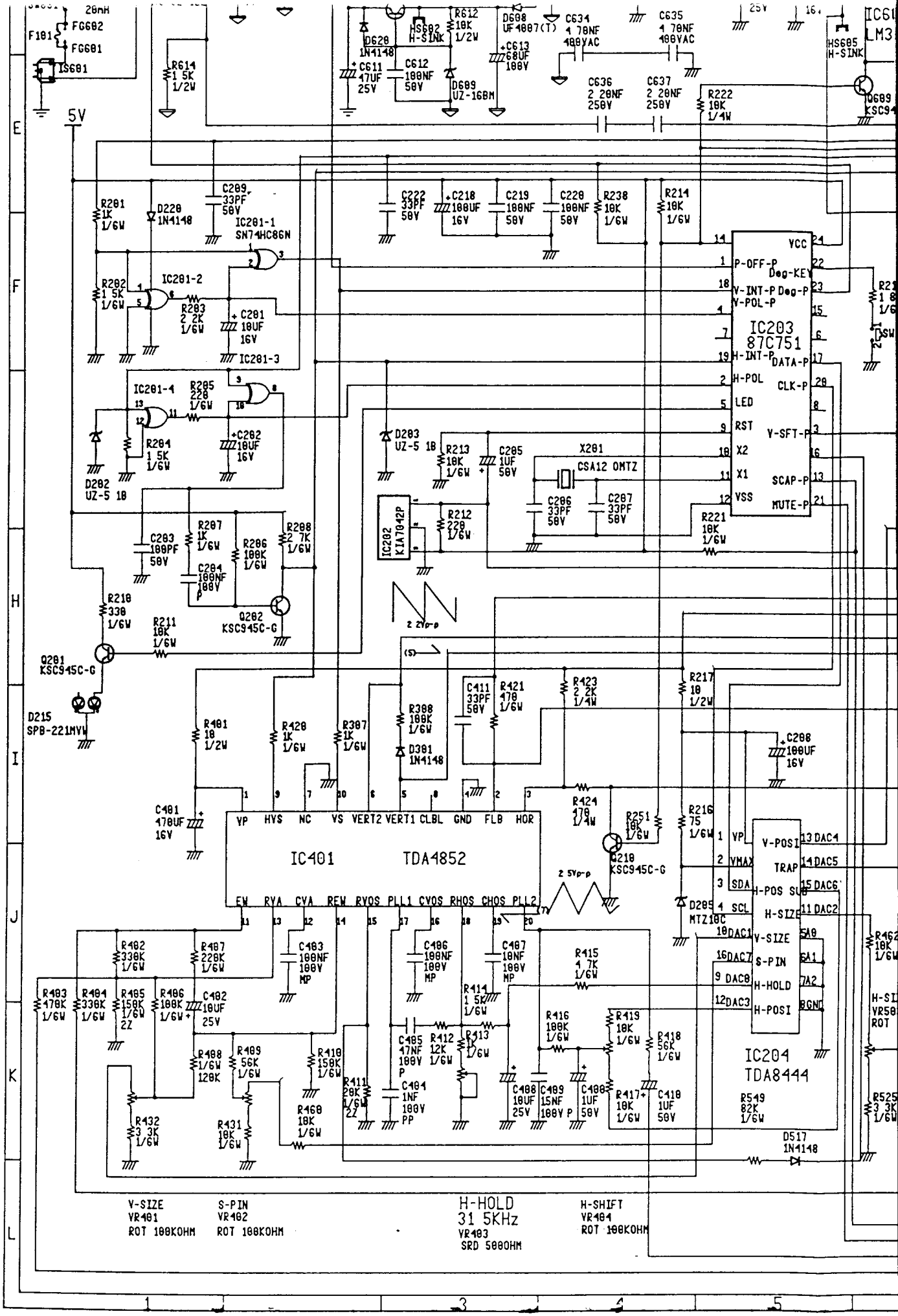
CKT. NO.	CODE	DESCRIPTION	SPEC	ECO NO	DATE
	3411104639	BOX, D2808A,(TEXEL)	488 * 450 * 463(SUK300 * K200 * SUK300)		
	3421100764	S/FORM, EPS, TEXEL	476 * 120 * 445		
	3431100577	VINYL BAG, SET, SAMTRON	800 * 880, HDPE 0.02T, RECYCLING		
	3431100592	VINYL BAG, SIGNAL CABLE, SAMTRON	110 * 200, HDPE 0.05T, RECYCLING		

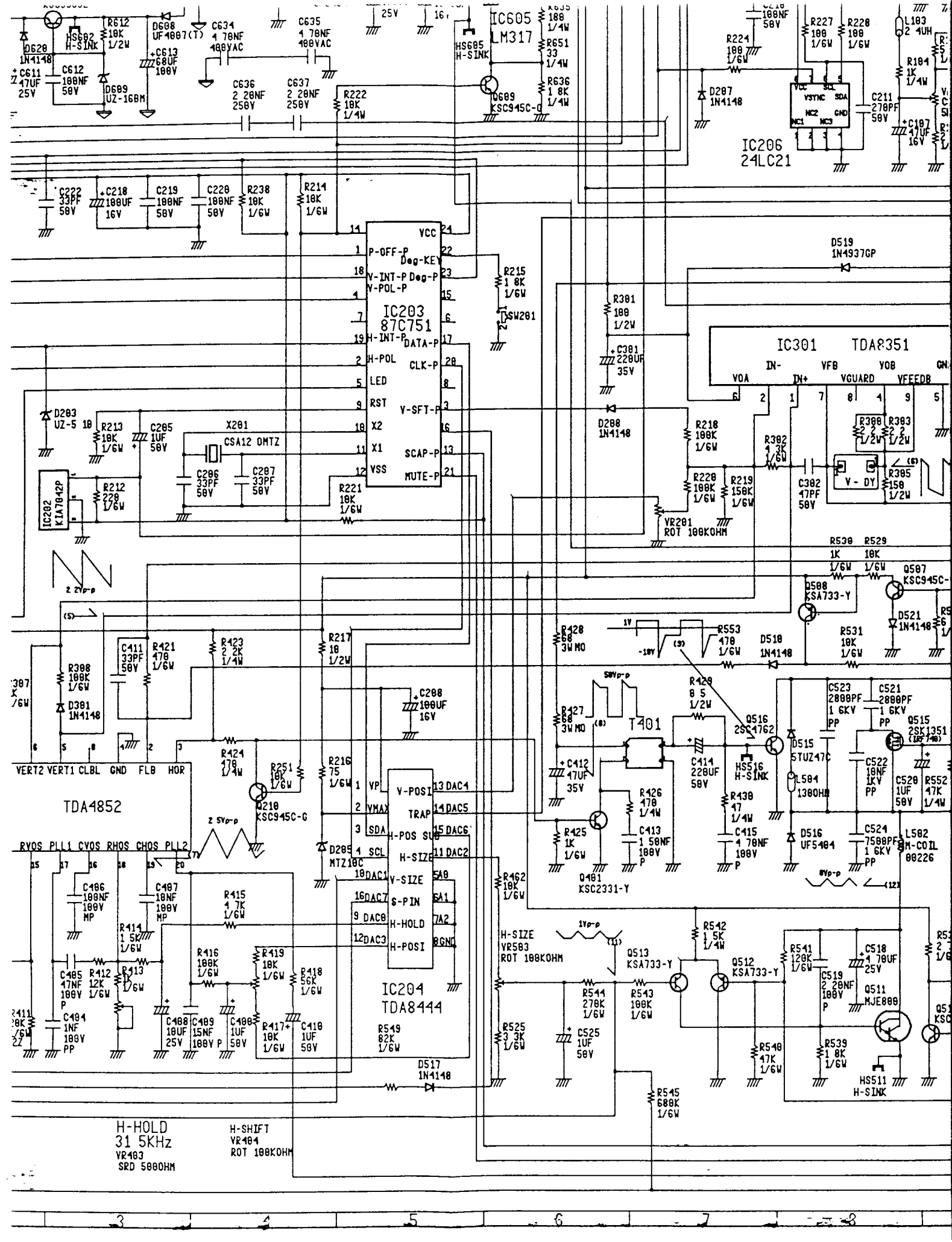
Print

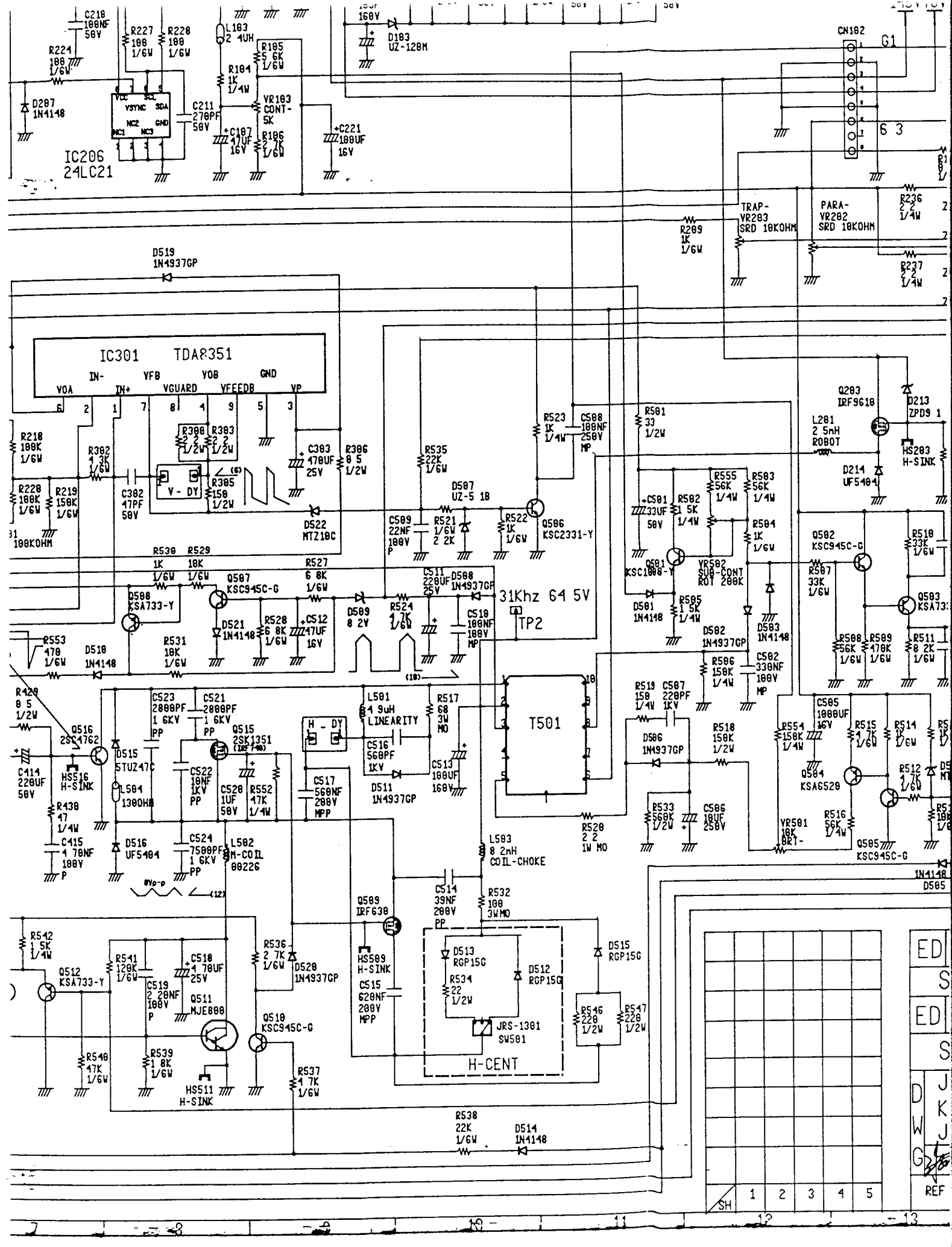
CKT. NO.	CODE	DESCRIPTION	SPEC	ECO NO	DATE
	3511105081	LABEL, WARNING, SC-431EII/VII	HIGH VOLTAGE		
	3511106378	LABEL, BAR CODE	65 * 20		
	3511106672	LABEL, BOX, BAR CODE, ZIRCON	140 * 100, WHITE, 100G		
	3511112157	LABEL, PRODUCT, D2808-60004(TEXEL)	H.P, 104 * 84		
	3531106618	MANUAL USER'S, D2808A(TEXEL)	190 * 288, ENG/DEU/FRA/ESP/ITA		

