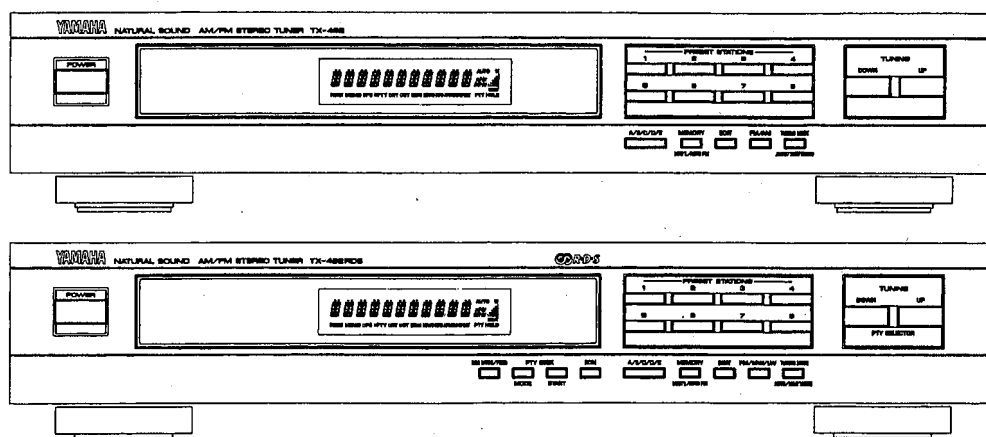


AM/FM STEREO TUNER

TX-492/RDS

SERVICE MANUAL

FRONT PANELS



IMPORTANT NOTICE

This manual has been provided for the use of authorized YAMAHA Retailers and their service personnel.

It has been assumed that basic service procedures inherent to the industry, and more specifically YAMAHA Products, are already known and understood by the users, and have therefore not been restated.

WARNING: Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components, and failure of the product to perform as specified. For these reasons, we advise all YAMAHA product owners that any service required should be performed by an authorized YAMAHA Retailer or the appointed service representative.

IMPORTANT: The presentation or sale of this manual to any individual or firm does not constitute authorization, certification or recognition of any applicable technical capabilities, or establish a principle-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of YAMAHA are continually striving to improve YAMAHA products. Modifications are, therefore, inevitable and specifications are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

IMPORTANT: Turn the unit OFF during disassembly and part replacement. Recheck all work before you apply power to the unit.

CONTENTS

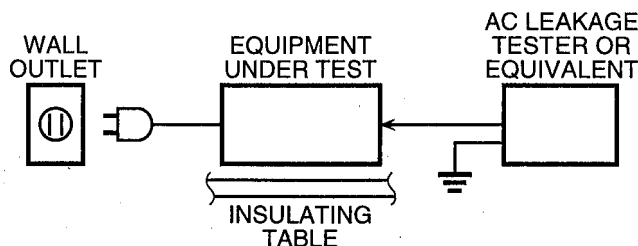
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■ TO SERVICE PERSONNEL

Critical Components Information.

Components having special characteristics are marked and must be replaced with parts having specifications equal to those originally installed.



WARNING: CHEMICAL CONTENT NOTICE!

The solder used in the production of this product contains LEAD. In addition, other electrical/electronic and /or plastic (where applicable) components may also contain traces of chemicals found by the California Health and Welfare Agency (and possibly other entities) to cause cancer and/or birth defects or other reproductive harm.

DO NOT PLACE SOLDER, ELECTRICAL/ELECTRONIC OR PLASTIC COMPONENTS IN YOUR MOUTH FOR ANY REASON WHATSOEVER!

Avoid prolonged, unprotected contact between solder and your skin! When soldering, do not inhale solder fumes or expose eyes to solder/flux vapor!

If you come in contact with solder or components located inside the enclosure of this product, wash your hands before handling food.

■ SPECIFICATIONS

■ FM SECTION

Tuning Range	
U, C, R models	87.5 to 107.9 MHz
R, A, L, B, G models	87.50 to 108.00 MHz
50dB Quieting Sensitivity (IHF)	
Mono	1.55 μ V(15.1 dBf)
Stereo (1 kHz 100% MOD)	21 μ V(37.7 dBf)
Usable Sensitivity (DIN) B, G model only	
Mono (S/N 26 dB)	0.9 μ V
Stereo (S/N 46 dB)	24 μ V
Image Response Ratio	80 dB
IF Response Ratio	70 dB
Spurions Response Ratio	70 dB
Alternate Channel Selectivity	
Selectivity (two signals) 40 kHz Dev. $\pm$ 300 kHz	70 dB
Signal to Noise Ratio (DIN-Weighted 40 kHz)	
Mono	75 dB
Stereo	70 dB
Harmonic Distortion 1 kHz	
Mono	0.1 %
Stereo	0.2 %
Stereo Separation 1kHz (40 kHz Dev.)	50 dB
Frequency Response	
30 Hz to 13 kHz	0 $\pm$ 0.5 dB

■ MW SECTION

Tuning Range	
U, C, R models	530 to 1710 kHz
R, A, L, B, G models	531 to 1611 kHz
Usable Sensitivity	200 μ V/m
Selectivity	32 dB
Signal to Noise Ratio	50 dB
Image Response Ratio	40 dB
Spurions Response Ratio	50 dB
Harmonic Distortion 1 kHz	0.3 %

■ LW SECTION

Tuning Range	153 to 288 kHz
Usable Sensitivity	400 μ V/m
Selectivity	32 dB
Signal to Noise Ratio	50 dB
Image Response Ratio	40 dB
Spurions Response Ratio	50 dB
Harmonic Distortion 1 kHz	0.3 %

■ AUDIO SECTION

Output Level/Impedance (Fixed)	
FM 100 % MOD 1 kHz	500 mV/2.2 k Ω
AM 30 % MOD 1 kHz	200 mV/2.2 k Ω

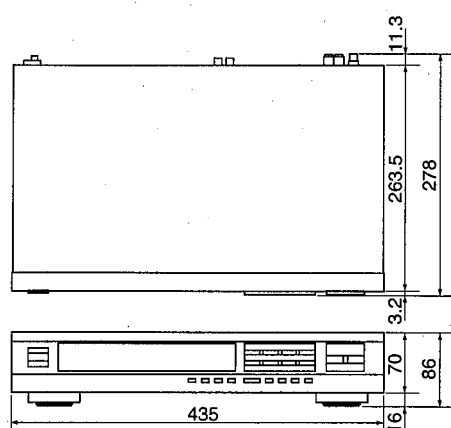
■ GENERAL

Power Supply	
U, C models	AC120V, 60 Hz
R models	AC110-120/220-240V, 50/60 Hz
A models	AC240V, 50 Hz
L, B, G models	AC230V, 50Hz
Power Consumption	7 W
Dimensions (W x H x D)	435 x 86 x 278mm
Weight	3.2 kg

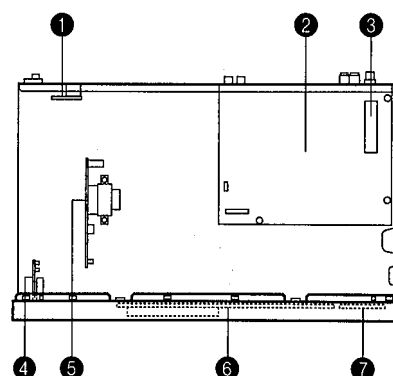
* Specifications subject to change without notice.

U	U.S.A. model	C	Canadian model
A	Australian model	B	British model
G	European model	L	Singapore model
R	General model		

• DIMENSIONS



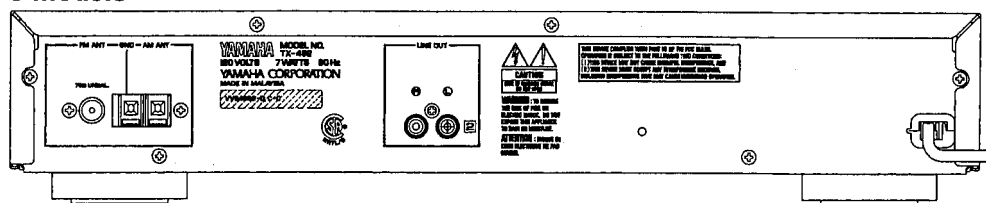
■ INTERNAL VIEW



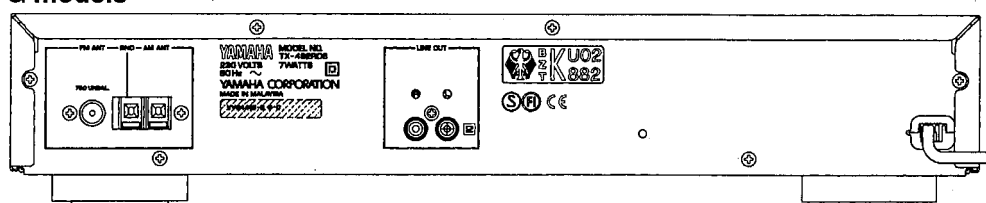
- | | |
|--------------------------|--------------------------|
| ① Tuner P. C. B. (3) | ⑤ Tuner P. C. B. (2) |
| ② Tuner P. C. B. (1) | ⑥ Operation P. C. B. (1) |
| ③ Front-end pack | ⑦ Operation P. C. B. (3) |
| ④ Operation P. C. B. (2) | |

■ REAR PANELS

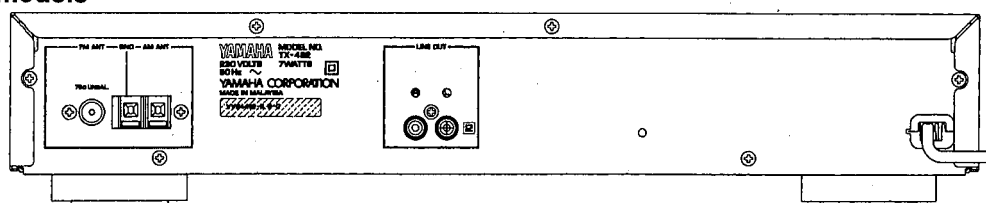
U, C models



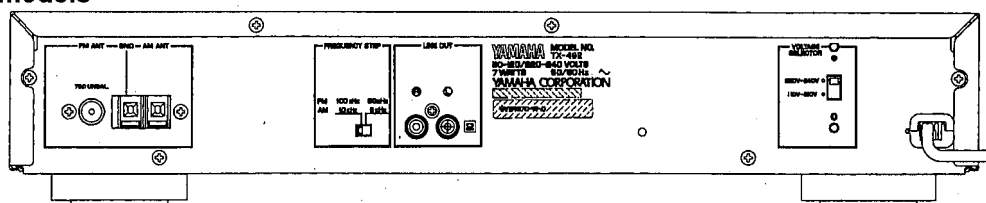
B, G models



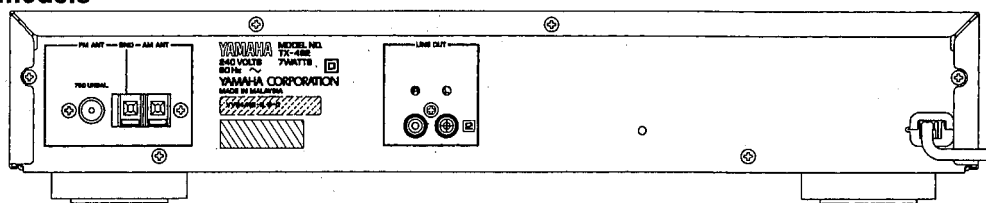
L models



R models



A models



DISASSEMBLY PROCEDURES

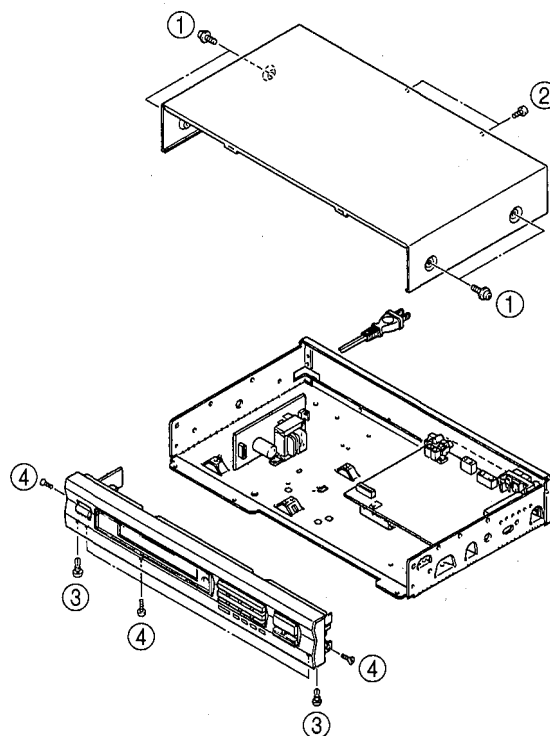
(Remove parts in the order as numbered.)

