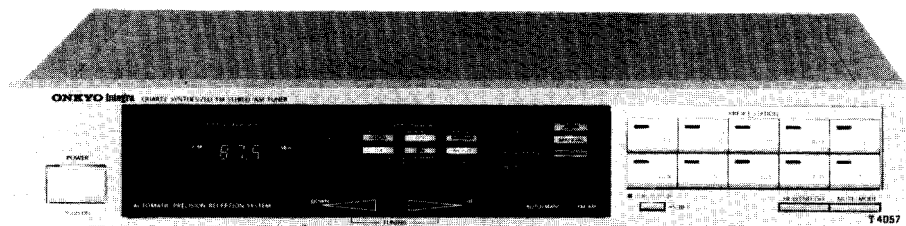


ONKYO SERVICE MANUAL

SYNTHESIZED FM STEREO/AM TUNER MODEL T-4057



Silver and black models

UD, UDN, BUD, BUDN	120V AC, 60Hz
UG, BUG	220V AC, 50Hz
UW, BUW	120 or 220V AC, 50/60Hz
UQA, UQB	240V AC, 50Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK $\triangle$ ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

TABLE OF CONTENTS

Specifications	2
Service procedures	3
Block diagram —120V model—	4
Block diagram —220V model—	5
Exploded view	6
Parts list	7
Circuit description	8
Packing view	13
Adjustment procedures	14
Block diagram of IC	17
Pc board view/parts list	18
Function/Power switch pcb	21
Main/Display pcb	21
Schematic diagram	
120V/Universal models	23
220V model	19

ONKYO
AUDIO COMPONENTS

SPECIFICATIONS

120V model

FM:

Tuning Range:	87.5 — 108.0 MHz (100kHz steps)
Usable Sensitivity:	Mono: 10.8dBf, 1.9 μ V, IHF Stereo: 17.2dBf, 4.0 μ V
50dB Quieting Sensitivity:	Mono: 16.1dBf, 3.5 μ V Stereo: 36.1dBf, 35 μ V
Capture Ratio:	1.3dB
Image Rejection Ratio:	40dB
IF Rejection Ratio:	90dB
Signal-to-Noise Ratio:	Mono: 75dB Stereo: 68dB

Alternate Channel

Attenuation:	55dB IHF ($\pm$ 400kHz)
AM Suppression Ratio:	50dB
Total Harmonic Distortion:	Mono: 0.1% Stereo: 0.2%
Frequency Response:	30 — 15,000Hz $\pm$ 1.5dB
Stereo Separation:	40dB at 1kHz 30dB at 70 — 10,000Hz
Output Voltage:	0.6V
Muting Level:	17.2dBf, 4.0 μ V

AM:

Tuning Range:	530 — 1610kHz (10kHz steps)
Usable Sensitivity:	25 μ V
Image Rejection Ratio:	40dB
IF Rejection Ratio:	30dB
Signal-to-Noise Ratio:	40dB
Total Harmonic Distortion:	0.8%
Output Voltage:	150mV

General

Semiconductors:	FETs: 5 TR: 35 ICs: 10 Diodes: 57 LEDs: 26
Dimensions(WXHXD):	435 x 77 x 372 mm (17-1/8" x 3" x 14-5/8")
Weight:	4.1 kg., 9 lbs.

Specifications and features are subject to change without notice.

Other models

FM:

Tuning Range:	87.5 — 108.0 MHz (50kHz steps)
Usable Sensitivity:	Mono: 10.8dBf, 1.9 μ V, IHF 0.9 μ V 75 ohms DIN Stereo: 2.0 μ V 75 ohms
50dB Quieting Sensitivity:	Mono: 1.7 μ V 75 ohms Stereo: 17 μ V 75 ohms

Capture Ratio:	1.3dB
Image Rejection Ratio:	90dB
IF Rejection Ratio:	90dB
Signal-to-Noise Ratio:	Mono: 75dB Stereo: 68dB

Selectivity:	60dB DIN ($\pm$ 300 kHz, 40 kHz Dev.)
--------------	---

AM Suppression Ratio:	50dB
Total Harmonic Distortion:	Mono: 0.1% Stereo: 0.2%
Frequency Response:	30 — 15,000Hz $\pm$ 1.5dB
Stereo Separation:	40dB at 1kHz 30dB at 70 — 10,000Hz
Output Voltage:	0.8V
Muting Level:	2.0 μ V

AM:

Tuning Range:	522 — 1611 kHz (9 kHz steps)
Usable Sensitivity:	25 μ V
Image Rejection Ratio:	40dB
IF Rejection Ratio:	30dB
Signal-to-Noise Ratio:	40dB
Total Harmonic Distortion:	0.8%
Output Voltage:	150mV

General

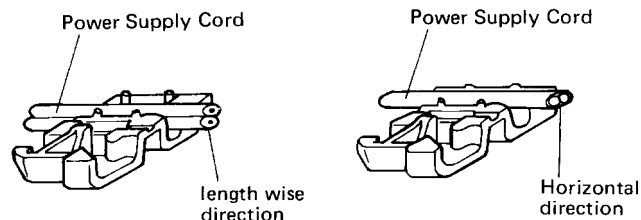
Antennas:	FM: coaxial terminal AM: built-in loop antenna and external terminal
Semiconductors:	FETs: 5 TR: 36 ICs: 10 Diodes: 57 LEDs: 26
Dimensions(WXHXD):	435 x 77 x 372 mm (17-1/8" x 3" x 14-5/8")
Weight:	5.2 kg., 11.4 lbs.

Specifications and features are subject to change without notice.

SERVICE PROCEDURES

1. Replacement of power supply cord

There are two power supply cord outlets on the strainrelief. Insert them in prescribed direction to ensure safety. AS-UC-3 (UD<120V> model) should be inserted lengthwise and other types of cords should be inserted horizontally.



2. Band Switch

The frequency steps of the UD and UG models are fixed. The FM STEP can be changed from 100kHz to 50kHz by exchanging the D715 diode for a D716 item. If the opposite is desired, replace the D716 diode with a D715 item. Remove the D714 diode to decrease the AM step from 10kHz to 9kHz. If the opposite is desired, add a US1040 (Part No. 223150) or other diode to the D714. (See Page 10)

3. Replacement of lamp

This unit is used two lamps listed below.

Circuit no.	Part no.	Description
PL001	210149	PL14V0.06AW-3.0, Power indicator
PL903	210064A	PL6.3V, 250mA, Dial plate illumination

4. Safety-check output

(Only U.S.A. model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer. Connect the insulating-resistance tester between the plug of power supply cord and nickel screw on the back panel.

Specifications: 3.3Mohm $\pm$ 10% at 500V.

5. Change of band step/de-emphasis

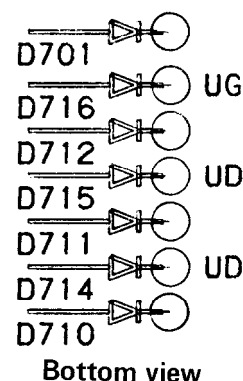
Universal models are equipped with a band step/de-emphasis switch on the back panel. This switch is set to following position.

	Emphasis	AM step	FM step
set position	50 sec.	9 kHz	50 kHz
other	75 sec.	10 kHz	100 kHz

6. Change of voltage

Universal models are equipped with a voltage selector to conform with local power supplies. This switch is located on the back panel. Be sure to set this switch to match the voltage of the power supply in your area before tuning the power switch on.

