

General Information

Chassis: E3-B33
CRT: A78JVB63X (U)
Remote Control:
6102058147
Door Flap: 6102082906
Main Power Button:
6102069124

Matrix

Item	See Model
Safety Notices	Sanyo CB 1443

Specifications

Power Source:	AC 240V, 50Hz
Power Consumption:	100W CENELEC
Television System:	System - 1, B/G
Colour System:	PAL, SECAM, NTSC4.43
Channel Coverage:	UHF 21 - 69
Aerial Input Impedance:	75 ohms
Intermediate Frequencies:	
Video:	39.5 MHz
Sound:	33.5 MHz (1) 34.0MHz (G)
Colour:	35.07MHz
Audio Output:	15W, 10% distortion
Speaker:	REG 4 x 2, REG 10 x 4 8 ohm
Picture Tube:	78 cm diagonal, 110 degree Type No: A78JVB63X (U)
High Voltage:	27 KV at zero beam
Semiconductors:	155 transistors, 55 ICs
Ext. Terminal:	
21 pin terminal	CENELEC standard RCA
Audio monitor out	type, R and L
S-terminal in	S-VHS VCR standard RCA
Audio in	type, R and L

Recommended Safety Parts

Item	Part No.	Description
C308, C780	4040079903	MT-Compo 0.1U M 250V
C321	4040083108	Ceramic 470P M 400V
C326	4040084105	Ceramic 2200P M 400V
C494	4040335702	MT - Polypro 9800P J 1.5K
C495	4030836806	Polypro 0.056U J 400V
C496	4040307501	MT-Polypro 7200P J 1.5K
D325	4071058700	Photo Couple PC113B
D326	4071052906	Photo Couple TLP647G
F780	4230061404	Fuse 250V 2A
L301	6100316171	Line Filter
L901	6102114614	Degaussing Coil
Q902	6100259768	CRT A78JVB63X (U)
R335, R336	4020008305	Solid 5.6M KA 1/2W
R356	4020152800	Fusible Res 4.7 J- 2W
T301	6102088809	Converter Trans
T325	6100333840	Power Trans
T480	6102088243	FBT
V901	6100117068	AC Cord

Service Adjustments

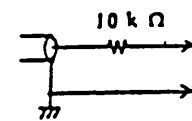


Fig 1. Input probe

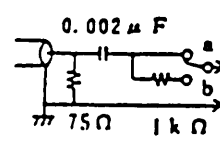


Fig 2. Output probe



Fig 3. Damping R 100ohm

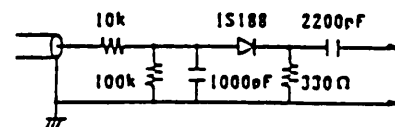


Fig 4. Input probe (Trap adj.)

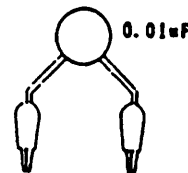


Fig 5. Short clip

VIF Alignment

Setting	Detector Adj.	Trap Adj.	Overall waveform
DC12V	TP-4G	TP-4G	TP-4G
AGC voltage	TP-1C	TP-1C	TP-1C
Output probe	IC180 6pin	Tuner -TP (a side)	Tuner -TP (a side) (b side)
Input probe	Q1C3-E	Q155-C	Q1C3-E (fig 4.)
Short clip	IC180 7pin	-	-
Damping R	-	-	TP-1D
System SW	B/G (38.9),	B/G	B/G or I
Band	-	I (39.5)	V High
Sweep ATT	30dB	V High	18dB
Tuning voltage	-	20dB	IC110 -15pin
Adjustment	By using T185, adjust "P" to the maximum. P(38.9/39.5)	By using T143, bring the trap to A(40.4). By using T140, bring the trap to A(31.9)	By using the tuner converter coil and T137, make the marker positions to P=38+/-5% (B/G) P=40+/-5% (I) C+P

VIF Waveform



VIF Waveform SIF Alignment

Setting	FM Detector Adj. 1	FM Detector Adj. 2	FM Detector Adj. 3
DC12V	TP-4G	TP-4G	TP-4G
AGC voltage	TP-1J	TP-1J	TP-1J
Output probe	IC1C0 -3pin (a-side)	IC1C0 -17pin Fig. 6	IC1C0 -6pin Fig. 6
Input probe	IC1C0 -19pin	TP-1L Fig. 7	TP-1K Fig. 7
V-meter	-	IC1C0 -15pin	IC1C0 -10pin
System SW	B/G (38.9),	B/G (5.5Mhz) I (39.5)	B/G (5.74Mhz) I (6.0Mhz)
Carrier modulation	-	1khz, sine-wave	1 Khz, sine-wave
Adjustment	Adjust AGC voltage for "A" to be 0.5Vp-p By using T1L2, adjust "P" to be on the centre line	By using T1E4, adjust the DC voltage of the IC110-15pin to 4.0V or adjust "A" to the maximum	By using T1E0, adjust the DC voltage of the IC110-10pin to 4.0V or adjust "B" to the maximum

VIF Waveform

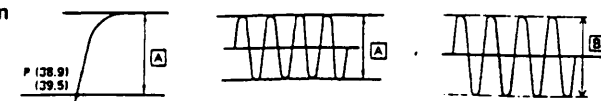


Fig 6.

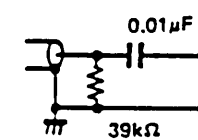
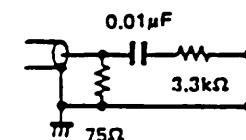


Fig 7.