1. Removal of Top Cover

Remove 4 screws (①) and 2 screws (②) in Fig. 1.

2. Removal of Front Panel

- Remove 2 plastic rivets (③) in Fig. 1.
- Remove 5 screws (④) in Fig. 1.



ADJUSTMENTS

1. Before Adjustment

- With the power turned on, wait for 5 minutes before starting adjustment so that operation becomes stable.
- Adjust the OSC coil and IFT with insulated screwdriver.
- Set the TUNING MODE to AUTO.
- Decibel abbreviations
dBμ : Decibels above or below 1μV

Example :

0dBμ = 1 μV, 60dBμ = 1 mV

X dBμ = (X + 11.2) dBf

When substituting 60 for X,

60 dBμ = 72.2 dBf

2. Measuring instrument abbreviations

FM SG : FM signal generator
SSG : Stereo signal generator
AM SG : AM signal generator
DIST. M : Distortion meter
FC : Frequency counter
ACVM : AC voltage meter
DCVM : DC voltage meter
RDS SG : RDS signal generator

<POWER SUPPLY CHECK>

Check that the voltage obtained across each test point and ground on the tuner circuit is as follows.

Test points	Rating or Standard
+5 V terminal	+5.6 ±0.5 V
-VP terminal	-23.0 ±1.0 V

CAUTION :

Before setting to the TEST mode, write down the user preset memory content in the table as shown below. (This is because setting to the TEST mode will cause the memory content to be the factory preset memory content, i.e. all the user preset memory content will be erased.)

<User preset memory content>

Preset keys	P1	P2	P3	P4	P5	P6	P7	P8
A								
B								
C								
D								
E								

<TEST mode>

- Turn on the POWER switch while pressing the A/B/C/D/E and FM/AM(FM/MW/LW) keys simultaneously, and the unit enters the TEST mode for the display check. After this, repeat (1) to (4).

- (1) All the segments on the display light up.
- (2) The model name, TX-492(RDS) is displayed.
- (3) The place of destination is displayed. (e.g., GB LW & RDS).
- (4) The μ COM-version is displayed.

Pressing the P1 key will cause operation to start from (1). Pressing any other key will cause the mode to return to the NORMAL mode.

<Factory preset memory content>

U, C models

Preset	P1	P2	P3	P4	P5	P6	P7	P8
A, C, E	87.5	90.1	95.1	98.1	107.9	88.1	106.1	107.9
B, D	630	1080	1440	530	1710	900	1350	1400

A, L, R models

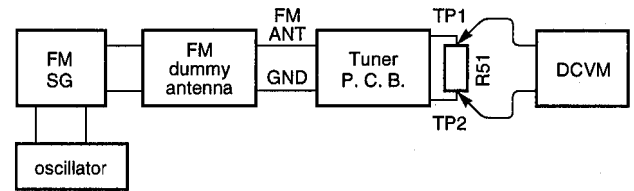
Preset	P1	P2	P3	P4	P5	P6	P7	P8
A, C, E	87.50	90.10	95.10	98.10	108.00	88.10	106.10	108.00
B, D	630	1080	1440	531	1611	900	1350	1404

B, G models

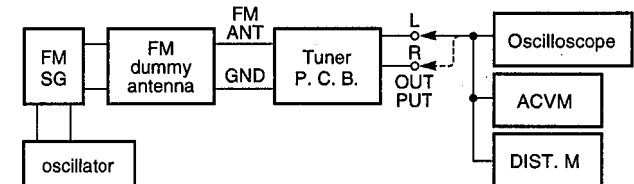
Preset	P1	P2	P3	P4	P5	P6	P7	P8
A, E	87.50	90.10	95.10	98.10	108.00	88.10	106.10	108.00
B, D	630	1080	1440	530	1710	900	1350	1400
C	153	171	225	270	288	180	207	252

<Connection Diagram (Measuring Instruments)>

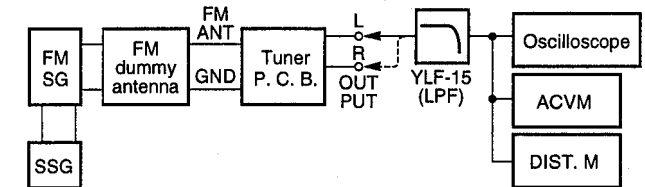
1) Discriminator balance adjustment



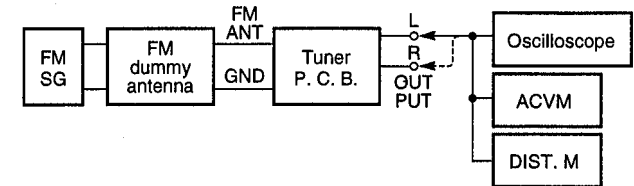
2) Monaural distortion adjustment



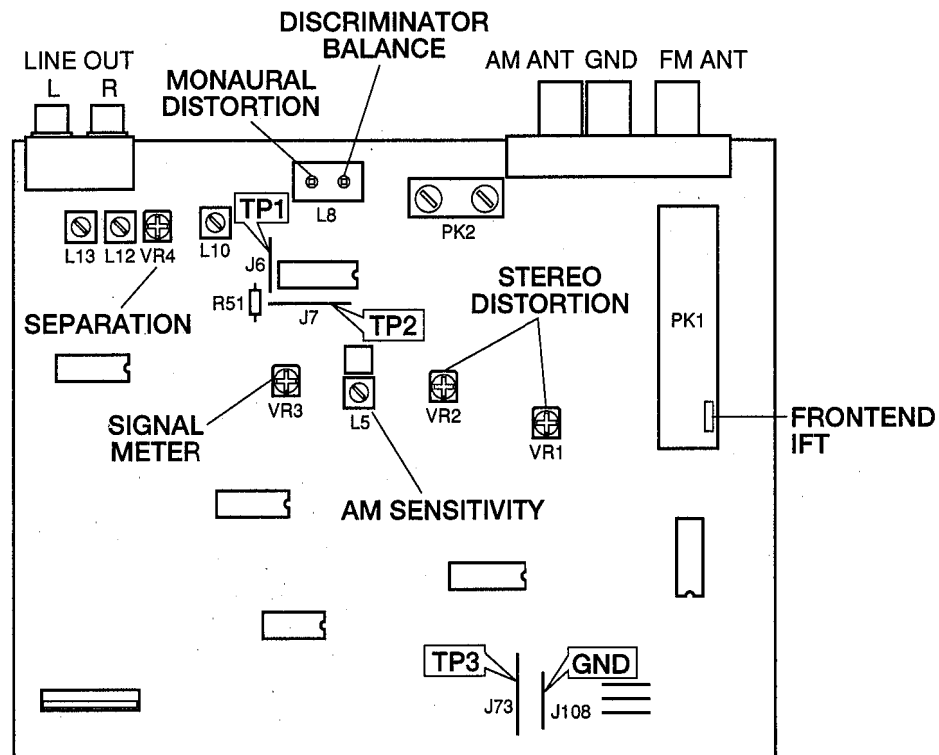
3) Stereo distortion adjustment



4) Sensitivity verification



● TEST POINTS



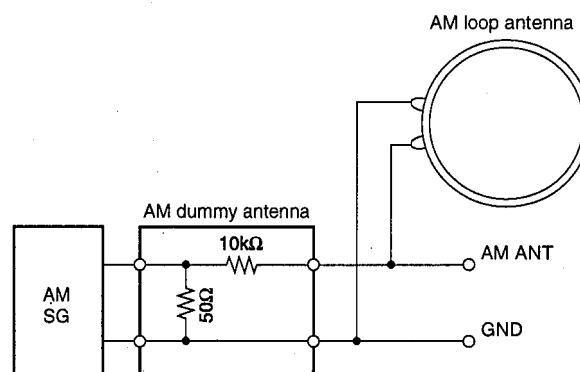
<FM TUNER SECTION>

Step	Adjustment item	Signal (ANT IN)	Reception frequency	Adjusted point	Test point	Rating
1	Rough adjustment of discriminator balance.	FM SG: 98.1 MHz 70 dB μ Modulation : 100 % Monaural : 100 Hz	Preset A-4: 98.1 MHz	L8 (right side)	TP1, TP2 (both end of R51)	DC 0 V $\pm$ 100mV at turning point.
2	Rough adjustment of monaural distortion.	Same as Step 1.	Same as Step 1.	L8 (left side)	OUTPUT	Minimize distortion.
3	Fine adjustment of discriminator balance.	Same as Step 1.	Same as Step 1.	L8 (right side)	TP1, TP2	DC 0 V $\pm$ 50mV
4	Fine adjustment of monaural distortion.	Same as Step 1.	Same as Step 1.	L8 (left side)	OUTPUT	Minimize distortion. (to less than -43dB)
5	Verification of discriminator balance.	Same as Step 1.	Same as Step 1.		TP1, TP2	DC 0 V $\pm$ 50mV
6	Adjustment of frontend IFT.	FM SG: 98.1 MHz 30 dB μ Modulation : 100 % Monaural : 1 kHz	Same as Step 1.	Frontend IFT	TP3, GND	Adjust so that the DC voltage is maximum. CAUTION: If IFT core is turned excessively, the sensitivity reduces. (Maximum $\pm$ 90°)
7	Adjustment of stereo distortion.	FM SG: 98.1 MHz 70 dB μ Modulation : 100 % Stereo L or R : 1 kHz	Same as Step 1.	VR1, VR2	OUTPUT	Minimize distortion. Tuning mode is AUTO.
8	Verification of monaural distortion.	FM SG: 98.1 MHz 70 dB μ Modulation : 100 % Monaural : 1 kHz	Preset A-4: 98.1 MHz		OUTPUT	Minimize distortion. (to less than -43dB)
9	Verification of stereo distortion.	FM SG: 98.1 MHz 70 dB μ Modulation : 100 % Stereo L or R : 1 kHz	Same as Step 8.		OUTPUT	Minimize distortion. (to less than -37dB) Tuning mode is AUTO.
10	Verification of sensitivity.	FM SG: 88.1/98.1/106.1 MHz Modulation : 100 % Monaural : 1 kHz	A-6: 88.1 MHz A-4: 98.1 MHz A-7: 106.1 MHz			S/N should be 30 dB at each frequency of 88.1 MHz, 98.1 MHz and 106.1 MHz. Make sure that the voltage at the ANT terminal is 3 dB μ (7 dB μ at A, B, G models) or less.
11	Adjustment of separation.	FM SG: 98.1 MHz 70 dB μ Modulation : 100 % Stereo L or R : 1 kHz	Preset A-4: 98.1 MHz	VR4	OUTPUT	To more than 35 dB. Tuning mode is AUTO.