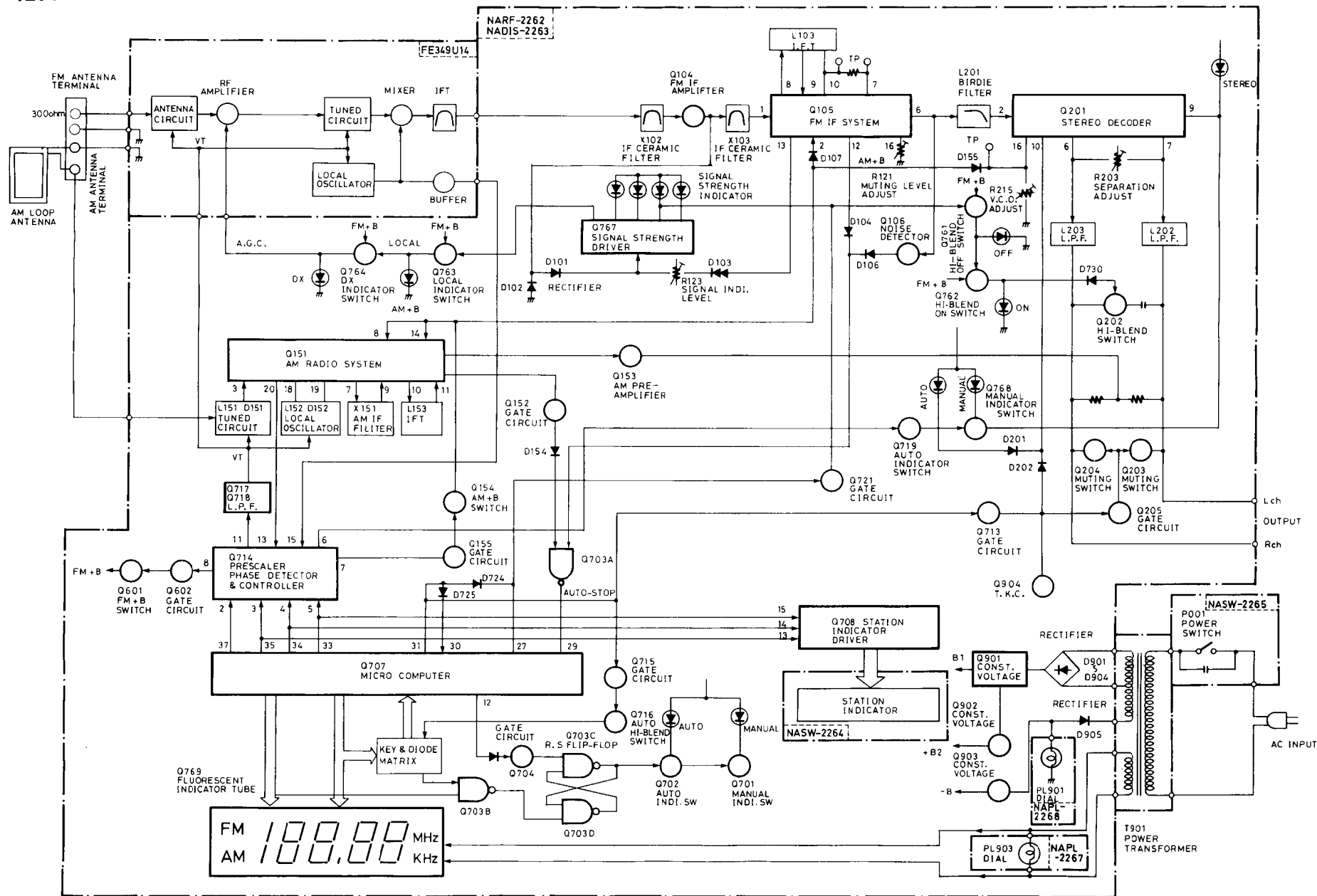
This switch is set to 220V at the factory. Voltage is changed by sliding the groove in the switch with the screwdriver to the right or left. Confirm that the switch has been moved all the way to the right or left before turning the power switch on.



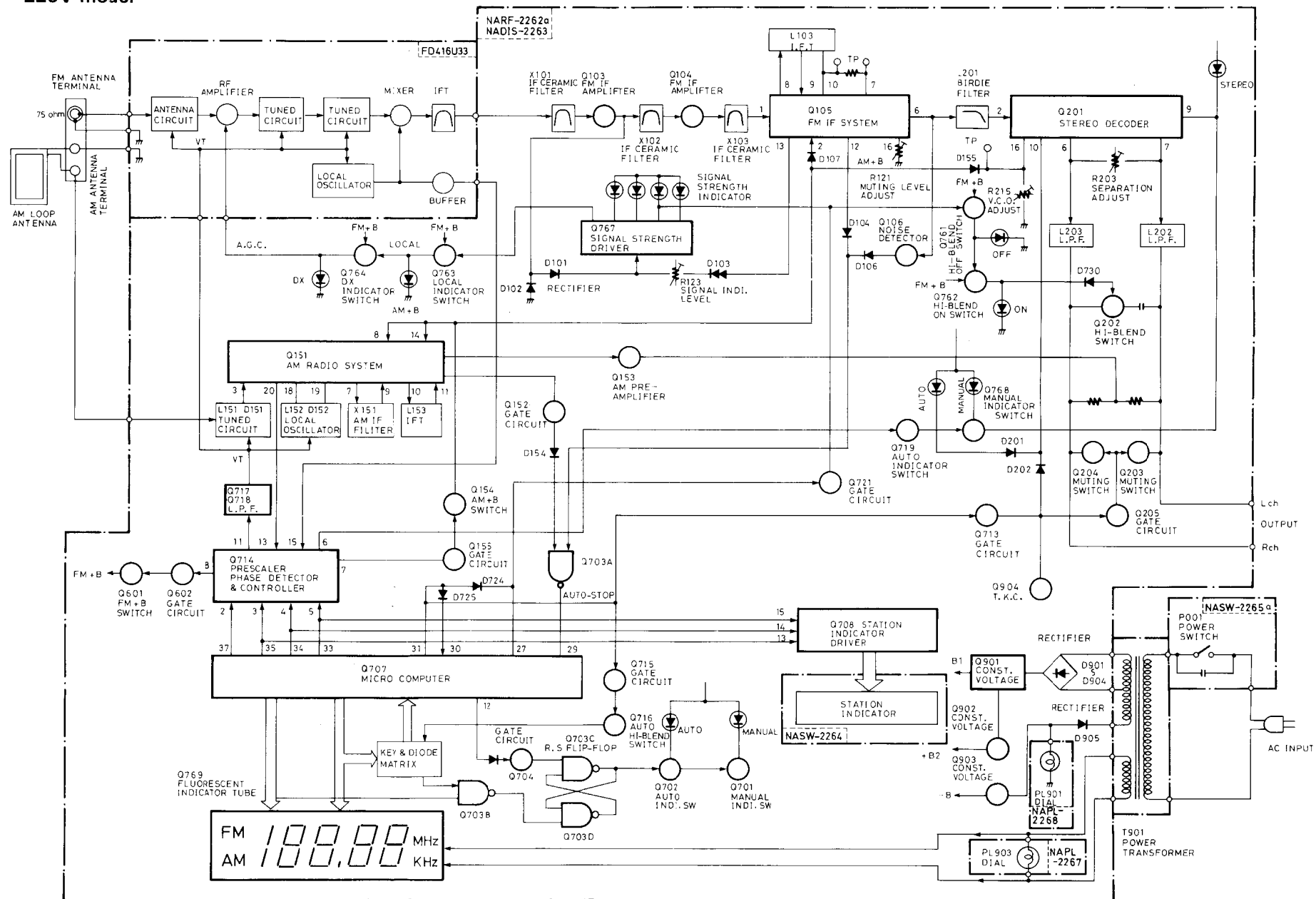
7. Memory preservation

This unit does not require memory preservation batteries. A built-in memory power back-up system preserves contents of the memory during power failures and even when the unit is unplugged. The unit must be plugged in and the power switch turned on and off once in order to charge the super capacitor of C703. Note that since this is not a permanent memory, the power switch must be turned on and off a few times each month to keep the back-up system operable. The period of time during which memory contents are preserved after power has last been turned off varies depending on climate and the location and placement of the unit. On the average, memory contents are protected over a period of 2 weeks after the last time power has been turned off. This period is shorter when the unit exposed to very high humidity or used in an area with an extremely humid climate.