Service Control Adjustments

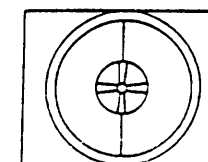
TU-AGC Adjustment

- 1: Tune the receiver to the nearest station.
- 2: Rotate VR175 fully anti-clockwise and then clockwise slowly until the snow noise just disappears.

Horizontal Oscillation Adjustment

- 1: Tune the receiver to the PAL circular pattern.
- 2: Connect a short clip between test points "TP-4A" and "TP-4E".
- 3: Adjust VR411 so that the picture comes to a standstill.

Fig 8.



PAL Colour Adjustments

- 1: Tune the receiver to the PAL colour bar pattern.
- 2: Set brightness and colour controls to normal.

CW OSC Adjustment

- 3: connect a short clip between test points "TP-2D" and "TP-2E".
- 4: Adjust VC236 to obtain a colour synchronised picture.

SECAM Colour Adjustment

- 1: Tune the receiver to the SECAM colour bar pattern.
- 2: Set brightness and colour controls to normal.
- 3: Connect the oscilloscope to test points (+) "TP-2A" and (-) "TP-2E".
- 4: By using T201 adjust the wave form for its peaks to be equal.

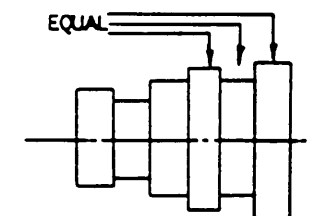


Fig 12.

(SECAM ID DICRI Adjustment)

- 3: Connect the oscilloscope to test points (+) "TP-2C" and (-) "TP-2E".
- 4: By using T235 adjust "A" to be at its maximum.



Fig 13.

(R-Y Adjustment)

- 3: Connect the oscilloscope to test points (+) "TP-2R" and (-) "TP-2E".
- 4: By using T211 adjust "a" to be in the same position as "b".

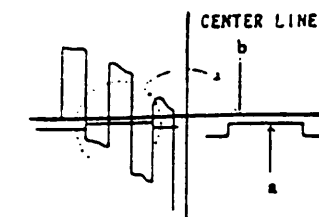


Fig 14.

(B-Y Adjustment)

- 3: Connect the oscilloscope to test points (+) "TP-2B" and (-) "TP-2E".
- 4: By using T210 adjust "a" to be in the same position as "b".

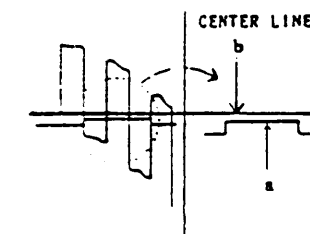


Fig 15.

FM Output Adjustment

- 1: Tune the receiver to the FM signal, modulation frequency is 400Hz or 1kHz.
A: FM 80% modulation.
B: FM 60% modulation.
- 2: Connect the digital voltmeter to pin 1 or pin 3 on SCART socket.
- 3: By using VR1C8 adjust the amplitude to:
A: 500 ± 20 mVrms.
B: 350 ± 10 mVrms.
See Fig 16. Next Page

Fig 9.

White	Yellow	Cyan	Green	Magenta	Red	Blue	Upper
V	±U	Grey	White	Black	Black	Black	Lower

(1H Delay Adjustment)

- 3: Connect the oscilloscope to test points (+) "TP-2B" and (-) "TP-2E".
- 4: By using T220 adjust the amplitude of "a" to be at its minimum.

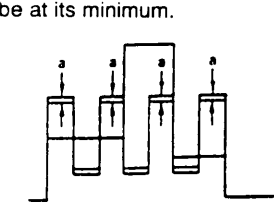


Fig 10.

(Colour Phase Adjustment)

- 3: Connect the oscilloscope to test points (+) "TP-2B" and (-) "TP-2E".
- 4: By using VR220 adjust the amplitude of "b" to be at its minimum.

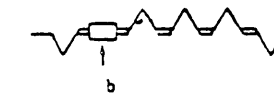


Fig 11.

Service Adjustments Cont'd.

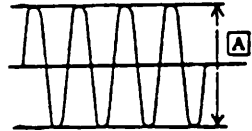


Fig 16.

Sub Contrast Adjustment

- 1: Tune the receiver to the PAL colour bar pattern.
- 2: Set colour and contrast controls to minimum.
- 3: Connect the oscilloscope to test point (+) "TP-6G" and (-) "TP-6E".
- 4: By using VR272 adjust "A" to 0.15 Vp-p. By using VR271 adjust "B" to 0.2 ± 0.02 Vp-p.

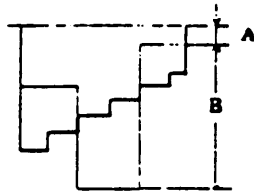


Fig 17.

Raster Centre Adjustment

(Screen VR Adjustment)

- 1: Tune the receiver to the PAL circular pattern.
- 2: Set brightness and colour controls to normal and contrast to maximum.
- 3: Set the screen VR for the retrace lines to be just visible on the screen.
- 4: By using VR461 adjust the H-width to be at its minimum.
- 5: By using the raster centre switching tip (KHC-1/2/3) adjust raster centre for $a = b$.

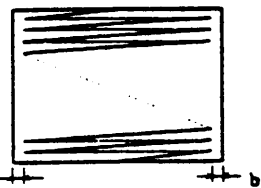


Fig 18.

Grey Scale Adjustment

(Screen VR adjustment)

- 1: Set brightness and colour controls to normal and contrast to minimum.
- 2: Connect the oscilloscope to test point (+) "IC601 - 12 pin" and (-) "TP-6E".
- 3: By using the screen VR set "a" to DC150V.