Step	Adjustment item	Signal (ANT IN)	Reception frequency	Adjusted point	Test point	Rating
12	Adjustment of the signal meter.	FM SG: 98.1 MHz 45 dB μ Modulation : 30 % Monaural : 1 kHz	Preset A-4: 98.1 MHz	VR3	Signal meter	Adjust so that the signal meter is maximum at rating level.
13	Verification of the signal meter to turn off.	ANT input minimum.				Make sure that the signal meter is turned off.
14	Verification of AUTO TUNING.	FM SG: 98.1 MHz 23 dB μ Modulation : 30 % Stereo L or R : 1 kHz	Preset A-4: 98.1 MHz	Tuning buttons		Automatic reception should be available when the tuning UP or DOWN key is pressed. Stereo indicator is turned on. Audio muting should be applied during tuning.
15	Verification of AUTO PS (program service name) [B, G models only]	RDS SG: Modulation: 1.6 % (1.2 kHz) FM SG: 98.1 MHz 40 dB μ Modulation : 100 % Monaural : 1 kHz	Preset A-4: 98.1 MHz			Make sure that the display automatically turns to the PS mode and PS indicator turns on when the signal is tuned again.

<MW TUNER SECTION>

- To be adjusted after FM section adjustment.
- Use the specified dummy antenna for loop antenna.

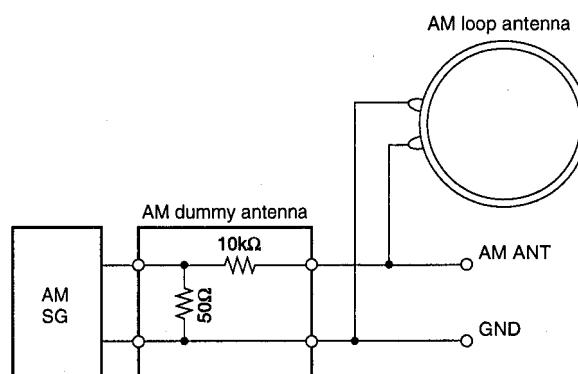


Step	Adjustment item	Signal (ANT IN)	Reception frequency	Adjusted point	Test point	Rating
1	Adjustment of sensitivity.	AM SG: 630 kHz 50 dB μ , 1 kHz, 30% modulation	Preset B-1: 630 kHz	L5	OUTPUT	Maximize detected signal output.
2	Verification of sensitivity.	AM SG: 630 kHz/1080 kHz/ 1440 kHz 50 dB μ , 1 kHz, 30% modulation	Preset B-1: 630 kHz B-2: 1080 kHz B-3: 1440 kHz			To be less than 54 dB μ .

Step	Adjustment item	Signal (ANT IN)	Reception frequency	Adjusted point	Test point	Rating
3	Verification of the signal meter.	AM SG: 1080 kHz 90 dB μ , ANT input 90 dB μ	Preset B-2: 1080 kHz		OUTPUT	Make sure that the signal meter is turned on.
		ANT input -10 dB μ or less				Make sure that the signal meter is turned off.
4	Verification of auto tuning.	AM SG: 1080 kHz 60 dB μ , 1 kHz, 30% modulation	Preset B-2: 1080 kHz	Tuning button		Automatic reception should be available when the tuning UP or DOWN key is pressed. Audio muting should be applied during tuning.

<LW TUNER SECTION> B, G models only

- To be adjusted after MW section adjustment.
- Use the specified dummy antenna for loop antenna.

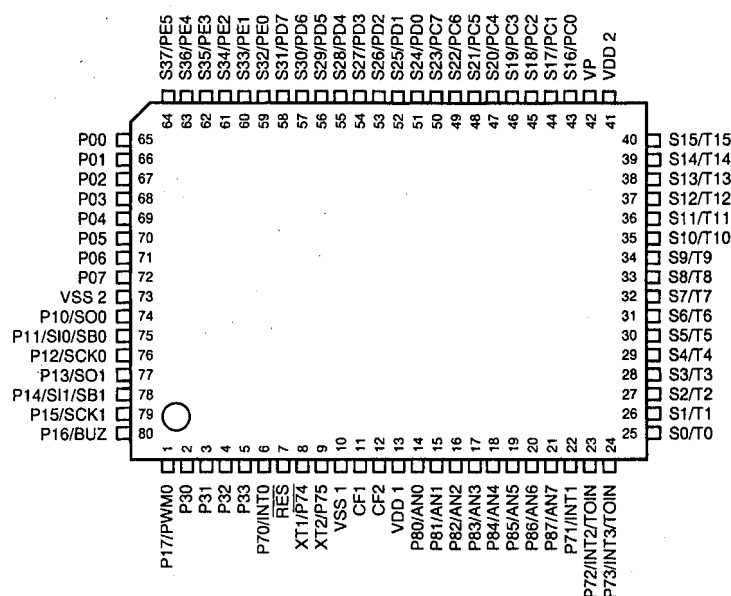


Step	Adjustment item	Signal (ANT IN)	Reception frequency	Adjusted point	Test point	Rating
1	Verification of sensitivity.	AM SG: 171 kHz/225 kHz/270 kHz 90 dB μ , 1 kHz, 30% modulation	Preset C-1: 171 kHz C-2: 225 kHz C-3: 270 kHz		OUTPUT	To be less than 66 dB μ .
2	Verification of the signal meter.	AM SG: 1080 kHz 90 dB μ , ANT input 90 dB μ	Preset B-2: 1080 kHz			Make sure that the signal meter is turned on.
		ANT input -10 dB μ or less				Make sure that the signal meter is turned off.
3	Verification of auto tuning.	AM SG: 1080 kHz 60 dB μ , 1 kHz, 30% modulation	Preset B-2: 1080 kHz	Tuning button		Automatic reception should be available when the tuning UP or DOWN key is pressed. Audio muting should be applied during tuning.

μ-COM DATA

IC501 : LC866420A

8 bit μ-COM

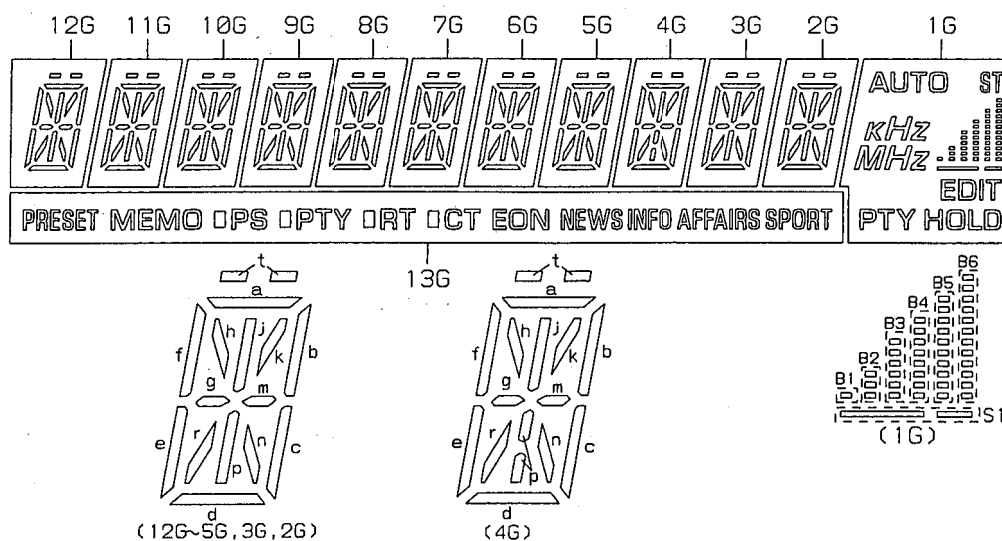


No.	Port	I/O	Name	Function	No.	Port	I/O	Name	Function
1	P17/PWM0	O	/MMUTE	Main mute	41	VDD2	I	VDD	+5V
2	P30	I	ROT1	Rotary encoder input	42	VP	I	VDDVPP	-24V
3	P31	I	ROT0	This input available for ROTSW=H	43	S16/PC0	O	P1	FL segment
4	P32	I	MODEL	Model 0	44	S17/PC1	O	P2	FL segment
5	P33	I	ROTSW	Rotary encoder yes(H) or no(L)	45	S18/PC2	O	P3	FL segment
6	P70/INT0	I			46	S19/PC3	O	P4	FL segment
7	/RES	I	/RESET	Reset	47	S20/PC4	O	P5	FL segment
8	/P74/XT1	I		Normal	48	S21/PC5	O	P6	FL segment
9	P75/XT2	I		Normal	49	S22/PC6	O	P7	FL segment
10	VSS1	I	GND	GND	50	S23/PC7	O	P8	FL segment
11	CF1		CF	6MHz	51	S24/PD0	O	P9	FL segment
12	CF2		CF	6MHz	52	S25/PD1	O	P10	FL segment
13	VDD1	I	VDD	+5V	53	S26/PD2	O	P11	FL segment
14	P80/AN0	ADI	KEYIN1	AD key input	54	S27/PD3	O	P12	FL segment
15	P81/AN1	ADI	KEYIN2	AD key input	55	S28/PD4	O	P13	FL segment
16	P82/AN3	ADI	KEYIN3	AD key input	56	S29/PD5	O	P14	FL segment
17	P83/AN3	ADI	METER	Signal level input	57	S30/PD6	O	P15	FL segment
18	P84/AN4	I			58	S31/PD7	O	P16	FL segment
19	P85/AN5	I			59	S32/PE0	I/O		
20	P86/AN6	I			60	S33/PE1	I/O		
21	P87/AN7	ADI	VER	Version input	61	S34/PE2	I/O		
22	P71/INT1	I	/RDSSTART	RDS start	62	S35/PE3	I/O		
23	P72/INT2	I	/POWERDOWN	Power down detect	63	S36/PE4	I/O		
24	P73/INT3	I	REM	REM input	64	S37/PE5	I/O		
25	S0/T0	O	13G	FL segment	65	P00	O		
26	S1/T1	O	12G	FL segment	66	P01	O		
27	S2/T2	O	11G	FL segment	67	P02	O		
28	S3/T3	O	10G	FL segment	68	P03	O		
29	S4/T4	O	9G	FL segment	69	P04	O	/TMUTE	Tuner mute
30	S5/T5	O	8G	FL segment	70	P05	O		
31	S6/T6	O	7G	FL segment	71	P06	O		
32	S7/T7	O	6G	FL segment	72	P07	O		
33	S8/T8	O	5G	FL segment	73	VSS2	I	GND	GND
34	S9/T9	O	4G	FL segment	74	P10/S00	O	RDSRESET	RDS IC reset
35	S10/T10	O	3G	FL segment	75	P11/SI0	SIN	RDS-DATA	RDS data input
36	S11/T11	O	2G	FL segment	76	P12/SCK0	SCL	RDS-CLK	RDS clock
37	S12/T12	O	1G	FL segment	77	P13/SO1	I	PLLDAT-in	Data input from PLL
38	S13/T13				78	P14/SI1	O	PLLDAT-out	Data output for PLL
39	S14/T14				79	P15/SCK1	O	PLL-CLK	PLL clock
40	S15/T15				80	P16/BUZ	O	PLLCE	PLLCE

KEY INPUT

PORT	1	2	3	4	5	6	7
KEYIN1	P3	P4	P5	P6	P7	P8	
KEYIN2	MODE	EDIT (KMODE)	MEMORY	PAGE	P1	P2	
KEYIN3	DISPLAY	PTY SELECT	PTY START	EON	FM/AM (MW/LW)	TUNING DOWN	TUNING UP
VER	G (RDS)	A, L/R (50k)	R (100k)	U, C	J	G (RDS, LW)	

■ DISPLAY DATA (13-BT-152GK)



