

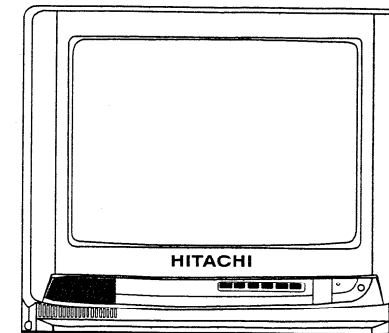
HITACHI

SERVICE MANUAL

V2 CHASSIS

YS**NO. 05001**

C1479FN	- 191/L, 192
C1476MNR	- 191, 192
	- 981, 431
C1476MN	- 191/L, 192
	- 981, 431
	- 081, 051



注 意：开始检修电视机机芯以前，始修人员必须阅读这本始修手册中 "Safety Precaution" 及 "Product Safety Notices" 两节。

CAUTION : Before servicing this chassis, it is important that the service technician reads the "Safety Precaution" and "Product Safety Notices" in this Service Manual.

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SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT.

COLOR TELEVISION

January 1999 PT. HITACHI CONSUMER PRODUCTS INDONESIA

SAFETY PRECAUTIONS

WARNING : The following precautions should be observed.

1. Do not install, remove, or handle the picture tube in any manner unless shatter proof goggles are worn. People not so equipped should be kept away while picture tubes are handled. Keep the picture tube away from the body while handling.
2. When service is required, an isolation transformer should be inserted between power line and the receiver before any service is performed on the chassis.
3. When replacing the chassis in the cabinet, ensure all the protective devices are put back in place, such as barriers, non-metallic knobs, adjustment or compartment covers or shields, isolation resistors / capacitors, etc..
4. When service is required, observe the original lead dressing. Extra precaution should be taken to assure correct lead dressing in the high voltage circuitry area. Particularly note the R.G.B lead dressing. Ensure they are dressed well away from the horizontal scan and F.B.T. circuitry.
5. Always use the manufacturer's replacement component. Always replace original spacers and maintain lead lengths. Especially critical components are indicated thus Δ on the parts list and should not be replaced by other makes. Furthermore, where a short circuit has occurred, replace those components that indicate evidence of over heating.
6. before returning a serviced receiver to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the instrument by the manufacturer has become defective, or inadvertently damaged during servicing. Therefore, the following checks are recommended for the continued protection of the customers and service technicians.

INSULATION

Insulation resistance should not be less than $7M\Omega$ at 500V DC between the mains poles and any accessible metal parts. Also, no flashover or breakdown should occur during the dielectric strength test, applying 3kV AC or 4.25kV DC for two seconds between the main poles and accessible metal parts.

HIGH VOLTAGE

High voltage should always be kept at the rated value of the chassis and no higher. Operating at higher voltages may cause a failure of the picture tube or high voltage supply, and also, under certain circumstances could produce X-radiation moderately in excess of design levels. The high voltage must not, under any circumstances, exceed 25kV on the chassis.

X-RADIATION

TUBES : The primary source of X-radiation in this receiver is the picture tube. The tube utilised for the above mentioned function in this chassis is specially constructed to limit X-radiation. For continued X-radiation protection replace tube with the same type as the original HITACHI approved type.

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in HITACHI television receivers have special safety related characteristics. These characteristics are often not evident from visual inspection, nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts with have these special safety characteristics are identified by marking with a Δ on the schematics and replacement parts list in this service manual. The use of a substitute replacement component which does not have the same safety characteristics as the HITACHI recommended replacement one, shown in the part list in this Service Manual, may create electrical shock, fire, X-radiation, or other hazards. Product safety is continuously under review, and new instructions are issued from time to time. For the latest information, always consult the current HITACHI Service Manual. A subscription to, or additional copies of HITACHI Service Manuals, may be obtained at a nominal charge from your HITACHI SALES OFFICES.

TUBE DISCHARGE

The line output stage can develop voltages in excess of 25kV, if the E.H.T. cap is required to be removed, discharge the anode cap to chassis via a high value resistor, prior to its removal from the tube.

SPECIFICATIONS

Power supply	-98* -192, -195, 05* -191 -43* -04* -08* -75*	AC110V - 240V, 50Hz/60Hz (usable range: 100~264V) AC127V, 50Hz/60Hz (usable range: 100~264V) AC200V - 240V, 50Hz/60Hz (usable range: 150~264V) AC200V-240V, 50Hz/60Hz AC240V, 50Hz/60Hz
Aerial input	75 Ω unbalanced type	
Color picture tube	A34KPU02XX	
Weight	10 kg	
Dimensions (W x H x D)	378 X 350 X 394 (mm)	
Speaker	5 X 9 (cm) X 1,	
Sound output	3W X 1,	
Power consumption	63W	

Channel coverage TV (Frequency range: 44MHz ~ 863MHz)	C1479FN	C1476MNR	C1476MN
CCIR: E2~12, E21~69, S01~3, S1~41	0	0	0
Japan: J1~12, J13~62	0		
Hongkong, UK: UK21~69	0	0	0
Australia: AU0~12, AU28~69	0	0	0
OIRT: R1~12, R21~69	0	0	0
USA: US2~13, J-W, US14~69	0		
China: C1~12, C13~57, Z1~38	0	0	0

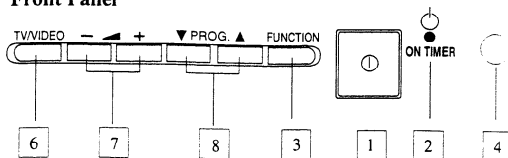
FM Radio (for C1476MNR only)	-43* ----- 64MHz ~ 75MHz, 87.5MHz ~ 108MHz Others ----- 76MHz ~ 108MHz
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Reception system	C1479FN	C1476MNR	C1476MN
625-lines	B.G./I/D.K/H PAL	0	0
	B.G/D.K/K1 SECAM	0	0
	NTSC 50	0	
	NTSC 50 (VIDEO)	0	0
525-lines	NTSC 3.58	0	
	NTCS 3.58 (VIDEO)	0	0
	NTSC 4.43	0	0
	PAL 60	0	0
	SECAM 60	0	0
	-	0	0

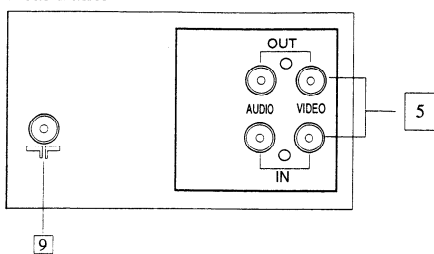
Specifications may be subject to change without notice for improvement.

CONTROLS

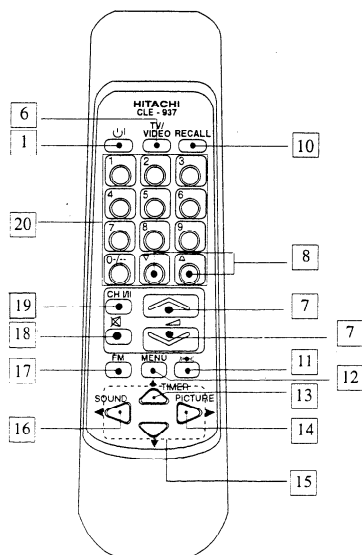
Front Panel



Rear Panel



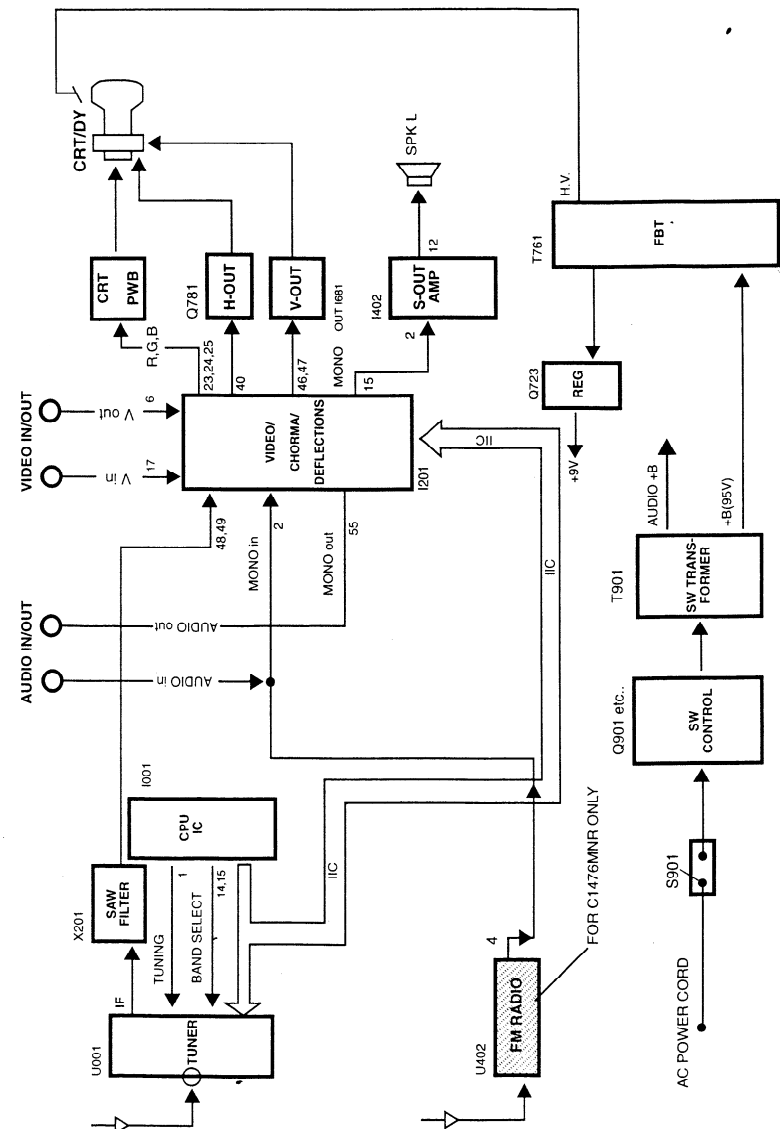
Remote Control Unit



1.	POWER ON/OFF SWITCH
2.	POWER STANDBY/TIMER INDICATOR
3.	FUNCTION
4.	REMOTE CONTROL RECEIVER
5.	AV IN/OUT TERMINAL
6.	INPUT SELECTOR
7.	VOLUME UP/DOWN
8.	PROGRAMME UP/DOWN
9.	AERIAL TERMINAL
10.	RECALL
11.	SURROUND SOUND (NOT USING)
12.	MENU
13.	TIMER
14.	PICTURE
15.	CURSOR
16.	SOUND (NOT USING)
17.	FM (C1476MNR only)
18.	MUTE
19.	CH/II (FOR NICAM/A2 MODELS)
20.	PROGRAMME SELECTOR (DIALECT KEY)

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BLOCK DIAGRAM OF V2 CHASSIS (C1479FN, C1476MNR, C1476MN)



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CIRCUIT DESCRIPTION

Selection and CPU circuitry

IC type, Z90234, performs function like IIC controls, channel selection, on-screen displays, search tuning, systems selection amongst others. The pin functions of Z90234 is presented in table form as shown below:

PIN No	N A M E	I/O	F U N C T I O N
1	VT	Output	Voltage tuning PWM waveform
2	SW2	Output	Message IC sound/audio input 1 selector output.
3	SPAT.1	Output	Spatializer control output 1 (NC)
4	MUTE	Input	Mute control during power on/off.
5	WRITE-ENABLE	Output	Write-enable control output for FM radio board.
6	CLOCK	Output	Clock signal for FM radio board.
7	ALARM	Output	Alarm sound control output. Frequency 1 KHz.
8	SPAT.2	Output	Spatializer control output 2 (NC).
9	PLAY	Output	Play control output for message IC.
10	REC	Output	Record control output for message IC.
11	POWER	Output	Power ON/OFF control. H: ON, L: OFF
12	M	Output	Output signal for saw filter control.
13	GND		Ground.
14	BAND 1	Output	Output signal for band selection.
15	BAND 2	Output	Output signal for band selection.
16	SCAN 1	Output	Output signal for front panel matrix.
17	SCAN 2	Output	Output signal for front panel matrix.
18	SCAN 3	Output	Output signal for front panel matrix.
19	RETURN 1	Input	Return signal of front panel matrix.
20	LED	Output	Output signal for LED control.
21	RETURN 2	Input	Return signal of front panel matrix.
22	B	Output	Blue output for OSD.
23	G	Output	Green output for OSD.
24	R	Output	Red output for OSD.
25	FB	Output	OSD blanking output signal.
26	HSYNC	Input	Horizontal synchronous signal i/p pin for OSD.
27	VSYNC	Input	Vertical synchronous signal i/p pin for OSD.
28	OSD OSC.	I/O	Oscillator for OSD.
29	OSD OSC.	I/O	Oscillator for OSD.
30	X.GND		Crystal ground.
31	X.IN	Input	Clock in.
32	X.OUT	Output	Clock out.
33	RESET	Output	Reset terminal. H: Normal L: Reset.
34	Vcc		Voltage supply reference.
35	DATA	Output	Data output for FM radio.
36	R/C	Input	Remote control signal input.
37	SCL 1	I/O	IIC clock select for EEPROM.
38	SDA 1	I/O	IIC data i/o for EEPROM.
39	SCL	I/O	Main clock line.
40	SDA	I/O	Main data line.
41	BG/DK	Output	Port control for sound system select (M: H, BG: L, I: H, DK: L).
42	M/I	Output	Port control for sound system select (M: H, BG: H, I: L, DK: L).

