

# HITACHI

## SERVICE MANUAL

FH

No. 0601E

20MA1B

NTSC

FH92XS-1 Chassis

R/C:CLU-254

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

### SPECIFICATIONS

ANTENNA INPUT IMPEDANCE .....	75Ω	Sound I • F .....	4.5MHz
CHANNEL COVERAGE RANGE		POWER INPUT .....	120V/60Hz
VHF .....	2~13	POWER RATING .....	94W
UHF .....	14~69	CONVERGENCE .....	Self convergence
CATV		FOCUS .....	Electrostatic
MID BAND .....	A~1ch, A-5~A-1ch	PICTURE TUBE .....	A51JFC80X(Y)
SUPER BAND .....	J~Wch	SOUND OUTPUT .....	1W
HYPER BAND .....	W+1~W+28ch	SPEAKER .....	5.5×9cm, 8Ω
ULTRA BAND .....	W+29~W+84ch	DIMENSIONS (W) .....	51.2cm
INTERMEDIATE FREQUENCIES		(H) .....	47.5cm
Picture I • F Carrier .....	45.75MHz	(D) .....	47.0cm
Sound I • F Carrier .....	41.25MHz	WEIGHT .....	Appr. 25kg

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

### SOLID STATE COLOR TELEVISION

MAY 1993

FUJIAN HITACHI TELEVISION CO., LTD.

**SAFETY PRECAUTIONS**

**NOTICE:** Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis or picture tube.

**WARNING:** Since the chassis of this receiver is connected to one side of AC power supply during operation, whenever the receiver is plugged in, service should not be attempted by anyone unfamiliar with the precautions necessary when working on this type of receiver.

The following precautions should be observed:

1. Do not install, remove, or handle the picture tube in any manner unless shatterproof goggles are worn. People not so equipped should be kept away while picture tubes are handled. Keep 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 a "HOT" chassis receiver.
3. When replacing a chassis in the receiver, all the protective devices must be put back in place, such as barriers, non-metallic knobs, adjustment and compartment cover-shields, isolation resistor-capacitor, etc.
4. When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
5. Always use the manufacturer's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacturer's. Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
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 receiver by the manufacturer has become defective, or inadvertently defeated during servicing.

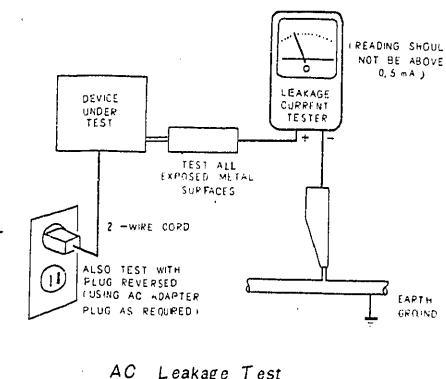
Therefore, the following checks should be performed for the continued protection of the customer and service technician.

**Leakage Current Cold Check**

With the AC plug removed from the AC 120V, 60Hz source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester (DC500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (antennas, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of  $0.3\text{M}\Omega$  and a maximum resistor reading of  $12\text{M}\Omega$ . Any resistor value below or above this range indicates an abnormality which requires corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

**Leakage Current Hot Check**

Plug the AC line cord directly into a AC 120V, 60Hz outlet (do not use an isolation transformer for this check). Turn the AC power switch on. Using a "leakage Current Tester (Simpson Model 229 equivalent)" measure for current from all exposed metal parts of the cabinet (antennas, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 0.5mA.

**AC Leakage Test**

**ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE RECEIVER TO THE CUSTOMER.**

**High Voltage**

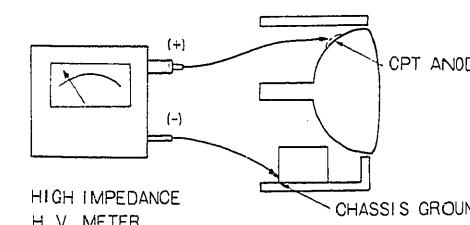
This receiver is provided with a hold down circuit for clearly indicating that voltage has increased in excess of a predetermined value. Comply with all notes described in this Service Manual regarding this hold down circuit when servicing, so that this hold down circuit may correctly be operated.

**Serviceman warning**

With minimum Brightness and Contrast, operating high voltage in this receiver is lower than 31.0KV. In case any component having influenced on high voltage is replaced, confirm that high voltage with minimum Brightness and Contrast is lower than 31.0KV.

To measure H. V. use a high impedance H. V. meter. Connect (-) to chassis earth and (+) to the CPT.anode button. (See the following connection diagram).

**NOTE:** Turn power switch off without fail before the connection with Anode button is made.

**X-radiation**

**TUBE:** The primary source of X radiation in this receiver is the picture tube. The tube utilized for the above mentioned function in this chassis is specially constructed to limit X radiation emissions.

For continued X radiation protection, the replacement tube must be the same type as the original, HITACHI approved type.

When trouble shooting and making test measurements in a receiver with a problem of excessive high voltage, avoid being unnecessarily close to the picture tube and the high voltage component.

Do not operate the chassis longer than is necessary to locate the cause of excessive voltage.

**PRODUCT SAFETY NOTICE**

Many electrical and mechanical parts in HITACHI television receiver have special safety related characteristics. These 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 which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified with a marking of  $\Delta$  on the schematics and on the 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 parts list in this Service Manual, may create 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 Manual may be obtained at a nominal charge from HITACHI SALES CORPORATION.

## TECHNICAL CAUTIONS

## High voltage limiter circuit operation check

1. Connect the high voltage voltmeter between the CPT anode terminal (anode cap) and ground as shown below.
2. Set the AC input voltage to  $132 \pm 3V$ .
3. Receive the broadcast signal and set the contrast level to maximum and brightness to the center. Adjust the screen VR and sub bright VR so that beam current is  $1.0 \pm 0.1mA$ . (The voltage at ABL terminal of FBT-between both ends of C709-should be 10V or less at this time.)
4. Check that the constant high voltage is  $25.5 \pm 2.0kV$  at this time.
5. Set the AC input voltage to  $100 \pm 5V$  and then short circuit both ends of R914.
6. Leave the settings of the contrast,brightness and screen VR as in item 3 and gradually increase the AC input voltage. Check that the picture disappears when the high voltage is less than  $31.0 kV$ .
7. Turn the switch of the set off immediately after checking that the picture disappears.
8. Remove the adjustment jig and high voltage voltmeter.

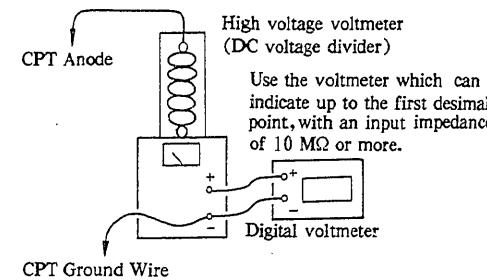


Fig. 1

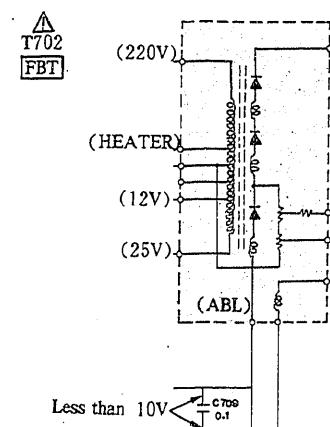


Fig. 2

## CIRCUIT COMPOSITIONS

Block/Circuit		FH92XS-2/FH92XS-1	NOTE
Block	Circuit		
Signal circuit	Antenna circuit	U/V mixed terminal	
	Tuner (US/Canada)	ET-351A.	Refer to 1. ET TUNER (ET-350G) on page 5 of the MILXU chassis service manual (YK No. 0443E)
	CCD circuit	IC LA7945N	Refer to attached page. (7)
	Audio output circuit	SRFP type (+B=135V) 1W	
	PIF/SIF circuit	SAW+IC LA7674.	
Deflection circuit	Video/chroma circuit	One chip IC (LA7674)	Refer to attached page. (12)
	Vertical/horizontal OSC and drive circuit	This function is included in LA7674	
	Vertical output circuit	Vertical out IC (LA7837)	
	Horizontal output circuit	Discrete (2SD1876)/(2SD1877)	
	FBT	C87LS/C87LM.	
Power supply circuit	CPT	A34JLN60X/A51JFC80X	
	Main power supply circuit	Series type IC regulator (STR-D3035)/(STR30135)	
Channel Selecting circuit	Remo-con power supply circuit	Series type regulator	
	Selecting circuit	Selecting IC LC864024A. (including display and comparator)	Refer to attached page. (6)
	Memory circuit	IC M6M80021L.	Refer to 3-2-2. Memory IC (IC0102) on page 14 of the AJLXU chassis service manual (YK No. 0425EF).

## DESCRIPTION OF CIRCUIT

- CHANNEL SELECTING CIRCUIT
- FUNCTION OF CLOSED CAPTION DECODER SYSTEM
- PIF/SIF AND VIDEO/CHROMA AND VERT/HORIZONTAL DRIVE

