

General Information

Chassis: Orion
CRT: A66ECF10X01
Door Flap:
ORIO712TPD0034
Main Power Button:
ORIO735MPA0014

Specifications

Picture size	28"
System	PAL
UHF Frequency range	21 - 69 Ch
Maximum sensitivity UHF	20dB
Intermediate Frequency	
Picture IF Carrier	39.5 Mhz
Colour Sub Carrier	35.07 Mhz
Sound IF Carrier	33.5 Mhz
Sound Intermediate Frequency	6.0 Mhz
Minimum Output Power	5.0 W
Speaker	4 Ohm x2
Power Source	AC 240V

Recommended Safety Parts

Item	Part No.	Description
C501	P2160B224M	CPP 0.22uF 250V
C502	P2160B474M	CPP 0.47uF 250V
C551, C552,		
C553	CA1030KQ2M	CC 680pF 400 AC
C554	CA1030KH3M	cc 2200pF 400V AC
CD501	120S734001	Cord, AC
D501, D502,		
D503, D504	D2BRHM11C0	Diode, Rectifier RM11C
F501	0808T04002	Fuse T4A
FB401	0432270042	Transformer, flyback 3227004
IC102	103B98M050	IC L78M05-SA
IC133	102190574J	IC UPC574J-T
IC404	103B97812V	IC L7812V-SA
IC405	103B98M050	IC L78M05-SA
IC501	12B499C410	IC STR59041
ICP501	084E03R101	IC Protector PRF-3150
ICP502	084702R702	IC Protector ICP-N75
J801	0662130010	Socket CRT HPS2360-01-020
L501, L503	0296000028	Coil, Line filter 96000028
L502	028E270006	Coil, Deguass 8E270006
Q401	TD5Q015460	Transistor, Silicon 2SD1546
R078	R3228A153J	R, Metal Oxide 15K Ohm 2W
R079	R32181680J	R, Metal Oxide 68 Ohm 1W
R080	R61581221J	R, Fuse 220 Ohm 1W
R231	R615U4560J	R, Fuse 56 Ohm 1/4W
R380	R61584330J	R, Fuse 33 Ohm 1/4W
R406	R61584470J	R, Fuse 47 Ohm 1/4W
R436	R3228B222J	R, Metal Oxide 2.2K Ohm 3W
R437	R3228B272J	R, Metal Oxide 2.7K Ohm 3W
R438	R6158A5R6J	R, Cement 5.6 Ohm 7W
R440	R6158A2R2J	R, Fuse 2.2 Ohm 2W
R441	R3228A221J	R, Metal 220 Ohm 2W
R456	R615842R2J	R, Fuse 2.2 Ohm 1/4W
R480	R635826R8J	R, Fuse 6.8 Ohm 1/2W
R502	R5Y2CF4R7J	R, Cement 4.7 Ohm 10W
R505	R63584470J	R, Fuse 47 Ohm 1/4W
R506	R3118A390J	R, Metal Oxide 39 Ohm 2W
R507	R3218A473J	R, Metal Oxide 47 Ohm 2W
R512	R31181R33J	R, Metal Oxide 0.33 Ohm 1W

Service Adjustments

Electrical Adjustments

Before making electrical adjustments

Read and perform these adjustments when repairing the circuits or replacing electrical parts or PCB assemblies.

Prepare the following measurement tools for electrical adjustments.

- 1: Oscilloscope (2 channel type)
- 2: Digital Voltmeter
- 3: Colour Bar Generator
- 4: Sweepmarker Generator
- 5: VIF Unit
- 6: AC voltmeter
- 7: Frequency Counter

Basic Adjustments

VIF and Trap

Note: Connect input and output terminal of the Sweepmarker generator to circuit as

shown in fig 1. then adjust it

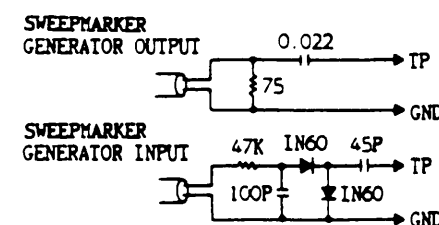
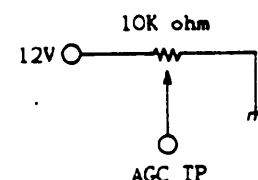


Fig 1.

- 1: Connect output terminal of the sweepmarker generator to TP202.
- 2: Connect input terminal of the sweepmarker generator to TP203.
- 3: Connect the 10K Ohm variable resistor to IF AGC terminal (TP201), 12V line and ground, then adjust to make oscilloscope waveform readable.



- 4: Adjust L201 until the wave marker (39.5mhz) becomes as shown in fig 2.

Fig 2.

- 5: Disconnect output terminal of the sweepmarker generator from TP202, then connect it to TP of the Tuner Pack (connect the 2.7K Ohm resistor between them.)
- 6: Connect the 1K Ohm resistor between TP204 and ground.
- 7: Confirm waveform looks as shown in fig 3.
- 8: Adjust the ATTENUATION control knob of the sweepmarker generator to confirm

Fig 3.

the waveform marker (33.5 Mhz) Trap has crossed the line.

- 9: Disconnect the 10K Ohm variable resistor and 1K Ohm resistor.
- 10: Disconnect output terminal of the sweepmarker generator from TP of the Tuner Pack, then connect it to TP of the TP1206.
- 11: Disconnect input terminal of the sweepmarker generator from TP203, then connect it to pin 19 of IC207.
- 12: Adjust L1213 until the waveform marker (39.5 Mhz) will become as shown in fig 4.

Fig 4.

RF AGC

Note: Adjust only after performing VIF and Trap adjustments.