TUNER AND IF CIRCUIT

The Tuner(U001) used on V2 chassis is powered by the 9V supply, it is IIC Bus controlled and covers VHF, UHF and CATV Band(Mid, Supper and Hyper).

The IF output from Tuner(pin 11 of U001) is applied to the amplifier Q201, SAW filter X201 and I201. For Multi-systems model with M-NTSC, switchable SAW filter is used. Q210 at pin 10 of X201 serves to select the IF signal between M/N mode to other modes (e.g. B/G, D/K) before demodulation is made at I201 (TDA8842) and I451 (MM1053XS).

i.e. When M/N mode:

Base of Q210 → high

After the demodulation of IF signals from I201 pin 48 & 49, the composite video signals are resulted at pin 6 of I201 for further Video signals processing and Audio sound selection.

For Mono sound models, the composite signal output from pin 6 of I201 is input to a series of bandpass filters (X401~X404) and select with the mode shown in table 1 at I451. The selected signal (e.g. M, B/G, I, or D/K) is then input to pin 1 of I201 via C401.

Table 1.

I451 pin 2	I451 pin 3	Audio Out At pin 1 of I451
H	H	M(4.5MHz)
L	H	B/G(5.5MHz)
H	L	I(6MHz)
L	L	D/K(6.5MHz)

After the FM demodulation performed by I201, the sound output is given at pin 55 and pin 15 (where sound signal at pin 15 already added with Volume control, mute control & other control elements from IIC in I201) with sound output from pin 15, and output to the Speaker from pin 12 of I402.

For the output AV terminal, sound output from pin 55 of I201 is connected to the rear via Q401/Q402, at this point, the audio signal can be output to external equipment if desired.

Volume control is made via IIC Bus in I201.

The composite video signal output from pin 6 of I201 is also applied to the SIF rejection filter X202~X204, the resulting signal is connected to the Video out terminal and return to pin 13 of I201 for color decoding and deflection synchronization etc....

VIDEO/CHROMA

I201 (TDA8842) which incorporates VIDEO/CHROMA / DEFLECTIONS is used to perform auto color identification of PAL/SECAM/NTSC, sync separation, AFC, H/V oscillator and output stage RGB signals etc.... Video signals from RF, Video 1 and Video 2 entered I201 via pin 13, 17 and 11 respectively.

At I201, which input signals (RF, Video 1 or Video 2) to be proceeded are selected by IIC Bus and video signal is demodulated by means of an alignment-free PLL carrier regenerator with an internal VCO. After the color identification and decoding in I201, the color difference signals are matrixed with the luminance signal to obtain the RGB signals which can be controlled on Contrast and Brightness. The outputs RGB are finally emerged from pin 23~25 of I201 after combined with OSD RGB are then output to CRT PWB.

Internal sync separator and H/V oscillator of I201 produce H drive and V drive signals which are applied to Deflection circuits for processing of Horizontal and Vertical scanning.

HORIZONTAL DEFLECTION

This circuit uses the horizontal deflection yoke (H.DY) to deflect the electron beam of the CRT horizontally. It also generates high-voltage and medium/low voltage power supplies through FBT. At pin 13, 11 & 17 of I201, the selected composite video signal is applied to the internal separator and phase detector/correction of I201 the resulted horizontal drive pulse is output from pin 40 of I201.

The horizontal drive pulse is supplied to the horizontal drive circuit consisted of Q721, Q781 and T761. At the horizontal output transistor Q781, it generates a FBT pulse of approximately 1000V at the collector and also causes a sawtooth current to flow to the H.DY, thus deflecting the electron beam in the

CRT horizontally. This FBT pulse also causes a high voltage (H.V) and medium/low voltages (i.e. 20CV, 16V & 11V) to be generated at the secondary circuit of FBT T761.

The high - voltage beam current is supplied from the + B(95V) to the ACL (Automatic Contrast Limiter) terminal of the FBT. This produces a voltage proportional to the variations in the brightness at the ACL terminal.

VERTICAL DEFLECTION

At I201, the selected composite video signal from pin 13, 11 or 17 is applied to the internal integrated circuit, V separation circuit and V C/D circuit which counts down the horizontal frequency to obtain the vertical frequency. C605 at pin 51 of I201 is used for ramp generation, and produces the required sawtooth waveform output from pin 46 and 47 are applied to pin 2 and 1 of I681 via R601 and R602 respectively. The vertical output to drive the DY is made available at pin 7. The flyback voltage at pin 6 of I681 is applied to pin 7 during flyback period through the voltage switching circuit in I681. This will make the flyback line faster. The V size, V center and V slope can be adjusted by IIC control.

POWER SUPPLY CIRCUIT

The power supply circuit of V2 chassis is as below

(1) Starting Operation

Power switch S901 turned ON → Rectified at D901~D904 → Voltage at Q903 base rises → First switching pulse generated at winding P1-P2 of T901 → Drive voltage → Provide to Q905 of winding B1-B3 of T901 → Q905 supply stable drive voltage and L903 provide drive current to Q903 base → Come into normal operations.

(2) Switching Constant Voltage Operation

AC input voltage rises or +B load decreased (picture get dark) → +B(95V) rises → Ic increased at Q951 → Id increased at I901 → Ic increased at I901 → Voltage decreased at pin 5 of I901 → ON period of Q901 increased → ON period of Q903 decreased → Positive voltage of D951 anode decreased → +B voltage falls → +B voltage stabilized.

(3) Standby Operation

Remote control power OFF → I001 pin 11 → Q954 off → Q953 off → I201 Vcc pin 37 → Horizontal deflection stopped.

Also → Q952 off → R953 connect into R952 → Voltage of Q951 base rises → ON period of Q903 is slightly decreased by I901 → + B voltage falls (about 65V) → Power consumption decreased.

+ 5W power provided from T901(S2) winding through D952 and C954 → 5V at pin 34 of I001 stabilized by Q003 and D004.

AUDIO SWITCHING

The audio switching is performed by I201 from the following locations.

- From RF(input at pin 1 of I201)
- From AV-in 1 and AV-in 2 terminal(input at pin 2 of I201)

By the control of IIC, the desired audio signal is selected and output at pin 15(I201) and transferred to audio amplifier I402

ADJUSTMENT INSTRUCTIONS

IIC ADJUSTMENTS

Most of the adjustment items in the V2 chassis are controlled by IIC. Adjustment items include video chroma IC control, sound multiplex lcs, horizontal & vertical deflection and others.

To start the IIC adjustment, first turn off the AC power switch. Press and hold down the TV/Video key and then press the power switch. Release both buttons after the following display appears on screen.

NO.	DATA	
001	28	
002	28	← Select the Adjust items by ▼ or ▲ cursor
003	28	
004	80	
005	80	
006	06	← Adjusts the selected items by ◀ or ▶ cursor
007	75	
008	40	
		◀▶ : ADJUST
		RECALL : MEMORIZE

To select the adjustment items(e.g. RGB level, Sub-brightness level etc...), press the ▼ or ▲ cursor button on Remote control handset. To adjust the data of selected item, press the ◀ or ▶ cursor button on Remote control handset.

After completing the adjustments, press the **RECALL** button on Remote control handset to memorize the data. Press **MENU** button or turn off the TV set to end the IIC adjustment.

The following are the IIC Bus Control and adjustment data for your reference.

IIC BUS CONTROL AND ADJUSTMENT

ADJ No	NAME OF ADJUSTMENT DATA	DATA RANGE	INITIAL DATA(h)	ITEMS AFFECTED DURING CHANGE		
				EEPROM	CPT	TDA8842
1	WHITE POINT R	00~3F	1F	○	○	○
2	WHITE POINT G	00~3F	1F	○	○	○
3	WHITE POINT B	00~3F	1F	○	○	○
6	HORIZONTAL POSITION	00~3F	21	○	○	○
7	SUB-COLOUR	00~3F	1F	○	X	○
8	SUB-TINT	00~3F	1F	○	X	○
9	SUB-BRIGHT	00~3F	1F	○	X	○
10	SUB-CONTRAST	00~3F	17	○	X	○
11	SUB-SHARPNESS	00~01	1F	○	X	○
12	SWITCH-ON BEHAVIOR	00~03	0	○	X	○
13	PHASE 1 TIME CONSTANT	00~03	0	○	X	○
14	CRYSTAL	00~03	3	○	X	○
15	FIELD FREQ	00~01	2	○	X	○
16	INTERLACE	00~01	0	○	X	○
18	SYNCHRONIZATION	00~07	0	○	X	○
19	COLOR DECODER MODE	00~01	0	○	X	○
21	BLACK CURRENT STABILISATION	00~01	0	○	X	○
24	VERTICAL DIVIDER MODE	00~01	0	○	X	○
25	SEARCH TUNING MODE	00~01	0	○	X	○

IIC BUS CONTROL AND ADJUSTMENT

ADJ No	NAME OF ADJUSTMENT DATA	DATA RANGE	INITIAL DATA(h)	ITEMS AFFECTED DURING CHANGE		
				EEPROM	CPT	TDA8842
26	VIDEO IDENT MODE	00~01	1	○	X	○
27	LONG BLANKING MODE	00~01	1	○	X	○
29	ENABLE VERTICAL GUARD	00~01	1	○	X	○
30	SERVICE BLANKING	00~01	0	○	X	○
32	PAL, SECAM/NTSC	00~01	0	○	X	○
36	AFC WINDOW	00~01	0	○	X	○
37	IF SENSITIVITY	00~01	0	○	X	○
39	VIDEO MUTE	00~01	0	○	X	○
40	AGC TAKE OVER	00~3F	10	○	X	○
41	SOUND MUTE	00~01	0	○	X	○
51	CHROMA BANDPASS C-FREQ	00~01	1	○	X	○
54	VERTICAL SHIFT(V POSITION)	00~3F	2A	○	○	○
55	VERTICAL AMPLITUDE(V SIZE)	00~3F	15	○	○	○
56	BLUE STRETCH	00~01	1	○	○	○
57	S-CORRECTION	00~3F	07	○	X	○
58	BLACK STRETCH	00~01	1	○	○	○
59	VERTICAL SLOPE	00~3F	11	○	X	○
63	AUTO COLOR LIMITTING	00~01	1	○	○	○
65	START-UP-MODE OF BCL	00~01	0	○	X	○
66	CATHODE DRIVE LEVEL	00~07	05	○	X	○
68	DYNAMIC SKIN CTRL	00~01	1	○	X	○
69	DYNAMIC SKIN CTRL ANGLE	00~01	1	○	X	○
70	FAST FILTER IF-PLL	00~01	0	○	X	○
71	EXTENDED BLUE STRETCH	00~01	0	○	X	○
72	FORCED COLOR-ON	00~01	1	○	X	○
73	BASS SUB-DATA	06~19	0F	○	X	X
80	V-SCAN DISABLED	00~01	0	○	X	X
93	OPERATE AT PICK UP NOISE	00~01	0	○	X	X
94	INPUT LEVEL ADJUST	0~3F	20	○	X	X
95	FH MONITOR ON/OFF	00~01	0	○	X	X
96	STEREO VCO ADJUST	0~3F	20	○	X	X
97	PILOT CANCELER ON/OFF	00~01	0	○	X	X
98	FILTER ADJUST	00~3F	3F	○	X	X
99	LOW BAND FREQUENCY ADJUST	00~3F	20	○	X	X
100	HIGH FREQ SEPARATION ADJUST	00~3F	20	○	X	X
101	5th MONITOR	00~01	0	○	X	X
102	SAP VCO SETTING	00~3F	20	○	X	X
103	MUTE ON/OFF	0~1	0	○	X	X
104	SEPARATION ADJUST	00~3F	15	○	X	X
137	NICAM SET DATA > X	00~FF	0A	○	X	X
138	ERROR RATE < X	00~FF	0B	○	X	X
139	A2 STEREO JUDGE > X	00~7F	0F	○	X	X
140	A2 BILINGUAL JUDGE > X	80~FF	F2	○	X	X

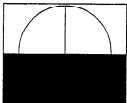
+ B ADJUSTMENT

PREPARATION	PROCEDURES
1. AC input voltage 220 +-5V(50Hz) 2. Turns on the set and set the brightness and contrast to Max. (signal : Philips Pattern). 3. After 30 sec heat-run, check & adjust the +B voltage. Measuring Point +B voltage : C953 + side GND : C953 - side.	1. Adjust R950 to obtain +B voltage as below +B voltage = 95 +-0.5V

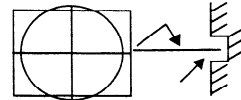
HORIZONTAL PHASE ADJUSTMENT

PREPARATION	PROCEDURES
1. Receive the circular pattern signal.	1. Select the IIC control address No. 06. 2. Adjust the picture center to meet the CRT geometrical center.