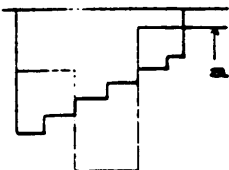


Fig 19.

White Point Adjustment

- 1: Tune the receiver to a white pattern.
- 2: Set brightness control to normal, colour to minimum and contrast to maximum.
- 3: By using VR273 and VR274 adjust the white balance.

Sub Bright Adjustment

- 1: Tune the receiver to the PAL circular pattern.
- 2: Set brightness and colour controls to normal and contrast to maximum.

- 3: By using VR272 adjust the voltage to $1.35 \pm 0.005V$.

Sub Bright Adjustment

- 1: Tune the receiver to the PAL circular pattern.
- 2: Set brightness and colour controls to normal and contrast to maximum.
- 3: By using VR272 to obtain correct brightness.

Sub Colour Adjustment

- 1: Tune the receiver to the PAL colour bar pattern.
- 2: Set brightness and colour controls to normal and contrast to maximum.
- 3: Connect the oscilloscope to test point (+) "TP-6B" and (-) "TP-6E".
- 4: By using VR270 adjust "A" to be 0mV. A = ZERO.

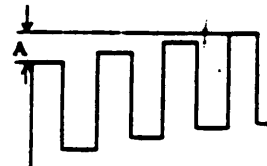


Fig 20.

Side PCC Adjustment

- 1: Tune the receiver to the crosshatch pattern.
- 2: Set brightness control to normal and contrast to maximum.
- 3: Make a straight vertical line by using VR460.

H-Width Adjustment

- 1: Tune the receiver to PAL circular pattern.
- 2: Set brightness control to normal and contrast to maximum.
- 3: Adjust VR461 to obtain the correct H-width, $a + b = 12 \pm 1$.

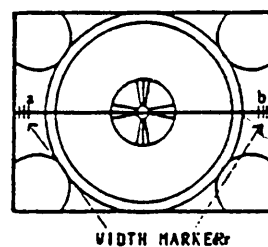


Fig 21.

High Voltage Confirmation.

- 1: Tune the receiver to the PAL circular pattern.
- 2: Connect the digital voltmeter to test points (+) "TP-4C" and (-) "TP-4B" and the high voltage meter to the CRT anode.
- 3: Confirm the high voltage is $25 \pm 1kV$, when the digital voltmeter reads $1.35 \pm 0.05V$.
- 4: confirm the high voltage is less than $29.5 \pm 0.5kV$ when brightness and contrast controls are at minimum.

V-Centre, Width Adjustment

- 1: Tune the receiver to the PAL circular pattern.
- 2: Set brightness control to normal and contrast to maximum.
- 3: Adjust the vertical centre switching tip (KVC-1/2/3) to obtain correct V-centre.

- 4: Adjust the vertical centre switching to (KVC -1/2/3) to obtain correct V-centre. (H-Centre Adjustment)
- 3: Adjust VR410 to obtain correct H-centre.

Focus Adjustment

- 1: Tune the receiver to the PAL circular pattern.
- 2: Set the contrast control to maximum.
- 3: Adjust FOCUS VR to obtain the best picture.

PIP Adjustment

Sub Contrast Adjustment

- 1: Tune the receiver to the PAL colour bar pattern.
- 2: Connect the oscilloscope to test point (+) "TP-2102" and (-) "TP-2100".
- 3: By using VR2103 adjust the amplitude of "A" to 1.0 ± 0.05 Vp-p.

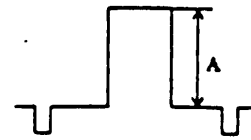


Fig 22.

PAL Colour Adjustment

- 1: Tune the receiver to the PAL colour bar pattern.
- 2: Connect the oscilloscope to test point (+) "TP-2101" and (-) "TP-2100".
- 3: By using VR2104 adjust for "a" to be at its minimum.
- 4: By using T2101 adjust for "b" to be at its minimum.
- 5: By using T2101 adjust for "c" to be at its minimum.

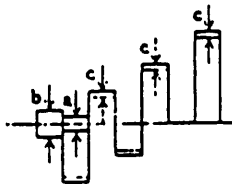


Fig 23.

Sub Colour Adjustment

- 1: Tune the receiver to the PAL colour bar pattern.
- 4: Connect the oscilloscope to test point (+) "TP-2101" and (-) "TP-2100".
- 5: By using VR2102 adjust the amplitude of "B" 1.0 ± 0.05 Vp-p.

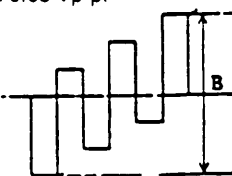


Fig 24.

H-Centre Adjustment

- 1: Tune the receiver to the PAL circular pattern.
- 2: Set the brightness and colour controls to normal and the contrast to maximum.
- 3: Set the brightness and colour controls (PIP) to maximum.
- 4: Adjust VR2105 to obtain correct H-centre of PIP picture.

Grey Scale Adjustment

- 1: Tune the receiver to the PAL colour bar pattern.
- 2: Set the brightness and colour controls to normal and the contrast to maximum.
- 3: Set the brightness control (PIP) to maximum and colour control (PIP) to minimum.

- 4: Connect the oscilloscope to test point (+) "TP-2107" and (-) "TP-2110", (+) "TP-2106" and (-) "TP-2110".
- 5: By using VR2192 adjust the added video level to be at its minimum, (horizontal line only).

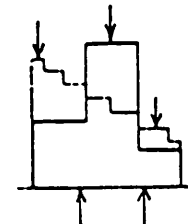


Fig 25.