In case of weak electrical field

- 1: Receive the noisy channel.
- 2: Adjust VR201 until noise is at minimum.
- 3: Change the channel, confirm other channels are normal.

In case of strong electrical field (Diagonal streaks indicate radio frequency interference)

- 1: Adjust VR201 until diagonal streaks are at minimum.
- 2: If there is still a problem after adjusting VR201, install an attenuator to the antenna terminals, then repeat step 1.
- 3: Confirm noise will appear.
- 4: Change the channel, confirm other channels are normal.

Cut Off

- 1: Receive the colour bar pattern.
- 2: Adjust remote control until the bright and contrast controls are at minimum position.
- 3: Connect the oscilloscope to TP24.
- 4: Adjust the Screen control until voltage is DC 145V. See fig 5.

Fig 5.

Focus

- 1: Receive the broadcasting signal.
- 2: Adjust the focus control until it is distinct.

Vertical and Horizontal Size

- 1: Receive the crosshatch pattern from the colour bar generator.
- 2: Adjust the bright and contrast controls until the crosshatch pattern is distinct.
- 3: Adjust VR401 (V) and VR471 (H) until the centre of the crosshatch is square.
- 4: Receive broadcasting signal, then confirm picture is normal.

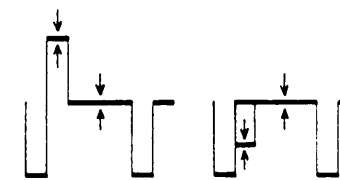
Horizontal Position

- 1: Receive the colour bar pattern.
- 2: Adjust VR402 until the colour width of both edges are equal.
- 3: Receive broadcasting signal and confirm that picture is normal.

Hue Delay

- 1: Receive the DEM pattern.
- 2: Connect Ch 1 on the oscilloscope to pin 2 of IC901 and Ch 2 to pin 6 of IC901.
- 3: Adjust L606 and VR614 until the waveform is in a straight line. see fig 6.

Fig 2.



Side PCC

- 1: Receive the crosshatch pattern from the colour bar generator.
- 2: Adjust VR472 until the right and left third (3rd) vertical line is straight.

Sub Bright

- 1: Receive the monochrome pattern.
- 2: Press the NORMAL button on the remote control unit.
- 3: Adjust VR612 until 0% of grey scale begins to lighten.
- 4: Receive the T TEXT pattern.
- 5: Adjust VR901 until the RGB black level is the same as the RF black level.

Sub Colour

- 1: Receive the colour bar pattern.
- 2: Press the NORMAL button on the remote control unit.
- 3: Connect the oscilloscope to TP22
- 4: Adjust VR101 until red colour level is 75%.

Vertical Position

- 1: Receive the colour bar pattern.
- 2: Adjust SW401 until horizontal line of the colour bar come to the centre of the CRT.

5.824 Mhz

- 1: Receive the noise signal.
- 2: Connect the frequency counter to TP207.
- 3: Adjust TC1201 until the counter is 5.842 MHZ