PIN CONNECTION

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
CONNECTION	F1	F1	NP	P15	P14	P13	P12	P11	P10	P9	P8	P7	P6	P5	P4	P3	P2	P1

PIN NO.	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
CONNECTION	NC	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	12G	13G	NP	F2	F2

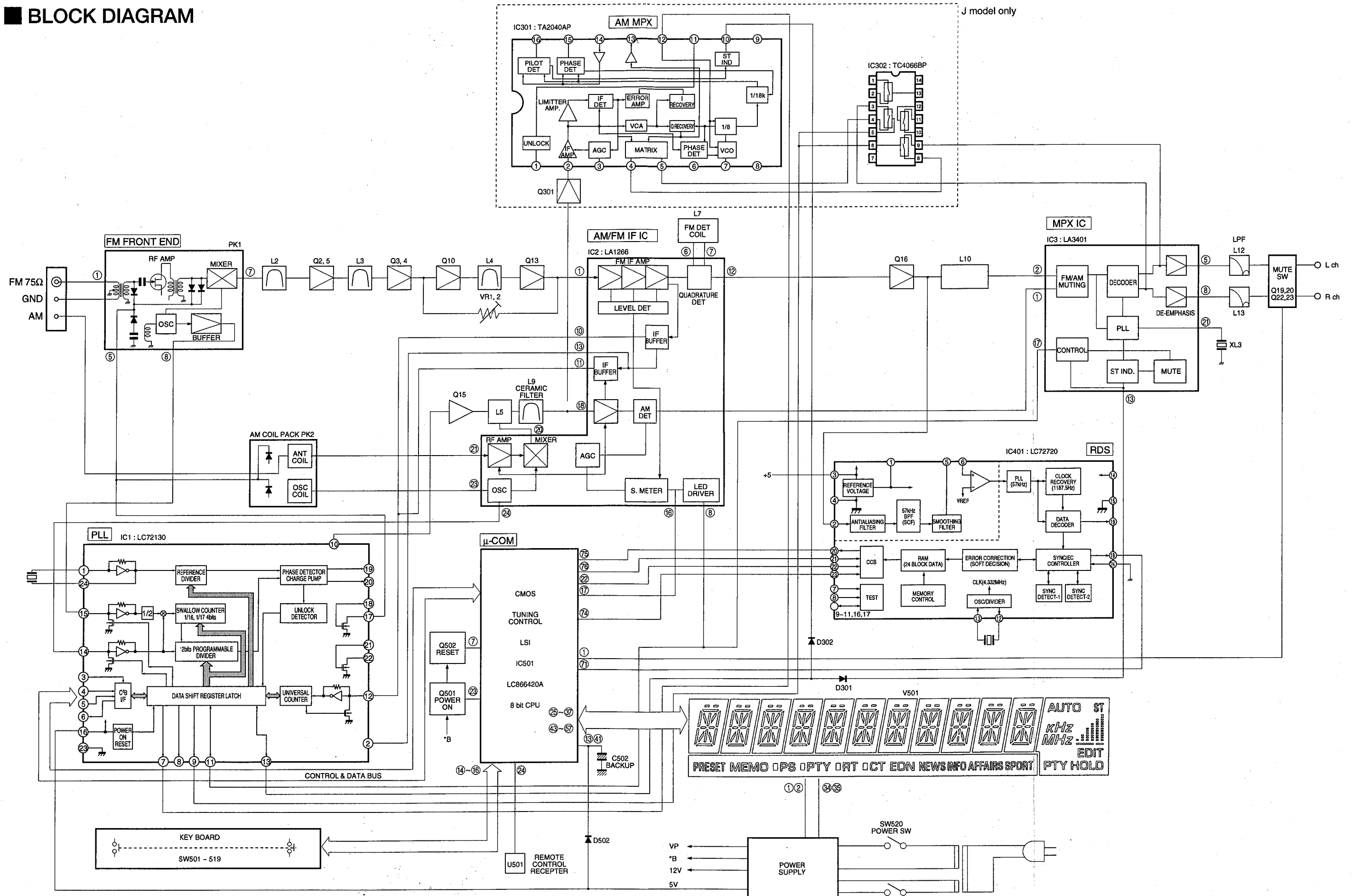
NOTE:

- 1) F1, F2 Filament
- 2) NP No pin
- 3) NC No connection
- 4) DL Datum line
- 5) 1G~13G Grid

ANODE CONNECTION

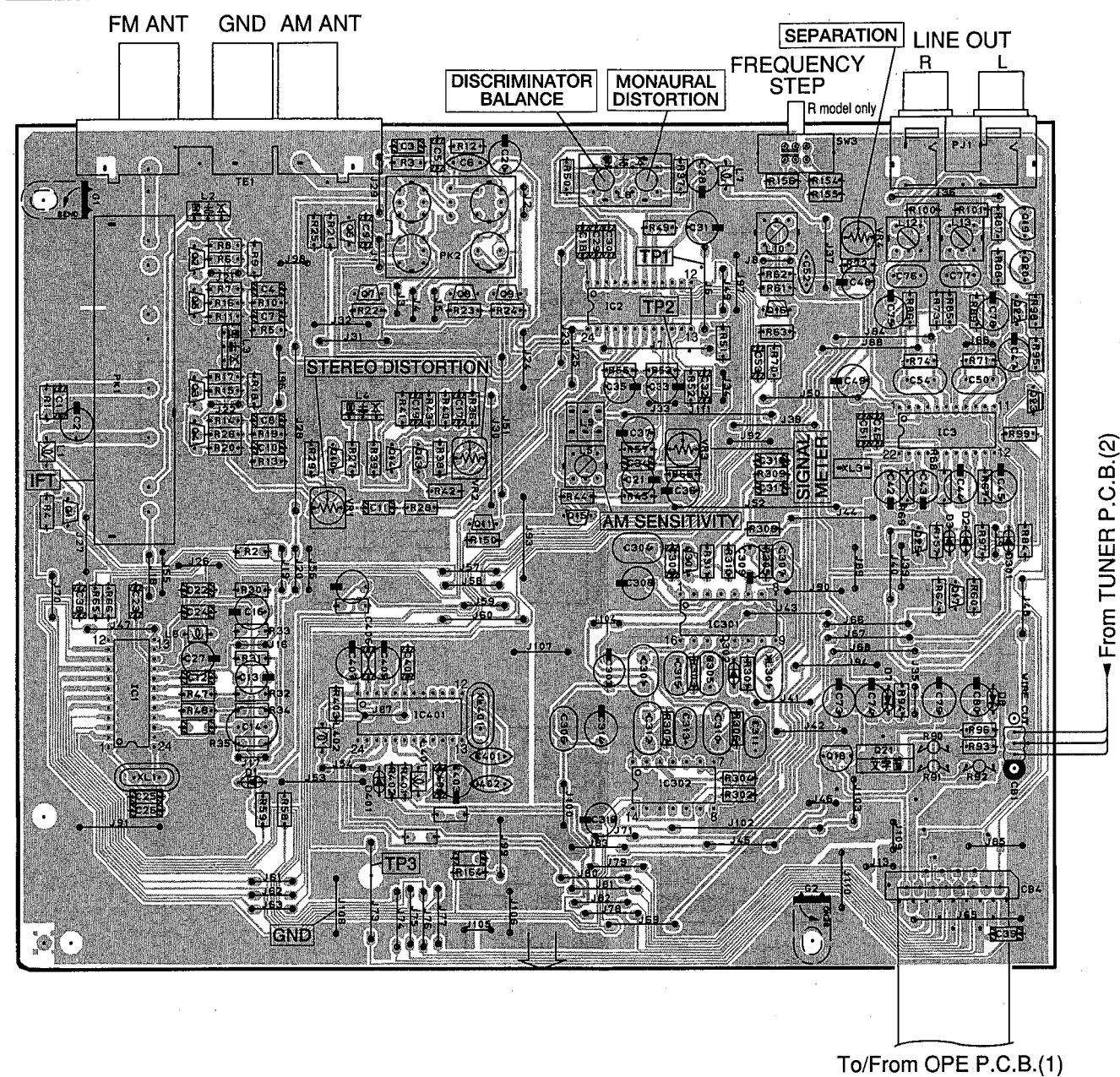
	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	PRESET	a	a	a	a	a	a	a	a	a	a	a	AUTO
P2	MEMO	b	b	b	b	b	b	b	b	b	b	b	kHz
P3	☐ (PS)	c	c	c	c	c	c	c	c	c	c	c	MHz
P4	PS	d	d	d	d	d	d	d	d	d	d	d	ST
P5	☐ (PTY)	e	e	e	e	e	e	e	e	e	e	e	B1
P6	PTY	f	f	f	f	f	f	f	f	f	f	f	B2
P7	☐ (RT)	g	g	g	g	g	g	g	g	g	g	g	B3
P8	RT	h	h	h	h	h	h	h	h	h	h	h	B4
P9	☐ (CT)	j	j	j	j	j	j	j	j	j	j	j	B5
P10	CT	k	k	k	k	k	k	k	k	k	k	k	B6
P11	EON	m	m	m	m	m	m	m	m	m	m	m	S1
P12	NEWS	n	n	n	n	n	n	n	n	n	n	n	EDIT
P13	INFO	p	p	p	p	p	p	p	p	p	p	p	PTY HOLD
P14	AFFAIRS	r	r	r	r	r	r	r	r	r	r	r	—
P15	SPORT	t	t	t	t	t	t	t	t	t	t	t	—

BLOCK DIAGRAM



PRINTED CIRCUIT BOARD (Foil side)

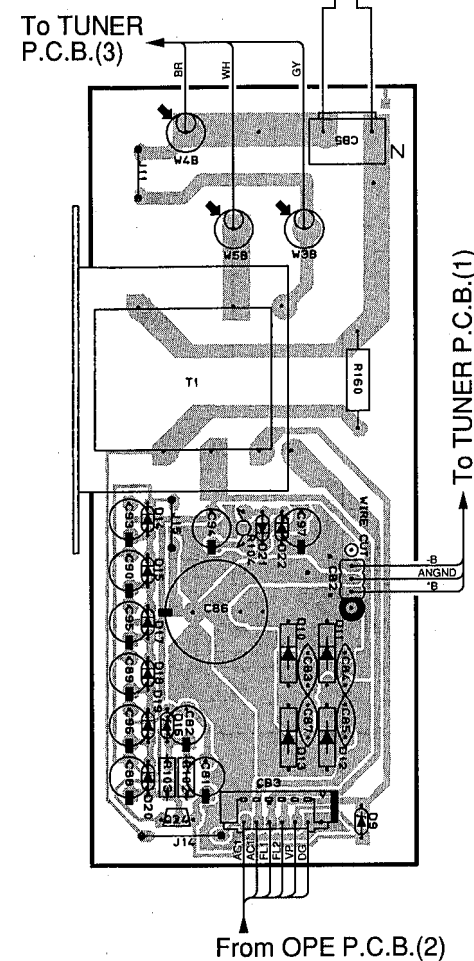
TUNER P.C.B.(1)



From TUNER P.C.B.(2)

To/From OPE P.C.B.(1)

TUNER P.C.B.(2)

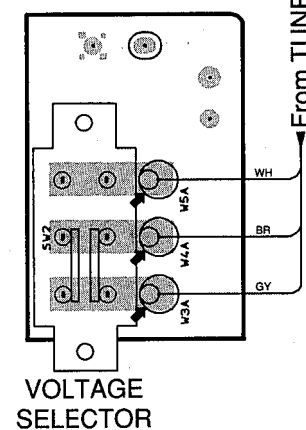


From OPE P.C.B.(2)

To TUNER P.C.B.(1)

TUNER P.C.B.(3)