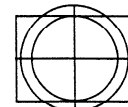
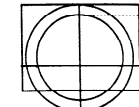
VERTICAL SLOPE ADJUSTMENT(Must be done before V. Center and V. Size Adjustments)

PREPARATION	PROCEDURES
1. Turns on the TV set and heat run about 5 min. 2. Receive circular pattern signal (PAL) 3. Set all picture setting as below. i.e. Contrast : Max Brightness : Center 4. AC 220 +-1V	1. Select the IIC control address No. 30. 2. Press ◀ or ▶ key on remote control handset so that the bottom half of the picture is blanked. i.e.  Bottom half of picture blanked. 3. Select the IIC Control address No. 59. 4. Adjust the vertical slope until the horizontal center line is just at the position where the blanking starts. 5. Select the IIC Control address No. 30. 6. Press ◀ or ▶ key on remote control handset so that picture appears again.

VERTICAL CENTER ADJUSTMENT

PREPARATION	PROCEDURES
1. Turns on the TV set & heat run about 5 min. 2. Receive the circular pattern signal. 3. AC 220 + - 1V.	1. Select the IIC control address No. 54. 2. Set the horizontal center line to vertical center marker of CRT by adjustment of IIC i.e.  Vertical center marker of CTR

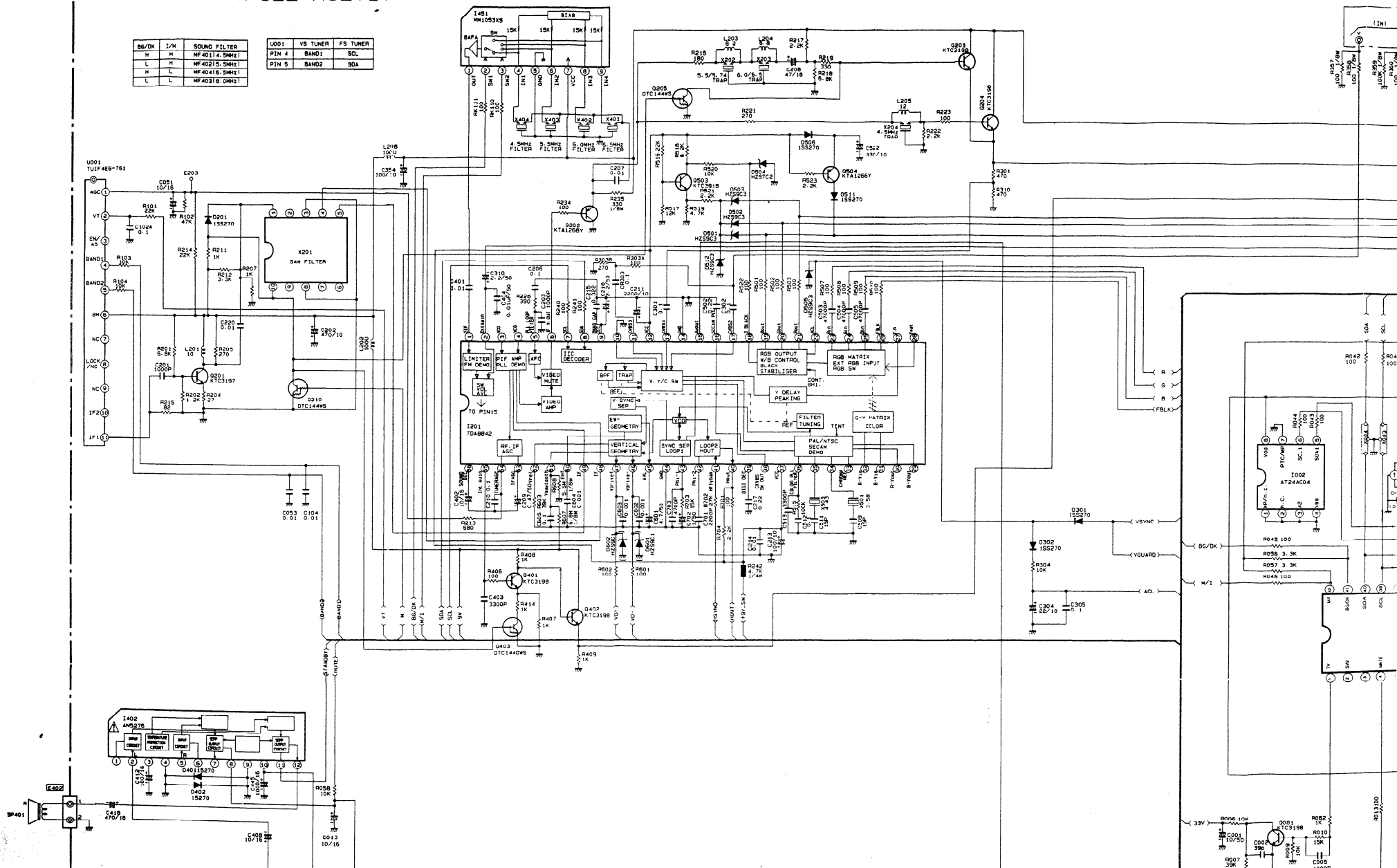
VERTICAL SIZE ADJUSTMENT

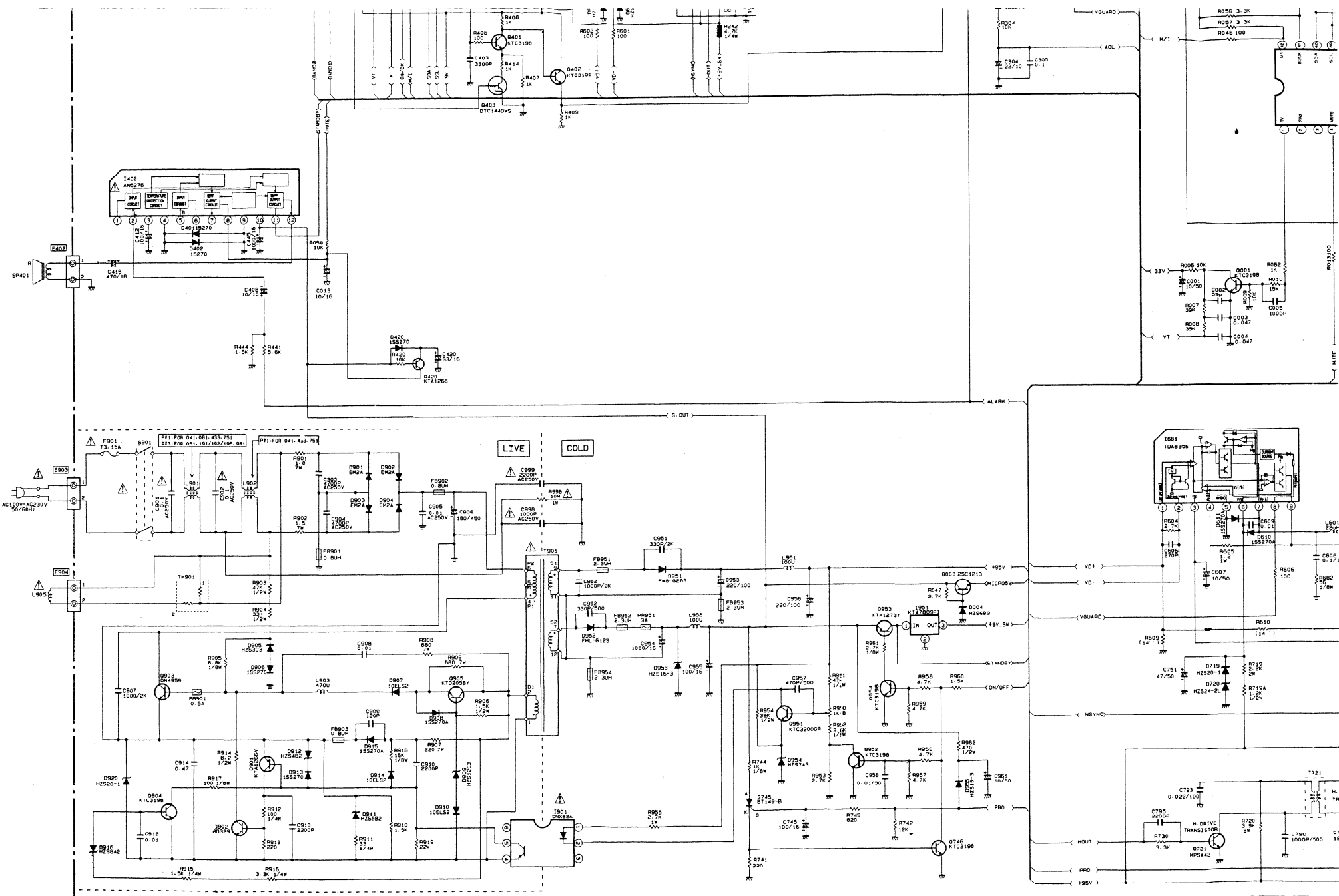
PREPARATION	PROCEDURES
1. Turns on the TV set & heat run about 5 min. 2. Receive the circular pattern signal. 3. Set all picture setting as below. i.e. Contrast : Max. Brightness : Center. 4. AC 220 +- 1V.	1. Select the IIC control address No. 55 2. Adjust IIC data to obtain the following conditions. i.e.  PAL Picture Top : Inner circle reach the edge of TV raster. Picture Bottom : Inner circle reach the edge of TV raster. 3. Receive the NTSC circular signal, and check the picture size after the above V-size adjustment. 4. If a>0mm, go back to IIC control No. 54(V-center adjustment) and increase the IIC data by 1 position.  NTSC

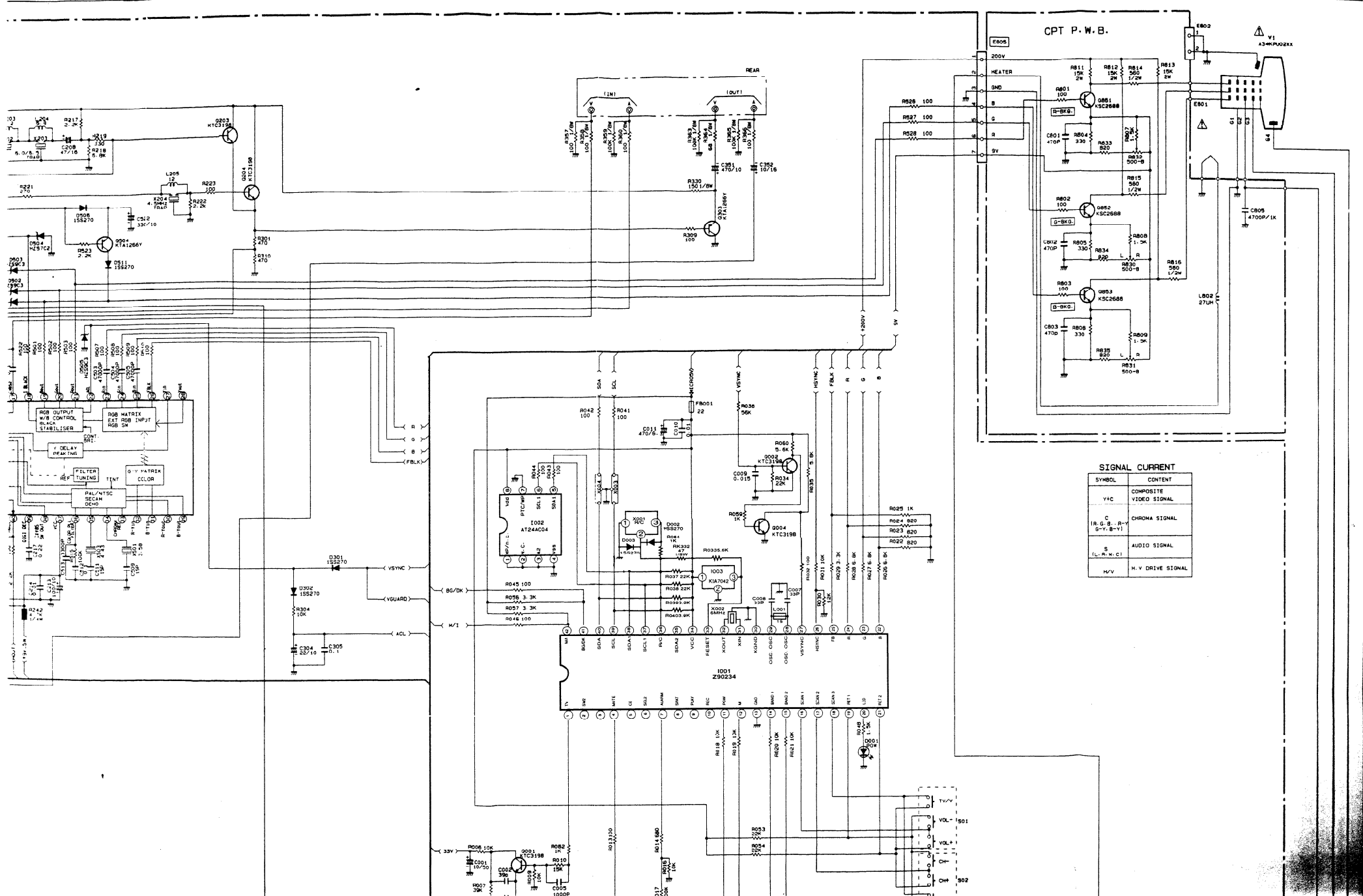
C1479FN BASIC CIRCUIT DIAGRAM (FULL MULTI)

