

General Information

1992

Covers Models:

Goldstar CIT2171F

Goldstar CIT 2570F

Goldstar CIT 2871F

Chassis: PC-12B

CRT's:

A51KPD12XX

A59ECF10X01

A66EAK71X01

Remote Control: 105-197C

Door Flaps:

315-483C (2170F)

315-484C (2171F)

315-509D (2570F)

315-519D (2871F)

Main Power Buttons:

4410196B (2170F)

441-197B (2171F)

441-223A (2570F)

441-262A (2871F)

Battery Cover: 303-F82A

Matrix

Item	See Model
Safety Notes	Goldstar CI-14A50
CRT Adjustments	Goldstar CI-14A50

Specifications

Power Consumption:	
CIT-2170F/2171F:	115W
CIT-2570F:	130W
CIT-2871F:	130W
Picture Tube:	
CIT-2170F/2171F:	A51KPD12XX 00N7KD
CIT-2570F:	A59ECF10X01 (Nokia)
CIT-2871F:	A66EAK71X01 (Philips)
Power Source:	
AC 240V/50Hz	
Receiving TV System:	
CCIR standard	
Colour Receiving System:	
PAL-1	
Intermediate Frequency:	
Picture:	39.5 MHz
Sound:	33.5 MHz
Colour:	35.07 MHz
Receiving Channel:	
UHF: 21 - 69 Ch	
Tuning:	
40 programme voltage synthesiser	
Audio Output:	
Max. 10W	
Antenna Input Impedance:	
75 ohm IEC type	
Features:	
NICAM Stereo./Dual, AGC	

Service Adjustments

Safety Precautions

X-Ray Radiation Precautions

- Excessive high voltage can produce potentially hazardous X-Ray Radiation. To avoid such hazards, the high voltage must not be above the specified limit. The nominal value of the high voltage of this receiver is 24 ± 1.5 kV at high beam current (maximum brightness) under specified power source. The high voltage must not, under any circumstances, exceed 27.5 kV. Each time a receiver requires servicing the high voltage should be checked. It is recommended the reading of the high voltage be recorded as part of the service record. It is important to use an

- accurate and reliable high voltage meter. The only source of X-Ray Radiation in this TV receiver is the picture tube. For continued X-Ray Radiation protection, the replacement tube must be exactly the same type as specified in the parts list.
- Some parts in this receiver have special safety related characteristics for X-Ray Radiation protection. For continued safety, parts replacement should be undertaken only after referring to the Product Safety Notice below.

Adjustment Instruction

Appliance

This instruction is applicable for all models using the PC-12B chassis.

Specification

Circumference Condition

If there is no particular guidance, adjust under

- the following condition:
- Circumference temperature: $20^\circ \pm 5^\circ$ C.
- Relative humidity: $65\% \pm 6\%$.

Necessary Instruments

- DC power supply (0 - 20V, 1A): 2EA.
- Sweep Generator and marker unit of each system.
- Alignment Scope.
- Pattern Generator (PM5518): 1EA.
- Frequency Counter.
- Oscilloscope.
- Digital Multimeter.
- High Impedance 1000:1 probe.
- Colour Analyser: 1EA

Signal

Goldstar standard digital signal generator (PM5544).

Power Source and Preliminary Steps

Power Source: AC 180V - 240V, 50/60Hz $\pm 10\%$.

Perform this adjustment after operating the receiver for more than 5 minutes.

Adjustment

Video Intermediate Frequency Detection Adjustment

- * PAL-1 System: 39.5MHz
- * PAL-B/G System: 38.9MHz

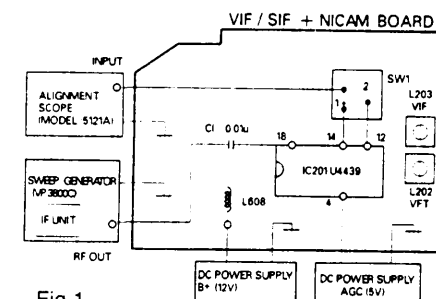


Fig 1.

Preliminary Steps

- Connect the instruments and a ceramic condenser (C1: 0.0mF) as shown in fig. 1.
- Set the output of Sweep Generator to 90 dBuV.
- Adjust Volts/DIV of alignment scope to be 100mV/DIV.

Adjustment

- Connect each equipment as shown in fig. 1, and switch on the DC power supply.
- Adjust L203 (Video Intermediate Frequency Detection Coil) in order to minimise the picture carrier mark, as shown in fig. 2.

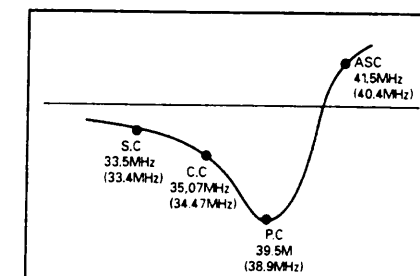


Fig 2. * () : PAL-B/G

AFT Adjustment

Preliminary Steps

- After connecting the instruments and a ceramic condenser, set the switch (SW1) to "2" position.
- Set the output of the sweep generator to 90dB.
- Adjust the Volts/DIV of the alignment scope to be 1V/DIV.

Adjustment

- After connecting instruments, as shown in fig. 1, supply the power source.
- Adjust L202 as shown in fig. 3.

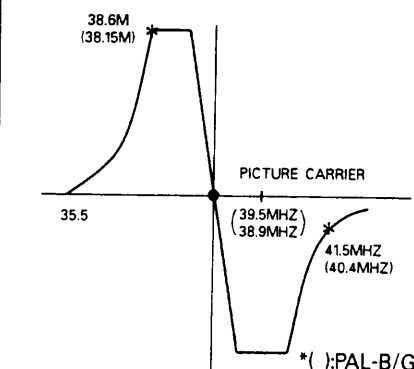
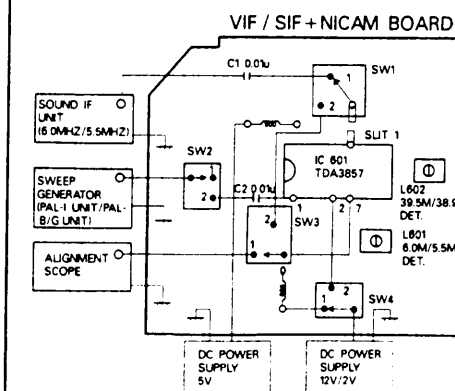


Fig 3.

6.0 MHz (5.5 MHz) Detection Adjustment



Service Adjustments Cont'd.