### -- CHANNEL SELECTING CIRCUIT

- Selecting Circuit

Fig. shows a block diagram of the channel selection circuit

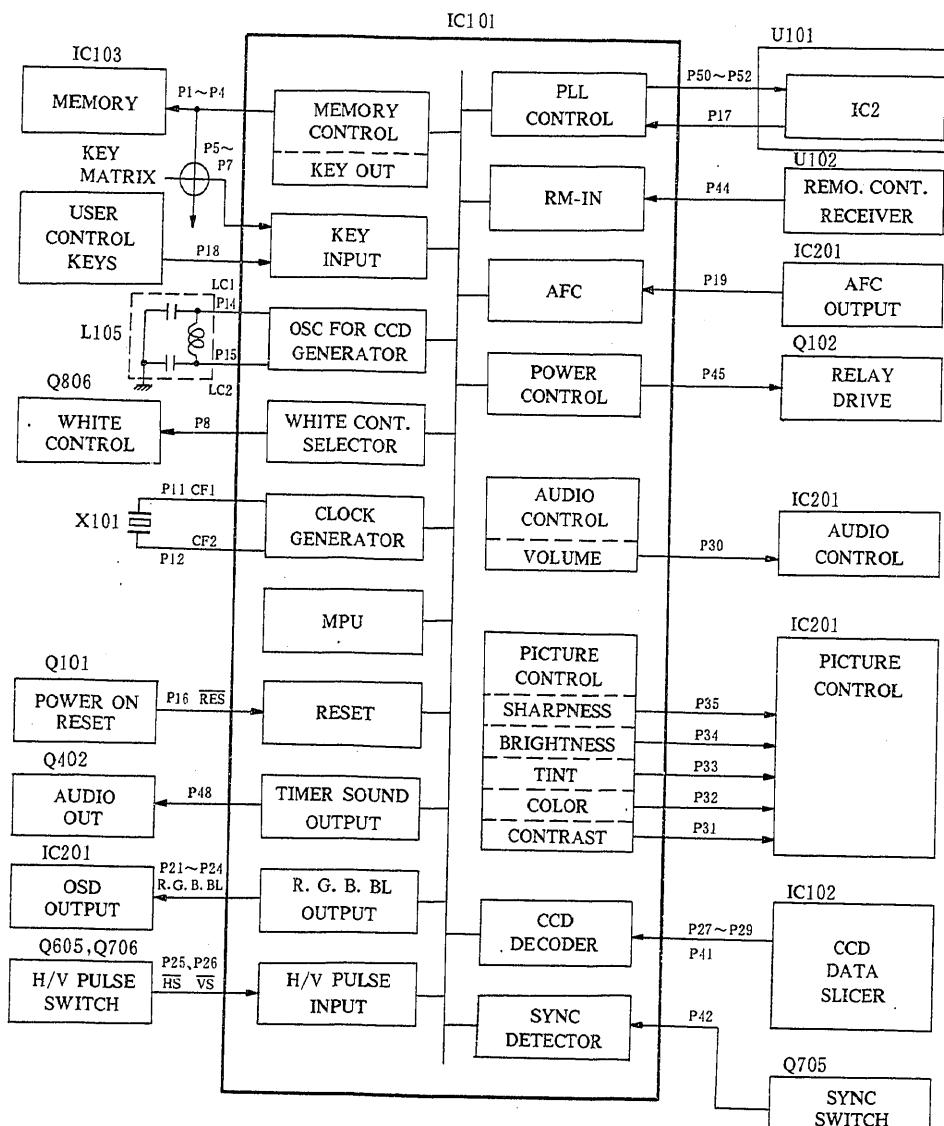


Fig. Block diagram of the channel selection circuit

### — FUNCTION OF CLOSED CAPTION DECODER SYSTEM

#### 1. Data slicer

Detect the caption data from line 21 and convert to digital signal and send to the decoder IC.

#### 2. Decoder/OSD

Decipherment data transferred from the data slicer IC and control screen display.

OSD • Control way of screen display

ROLL-UP, POP-ON, PAINT-ON

• Appoint a place of screen display

• Appoint screen display form.

COLOR, ITALICS, UNDERLINE, FLASH

MODE • CHANNEL 1/CHANNEL 2

• CAPTION/TEXT

**CCD SYSTEM**

The Closed Caption Decoder System consists of the two chips, the Data Slicer and OSD/Decoder. (see fig. 1)

**1. Data Slicer**

Data Slicer receives the composite video signal from the IF CIRCUIT IN IC201 and takes data out of the signal.

Figure 2 shows the block diagram of the Data Slicer.

By generating the H and V sync signal itself, this device takes out the caption signal from Line 21.

Input signals are synchronously separated and sent to the AFC1 stage with the signal generated by dividing VCO output to stabilize the VCO to  $32f_H$ .

The horizontal C/D (count down) used to divide VCO output during this stage also generates different pulses needed in the device.

The vertical C/D is used to detect the 21st line, discriminate between odd and even fields, and generate pulses needed for the AFC and Vert. sep.

**(1) Double AFC**

Data Slicer has the standard AFC block and an additional AFC block to synchronize the phases of VCO to run-in-clock. AFC2 compares the phases of the run-in-clock and VCO extracted by the pulses from the horizontal C/D and vertical C/D. Output is passed to the standard AFC block through the LPF to change the VCO phase. This design enables the clock to be regenerated with the frequency and phase synchronous to those of the run-in-clock.

**(2) Data and Clock**

Data Slicer detects Line 21 and sends the sliced signal and output from the VCO as a clock the exterior only during the data period (see fig. 3).

In other words, 16 clocks are output for each field. Data and clocks from the Data Slicer are received by the OSD and read by the decoder when the end of transmission signal is transferred.

**2. Decoder**

The Decoder conducts a parity check of the caption data extracted by the Data Slicer, decodes the control code and data code, determines the display format and character attributes (color, italics, underline, and flash), then synthesizes the control data and character code to the display control.

The Decoder has an automatic display on/off.

**(1) Display control**

The display control receives information as serial data from the decoder to control screen display.

Basic signals of Hsync and Vsync are inputted to set the CCD display position.

The Decoder has the function as follows.

**MODE CONTROL**

- ① Caption display ON/OFF
- ② Select CAPTION/TEXT
- ③ Select CHANNEL 1/CHANNEL 2

**OSD CONTROL**

- ① Control way of screen display  
ROLL-UP, POP-ON, PAINT-ON
- ② Appoint a place of screen display
- ③ Appoint screen display form  
COLOR, ITALICS, UNDERLINE, FLASH

CCD OSD signal is output from CPU to video/chroma circuit on R. G. B signal.

When under outputted the TV control OSD signal, CCD OSD signal is stopped.

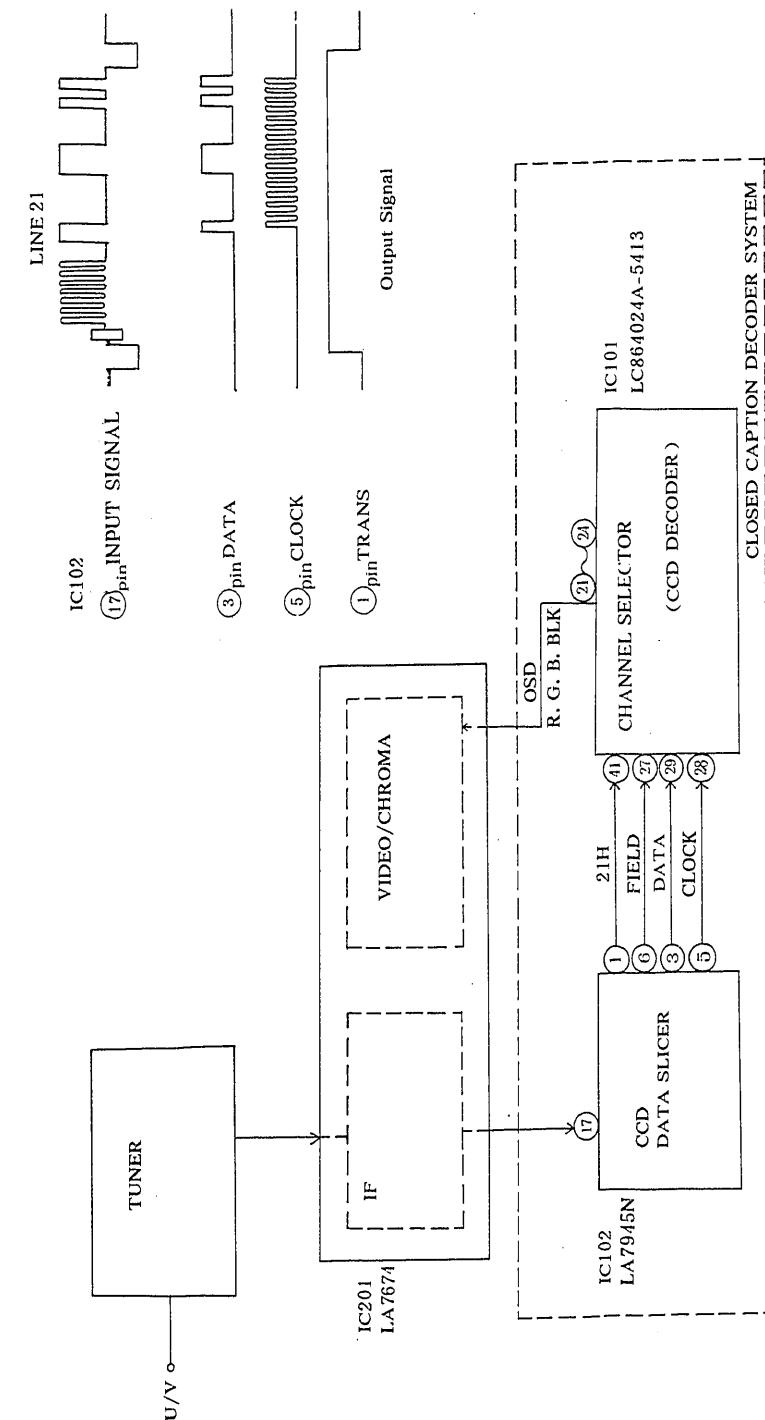


Fig.1 CLOSED CAPTION DECODER SYSTEM BLOCK DIAGRAM

This chassis uses IC LA7945N in which CCD data is taken from composite video signal.