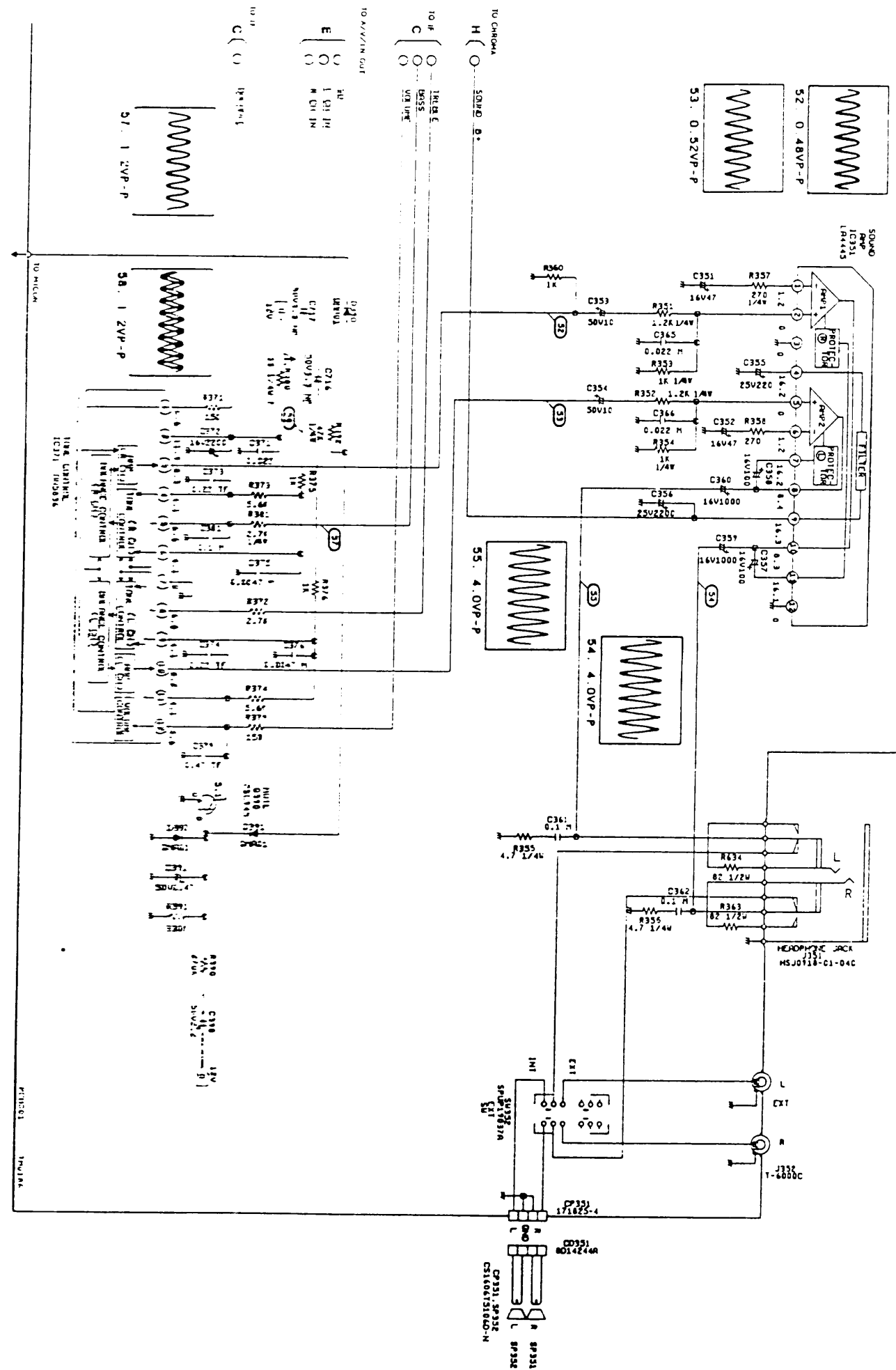
EYE Pattern

- 1: Receive the stereo sound broadcast signal.
- 2: Connect the oscilloscope to TP1205
- 3: Adjust TC1202 until the EYE pattern level is maximum.

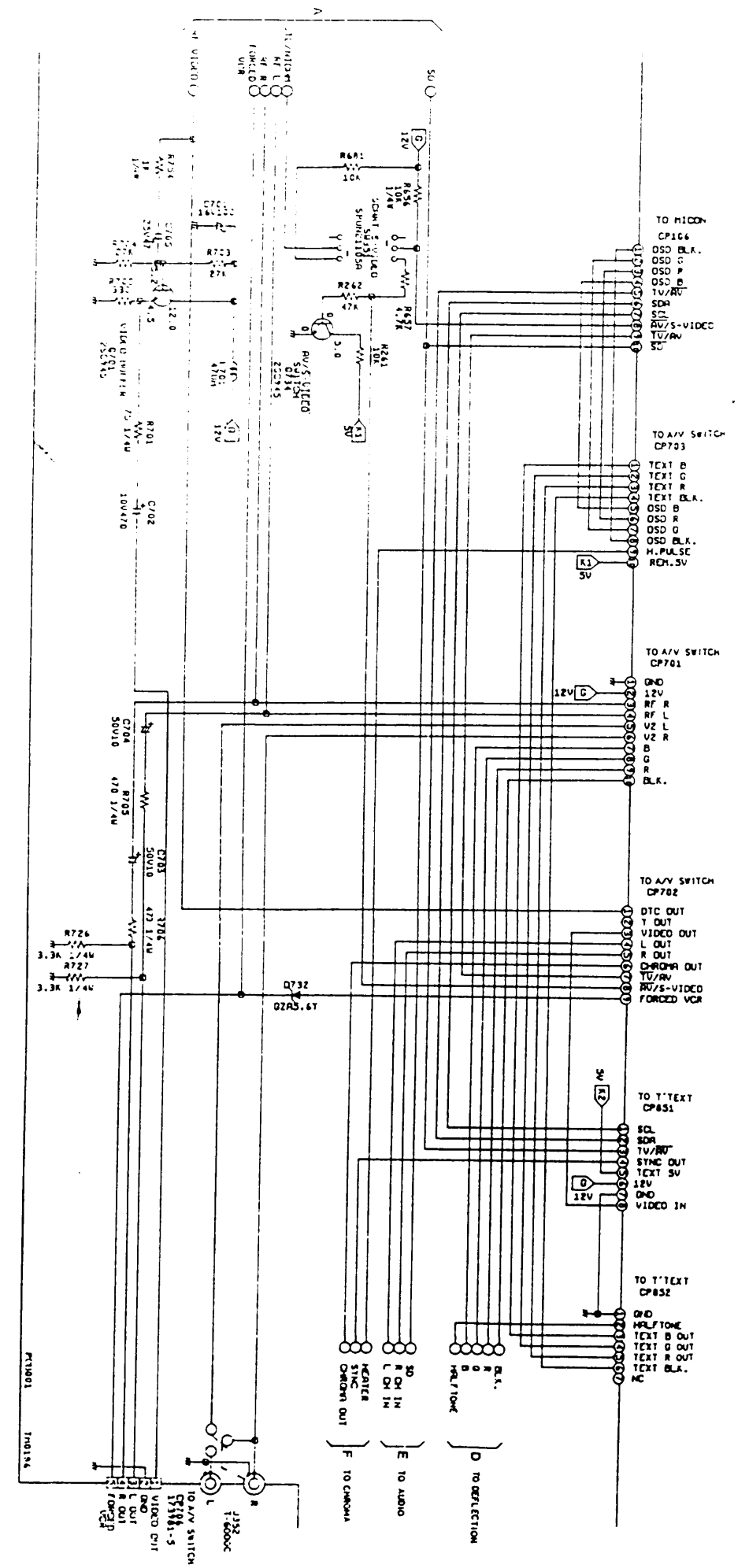
Recommended Safety Parts

Item	Part No.	Description
R513	R32181R39J	R, Metal Oxide 0.39 Ohm 1W
R514	R3218A150J	R, Metal Oxide 15 Ohm 2W
R515	R6158A3R3J	R, Fuse 3.3 Ohm 2W
R518	R63584010J	R, Fuse 1 Ohm 1/4W
R519	R635824R7J	R, Fuse 4.7 Ohm 1/2W
R602	R615823R3J	R, Fuse 3.3 Ohm 1/2W
R805, R813,		
R821	R31181393J	R, Metal Oxide 39 Ohm 1W
R806, R814,		
R822	R3218A822J	R, Metal Oxide 8.2 Ohm 2W
R826, R827,		
R828	R3218A223J	R, Metal Oxide 22 Ohm 2W
R902	R61584180J	R, Fuse 18 Ohm 1/4W
R929	R61582270J	R, Fuse 27 Ohm 1/2W
RY101	0560710111	Relay G5P-1 or 9V
SW501	0530102008	Switch, push ESB-76937A
T101	040530001Z	Remocon Trans 0530001
T501	0481420325	Converter Trans 8142032
TU001	0144607011	UHF Tuner TERB7-005A
V801	09BU260602	Colour Picture Tube A66ECF10X01