- 6: Connect the oscilloscope to test points (+) "TP-2107" and (-) "TP-2110", (+) "TP-2108" and (-) "TP-2110".
- 7: By using VR2191 adjust the added video level to be at its minimum, (horizontal line only).

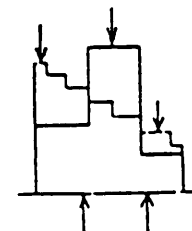
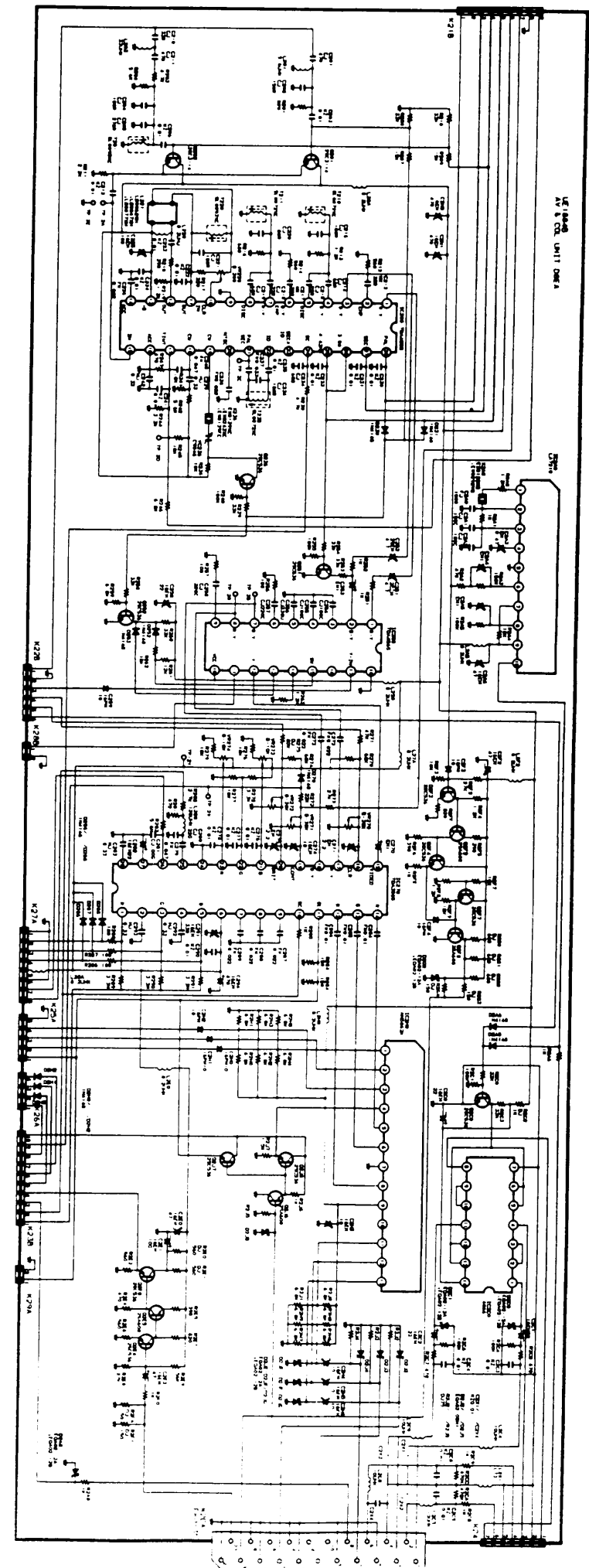
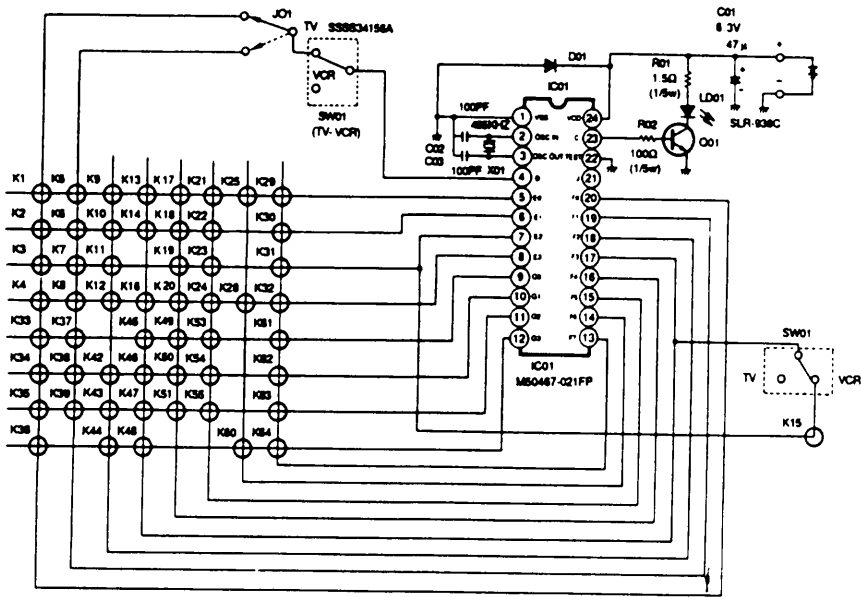


Fig 26.