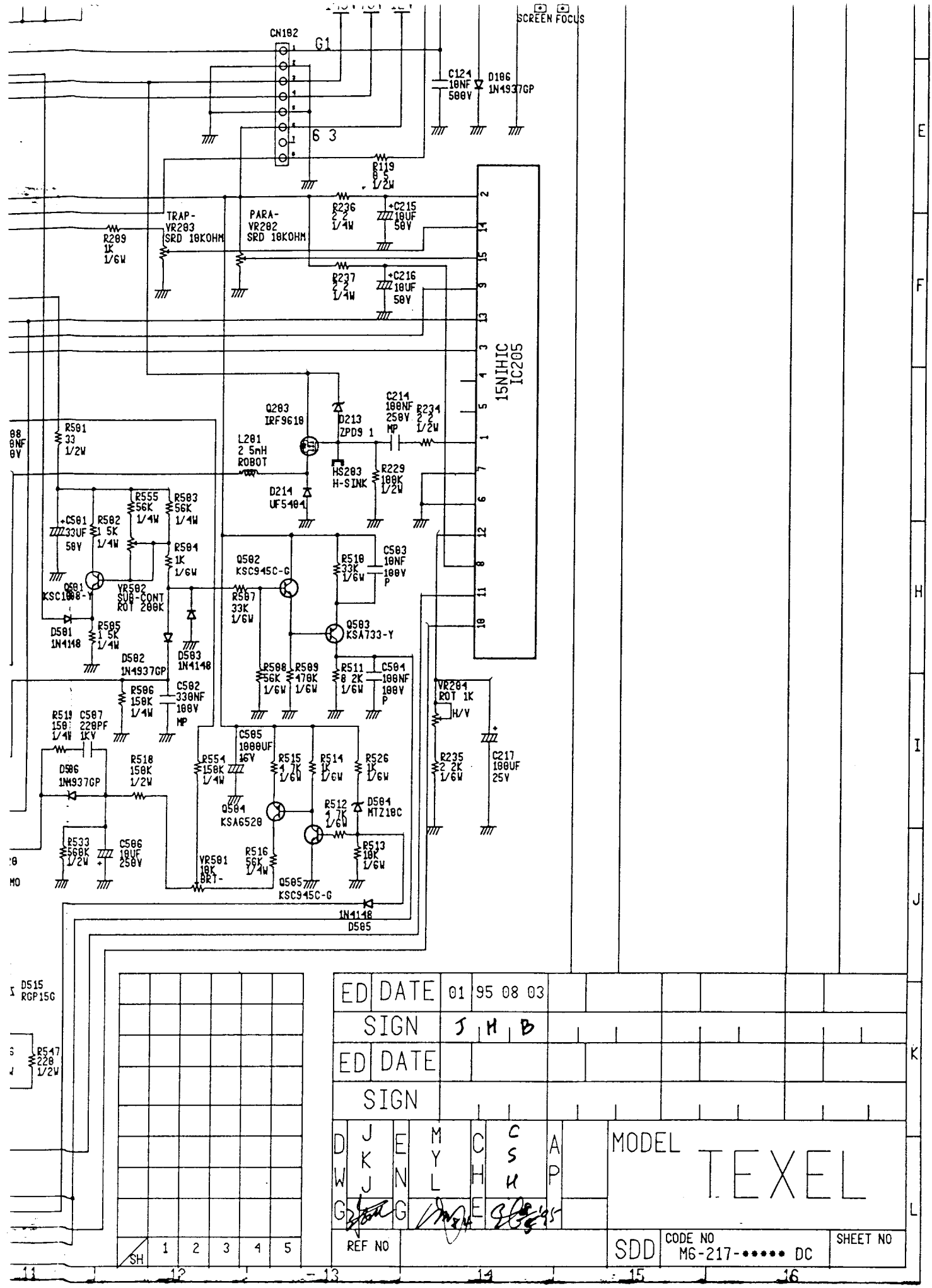
Wire Connector

CKT. NO.	CODE	DESCRIPTION	SPEC	ECO NO	DATE
CN1000	3661190063	CONNECTOR D-SUBMINIATURE	2.286, FEMALF, 15P, DV11201-S3, RA		
CN101	3641201018	WIRE, CONN/HOUSING	210MM, 10P, 10P, 1007#22, 1354#28, BK-TUBE		
CN102	3641201021	WIRE, CONN/HOUSING	210MM, 8P, 8P, UL1007#22		
CN103	3661400701	CONNECTOR LOCK HEADER	2.5, ST, 10P, GIL-G-10P-S3T2-E		
CN201	3661400696	CONNECTOR LOCK HEADER	2.5, ST, 8P, GIL-G-8P-S3T2-E		
CND4	3643100565	WIRE, RING TER	70MM, D4.3, UL1015#18, G/Y, 35740-1410		
CND5	3643500063	WIRE, TER, SLIP-ON	90MM, UL1015#22 BLK, 35718-0910, OP14(C)		
SK101	3663300155	CON-JACK, CRT SOCKET	PHI29-HIGH FOCUS, SMALL TYPE		
	3618100012	WIRE, BARE	CU+SN+PB, 1ST, 1X0.6, SAD		
	3643100577	WIRE, RING TER, SLIP-ON	100MM, D4.3, UL1015#22, BLK, 35718-0910		
	3643700832	BRAID WIRE, SLIP-ON TER	165MM, 35718-0910, SLEEVE, 0.16 * 3 * 16, BK-TUB		
	3643700844	BRAID WIRE, RING TER	165MM, D4.3, 0.16 * 3 * 16, BK-TUBE		
	3643700856	BRAID WIRE, CDT GND, TEXEL	255/330/320/150, 1P * 2, 2P, D4.3, 0.16 * 5 * 16		
	365210022C	CORD, POWER, NORMAL, DETACH	HO5VV-F, 250V, GY, T MARK		
	3655190458	CABLE, SIGNAL, DETACH	1500MM, 15P, 15P, FLINT(GY), DDC, TEXEL		

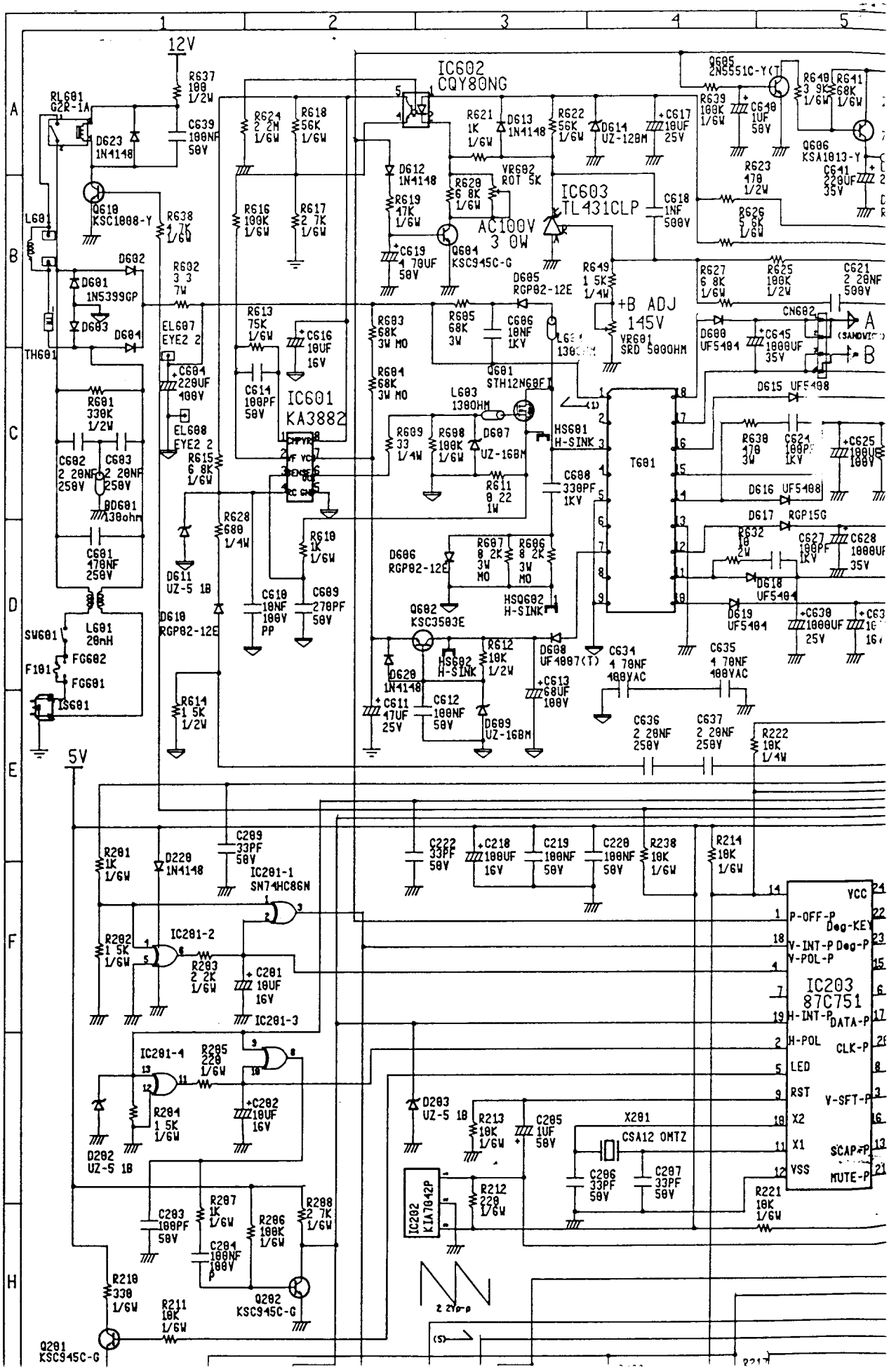

IC401 TDA4852
IC203 87C751
IC204 TDA8444
IC202 KIA7042P
IC201-1 SN74HC86N
IC201-2
IC201-3
IC201-4
X201 CSA12 0MTZ
Q201 KSC945C-G
Q202 KSC945C-G
Q218 KSC945C-G
D215 SPB-221MVW
D202 UZ-5 1B
D203 UZ-5 1B
D220 1N4148
D620 1N4148
D381 1N4148
D517 1N4148
D289 MTZ10C
D609 UZ-16BM
VP HYS NC VS VERT2 VERT1 CLBL GND FLB HOR
FW RVA CVA REW RVOS PLL1 CVOS RHOS CHOS PLL2
VCC P-OFF-P V-INT-P V-POL-P H-INT-P H-POL LED RST X2 X1 VSS
Deg-KEY Deg-P DATA-P CLK-P Y-SFT-P SCAP-P MUTE-P
V-POSI TRAP H-POS SUB H-SIZE V-SIZE S-PIN H-HOLD H-POSI
VP VMAX SDA SCL
DAC1 DAC2 DAC4 DAC5 DAC6 DAC7 DAC0 DAC3
5V
V-SIZE VR401 ROT 100KOHM
S-PIN VR402 ROT 100KOHM
H-HOLD 31 5KHz VR403 SRD 5000HM
H-SHIFT VR404 ROT 100KOHM