Preliminary Steps

- 1: Connect the instruments and coupling capacitor C1 as shown in fig. 4.
- 2: Set the output of the sweep generator to 90 dBuV.
- 3: Set the Volt/DIV alignment scope to 1V/ DIV.
- 4: Check the SLIT1 if it is open.
- 5: Supply B+(5V) to the jig point of L603 and then supply B+ (12V) to the jig point of L608 using DC power supply.

Adjustment

- 1: Adjust L601 so that 6.0MHz (5.5MHz) keying pulse on the alignment scope may be as small as possible.
- 2: Short SLIT1.

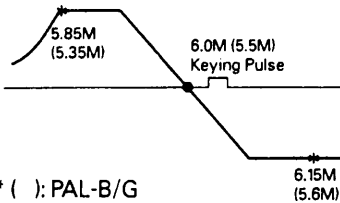


Fig 5.

39.5MHz (38.9MHz) Adjustment

Method 1 Preliminary Steps

- 1: Connect the instruments as shown in fig. 4.
- 2: Set the output of the sweep generator to 90 dBuV.
- 3: Set the Volt/DIV of the alignment scope to 100mV/DIV (10mV/DIV).
- 4: Supply B+(5V) to the jig point of L603 using the DC power supply.

Adjustment

- 1: Adjust L602 so that 39.5MHz (38.5MHz) waveform on the adjustment scope may be as shown in fig. 6.

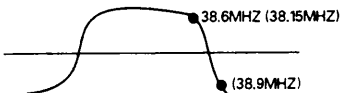


Fig 6.

Method 2

- 1: Using the pattern generator PM5518, supply the Video signal with the cross hatch pattern signal and the Audio signal with 1kHz sign-waveform to the tuner of the TV receiver.
- 2: Connect the oscilloscope probe to pin 15 of IC601 and adjust L602 so that the amplitude may be as narrow and flat as possible (200mVp-p).

Teletext Clock Adjustment

This alignment is applied only to the TV that contains the teletext board. (P/N: 111-G07A).

Preliminary Steps

- 1: Connect the instruments as shown in fig. 7 and switch on the TV receiver.
- 2: Receive the TV signal including the teletext signal. The RF input signal level must be 80 ± 10 dBuV.
- 3: Change the TV mode to the teletext mode.
- 4: Short TP01 and TP02 on the Teletext Board.

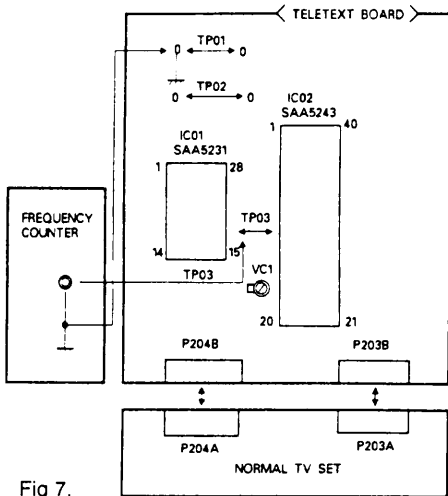


Fig 7.

Adjustment

- 1: Adjust a trimmer capacitor VC1 so that the frequency of the frequency counter may be 6,000, 050Hz - 6,000, 150Hz.
- 2: Open TP01 and TP02.

PAL APC Adjustment

Preliminary Steps

- 1: Make the TV receiver receive the standard colour signal.
- 2: Connect pin 17 of IC501 (TDA4555) to ground.

Adjustment

- 1: Adjust VC501 (trimmer capacitor) so that the colour bar may not flow up and down.
- 2: Open pin 17 of IC501 from ground.

PAL Matrix Adjustment

Preliminary Steps

- 1: Supply the DEM pattern signal to the TV receiver.
- 2: Connect the oscilloscope CH1 to pin 1 and CH2 to pin 3 of IC501 (10:1 probe) and set the Volts/DIV of oscilloscope CH1 to 10mV, and CH2 to 20mV.
- 3: Set the horizontal display mode of the oscilloscope to X-Y mode.

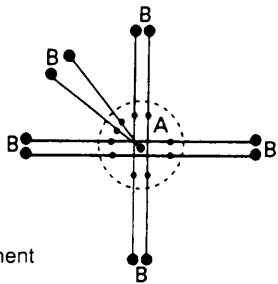


Fig 8.
Before Alignment

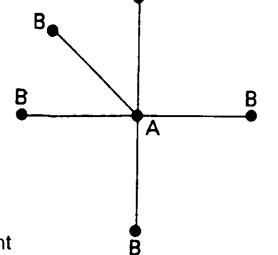


Fig 9.
After Alignment

Adjustment

- 1: Adjust VR501 to overlap the dots (part A) as shown in fig. 9.
- 2: If they are not overlapped, adjust VC501 (trimmer capacitor) to overlap dots.
- 3: Adjust L504 (PAL Matrix adjusting Coil) to overlap two dots (part B).
- 4: If necessary repeat as above.

4.43 MHz Trap Adjustment

Preliminary Steps

- 1: Supply DEM pattern signal to TV ANT terminal and receive the signal.
- 2: Connect the oscilloscope probe to pin 17 of IC502 (TDA4565).

Adjustment

- 1: Adjust L509 until the Burst signal and the Chrominance level is minimum as shown in fig. 11.

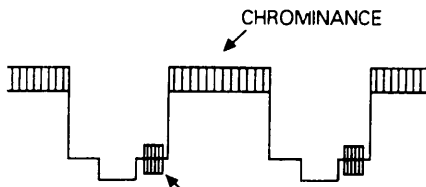


Fig 10.

Before Adjustment

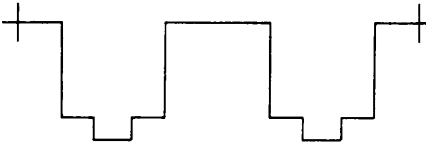


Fig 11.

After Adjustment

B+ (115VDC) Adjustment

Preliminary Steps

- 1: Operate the TV normally.
- 2: Receive the standard colour signal.
- 3: Connect the digital multimeter probe to TP701 in case of the 21" model and to the left side of R418 in case of the 25" and 28" models.
- 4: Set the contrast, bright and colour level to SVC1 (normal).

Adjustment

- 1: Adjust VR801 until the voltage on the digital multimeter is as follows:
21": 115VDC ± 0.2VDC
25": 155VDC ± 0.2VDC
28": 155VDC ± 0.2VDC

RF AGC Adjustment

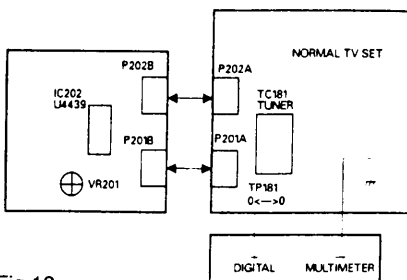


Fig 12.