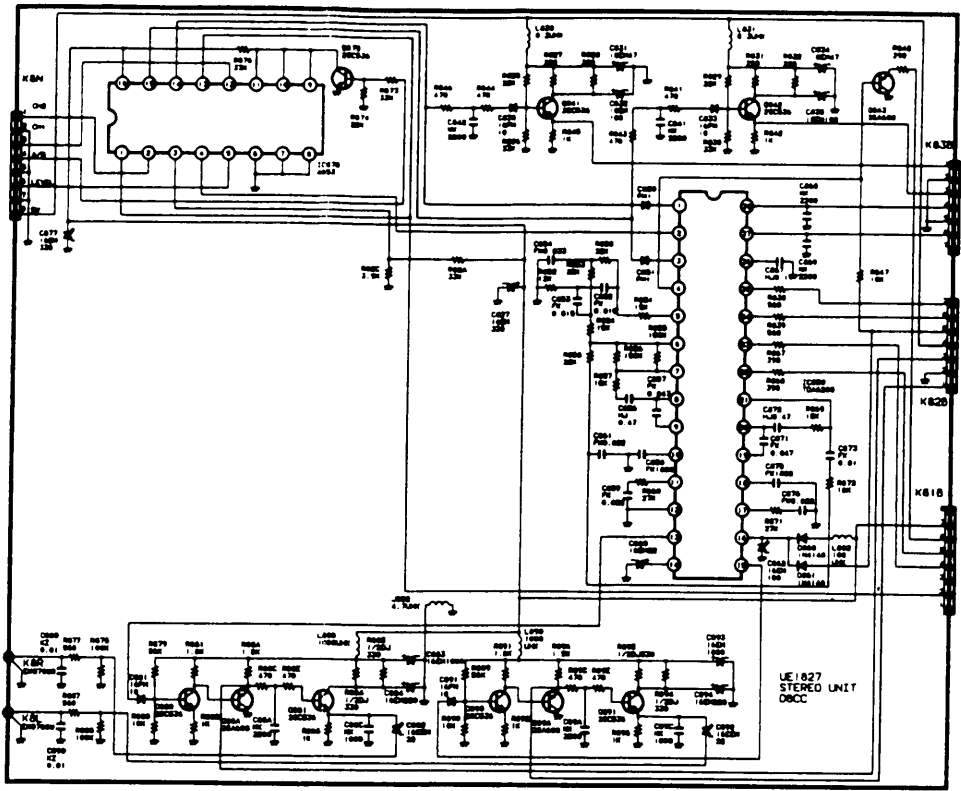
AV Diagram



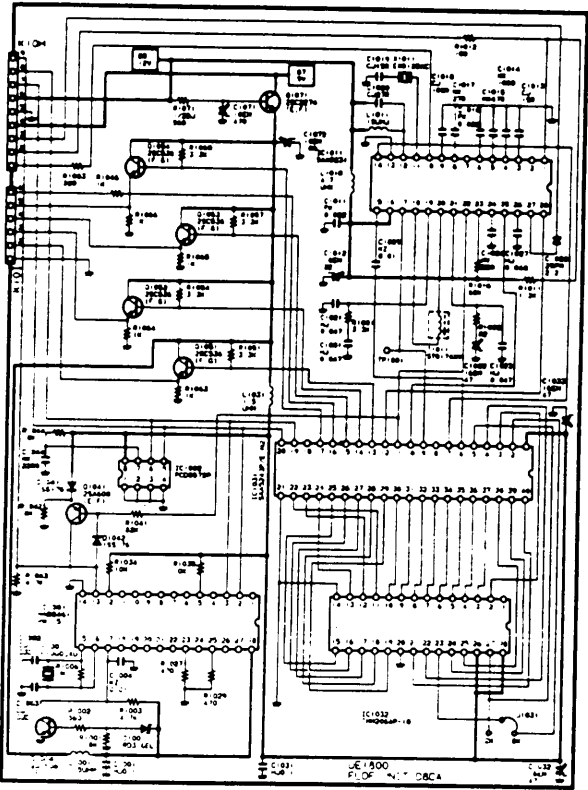
Remote Control Diagram