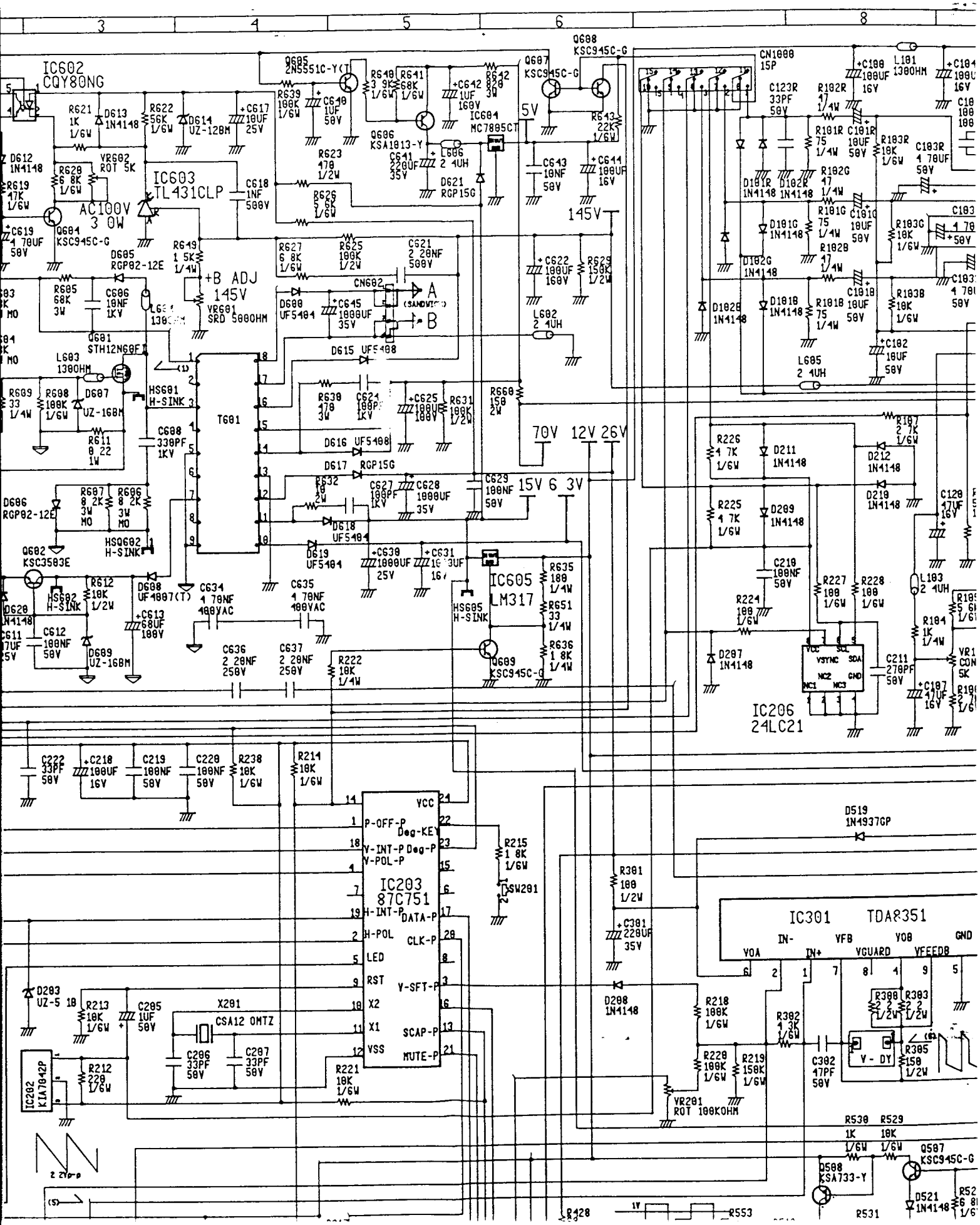

IC203
87C751
IC204
TDA8444
IC206
24LC21
IC301
TDA8351
TDA4852
T401
IC605
LM317
IC202
KIA7042P
X201
CSA12 0MTZ
H-HOLD
31 5KHz
VR403
SRD 5000HM
H-SHIFT
VR404
ROT 100KOHM
H-SIZE
VR503
ROT 100KOHM
VR201
ROT 100KOHM
VERT2 VERT1 CLBL GND FLB HOR
RYOS PLL1 CYOS RHOS CHOS PLL2


IC301 TDA8351
IN- VFB VOB GND
VOA IN+ VGUARD VFEEDB VP
IC206 24LC21
V - DY
H - DY
T501
TP2
31Khz 64 5V
H-CENT
JRS-1301 SW501
TRAP- VR203 SRD 10KOHM
PARA- VR202 SRD 10KOHM
SUB-CONT ROT 200K
CN102
D519 1N4937GP
D522 MTZ10C
D507 UZ-5 1B
D183 UZ-128M
Q506 KSC2331-Y
Q507 KSC945C-G
Q508 KSA733-Y
Q509 IRF630
Q510 KSC945C-G
Q511 MJE800
Q512 KSA733-Y
Q516 2SC4762
Q515 2SK1351
Q203 IRF9610
Q501 KSC1008-Y
Q502 KSC945C-G
Q503 KSA73:
Q504 KSA6520
Q505 KSC945C-G
L501 4 9uH LINEARITY
L502 M-COIL 80226
L503 8 2nH COIL-CHOKE
L504 1300HM
L201 2 5nH ROBOT
D213 ZPD9 1
D214 UF5404
D515 5TUZ47C
D516 UF5404
D511 1N4937GP
D586 1N4937GP
D587 1N4937GP
D588 1N4937GP
D589 8 2V
D501 1N4148
D502 1N4937GP
D503 1N4148
D505 1N4148
D510 1N4148
D513 RGP15G
D512 RGP15G
D515 RGP15G
D520 1N4937GP
D521 1N4148
D514 1N4148
HS516 H-SINK
HS509 H-SINK
HS511 H-SINK
HS203 H-SINK
VR501 10K BRT-
VR502 SUB-CONT ROT 200K
VR103 CONT- 5K
ED
S
ED
S
J
K
J
G
REF
SH 1 2 3 4 5


SCREEN FOCUS
CN102
G1
6 3
C124 10NF 500V
D106 1N4937GP
R119 6 8 1/2W
R236 2 2 1/4W
+C215 10UF 50V
TRAP- VR203 SRD 10KOHM
PARA- VR202 SRD 10KOHM
R209 1K 1/6W
R237 2 2 1/4W
+C216 10UF 50V
15NIHIC IC205
Q203 IRF9610
D213 ZPD9 1
C214 100NF 250V MP
R234 2 2 1/2W
L201 2 5mH ROBOT
HS203 H-SINK
R229 100K 1/2W
D214 UF5401
R501 33 1/2W
R555 56K 1/4W
R503 56K 1/4W
+C501 33UF 50V
R502 1 5K 1/4W
R504 1K 1/6W
Q501 KSC1008-Y
VR502 SUB-CONT ROT 200K
D501 1N4148
R505 1 5K 1/4W
D502 1N4937GP
D503 1N4148
Q502 KSC945C-G
R510 33K 1/6W
C503 10NF 100V P
R507 33K 1/6W
Q503 KSA733-Y
R508 56K 1/6W
R509 470K 1/6W
R511 6 2K 1/6W
C504 100NF 100V P
VR204 ROT 1K H/V
R506 150K 1/4W
C502 330NF 100V MP
R519 150 1/4W
C507 220PF 1KV
D506 1N4937GP
R518 150K 1/2W
C505 1000UF 16V
R554 150K 1/4W
R515 1 1K 1/6W
R514 1K 1/6W
R526 1K 1/6W
R235 2 2K 1/6W
C217 100UF 25V
Q504 KSA6528
R512 1 7K 1/6W
D504 MTZ10C
R533 560K 1/2W
C506 10UF 250V
VR501 10K BRT-
R516 56K 1/4W
R513 10K 1/6W
Q505 KSC945C-G
1N4148 D505
D515 RGP15G
R547 220 1/2W
ED DATE 01 95 08 03
SIGN J H B
ED DATE
SIGN
D J E M C C A
W K N Y H S P
G J G L E H
MODEL TEXEL
SDD
CODE NO M6-217-••••• DC
SHEET NO
REF NO
SH 1 2 3 4 5
E F H I J K L
11 12 13 14 15 16