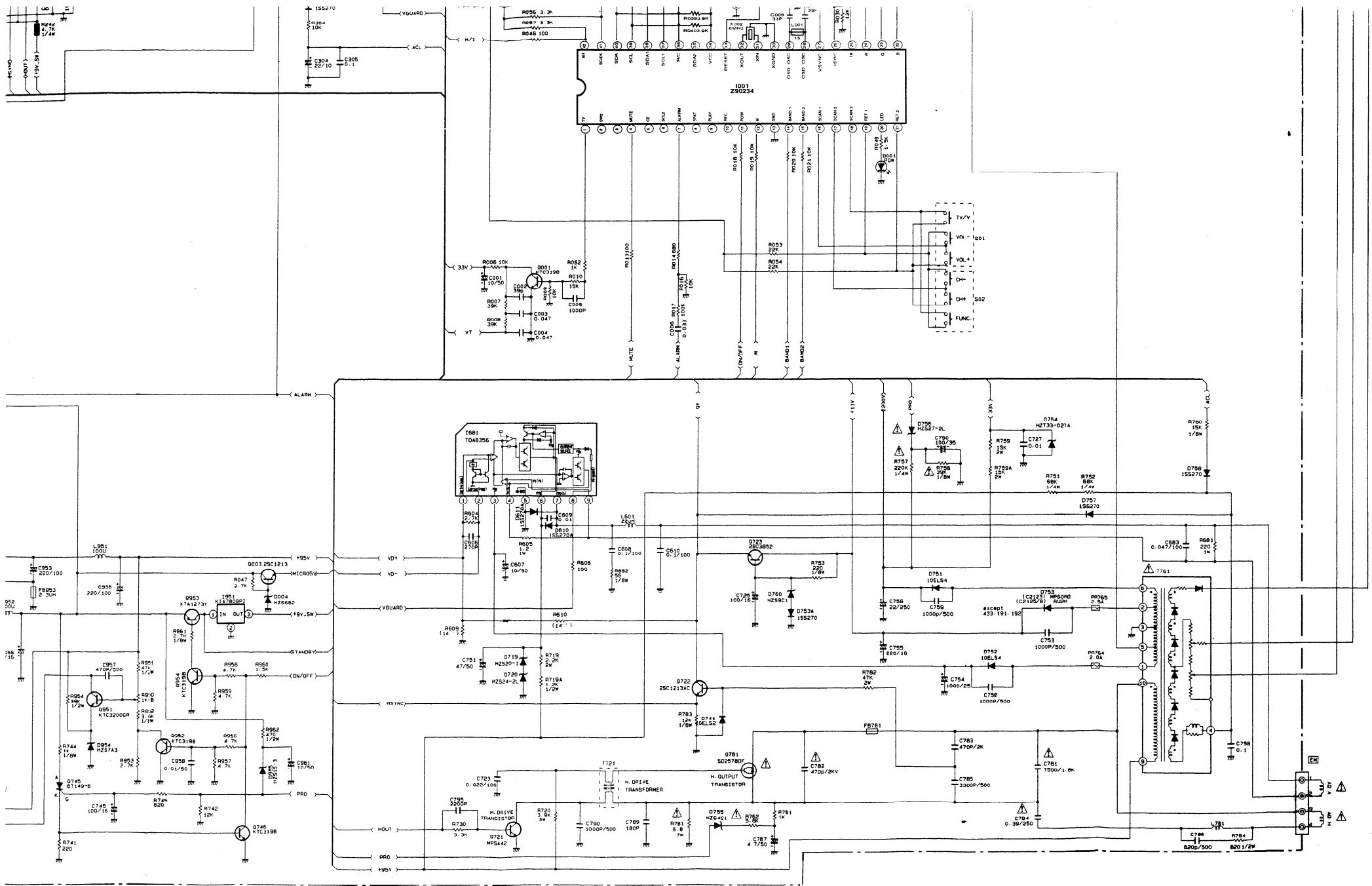
B6/DK	I/M	SOUND FILTER
H	H	HF 40114.5MHz
L	H	HF 40215.5MHz
H	L	HF 40415.5MHz
L	L	HF 40315.5MHz

U001	VS TUNER	FS TUNER
PIN 4	BAND1	SCL
PIN 5	BAND2	SDA





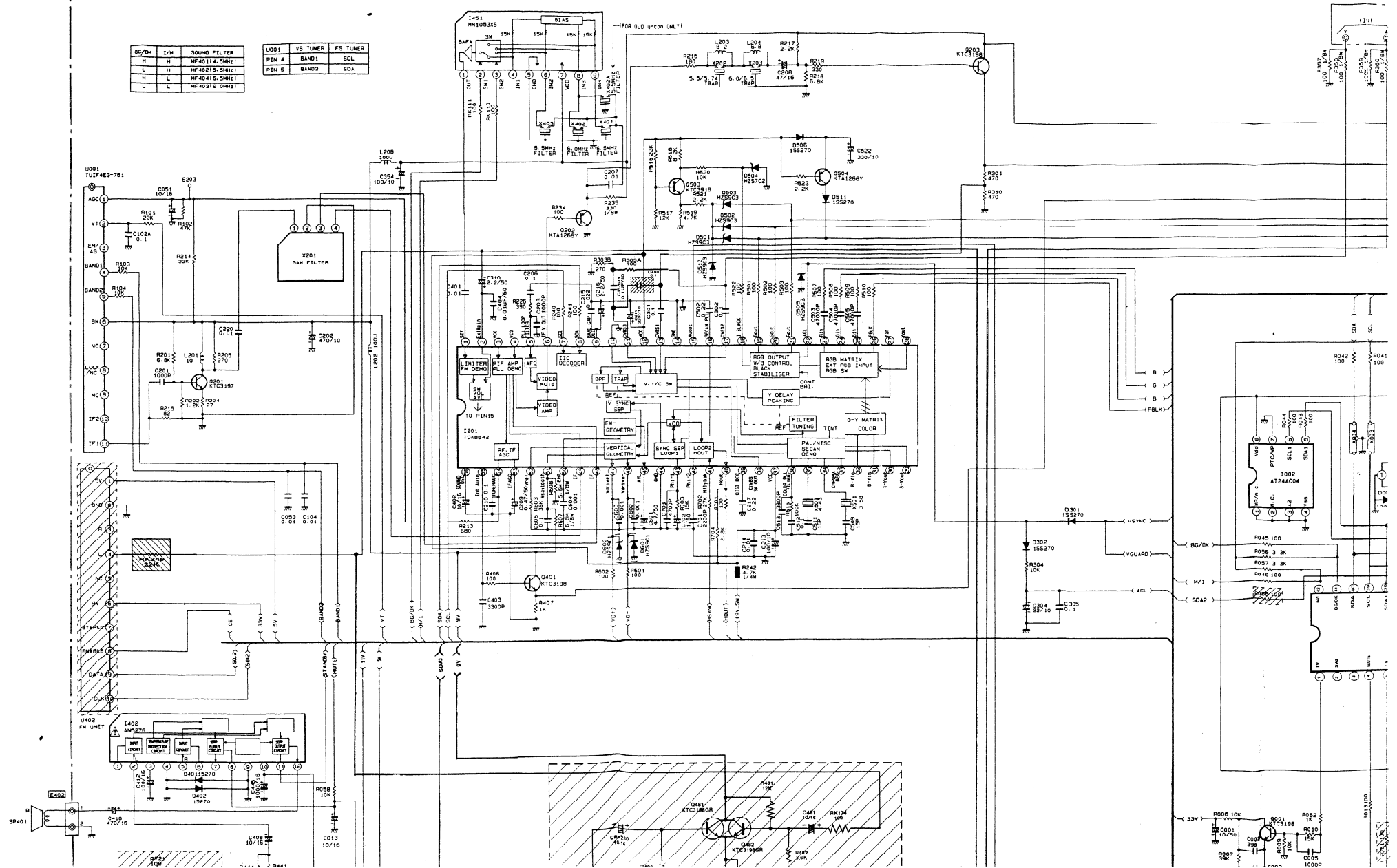


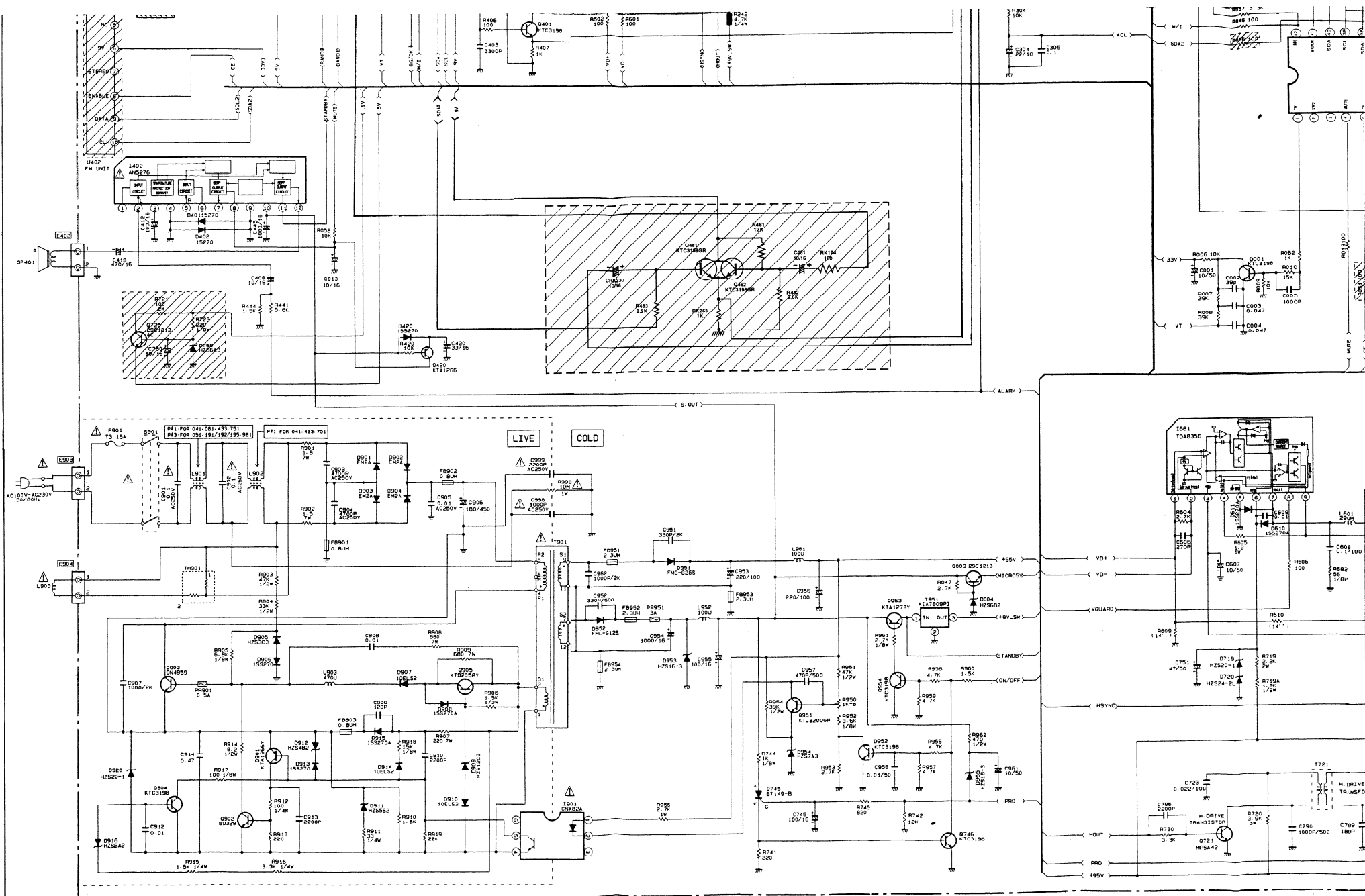


C1476MN/C1476MNR BASIC CIRCUIT DIAGRAM (MULTI/MULTI WITH RADIO)