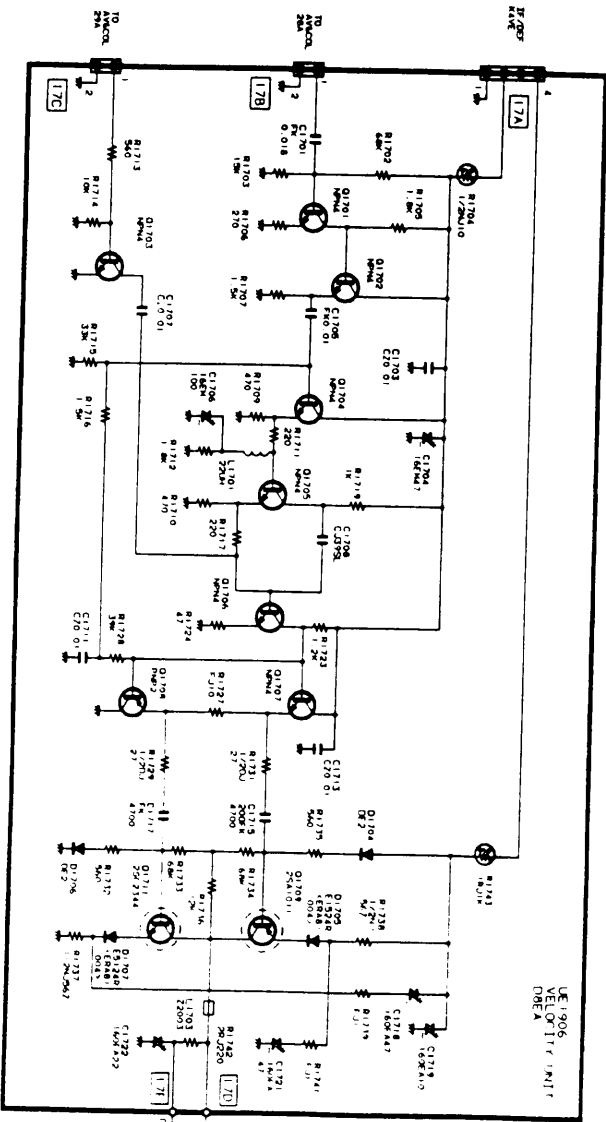
Stereo Diagram



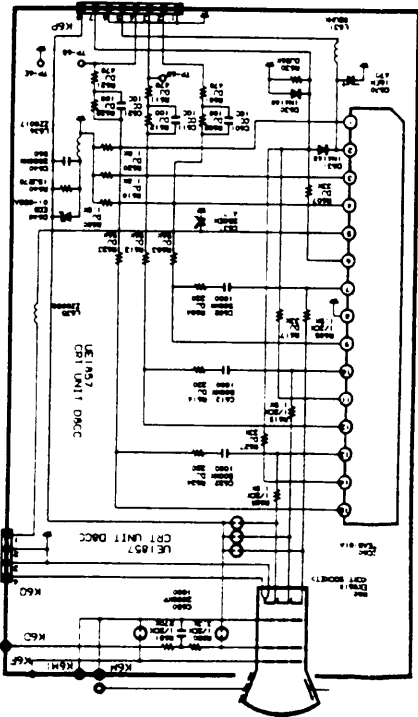
FLOF Diagram