9. Schematic Diagram




IC602
CQY80NG
IC603
TL431CLP
AC100V
3 0W
+B ADJ
145V
VR601
SRD 5000HM
T601
IC604
MC7805CT
5V
145V
70V 12V 26V
15V 6 3V
IC605
LM317
IC206
24LC21
IC203
87C751
X201
CSA12 0MTZ
IC202
KIA7042P
IC301 TDA8351
IN-
IN+
VFB
VGUARD
VFEEDB
GND
V- DY
VR201
ROT 100KOHM
D519
1N4937GP
D208
1N4148
SW201
CN602
CN1000
15P
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HS602
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HSQ602
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STH12N60FI
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Q606
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KSC945C-G
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RGP02-12E
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D521
1N4148
VR602
ROT 5K
VR603
ROT 5K
R621
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R622
56K
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R626
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C619
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500V
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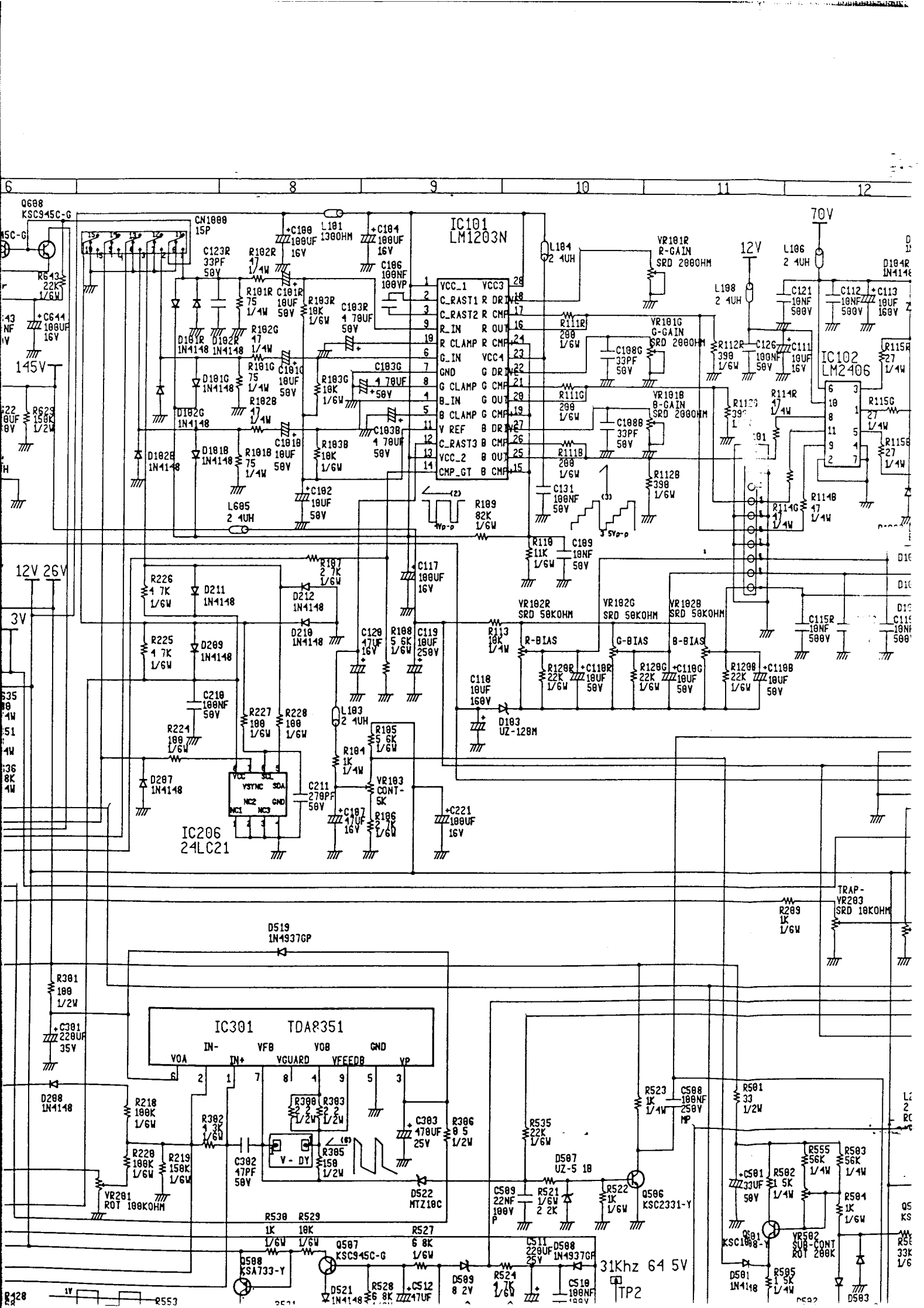
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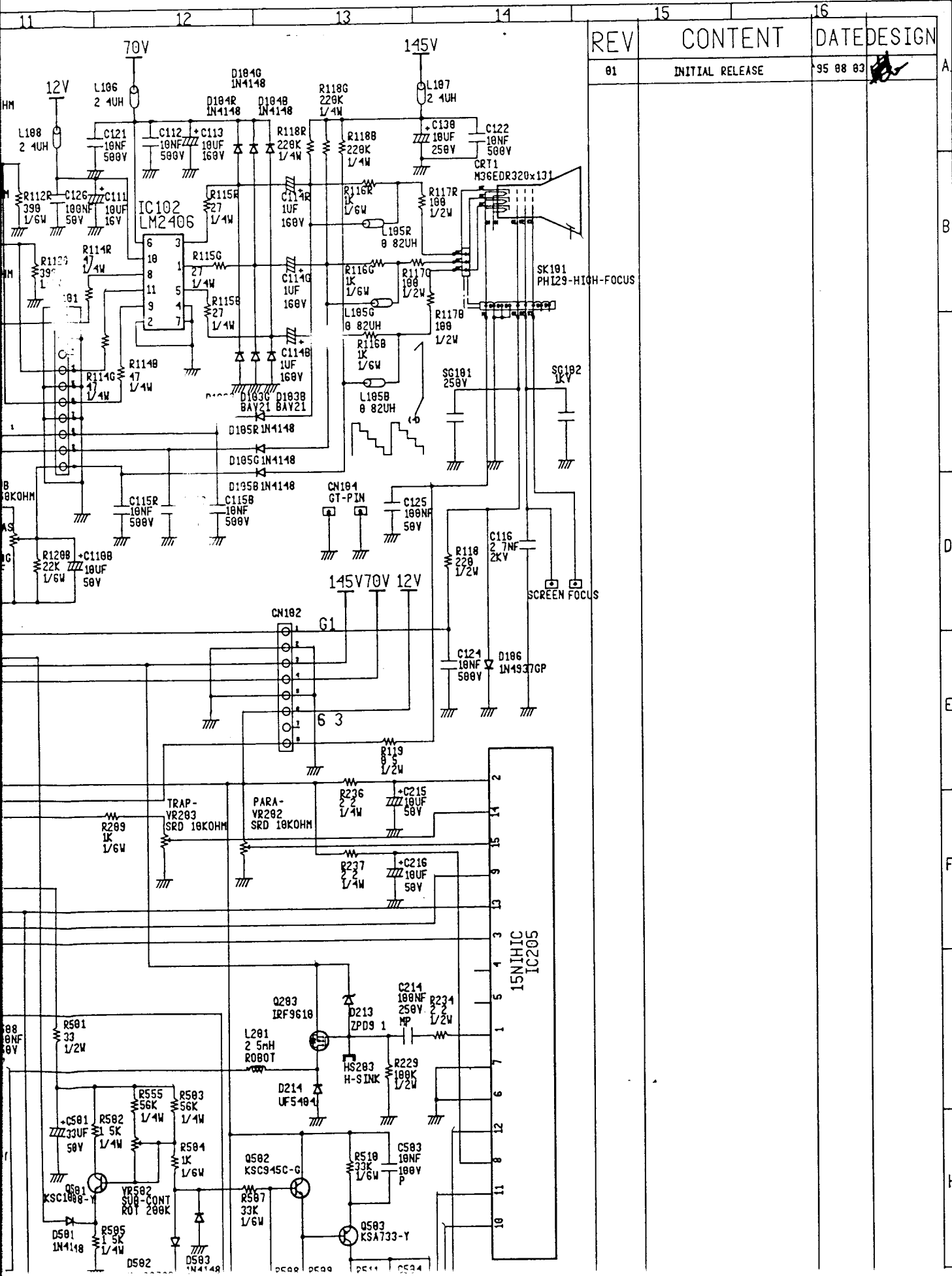
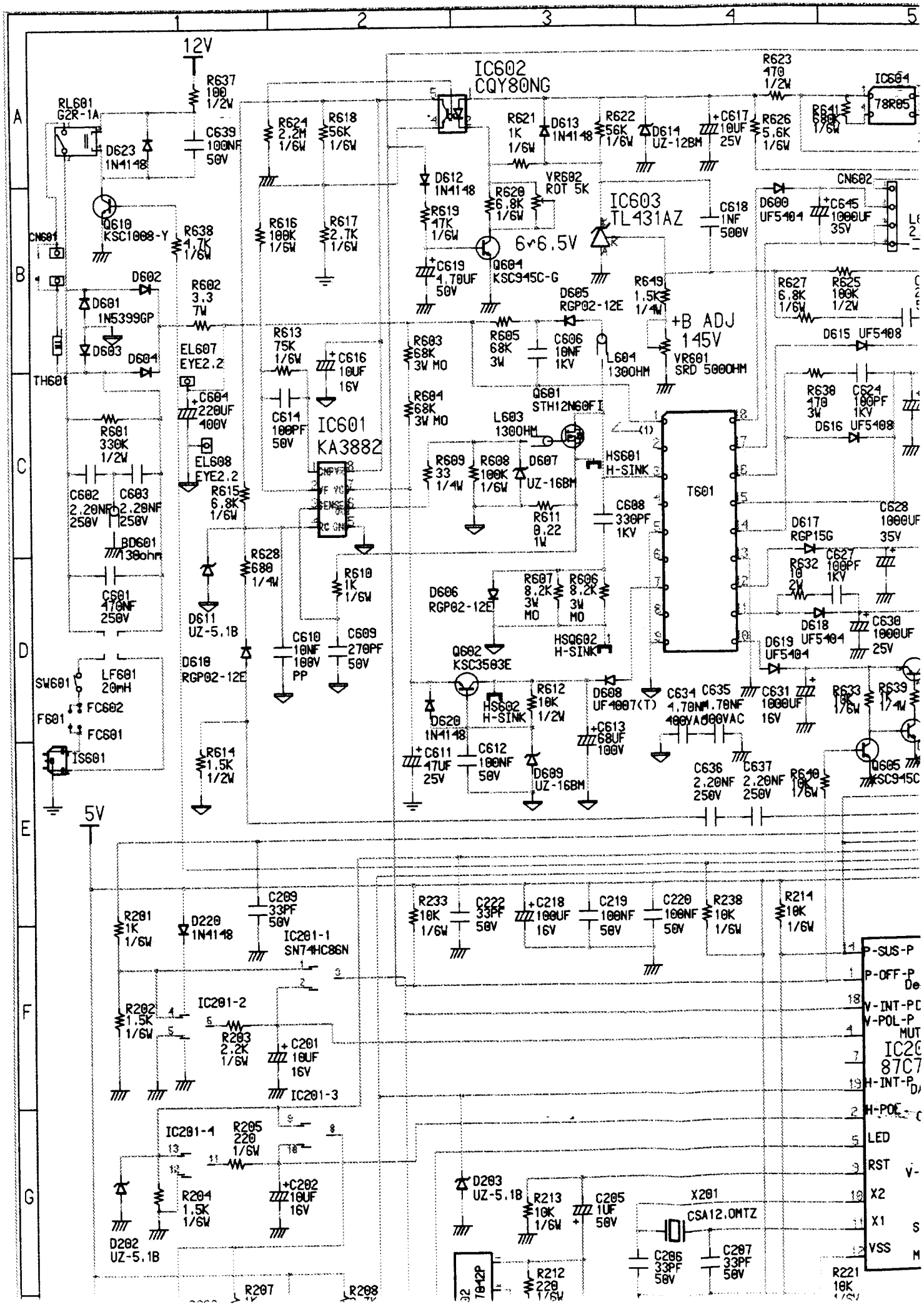
22K
1/6W
C110R
10UF
50V
C110G
10UF
50V
C110B
10UF
50V