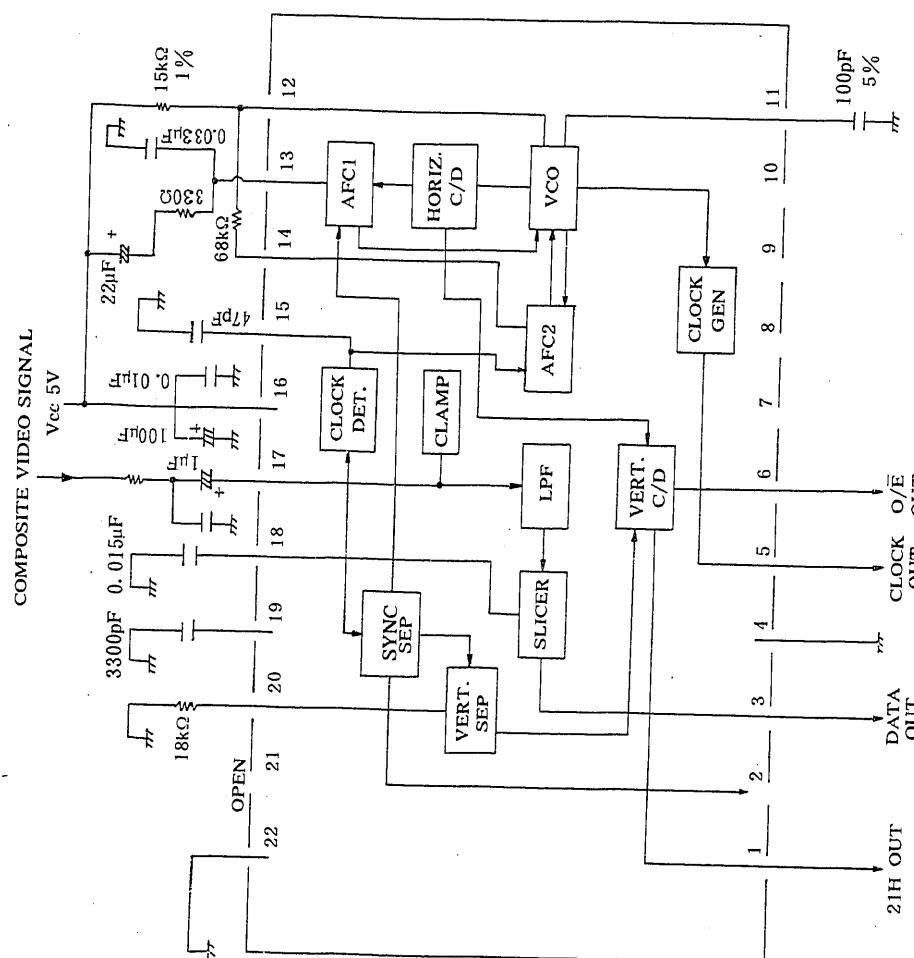
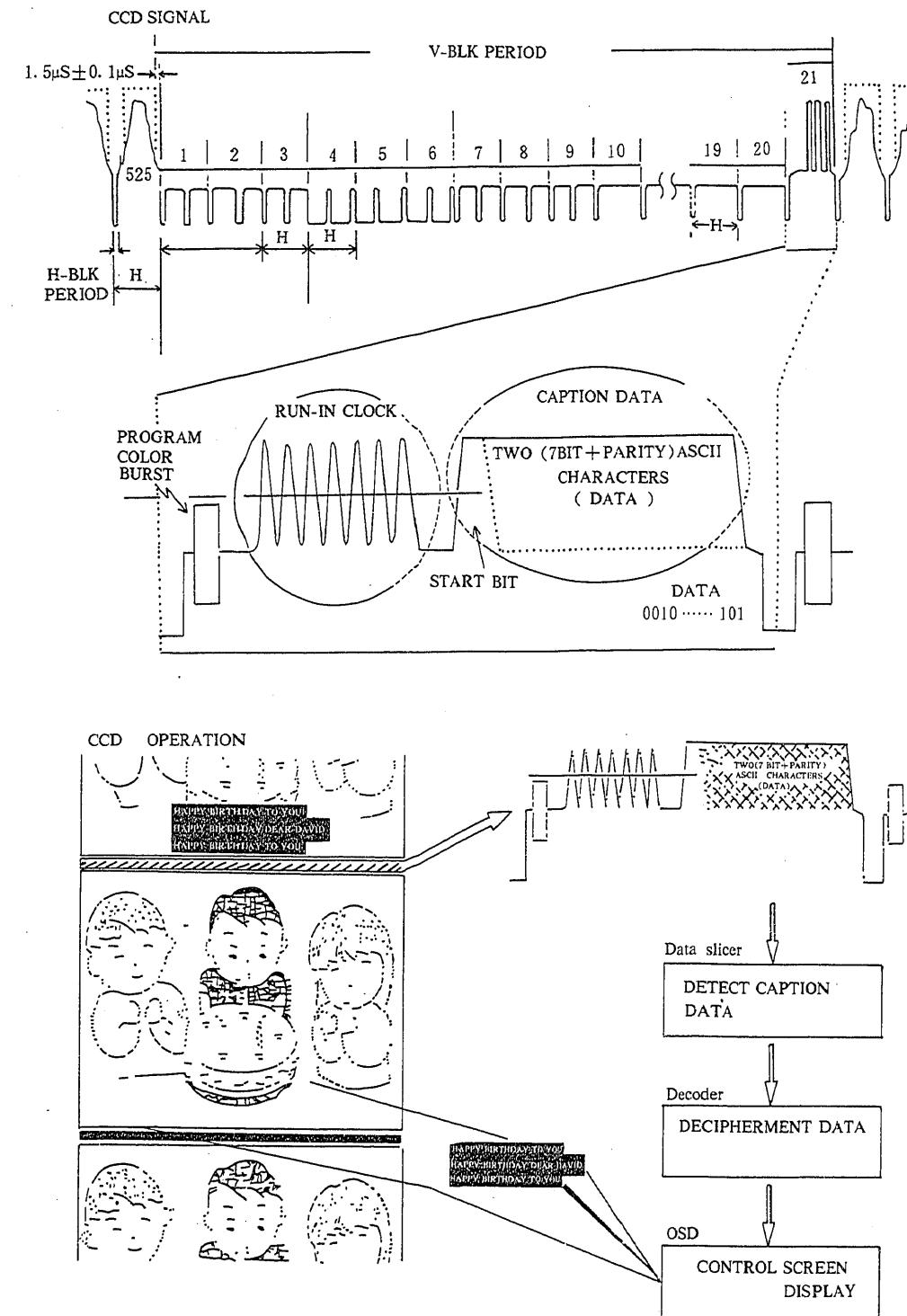
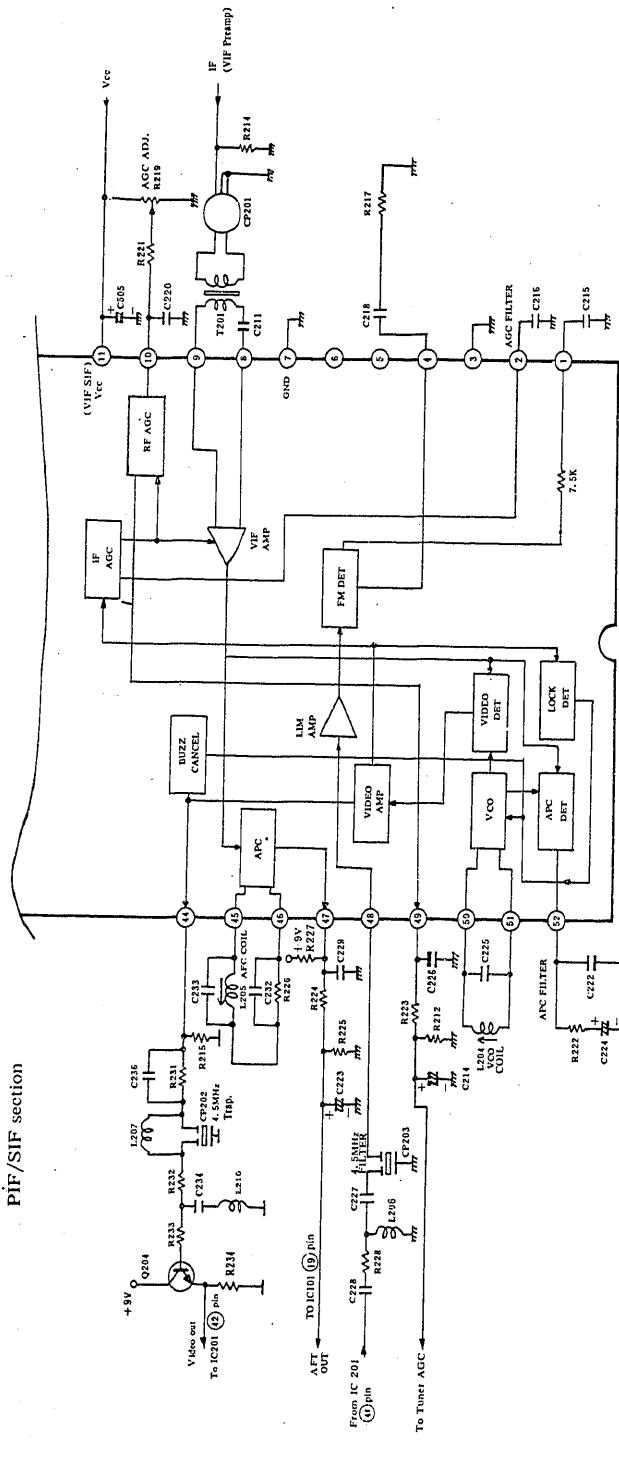


Fig2. CCD data slicer IC



**三、PIF/SIF AND VIDEO/CHROMA AND VERT/HORIZONTAL DRIVE**  
 This chassis uses IC LA7674 in which the PIF/SIF, VIDEO/CHROMA and VERTICAL/HORIZONTAL drive functions are integrated in a signal chip.  
 The composition of each block is shown below.