Preliminary Steps

- 1: Connect the instruments as shown in fig. 11 and switch on the TV receiver.
- 2: Receive the standard colour signal.
- 3: Adjust the attenuator so that the

standard colour signal level may be 60 dBuV ± 1dBuV.

- 4: Connect the plus terminal of the digital multimeter to TP181.

Adjustment

- 1: Adjust VR201 on the VIF/SIF + NICAM Board so that the voltage is as follows:
PAL-I System: 5.5 ± 0.1VDC (Tuner 113-105M).
PAL-B/G System: 5.2 ± 0.1VDC (Tuner 113-105K).

Horizontal OSC Adjustment

Preliminary Steps

- 1: Receive the standard colour signal.
- 2: Short TP401 and TP402 near IC401 (TDA2579).

Adjustment

- 1: Adjust VR402 so that the picture may not flow horizontally and vertically.
- 2: Open TP401 and TP402.

Horizontal Centre Adjustment (Hor. Shift Adjustment)

- 1: Receive the standard colour signal.
- 2: Adjust VR401 so that the horizontal centre of the picture may coincide with the geometrical centre of the effective CPT screen.

Vertical Size Adjustment

- 1: If brightness of a screen is minimum during receiving the FuBK test pattern, adjust VR301 so that the outline signal of the upper and lower parts of the largest circle on screen may coincide with the edge of affective screen.

Vertical Centre Adjustment

- 1: After adjusting the vertical size, adjust the vertical centre. According to the vertical centre adjustment, if you should re-adjust the vertical size, re-adjust it.
- 2: Receive the standard colour signal at TV ANT terminal.
- 3: Adjust the SW301 (vertical centre SVC S/W) so that the vertical centre of the screen may coincide with the centre of the effective CPT screen.

OSD (on screen display) Position Adjustment

Preliminary Steps

- 1: Switch on the TV receiver.
- 2: Receive the standard colour signal.
- 3: Push Auto-Search key to receive the normal signal.

Adjustment

- 1: Adjust VC101 so that the digit 1 may appear on the effective picture screen, see fig. 13.

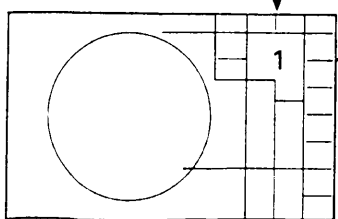


Fig 13.

Focus Voltage Adjustment

- 1: Receive the standard digital signal.
- 2: Turn the focus controller of the FBT slowly counter-clockwise so that the focus of the picture may appear distinctly.

Screen Voltage Adjustment

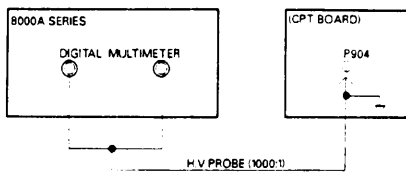


Fig 14.

Method 1 Preliminary Steps

- 1: Connect the instruments as shown in fig. 14.
- 2: In normal operation receive the standard signal.
- 3: Set VR901 and VR902 on the CPT board to the geometrical centre.
- 4: Using the remote control, set the contrast and brightness level to SVC1 mode (brightness and colour: 50%, contrast: 80%).

Adjustment

- 1: Adjust the screen volume of the FBT until the DC voltage of digital multimeter is as follows:
Using Hitachi CPT: 620VDC ± 10 VDC.
Using GS CPT: 620 VDC ± 10 VDC.
Using Philips CPT: 870 VDC ± 10 VDC.

Method 2 Adjustment

- 1: Adjust the screen volume of the FBT until DC level on the oscilloscope is 7.0V ± 0.1VDC.

White Balance Adjustment

- 1: Adjust the white balance after adjusting the screen voltage.
- 2: Using the pattern generator PM5518, make the TV receiver receive the white & black signal. (Upper: white, Lower: black).
- 3: Set the probe of TV colour analyser to the white of the screen.
- 4: Adjust the contrast and brightness until the screen brightness is 45ft.-L.
- 5: Adjust VR901, and VR902 until the colour temperature is 9300° K + 27 M. P. C. D. (X = 281 ± 10, Y = 311 ± 10).

E. W Board Adjustment

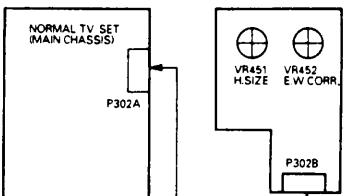


Fig 15.

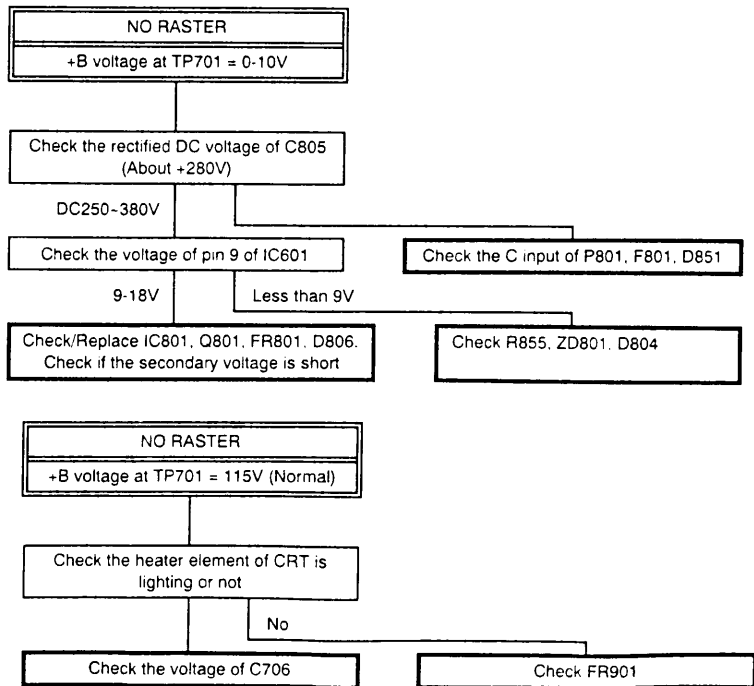
Preliminary Steps

- 1: Receive the standard colour signal.
- 2: Adjust the key SVC1 on the remote control unit.
- 3: E/W board should be adjusted after B+, Horizontal OSC, Horizontal Centre, Vertical Size and Vertical Centre Adjustments.