CONFIDENTIAL

REV	CONTENT	DATE	DESIGN
01	INITIAL RELEASE	'95 08 03	

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5V
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IC603
TL431AZ
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KA3882
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T601
RL601
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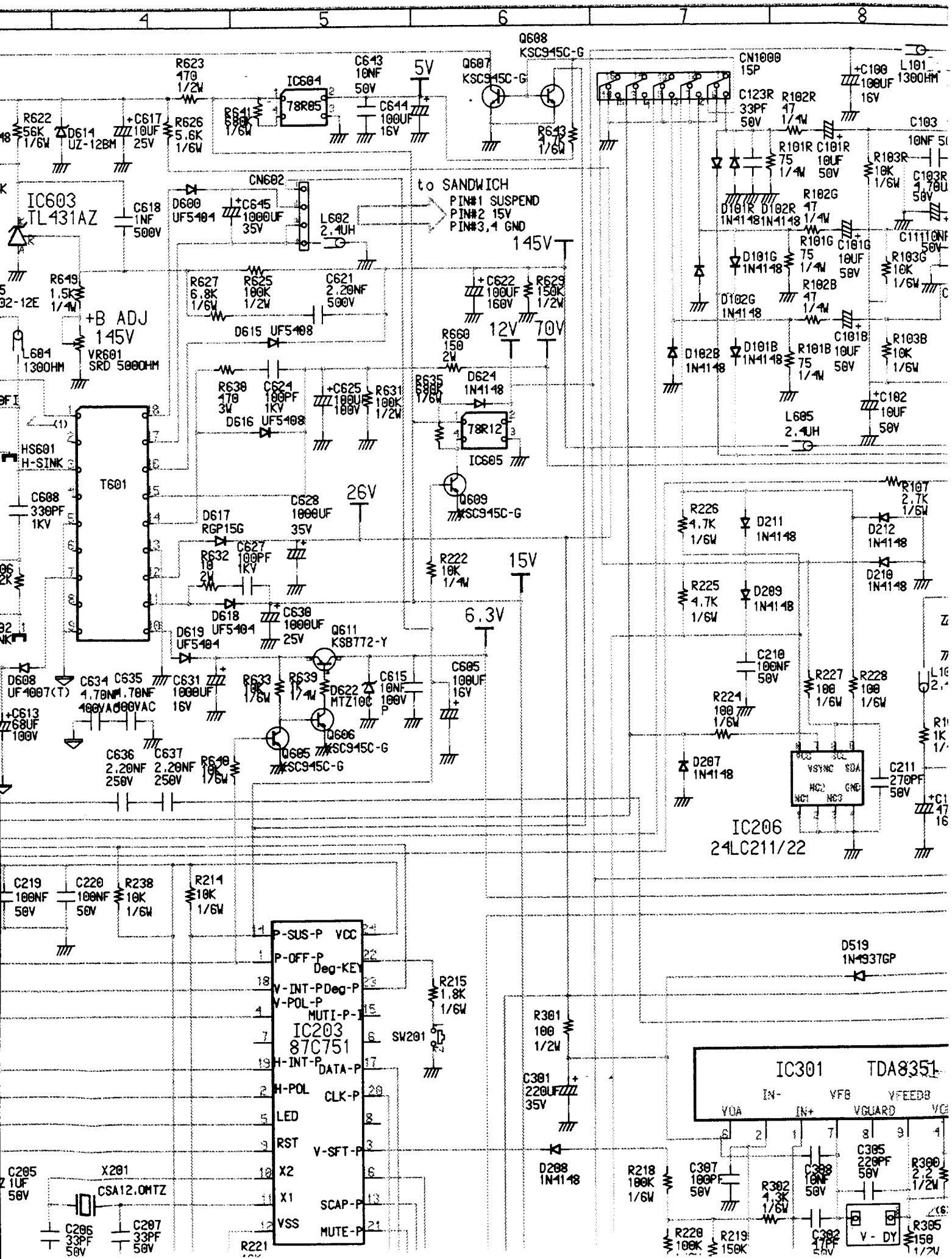
Q610
KSC1008-Y
Q604
KSC945C-G
Q601
STH12N60FI
Q602
KSC3503E
Q605
KSC945C
D623
1N4148
D612
1N4148
D613
1N4148
D614
UZ-12BM
D600
UF5404
D602
D601
1N5399GP
D603
D604
D605
RGP02-12E
D606
RGP02-12E
D607
UZ-16BM
D608
UF4007(T)
D609
UZ-16BM
D610
RGP02-12E
D611
UZ-5.1B
D615 UF5408
D616 UF5408
D617
RGP15G
D618
UF5404
D619
UF5404
D620
1N4148
D202
UZ-5.1B
D203
UZ-5.1B
D220
1N4148
TH601
EL607
EYE2.2
EL608
EYE2.2
SW601
F601
LF601
20mH
FC602
FC601
IS601
BD601
130ohm
HS601
H-SINK
HSQ602
H-SINK
HS602
H-SINK
CN601
CN602
+B ADJ
145V
VR601
SRD 5000HM
VR602
ROT 5K
6~6.5V
IC201-1
SN74HC86N
IC201-2
IC201-3
IC201-4
X201
CSA12.0MTZ
P-SUS-P
P-OFF-P
V-INT-P
V-POL-P
H-INT-P
H-POL
LED
RST
X2
X1
VSS
R637 100 1/2W
C639 100NF 50V
R624 2.2M 1/6W
R618 56K 1/6W
R621 1K 1/6W
R622 56K 1/6W
R623 470 1/2W
R626 5.6K 1/6W
R641 680K 1/6W
C617 10UF 25V
R620 6.8K 1/6W
R619 47K 1/6W
C619 4.70UF 50V
C618 1NF 500V
R616 100K 1/5W
R617 2.7K 1/6W
R638 4.7K 1/6W
R602 3.3 7W
R603 68K 3W MO
R604 68K 3W MO
R605 68K 3W
C606 10NF 1KV
L604 1300HM
R649 1.5K 1/4W
R627 6.8K 1/6W
R625 100K 1/2W
C645 1000UF 35V
R613 75K 1/6W
C616 10UF 16V
C614 100PF 50V
C604 220UF 400V
R601 330K 1/2W
C602 2.20NF 250V
C603 2.20NF 250V
C601 470NF 250V
R615 6.8K 1/6W
L603 1300HM
R609 33 1/4W
R608 100K 1/6W
R611 0.22 1W
C608 330PF 1KV
R630 470 3W
C624 100PF 1KV
C628 1000UF 35V
C627 100PF 1KV
R632 10 2W
C630 1000UF 25V
C631 1000UF 16V
R633 10K 1/6W
R639 15 1/4W
R628 680 1/4W
R610 1K 1/6W
R607 8.2K 3W MO
R606 8.2K 3W MO
C610 10NF 100V PP
C609 270PF 50V
R612 10K 1/2W
C611 47UF 25V
C612 100NF 50V
C613 68UF 100V
C634 4.70NF 400VAC
C635 4.70NF 400VAC
C636 2.20NF 250V
C637 2.20NF 250V
R640 10K 1/6W
R614 1.5K 1/2W
R201 1K 1/6W
C209 33PF 50V
R233 10K 1/6W
C222 33PF 50V
C218 100UF 16V
C219 100NF 50V
C220 100NF 50V
R238 10K 1/6W
R214 10K 1/6W
R202 1.5K 1/6W
R203 2.2K 1/6W
C201 10UF 16V
R205 220 1/6W
C202 10UF 16V
R204 1.5K 1/6W
R213 10K 1/6W
C205 1UF 50V
C206 33PF 50V
C207 33PF 50V
R212 220 1/6W
R221 10K
R207
R208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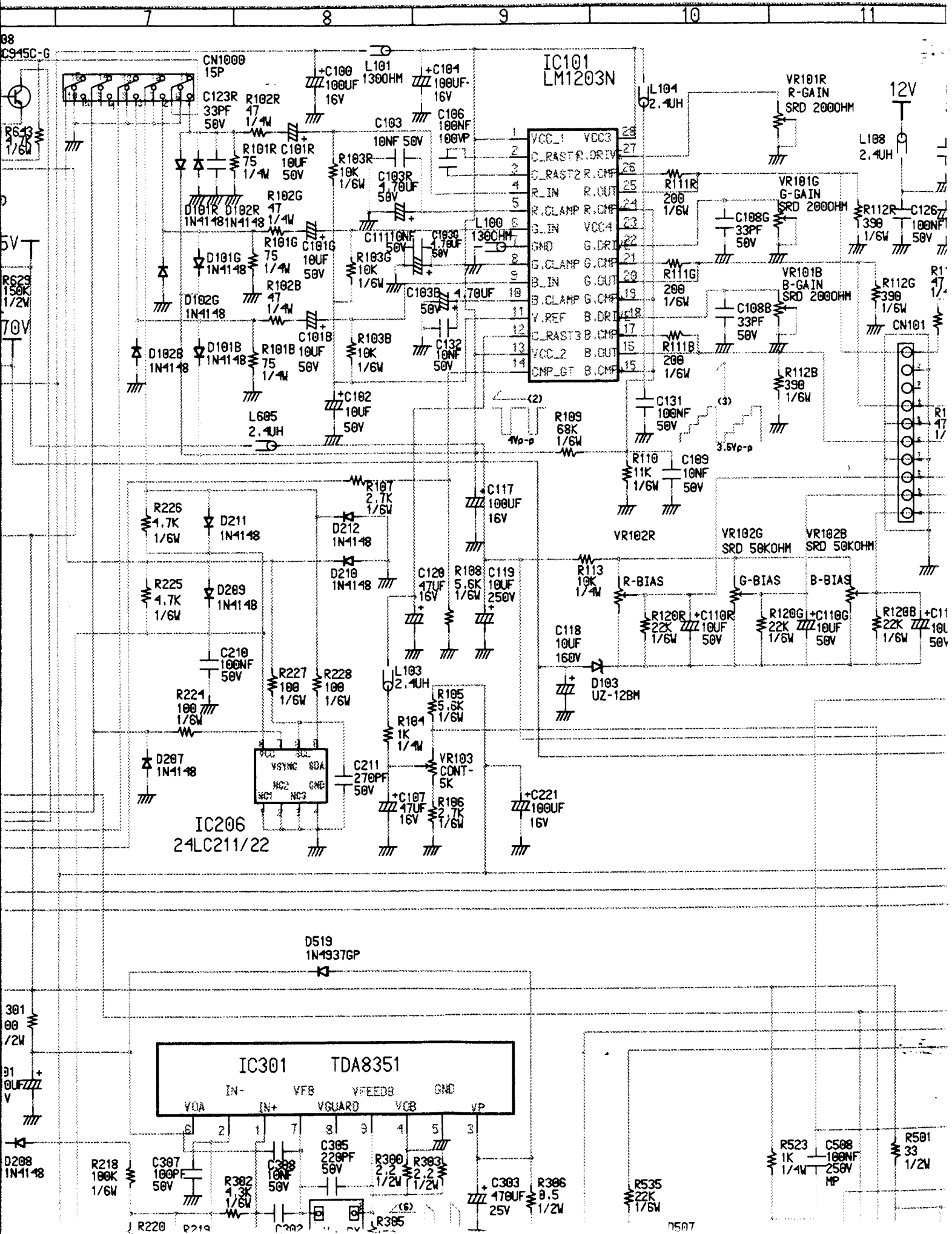
5
6
7
8
IC603
TL431AZ
IC604
78R05
IC605
78R12
IC203
87C751
IC206
24LC211/22
IC301
TDA8351
T601
to SANDWICH
PIN#1 SUSPEND
PIN#2 15V
PIN#3,4 GND
145V
+B ADJ
145V
12V
70V
26V
15V
6.3V
HS601
H-SINK
X201
CSA12.0MTZ
P-SUS-P
P-OFF-P
V-INT-P
V-POL-P
H-INT-P
H-POL
LED
RST
X2
X1
VSS
VCC
Deg-KEY
Deg-P
MUTI-P-I
DATA-P
CLK-P
V-SFT-P
SCAP-P
MUTE-P
SW201
VOA
IN-
VF8
VFEED8
IN+
VGUARD
V - DY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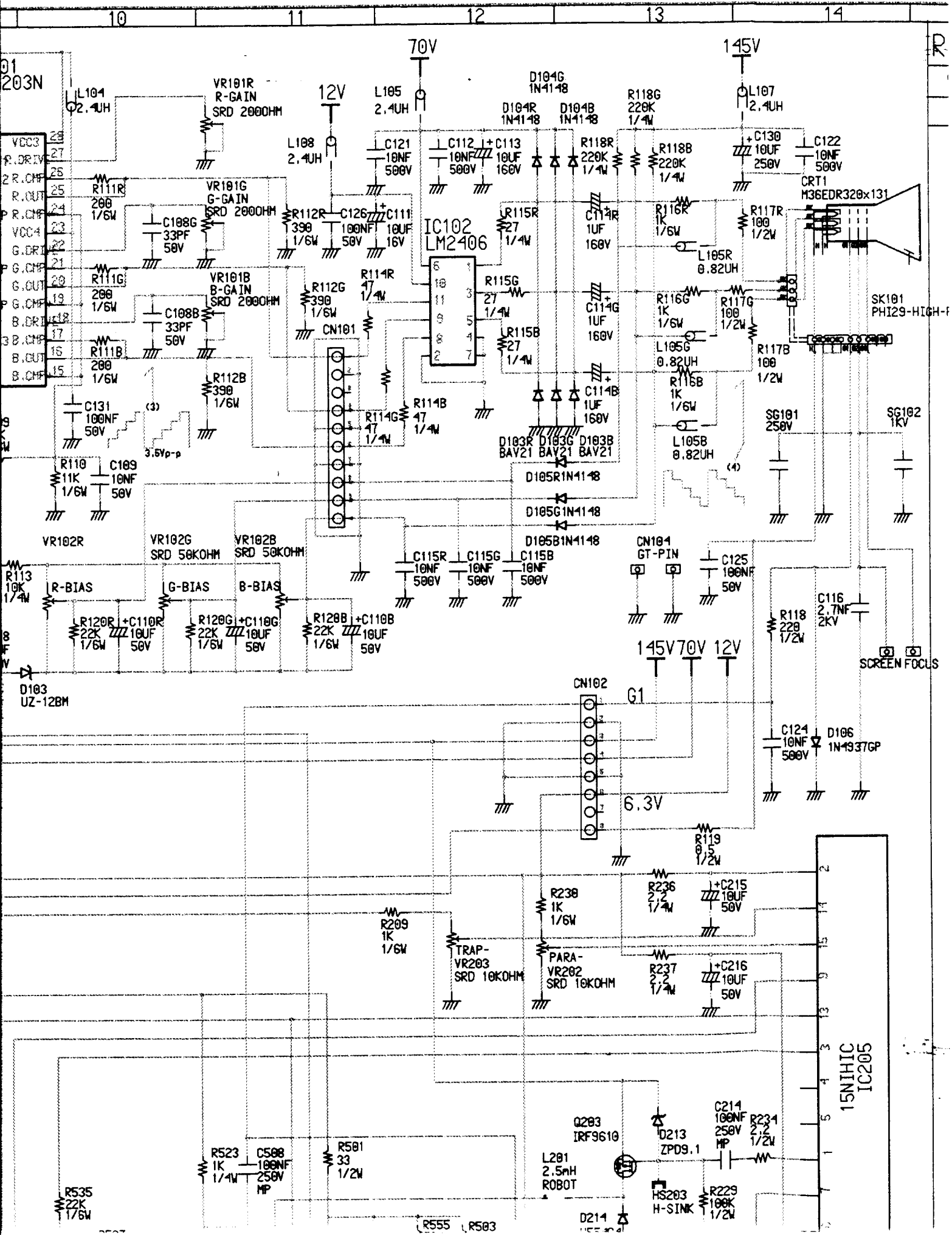
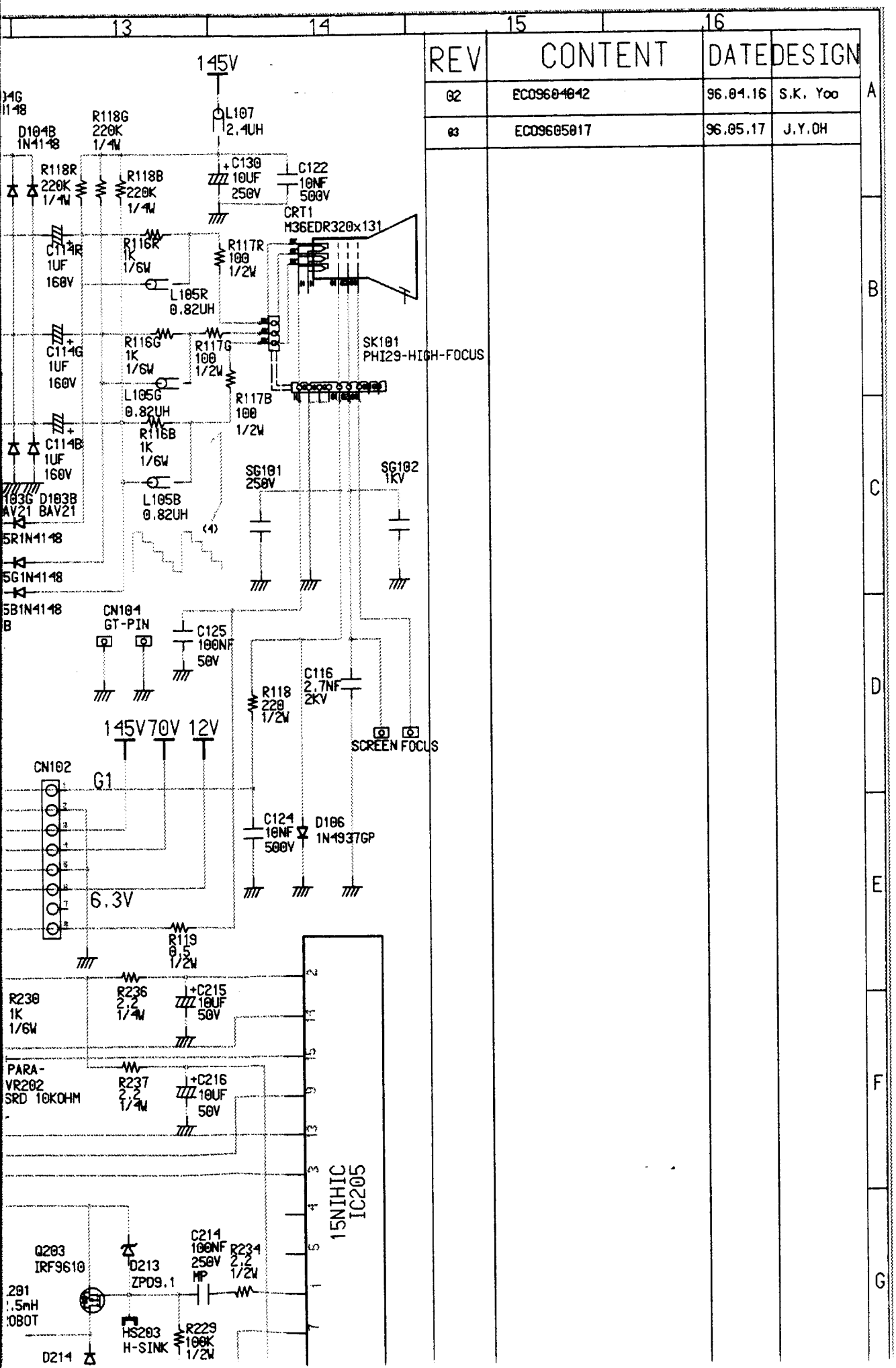
LM1203N
IC206
24LC211/22
IC301 TDA8351
CN1000
15P
L101
1300HM
L104
2.4UH
L108
2.4UH
L100
1300HM
L605
2.4UH
L103
2.4UH
12V
VR101R
R-GAIN
SRD 2000HM
VR101G
G-GAIN
SRD 2000HM
VR101B
B-GAIN
SRD 2000HM
VR102R
VR102G
SRD 50KOHM
VR102B
SRD 50KOHM
R-BIAS
G-BIAS
B-BIAS
D103
UZ-12BM
D519
1N4937GP
CN101
3.5Vp-p
4Vp-p