—120V model—

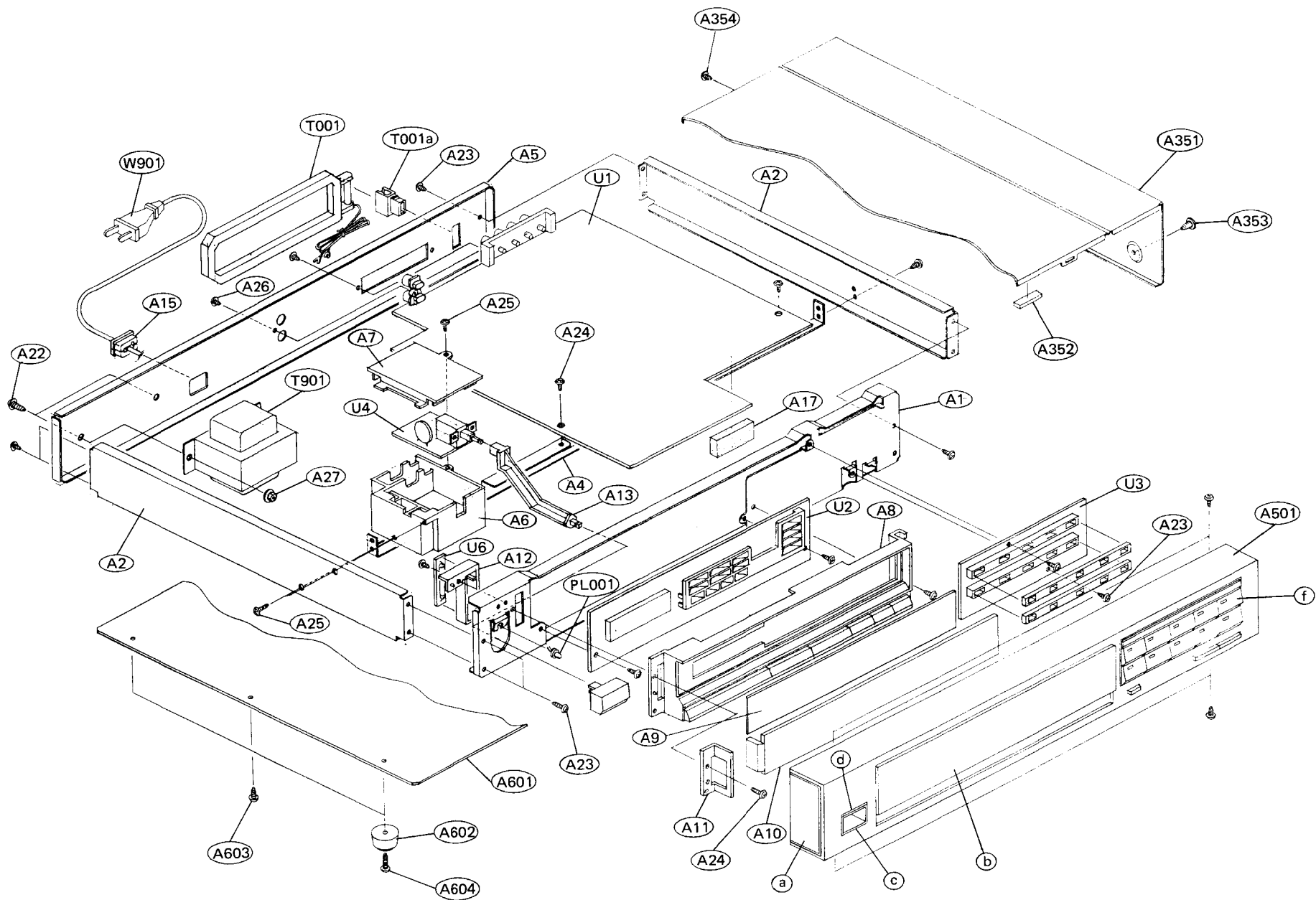


-220V model-



EXPLODED VIEW

9



EXPLODED VIEW PARTS LIST

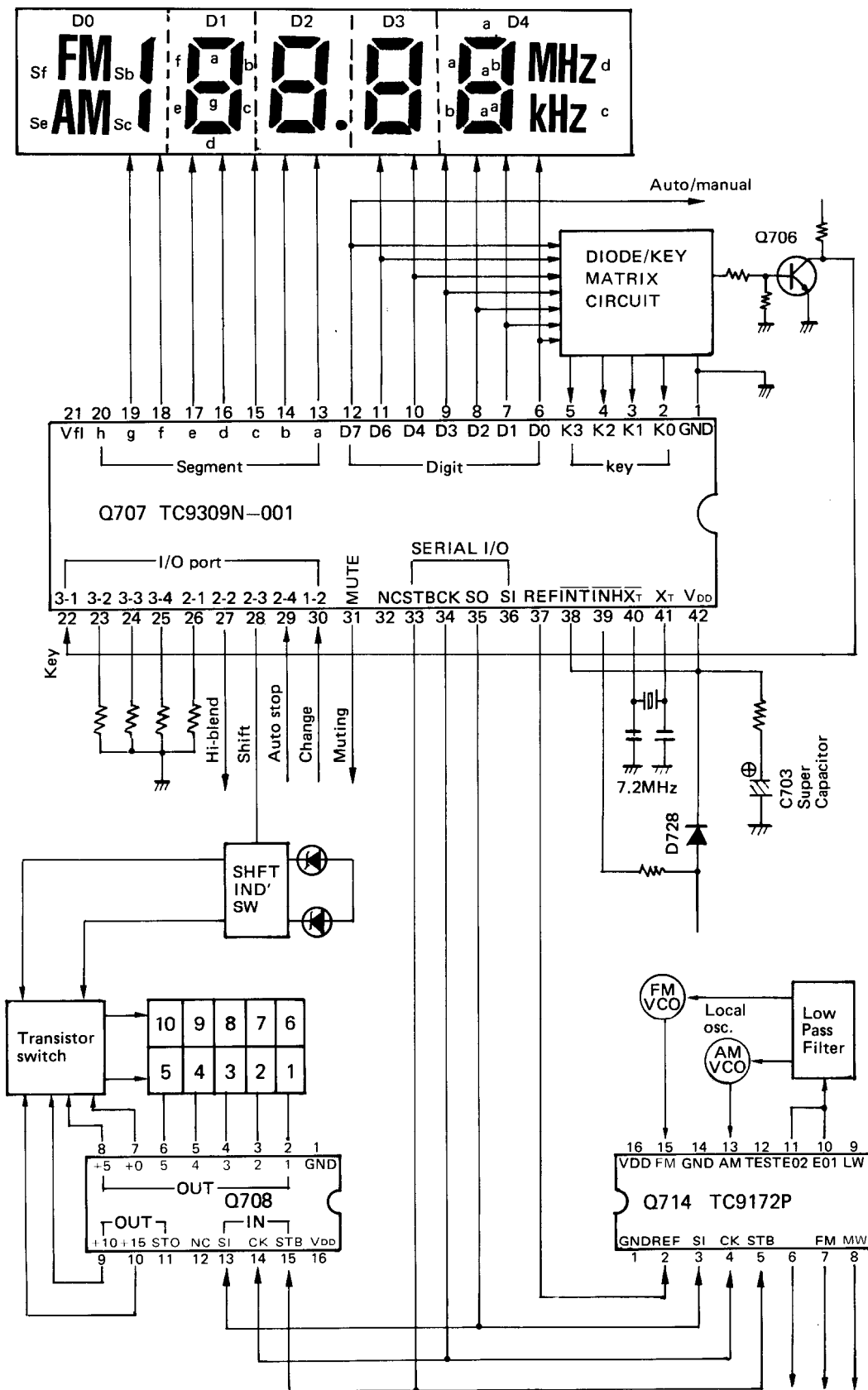
REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
A1	27110242A	Front Bracket	A501f	28321954	Knob ass'y
A2	27115014G	Side bracket	A601	27170156	Bottom board
A4	27130387	Bracket, center	A602	27175009A	Leg
A5	27120676	Back panel <D>	A603	834430068	3TTS+6B(BC), Tapping screw
	27120677	Back panel <G>	A604	834430108	3TTS+10B(BC), Tapping screw
	27120679	Back panel <W>	A801	28321904	Knob, power <S>
A6	27190351	Holder, power		28321905	Knob, power
A7	27190356	Holder, lid	PL001	210149	PL14 V0.06AW-3.0, Lamp
A8	27190347	Holder ass'y	S002	△25065123	NSS-1258P, Voltage selector switch <W>
A9	28133129A	Back plate ass'y			
A10	28130222	Dial plate	T001	232098	NMA-3040, AM antenna
A11	27190353	Holder, dial	T001a	27190129	Holder, antenna
A12	27190198	Holder, lamp	T901	△230885	NPT-879D, Power transformer <D>
A13	27273030C	Joint L			
A15	△27300750	Strainrelief		△230886	NPT-879G, Power transformer <G>
A17	28140516	14 x 50 x 8, Cushion			
A19	28140613	Cushion		△230887	NPT-879DG, Power transformer <W>
A22	838440089	4TTB+8C(BC), Tapping screw	U1	18368562	NARF-2262, Main pc board ass'y <D>
A23	834430068	3TTS+68(BC), Tapping screw			
A24	831430088	3TTW+8B(BC), Tapping screw		18374562A	NARF-2262A, Main pc board ass'y <G>
A25	834430080	3TTP+8P(BC), Tapping screw			
A26	834430108	3TTS+10B(BC), Tapping screw		18370562B	NARF-2262B, Main pc board ass'y <W>
A27	86414010	FWN4 x 10FN, Flange nut	U2	18368563	NADIS-2263, Display pc board ass'y
A28	834230108	3TTS+10B(Ni), Nickel screw	U3	18368564	NASW-2264, Function switch pc board ass'y
A31	82143006	3P+6F-N(BC), Pan head screw <W>	U4	△18368565	NASW-2265, Power switch pc board ass'y <D>
A32	82142604	2.6P+4F(BC), Pan head screw <W>		△18374565A	NASW-2265A, Power switch pc board ass'y <G/W>
A351	28184188	Top cover <S>	U5	18370566	NASW-2266, Band/Emphasis selector switch pc board ass'y <W>
	28184183	Top cover 	U6	△18368567	NAPL-2267, Lamp pc board ass'y <D>
A352	28140020	10 x 40 x 4, Cushion	U7	18374568	NAPL-2268, Lamp pc board ass'y <G/W>
A353	838440089	4TTB+8C(BC), Tapping screw	W901	△253128	AS-CEE, Power supply cord <G/W>
A354	834430068	3TTS+6B(BC), Tapping screw		△253099B or 253099C	AS-UC-3, Power supply cord <D>
A501	18368121	Front panel ass'y <S>			
A501a	28125137A	End cap			
A501b	28191292	Clear plate			
A501c	27267206B	Guide, power			
A501d	28198577	Facet, power			
A501e	28198592A	Facet B			
A501f	28321938	Knob ass'y			
A501	18388121	Front panel ass'y 			
A501a	28125138A	End cap			
A501b	28191292	Clear plate			
A501c	27267235B	Guide, power			
A501d	28198577	Facet, power			
A501e	28198592A	Facet B			