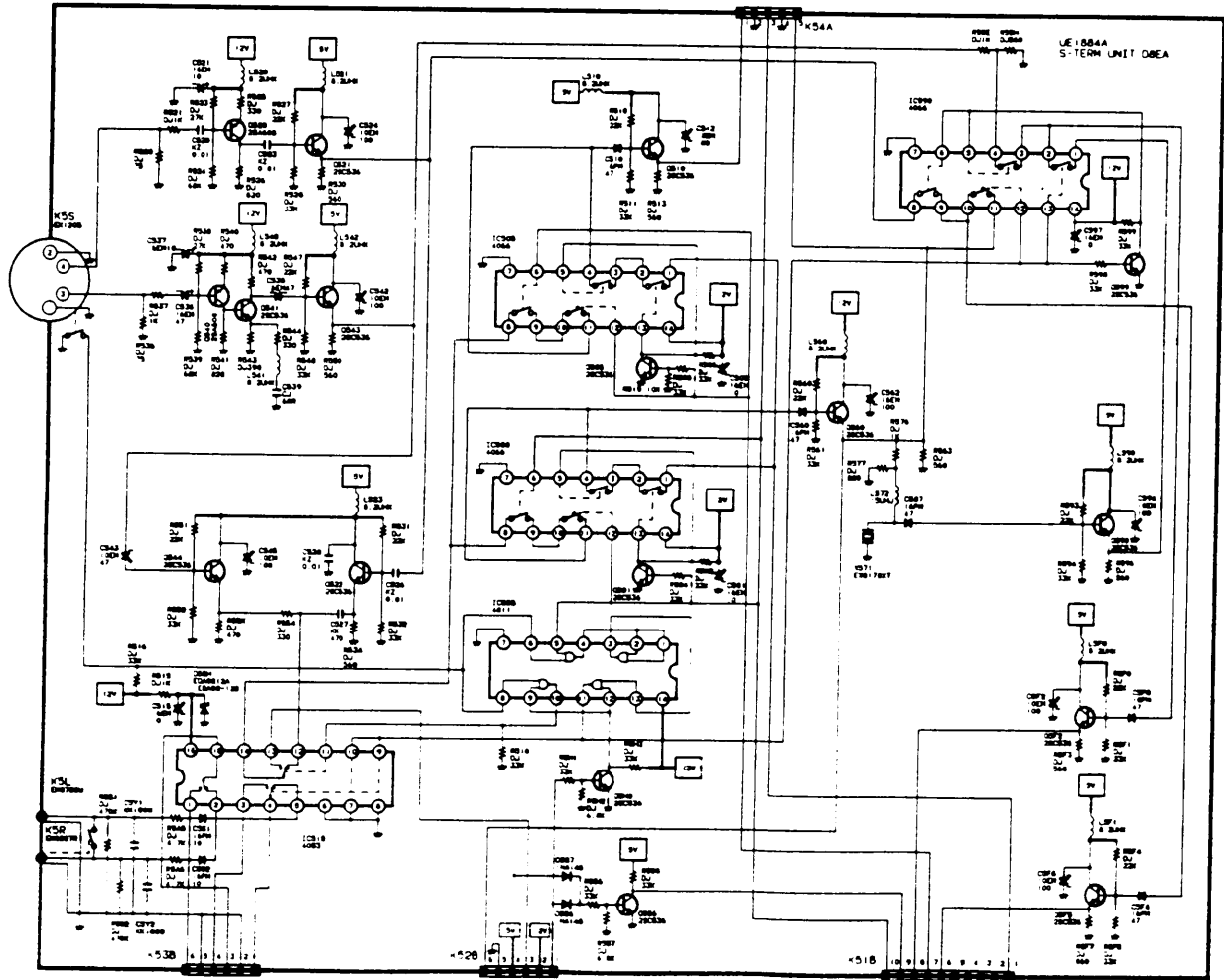
VC Unit Diagram

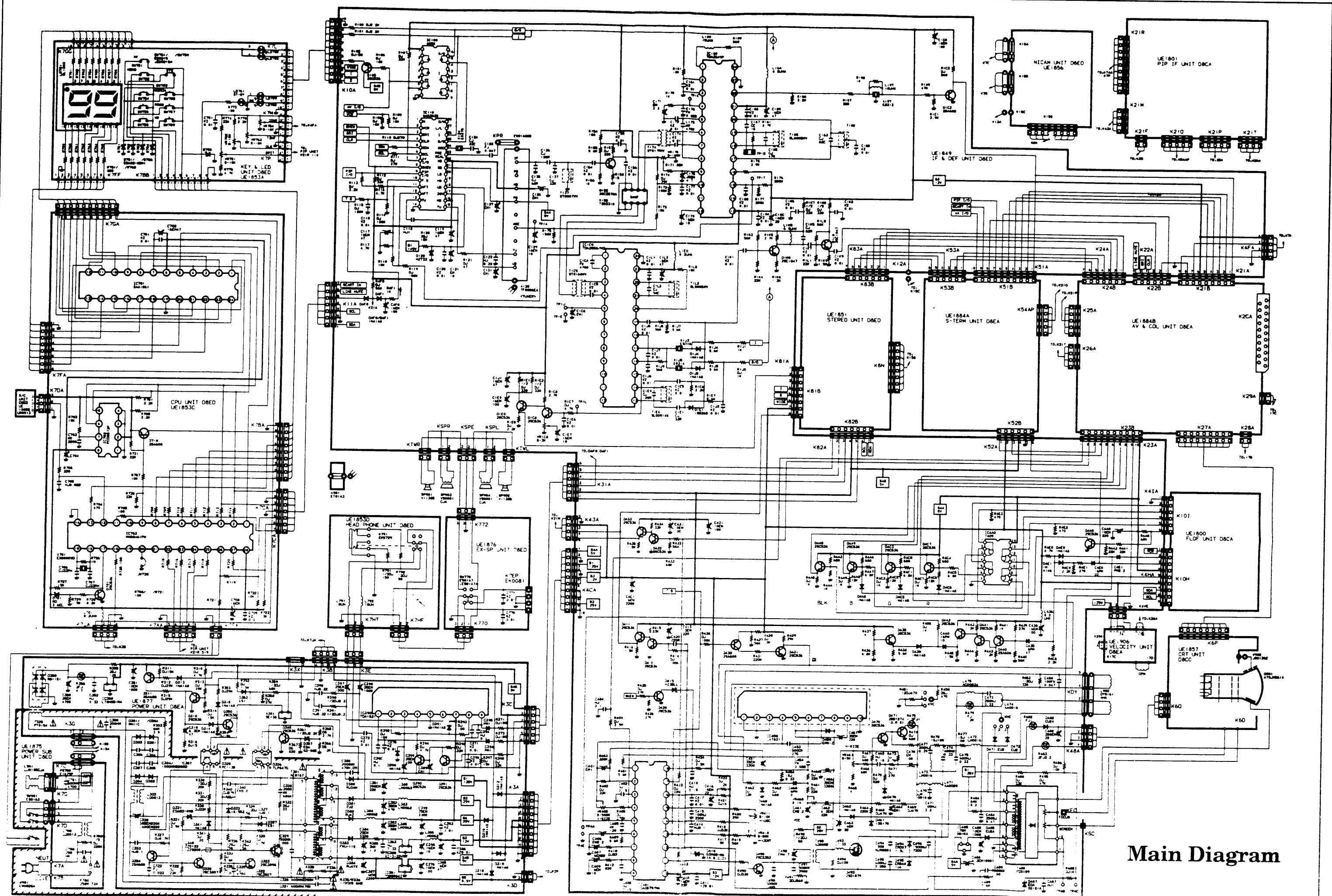


CRT Diagram