10
11
12
13
14
70V
145V
12V
L104 2.4UH
VR101R R-GAIN SRD 2000HM
L105 2.4UH
L107 2.4UH
L108 2.4UH
D104G 1N4148
D104R 1N4148
D104B 1N4148
R118G 220K 1/4W
R118R 220K 1/4W
R118B 220K 1/4W
C130 10UF 250V
C122 10NF 500V
CRT1 M36EDR320x131
C121 10NF 500V
C112 10NF 500V
C113 10UF 160V
IC102 LM2406
R111R 200 1/6W
VR101G G-GAIN SRD 2000HM
R112R 390 1/6W
C126 100NF 50V
C111 10UF 16V
R115R 27 1/4W
C114R 1UF 160V
R116R 1K 1/6W
R117R 100 1/2W
L105R 0.82UH
C108G 33PF 50V
R111G 200 1/6W
VR101B B-GAIN SRD 2000HM
R112G 390 1/6W
R114R 47 1/4W
R115G 27 1/4W
C114G 1UF 160V
R116G 1K 1/6W
R117G 100 1/2W
SK101 PHI29-HIGH-F
C108B 33PF 50V
R111B 200 1/6W
R112B 390 1/6W
CN101
R115B 27 1/4W
L105G 0.82UH
R117B 100 1/2W
C131 100NF 50V
R114G 47 1/4W
R114B 47 1/4W
C114B 1UF 160V
R116B 1K 1/6W
L105B 0.82UH
SG101 250V
SG102 1KV
D103R BAV21
D103G BAV21
D103B BAV21
D105R 1N4148
D105G 1N4148
D105B 1N4148
R110 11K 1/6W
C109 10NF 50V
VR102R
VR102G SRD 50KOHM
VR102B SRD 50KOHM
C115R 10NF 500V
C115G 10NF 500V
C115B 10NF 500V
CN104 GT-PIN
C125 100NF 50V
R113 10K 1/4W
R-BIAS
G-BIAS
B-BIAS
R120R 22K 1/6W
+C110R 10UF 50V
R120G 22K 1/6W
+C110G 10UF 50V
R120B 22K 1/6W
+C110B 10UF 50V
R118 220 1/2W
C116 2.7NF 2KV
SCREEN
FOCUS
D103 UZ-12BM
145V 70V 12V
CN102
G1
C124 10NF 500V
D106 1N4937GP
6.3V
R119 0.5 1/2W
R236 2.2 1/4W
+C215 10UF 50V
R238 1K 1/6W
R209 1K 1/6W
TRAP- VR203 SRD 10KOHM
PARA- VR202 SRD 10KOHM
R237 2.2 1/4W
+C216 10UF 50V
15NIHIC IC205
C214 100NF 250V MP
R231 2.2 1/2W
Q203 IRF9610
D213 ZPD9.1
L201 2.5nH ROBOT
HS203 H-SINK
R229 100K 1/2W
D214
R523 1K 1/4W
C508 100NF 250V MP
R501 33 1/2W
R535 22K 1/6W
R555
R503