NOTE: THE COMPONENTS IDENTIFIED BY MARK △ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PARTS NUMBER SPECIFIED.

NOTE: <D>: Only 120V model
<G>: Only 220V model
<W>: Only Universal model
<S>: Only Silver model
: Only Black model

CIRCUIT DESCRIPTION

The tuning system incorporates three integrated circuits: a Q714 phase lock loop unit with a pre-scaler, a Q707 controller and a Q708 driver for the station indicator.



TC9303N-001 (Controller IC)

Pin No.	Symbol	Terminal	Description
1	GND	Ground	
2–5	K0 ~ K3	Key return signal input	Terminal for input of the return signals from the external key and diode matrix.
6–10 11	D0 ~ D4 D6	Digit signal output	Fluorescent indicator tube digit signal output and key return signal output terminals.
12	D7	Digit signal output	Key return signal output terminal.
13–19	a ~ g	Segment signal output	Fluorescent indicator tube segment signal output terminals.
20	h	Segment signal output	Not used.
21	–VFL	Power supply	Device power supply terminal; supplies –21V.
22	P3-1	Return signal input	Terminal for input of the return signal from external diode matrix.
23–25 26	P3-2 ~ P3-4 P2-1	I/O port	Not used.
27	F2	Hi-blend output	The function is operated with the HI-BLEND OFF switch on the front panel. The hi-blend switch circuit is off by the high level.
28	F1	Shift indicator output	Terminal for indication of stations (1 ~ 10) or stations (11 ~ 20). The indication becomes 1 ~ 10 by the high level.
29	STP	Auto stop input	Input terminal for detecting whether or not a broadcast signal is being received during auto tuning. Stopped by the high level.
30	CHG	Change	Input terminal to return muting output high level signal to controller.
31	MUTE	Muting circuit control output	Output signal for muting control. With MUTE/MODE switch is “ON” position a signal with a level opposite that of the Stop input is generated. In “OFF” position the low level is generated to shut off the muting irrespective of Stop input.
32	TEST		
33 34 35	STB CK SO	Strobe pulse output Serial clock output Serial data output	Serial data output for the control of the Q714 phase lock loop IC and the Q704 station indicator driver IC.
36	SI	Serial data input	Not used.
37	REF	Reference frequency signal output	Output for reference frequency as supplied to the phase lock loop IC, i.e., square wave signal; 25kHz during FM mode and 10kHz (for 10kHz step range) or 9kHz (for 9kHz step range) during AM mode.
38	$\overline{\text{INT}}$	Initial program load	
39	$\overline{\text{INH}}$	Inhibit input	
40 41	$\overline{\text{XT}}$ XT	X’tal	Connected to the 7.2MHz crystal oscillator.
42	VDD	Power supply	Device power supply terminal; supplies 5V during normal operation and more than 2V from the C703 super capacitor for memory preservation.

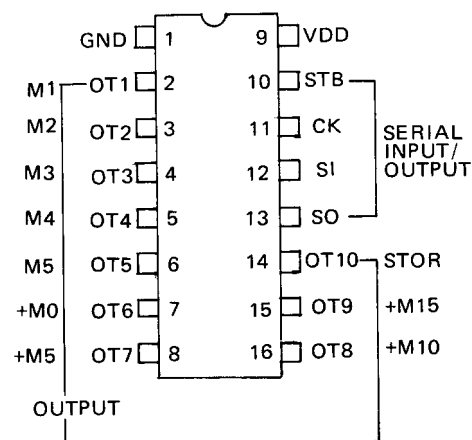
KEY MATRIX DESCRIPTION

	D0(6)	D1(7)	D2(8)	D3(9)	D4(10)	D6(11)	D7(12)
K4(22)	FM0	FM1	MW0	MW1	LW0	LW ena	
K3(5)	3	7		SHIFT	MUTING	REW ena	BAND KEY
K2(4)	2	6	10	HI-BLEND	AUTO/MANUAL	IF min	Mran
K1(3)	1	5	9		DOWN	IF pls	M1
K0(2)	MEMORY	4	8	FM/AM	UP	+10	M0

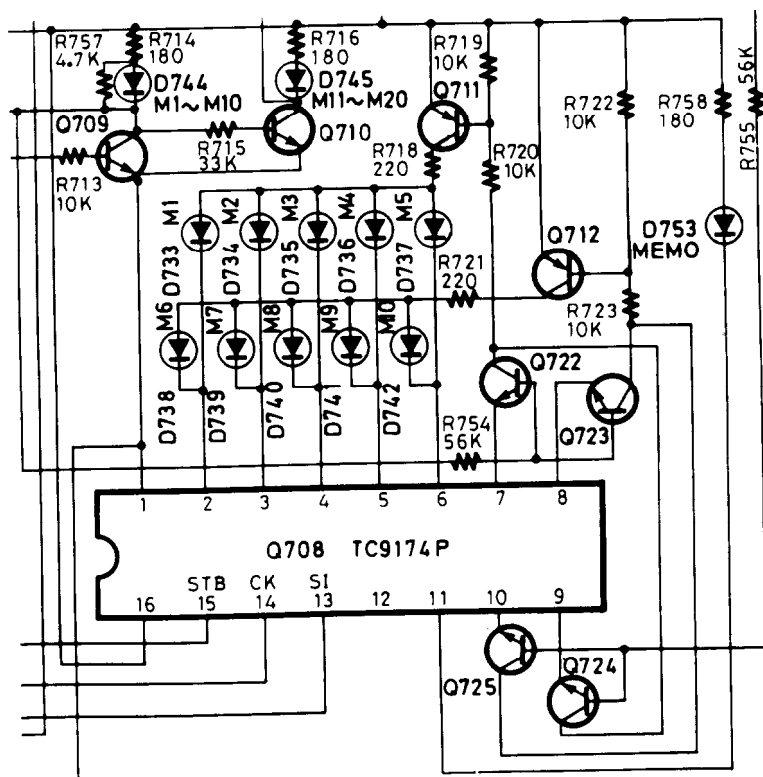
Note:  Key matrix  Diode matrix  (High level when the diode is connected.)

BAND	CORD 0 1	TUNING RANGE	STEP	REFERENCE FREQUENCY	IF FREQUENCY
FM	0 0	76.0 ~ 90.0MHz	100kHz	25kHz	-10.7MHz
	0 1	87.5 ~ 108.0MHz			+10.7MHz
	1 0	87.50 ~ 108.00MHz	50kHz		-10.7MHz
	1 1	87.50 ~ 108.00MHz			+10.7MHz
MW	0 0	522 ~ 1,629kHz	9kHz	9kHz	+450kHz
	0 1	522 ~ 1,611kHz			
	1 0	531 ~ 1,602kHz	10kHz	10kHz	
	1 1	530 ~ 1,610kHz			

FM0, 1 . . . FM band setting.
MW0, 1 . . . MW band setting.
Mran, M0, M1 . . . Memory number setting.