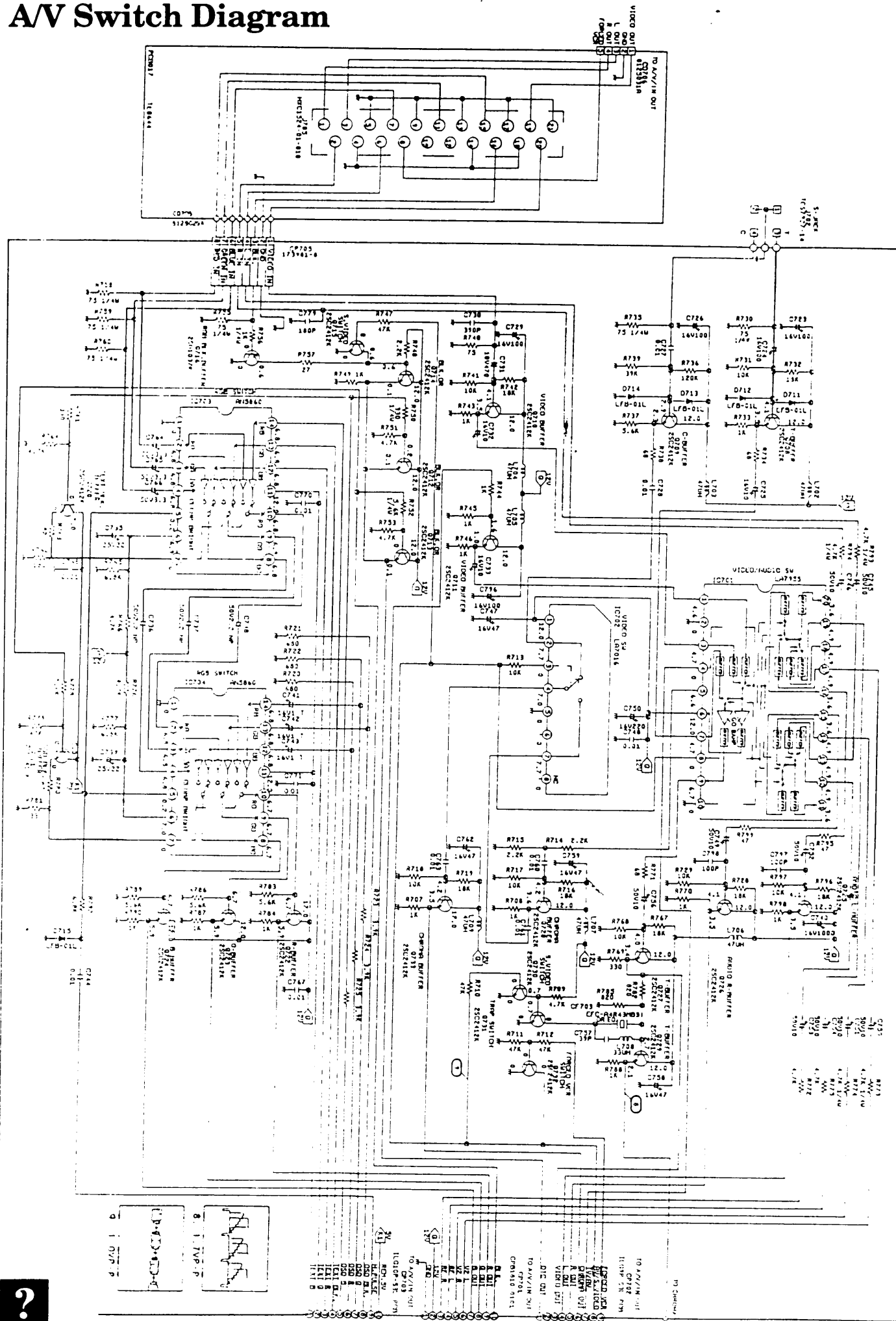
Audio Diagram



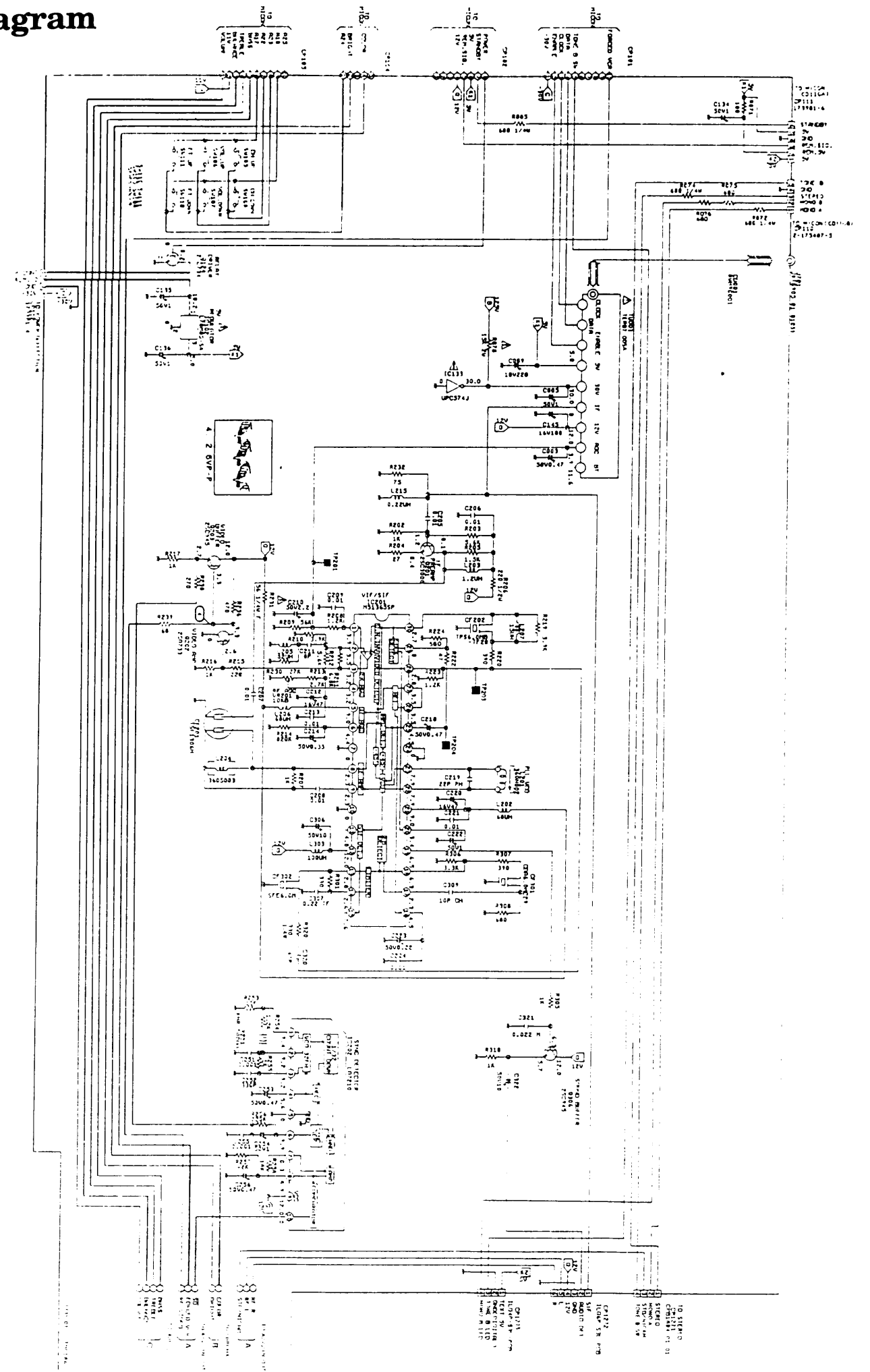