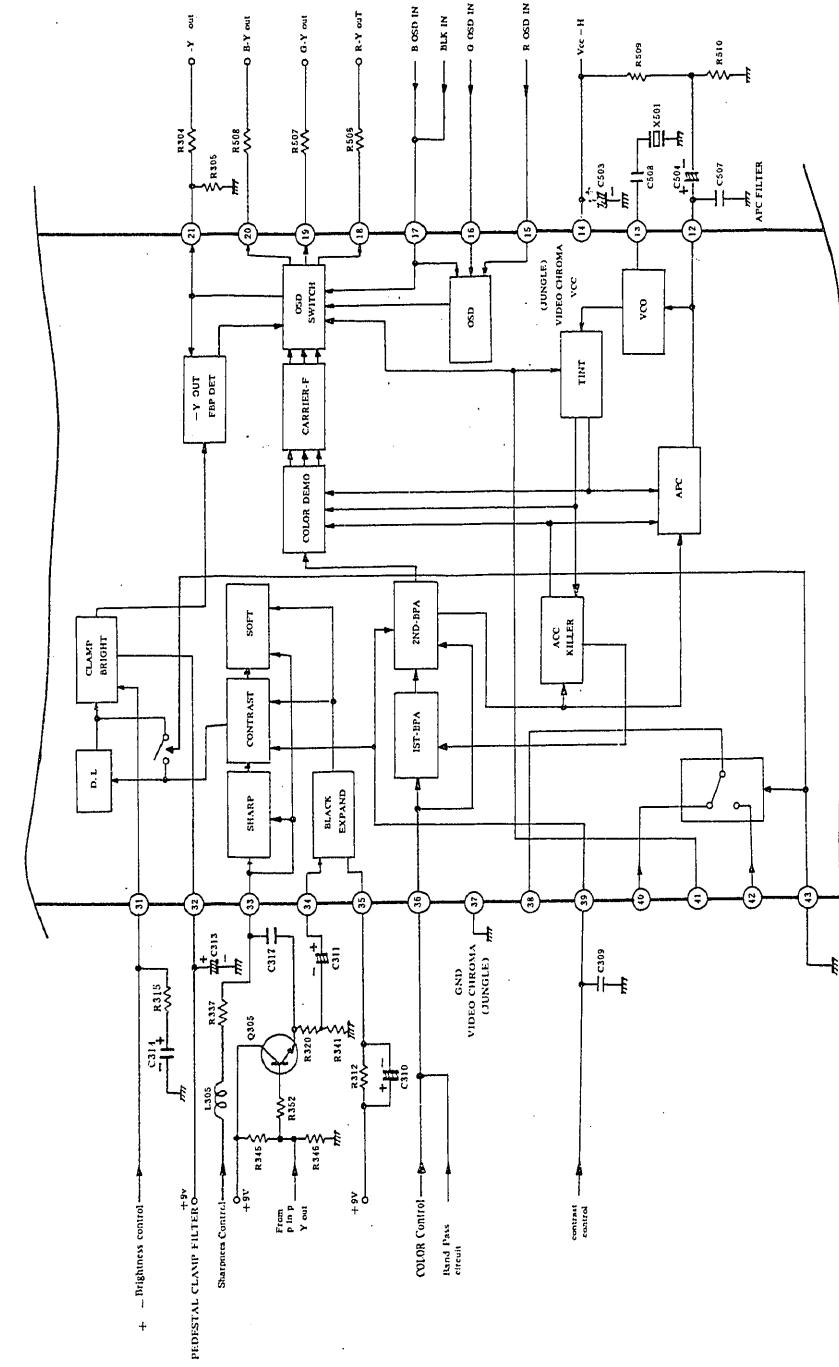
PIF/SIF section



- 12 -

Fig. PIF/SIF Section

Video/chroma section



- 13 -

Fig. Video/Chroma section

Vertical/horizontal drive section

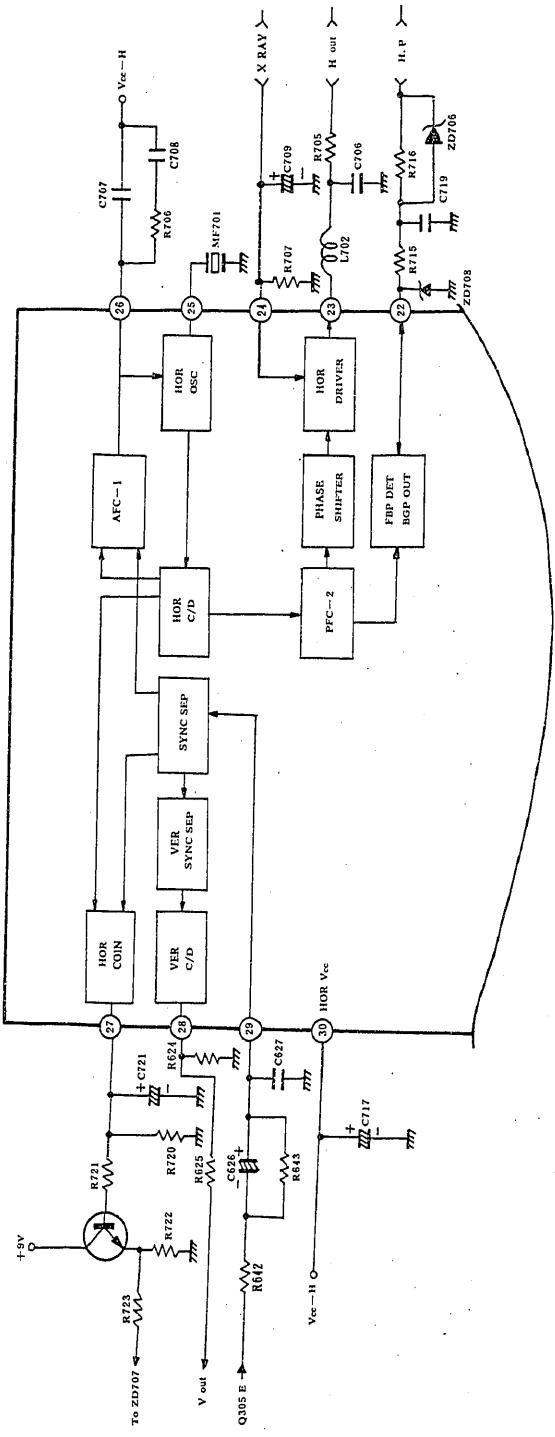
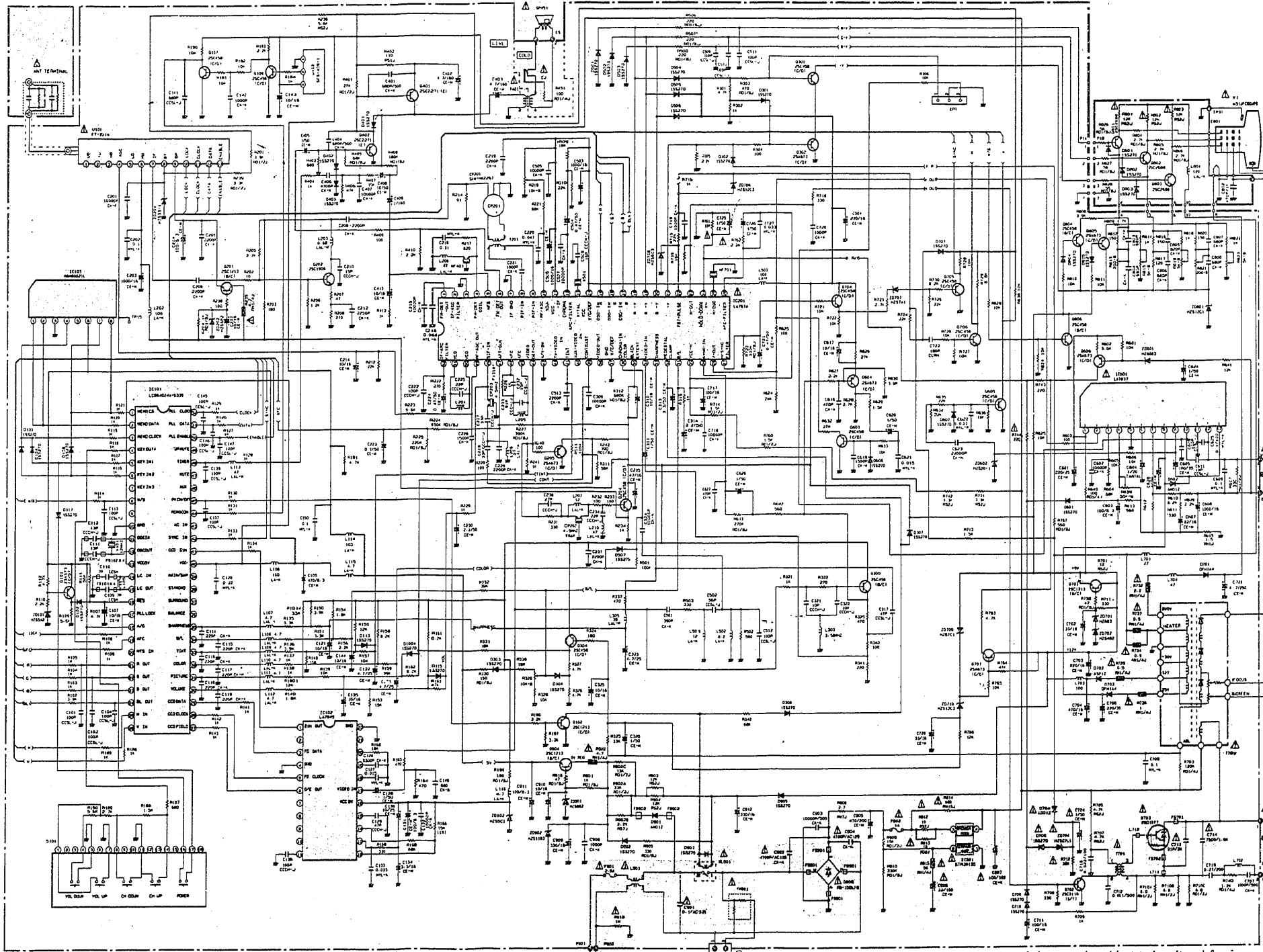


Fig. vertical/horizontal drive section

20MA1B  
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## BASIC CIRCUIT DIAGRAM

**PRODUCT SAFETY NOTE:** Components marked with a  $\Delta$  and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.



• Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.  
 • All DC voltage to be measured with a tester(100K $\Omega$ /V).

Voltage taken on a complex color bar signal including a standard color bar signal.