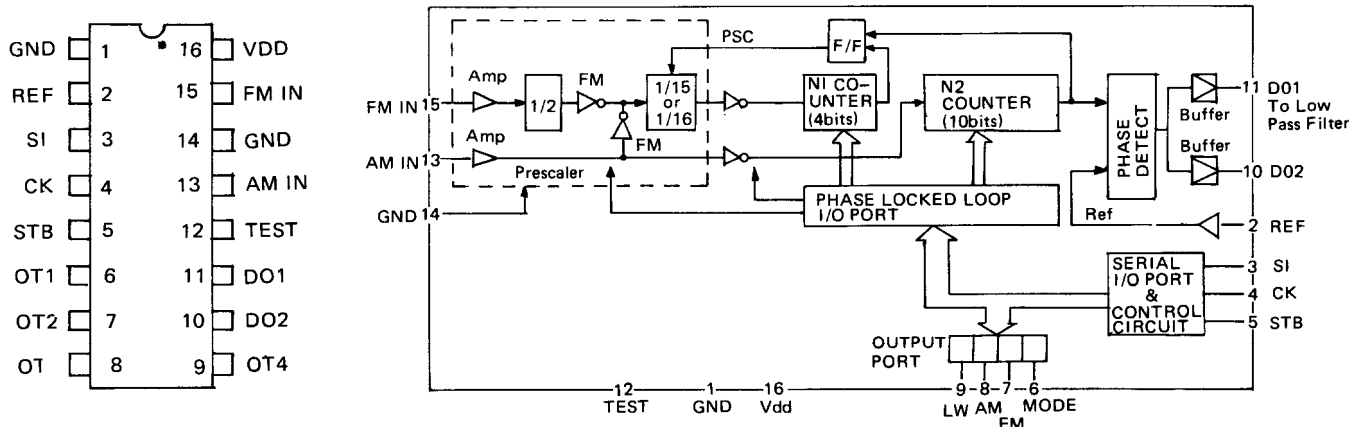


TC9174P (Station indicator driver)



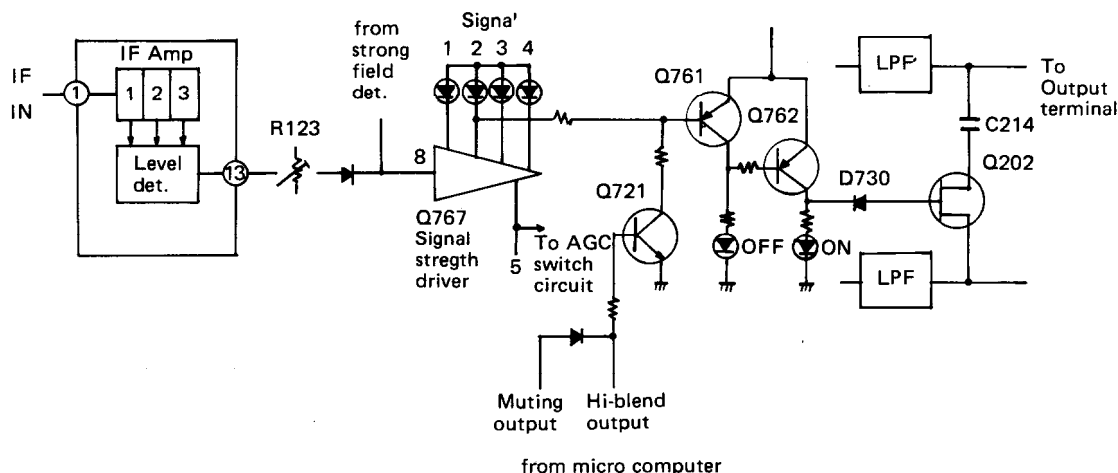
The indicator driver output, either the OT1-OT5 or the OT6-OT9, is converted into low level by means of the serial data from the controller. When the 8th station is received, the OT3(4 pin) and the OT7 (8 pin) become low level, the Q712 and Q713 are turned on and the D740 LED comes on to indicate that the 8th station is being received.

TC9172P (PLL IC)



Pin No.	Symbol	Terminal	Description
1	GND	Ground	
2	REF	Reference frequency input	Input for reference frequency as supplied from the controller IC i.e., square wave signals; 25 kHz during FM mode and 10 kHz (for 10 kHz step range) or 9 kHz (for 9 kHz step range) during AM mode.
3	SI	Serial data input	This function supplies and receives data within the controller to control the serial input port, determination of dividing ratio and versatile I/O port.
4	CK	Serial clock input	
5	STB	Strobe input	
6	MODE	Model output	FM mode can be performed in AUTO or MONO mode by pressing the MUTE/MODE switch on the front panel. High level at AUTO mode.
7	FM	FM output	High level at FM. This signal controls B circuit in AM IC, FM IF and and multiplex circuit.
8	AM	AM output	High level at AM. This signal controls the B circuit in the FM indicator.
9	LW		Not used.
10, 11	E01, E02	Error outputs	Charge pump output of the phase detector which constitutes the phase lock loop. The high level is output when the divided local oscillator signal frequency is higher than the reference frequency from controller. In the opposite case, the low level is output. Floating occurs when the frequencies match. The output is applied to the variable capacitor diode in the front end through the low pass filter Q717 and Q718. The output from both terminals is same.
12		TEST	
13	AM	AM local oscillator	AM local oscillator input
14	GND		
15	FM	FM local oscillator	FM local oscillator input
16	VDD	Power supply	

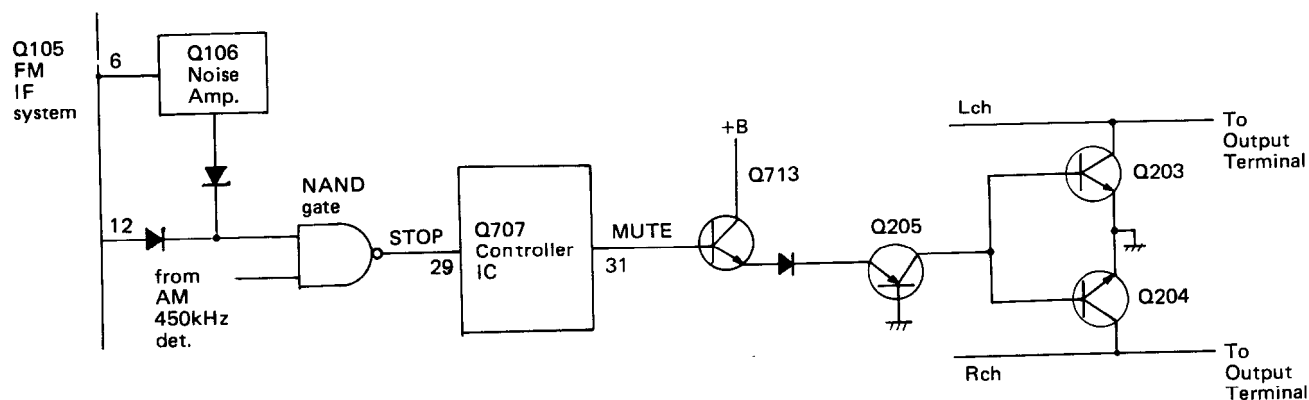
Hi-Blend Circuit



The Q105 FM IF system incorporates IC's with a built-in IF level detector with a 13 pin output. If an input above 35dB enters the antenna, the 2 pin of Q767 signal driver becomes low level, the Q761 is turned on, the Q762 and Q202 are turned off and the high blend function is turned off. Whenever the HI-BLEND OFF switch is pressed to switch off input lower than off level, the output of the 27 pin Q707 inverts to become high level, the Q721 and Q761 are turned on and the high blend function is turned off. When the UP/DOWN switch is pressed and the 27 pin of the Q715 and Q716 are high level the following happens.