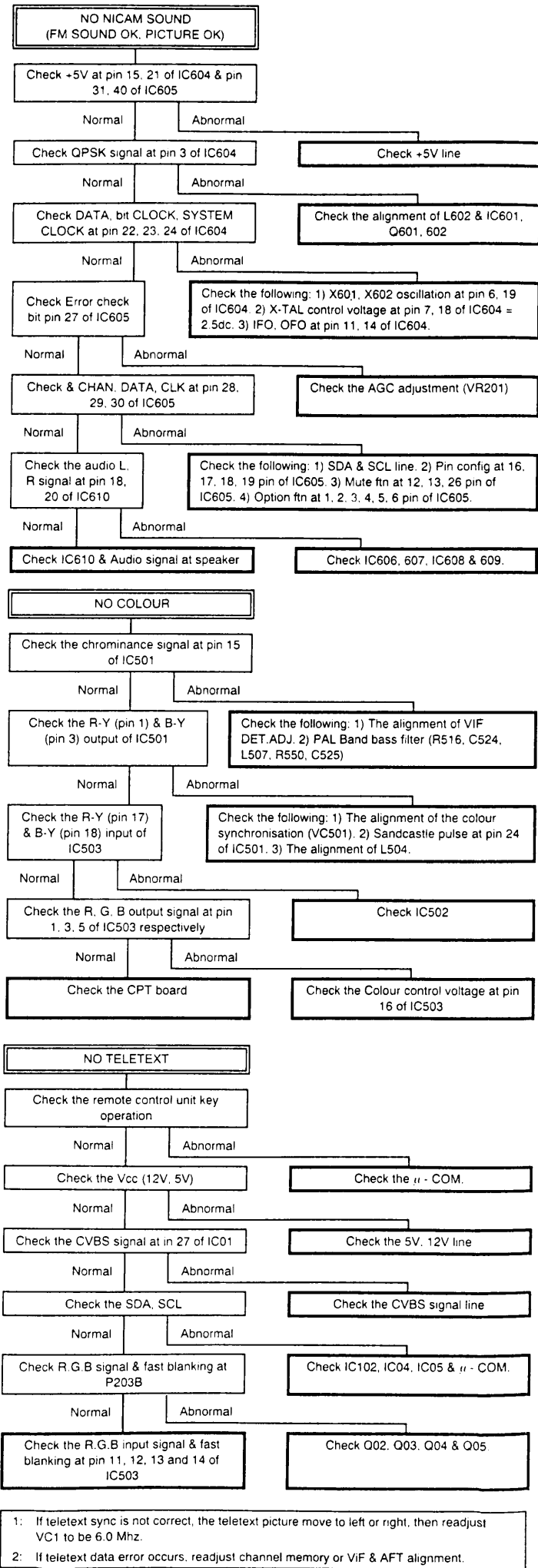
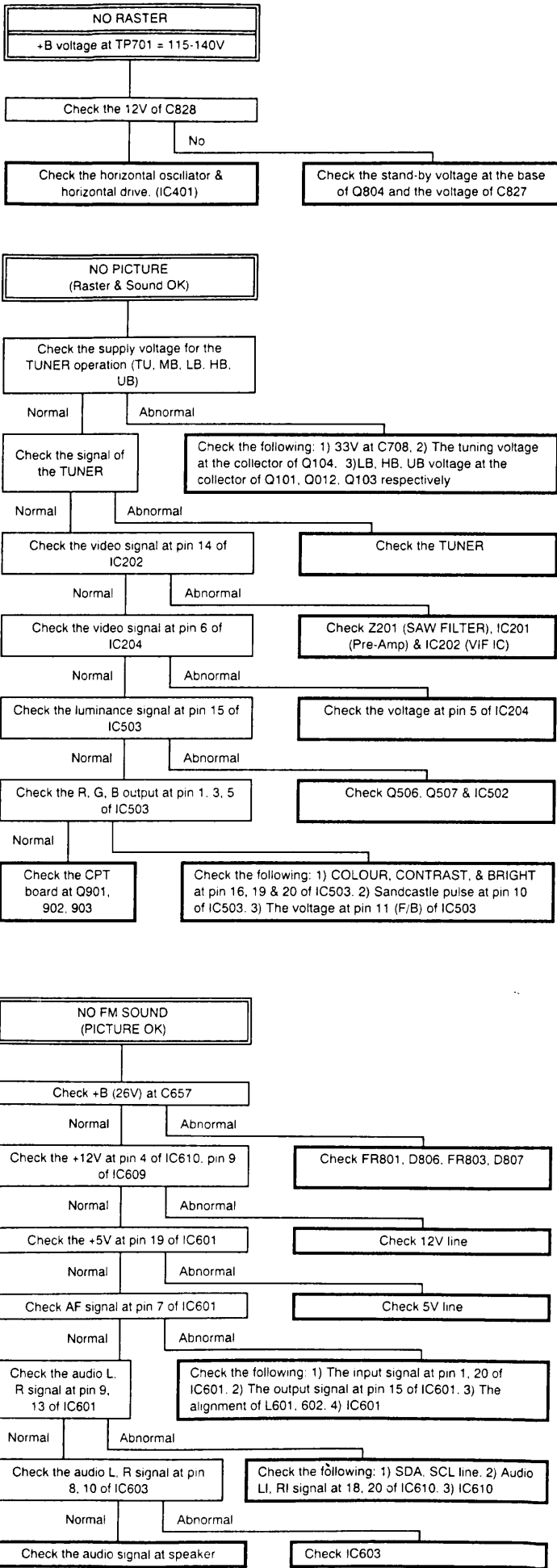
Adjustment

- 1: Adjust VR452 so that the pin cushion of the right and left side may be disappeared as shown in fig. 15.
- 2: Adjust VR451 so that the outer circle of the standard digital signal may be 353 ± 3mm.