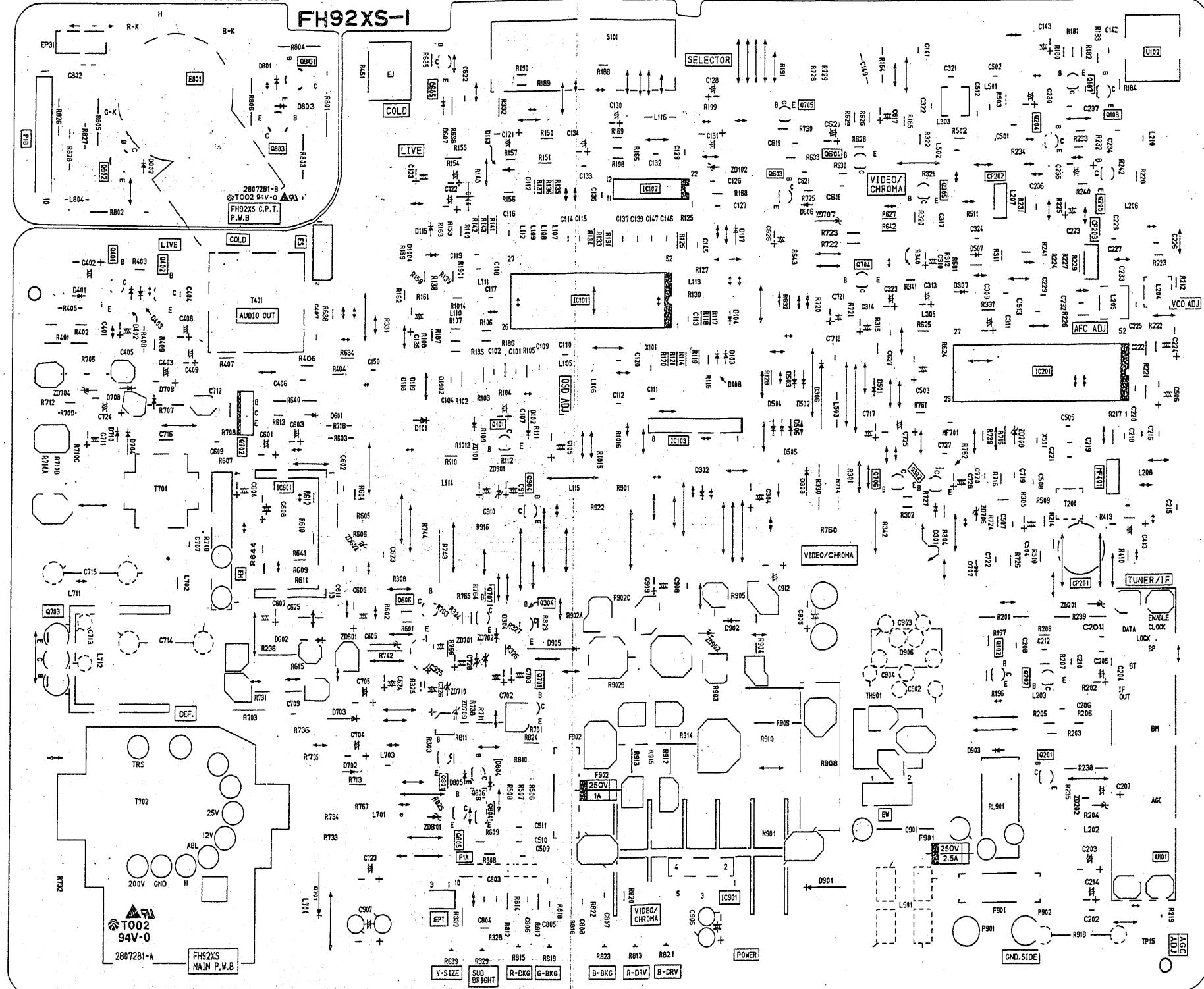
20MA1B

PRINTED WIRING BOARD

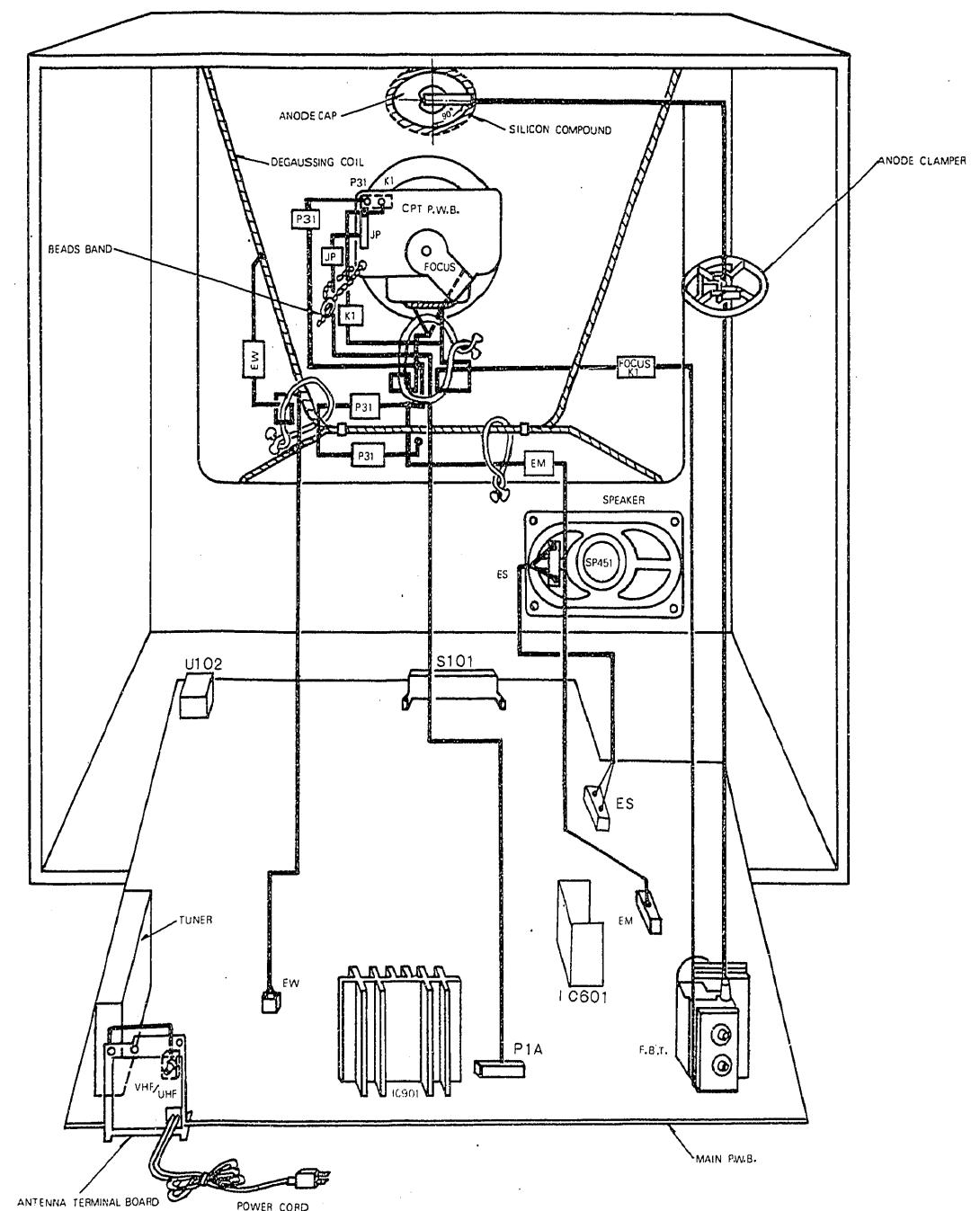
MAIN P. W. BOARD

CPT P. W. BOARD

FH92XS-



## WIRING DIAGRAM



## REPLACEMENT PARTS LIST

**PRODUCT SAFETY NOTE:** Components marked with a  $\Delta$  have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

**ABBREVIATIONS:** Capacitors.....CD:Ceramic disk,PF:Polyester film,EL:Electrolytic,PP:Polypropylene,  
PR:Paper,TA:Tantalum  
Resistors ..... CF:Carbon film,CC:Carbon composition,MF:Metal oxide film,  
VR:Variable resistor,WW:Wire wound ,FR:Fuse resistor

SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
CAPACITORS					
C101	0890074	CD 100PF + -5% 50V	C203	0800082	EL 1000 $\mu$ F 16V
C102	0890074	CD 100PF + -5% 50V	C204	0800047	EL 100 $\mu$ F 6.3V
C104	0890074	CD 100PF + -5% 50V	C205	0244105	CD 2200PF + -10% 50V
C105	0800072	EL 470 $\mu$ F 6.3V	C206	0244105	CD 2200PF + -10% 50V
C107	0800015	EL 1 $\mu$ F 16V	C207	0800015	EL 10 $\mu$ F 16V
C109	FH0248147	CD 7PF + -0.25PF 50V	C208	0244105	CD 2200PF + -10% 50V
C110	FH0248147	CD 7PF + -0.25PF 50V	C210	0890116	CD 15PF + -5% 50V
C111	0246443	CD 13PF + -5% 50V	C212	0244105	CD 2200PF + -10% 50V
C112	0246443	CD 13PF + -5% 50V	C214	0800015	EL 10 $\mu$ F 16V
C113	0890074	CD 100PF + -5% 50V	C215	0244141	CD 0.01 $\mu$ F + -10% 50V
C114	0890078	CD 220PF + -10% 50V	C216	0880055	PF 0.068 $\mu$ F + -10% 50V
C115	0890078	CD 220PF + -10% 50V	C218	0880044	PF 0.01 $\mu$ F + -10% 50V
C116	0890078	CD 220PF + -10% 50V	C219	0244105	CD 2200PF + -10% 50V
C117	0890078	CD 220PF + -10% 50V	C220	0880053	PF 0.047 $\mu$ F + -10% 50V
C118	0890078	CD 220PF + -10% 50V	C221	0890087	CD 1000PF + -10% 50V
C119	0890078	CD 220PF + -10% 50V	C222	0246464	CD 100PF + -5% 50V
C120	0880062	PF 0.22 $\mu$ F + -10% 50V	C223	0800101	EL 0.1 $\mu$ F 50V
C121	0800015	EL 10 $\mu$ F 16V	C224	0800001	EL 0.47 $\mu$ F 50V
C122	0800009	EL 4.7 $\mu$ F 25V	C225	0890118	CD 22PF + -5% 50V
C123	0800009	EL 4.7 $\mu$ F 25V	C226	0890089	CD 1500PF + -10% 50V
C126	0244107	CD 3300PF + -10% 50V	C227	0890121	CD 33PF + -5% 50V
C127	0880046	PF 0.015 $\mu$ F + -10% 50V	C228	0890121	CD 33PF + -5% 50V
C128	0800003	EL 1 $\mu$ F 50V	C229	0244105	CD 2200PF + -10% 50V
C129	0890123	CD 47PF + -5% 50V	C230	0800005	EL 2.2 $\mu$ F 50V
C130	0800009	EL 4.7 $\mu$ F 25V	C232	0890063	CD 15PF + -5% 50V
C131	0800047	EL 100 $\mu$ F 6.3V	C233	0246463	CD 91PF + -5% 50V
C132	0244171	CD 0.01 $\mu$ F + 80-20% 50V	C234	0890118	CD 22PF + -5% 50V
C133	0880051	PF 0.033 $\mu$ F + -10% 50V	C235	0800041	EL 47 $\mu$ F 16V
C135	0800015	EL 10 $\mu$ F 16V	C236	0890119	CD 27PF + -5% 50V
C136	0246464	CD 100PF + -5% 50V	C237	0244105	CD 2200PF + -10% 50V
C137	0890074	CD 100PF + -5% 50V	C304	0800058	EL 220 $\mu$ F 16V
C139	0890074	CD 100PF + -5% 50V	C309	0244171	CD 0.01 $\mu$ F + 80-20% 50V
C141	0248700	CD 680PF + -5% 50V	C310	0800015	EL 10 $\mu$ F 16V
C142	0890087	CD 1000PF + -10% 50V	C311	0800003	EL 1 $\mu$ F 50V
C143	0800015	EL 10 $\mu$ F 16V	C313	0800007	EL 3.3 $\mu$ F 50V
C144	0800015	EL 10 $\mu$ F 16V	C314	0800005	EL 2.2 $\mu$ F 50V
C145	0890074	CD 100PF + -5% 50V	C317	0890069	CD 47PF + -5% 50V
C146	0890074	CD 100PF + -5% 50V	C321	0890114	CD 10PF + -0.5PF 50V
C147	0890074	CD 100PF + -5% 50V	C322	0890114	CD 10PF + -0.5PF 50V
C149	0890085	CD 680PF + -10% 50V	C323	0800009	EL 4.7 $\mu$ F 25V
C150	0880057	PF 0.1 $\mu$ F + -10% 50V	C324	0244171	CD 0.01 $\mu$ F + 80-20% 50V
C201	0244171	CD 0.01 $\mu$ F + 80-20% 50V	C325	0800015	EL 10 $\mu$ F 16V
C202	0880057	PF 0.1 $\mu$ F + -10% 50V	C326	0800003	EL 1 $\mu$ F 50V
	C401	0243511	C401	0243511	CD 680PF + -10% 500V