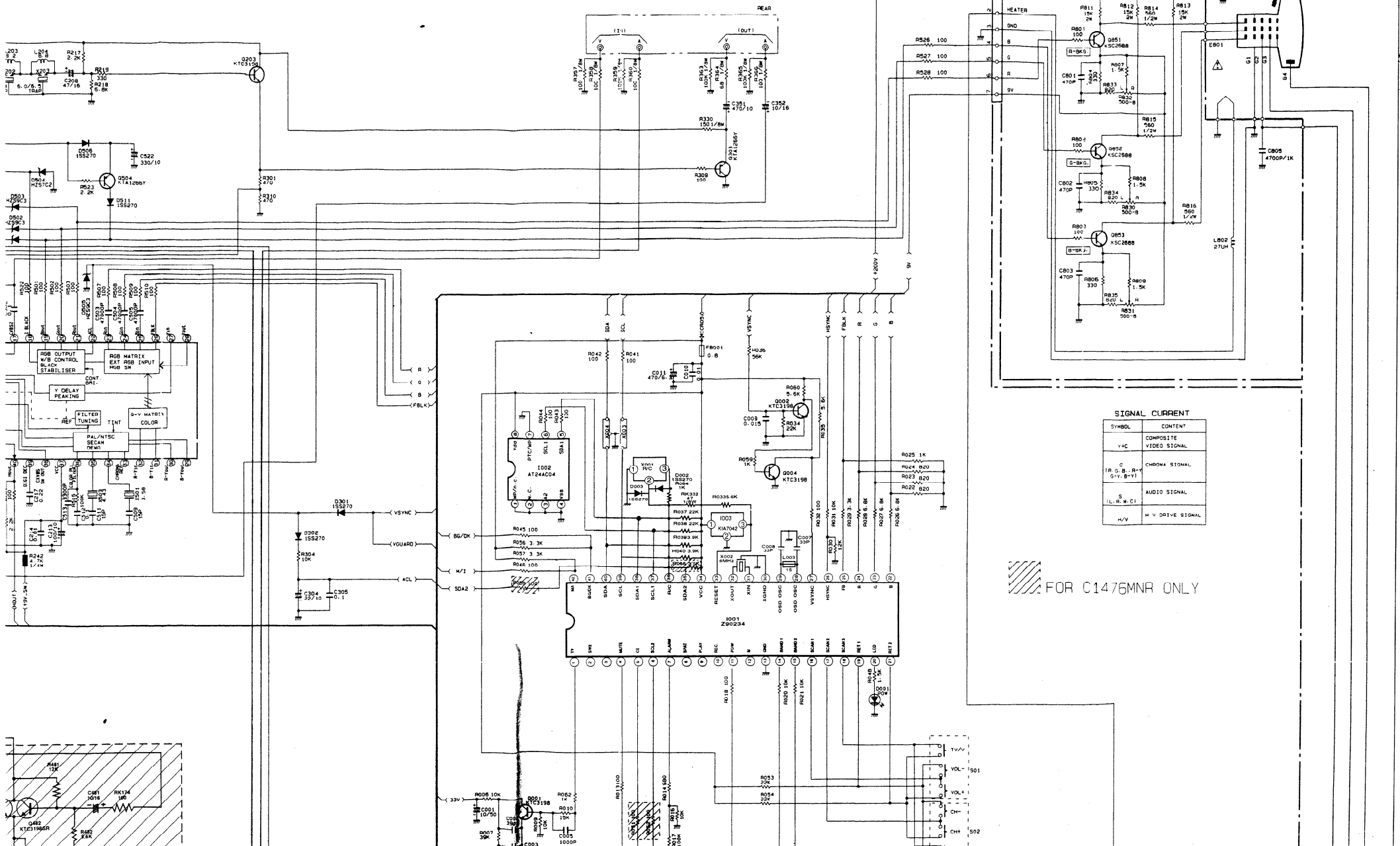
BS/OK	I/V	SOUND FILTER
B	H	HF40214.5MHz
L	H	HF40215.5MHz
H	L	HF40216.5MHz
L	L	HF40216.0MHz

U001	VS TUNER	FS TUNER
PIN 4	BAND1	SCL
PIN 5	BAND2	SDA

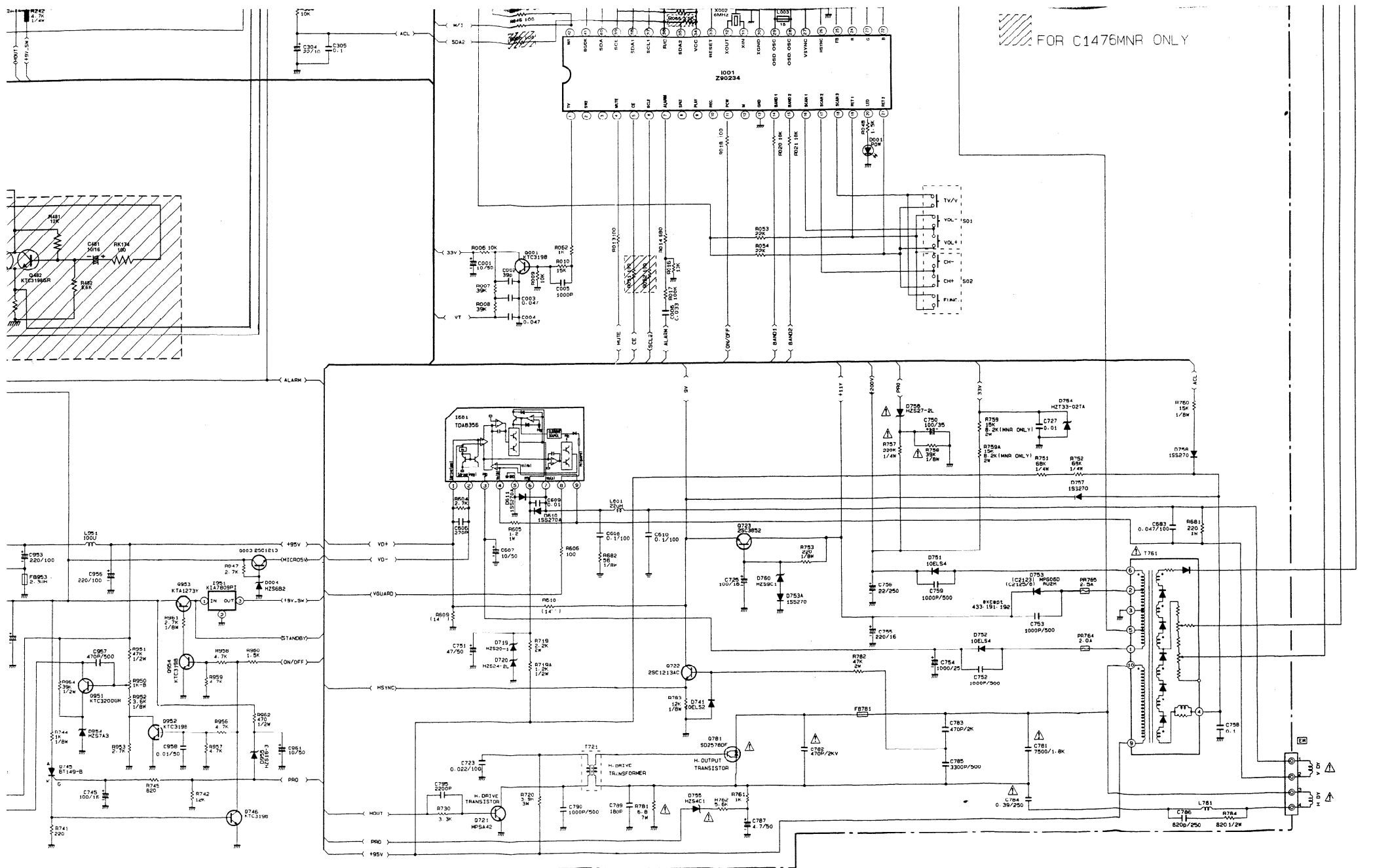




AM



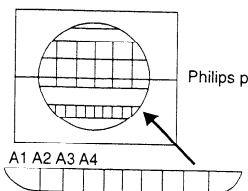
FOR C1476MNR ONLY



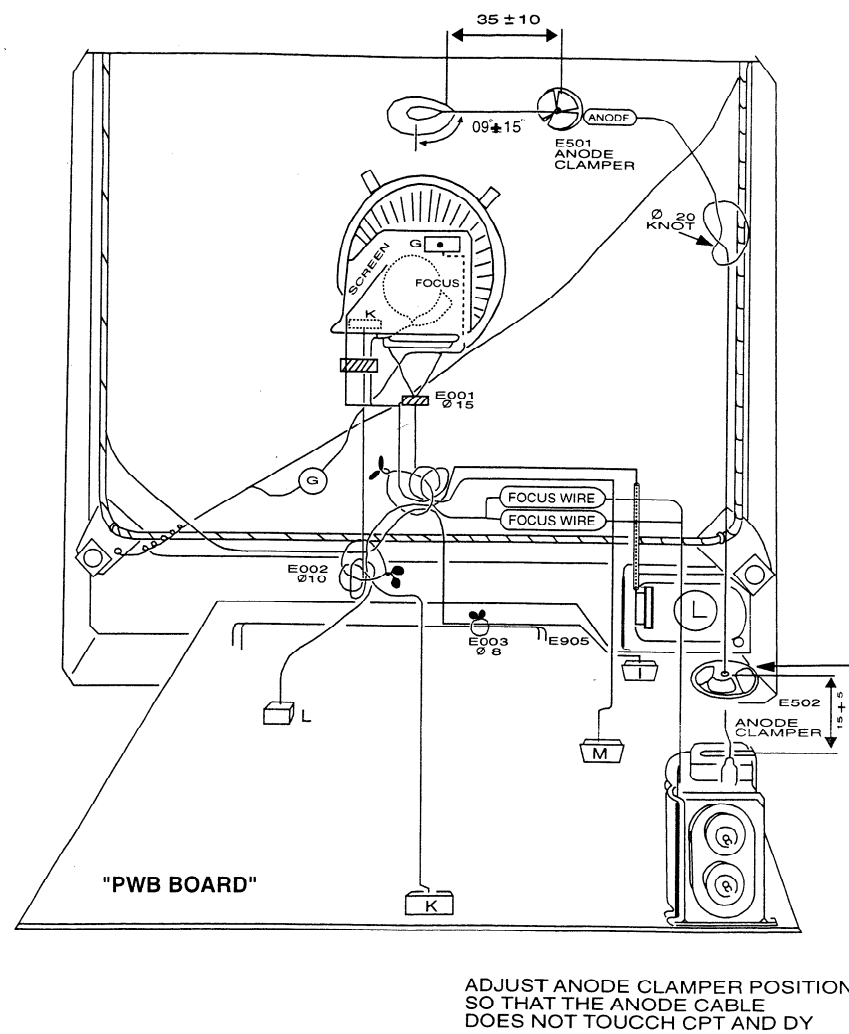
WHITE BALANCE ADJUSTMENT

PREPARATION	PROCEDURES				
1. Switch on the TV set for at least 20 mins. 2. Adjust this adjustment after the Purity adjustment. 3. Ensure the vertical incident illumination on CRT surface to be 20 lux or less. 4. Receive the white balance raster. 5. Turns the low bright adjustment VRs R830, R831 & R832 fully counterclockwise. 6. Select the IIC Control address No. 01 (White point red), No. 02 (White point green) and No. 03 (White point blue) and set all datas to 1FH. 7. Turns the screen VR of FBT fully counterclockwise. 8. Select the IIC Control address No. 10 (Sub-contrast) and set the data to 17. 9. Select the IIC Control address No. 9 (Sub-brightness) and set the data to 1F.	1. Remain the screen at IIC control mode, and press the [TV/VIDEO] button 1 time to obtain the lateral line mode. 2. Turns the Screen VR of FBT clockwise and set it to the position where the bright red, green or blue line starts to appear. 3. Notice the color which appeared first, and let the correspondence VR at minimum (i.e. - R832=Red; R830= Green; R831= Blue). 4. Gradually turn the other two VRS clockwise and set at the position when thin red, blue and green bright lines appear on the screen evenly. 5. Adjusts the Screen VR of FBT until the white raster line is just slightly seen. 6. Release the lateral line mode by pressing the [TV/VIDEO] button once. 7. Set the white Balance meter probe at the center of the screen. 8. Adjusts the following keys of IIC and R830 / R831 to the desired W/B color temperature. <table> <tr> <td>R Drive</td><td>01</td></tr> <tr> <td>B Drive</td><td>03</td></tr> </table> Notes : a. Fix the G Drive at 1FH(IIC Address No. 02) do not adjust. b. To obtain the low brightness and high brightness conditions, adjust the brightness control of remote control handset.	R Drive	01	B Drive	03
R Drive	01				
B Drive	03				

SUB-BRIGHTNESS ADJUSTMENT (Must adjust after H. size adjustment)

PREPARATION	PROCEDURES
1. Switch on the TV set for at least 20 mins. 2. Ensure the vertical incident illumination on CRT surface to be 20 lux or less. 3. Receive the Color Circular Philips pattern. 4. Set the following settings by remote control handset. Contrast : max Color : Center Brightness : Center	1. Select the IIC control address No. 09. 2. Adjust the data until A1 portion becomes black and A2 portion becomes lighter black. i.e.  Philips pattern A1 A2 A3 A4

WIRING DIAGRAM



REPLACEMENT PARTS LIST

PRODUCT SAFETY NOTE : Components with a Δ have special characteristics important to safety, before replacing any these components, read carefully the PRODUCTS SAFETY NOTICE of this Service Manual. Don't degrade the receiver through improper servicing