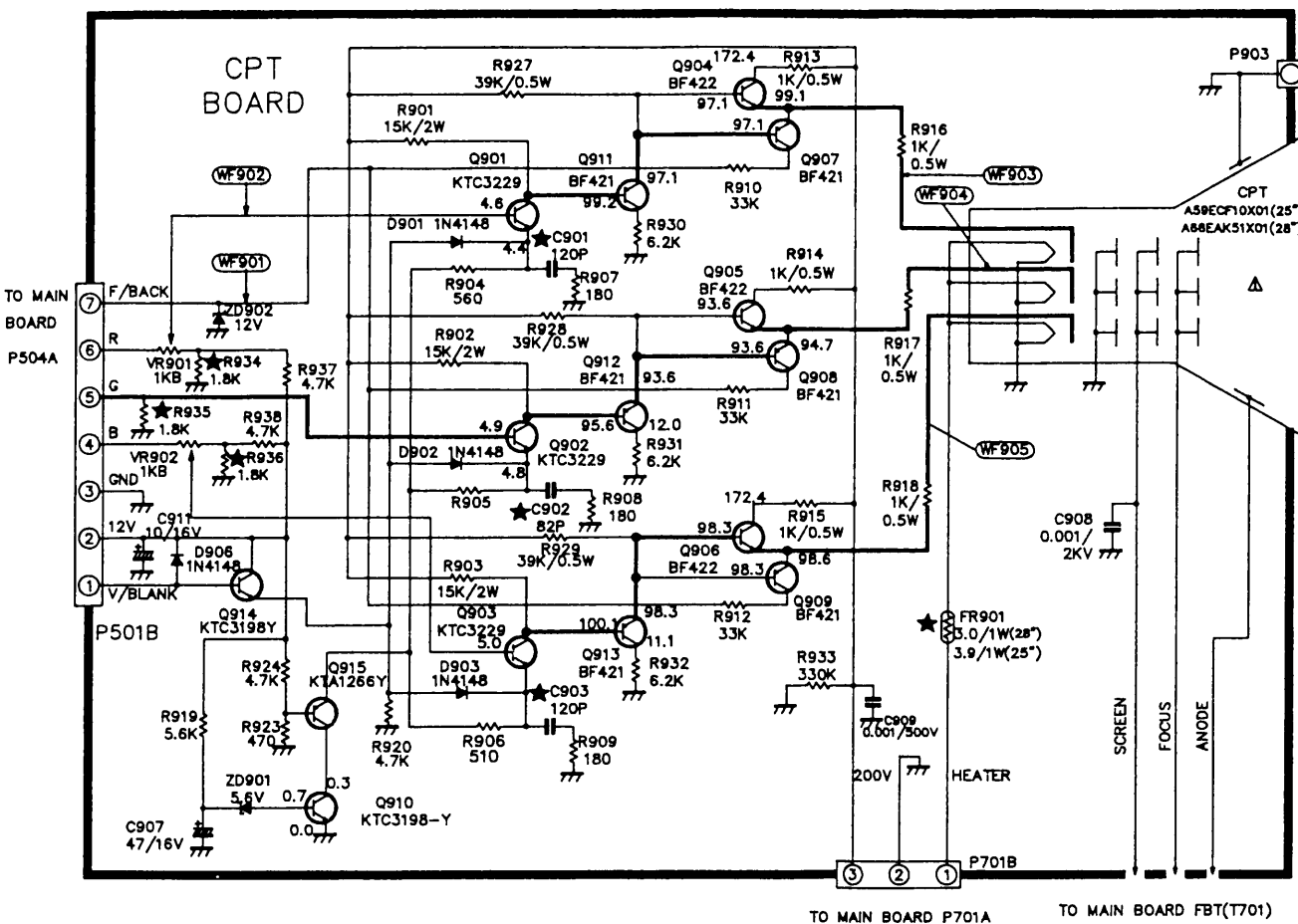
Trouble Shooting Guides



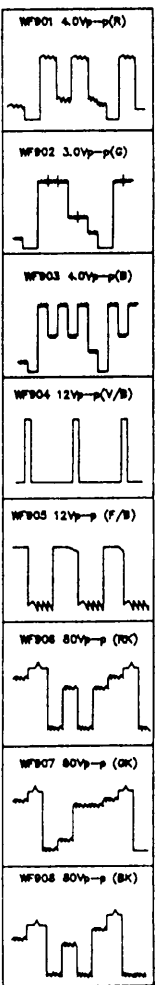
Trouble Shooting Guide Cont'd.