A/V In Out Diagram

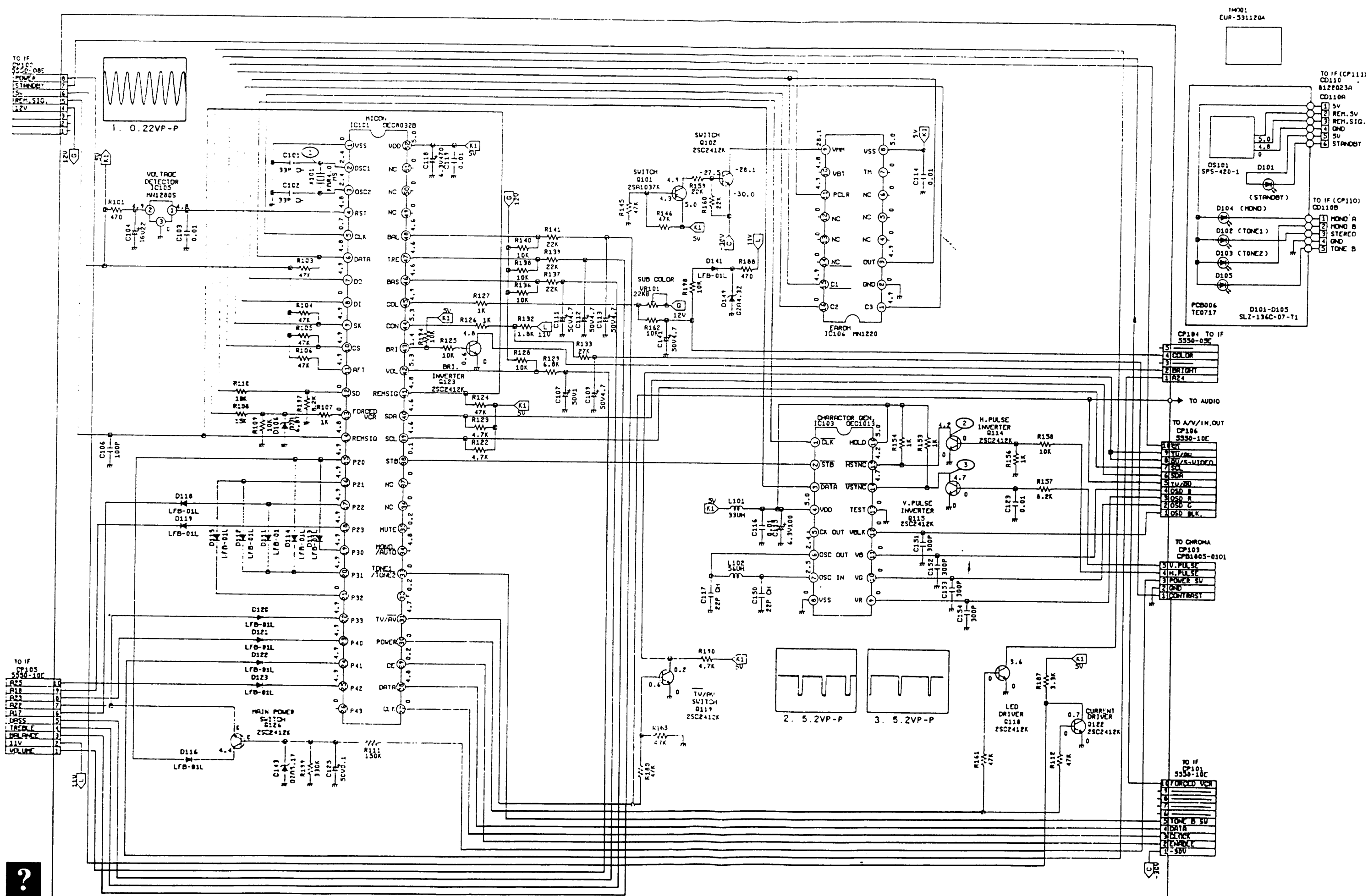


A/V Switch Diagram