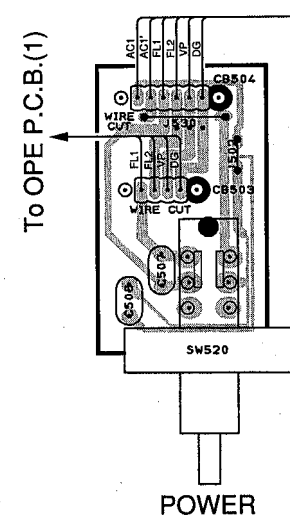
R model only



From TUNER P.C.B.(2)

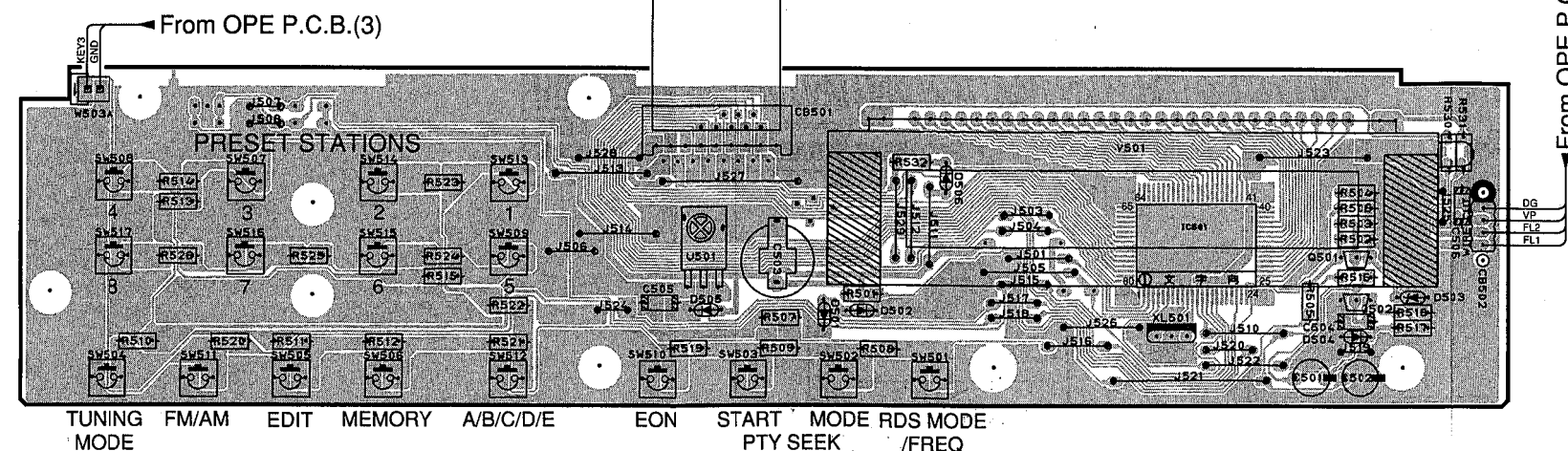
To OPE P.C.B.(1)

To TUNER P.C.B.(2)



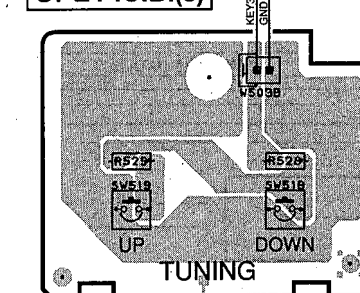
OPE P.C.B.(2)

OPE P.C.B.(1)



From OPE P.C.B.(2)

OPE P.C.B.(3)

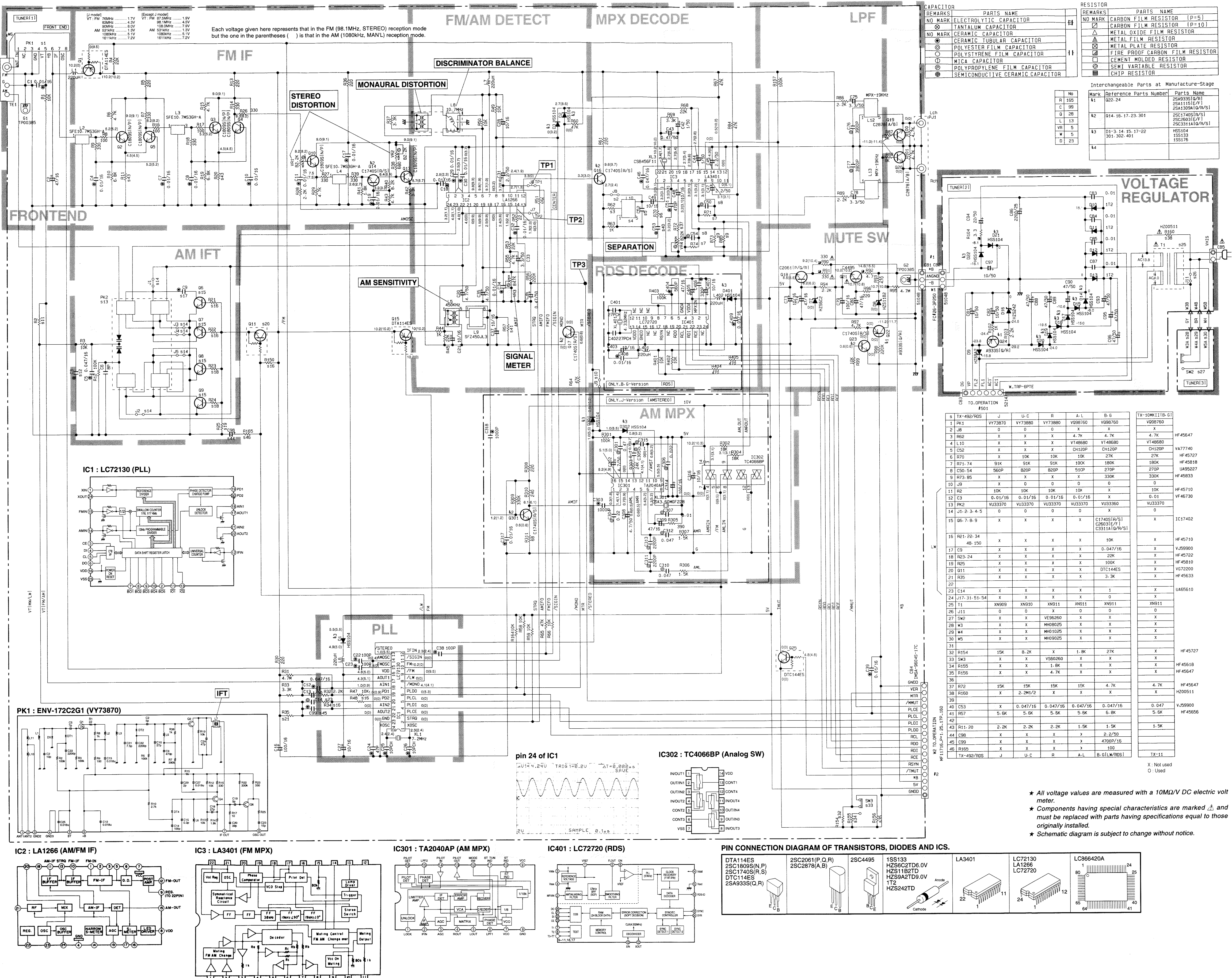


To OPE P.C.B.(1)

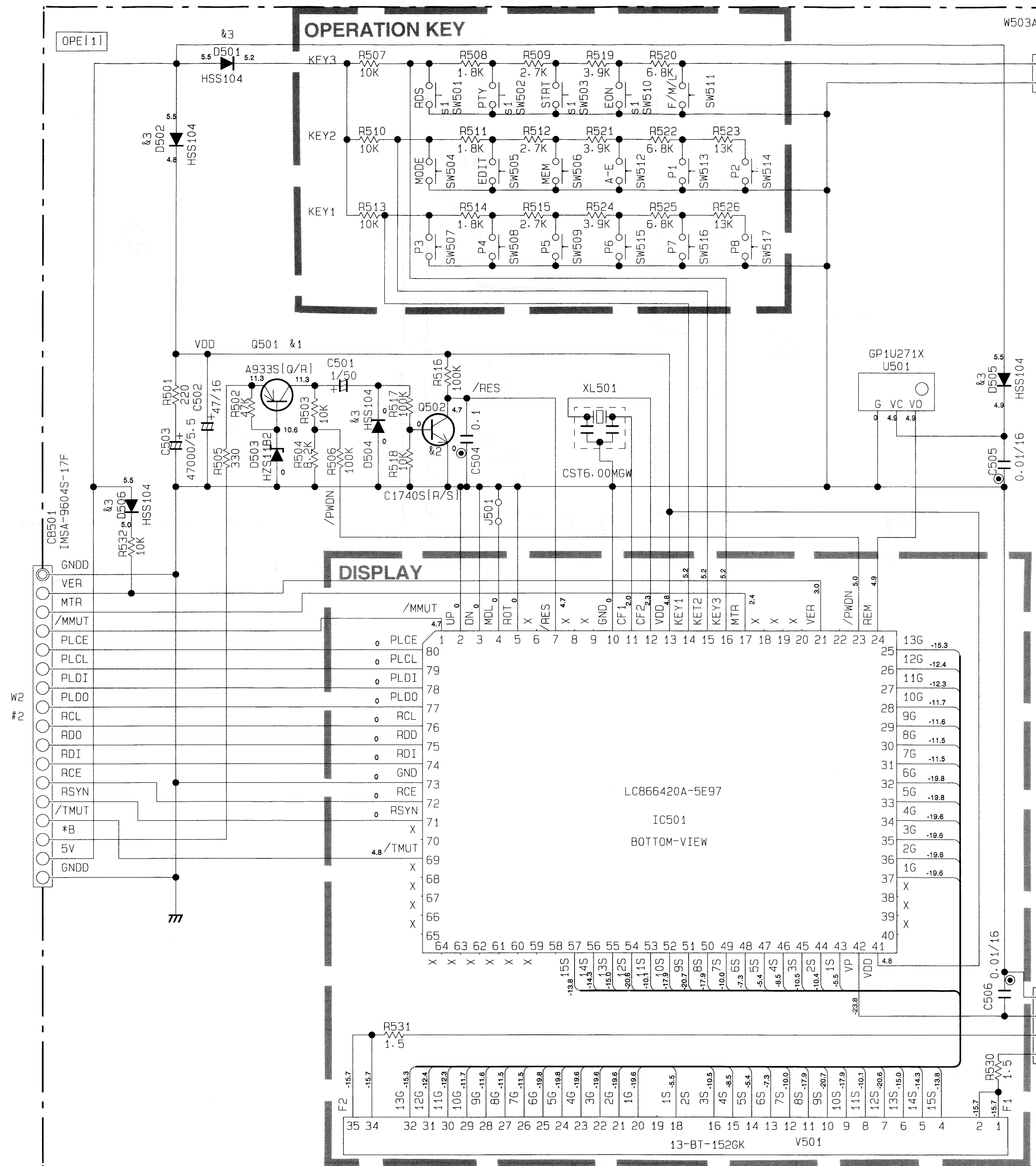
Semiconductor Location

Ref No.	Location	Ref No.	Location
IC1	A4	D1	B4
IC2	C2	D2	E3
IC3	E3	D3	E3
IC301	D4	D7	D4
IC302	C4	D8	E4
IC401	B4	D9	
IC501	E6	D10	G4
Q1	A3	D11	G4
Q2	B2	D12	G4
Q3	B3	D13	G4
Q4	B3	D14	F4
Q5	B2	D15	F4
Q6	B2	D16	F5
Q7	B2	D17	F4
Q8	C2	D18	F4
Q9	C2	D19	F5
Q10	B3	D20	F5
Q11	C3	D21	F4
Q13	B3	D22	F4
Q14	B3	D301	E3
Q15	C3	D302	D4
Q16	D2	D401	B3
Q17	F4	D501	D7
Q18	D4	D502	D7
Q19	E2	D503	F7
Q20	E2	D504	F7
Q21	D4	D505	C7
Q22	E2	D506	D6
Q23	E3		
Q24	F5		
Q25	D3		
Q301	D3		
Q501	F7		
Q502	F7		