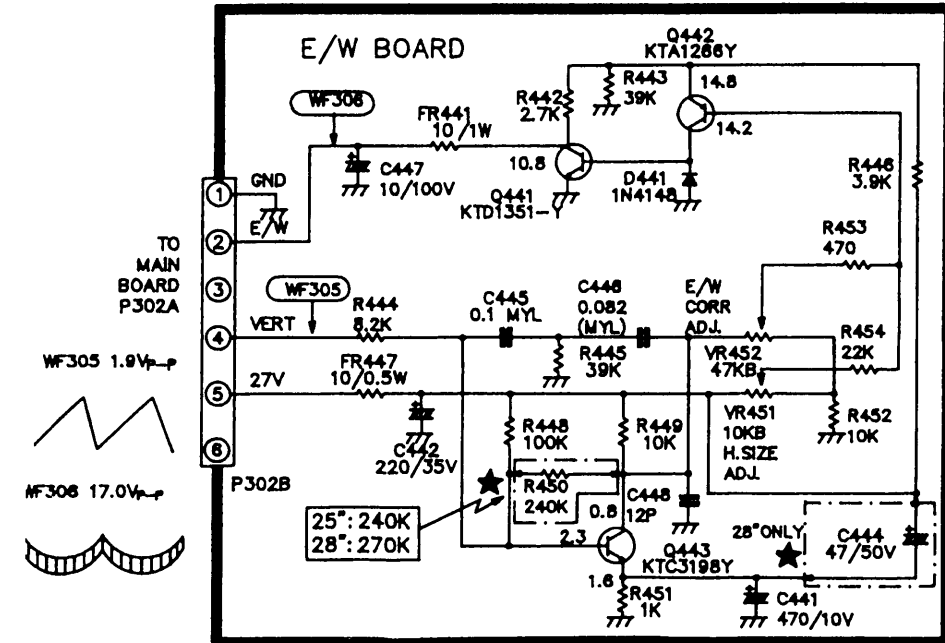
CRT Diagram

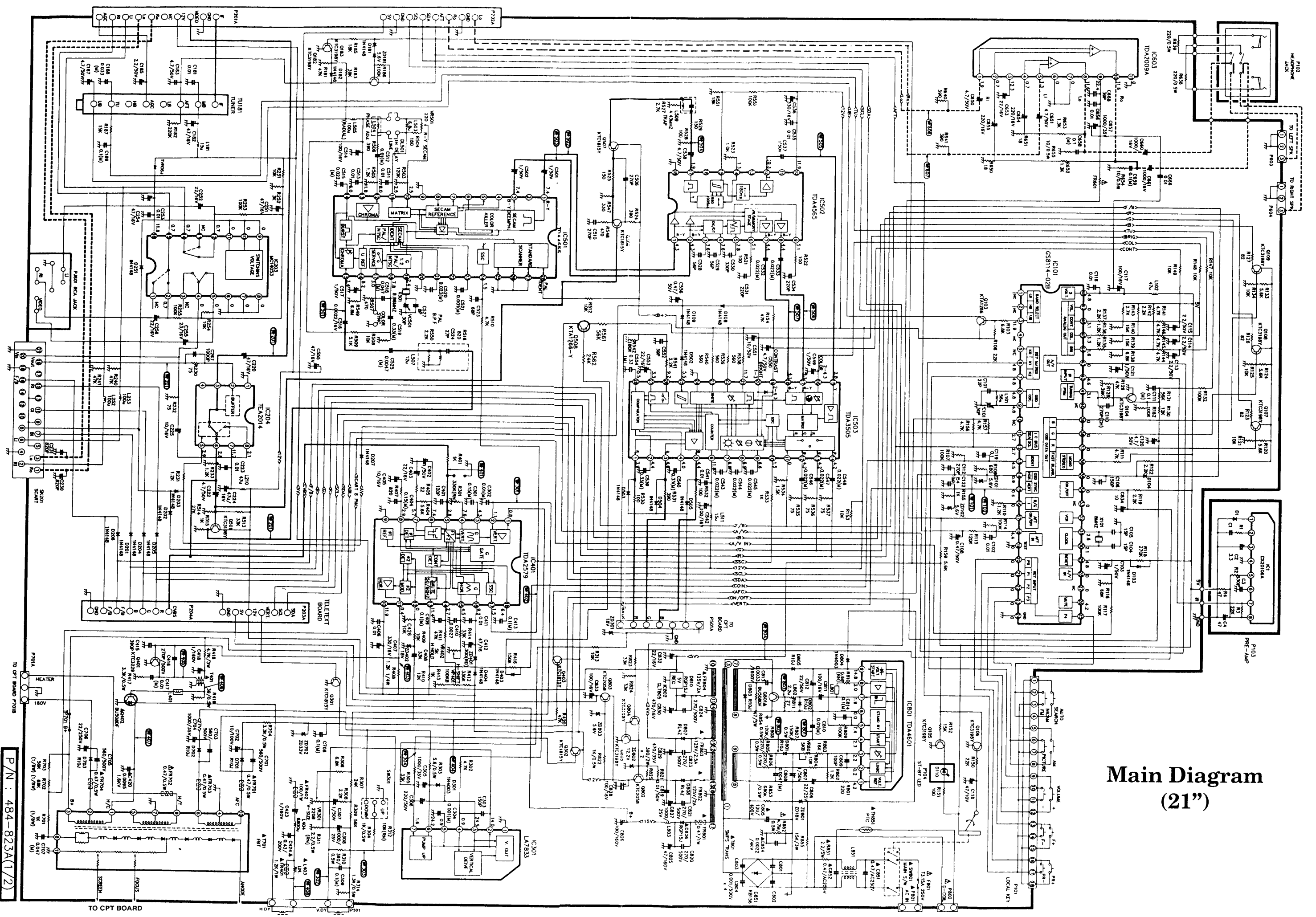


Waveforms



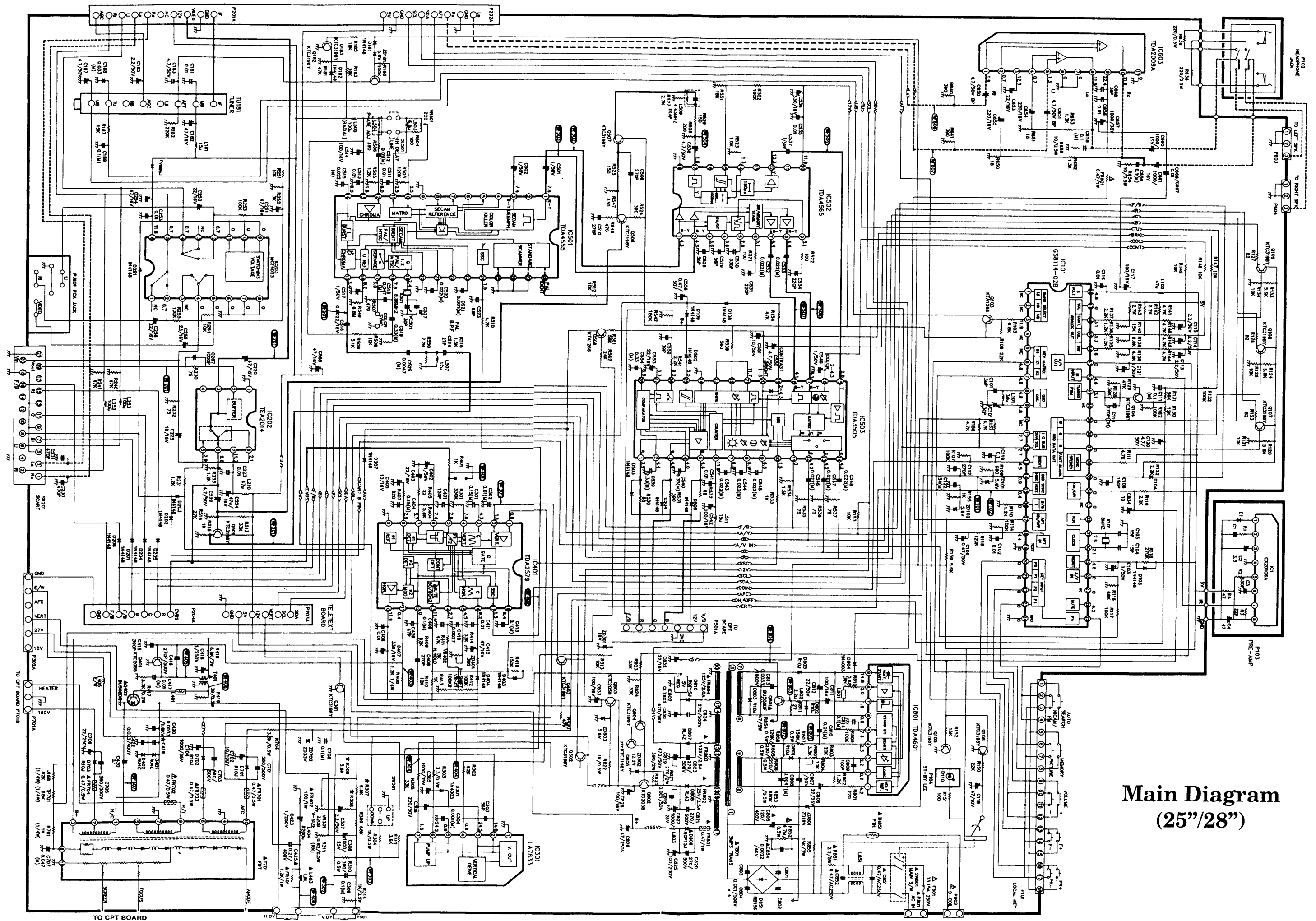