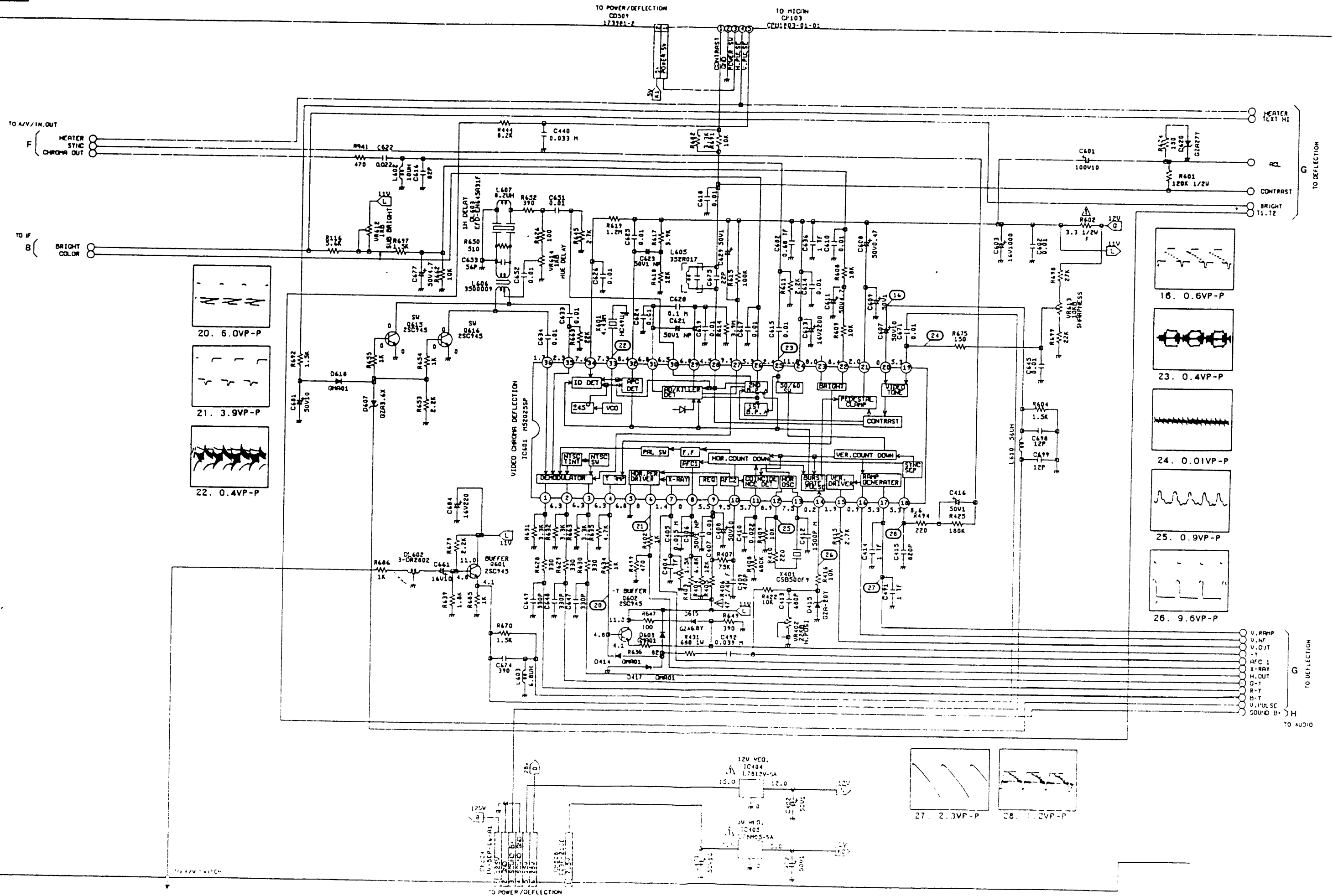


IF Diagram

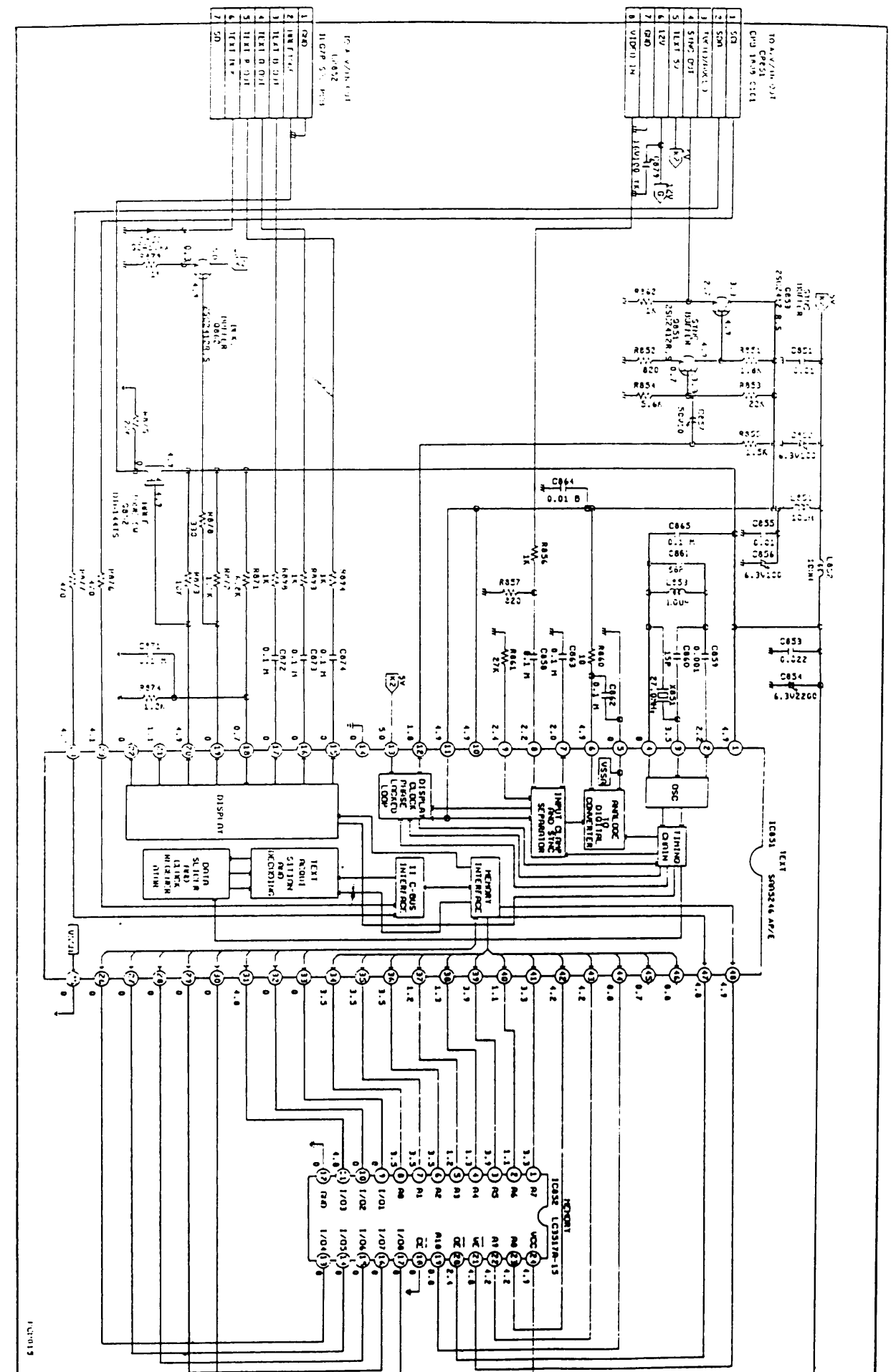