ABBREVIATIONS		Capacitors CD : Ceramic Disk, PF: Polyester Film, EL: Electrolytic, PP: Polypropylene, PR: Paper, TA: Tantalum, TM: Trimer, Resistor CF: Carbon Film, WW: Wire Wound, FR: Fuse Resistor, MG: Metal Glazed, VR: Variable Resistor, MF: Metal Oxide Film Semiconductors TR: Transistor, DI: Diode, ZD: Zener Diode, VA: Varistor, TH: Thermistor.
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SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
#0102	8821234A	NUT HEX 3N (BOTH SIDE CHAMFER)	C401	AN00624R	FILM CAP ECQB 0.01UF-K 50V
#0104	4243445	G51 INSULATION WASHER	C402	0800291R	ELECT CAP SMG 100UF-M 16V
#0106	1MJ2007	3X14 TNE SCREW	C403	AN00617R	FILM CAP ECQB 0.0033UF-K 50V
#0112	3442421	HEAT SINK	C404	AN00624R	FILM CAP ECQB 0.01UF-K 50V
#0113	MA00803	HEAT SINK	C408	0800291R	ELECT CAP SMG 100UF-M 16V
#0114	4519501	3 X 10 TNE SCREW	C412	0800326R	ELECT CAP SMG 100UF 16V
#0115	4519507	3 X 6 TNE SCREW	C418	0900326R	ELECT CAP SMG 470UF 16V
#0150	378105	LED HOLDER (WHITE-WATSON)	C420	0800308R	ELECT CAP SMG 33UF 16V
#0153	3701202	G7 PWB HOLD PIECE	C445	0800362F	ELECT CAP 1000UF 25V
#0155	3746073	IEC CORD HOLDER	C481	0800291R	ELECT.CAP SMG 10MF-M16V (FOR C1476MNR ONLY)
#0901	NX04131	WIRE CLIP	C490	0880057	MYLAR CAP. 0.1MF-K 50V (FOR C1476MNR ONLY)
#0902	3720501	LEAD CRAMP	C502	0880198R	POLY CAP 0.22UF-J 50V
#0903	MA00802	HEAD SINK	C503	AN00633	POLY CAP 0.047UF-K 50V
#0904	4520889	3*10 SCREW WITH WASHER	C504	AN00633R	POLY CAP 0.047UF-K 50V
#0905	4340683	SO 12V HEAT SINK	C505	AN00633R	POLY CAP 0.047UF-K 50V
#0906	4520881	M3X8 SCREW WITH WASHER	C509	0890116R	CER CAP CH 15PF-J 50V
#0907	4340683	SO 12V HEAT SINK	C511	0890116R	CER CAP CH 15PF-J 50V
#0908	4520881	M3X8 SCREW WITH WASHER	C512	AN00637R	POLY CAP 0.1UF-K 50V
#0909	4334011	TRS. HEAT SINK PIECE	C513	AN00617R	FILM CAP ECQB
#0910	4520881	M3X8 SCREW WITH WASHER	C522	0800343R	ELECT CAP SMG 330UF 16V
Δ B0001	JK05182B	MAIN PWB(14")	C601	0800288R	ELECT CAP SMG 4.7UF-M 50V
C001	0800294R	ELECT CAP SMG 10 UF-M 50V	C602	0890087R	CER CAP B 1000PF-K 50V
C002	0890122R	CER CAP CH 39PF-J 50V	C603	0890087R	CER CAPB 1000PF-K 50V
C003	AN00633R	POLY CAP 0.047UF-K 50V	C604	0890087R	CER CAP B 1000PF-K 50V
C004	AN00633R	POLY CAP 0.047UF-K 50V	C605	AN00637R	POLY CAP 0.1UF-K 50V
C005	0890087R	CER CAP B 1000PF-K 50V	C606	0890079R	CER CAP B 270PF-K 50V
C006	AN00631R	POLY CAP 0.033UF-K 50V	C607	0800294R	ELECT CAP SMG 100UF 50V
C007	0890122R	CER CAP CH 39PF-J 50V	C608	0279693R	POLY CAP 0.1UF-K 100V
C008	0890067R	CER CAP SL 33PF-50V	C609	AN00624R	FILM CAP ECQB 0.01UF-K 50V
C009	AN00626R	FILM CAP ECQB 0.015UF-K 50V	C610	0279693R	POLY CAP 0.1UF-K 100V
C010	AN00624R	FILM CAP ECQB 0.01UF-K 50V	C683	0279691R	POLY CAP 0.047UF 160V
C011	0800351R	FILM CAP SMG 4705UF 6.3V	C701	AN00615R	FILM CAP ECQB
C013	0800291R	ELECT CAP SMG 10UF-M 16V	C702	0800279R	ELECT CAP SMG 1UF-M 50V
C013	0800279R	ELECT CAP SMG 1MF-M50V (FOR C1476MNR ONLY)	C703	AN00619R	POLY CAP 0.0047UF-K 50V
C051	0800291R	ELECT CAP SMG 10UF-M 16V	C723	0279851R	POLY CAP 0.022UF-K 100V
C053	AN00624R	FILM CAP ECQB 0.01UF-K 50V	C725	0800326R	ELECT CAP SMG 100UF 16V
C102A	AN00637R	POLY CAP 0.1UF-K 50V	C727	AN00624R	FILM CAP ECQB 0.01UF-K 50V
C104	AN00624R	FILM CAP ECQBPF-K 50V	C745	0800326R	ELECT CAP SMG 100UF 16V
C201	0890087R	CER CAP SL 1000PF-K 50V	C750	0800328R	ELECT CAP SMG 100UF 35V
C202	0800352R	ELECT CAP SMG 470UF 10V	C751	0800321R	ELECT CAP 47UF-M 50V
C203	0890087R	CER CAP SL 1000PF-K 50V	C752	0244501R	CER CAP B 1000PF-K 50V
C206	AN00637R	POLY CAP 0.1UF-K 50V	C753	0244501R	CER CAP B 1000PF-K 500V
C207	AN00624R	FILM CAP ECQB 0.01UF-K 50V	C754	0800362F	ELECT CAP 1000UF 25V
C208	0800316R	ELECT CAP SME 47UF 16V	C755	0800335R	ELECT CAP SMG 220UF-M 16V
C209	0800001R	ELECT CAP SME 0.47UF 50V	C756	0253973F	ELECT CAP SME 22UF 250V
C210	AN00637R	POLY CAP 0.1 UF-K 50V	C758	0880016R	MYLAR CAP AMZ 0.1UF-K 50V
C211	0800366F	ELECT CAP SMG 2200UF 10V	C759	0244501R	CER CAP B 1000PF-K 500V
C213	0800325R	ELECT CAP SMG 100UF 10V	C760	0800291R	ELECT CAP SMG 10UF-M 16V (FOR C1476MNR Only)
C214	AN00624R	FILM CAP ECQB 0.01UF-K 50V	C781	AN01134F	POLY CAP 7500PF 1.8KV
C215	AN00628R	POLY CAP 0.022UF-K 50V	C782	AJ00555	CER CAP R 470PF-K2KV
C216	0800282R	ELECT CAP SMG 2.2UF 50V	C783	AJ00555	CER CAP R 470PF-K 2KV
C217	0880198R	POLY CAP 0.22UF-J 50V	C784	AN01176F	POLY CAP 0.39UF 250V
C220	AN00624R	FILM CAP ECQB 0.0UF-K 50V	C785	0244507R	CER CAP B 3300PF-K 500V
C301	AN00637R	POLY CAP 0.1UF-K 50V	C786	0243512R	CER CAP B 820PF-K 500V
C302	AN00637R	POLY CAP 0.1UF-K 50V	C787	0800288R	ELECT CAP SMG 4.7UF-M 50V
C304	0800298R	ELECT CAP SME 22UF 10V	C789	0890077R	CER CAP B 180PF-K 50V
C305	AN00637R	POLY CAP 0.1UF-K 50V	C790	0244501R	CER CAP B 1000PF-K 500V
C310	0800282R	ELECT CAP SMG 2.2UF 50V	C795	AN00615R	FILM CAP ECQB
C351	0800325R	ELECT CAP SMG 470UF 10V			0.0022UF-K 50V
C352	0800291R	ELECT CAP SMG 10UF-M 16V			
C354	0800325R	ELECT CAP SMG 100UF 10V			

REPLACEMENT PARTS LIST

PRODUCT SAFETY NOTE : Components with a Δ have special characteristics important to safety, before replacing any these components, read carefully the PRODUCTS SAFETY NOTICE of this Service Manual. Don't degrade the receiver through improper servicing

SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
C801	0890083R	CER CAP B 470PF-K 50V	D901	2342711M	DIODE EM2A
C802	0890083R	CER CAP B 470PF-K 50V	D902	2342711M	DIODE EM2A
C803	0890083R	CER CAP B 470PF-K 50V	D903	2342711M	DIODE EM2A
C805	0245612F	CER CAP B 4700PF-K 1KV	D904	2342711M	DIODE EM2A
Δ C901	AN00144S	POLY CAP 0.1UF-M 250V	D905	2339819M	ZENER DIODE HZS3C3
Δ C902	AN00144S	POLY CAP 0.1UF-M 250V	D906	2338321M	DIODE 1SS270
C903	0248593F	CER CAP F 4700PF-Z 250V	D907	CH00711M	DIODE 10EL52
C904	0248593F	CER CAP F 4700PF-Z 250V	D908	2337341M	DIODE 1SS270A(TP)
C905	0248594F	CER CAP F 0.01UF-Z 250V	D909	2339889M	ZENER DIODE HZS12C3
C906	AL00097	ELECT CAP 180UF 450V	D910	CH00711M	DIODE 10 EL52
C907	0244211	CER CAP R 1000PF -K2KV	D911	2339835M	ZENER DIODE HZS5B2
C908	AN00624R	FILM CAP ECQB 0.01UF-K 50V	D912	2339825M	ZENER DIODE HZS4B2
C909	0890075R	CER CAP SL 120PF-J 50V	D913	2338321M	DIODE 1SS270
C910	AN00615R	FILM CAP ECQB 0.0022UF-K 50V	D914	CH00711M	DIODE 10EL52
C912	AN00624R	FILM CAP ECQB 0.01UF-K 50V	D915	2337341M	DIODE 1SS270A(TP)
C913	AN00615R	FILM CAP ECQB	D916	2339842M	ZENER DIODE HZS6A2
		0.0022UF-K 50V	D920	2339921M	ZENER DIODE HZS20-1
C914	0270743R	POLY CAP AMZ 0.47UF 50V	D951	2338931	DIODE FMG-G26S
C951	0244718	CER CAP B 330PF-K 2KV	D952	2338944	DIODE FML-G12S
C952	0243507	CER CAP B 330PF-K 500V	D953	2339903M	ZENER DIODE HZS16-3
C953	0258129F	ELECT CAP KMF 220UF 100V	D954	2339853M	ZENER DIODE HZS7A3
C954	0800082F	ELECT CAP 1000UF-M 16V	D955	2339903M	ZENER DIODE HZS16-3
C955	0800326R	ELECT CAP SMG 100UF 16V	E001	3737101	PURSE LOCK 15
C956	0258129F	ELECT CAP KME 220UF 100V	E002	3731081	PURSE LOCK 10
C957	0243509R	ELECT CAP B 470PF-K 500V	E003	2728272	PURSE LOCK 8
C958	AN00624R	POLY CAP 0.01UF-K 50V	E050	3705233	CLAMP ANODE
C961	0800294R	ELECT CAP SMG 10UF 50V	E051	3705233	CLAMP ANODE
C962	0244211	CER CAP 1000PF-K 2KV	E061	4615642	WEDGE
Δ C998	AJ00601	POLY CAP 1000PF 250V	E701	2776521	C-F MAGNET 200
Δ C999	AJ00603	POLY CAP 2200PF 250V	E203	2774731R	FERRITE BEAD CORE WITH LEAD
CR303	AN00637R	POLY CAP 0.1UF-K 50V	E301	2695251	4PJACK PIN
CRK230	0800291R	ELECT.CAP. SMG 10MF-M16V (FOR C1476MNR ONLY)	E402	2902261	2P MINI PLUG PIN WITH BASE
		LED RED(APEC GLOBAL)	E404	EF08681	2P CONNECTOR FOR FM
D001	CH00231M	DIODE 1SS270	Δ E801	2698712	ANTENNA(FOR 1476MNR ONLY)
D002	2338321M	DIODE 1SS270	E802	2903542	CRP SOCKET 14"
D003	2338321M	DIODE 1SS270	E805	2995604	2P PLUG PIN WITH BASE
D004	2339022M	ZENER DIODE HZS6 (B2)	E903	2972581	8P SUB MINI CONNECTOR W/WIRE
D201	2338321M	DIODE 1SS270 (FOR C1479FN ONLY)			POWER CORD (EDISON)
D301	2338321M	DIODE 1SS270	Δ E903	2972591A	(FOR C1479FN-981 ONLY)
D302	2338321M	DIODE 1SS270	Δ E903	EV00071C	POWER CORD CEE(ALL EXCEPT 051.081,C1479FN-981)
D401	2338321M	DIODE 1SS270			POWER CORD (HONG KONG)
D402	2338321M	DIODE 1SS270	Δ E903	2972591	(FOR-051 ONLY)
D420	2338321M	DIODE 1SS270	Δ E904	2972591	POWER CORD CEE (FOR-081 ONLY)
D421	2338321M	DIODE 1SS270	E904	2903542	2P PLUG PIN WITH BASE
D501	2339869M	ZENER DIODE HZS9C3	E905	2995909	2J PROCESSED WIRE WITH AMPIN
D502	2339869M	ZENER DIODE HZS9C3	E906L	2729252BR	FUSE HOLDER
D503	2339869M	ZENER DIODE HZS9C3	E906R	2729252BR	FUSE HOLDER
D504	2339858M	ZENER DIODE HZS7C2	E907	2903547	1P PLUG PIN WITH BASE
D505	2339869M	ZENER DIODE HZS9C3	E950	3763751	SK BINDER 100(WHITE)
D506	2338321M	DIODE 1SS270	EM	2665272A	4P PLUG PIN W/BASE (UL) TAIKO
D511	2338321M	DIODE 1SS270	Δ F901	2721615	FUSE 3.15A
D512	2339869M	ZENER DIODE HZS9C3	FB902	2123468M	FERRITE CORE WITH LEAD 0.8UH
D610	2337341M	DIODE 1SS270A(TP)	FB781	2122653M	FERRITE CORE WITH LEAD
D611	2337321M	DIODE 1SS270A(TP)	FB901	2123468M	FERRITE CORE WITH LEAD 0.8UH
D719	2339921M	ZENER DIODE HZS20-1	FB902	2123468M	FERRITE CORE WITH LEAD 0.8UH
D720	2339212M	ZENER DIODE HZS24-2L	FB903	2123468M	FERRITE CORE WITH LEAD 0.8UH
D741	CH00711M	DIODE 10EL52	FB951	2123462M	FERRITE BEADS CORE B 2.3UH
D751	CH00712M	DIODE 10EL54 400V	FB952	2123462M	FERRITE BEADS CORE B 2.3UH
D752	CH00712M	DIODE 10EL54 400V	FB953	2123462M	FERRITE BEADS CORE B 2.3UH
D753	2333001M	DIODE RU 2M(FOR C1476MNR ONLY)	FB954	2123462M	FERRITE BEADS CORE B 2.3UH
D753	2343961M	DIODE MPG 06 D (FOR C1479FN,C1476MN)	I001	CP05772	IC 29023406PSCF
D753A	2338321M	DIODE 1SS270	I002	CP03461A	IC AT24AC04
D754	2335991M	ZENER DIODE HZT33-02	I003	CP02871R	TRIS IC KI A7042P
D755	2339827M	ZENER DIODE HZS4C1	I201	CP05811U	IC TDA8842
D756	2339222M	ZENER DIODE HZS27-2L	I402	CP05751	IC AN5276
D757	2338321M	DIODE 1SS270	I451	2020601	IC MM1053XS
D758	2338321M	DIODE 1SS270	I681	CP05651	IC TDA 8356
D759	2339843M	ZENER DIODE HZS6A3(P-ON C1476MNR ONLY)			
D760	2339867M	ZENER DIODE HZS9C1			