SCHEMATIC DIAGRAM



SCHEMATIC DIAGRAM



NOTICE (model)

(J)..... JAPANESE

(U)..... U. S. A

(C)..... CANADIAN

(R)..... GENERAL

(A)..... AUSTRALIAN

(B)..... BRITISH

(G)..... EUROPEAN

(T)..... CHINA

(L)..... SINGAPORE

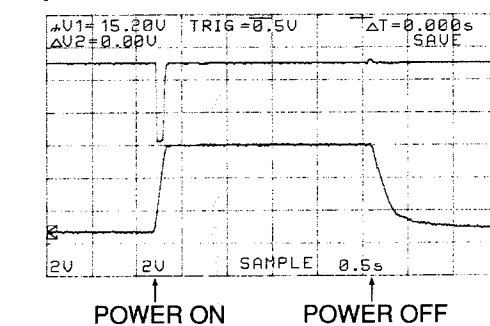
RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR (P=5)
□	CARBON FILM RESISTOR (P=10)
△	METAL OXIDE FILM RESISTOR
▲	METAL FILM RESISTOR
⊗	METAL PLATE RESISTOR
▨	FIRE PROOF CARBON FILM RESISTOR
□	CEMENT MOLDED RESISTOR
⊙	SEMI VARIABLE RESISTOR
■	CHIP RESISTOR

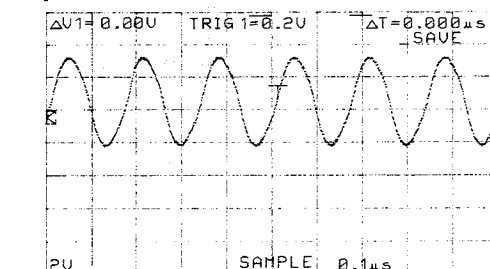
CAPACITOR

REMARKS	PARTS NAME
NO MARK	ELECTROLYTIC CAPACITOR
⊗	TANTALUM CAPACITOR
NO MARK	CERAMIC CAPACITOR
●	CERAMIC TUBULAR CAPACITOR
⊙	POLYESTER FILM CAPACITOR
○	POLYSTYRENE FILM CAPACITOR
⊖	MICA CAPACITOR
⊕	POLYPROPYLENE FILM CAPACITOR
⊗	SEMICONDUCTIVE CERAMIC CAPACITOR

pin 7 of IC501 and collector of Q18



pin 12 of IC501



s	J. U. C. R. A. L	B. G [RDS/L]
1	SW501, 502, 503, 510	X VG39290
2		
3		
4		
5		
6		

cf	TX-11	TX-492/RDS
R527	10K	X
J501	X	0
W503	X	MF30214
R530	HF45739	X
SW521	VG39290	X

X: Not used
O: Used

Interchangeable Parts at Manufacture-Stage

Mark	Reference Parts Number	Parts Name
&1	Q501	2SA933S [Q/R] 2SA1115 [E/F] 2SA1309A [Q/R/S]
&2	Q502	2SC1740S [R/S] 2SC2603 [E/F] 2SC3311A [Q/R/S]
&3	D501, 502, 504-506	HSS104 1SS133 1SS176

★ All voltage values are measured with a 10MΩ/V DC electric volt meter.

★ Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.

★ Schematic diagram is subject to change without notice.

PARTS LIST

ELECTRICAL PARTS

WARNING

Components having special characteristics are marked Δ and must be replaced with parts having specifications equal to those originally installed.

- Carbon resistors (1/6W or 1/4W) are not included in the ELECTRICAL PARTS List. For the parts No. of the carbon resistors, refer to last page.

ABBREVIATIONS IN THIS LIST ARE AS FOLLOWS:

C.A.EL.CHP	: CHIP ALUMI.ELECTROLYTIC CAP	L.EMIT	: LIGHT EMITTING MODULE
C.CE	: CERAMIC CAP	LED.DSPLY	: LED DISPLAY
C.CE.ARRAY	: CERAMIC CAP ARRAY	LED.INFRD	: LED,INFRARED
C.CE.CHP	: CHIP CERAMIC CAP	MODUL.RF	: MODULATOR,RF
C.CE.ML	: MULTILAYER CERAMIC CAP	PHOT.CPL	: PHOTO COUPLER
C.CE.M.CHP	: CHIP MULTILAYER CERAMIC CAP	PHOT.INTR	: PHOTO INTERRUPTER
C.CE.SAFTY	: RECOGNIZED CERAMIC CAP	PHOT.RFLCT	: PHOTO REFLECTOR
C.CE.TUBLR	: CERAMIC TUBULAR CAP	PIN.TEST	: PIN,TEST POINT
C.CE.SMI	: SEMI CONDUCTIVE CERAMIC CAP	PLST.RIVET	: PLASTIC RIVET
C.EL	: ELECTROLYTIC CAP	R.ARRAY	: RESISTOR ARRAY
C.MICA	: MICA CAP	R.CAR.	: CARBON RESISTOR
C.ML.FLM	: MULTILAYER FILM CAP	R.CAR.CHP	: CHIPRESISTOR
C.MP	: METALLIZED PAPER CAP	R.CAR.FP	: FLAME PROOF CARBON RESISTOR
C.MYLAR	: MYLAR FILM CAP	R.FUS	: FUSABLE RESISTOR
C.MYLAR.ML	: MULTILAYER MYLAR FILM CAP	R.MTL.CHP	: CHIP METAL FILM RESISTOR
C.PAPER	: PAPER CAPACITOR	R.MTL.FLM	: METAL FILM RESISTOR
C.PLS	: POLYSTYRENE FILM CAP	R.MTL.OXD	: METAL OXIDE FILM RESISTOR
C.POL	: POLYESTER FILM CAP	R.MTL.PLAT	: METAL PLATE RESISTOR
C.POLY	: POLYETHYLENE FILM CAP	RSNR.CE	: CERAMIC RESONATOR
C.PP	: POLYPROPYLENE FILM CAP	RSNR.CRYS	: CRYSTAL RESONATOR
C.TNTL	: TANTALUM CAP	R.TW.CEM	: TWIN CEMENT FIXED RESISTOR
C.TNTL.CHP	: CHIP TANTALUM CAP	R.WW	: WIRE WOUND RESISTOR
C.TRIM	: TRIMMER CAP	SCR.BND.HD	: BIND HEAD B-TITE SCREW
CN	: CONNECTOR	SCR.BW.HD	: BW HEAD TAPPING SCREW
CN.BS.PIN	: CONNECTOR,BASE PIN	SCR.CUP	: CUP TITE SCREW
CN.CANNON	: CONNECTOR,CANNON	SCR.TERM	: SCREW TERMINAL
CN.DIN	: CONNECTOR,DIN	SCR.TR	: SCREW,TRANSISTOR
CN.FLAT	: CONNECTOR,FLAT CABLE	SUPRT.PCB	: SUPPORT,P.C.B.
CN.POST	: CONNECTOR,BASE POST	SURG.PRTCT	: SURGE PROTECTOR
COIL.MX.AM	: COIL,AM MIX	SW.TACT	: TACT SWITCH
COIL.AT.FM	: COIL,FM ANTENNA	SW.LEAF	: LEAF SWITCH
COIL.DT.FM	: COIL,FM DETECT	SW.LEVER	: LEVER SWITCH
COIL.MX.FM	: COIL,FM MIX	SW.MICRO	: MICRO SWITCH
COIL.OUTPT	: OUTPUT COIL	SW.PUSH	: PUSH SWITCH
DIOD.ARRAY	: DIODE ARRAY	SW.RT.ENC	: ROTARY ENCODER
DIODE.BRG	: DIODE BRIDGE	SW.RT.MTR	: ROTARY SWITCH WITH MOTOR
DIODE.CHP	: CHIP DIODE	SW.RT	: ROTARY SWITCH
DIODE.VAR	: VARACTOR DIODE	SW.SLIDE	: SLIDE SWITCH
DIOD.Z.CHP	: CHIP ZENER DIODE	TERM.SP	: SPEAKER TERMINAL
DIODE.ZENR	: ZENER DIODE	TERM.WRAP	: WRAPPING TERMINAL
DSCR.CE	: CERAMIC DISCRIMINATOR	THRMST.CHP	: CHIP THERMISTOR
FER.BEAD	: FERRITE BEADS	TR.CHP	: CHIP TRANSISTOR
FER.CORE	: FERRITE CORE	TR.DGT	: DIGITAL TRANSISTOR
FET.CHP	: CHIP FET	TR.DGT.CHP	: CHIP DIGITAL TRANSISTOR
FL.DSPLY	: FLUORESCENT DISPLAY	TRANS	: TRANSFORMER
FLTR.CE	: CERAMIC FILTER	TRANS.PULS	: PULSE TRANSFORMER
FLTR.COMB	: COMB FILTER MODULE	TRANS.PWR	: POWERTRANSFORMER ASS'Y
FLTR.LC.RF	: LC FILTER,EMI	TUNER.AM	: TUNER PACK,AM
GND.MTL	: GROUND PLATE	TUNER.FM	: TUNER PACK,FM
GND.TERM	: GROUND TERMINAL	TUNER.PK	: FRONT-ENDTUNER PACK
HOLDER.FUS	: FUSE HOLDER	VR	: ROTARY POTENTIOMETER
IC.PRTCT	: IC PROTECTOR	VR.MTR	: POTENTIOMETER WITH MOTOR
JUMPER.CN	: JUMPER CONNECTOR	VR.SW	: POTENTIOMETER WITH ROTARY SW
JUMPER.TST	: JUMPER,TEST POINT	VR.SLIDE	: SLIDEPOTENTIOMETER
L.DTCT	: LIGHT DETECTING MODULE	VR.TRIM	: TRIMMER POTENTIOMETER

Note) Those parts marked with “#” are not included in the P.C.B. ass'y.