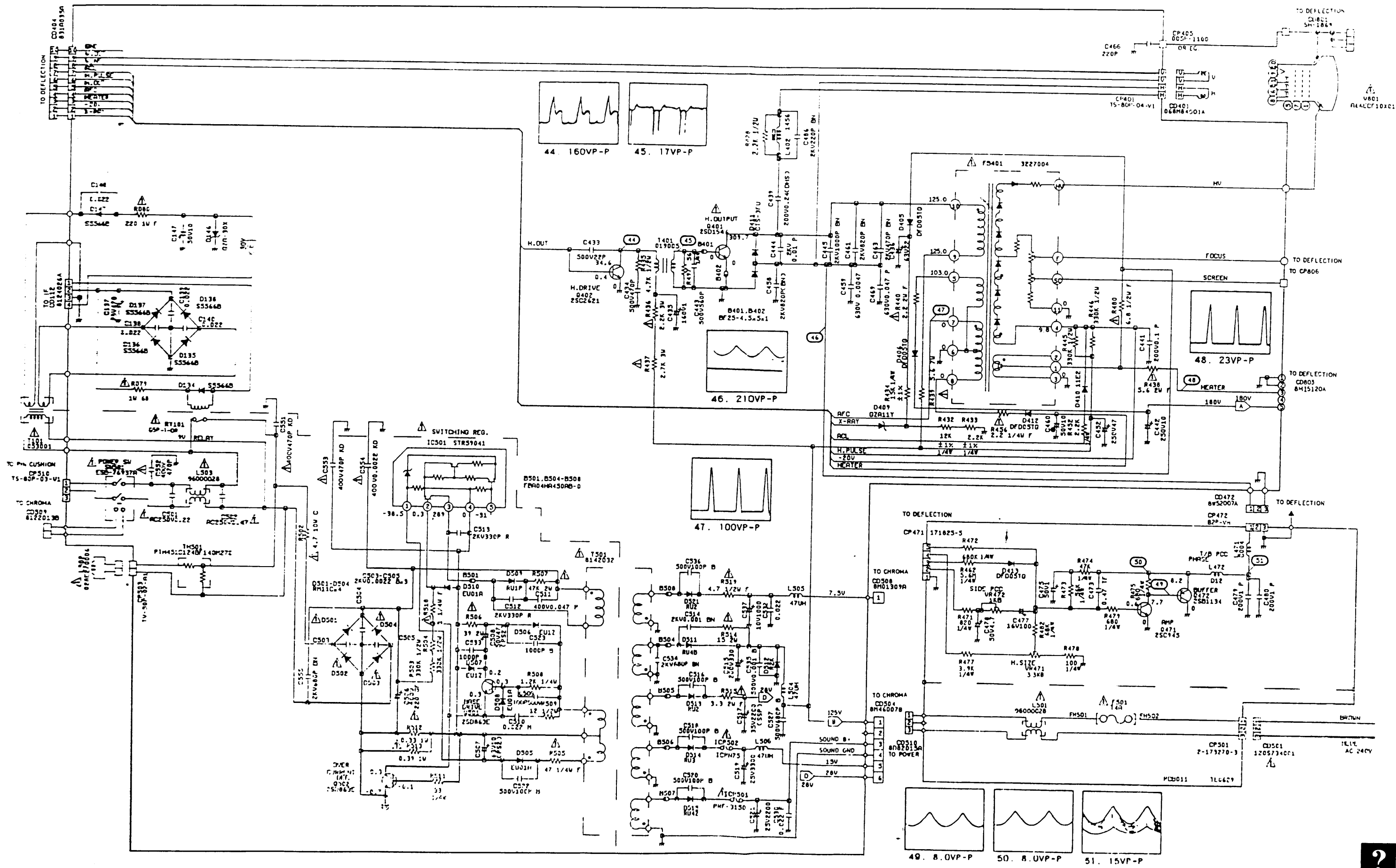
Chroma Diagram



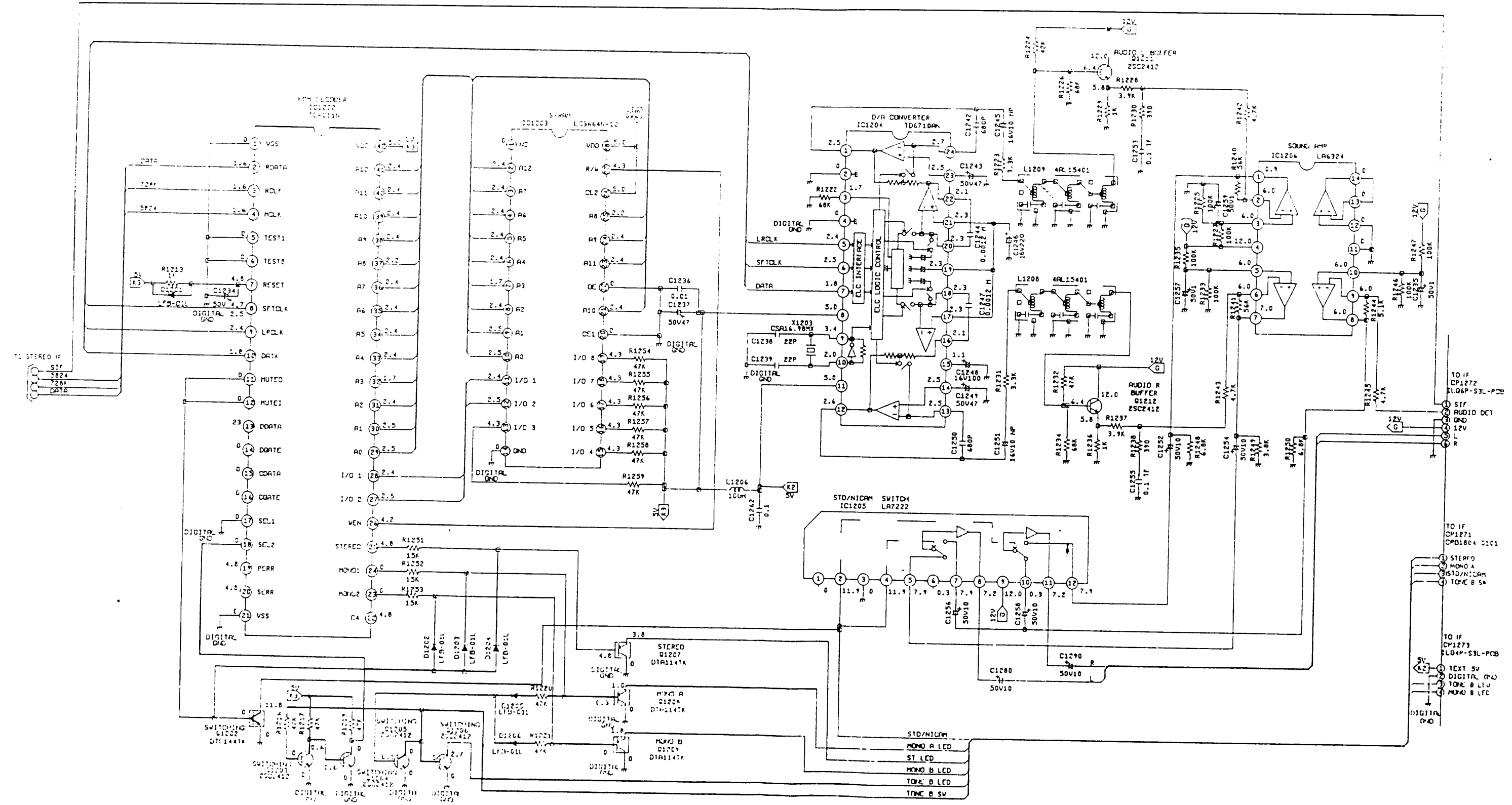
Text Diagram



Power Deflection Diagram



NICAM Diagram



Deflection Diagram