**PRODUCT SAFETY NOTE:** Components marked with a  $\Delta$  have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
C402	0253455	EL 4.7 $\mu$ F 160V	C711	0800049	EL 100 $\mu$ F 16V
C403	0253455	EL 4.7 $\mu$ F 160V	C712	0244501	CD 1000PF + -10% 500V
C404	0243511	CD 680PF + -10% 500V	$\Delta$ C713	FH0245111	CD 91PF + -5% 2000V
C405	0800003	EL 1 $\mu$ F 50V	$\Delta$ C714	0299727	PP 7500PF + -5% 1600V
C406	0244109	CD 4700PF + -10% 50V	C715	0299931	PP 0.27 $\mu$ F + -10% 200V
C407	0244141	CD 0.01 $\mu$ F + -10% 50V	C716	0279851	PF 0.022 $\mu$ F + -10% 100V
C408	0800018	EL 10 $\mu$ F 50V	C717	0800049	EL 100 $\mu$ F 16V
C409	0253952	EL 1 $\mu$ F 160V	C718	0244171	CD 0.01 $\mu$ F + 80-20% 50V
C413	0800015	EL 10 $\mu$ F 16V	C719	0890087	CD 1000PF + -10% 50V
C501	0890082	CD 390PF + -10% 50V	C720	0890087	CD 1000PF + -10% 50V
C502	0890071	CD 56PF + -5% 50V	C721	0800001	EL 0.47 $\mu$ F 50V
C503	0800082	EL 1000 $\mu$ F 16V	C722	0248106	CD 180PF + -5% 50V
C504	0800001	EL 0.47 $\mu$ F 50V	C723	0259171	EL 4.7 $\mu$ F 250V
C505	0244171	CD 0.01 $\mu$ F + 80-20% 50V	$\Delta$ C724	0800003	EL 1 $\mu$ F 50V
C506	0800082	EL 1000 $\mu$ F 16V	$\Delta$ C725	0800003	EL 1 $\mu$ F 50V
C507	0244171	CD 0.01 $\mu$ F + 80-20% 50V	C726	0800005	EL 2.2 $\mu$ F 50V
C508	0246445	CD 16PF + -5% 50V	C727	0880051	PF 0.033 $\mu$ F + -10% 50V
C509	0880074	CD 100PF + -5% 50V	C728	0800032	EL 33 $\mu$ F 16V
C510	0890074	CD 100PF + -5% 50V	C802	0245605	CD 470PF + -10% 1000V
C511	0890074	CD 100PF + -5% 50V	C803	0890085	CD 680PF + -10% 50V
C512	0890074	CD 100PF + -5% 50V	C804	0890085	CD 680PF + -10% 50V
C513	0244105	CD 2200PF + -10% 50V	C805	0890086	CD 820PF + -10% 50V
C601	0800059	EL 220 $\mu$ F 25V	C806	0890085	CD 680PF + -10% 50V
C602	0244141	CD 0.01 $\mu$ F + -10% 50V	C807	0890085	CD 680PF + -10% 50V
C603	0800047	EL 100 $\mu$ F 6.3V	C808	0890085	CD 680PF + -10% 50V
C604	0292716	TA 1 $\mu$ F + -10% 20V	$\Delta$ C901	0279832	PP 0.1 $\mu$ F + -20% 125V
C605	0800052	EL 100 $\mu$ F 35V	$\Delta$ C902	0249495	CD 4700PF + 80-20% AC250V
C606	0890074	CD 100PF + -5% 50V	C903	0244571	CD 0.01 $\mu$ F + 100-0% 500V
C607	0800023	EL 22 $\mu$ F 16V	$\Delta$ C904	0249495	CD 4700PF + 80-20% AC250V
C608	0800082	EL 1000 $\mu$ F 16V	C905	0253891	EL 470 $\mu$ F 200V
C609	0880057	PF 0.1 $\mu$ F + -10% 50V	$\Delta$ C906	0253957	EL 22 $\mu$ F 160V
C611	0890061	CD 10PF + -0.5PF 50V	$\Delta$ C907	0253960	EL 100 $\mu$ F 160V
C616	0890083	CD 470PF + -10% 50V	C908	0890087	CD 1000PF + -10% 50V
C617	0800015	EL 10 $\mu$ F 16V	C909	0800066	EL 330 $\mu$ F 16V
C619	0890089	CD 1500PF + -10% 50V	C910	0800015	EL 10 $\mu$ F 16V
C620	0800003	EL 1 $\mu$ F 50V	C911	0800047	EL 100 $\mu$ F 6.3V
C621	0880046	PF 0.015 $\mu$ F + -10% 50V	C912	0800066	EL 330 $\mu$ F 16V
C622	0880051	PF 0.033 $\mu$ F + -10% 50V			
C623	0244173	CD 0.022 $\mu$ F + 80-20% 50V			
C624	0800015	EL 10 $\mu$ F 16V			
C625	0279859	PF 0.1 $\mu$ F + -10% 100V			
C626	0800003	EL 1 $\mu$ F 50V			
C627	0890083	CD 470PF + -10% 50V			
C628	0800003	EL 1 $\mu$ F 50V			
C702	0800032	EL 33 $\mu$ F 16V			
C703	0800058	EL 220 $\mu$ F 16V			
C704	0800074	EL 470 $\mu$ F 16V			
C705	0800061	EL 220 $\mu$ F 35V			
C707	024450				

**PRODUCT SAFETY NOTE:** Components marked with a  $\Delta$  have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
R108	0700041	CF 1K OHM $\pm-5\%$ 1/16W	R183	0700045	CF 2.2K OHM $\pm-5\%$ 1/16W
R109	0700051	CF 5.6K OHM $\pm-5\%$ 1/16W	R184	0700041	CF 1K OHM $\pm-5\%$ 1/16W
R110	0700045	CF 2.2K OHM $\pm-5\%$ 1/16W	R185	0700041	CF 1K OHM $\pm-5\%$ 1/16W
R111	0700084	CF 56K OHM $\pm-5\%$ 1/16W	R186	0700041	CF 1K OHM $\pm-5\%$ 1/16W
R112	0700049	CF 4.7K OHM $\pm-5\%$ 1/16W	R187	0700038	CF 680 OHM $\pm-5\%$ 1/16W
R114	0700041	CF 1K OHM $\pm-5\%$ 1/16W	R188	0700043	CF 1.5K OHM $\pm-5\%$ 1/16W
R116	0700041	CF 1K OHM $\pm-5\%$ 1/16W	R189	0700046	CF 2.7K OHM $\pm-5\%$ 1/16W
R117	0700041	CF 1K OHM $\pm-5\%$ 1/16W	R190	0700051	CF 5.6K OHM $\pm-5\%$ 1/16W
R118	0700041	CF 1K OHM $\pm-5\%$ 1/16W	R1901	0700055	CF 12K OHM $\pm-5\%$ 1/16W
R119	0700041	CF 1K OHM $\pm-5\%$ 1/16W	R191	0700049	CF 4.7K OHM $\pm-5\%$ 1/16W
R120	0700041	CF 1K OHM $\pm-5\%$ 1/16W	R196	0700045	CF 2.2K OHM $\pm-5\%$ 1/16W
R121	0700041	CF 1K OHM $\pm-5\%$ 1/16W	R197	0700047	CF 3.3K OHM $\pm-5\%$ 1/16W
R125	0700041	CF 1K OHM $\pm-5\%$ 1/16W	R198	0700065	CF 68K OHM $\pm-5\%$ 1/16W
R126	0700041	CF 1K OHM $\pm-5\%$ 1/16W	R199	0100047	CF 180 OHM $\pm-5\%$ 1/8W
R127	0700041	CF 1K OHM $\pm-5\%$ 1/16W	R201	0113764	CF 3.9K OHM $\pm-5\%$ 1/2W
R128	0700041	CF 1K OHM $\pm-5\%$ 1/16W	R202	0700014	CF 10 OHM $\pm-5\%$ 1/16W
R130	0700041	CF 1K OHM $\pm-5\%$ 1/16W	R203	0700031	CF 180 OHM $\pm-5\%$ 1/16W
R131	0700041	CF 1K OHM $\pm-5\%$ 1/16W	R204	0100065	CF 1.0K OHM $\pm-5\%$ 1/8W
R133	0700041	CF 1K OHM $\pm-5\%$ 1/16W	R205	0700046	CF 2.7K OHM $\pm-5\%$ 1/16W
R134	0700041	CF 1K OHM $\pm-5\%$ 1/16W	R206	0700042	CF 1.2K OHM $\pm-5\%$ 1/16W
R135	0700047	CF 3.3K OHM $\pm-5\%$ 1/16W	R207	0700023	CF 47K OHM $\pm-5\%$ 1/16W
R136	0700048	CF 3.9K OHM $\pm-5\%$ 1/16W	R208	0700033	CF 270 OHM $\pm-5\%$ 1/16W
R137	0700041	CF 1K OHM $\pm-5\%$ 1/16W	R212	0700058	CF 22K OHM $\pm-5\%$ 1/16W
R138	0700041	CF 1K OHM $\pm-5\%$ 1/16W	R214	0187040	CF 91 OHM $\pm-5\%$ 1/16W
R139	0700054	CF 10K OHM $\pm-5\%$ 1/16W	R217	0700039	CF 820 OHM $\pm-5\%$ 1/16W
R140	0700044	CF 1.8K OHM $\pm-5\%$ 1/16W	R219	0150114	VR 10K OHM-B RS-6
R141	0700041	CF 1K OHM $\pm-5\%$ 1/16W	R221	0700065	CF 68K OHM $\pm-5\%$ 1/16W
R142	0700041	CF 1K OHM $\pm-5\%$ 1/16W	R222	0700033	CF 270 OHM $\pm-5\%$ 1/16W
R143	0700041	CF 1K OHM $\pm-5\%$ 1/16W	R223	0700051	CF 5.6K OHM $\pm-5\%$ 1/16W
R148	0700056	CF 15K OHM $\pm-5\%$ 1/16W	R224	0100117	CF 150K OHM $\pm-5\%$ 1/8W
R150	0700048	CF 3.9K OHM $\pm-5\%$ 1/16W	R225	0100121	CF 220K OHM $\pm-5\%$ 1/8W
R151	0700047	CF 3.3K OHM $\pm-5\%$ 1/16W	R226	0700041	CF 1K OHM $\pm-5\%$ 1/16W
R153	0700056	CF 15K OHM $\pm-5\%$ 1/16W	R227	0100127	CF 390K OHM $\pm-5\%$ 1/8W
R154	0700044	CF 1.8K OHM $\pm-5\%$ 1/16W	R228	0700027	CF 100 OHM $\pm-5\%$ 1/16W
R155	0700055	CF 12K OHM $\pm-5\%$ 1/16W	R229	0700041	CF 1K OHM $\pm-5\%$ 1/16W
R156	0700045	CF 2.2K OHM $\pm-5\%$ 1/16W	R231	0700034	CF 330 OHM $\pm-5\%$ 1/16W
R157	0700054	CF 10K OHM $\pm-5\%$ 1/16W	R232	0700027	CF 100 OHM $\pm-5\%$ 1/16W
R158	0700053	CF 8.2K OHM $\pm-5\%$ 1/16W	R233	0700027	CF 100 OHM $\pm-5\%$ 1/16W
R159	0700062	CF 39K OHM $\pm-5\%$ 1/16W	R234	0700041	CF 1K OHM $\pm-5\%$ 1/16W
R161	0700053	CF 8.2K OHM $\pm-5\%$ 1/16W	$\Delta$ R235	0119687	FR 4.7 OHM $\pm-5\%$ 1/4W
R162	0700053	CF 8.2K OHM $\pm-5\%$ 1/16W	R236	0110263	MF 5.6K OHM $\pm-5\%$ 2W
R163	0700063	CF 47K OHM $\pm-5\%$ 1/16W	R238	0700027	CF 100 OHM $\pm-5\%$ 1/16W
R164	0700036	CF 470 OHM $\pm-5\%$ 1/16W	R239	0113762	CF 3.3K OHM $\pm-5\%$ 1/2W
R165	0700036	CF 470 OHM $\pm-5\%$ 1/16W	R240	0700027	CF 100 OHM $\pm-5\%$ 1/16W
R166	0174595	MF 15K OHM $\pm-5\%$ 1/16W	R241	0700041	CF 1K OHM $\pm-5\%$ 1/16W
R168	0700057	CF 18K OHM $\pm-5\%$ 1/16W	R242	0100055	CF 390 OHM $\pm-5\%$ 1/8W
R169	0700034	CF 330 OHM $\pm-5\%$ 1/16W	R301	0700049	CF 4.7K OHM $\pm-5\%$ 1/16W
R180	0700054	CF 10K OHM $\pm-5\%$ 1/16W	R302	0700041	CF 1K OHM $\pm-5\%$ 1/16W
R181	0700054	CF 10K OHM $\pm-5\%$ 1/16W	R303	0100057	CF 470 OHM $\pm-5\%$ 1/8W
R182	0700054	CF 10K OHM $\pm-5\%$ 1/16W	R304	0700027	CF 100 OHM $\pm-5\%$ 1/16W