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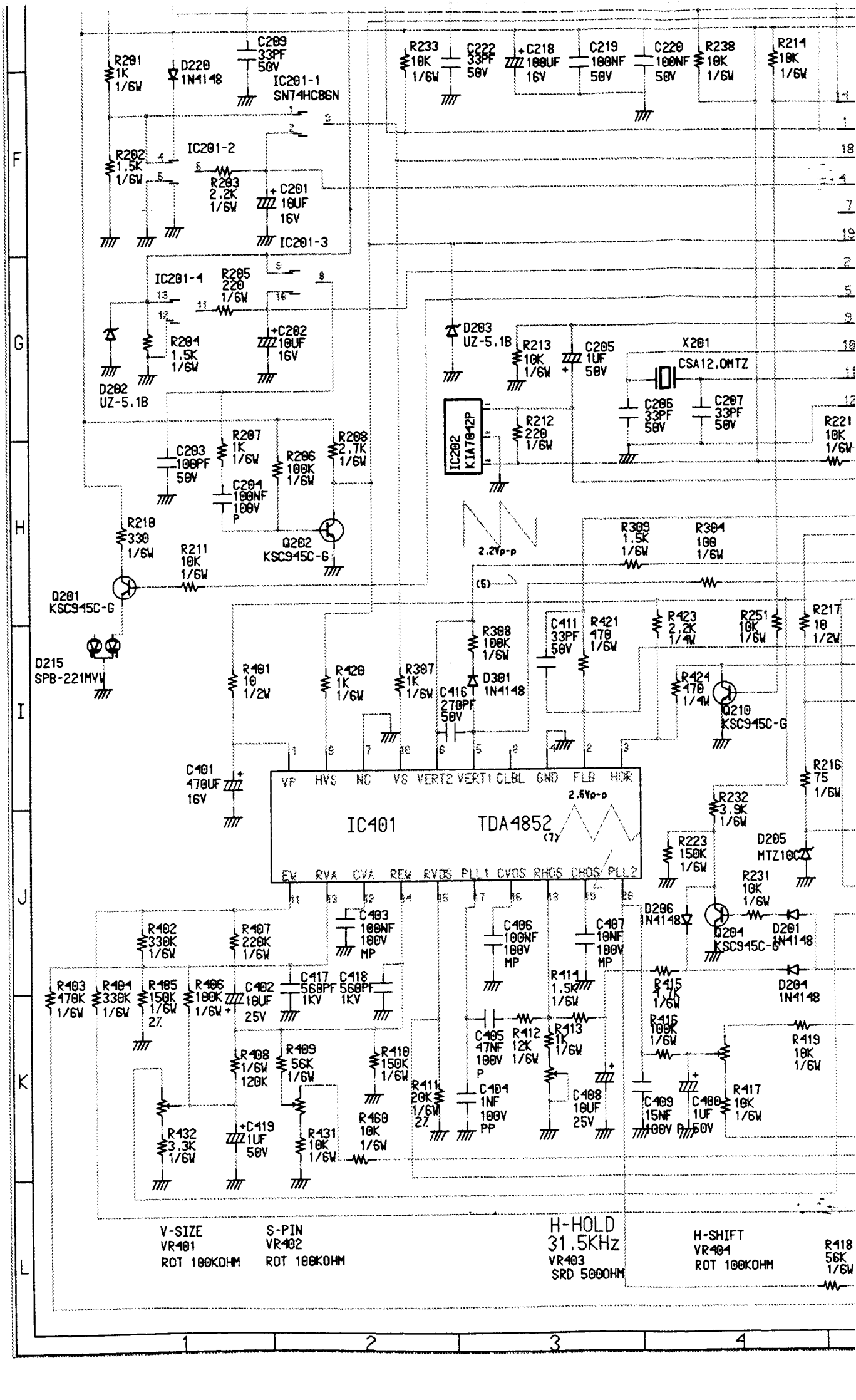
03	ECO9605017	96.05.17	J.Y.OH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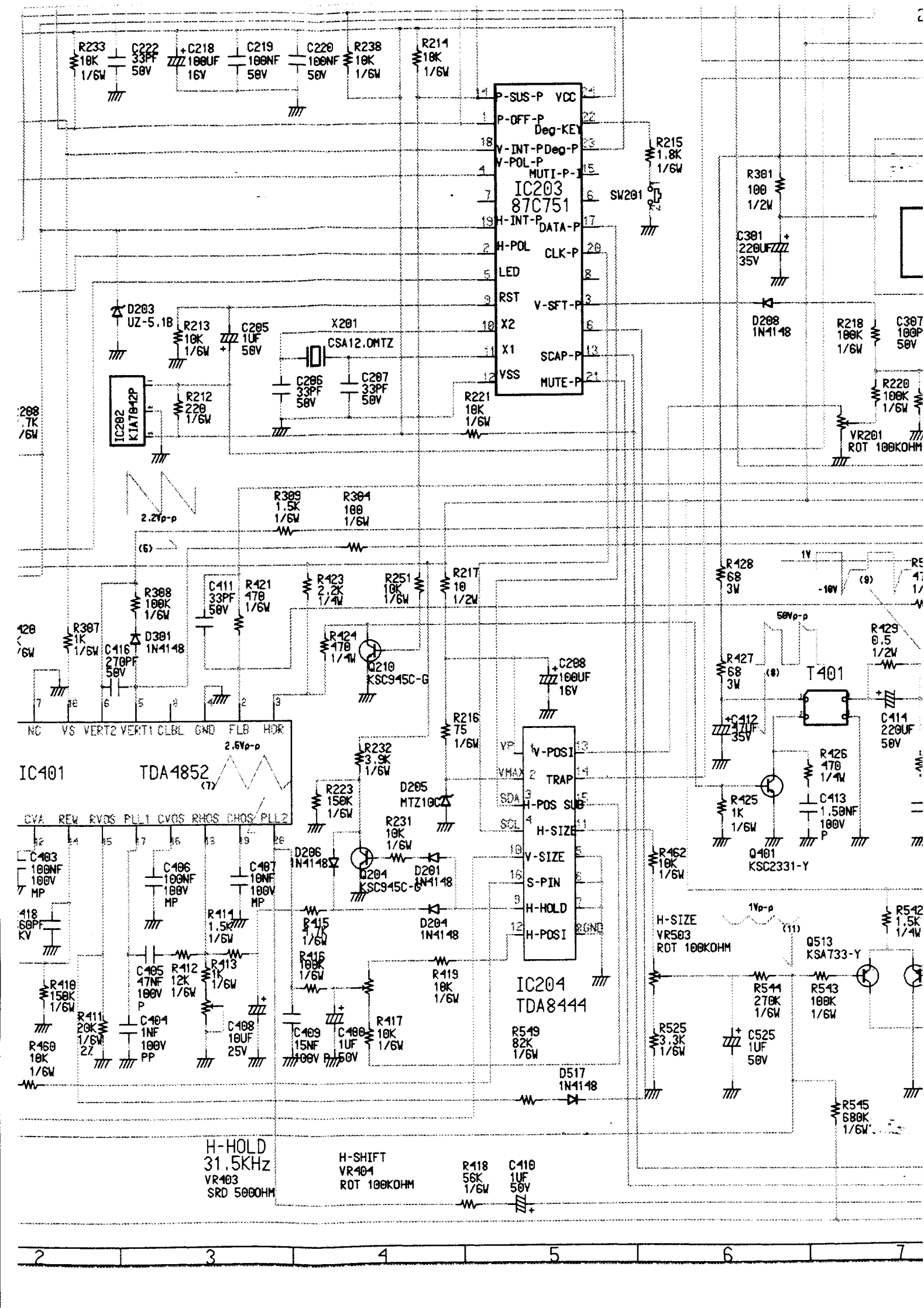
D220 1N4148
C209 33PF 50V
IC201-1 SN74HC86N
IC201-2
R202 1.5K 1/6W
R203 2.2K 1/6W
+C201 10UF 16V
IC201-3
IC201-4
R205 220 1/6W
+C202 10UF 16V
R204 1.5K 1/6W
D202 UZ-5.1B
R233 10K 1/6W
C222 33PF 50V
+C218 100UF 16V
C219 100NF 50V
C220 100NF 50V
R238 10K 1/6W
R214 10K 1/6W
D203 UZ-5.1B
R213 10K 1/6W
C205 1UF 50V
X201 CSA12.0MTZ
C206 33PF 50V
C207 33PF 50V
IC202 K1A7842P
R212 220 1/6W
R221 10K 1/6W
C203 100PF 50V
R207 1K 1/6W
R206 100K 1/6W
R208 2.7K 1/6W
C204 100NF 100V P
R210 330 1/6W
R211 10K 1/6W
Q202 KSC945C-G
Q201 KSC945C-G
D215 SPB-221MVW
2.2Vp-p
R309 1.5K 1/6W
R304 100 1/6W
R308 100K 1/6W
D301 1N4148
C416 270PF 50V
C411 33PF 50V
R421 470 1/6W
R423 2.2K 1/4W
R251 10K 1/6W
R217 10 1/2W
R424 470 1/4W
Q210 KSC945C-G
R401 10 1/2W
R420 1K 1/6W
R307 1K 1/6W
C401 470UF 16V
IC401 TDA4852
VP HVS NC VS VERT2 VERT1 CLBL GND FLB HOR
EW RVA CVA REW RVDS PLL1 CVOS RHOS CHOS PLL2
2.5Vp-p
R216 75 1/6W
R232 3.9K 1/6W
R223 150K 1/6W
D205 MTZ10C
R231 10K 1/6W
D206 1N4148
Q204 KSC945C-G
D201 1N4148
D204 1N4148
R402 330K 1/6W
R407 220K 1/6W
C403 100NF 100V MP
C406 100NF 100V MP
C407 10NF 100V MP
R403 470K 1/6W
R404 330K 1/6W
R405 150K 1/6W 2%
R406 100K 1/6W
C402 10UF 25V
C417 560PF 1KV
C418 560PF 1KV
R411 1.5K 1/6W
R415 4.7K 1/6W
R416 100K 1/6W
R419 10K 1/6W
C405 47NF 100V P
R412 12K 1/6W
R413 1K 1/6W
R408 120K 1/6W
R409 56K 1/6W
R410 150K 1/6W
R411 20K 1/6W 2%
C404 1NF 100V PP
C408 10UF 25V
C409 15NF 100V P
C400 1UF 50V
R417 10K 1/6W
R432 3.3K 1/6W
+C419 1UF 50V
R431 10K 1/6W
R460 10K 1/6W
V-SIZE
VR401
ROT 100KOHM
S-PIN
VR402
ROT 100KOHM
H-HOLD
31.5KHz
VR403
SRD 5000HM
H-SHIFT
VR404
ROT 100KOHM
R418 56K 1/6W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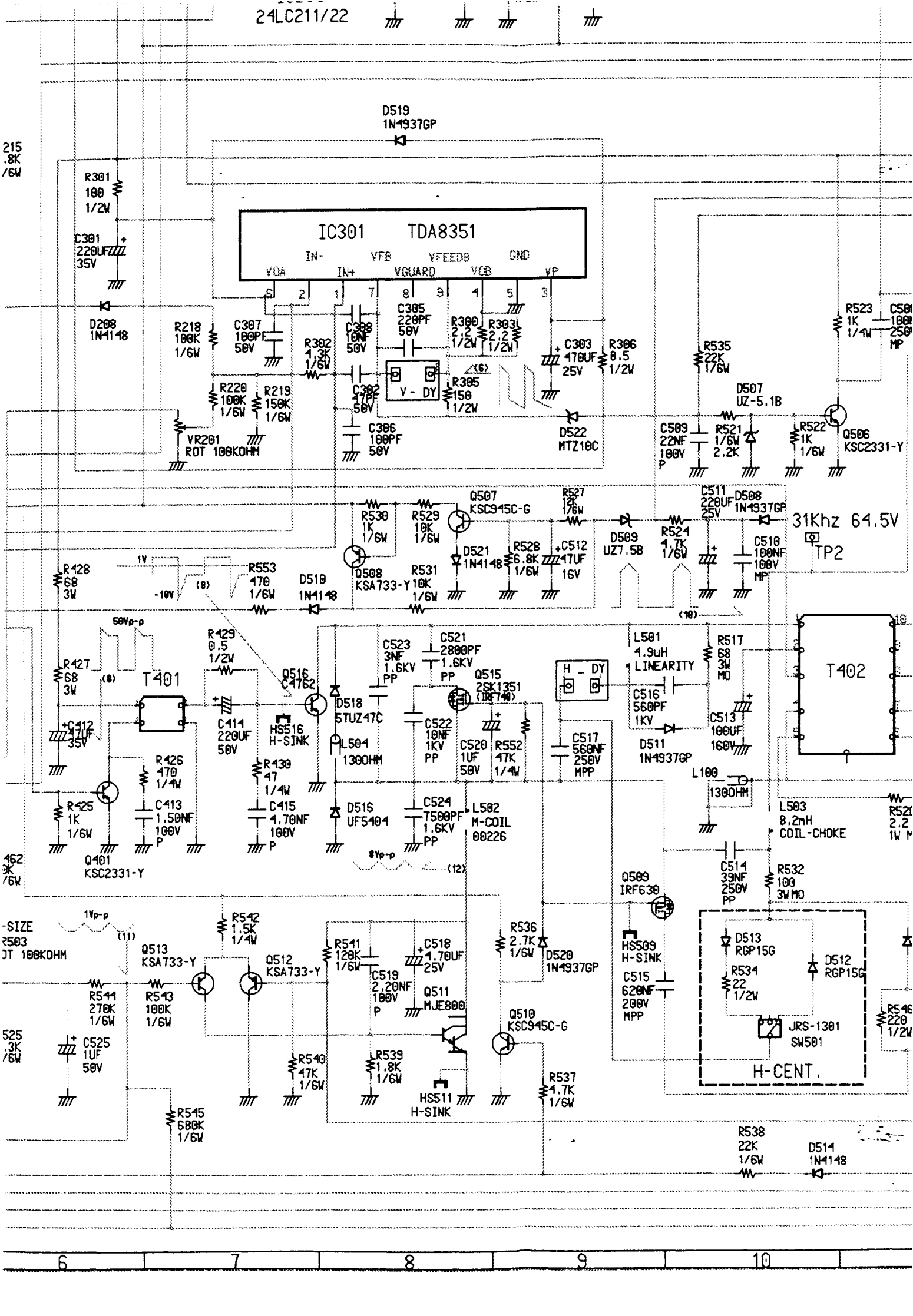
C222 33PF 50V
C218 100UF 16V
C219 100NF 50V
C220 100NF 50V
R238 10K 1/6W
R214 10K 1/6W
IC203 87C751
P-SUS-P
P-OFF-P
V-INT-P
V-POL-P
H-INT-P
H-POL
LED
RST
X2
X1
VSS
VCC
Deg-KEY
Deg-P
MUTI-P-I
DATA-P
CLK-P
V-SFT-P
SCAP-P
MUTE-P
R215 1.8K 1/6W
SW201
R301 100 1/2W
C301 220UF 35V
D208 1N4148
R218 100K 1/6W
C307 100P 50V
R220 100K 1/6W
VR201 ROT 100KOHM
D203 UZ-5.1B
R213 10K 1/6W
C205 1UF 50V
X201 CSA12.0MTZ
C206 33PF 50V
C207 33PF 50V
IC202 KIA7842P
R212 220 1/6W
R221 10K 1/6W
2.2Vp-p
R309 1.5K 1/6W
R304 100 1/6W
R308 100K 1/6W
D301 1N4148
C411 33PF 50V
R421 470 1/6W
R423 2.2K 1/4W
R251 10K 1/6W
R217 10 1/2W
R307 1K 1/6W
C416 270PF 50V
R424 470 1/4W
Q210 KSC945C-G
C208 100UF 16V
R216 75 1/6W
NC VS VERT2 VERT1 CLBL GND FLB HOR
IC401 TDA4852
2.6Vp-p
CVA REW RVDS PLL1 CVOS RHOS CHOS PLL2
R232 3.9K 1/6W
R223 150K 1/6W
D205 MTZ10C
R231 10K 1/6W
D206 1N4148
Q204 KSC945C-G
D201 1N4148
D204 1N4148
R415 470 1/6W
R416 100K 1/6W
R419 10K 1/6W
C403 100NF 100V MP
C406 100NF 100V MP
C407 10NF 100V MP
R414 1.5K 1/6W
R412 12K 1/6W
R413 1K 1/6W
C405 47NF 100V P
C404 1NF 100V PP
C408 10UF 25V
C409 15NF 100V P
C400 1UF 50V
R417 10K 1/6W
R410 150K 1/6W
R411 20K 1/6W
R460 10K 1/6W
VP V-POSI
VMAX TRAP
SDA H-POS SUB
SCL H-SIZE
V-SIZE
S-PIN
H-HOLD
H-POSI
GND
IC204 TDA8444
R549 82K 1/6W
D517 1N4148
R428 68 3W
1V
-10V
50Vp-p
R429 0.5 1/2W
R427 68 3W
T401
C412 47UF 35V
C414 220UF 50V
R426 470 1/4W
R425 1K 1/6W
C413 1.5NF 100V P
Q401 KSC2331-Y
R462 10K 1/6W
1Vp-p
H-SIZE VR503 ROT 100KOHM
Q513 KSA733-Y
R544 270K 1/6W
R543 100K 1/6W
R542 1.5K 1/4W
R525 3.3K 1/6W
C525 1UF 50V
R545 680K 1/6W
H-HOLD 31.5KHz VR403 SRD 5000HM
H-SHIFT VR404 ROT 100KOHM
R418 56K 1/6W