E/W Diagram





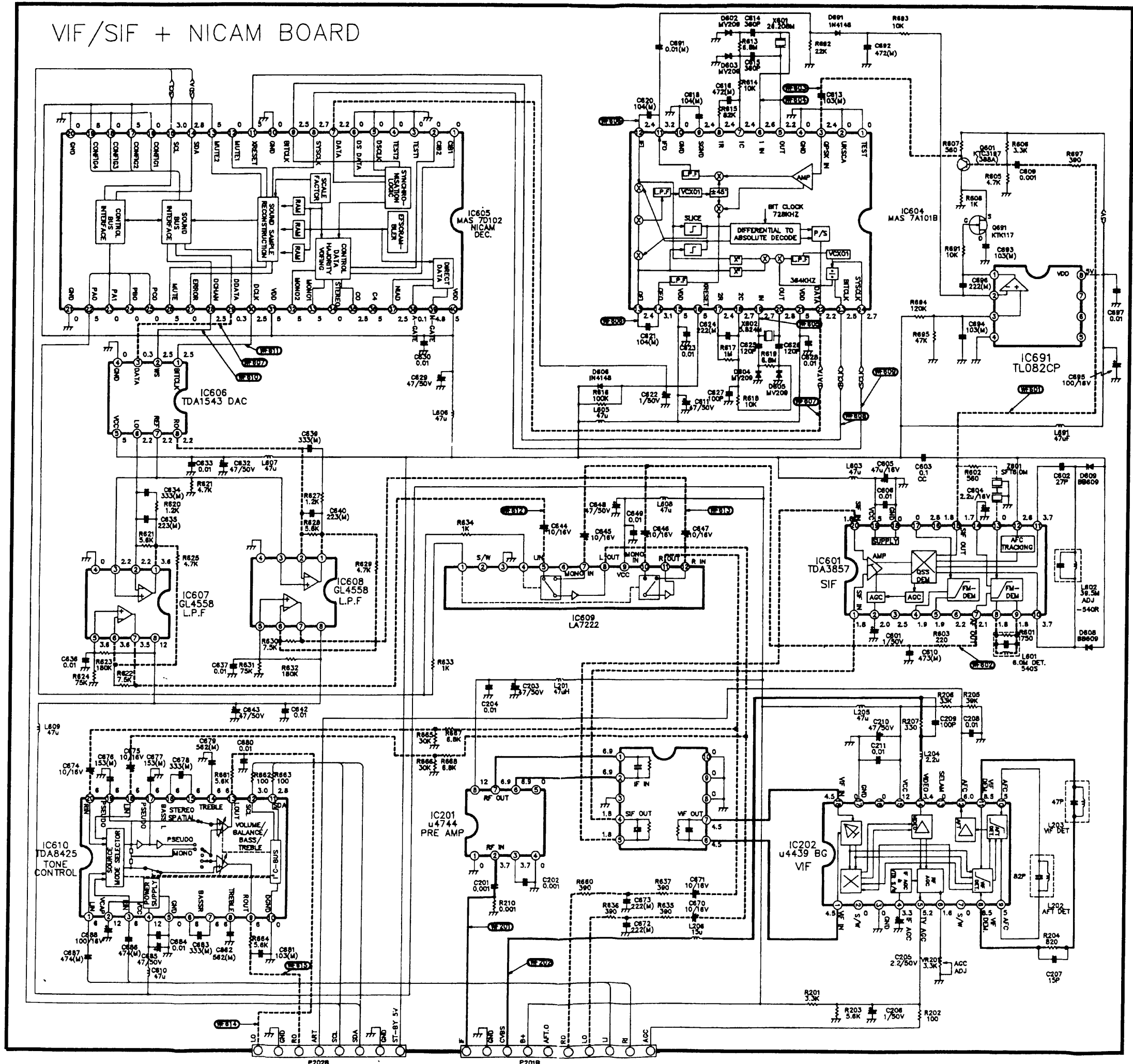
Main Diagram
(21'')

P/N : 484-823A(1/2)

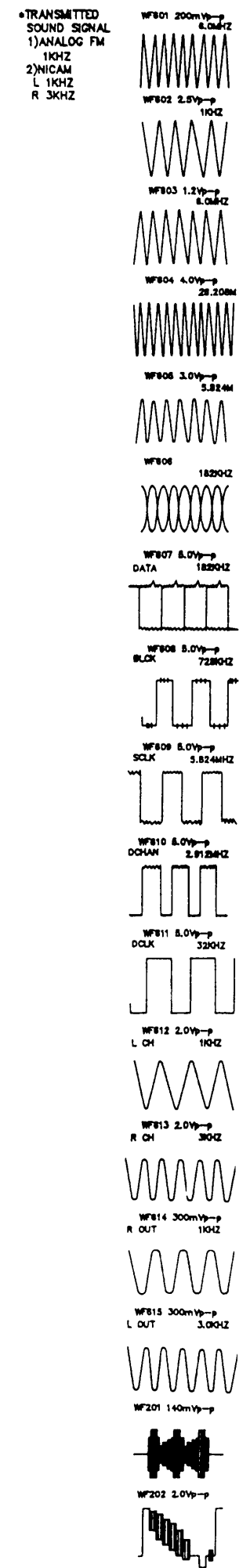
Main Diagram
(25"/28")