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SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
R305	0700045	CF 2.2K OHM $\pm-5\%$ 1/16W	R609	0700045	CF 2.2K OHM $\pm-5\%$ 1/16W
R308	0700054	CF 10K OHM $\pm-5\%$ 1/16W	R610	0700053	CF 8.2K OHM $\pm-5\%$ 1/16W
R311	0700064	CF 56K OHM $\pm-5\%$ 1/16W	R611	0700034	CF 330 OHM $\pm-5\%$ 1/16W
R312	0100133	CF 680K OHM $\pm-5\%$ 1/8W	R612	0700049	CF 4.7K OHM $\pm-5\%$ 1/16W
R315	0700041	CF 1K OHM $\pm-5\%$ 1/16W	R613	0700037	CF 560 OHM $\pm-5\%$ 1W
R320	0700036	CF 470 OHM $\pm-5\%$ 1/16W	R615	0119733	MF 1.5 OHM $\pm-5\%$ 1W
R321	0700041	CF 1K OHM $\pm-5\%$ 1/16W	R624	0187098	CF 24K OHM $\pm-5\%$ 1/16W
R322	0700033	CF 270 OHM $\pm-5\%$ 1/16W	R625	0700027	CF 100 OHM $\pm-5\%$ 1/16W
R324	0700031	CF 180 OHM $\pm-5\%$ 1/16W	R626	0700059	CF 27K OHM $\pm-5\%$ 1/16W
R325	0700061	CF 33K OHM $\pm-5\%$ 1/16W	R627	0700045	CF 2.2K OHM $\pm-5\%$ 1/16W
R326	0700049	CF 4.7K OHM $\pm-5\%$ 1/16W	R628	0700046	CF 2.7K OHM $\pm-5\%$ 1/16W
R327	0700049	CF 4.7K OHM $\pm-5\%$ 1/16W	R629	0700043	CF 1.5K OHM $\pm-5\%$ 1/16W
R328	0700054	CF 10K OHM $\pm-5\%$ 1/16W	R630	0700048	CF 3.9K OHM $\pm-5\%$ 1/16W
R329	0150114	VR 10K OHM-B RS-6	R632	0700059	CF 27K OHM $\pm-5\%$ 1/16W
R330	0100045	CF 150 OHM $\pm-5\%$ 1/8W	R633	0700054	CF 10K OHM $\pm-5\%$ 1/16W
R331	0700057	CF 18K OHM $\pm-5\%$ 1/16W	R634	0700058	CF 22K OHM $\pm-5\%$ 1/16W
R332	0700062	CF 38K OHM $\pm-5\%$ 1/16W	R635	0700058	CF 22K OHM $\pm-5\%$ 1/16W
R337	0700036	CF 470 OHM $\pm-5\%$ 1/16W	R636	0700054	CF 10K OHM $\pm-5\%$ 1/16W
R339	0700057	CF 18K OHM $\pm-5\%$ 1/16W	R638	0700054	CF 10K OHM $\pm-5\%$ 1/16W
R340	0700027	CF 100 OHM $\pm-5\%$ 1/16W	R639	0150116	VR 50K OHM-B RS-6
R341	0700032	CF 220 OHM $\pm-5\%$ 1/16W	R640	0114131	CF 100 OHM $\pm-5\%$ 1/4W
R342	0700065	CF 68K OHM $\pm-5\%$ 1/16W	R641	0700055	CF 12K OHM $\pm-5\%$ 1/16W
R401	0113785	CF 27K OHM $\pm-5\%$ 1/2W	R642	0700037	CF 560 OHM $\pm-5\%$ 1/16W
R402	0110122	MF 110 OHM $\pm-5\%$ 1W	R643	0100123	CF 270K OHM $\pm-5\%$ 1/8W
R403	0700038	CF 680 OHM $\pm-5\%$ 1/16W	R644	0100071	CF 1.8K OHM $\pm-5\%$ 1/8W
R404	0700041	CF 1K OHM $\pm-5\%$ 1/16W	R701	FH0110199	MF 12 OHM $\pm-5\%$ 2W
R405	0100109	CF 68K OHM $\pm-5\%$ 1/8W	R703	0114283	CF 120K OHM $\pm-5\%$ 1/4W
R406	0700063	CF 47K OHM $\pm-5\%$ 1/16W	R705	0110261	MF 4.7K OHM $\pm-5\%$ 2W
R407	0700056	CF 15K OHM $\pm-5\%$ 1/16W	R707	0110261	MF 4.7K OHM $\pm-5\%$ 2W
R408	0100119	CF 180K OHM $\pm-5\%$ 1/8W	R708	0700034	CF 330 OHM $\pm-5\%$ 1/16W
R409	0700027	CF 10			

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SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
R729	0700052	CF 6.8K OHM $\pm 5\%$ 1/16W	R901	0100065	CF 1.0K OHM $\pm 5\%$ 1/8W
R730	0700053	CF 8.2K OHM $\pm 5\%$ 1/16W	R902A	0113787	CF 33K OHM $\pm 5\%$ 1/2W
R731	0110257	MF 3.2K OHM $\pm 5\%$ 2W	R902B	FH0145049	WW 2.2K OHM $\pm 5\%$ 7W
$\Delta$ R732	0119505	FR 2.2 OHM $\pm 5\%$ 1/4W	R902C	0113787	CF 33K OHM $\pm 5\%$ 1/2W
$\Delta$ R733	0119838	FR 0.5 OHM $\pm 5\%$ 1/4W	R903	0110271	MF 12K OHM $\pm 5\%$ 2W
$\Delta$ R734	0119838	FR 0.5 OHM $\pm 5\%$ 1/4W	R904	0110271	MF 12K OHM $\pm 5\%$ 2W
$\Delta$ R735	0119838	FR 0.5 OHM $\pm 5\%$ 1/4W	R905	0100053	CF 330 OHM $\pm 5\%$ 1/8W
$\Delta$ R736	0119512	FR 1 OHM $\pm 5\%$ 1/4W	R908	0141133	WW 2.7 OHM $\pm 10\%$ 7W
R738	0100033	CF 47 OHM $\pm 5\%$ 1/8W	R909	0113778	CF 15K OHM $\pm 5\%$ 1/2W
R739	0187094	CF 16K OHM $\pm 5\%$ 1/16W	R910	0100125	CF 330K OHM $\pm 5\%$ 1/8W
R740	0114163	CF 1.2K OHM $\pm 5\%$ 1/4W	$\Delta$ R912	0110197	MF 10 OHM $\pm 5\%$ 2W
R742	0110257	MF 3.3K OHM $\pm 5\%$ 2W	$\Delta$ R913	0110197	MF 10 OHM $\pm 5\%$ 2W
R743	0700032	CF 220 OHM $\pm 5\%$ 1/16W	$\Delta$ R914	0141159	WW 180 OHM $\pm 5\%$ 15W
$\Delta$ R744	0700032	CF 220 OHM $\pm 5\%$ 1/16W	$\Delta$ R915	0119508	FR 56 OHM $\pm 5\%$ 1/4W
R760	0113754	CF 1.5K OHM $\pm 5\%$ 1/2W	R916	0100033	CF 47 OHM $\pm 5\%$ 1/8W
$\Delta$ R761	0700054	CF 10K OHM $\pm 5\%$ 1/16W	$\Delta$ R918	0139015	H.V. RESISTOR 1MOHM 1/2W
R762	0700045	CF 2.2K OHM $\pm 5\%$ 1/16W	$\Delta$ R922	0119687	FR 4.7 OHM $\pm 5\%$ 1/4W
R763	0700049	CF 4.7K OHM $\pm 5\%$ 1/16W			
R764	0700063	CF 47K OHM $\pm 5\%$ 1/16W			
R765	0700054	CF 10K OHM $\pm 5\%$ 1/16W			
R766	0700055	CF 12K OHM $\pm 5\%$ 1/16W			
R767	0100059	CF 560 OHM $\pm 5\%$ 1/8W			
$\Delta$ R801	0110271	MF 12K OHM $\pm 5\%$ 2W			
$\Delta$ R802	0110271	MF 12K OHM $\pm 5\%$ 2W			
$\Delta$ R803	0110271	MF 12K OHM $\pm 5\%$ 2W			
$\Delta$ R804	0100075	CF 2.7K OHM $\pm 5\%$ 1/8W			
R805	0100075	CF 2.7K OHM $\pm 5\%$ 1/8W			
R806	0100075	CF 2.7K OHM $\pm 5\%$ 1/8W	$\Delta$ IC201	2004133	IC LA7674
R808	0700048	CF 3.9K OHM $\pm 5\%$ 1/16W	$\Delta$ IC601	2006581	IC LA7837
R809	0700049	CF 4.7K OHM $\pm 5\%$ 1/16W	$\Delta$ IC901	2912175	IC STR30135
R810	0700054	CF 10K OHM $\pm 5\%$ 1/16W			
R811	0700054	CF 10K OHM $\pm 5\%$ 1/16W			
R812	0700029	CF 150 OHM $\pm 5\%$ 1/16W			
R813	0150109	VR 200 OHM-B RS-6			
R814	0700041	CF 1K OHM $\pm 5\%$ 1/16W			
R815	0150113	VR 5K OHM-B RS-6			
R816	0700029	CF 150 OHM $\pm 5\%$ 1/16W			
R817	0700028	CF 120 OHM $\pm 5\%$ 1/16W			
R818	0700041	CF 1K OHM $\pm 5\%$ 1/16W			
R819	0150113	VR 5K OHM-B RS-6			
R820	0700029	CF 150 OHM $\pm 5\%$ 1/16W			
R821	0150109	VR 200 OHM-B RS-6			
R822	0700041	CF 1K OHM $\pm 5\%$ 1/16W			
R823	0150113	VR 5K OHM-B RS-6			
R824	0700054	CF 10K OHM $\pm 5\%$ 1/16W			
R825	0700054	CF 10K OHM $\pm 5\%$ 1/16W			
R826	0100035	CF 56 OHM $\pm 5\%$ 1/8W			
R827	0100035	CF 56 OHM $\pm 5\%$ 1/8W			
R828	0100035	CF 56 OHM $\pm 5\%$ 1/8W			
R829	0700054	CF 10K OHM $\pm 5\%$ 1/16W			
			Q101	2320637	TR 2SA673 C/D
			Q102	2320647	TR 2SC1213 C/D
			Q107	2320596	TR 2SC458 C/D
			Q108	2320596	TR 2SC458 C/D
			Q201	2320648	TR 2SC1213 B/C
			Q202	2320144	TR 2SC1906
			Q204	2320596	TR 2SC458 C/D
			Q205	2320837	TR 2SA673 C/D
			Q301	2320596	TR 2SC458 C/D
			Q302	2320637	TR 2SA673 C/D
			Q304	2320596	TR 2SC458 C/D
			Q305	2320591	TR 2SC458 B/C
			Q401	2321993	TR 2SC2271 E
			Q402	2321993	TR 2SC2271 E
			Q603	2320596	TR 2SC458 C/D