C410 1UF 50V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VOA IN+ VGUARD VCB VP
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100
1/2W
C301
220UF
35V
D208
1N4148
R218
100K
1/6W
C307
100PF
50V
C308
10NF
50V
C305
220PF
50V
R300
2,2
1/2W
R303
2,2
1/2W
R302
4,3K
1/6W
C382
47PF
50V
V - DY
R305
150
1/2W
C303
470UF
25V
R306
0,5
1/2W
R220
100K
1/6W
R219
150K
1/6W
VR201
ROT 100KOHM
C306
100PF
50V
D522
MTZ10C
R535
22K
1/6W
D507
UZ-5.1B
C509
22NF
100V
P
R521
1/6W
2.2K
R522
1K
1/6W
Q506
KSC2331-Y
R523
1K
1/4W
Q507
KSC945C-G
R530
1K
1/6W
R529
10K
1/6W
R527
12K
1/6W
C511
220UF
25V
D508
1N4937GP
31Khz 64.5V
TP2
D509
UZ7.5B
R524
4,7K
1/6W
C510
100NF
100V
MP
Q508
KSA733-Y
R531
10K
1/6W
D521
1N4148
R528
6,8K
1/6W
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47UF
16V
D510
1N4148
R553
470
1/6W
R428
68
3W
1V
-16V
50Vp-p
R429
0,5
1/2W
R427
68
3W
T401
C412
47UF
35V
C414
220UF
50V
HS516
H-SINK
Q516
C4762
C523
3NF
1,6KV
PP
C521
2800PF
1,6KV
PP
Q515
2SK1351
(IRF740)
D518
5TUZ47C
L504
1300HM
C522
10NF
1KV
PP
C520
1UF
50V
R552
47K
1/4W
H _ DY
L501
4,9uH
LINEARITY
C516
560PF
1KV
D511
1N4937GP
R517
68
3W MO
C513
100UF
160V
T402
C517
560NF
250V
MPP
L100
1300HM
L503
8,2mH
COIL-CHOKE
R426
470
1/4W
C413
1,50NF
100V
P
R430
47
1/4W
C415
4,70NF
100V
P
R425
1K
1/6W
Q401
KSC2331-Y
D516
UF5404
C524
7500PF
1,6KV
PP
L502
M-COIL
00226
8Vp-p
C514
39NF
250V
PP
R532
100
3W MO
Q509
IRF630
HS509
H-SINK
C515
620NF
200V
MPP
D513
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D512
RGP15G
R534
22
1/2W
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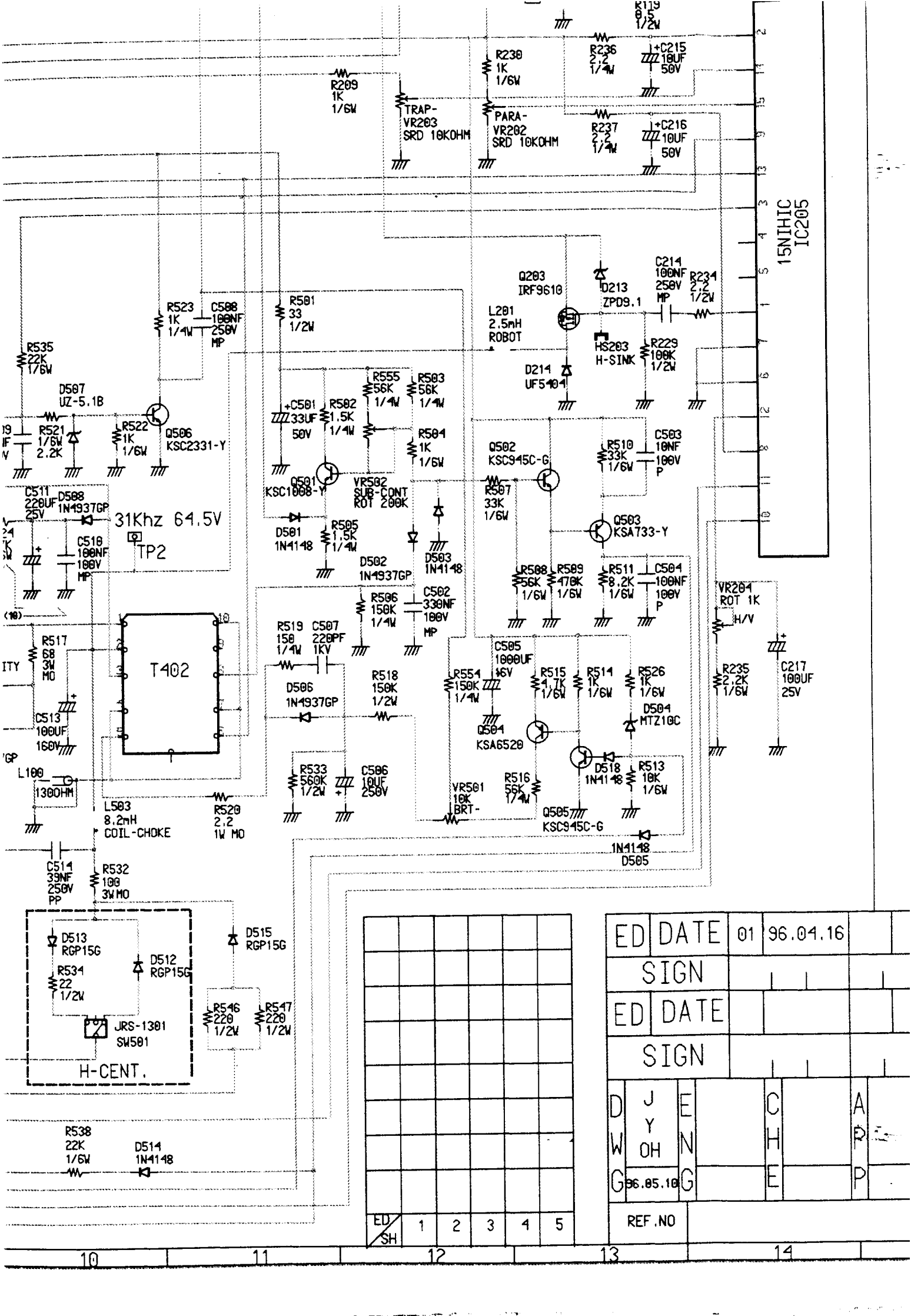
SW501
H-CENT.
1Vp-p
R542
1,5K
1/4W
Q513
KSA733-Y
Q512
KSA733-Y
R541
120K
1/6W
C518
4,70UF
25V
C519
2,20NF
100V
P
Q511
MJE800
R536
2,7K
1/6W
D520
1N4937GP
Q510
KSC945C-G
R544
270K
1/6W
R543
100K
1/6W
C525
1UF
50V
R540
47K
1/6W
R539
1,8K
1/6W
HS511
H-SINK
R537
4,7K
1/6W
R545
680K
1/6W
R538
22K
1/6W
D514
1N4148
6
7
8
9
10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+C215 10UF 50V
R237 2.2 1/4W
+C216 10UF 50V
15NIHIC IC205
Q203 IRF9610
D213 ZPD9.1
C214 100NF 250V MP
R234 2.2 1/2W
L201 2.5mH ROBOT
HS203 H-SINK
R229 100K 1/2W
D214 UF5404
R523 1K 1/4W
C508 100NF 250V MP
R501 33 1/2W
R535 22K 1/6W
D507 UZ-5.1B
R521 1/6W 2.2K
R522 1K 1/6W
Q506 KSC2331-Y
R555 56K 1/4W
R503 56K 1/4W
+C501 33UF 50V
R502 1.5K 1/4W
R504 1K 1/6W
Q501 KSC1008-Y
VR502 SUB-CONT ROT 200K
D501 1N4148
R505 1.5K 1/4W
D502 1N4937GP
D503 1N4148
Q502 KSC945C-G
R507 33K 1/6W
R510 33K 1/6W
C503 10NF 100V P
Q503 KSA733-Y
C511 220UF 25V
D508 1N4937GP
31Khz 64.5V
TP2
C510 100NF 100V MP
R508 56K 1/6W
R509 470K 1/6W
R511 8.2K 1/6W
C504 100NF 100V P
VR204 ROT 1K
H/V
R235 2.2K 1/6W
C217 100UF 25V
R506 150K 1/4W
C502 330NF 100V MP
R519 150 1/4W
C507 220PF 1KV
T402
R517 68 3W MO
C505 1000UF 16V
R554 150K 1/4W
R515 4.7K 1/6W
R514 1K 1/6W
R526 1K 1/6W
D504 MTZ10C
C513 100UF 160V
D506 1N4937GP
R518 150K 1/2W
Q504 KSA6520
D518 1N4148
R513 10K 1/6W
L100 130OHM
R533 560K 1/2W
C506 10UF 250V
VR501 10K BRT-
R516 56K 1/4W
Q505 KSC945C-G
L503 8.2mH COIL-CHOKE
R520 2.2 1W MO
1N4148 D505
C514 39NF 250V PP
R532 100 3W MO
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R546 220 1/2W
R547 220 1/2W
JRS-1301 SW501
H-CENT.
R538 22K 1/6W
D514 1N4148
ED DATE 01 96.04.16
SIGN
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SIGN
DWG JY OH
ENG
CHE
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96.05.10
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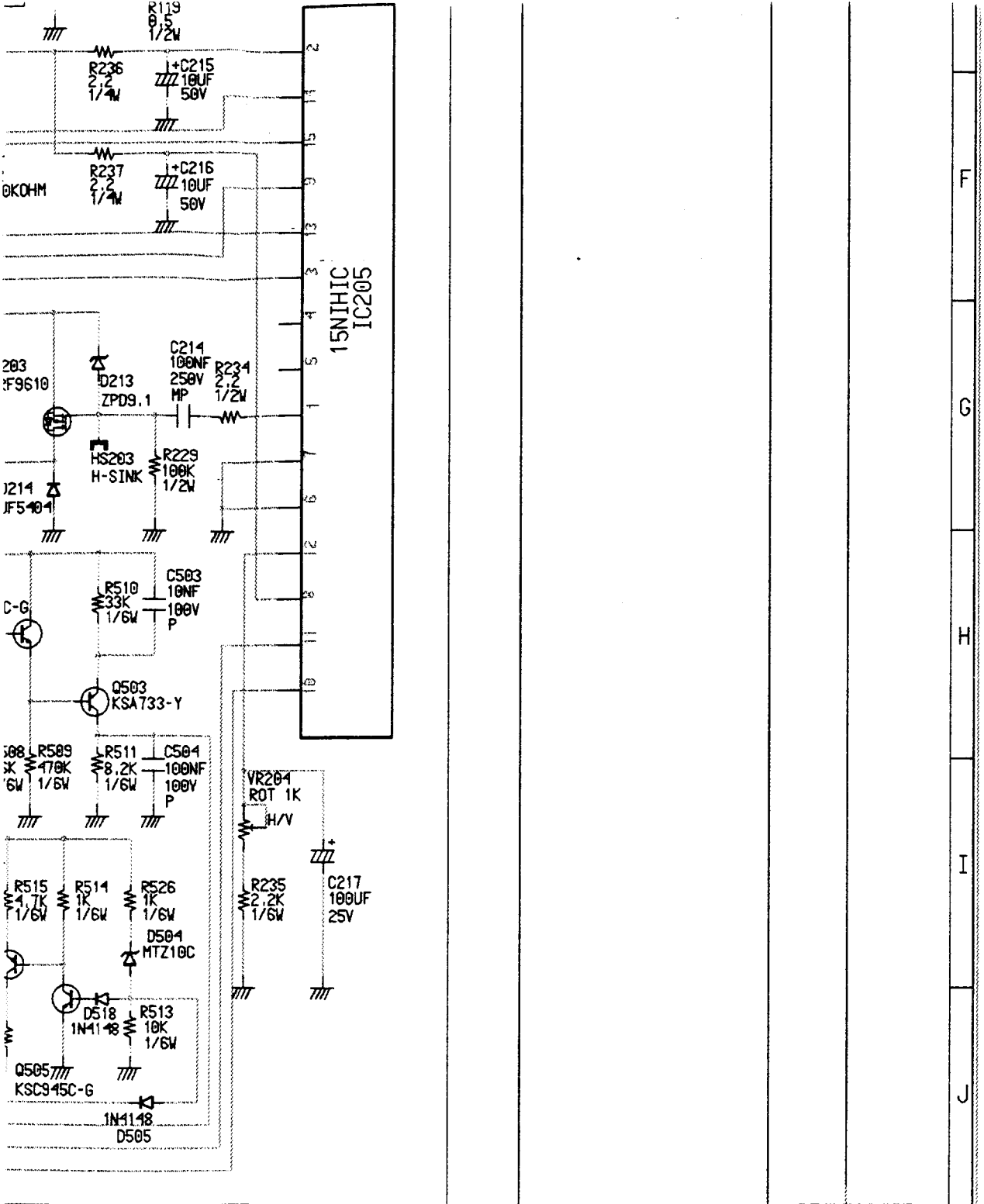

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	96.05.10						

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F G H I J K L