REPLACEMENT PARTS LIST

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SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
Δ I901	2917783	IC CNX82A300	Q903	314792	TRS BUT12AF/ON4959
I951	CP04771	IC KIA7609P	Q904	CF01421R	TRS KTC3198 GR
L001	2123105M	AXIAL COIL LAL02 15UH-K	Q905	CF01831	TRANSISTOR KTD2058Y
L201	2123103M	AXIAL COIL LAL02 10UH-K	Q951	CF01051R	TRS K1C3200 GR
L202	2122253M	AXIAL COIL LAL04 100UH-K	Q952	CF01421R	TRS KTC3198 GR
L203	2123102M	AXIAL COIL LAL02 8.2UH-K	Q953	CF01991R	TRS KTA1273Y
L204	2123101M	AXIAL COIL LAL02 6.8UH-K	Q954	CF01421R	TRS KTC3198 GR
L205	2123104M	AXIAL COIL LAL02 12UH-K	R006	0700054R	RES CAR FILM 1/16 10K-J
		(FOR C1479FN ONLY)	R007	0700062M	RES CAR FILM 1/16 39K-J
L206	2122956M	AXIAL COIL LAL03 100UH-K	R008	0700062M	RES CAR FILM 1/16 39K-J
L402	BZ02631	FM ANTENNA COIL	R009	0700054M	RES CAR FILM 1/16 10K-J
		(FOR C1476MNR ONLY)	R010	0700056M	RES CAR FILM 1/16 15K-J
L601	BH00205R	COIL 22UH	R013	0700027M	RES CAR FILM 1/16 100-J
L781	2164541B	HORIZONTAL LINEAR COIL	R014	0700038M	RES CAR FILM 1/16 680-J
L802	2125803M	RADIAL COIL 27UH	R016	0700045M	RES CAR FILM 1/16 10K-J
L901	BZ02391	LINE FILTER(F7B06A2)	R017	0700067M	RES CAR FILM 1/16 100K-J
		(FOR 431 -081 ONLY)	R018	0700027M	RES CAR FILM 1/16 100-J
Δ L901	BZ02393	LINE FILTER(F7206C2)	R019	0700027M	RES CAR FILM 1/16 100-J
		(ALL EXCEPT 431,081)			(FOR C1479FN ONLY)
Δ L902	BZ02391	LINE FILTER(F7B06A2)	R020	0700054M	RES CAR FILM 1/16 10K-J
		(FOR 431 ONLY)	R021	0700054M	RES CAR FILM 1/16 10K-J
Δ L903	2220599AR	CHOKE COIL 470UH	R022	0700039M	RES CAR FILM 1/16 820-J
L905	2275901	DEGAUSSING COIL 2P	R023	0700039M	RES CAR FILM 1/16 820-J
L951	BH00734R	PEAKING COIL 100UH-K	R024	0700039M	RES CAR FILM 1/16 820-J
L952	BH00734R	PEAKING COIL 100UH-K	R025	0700041M	RES CAR FILM 1/16 1K-J
N	NUK0021	OP. GUIDE ASS'Y C1479FN/	R026	0700052M	RES CAR FILM 1/16 6.8K-J
		1476MN/1476MNR (ALL EXCEPT 051)	R027	0700052M	RES CAR FILM 1/16 6.8K-J
		OP. GUIDE ASS'Y C1476FN/	R028	0700052M	RES CAR FILM 1/16 6.8K-J
		1476MN/1476MNR (FOR-051,-192B)	R029	0700047M	RES CAR FILM 1/16 3.3K-J
PR764	AZ00104M	2A PROTECTOR	R030	0700055M	RES CAR FILM 1/16 12K-J
PR765	AZ00105M	PROTECTOR 2.5A 49102.5T52	R031	0700054M	RES CAR FILM 1/16 10K-J
PR901	AZ00101M	0.5A PROTECTOR	R032	0700027M	RES CAR FILM 1/16 100-J
PR951	AZ00106M	3A PROTECTOR	R033	0700051M	RES CAR FILM 1/16 5.6K-J
Q001	CF01421R	TRS. KTC3198 GR	R034	0700058M	RES CAR FILM 1/16 22K-J
Q002	CF01421R	TRS. KTC3198 GR	R035	0700051M	RES CAR FILM 1/16 5.6K-J
Q003	2320663R	TRS. 25C1213AC	R036	0700064M	RES CAR FILM 1/16 56K-J
Q004	CF01421R	TRS. KTC3198 GR	R037	0700058M	RES CAR FILM 1/16 22K-J
Q201	CF01011R	TRS. (KEC) KTC3197	R038	0700058M	RES CAR FILM 1/16 22K-J
Q202	CF01431R	TRS. KTA 1266Y	R039	0700048M	RES CAR FILM 1/16 3.9K-J
Q203	CF01421R	TRS. KTC3198 GR	R040	0700048M	RES CAR FILM 1/16 3.9K-J
Q204	CF01421R	TRS. KTC3198 GR	R041	0700027M	RES CAR FILM 1/16 100-J
		(FOR C1479FN ONLY)	R042	0700027M	RES CAR FILM 1/16 100-J
Q205	2326875R	TRS. DTC144WS	R043	0700027M	RES CAR FILM 1/16 100-J
		(FOR C1479FN ONLY)	R044	0700027M	RES CAR FILM 1/16 100-J
Q210	2326875R	TRS DTC144WS	R045	0700027M	RES CAR FILM 1/16 100-J
		(FOR C1479FN ONLY)	R046	0700027M	RES CAR FILM 1/16 100-J
Q303	CF01431R	TRS KTA 1266Y	R047	0700046M	RES CAR FILM 1/16 2.7K-J
Q401	CF01421R	TRS KTC3198 GR	R048	0700043M	RES CAR FILM 1/16 1.5K-J
Q402	CF01421R	TRS KTC3198 GR	R051	0700027M	RES CAR FILM 1/16 100-J
Q403	2326875R	TRS DTC144WS			(FOR C1476MNR ONLY)
		(FORC1479FN ONLY)	R052	0700027M	RES CAR FILM 1/16 100-J
Q420	CF01431R	TRS KTA 1266Y			(FOR C1476MNR ONLY)
Q481	CF01421R	TRS.KTC 3198GR	R053	0700058M	RES CAR FILM 1/16 22K-J
		(FOR C1476MNR ONLY)	R054	0700058M	RES CAR FILM 1/16 22K-J
Q482	CF01421R	TRS KTC3198 GR	R056	0700047M	RES CAR FILM 1/16 3.3K-J
		(FOR C1476MNR ONLY)	R057	0700047M	RES CAR FILM 1/16 3.3K-J
Q503	CF01421R	TRS KTA 1266Y	R058	0700054M	RES CAR FILM 1/16 10K-J
Q504	CF01431R	TRS MPSA42	R059	0700041M	RES CAR FILM 1/16 1K-J
Q721	CF01061R	TRS 25C1213AC	R060	0700051M	RES CAR FILM 1/16 5.6K-J
Q722	2320663R	TRS 25C3852	R062	0700041M	RES CAR FILM 1/16 1K-J
Q723	2312171	TRS 25C1213AC	R064	0700041M	RES CAR FILM 1/16 1K-J
Q725	2320663R	(FOR C1476MNR ONLY)	R065	0700047M	RES CAR FILM 1/16 3.3K-J
Q745	CJ00161R	TRS BT149-B			(FOR C1476MNR ONLY)
Q746	CF01421R	TRS KTC3198 GR	R066	0700027M	RES CAR FILM 1/16 100-J
Q781	CF02221	TRS SD2578			(OR C1476MNR ONLY)
Q851	CF02181	TRS KSC 2688	R101	0700058M	RES CAR FILM 1/16 22K-J
Q852	CF02181	TRS KSC2688	R103	0700054M	RES CAR FILM 1/16 10K-J
Q853	CF02181	TRS KSC2688	R104	0700054M	RES CAR FILM 1/16K-J
Q901	CF01431R	TRS KTA1266Y	R201	0700052M	RES CAR FILM 1/16 6.8K-J
Q902	CF01421R	TRS BD329	R202	0700042M	RES CAR FILM 1/16 1.2K-J

REPLACEMENT PARTS LIST

PRODUCT SAFETY NOTE : Components with a Δ have special characteristics important to safety, before replacing any these components, read carefully the PRODUCTS SAFETY NOTICE of this Service Manual. Don't degrade the receiver through improper servicing

SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
R204	0700019M	RES CAR FILM 1/16 27-J	R519	0700049M	RES CAR FILM 1/16 4.7K-J
R205	0700033M	RES CAR FILM 1/16 270-J	R520	0700054M	RES CAR FILM 1/16 10K-J
R207	0700041M	RES CAR FILM 1/16 1K-J	R521	0700045M	RES CAR FILM 1/16 2.2K-J
		(FOR C1479FN ONLY)	R522	0700027M	RES CAR FILM 1/16 100-J
R211	0700041M	RES CAR FILM 1/16 1K-J	R523	0700045M	RES CAR FILM 1/16 2.2K-J
		(FOR C1479FN ONLY)	R526	0700027M	RES CAR FILM 1/16 100-J
R212	0700047M	RES CAR FILM 1/16 3.3K-J	R527	0700027M	RES CAR FILM 1/16 100-J
		(FOR C1479FN ONLY)	R528	0700027M	RES CAR FILM 1/16 100-J
R213	0700038M	RES CAR FILM 1/16 680-J	R601	0700027M	RES CAR FILM 1/16 100-J
R214	0700058M	RES CAR FILM 1/16 22K-J	R602	0700027M	RES CAR FILM 1/16 100-J
R215	0700026M	RES CAR FILM 1/16 82-J	R603	0700062M	RES CAR FILM 1/16 39K-J
R216	0700031M	RES CAR FILM 1/16 180-J	R604	0700046M	RES CAR FILM 1/16 2.7K-J
R217	0700045M	RES CAR FILM 1/16 2.2K-J	R605	0119732M	RES MTL FILM 1W 1.2-J
R218	0700052M	RES CAR FILM 1/16 6.8K-J	R606	0700027M	RES CAR FILM 1/16 100-J
R219	0700034M	RES CAR FILM 1/16 330-J	R607	0179598M	METAL RES 6.8M 1/8W
R221	0700033M	RES CAR FILM 1/16 270-J	R608	0179597M	METAL RES 5.6M 1/8W
		(FOR C1479FN ONLY)	R681	0110129S	RES MTL OXIDE 1W 220-J
R222	0700045M	RES CAR FILM 1/16 2.2K-J	R682	0100035M	RES CAR FILM 1/8 56-J
		(FOR C1479FN ONLY)	R701	0700027M	RES CAR FILM 1/16 100-J
R223	0700027M	RES CAR FILM 1/16 100-J	R702	0700059M	RES CAR FILM 1/16 27K-J
		(FOR C1479FN ONLY)	R703	0700056M	RES CAR FILM 1/16 15K-J
R226	0700035M	RES CAR FILM 1/16 390-J	R704	0700045M	RES CAR FILM 1/16 2.2K-J
R234	0700027M	RES CAR FILM 1/16 100-J	R719	0110253S	2W RES MTL OXIDE 2.2K JS
R235	0100053M	RES CAR FILM 1/18 330-J	R719A	0113752M	RES CAR FILM 1/2 1.2K-J
R240	0700027M	RES CAR FILM 1/16 100-J	R720	0110359S	RES MTL OXIDE 3W 3.9K-J
R241	0700027M	RES CAR FILM 1/16 100-J	R721	0110221S	RES MTL OXIDE 2W 100-J
R242	0119687G	RES MTL FILM 1/4 4.7-J			(FOR C1476MNR ONLY)
R301	0700036M	RES CAR FILM 1/16 470-J	R723	0100049M	RES CAR FILM 1/8 220-J
R303A	0700027M	RES CAR FILM 1/16 100-J			(FOR C1476MNR ONLY)
R303B	0700033M	RES CAR FILM 1/16 270-J	R730	0700047M	RES CAR FILM 1/16 3.3K-J
R304	0700054M	RES CAR FILM 1/16 10K-J	R741	0700032M	RES CAR FILM 1/16 220-J
R309	0700027M	RES CAR FILM 1/16 100-J	R742	0700055M	RES CAR FILM 1/16 12K-J
R310	0700036M	RES CAR FILM 1/16 470-J	R744	0100065M	RES CAR FILM 1/8 1K-J
R330	0100045M	RES CAR FILM 1/8 150-J	R745	0700039M	RES CAR FILM 1/16 820-J
R357	0100041M	RES CAR FILM 1/8 100-J	R51	0114221M	RES CAR FILM 1/4 68K-J
R358	0100041M	RES CAR FILM 1/8 100-J	R752	0114221M	RES CAR FILM 1/4 68K-J
R359	0100113M	RES CAR FILM 1/8 100K-J	R753	0100049M	RES CAR FILM 1/16 220-J
R360	0100041M	RES CAR FILM 1/8 100-J	R757	0118969M	RES CAR FILM 1/4 220K-J
R363	0100113M	RES CAR FILM 1/8 100K-J	R758	0119645M	RES MTL FILM 1/8 39K-F
R364	0100037M	RES CAR FILM 1/8 68-J	R759	0110273S	RES MTL OXIDE 2W 15K-J
R365	0100113M	RES CAR FILM 1/8 100K-J	R759A	0110273S	RES MTL OXIDE 2W 15K-J
R366	0100041M	RES CAR FILM 1/8 100-J	R760	0100093M	RES CAR FILM 1/8 15K-J
R406	0700027M	RES CAR FILM 1/16 100-J	R761	0700041M	RES CAR FILM 1/16 1K-J
R407	0700041M	RES CAR FILM 1/16 100-J	R762	0700051M	RES CAR FILM 1/16 5.6K-J
R408	0700041M	RES CAR FILM 1/16 1K-J	R781	0147630A	RES WIRE WOUND 7W 6.8-K
R409	0700041M	RES CAR FILM 1/16 1K-J	R782	0110285S	RES MTL OXIDE 2W 47K-J
R414	0700041M	RES CAR FILM 1/16 1K-J	R783	0100091M	RES CAR FILM 1/8 12K-J
		(FOR C1479FN ONLY)	R784	0113748M	RES CAR FILM 1/2 820-J
R420	0700054M	RES CAR FILM 1/16 10K-J	R801	0700027M	RES CAR FILM 1/16 100-J
R441	0700051M	RES CAR FILM 1/16 5.6K-J	R802	0700027M	RES CAR FILM 1/16 100-J
R444	0700043M	RES CAR FILM 1/16 1.5K-J	R803	0700027M	RES CAR FILM 1/16 100-J
R481	0700055M	RES CAR FILM 1/16 12K-J	R804	0700034M	RES CAR FILM 1/16 330-J
		(FOR C1476MNR ONLY)	R805	0700034M	RES CAR FILM 1/16 330-J
R482	0700051M	RES CAR FILM 1/16 5.6K-J	R806	0700034M	RES CAR FILM 1/16 330-J
		(FOR C1476MNR ONLY)	R807	0700043M	RES CAR FILM 1/16 1.5K-J
R483	0700045M	RES CAR FILM 2.2K-J	R808	0700043M	RES CAR FILM 1/16 1.5K-J
		(FOR C1476MNR ONLY)	R809	0700043M	RES CAR FILM 1/16 1.5K-J
R501	0700027M	RES CAR FILM 1/16 100-J	R811	0110273S	RES MTL OXIDE 2W 15K-J
R502	0700027M	RES CAR FILM 1/16 100-J	R812	0110273S	RES MTL OXIDE 2W 15K-J
R503	0700027M	RES CAR FILM 1/16 100-J	R813	0110273S	RES MTL OXIDE 2W 15K-J
R507	0700027M	RES CAR FILM 1/16 100-J	R814	0113744M	RES CAR FILM 1/2 560-J
R508	0700027M	RES CAR FILM 1/16 100-J	R815	0113744M	RES CAR FILM 1/2 560-J
R509	0700027M	RES CAR FILM 1/16 100-J	R816	0113744M	RES CAR FILM 1/2 560-J
R510	0700027M	RES CAR FILM 1/16 100-J	R817	0700037M	RES CAR FILM 1/16 560-J
R515	0700067M	RES CAR FILM 1/16 100K-J	R818	0700037M	RES CAR FILM 1/16 560-J
R516	0700058M	RES CAR FILM 1/16 22K-J	R819	0700037M	RES CAR FILM 1/16 560-J
R517	0700055M	RES CAR FILM 1/16 12K-J	R830	AW00073	VARIABLE RES. 500-B
R518	0700053M	RES CAR FILM 1/16 8.2K-J	R831	AW00073	VARIABLE RES. 500-B

REPLACEMENT PARTS LIST

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SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
R832	AW00073	VARIABLE RES. 500-B	 U701	BY00374	DEFLECTION YOKE 14"
R833	0700039M	RES CAR FILM 1/16 820-J	 V1	2470292	CPT A34KPU02XX
R834	0700039M	RES CAR FILM 1/16 820-J	WL	2976711	2P CONNECTOR WITH LEAD
R835	0700039M	RES CAR FILM 1/16 820-J	X001	CZ00641	REMOCON RECEIVER
R850	0100041M	RES CAR FILM 1/8 100-J	X002	2168371	X'TAL 6MHZ
R901	0147616	RES WIRE WOUND 7W 1.8-K	X003	2791754R	LC FILTER DSS 306-55B101M
R902	0147614AX	RES WIRE WOUND 7W 1.5-J	X004	2791754R	LC FILTER BSS306-55B101M
R903	0113791M	RES CAR FILM 1/2 47K-J	X201	BG01481U	SAW FILTER K6276K
R904	0113787M	RES CAR FILM 1/2 33K-J			(FOR C1479FN ONLY)
R905	0100085M	RES CAR FILM 1/8 6.8K-J	X201	BG01491U	SAW FILTER TSF 5370P
R906	0113754M	RES CAR FILM 1/2 1.5K-J			(FOR C1476MNR, C1476MN)
R907	AT00962F	RES MTL OXIDE 7W 220	X202	BN00171	CER. TRAP 5.5/5.74MHZ
R908	AT00968F	RES MTL OXIDE 7W 680J	X203	BN00172	CER. TRAP 6.0/6.5MHZ
R909	AT00968F	RES MTL OXIDE 7W 680J	X204	2123451	CERAMIC TRAP 4.5MHZ
R910	0700043M	RES CAR FILM 1/16 1.5K-J			(FOR C1479FN ONLY)
R911	0114053M	RES CAR FILM SRD 1/4PB 33J	X401	2167213B	CERAMIC FILTER 6.5MHZ
R912	0114131M	RES CAR FILM 1/4 100-J	X402	2167212B	CERAMIC FILTER 6.0MHZ
R913	0700032M	RES CAR FILM 1/16 220-J	X403	2167211B	CERAMIC FILTER 5.5MHZ
R914	0113698M	RES CAR FILM 1/2W 8.2-J	X404	2167311B	CERAMIC FILTER 4.5MHZ
R915	0114165M	RES CAR FILM 1/4 1.5K-J			(FOR C1479FN ONLY)
R916	0114173M	RES CAR FILM 1/4 3.3K-J	X501	2791505A	CRYSTAL 3.58MHZ
R917	0100041M	RES CAR FILM 1/8 100-J	X503	2170043A	CRYSTAL X'TA 4.43 (H.K.)
R918	0100093M	RES CAR FILM 1/8 15K-J	Z903	4256711	CONVERGENCE METAL SHEET
R919	0700058M	RES CAR FILM 1/16 22K-J	#10	QD06461	C14XX FRONT FRAME
R950	AW00102	TRIMMER RESISTOR NVZ 6TL1 B1K			(PS UL94 HB)
R951	0113791M	RES CAR FILM 1/2 47K-J	#5100	QD06942	C1479FN FRAME ASS'Y
R952	0100078M	RES CAR FILM 1/8 3.6K-J	#5101	QD06943	C1476MNR ASS'Y
R953	0700046M	RES CAR FILM 1/16 2.7K-J	#5102	QD06941	C1476MN FRAME ASS'Y
R954	0113789M	RES CAR FILM 1/2 39K-J	#5113	3332453	E60 KNOB SPRING
R955	0110155S	RES MTL OXIDE 1W 2.7K-J	#5116	PC03421	POWER BUTTON
R956	0700049M	RES CAR FILM 1/16 4.7K-J	#5117	PC03411	FUNCTION BUTTON
R957	0700049M	RES CAR FILM 1/16 4.7K-J	#5118	PH06441	R/C LENS
R958	0700049M	RES CAR FILM 1/16 4.7K-J	#5121	3487484	HITACHI BADGE 55G
R959	0700049M	RES CAR FILM 1/16 4.7K-J	#5122	3815301	BUTTON HOLDER EV1
R960	0700043M	RES CAR FILM 1/16 1.5K-J	#5123	4159423	3X12 B TAPPING SCREW W WASHER
R961	0100075M	RES CAR FILM 1/8 2.7K-J	 #6112	QD06471	C14XX BACKCOVER (PS 94-F0)
R962	0113742M	RES CAR FILM 1/2 470-J	#7101	4519521	SCREW 5X25 TAPPING B-TITE
 R998	0174704	RES MTL OXIDE 1W 10M-J	#7102	4159423	3X12B TAPPING SCREW W WASHER
RK110	0700027M	RES CAR FILM 1/16 100-J	#7103	NJ03031	CHASSIS RAIL
RK111	0700027M	RE CAR FILM 1/16 100-J	#7104	3876121	FBT SUPPORT 140/840
RK230	0700059M	RES CAR ILM 1/16 27K-J	#7105	8781450	3" 20 TAPPING SCREW
RK239	0700059M	RES CAR FILM 1/16 27K-J	#7106	4519512	4X16B TAP SCREW
RK246	0700058M	RES. CAR FILM 22K-J	#7107	4519512	4X16B TAP SCREW
		(FOR C1476MNR ONLY)	Z903	4256711	CONVERGENCE METAL SHEET
RK263	0700041M	RES. CAR FILM 1K-J	#0110	3333921	EARTH SPRING
		(FOR C1476MNR ONLY)	#0113	2788086	CPT EARTH WIRE 14" LEAD 330
RK332	0100033M	RES CAR FILM 1/8 47-J	#0115	0649009	HOOK-30
S01	FE00282	3 KEY TACT SWITCH	#0126	9449538	NITTO TAPE NO.5 W25
S02	FE00282	3 KEY TACT SWITCH			(BLACK) FOR DC
 S901	2634732	MAIN SWITCH (SDDFA3)	#0127	9449506	SCOTCH TAPE NO.29 19MM
SP402	GK00441	SPEAKER 5 X 9			
T721	BS00011	H. DRIVE TRANS			
 T761	BW00991	FBT			
 T901	BT00713	SWITCHING TRANSFOMER			
TH901	2341323	PTC THERMISTOR (PHILIPS)			
U001	HJ00371	TUNER ET -550 SU			
U402	CW00312	FM RADIO UNIT			
		(FOR C1476MNR ONLY)			
U1001	HL01141	REM. CON. UNIT TRX CLE-937			
		(FOR C1476FN/1476MNR/1476MN)			

MEMO :