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SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
Q604	2320637	TR 2SA673 C/D	D607	2338321	DI ISS270 TA
Q605	2320596	TR 2SC458 C/D	D701	2338162	DI DFM 1A4
Q606	2320637	TR 2SA673 C/D	D702	2339481	DI AS01Z
Q701	2320646	TR 2SC1213 B/C	D703	2338162	DI DFM 1A4
Q702	2326216	TR 2SC3116 S/T	$\Delta$ D704	2339481	DI AS01Z
$\Delta$ Q703	2327502	TR 2SD1877	D707	2338321	DI ISS270 TA
Q704	2320596	TR 2SC458 C/D	$\Delta$ D708	2338321	DI ISS270 TA
Q705	2320596	TR 2SC458 C/D	D709	2338321	DI ISS270 TA
Q706	2320596	TR 2SC458 C/D	D710	2338321	DI ISS270 TA
Q707	2320637	TR 2SA673 C/D	D801	2338321	DI ISS270 TA
Q801	2322562	TR 2SC2688K/L	D802	2338321	DI ISS270 TA
Q802	2322562	TR 2SC2688K/L	D803	2338321	DI ISS270 TA
Q803	2322562	TR 2SC2688K/L	D804	2338321	DI ISS270 TA
Q804	2320591	TR 2SC458 B/C	D805	2338321	DI ISS270 TA
Q805	2320637	TR 2SA673 C/D	D901	2339491	DI AM01Z
Q806	2320591	TR 2SC458 B/C	D902	2338321	DI ISS270 TA
Q904	2320646	TR 2SC1213 B/C	D903	2338321	DI ISS270 TA
			D905	2338321	DI ISS270 TA
			$\Delta$ D906	2332794	DI RB-156 LFB
			ZD101	2339832	ZD HZS5A2
			ZD102	2339839	ZD HZS5C3
			ZD201	2339971	ZD HZS33-1
			ZD202	2339845	ZD HZS6B2
			ZD601	2339846	ZD HZS6B3
			ZD602	2339921	ZD HZS20-1
			ZD701	2339846	ZD HZS6B3
			ZD702	2339825	ZD HZS4B2
			$\Delta$ ZD704	2339221	ZD HZS27-1L
			ZD706	2339889	ZD HZS12C3
			ZD707	2339851	ZD HZS7A1
			ZD708	2339849	ZD HZS8C3
			ZD709	2339857	ZD HZS7C1
			ZD710	2339889	ZD HZS12C3
			ZD801	2339887	ZD HZS12C1
			ZD901	2339845	ZD HZS6B2
			ZD902	2339876	ZD HZS11B3
					THERMISTORS
			$\Delta$ TH901	2340511	PTC THERMISTOR

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SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
<b>COILS</b>					
<b>COMPOUND COMPONENTS</b>					
L105	2164362	COIL 22 $\mu$ H	CP201	2300477	SAW HW2267
L106	2122253	LA AXIAL COIL 100 $\mu$ H	CP202	2143492	CERAMIC TRAP 4.5MHz
L107	2122938	LAL AXIAL COIL 4.7 $\mu$ H	CP203	2143691	CERAMIC FILTER 4.5MHz
L108	2122938	LAL AXIAL COIL 4.7 $\mu$ H	MF401	FH2167231	CERAMIC DISCRIMINATOR CDA4.5ME27
L109	2122938	LAL AXIAL COIL 4.7 $\mu$ H	MF701	2167241	CERAMIC OSC CSB503 F15
L110	2122938	LAL AXIAL COIL 4.7 $\mu$ H			
L111	2122938	LAL AXIAL COIL 4.7 $\mu$ H			
L112	2122938	LAL AXIAL COIL 4.7 $\mu$ H			
L113	2122938	LAL AXIAL COIL 4.7 $\mu$ H			
L114	2122253	LA AXIAL COIL 100 $\mu$ H			
L115	2122235	LA AXIAL COIL 4.7 $\mu$ H			
L116	2122235	LA AXIAL COIL 4.7 $\mu$ H	$\Delta$ F901	FH2722212	FUSE 250V 2.5A
L202	2122253	LA AXIAL COIL 100 $\mu$ H	$\Delta$ F902	FH2722211	FUSE 250V 1A
L203	2122927	LAL AXIAL COIL 0.68 $\mu$ H			
L204	2145971	COIL			
L205	2142445	IF TRS (FOR CARRIER FILTER)			
L206	2122948	LAL AXIAL COIL 27 $\mu$ H			
L207	2122944	LAL AXIAL COIL 12 $\mu$ H			
L208	2122947	LAL AXIAL COIL 22 $\mu$ H			
L210	2122952	LAL AXIAL COIL 47 $\mu$ H			
L303	2166121	COLOUR COIL	$\Delta$ # 100B	FH2891061	MAIN PWB ASSY
L305	2122951	LAL AXIAL COIL 39 $\mu$ H		FH2984313	SHIELD ANTENNA BOX SB-1b-2
L501	2122241	LA AXIAL COIL 12 $\mu$ H		FH3487482	HITACHI BADGE
L502	2122238	LA AXIAL COIL 8.2 $\mu$ H	# 100A	FH3703396	1394W ANT. TERMINAL BOARD
L503	2122253	LA AXIAL COIL 100 $\mu$ H	# 110	3727972	POWER CORD HANGER
L701	2122095	COIL 27 $\mu$ H		3785043	PUSH SWITCH
L702	FH2274811	H. L. COIL	# 313	4518572	ST6 * 25 SCREW(PAN WASHER)
L703	2120482	FILTER COIL FL-7H 100 $\mu$ H		FH6010321	FRAME ASSY
L704	2122248	LA AXIAL COIL 47 $\mu$ H		FH6030191	BACK COVER ASSY
L711	2122652	BEADS 1.0 $\mu$ H		FH6091111	PHOTO FILTER BOARD
L712	2122652	BEADS 1.0 $\mu$ H		FH6061042	CONTROLS BOX DOOR
L804	2122957	LAL AXIAL COIL 120 $\mu$ H		FH7990114	20MA1B-511 CARTON
$\Delta$ L901	2122712	LINE FILTER COIL		FH7981021	UPPER CUSHION
$\Delta$ L951	2228061	DEGAUSSING COIL		FH7984021	BOTTOM CUSHION
<b>TRANSFORMERS</b>					
T201	2145961	COIL	E6003	2788084	TAPPING SCREW 4 * 8
$\Delta$ T401	2250432	SOUND OUTPUT TRANSFORMER	E6004	2773672	TAPPING SCREW 3 * 16
$\Delta$ T701	2260021	TRANS HORIZONTAL DRIVE	E702D	FH8781446	CPT GROUND WIRE
$\Delta$ T702	FH2435068	FLYBACK TRANS. C87LM	E801	2953344	C-F MAGNET
			E900	3739671	CPT SOCKET
			$\Delta$ E901	FH2972391	BS CORD HOLDER
			EJ	2672032	AC CORD
			EM	2665272	EARPHONE JACK
			EP31	2661751	4P PLUG WITH BASE
			EPT	FH2959052	2P CONNECTOR
					3P MINI PLUG

**PRODUCT SAFETY NOTE:** Components marked with a  $\Delta$  have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	DESCRIPTION	SYMBOL NO.	PART NO.	DESCRIPTION
ES	2661751	2P CONNECTOR			
EW	2661751	2P CONNECTOR			
FB101	2771892	FERRITE BEADS CORE			
FB102	2771892	FERRITE BEADS CORE			
FB701	2771892	FERRITE BEADS CORE			
FB702	2771892	FERRITE BEADS CORE			
FB901	2771892	FERRITE BEADS CORE			
FB902	2771892	FERRITE BEADS CORE			
J451	FH2663143	2J CONNECTOR WITH WIRE			
N1G01	3731081	PURSE LOCK ø10			
N1002	3737101	PURSE LOCK ø15			
N1003	2781282	BEAD RAND(BLACK)			
N1004	2788841	ANODE CLAMPER			
N1005	FH8781642	TAPPING SCREW 4 * 12			
N6004	FH0649009	GND SPRING HOOK			
N6005	3763752	SK BINDER			
N6006	3763751	SK BINDER			
N601A	4520883	M3 * 12 SCREW(PAN WASHER)			
N601B	FH6431002	NUT M3			
N702A	4520883	M3 * 12 SCREW(PAN WASHER)			
N702B	FH6431002	NUT M3			
N901A	4520883	M3 * 12 SCREW(PAN WASHER)			
N901B	FH6431002	NUT M3			
P1A	FH2990532	10P CONNECTOR WITH 9 WIRE			
$\Delta$ R901	2640571	POWER RELAY (S)			
S101	FH2634291	KEY SW UNIT			
$\Delta$ SP451	FH5752015	SPEAKER 90 * 60			
TH801	2340511	THERMISTOR			
$\Delta$ U101	2428541	TUNER ET-351A			
U102	2381126	R/C RECEIVING ASSY			
$\Delta$ V1	FH2470511	CPT A51JFC80X(Y)			
X101	FH2168931	CRYSTAL 12MHz			
X501	2790444	CRYSTAL 3.58MHz			
* $\Delta$ V1	FH5710351	CPT,DY A51JFC82X26(C)			
* C715	0299932	PP 0.33 $\mu$ F + -10% 200V			

Note: \* Components used in CRT from Shenzhen-SEG.

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# HITACHI

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