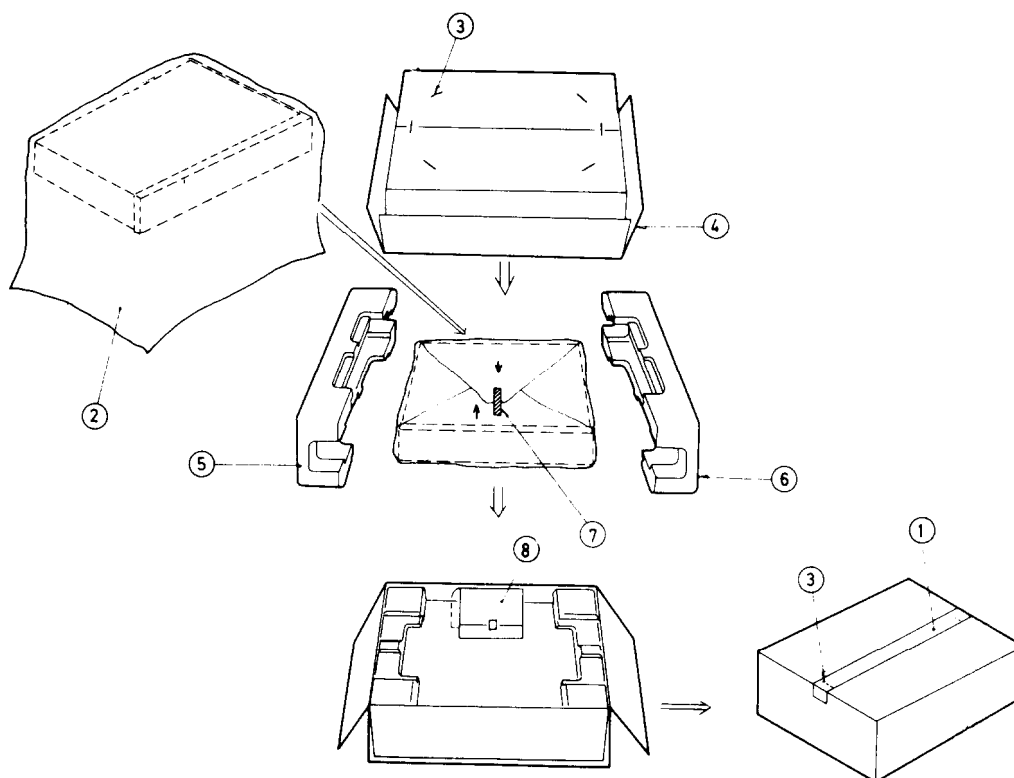
The 31 pin of the MUTE terminal become high level, turning on the Q715 and Q716 which perform the same function as pressing the HI-BLEND OFF switch. That is the 27 pin become low, high blend is turned on and Q715 and Q716 are turned off.

Muting/Auto Tuning Circuit



This function receives signals louder than muting level. If the signal contains no noise factor, the NAND gate input is converted from high level to low level and the output becomes high level. In case the STOP terminal in the controller changes from low to high level the auto muting function is shut off. If the MUTE switch is in auto mode, the muting signal changes from high to low level, the Q713, Q203-Q205 transistors are turned off generating an output signal.

PACKING VIEW



REF. NO.	PART NO.	DESCRIPTION
1	29095012-1	500 × 800mm, Protection sheet
2	29100036A	550 × 850mm, Poly-vinyl bag
3	282301	Sealing hook
4	29051076	Master carton box <S>
	29051077	Master carton box
5	29090772	Pad R
6	29090771	Pad L
7	261504	30 × 80mm, Adhesive tape
8	260012	50 × 700mm, Dampson tape
9	Accessory bag ass'y	
	U.S.A. model	
	29340854	Instruction manual
	292064A	FM antenna
	2010095	Connection cord
	29365006-6	Warranty card
	29358002C	Service station list
	29100006A	350 × 250mm, Poly-vinyl bag

REF. NO.	PART NO.	DESCRIPTION
	120V model	
	29340854	Instruction manual
	292064A	FM antenna
	2010095	Connection cord
	29100006A	350 × 250mm, Poly-vinyl bag
	220V model	
	29340855	Instruction manual
	292092	FM antenna
	2010095	Connection cord
	29100006A	350 × 250mm, Poly-vinyl bag
	Universal model	
	29340855	Instruction manual
	292064A	FM antenna
	2010095	Connection cord
	25055040	CV-K-2, Conversion plug
	29100006A	350 × 250mm, Poly-vinyl bag

NOTE:

<S> : Only silver model

 : Only black model

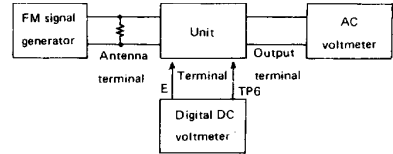
ADJUSTMENT PROCEDURES

FM Section

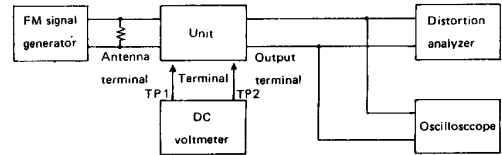
Item	Step	Connection of instrument	FM SG output	Stereo modulator output	Tuned frequency	Output indicator	Adjustment point	Adjust	Remarks
FM RF	1	Fig. 1			87.5 MHz	Digital DC voltmeter	LO	$1.5 \pm 0.4V$	Usually not necessary to adjust.
	2		108.0 MHz, 1 kHz 75 kHz devi.		108.0 MHz	AC voltmeter	RF	Maximum	
FM IF	1	Fig. 2	99.0 MHz, 1 kHz 75 kHz devi. 65 dBf (60 dB μ)		99.0 MHz	DC voltmeter	L103 Pri. coil	OV	Muting switch to off. Repeat the steps 1 and 2 until no further adjustment is necessary. Muting switch to on after adjustment.
	2					Distortion analyzer	L103 secondary coil	Minimum	
VCO		Fig. 3	99.0 MHz, 1 kHz 75 kHz devi. 65 dBf (60 dB μ)		99.0 MHz	Frequency counter	R215	$76,000 \pm 76 \text{ Hz}$	Muting switch to on.
Stereo Distortion		Fig. 4	99.0 MHz, Ext. modulation 65 dBf (60 dB μ)	L+R 1 kHz, 67.5 kHz devi. Pilot signal 7.5 kHz devi.	99.0 MHz	Distortion analyzer	IF core on front end	Minimum	
Stereo Separation	1	Fig. 4	99.0 MHz, Ext. modulation 65 dBf (60 dB μ)	Lch. 1 kHz	99.0 MHz	Rch. output	R203	Minimum	Maximum and same separation at the channels left and right.
	2			Rch. 1 kHz		Lch. output		Minimum	
Muting Level	1	Fig. 2	99.0 MHz, 1 kHz 75 kHz devi. 17.2 dBf (12 dB μ)		99.0 MHz	Oscilloscope	R121	Signal	
	2		16.2 dBf (11 dB μ)					No signal	
Signal Indicator Level		Fig. 2	99.0 MHz, 1kHz 75kHz devi. 55 dBf (50 dB μ)		99.0 MHz	Signal indicator	R123	4th LED light on.	

AM Section
120V model

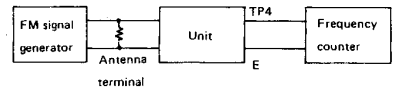
Step	AM SG output	Tuned frequency	Output indicator	Adjust. point	Adjust for	Remarks
1		530 kHz	Digital DC voltmeter	L152	$1.2 \pm 0.1V$	Repeat the steps 1 and 2 until no further adjustment is necessary.
2		1610 kHz		TC152	$9.5 \pm 0.1V$	
3	600 kHz, 400 Hz 30% mod. 60 dB/m	600 kHz	AC voltmeter	L151	Maximum	Repeat the steps 3 and 4 until no further adjustment is necessary.
4	1400 kHz, 400 Hz 30% mod. 60 dB/m	1400 kHz		TC151	Maximum	
5	1000 kHz, 400 Hz 30% mod. 60 dB/m	1000 kHz	AC voltmeter	X151	Maximum	



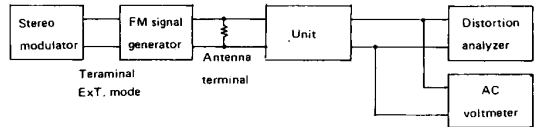
(fig. 1)



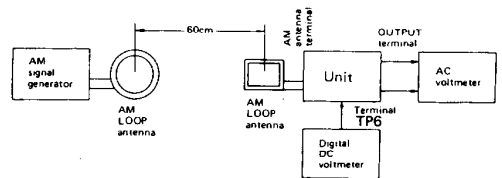
(fig. 2)



(fig. 3)