Schm Ref.	PART NO.	Description
* VY765000	P.C.B.	TUNER(UC)
* VY765100	P.C.B.	TUNER(R)
* VY765200	P.C.B.	TUNER(AL)
* VY765300	P.C.B.	TUNER(BG)
CB1	VJ878100	CN.BS.PIN 3P
CB2	VJ878100	CN.BS.PIN 3P
CB3	VF728300	CN 6P
* CB4	VU271700	CN 17P
CB5	VG879900	CN.BS.PIN 2P
C1	VF467300	C.CE.TUBLR 0.01uF 16V
C2	VJ837200	C.EL 47uF 16V
C3	VF467300	C.CE.TUBLR 0.01uF 16V(UCRA)
C4	VF467300	C.CE.TUBLR 0.01uF 16V
C5	VJ599000	C.CE.TUBLR 0.047uF 16V
C6	FG250800	C.CE 8pF 50V
C7	VF467300	C.CE.TUBLR 0.01uF 16V
C8	VF467300	C.CE.TUBLR 0.01uF 16V
C9	VJ599000	C.CE.TUBLR 0.047uF 16V(BG)
C10	VF467300	C.CE.TUBLR 0.01uF 16V
C11	VF467300	C.CE.TUBLR 0.01uF 16V
C12	VJ599000	C.CE.TUBLR 0.047uF 16V
C13	VJ839100	C.EL 1uF 50V
C14	UA656100	C.MYLAR 1uF 50V(BG)
C16	VF964800	C.EL 100uF 16V
C17	VF467300	C.CE.TUBLR 0.01uF 16V
C18	VF467300	C.CE.TUBLR 0.01uF 16V
C19	VF467300	C.CE.TUBLR 0.01uF 16V
C20	UM416470	C.EL 4.7uF 50V
C21	VJ836900	C.EL 10uF 16V
C22	VF466800	C.CE.TUBLR 100pF 50V
C23	VF466800	C.CE.TUBLR 100pF 50V
C24	VF466700	C.CE.TUBLR 47pF 50V
C25	VF466600	C.CE.TUBLR 10pF 50V
C26	VF466600	C.CE.TUBLR 10pF 50V
C27	VJ836900	C.EL 10uF 16V
C28	VJ836900	C.EL 10uF 16V
C29	VF467300	C.CE.TUBLR 0.01uF 16V
C30	VF467300	C.CE.TUBLR 0.01uF 16V
C31	VJ839200	C.EL 2.2uF 50V
C32	VF467300	C.CE.TUBLR 0.01uF 16V
C33	UM216330	C.EL 3.3uF 50V
C34	VF467300	C.CE.TUBLR 0.01uF 16V
C35	UM416470	C.EL 4.7uF 50V
C36	VJ839000	C.EL 0.47uF 50V
C37	VJ836900	C.EL 10uF 16V
C38	VF466800	C.CE.TUBLR 100pF 50V
C39	VF467300	C.CE.TUBLR 0.01uF 16V
C42	VJ839100	C.EL 1uF 50V
C43	VJ839000	C.EL 0.47uF 50V
C44	VJ839100	C.EL 1uF 50V
C45	VJ839200	C.EL 2.2uF 50V
C46	VJ599000	C.CE.TUBLR 0.047uF 16V
C47	VJ839200	C.EL 2.2uF 50V
C48	VJ836900	C.EL 10uF 16V
C49	VJ836900	C.EL 10uF 16V
C50	UA652270	C.MYLAR 270pF 50V(BG)
C50	UA652510	C.MYLAR 510pF 50V(AL)

* New Parts

Schm Ref.	PART NO.	Description
C50	UA652820	C.MYLAR 820pF 50V(UCR)
C51	VF466900	C.CE.TUBLR 470pF 50V
C52	VA777400	C.CE 120pF 50V(ALBG)
C53	VJ599000	C.CE.TUBLR 0.047uF 16V(BG)
C53	VJ599000	C.CE.TUBLR 0.047uF 16V
C54	UA652270	C.MYLAR 270pF 50V(BG)
C54	UA652510	C.MYLAR 510pF 50V(AL)
C54	UA652820	C.MYLAR 820pF 50V(UCR)
C73	VJ836900	C.EL 10uF 16V
C74	VJ837200	C.EL 47uF 16V
C75	UM216330	C.EL 3.3uF 50V
C76	UA653390	C.MYLAR 3900pF 50V
C77	UA653390	C.MYLAR 3900pF 50V
C78	UM216330	C.EL 3.3uF 50V
C79	VF964800	C.EL 100uF 16V
C80	VJ837200	C.EL 47uF 16V
C81	UM417100	C.EL 10uF 50V
C82	UM417100	C.EL 10uF 50V
C83	FG214100	C.CE 0.01uF 50V
C84	FG214100	C.CE 0.01uF 50V
C85	FG214100	C.CE 0.01uF 50V
C86	UJ649220	C.EL 2200uF 25V
C87	FG214100	C.CE 0.01uF 50V
C88	UJ667470	C.EL 47uF 50V
C89	UJ667470	C.EL 47uF 50V
C90	UJ667470	C.EL 47uF 50V
C93	UJ667470	C.EL 47uF 50V
C94	Ui367220	C.EL 22uF 50V
C95	UJ667470	C.EL 47uF 50V
C96	UJ667470	C.EL 47uF 50V
C97	UM417100	C.EL 10uF 50V
C98	VJ839200	C.EL 2.2uF 50V(BG)
C99	VF467100	C.CE.TUBLR 4700pF 16V(BG)
C401	VA761100	C.CE 27pF 50V(BG)
C402	VA761100	C.CE 27pF 50V(BG)
C403	VJ836900	C.EL 10uF 16V(BG)
C404	VG278800	C.CE.TUBLR 560pF 50V(BG)
C405	VJ837200	C.EL 47uF 16V(BG)
C406	VG278600	C.CE.TUBLR 330pF 50V(BG)
C407	VJ836900	C.EL 10uF 16V(BG)
C408	VF467300	C.CE.TUBLR 0.01uF 16V(BG)
C409	VF467300	C.CE.TUBLR 0.01uF 16V(BG)
D1	VD631600	DIODE 1SS133,176,HSS104
D2	VD631600	DIODE 1SS133,176,HSS104
D3	VD631600	DIODE 1SS133,176,HSS104
D7	VM974500	DIODE.ZENR HZS6C2TD6.0V
D8	VM975300	DIODE.ZENR HZS11B2TD 11V
D9	VM974900	DIODE.ZENR HZS9A2TD9.0V
D10	VS997800	DIODE 1T2
D11	VS997800	DIODE 1T2
D12	VS997800	DIODE 1T2
D13	VS997800	DIODE 1T2
D14	VD631600	DIODE 1SS133,176,HSS104
D15	VD631600	DIODE 1SS133,176,HSS104
D16	VM976300	DIODE.ZENR HZS242TD 24V
D17	VD631600	DIODE 1SS133,176,HSS104
D18	VD631600	DIODE 1SS133,176,HSS104

* New Parts

Schm Ref.	PART NO.	Description
D19	VD631600	DIODE
D20	VD631600	DIODE
D21	VD631600	DIODE
D22	VD631600	DIODE
D41	VD631600	DIODE
G1	VR463400	TERM.GND
G2	VR463400	TERM.GND
IC1	XQ360A00	IC
IC2	XB760A00	IC
IC3	IG158100	IC
IC401	XT152A00	IC
L1	Vi546100	COIL
L2	GG000560	FLTR.CE
L3	GG000560	FLTR.CE
L4	GG000560	FLTR.CE
L5	VR895700	COIL.IF
L6	Vi546100	COIL
L7	Vi546100	COIL
L8	VC218600	COIL.DT.FM
L9	VC219000	FLTR.CE
L10	VT486800	COIL
L12	VQ138200	FLTR.LC
L13	VQ138200	FLTR.LC
L41	Vi546100	COIL
L42	Vi546100	COIL
PJ1	VM725600	JACK.PIN
PK1	VQ987600	TUNER.PK
PK1	VY738800	TUNER.PK
PK2	VU333600	COIL.RF.AM
PK2	VU333700	COIL.RF.AM
Q1	VD678500	TR.DGT
Q2	VR497000	TR
Q3	VR497000	TR
Q4	VR497000	TR
Q5	VR497000	TR
Q6	iC174020	TR
Q7	iC174020	TR
Q8	iC174020	TR
Q9	iC174020	TR
Q10	VR497000	TR
Q11	VG722000	TR.DGT
Q13	VR497000	TR
Q14	iC174020	TR
Q15	VD678500	TR.DGT
Q16	iC174020	TR
Q17	iC174020	TR
Q18	iC206110	TR
Q19	iC287820	TR
Q20	iC287820	TR
Q21	VN996900	TR
Q22	iA093320	TR
Q23	iC174020	TR
Q24	iA093320	TR
Q25	VG722000	TR.DGT
R90	HV455330	R.CAR.FP
R91	HV455330	R.CAR.FP
R92	HV453470	R.CAR.FP

* New Parts

Schm Ref.	PART NO.	Description	
R14	HV453330	R.CAR.FP	3.3Ω 1/4W
SW2	VE962600	SW.SLIDE	SDKGA4(R)
SW3	VS602600	SW.SLIDE	SS070-P022 A(R)
T1	XN910A00	TRANS.PWR	(UC)
T1	XN911A00	TRANS.PWR	(RALBG)
TE1	VU477800	TERM.ANT	AJ-2038-040
VR1	VJ693200	VR.TRIM	B2.2KΩ
VR2	VJ693200	VR.TRIM	B2.2KΩ
VR3	VJ694000	VR.TRIM	B47KΩ
VR4	VJ693800	VR.TRIM	B22KΩ
XL1	VY734600	RSNR.CRYS	7.2MHz
XL3	GG000750	RSNR.CE	18.95MHz
XL401	VY704900	RSNR.CRYS	4.332MHz(BG)
	VY765400	P.C.B.	OPERATION(UCRAL)
	VY765500	P.C.B.	OPERATION(BG)
CB501	VU281700	CN	17P
CB502	Vi878200	CN.BS.PIN	4P
CB503	Vi878200	CN.BS.PIN	4P
CB504	Vi878400	CN.BS.PIN	6P
C501	VJ839100	C.EL	1uF 50V
C502	VJ837200	C.EL	47uF 16V
C503	VU545000	C.EL	47000uF 5.5V
C504	VH053100	C.CE.TUBLR	0.1uF 50V
C505	VF467300	C.CE.TUBLR	0.01uF 16V
C506	VF467300	C.CE.TUBLR	0.01uF 16V 16V
C507	UA655100	C.MYLAR	0.1uF 50V
C508	UA655100	C.MYLAR	0.1uF 50V
D501	VD631600	DIODE	1SS133,176,HSS104
D502	VD631600	DIODE	1SS133,176,HSS104
D503	VM975300	DIODE.ZENR	HZS11B2TD 11V
D504	VD631600	DIODE	1SS133,176,HSS104
D505	VD631600	DIODE	1SS133,176,HSS104
D506	VD631600	DIODE	1SS133,176,HSS104
IC501	XT287A00	IC	LC866420A-5E97 CPU
Q501	iA093320	TR	2SA933S Q,R
Q502	iC174020	TR	2SC1740S R,S
SW501	VG392900	SW.TACT	SKHVAA(BG)
SW502	VG392900	SW.TACT	SKHVAA(BG)
SW503	VG392900	SW.TACT	SKHVAA(BG)
SW504	VG392900	SW.TACT	SKHVAA
SW505	VG392900	SW.TACT	SKHVAA
SW506	VG392900	SW.TACT	SKHVAA
SW507	VG392900	SW.TACT	SKHVAA
SW508	VG392900	SW.TACT	SKHVAA
SW509	VG392900	SW.TACT	SKHVAA
SW510	VG392900	SW.TACT	SKHVAA(BG)
SW511	VG392900	SW.TACT	SKHVAA
SW512	VG392900	SW.TACT	SKHVAA
SW513	VG392900	SW.TACT	SKHVAA
SW514	VG392900	SW.TACT	SKHVAA
SW515	VG392900	SW.TACT	SKHVAA
SW516	VG392900	SW.TACT	SKHVAA
SW517	VG392900	SW.TACT	SKHVAA
SW518	VG392900	SW.TACT	SKHVAA

* New Parts

Schm Ref.	PART NO.	Description	
SW519	VG392900	SW.TACT	SKHVAA
* SW520	VY758900	SW.PUSH	PS016-PA022BA-B
U501	VU591000	L.DTCT	GP1U271X
* V501	VV115200	FL.DSPLY	13-BT-152GK
XL501	VH611900	RSNR.CE	CST6.00MGW-TF01
	VQ948800	SHEET	FL
	VR380100	SPACER	FL-T6