NICAM
Diagram

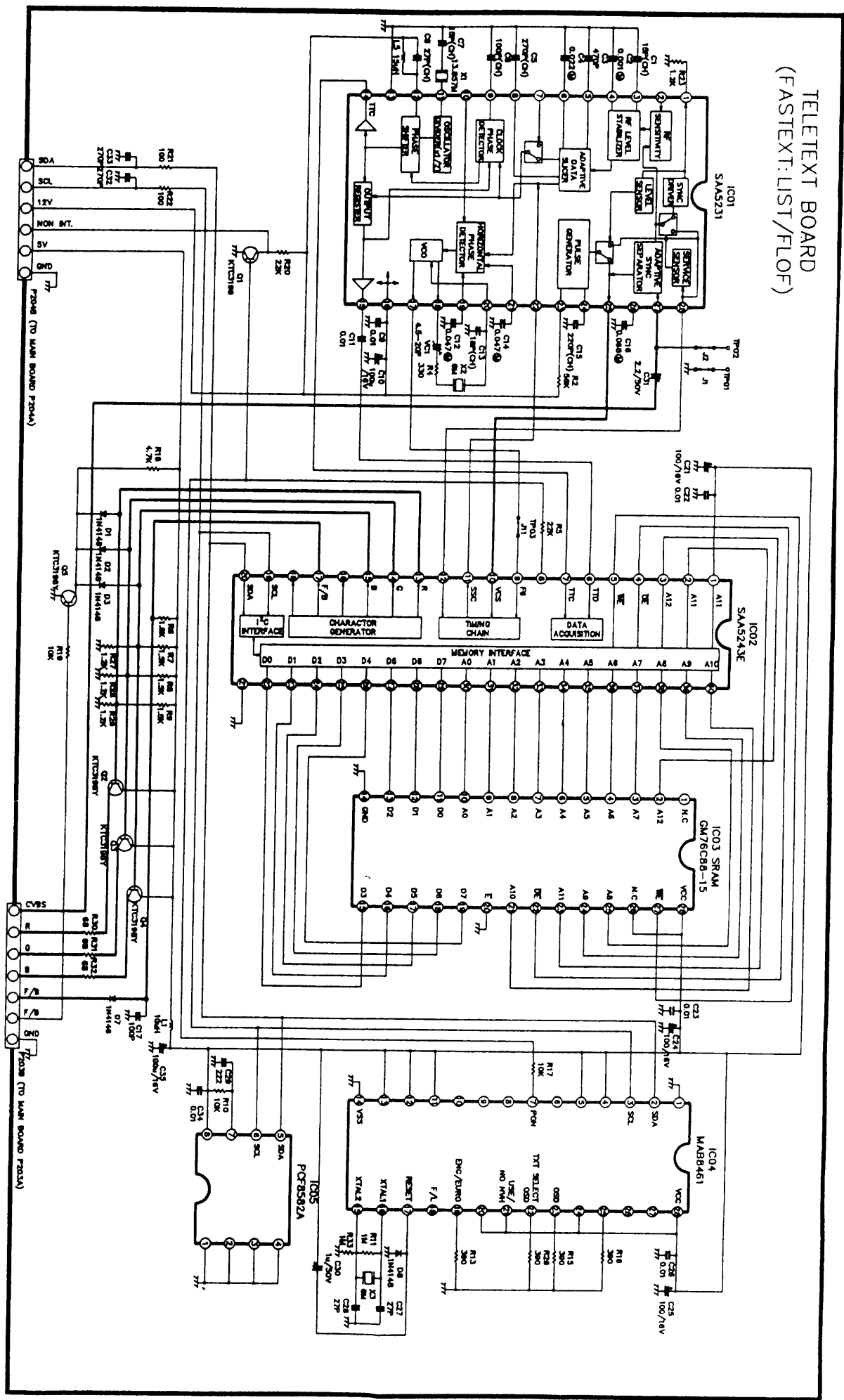
VIF/SIF + NICAM BOARD



Waveforms

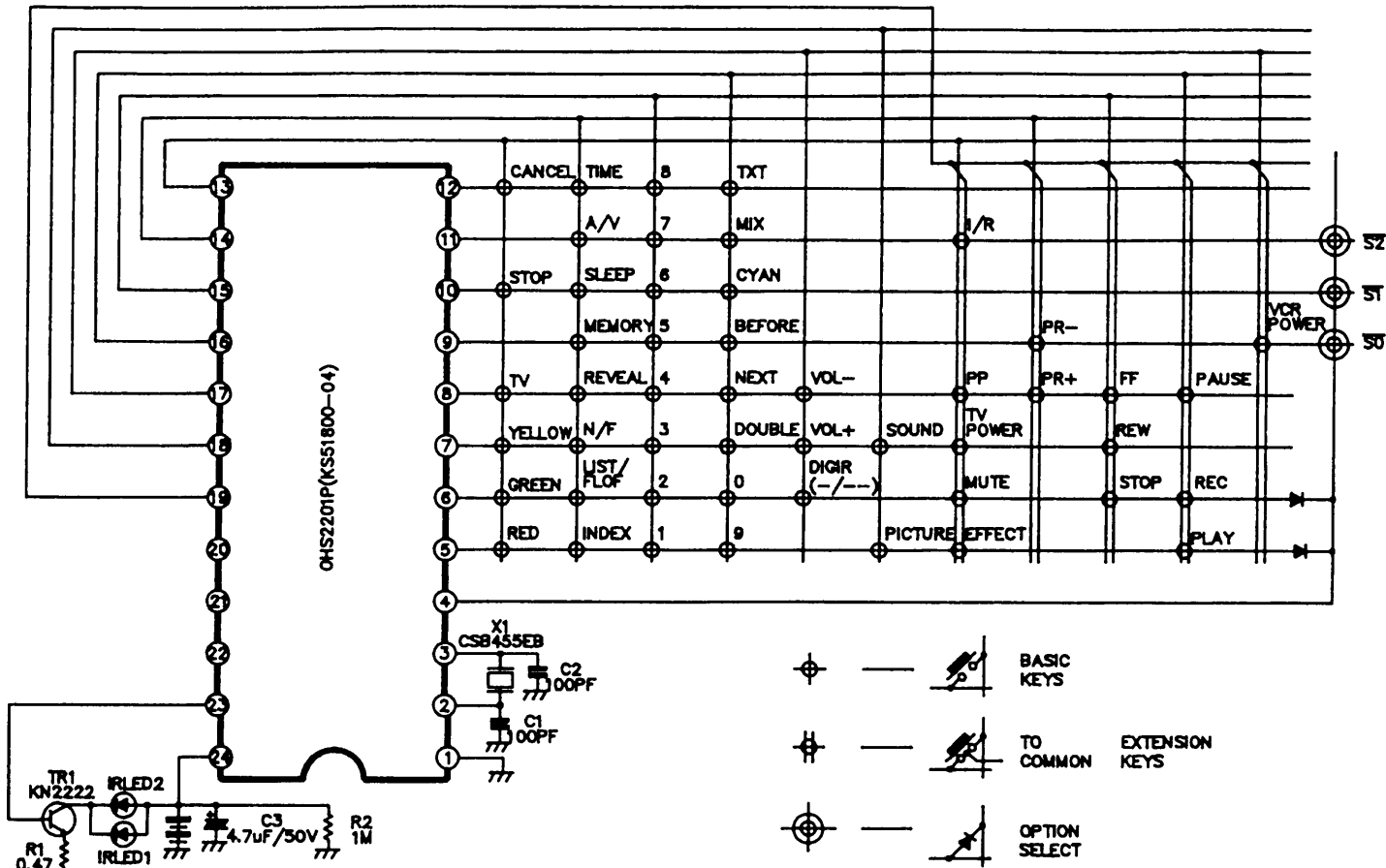


Teletext Diagram



Remote Control Diagram

TX SCHEMATIC DIAGRAM



Waveforms
Main Diagram (21")