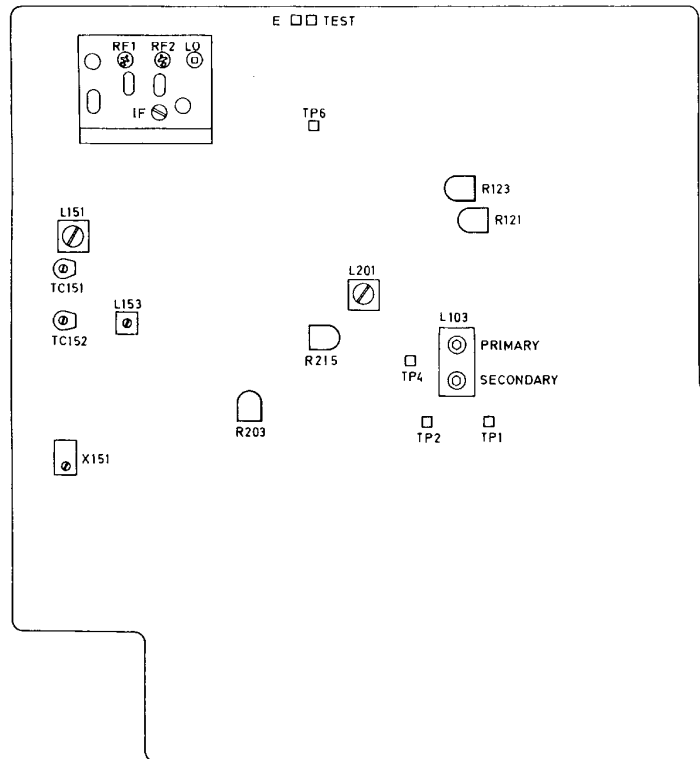
(fig. 4)



(fig. 5)

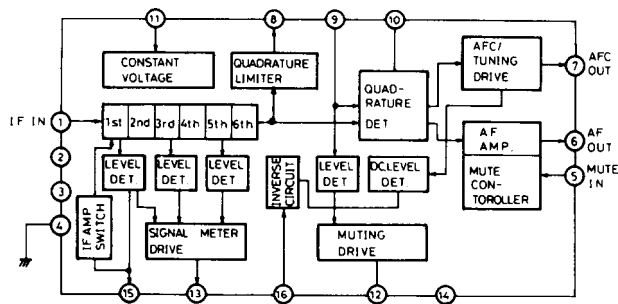
Other models

Step	AM SG output	Tuned frequency	Output indicator	Adjust. point	Adjust for	Remarks
1		522 kHz	Digital DC voltmeter	L152	$1.2 \pm 0.1V$	Repeat the steps 1 and 2 until no further adjustment is necessary.
2		1611 kHz		TC152	$9.5 \pm 0.1V$	
3	603 kHz, 400 Hz 30% mod. 60 dB/m	603 kHz	AC voltmeter	L151	Maximum	Repeat the steps 3 and 4 until no further adjustment is necessary.
4	1404 kHz, 400 Hz 30% mod. 60 dB/m	1404 kHz		TC151	Maximum	
5	999 kHz, 400 Hz 30% mod. 30 dB/m	999 kHz	AC voltmeter	X151	Maximum	



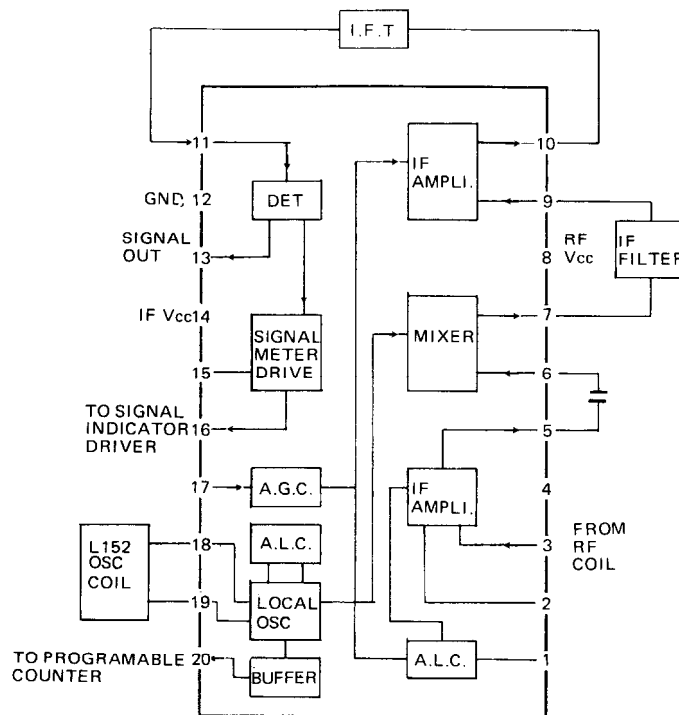
BLOCK DIAGRAM OF IC

HA-11225(FM IF system)



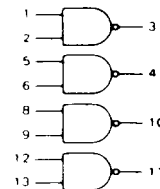
1. IF signal input
2. IF amplifier switch input
H level: Off
5. Muting switch input
6. Composite signal output
7. AFC output
8. IF amplifier output
9. 10.7MHz input
10. Reference voltage
11. Power supply
12. Muting output
Tuned: L level
13. Signal strength output
15. AGC out put
16. Muting level

LA-1245 (AM radio system)

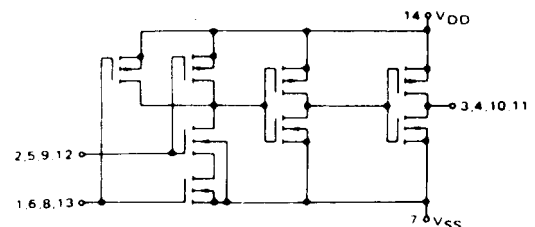


4011B (Nand gate)

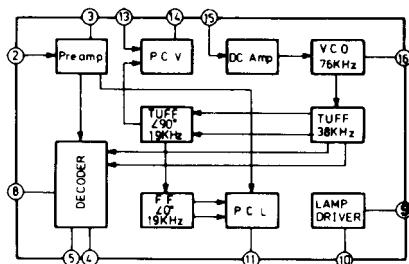
LOGIC DIAGRAM



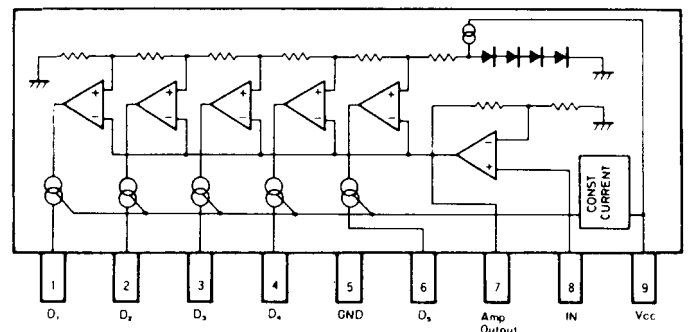
CIRCUIT SCHEMATICS (1/4 of Device Shown)



HA-1196 (Stereo decoder)



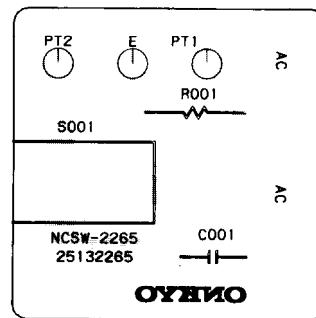
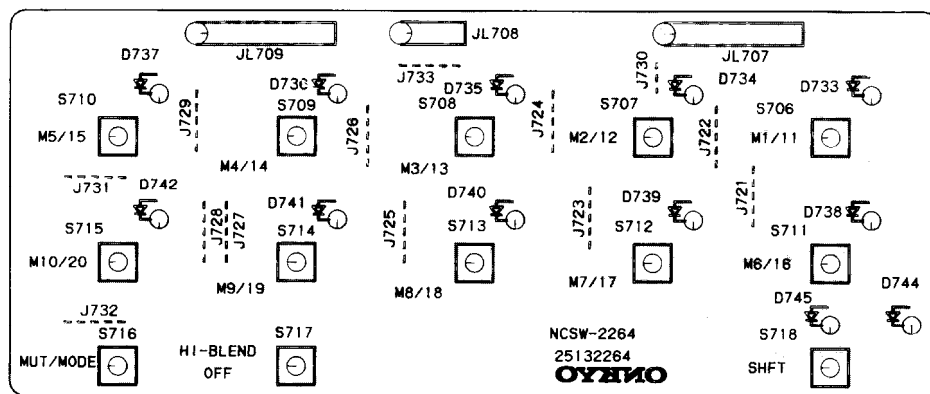
LB1403 (Signal strength indicator driver)



PRINTED CIRCUIT BOARD VIEW FROM BOTTOM SIDE

Function switch

Power switch



PRINTED CIRCUIT BOARD PARTS LIST

DISPLAY PC BOARD (NADIS-2263)