* New Parts

A

B

C

D

E

TX-492RDS

1

EXPLODED VIEW

2

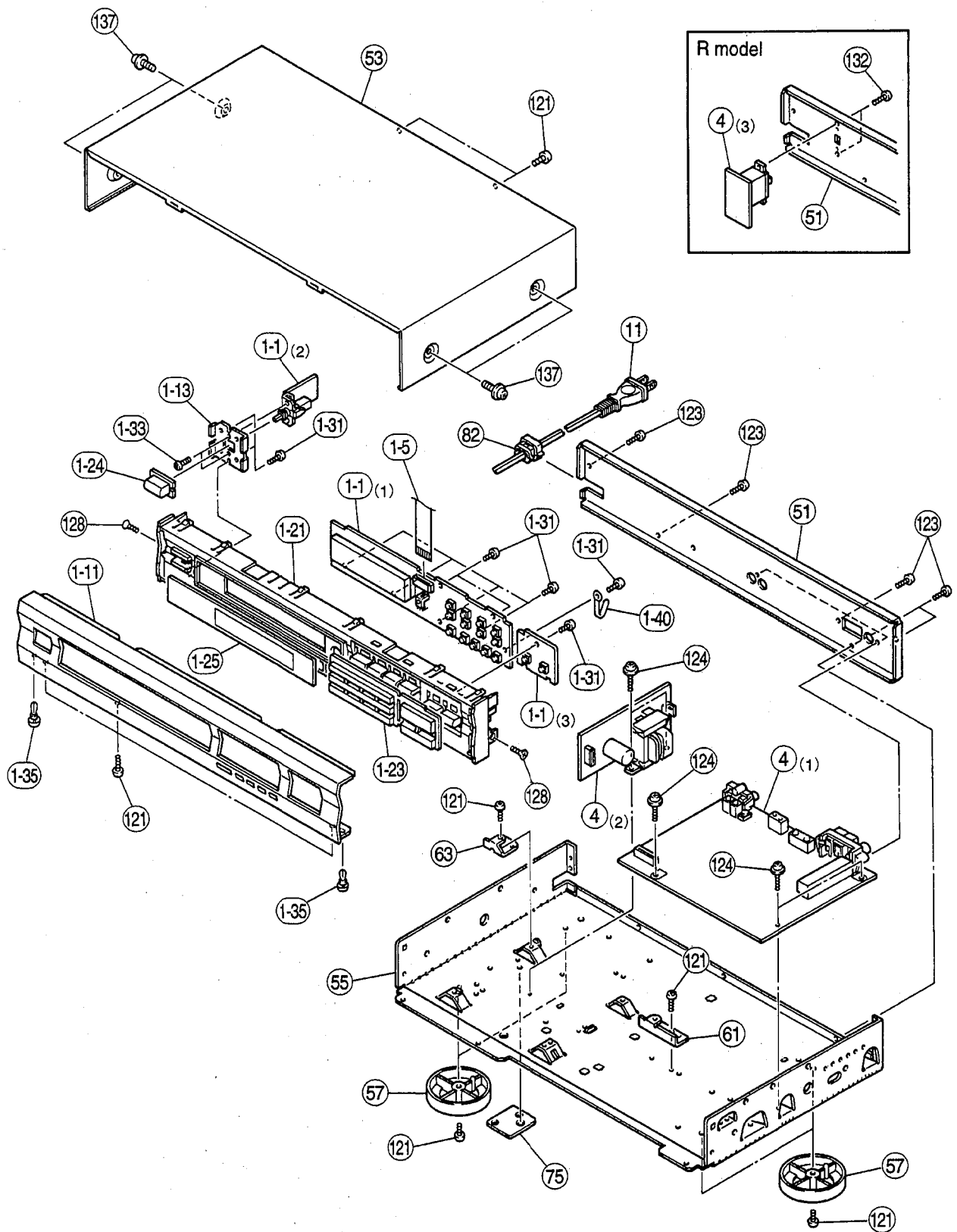
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7



MECHANICAL PARTS

Ref. No.	PART NO.	Description				
* 1-1	VY765400	P.C.B. ASS'Y	OPERATION			(UCRAL)
* 1-1	VY765500	P.C.B. ASS'Y	OPERATION			(BG)
* 1-5	MF117160	FLEXIBLE FLAT CABLE C&C	17P 160mm			
* 1-11	VV242200	FRONT PANEL			TX-492 BL	(UCRAL)
* 1-11	VV242400	FRONT PANEL			TX-492RDS BL	(BG)
* 1-11	VV242500	FRONT PANEL			TX-492RDS TI	(G)
* 1-13	VV244200	SUPPORT	PWR			
* 1-21	VV292700	SUB PANEL			TX-492 BL	(UCRAL)
* 1-21	VV292900	SUB PANEL			TX-492RDS BL	(BG)
* 1-21	VV293000	SUB PANEL			TX-492RDS TI	(G)
* 1-23	VV245000	ESCUTCHEON			TX-492 BL	(UCRAL)
* 1-23	VV413000	ESCUTCHEON			TX-492RDS BL	(BG)
* 1-23	VV413100	ESCUTCHEON			TX-492RDS TI	(G)
1-24	VV501000	BUTTON	9.5x22V		BL	
* 1-24	VV501100	BUTTON	9.5x22V		TI	
* 1-25	VV245300	SHEET	WINDOW			
1-31	EP630220	BIND HEAD P-TITE SCREW	3x8	ZMC2-BL		
1-33	EP630210	BIND HEAD S-TITE SCREW	3x6	ZMC2-BL		
1-35	VQ368600	PUSH RIVET	P3555-B			
1-40	CB836200	BINDING TIE	S-70B			
* 4	VY765000	P.C.B. ASS'Y	TUNER			(UC)
* 4	VY765100	P.C.B. ASS'Y	TUNER			(R)
* 4	VY765200	P.C.B. ASS'Y	TUNER			(AL)
* 4	VY765300	P.C.B. ASS'Y	TUNER			(BG)
△ 11	VL238100	POWER CORD ASS'Y				(R)
△ 11	VN363700	POWER CORD ASS'Y				(GL)
△ 11	VQ508600	POWER CORD ASS'Y				(A)
△ 11	VV437200	POWER CORD ASS'Y				(UC)
△ 11	VV437300	POWER CORD ASS'Y				(B)
* 51	VV243600	REAR PANEL			TX-492	(UC)
* 51	VV243700	REAR PANEL			TX-492	(R)
* 51	VV243800	REAR PANEL			TX-492	(A)
* 51	VV243900	REAR PANEL			TX-492	(L)
* 51	VV244100	REAR PANEL			TX-492RDS	(G)
* 53	VV245400	TOP COVER			BL	
* 53	VV245500	TOP COVER			TI	
55	VQ709000	CHASSIS				
57	VQ780300	LEG	D60xH16			
* 61	VV244600	SUPPORT, PCB	PCB			
* 63	VZ037300	SUPPORT				
* 75	VY735100	SPACER				
82	VN158600	CORD STOPPER	No.2104			
121	Ei330086	BIND HEAD B-TITE SCREW	3x8	FCRM3-BL		
123	VN413300	BIND HEAD BONDING B-T. SCREW	3x8	MFZN2-BL		
124	VT669300	PW HEAD B-TITE SCREW	3x8-8	MFC2		
128	EO030066	FLAT HEAD SCREW	3x6	ZMC2-Y		
132	VF617600	PAN HEAD P-TITE SCREW	2.6x8	FCRM3-BL		(R)
137	EK365090	PW HEAD S-TITE SCREW	4x8-10	FCRM3-BL	BL	
137	EX601150	BW HEAD S-TITE SCREW	4x8-10	FNM3-BL	TI	
		ACCESSORIES				
	VQ147100	ANTENNA, FM	1P 1.4m			
	VR248500	ANTENNA, AM LOOP	1P 1.0m			
	VS381600	PIN PLUG CORD	1.0m			
	VE364900	ANTENNA ADAPTER	PAL	75-300 Ω		(B)
	VT948000	ANTENNA ADAPTER				(UC)

* New Parts

Parts List for Carbon Resistors

Value	1/4W Type Part No.	1/6W Type Part No.	Value	1/4W Type Part No.	1/6W Type Part No.
1.0	HJ35 3100	HF85 3100	10 k	HF45 7100	HF45 7100
1.8	HJ35 3180	*	11 k	HF45 7110	HF45 7110
2.2	HJ35 3220	HF85 3220	12 k	HJ35 7120	HF85 7120
3.3	HJ35 3330	HF85 3330	13 k	HF45 7130	HF45 7130
4.7	HJ35 3470	HF85 3470	15 k	HF45 7150	HF45 7150
5.6	HJ35 3560	HF85 3560	18 k	HF45 7180	HF45 7180
10	HF45 4100	HF45 4100	22 k	HF45 7220	HF45 7220
15	HJ35 4150	HF85 4150	24 k	HF45 7240	HF45 7240
22	HF45 4220	HF45 4220	27 k	HJ35 7270	HF85 7270
27	HJ35 4270	HF85 4270	30 k	HF45 7300	HF45 7300
33	HF45 4330	HF45 4330	33 k	HF45 7330	HF45 7330
39	HJ35 4470	HF85 4390	36 k	HF45 7360	HF45 7360
47	HF45 4470	HF45 4470	39 k	HF45 7390	HF45 7390
56	HF45 4560	HF45 4560	47 k	HF45 7470	HF45 7470
68	HF45 4680	HF45 4680	51 k	HF45 7510	HF45 7510
75	HF45 4750	HF45 4750	56 k	HF45 7560	HF45 7560
82	HF45 4820	HF45 4820	62 k	HF45 7620	HF45 7620
91	HF45 4910	HF45 4910	68 k	HF45 7680	HF45 7680
100	HF45 5100	HF45 5100	82 k	HF45 7820	HF45 7820
110	HJ35 5110	HF85 5110	91 k	HF45 7910	HF45 7910
120	HF45 5120	HF45 5120	100 k	HF45 8100	HF45 8100
150	HF45 5150	HF45 5150	110 k	HF45 8110	HF45 8110
160	HJ35 5160	*	120 k	HF45 8120	HF45 8120
180	HF45 5180	HF45 5180	150 k	HF45 8150	HF45 8150
200	HF45 5200	HF45 5200	180 k	HF45 8180	HF45 8180
220	HF45 5220	HF45 5220	220 k	HJ35 8220	HF85 8220
270	HF45 5270	HF45 5270	270 k	HF45 8270	HF45 8270
330	HF45 5330	HF45 5330	300 k	HF45 8300	HF45 8300
390	HF45 5390	HF45 5390	330 k	HF45 8330	HF45 8330
430	HF45 5430	HF45 5430	390 k	HJ35 8390	HF85 8390
470	HF45 5470	HF45 5470	470 k	HF45 8470	HF45 8470
510	HF45 5510	HF45 5510	560 k	HJ35 8560	HF85 8560
560	HF45 5560	HF45 5560	680 k	HJ35 8680	HF85 8680
680	HF45 5680	HF45 5680	820 k	HJ35 8820	HF85 8820
820	HF45 5820	HF45 5820	1.0 M	HF45 9100	HF45 9100
910	HF45 5910	HF45 5910	1.2 M	HJ35 9120	*
1.0 k	HF45 6100	HF45 6100	1.5 M	HJ35 9150	HF85 9150
1.2 k	HF45 6120	HF45 6120	1.8 M	HJ35 9180	HF85 9180
1.5 k	HF45 6150	HF45 6150	2.2 M	HJ35 9220	HF85 9220
1.8 k	HF45 6180	HF45 6180	3.3 M	HJ35 9330	HF85 9330
2.0 k	HJ35 6200	HF85 6200	3.9 M	HJ35 9390	*
2.2 k	HF45 6220	HF45 6220	4.7 M	HJ35 9470	HF85 9470
2.4 k	HJ35 6240	HF85 6240			
2.7 k	HF45 6270	HF45 6270			
3.0 k	HF45 6300	HF45 6300			
3.3 k	HF45 6330	HF45 6330			
3.6 k	HJ35 6360	HF85 6360			
3.9 k	HF45 6390	HF45 6390			
4.7 k	HF45 6470	HF45 6470			
5.1 k	HF45 6510	HF45 6510			
5.6 k	HF45 6560	HF45 6560			
6.8 k	HF45 6680	HF45 6680			
8.2 k	HF45 6820	HF45 6820			
9.1 k	HF45 6910	HF45 6910			

1/4W Type

10mm

1/6W Type

5mm

*: Not available

TX-492/RDS

YAMAHA