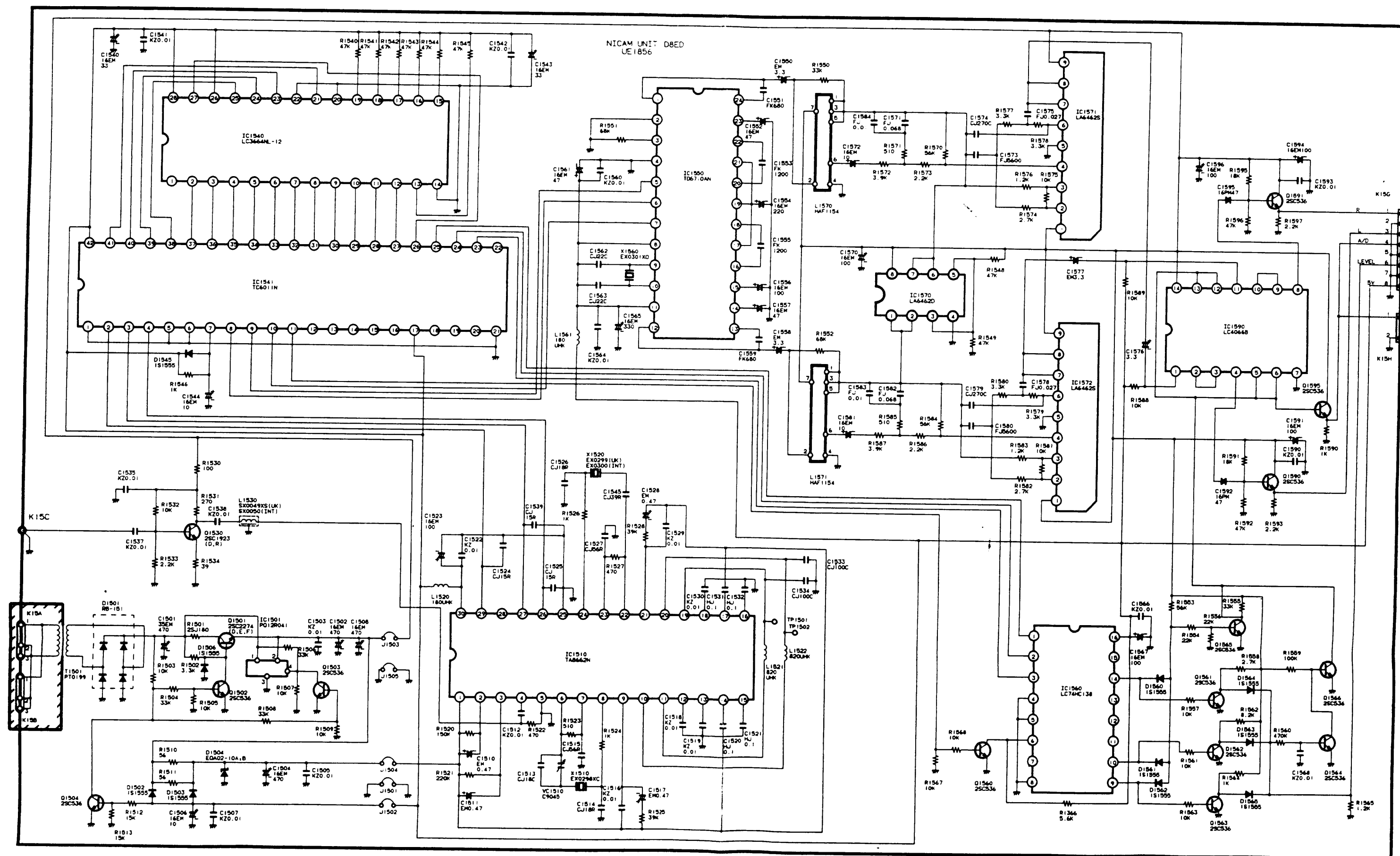
S-VHS Diagram

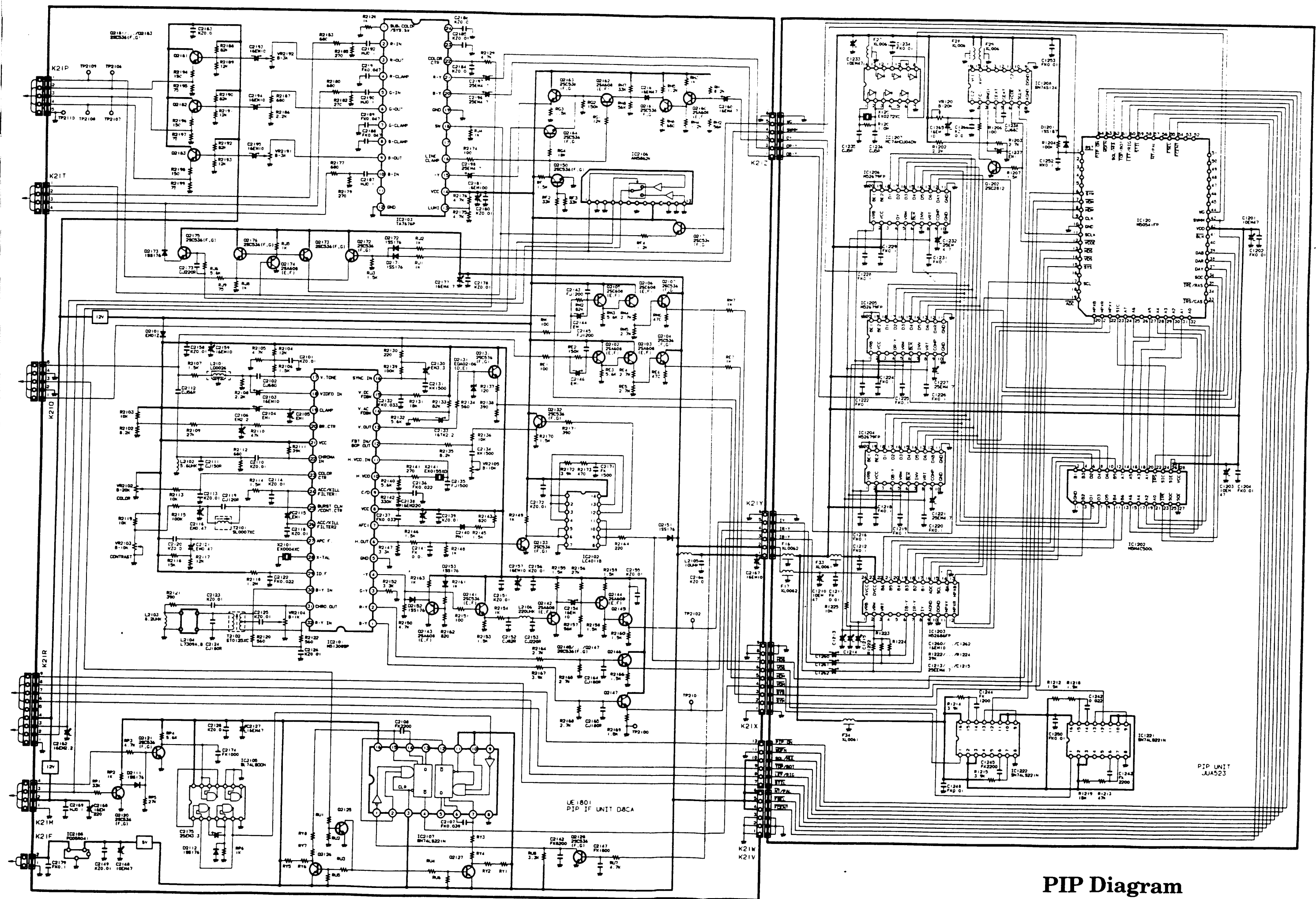




Main Diagram

NICAM Diagram





PIP Diagram