CIRCUIT NO.	PART NO.	DESCRIPTION
Fluorescent tube		
Q769	212018	7BT-15ZA
IC		
Q767	222666	LB1403
Transistors		
Q761-Q764	2211454 or 2212494	2SA1015(Y) or JA101(P)
Q768	2211255, 2210746 or 2212485	2SC1815(GR), 2SC945A (P) or JC501(Q)
Diode		
D762	223150, 223145 or 223124	US1040, 1S2076TD or 1S2473
LEDs		
D741, D766	225142	SEL2913K
D753, D769	225141	SEL2213C
D768, D770	225142	SEL2913K
D742, D765	225137CG,	SEL2413ECG,
D767	225137DG or	SEL2413EDG or
D771-D775	225137DY	SEL2413EDY
Capacitor		
C763	352741009	10μF, 16V, Elect.
Switches		
S701-S705	25035389	NPS-111-S353
Holder		
	27190354A	LED
Cushion		
	28140597	10x40x1.5

FUNCTION SWITCH PC BOARD (NASW-2264)

CIRCUIT NO.	PART NO.	DESCRIPTION
LEDs		
D733-D742	225141	SEL2213C
D744	225137CG, 225137DG or 225137DY	SEL2413ECG, SEL2413EDG or SEL2413EDY
D745	225142	SEL2913K
Switches		
S706-S718	25035389	NPS-111-S353
Holders		
	27190355A	LED 5
	27190249	LED

POWER SWITCH PC BOARD (NASW-2265/A)

CIRCUIT NO.	PART NO.	DESCRIPTION
C001	△3500065A	DE7150FZ103PAC400/125V, Capacitor IS
R001	△431523355	3.3MΩ, 1/2W Solid resistor <D>
S001	△25035295	NPS-111-L261P, Power switch
	25060092	NTM-1S33, Terminal

BAND/EMPHASIS SELECTOR SWITCH PC BOARD (NASW-2266)

CIRCUIT NO.	PART NO.	DESCRIPTION
S002	25065240	NSS-42102, Slide switch

LAMP PC BOARD (NAPL-2267)

CIRCUIT NO.	PART NO.	DESCRIPTION
PL903	210064A	PL6.3V250mA, Lamp

LAMP PC BOARD (NAPL-2268)

CIRCUIT NO.	PART NO.	DESCRIPTION
PL903	210064A	PL6.3V250mA, Lamp

NOTE: THE COMPONENTS IDENTIFIED BY MARK △ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PARTS NUMBER SPECIFIED.

PRINTED CIRCUIT BOARD PARTS LIST

MAIN PC BOARD (NARF-2262 a/b)

CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION
1	Front end		D735, D908	223150,	US1040,
	TU001	240061	D910, D911	223145 or	1S2076TD or
	TU001	240059	D913	223124	1S2473
	ICs		D901-D905	223804 or	SR1K-2 or
	Q105	222540		223848	GP08B
	Q151	222701	D906, D912	2239493 or	RD6, 2EB3 or
	Q201	222453		2240972	GZA6, 2Y
	Q703	222513 or	D907	2239752 or	RD22EB2 or
		222840111		2241231	GZA22X
	Q707	222867	D909	2239452 or	RD5, 1EB2 or
2	Q708	222868		2240931	GZA5.1X
	Q714	222869	Coils		
	Q901	222780122	L101	233105	NCH-1005
	Transistors		L102	233031	NMC-9-1
	Q103	2211723	L151	232120	NMA-4054
	Q104	2211723	L152	232110	NMO-4027
	Q106	2211255,	L201	233319	NMC-6049
	Q152-Q155	2210746 or	L202, L203	233291	NMC-5039
	Q203, Q204	2212485	L104	233312	NFA-3051
	Q202	2211944 or	Transformer		
3		2211945	L103	233274	NFIF-6041
	Q205	2211454 or	Ceramic filters		
		2212494	X101-X103	3010043	SFE10.7MM <G>
	Q601, Q602	2211255,	X101, X102	3010006	SFE10.7MA-A <D/W>
	Q701, Q702	2210746 or	X151	3010075	SFL-450B3
	Q704, Q706	2212485	X152	3010076	BFU450C
	Q709, Q710	2211255,	X'tal		
	Q713, Q715	2210746 or	X701	3010073	XTL-7.2M
	Q718, Q719	2212485	Capacitors		
	Q705, Q711	2211454 or	C103	352744709	47μF, 16V, Elect.
4	Q712, Q716	2212494	C106	352784799	0.47μF, 50V, Elect.
	Q717	2212294	C112	352780109	1μF, 50V, Elect.
	Q902, Q721	2211255,	C113	352742219	220μF, 16V, Elect.
	Q722-Q725	2212485 or	C119	352741009	10μF, 16V, Elect.
		2210746	C142-C144	352784799	0.47μF, 50V, Elect.
	Q903	2211454 or	TC151, TC152	3060010	NTC-20P09, Trimmer
		2212494	C158	352741009	10μF, 16V, Elect.
	Q904	2211256	C162	352780109	1μF, 50V, Elect.
	Diodes		C164	370135114	510pF±5%, 100V, APS
	D101-D103	223132	C166, C167	352750479	4.7μF, 25V, Elect.
5	D153	4000068	C170	352744709	47μF, 16V, Elect.
	D104-D106	223150,	C171	352721019	100μF, 6.3V, Elect.
	D154, D155	223145 or	C172	352750479	4.7μF, 25V, Elect.
	D201, D202	223124	C201	352744719	470μF, 16V, Elect.
	D151, D152	223140	C202	352750479	4.7μF, 25V, Elect.
	D107	223133 or	C205, C206	379121224	1,200pF±5%, 50V, DEW
		223145			<G/W>
	D701-D713	223150,		379121824	1,800pF±5%, 50V, DEW <D
	D717-D719	223145 or	C207, C208	352742209	22μF, 16V, Elect.
	D730, D731	223124	C210	370133614	360pF±5%, 100V, APS
5	D714, D715	223150,	C211	352780109	1μF, 50V, Elect.
		223145 or	C212	352780339	3.3μF, 50V, Elect.
		223124	C213	352784799	0.47μF, 50V, Elect.
	D716	223150,	C215, C216	352741009	10μF, 16V, Elect.
		223145 or	C217, C218	379121025	1,000pF±10%, 50V, DEW
		223124			<G>
	D732-D734	223150,	C219	379121035	0.01μF±10%, 50V, DEW <G
		223145 or	C220, C221	370135614	560pF±5%, 100V, APS <W>
		223124	C601	352741019	100μF, 16V, Elect.
	D728, D781	223150,	C701	352750479	4.7μF, 25V, Elect.
5	D724, D725	223145 or	C703	3020020	0.22F, 5V, Super
		223124	C710	395160107	1μF, 35V, Tantalum
			C712	352784799	0.47μF, 50V, Elect.

CIRCUIT NO.	PART NO.	DESCRIPTION
C905	352760479	4.7 μ F, 35V, Elect.
C906	352751029	1,000 μ F, 25V, Elect.
C908	352784799	0.47 μ F, 50V, Elect.
C910	352780109	1 μ F, 50V, Elect.
C911	352784799	0.47 μ F, 50V, Elect.
C913	352764719	470 μ F, 35V, Elect.
C914, C915	352751009	10 μ F, 25V, Elect.
C916	352742209	22 μ F, 16V, Elect.
C917	352744719	470 μ F, 16V, Elect.
Resistors		
R121, R123	5215045	N08HR10KBC, Semi-fixed
R203	5215048	N08HR200KBC, Semi-fixed
R215	5215045	N08HR10KBC, Semi-fixed
R901	441621004	10 Ω , 1W, Metal oxide film
R902	441626814	680 Ω , 1W, Metal oxide film
R903	441525604	56 Ω , 1/2W, Metal oxide film
R905	441521014	100 Ω , 1/2W, Metal oxide film
R907	441622214	220 Ω , 1W, Metal oxide film

CIRCUIT NO.	PART NO.	DESCRIPTION
	Terminals	
	25060087	NTM2PDMN31, Antenna <G>
	25060085	NTM4PDMN29, Antenna <D/W>
	25045141	NPJ2PDBL54, Output
	Radiator	
	27160011A	RAD-05
	Screws	
	82143010	3P+10F(BC), Pan head
	834430108	3TTS+10B(BC), Tapping
	Nut	
	863430	N-3F-N(BC), Radiator

<D>: Only 120V model <G>: Only 220V model <W>: Only Universal model

ONKYO CORPORATION

International Division: No.24 Mori Bldg., 23-4, 3-chome, Nishi-Shinbashi, Minato-ku, Tokyo, Japan.
 Telex: 2423551 ONKYO J. Phone: 03-432-6981

ONKYO U.S.A. CORPORATION

200 Williams Drive, Ramsey, N.J. 07446 Tel. 201-825-7950