

ONKYO® SERVICE MANUAL

Integrated Stereo Amplifier MODEL A-RV400, A-RV400M



UD	120V AC, 60Hz
UG	220V AC, 50Hz
UQ (A, B)	240V AC, 50Hz
UW	120V/220V AC, 50Hz/60Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK Δ 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 PARTS 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.

ONKYO
AUDIO COMPONENTS

SPECIFICATIONS

U.S.A. & Canadian models

Power Output:	100 watts per channel, min RMS, at 8 ohms, both channels driven from 20 Hz to 20 kHz, with no more than 0.08% THD.
Total Harmonic Distortion:	0.08% at rated power
IM Distortion:	0.08% at rated power
Damping Factor:	40 at 8 ohms
Frequency and Response:	15-30,000 Hz ± 1 dB
Sensitivity and Impedance:	Phono: 2.5 mV/50 kohms
	Tuner/CD/VCR-1, VDP: 150 mV/50 kohms
	Source Direct: 150 mV/50 kohms
	Tape/VCR-2 Play: 150 mV/50 kohms
	Tape/VCR-2 Rec: 150 mV/3 kohms (phono)
Phono Overload:	150 mV RMS at 1 kHz, 0.08% THD (REC)
Bass Control:	± 10 dB at 100 Hz
Treble Control:	± 10 dB at 10,000 Hz
Selective Tone Control:	± 15 dB at 50 Hz/ ± 6 dB at 10 kHz
Signal to Noise Ratio (IHF-A):	Phono: 80 dB (5 mV input)
	Source Direct (CD): 102 dB

General

Power Supply:	USA & Canadian models: AC 120V, 60 Hz
Dimensions (W $\times$ H $\times$ D):	435 $\times$ 143 $\times$ 287 mm
	17-1/8" $\times$ 5-5/8" $\times$ 11-5/16"
Weight:	9.1 kg, 20.1 lbs.

Remote Control Transmitter RC-142S

Transmitter:	Infrared.
Signal range:	Approx. 5 meters, 16ft.
Power supply:	Two "AA" batteries (1.5 V $\times$ 2)
Dimensions (W $\times$ H $\times$ D):	64 $\times$ 18 $\times$ 176 mm
	2-1/2" $\times$ 11/16" $\times$ 6-15/16"
Weight:	130 grams. 4.6 oz. (including batteries)

European models

Power Output:	80 watts per channel, min RMS, at 8 ohms, both channels driven from 20 Hz to 20 kHz, with no more than 0.08% THD. 2 $\times$ 120 watts at 4 ohms, 1 kHz (DIN) 2 $\times$ 90 watts at 8 ohms, 1 kHz (DIN)
Total Harmonic Distortion:	0.08% at rated power
IM Distortion:	0.08% at rated power
Damping Factor:	40 at 8 ohms
Frequency and Response:	15-30,000 Hz ± 1 dB
Sensitivity and Impedance:	Phono: 2.5 mV/50 kohms
	Tuner/CD/VCR-1/VDP: 150 mV/50 kohms
	Source Direct: 150 mV/50 kohms
	Tape/VCR-2 Play: 150 mV/50 kohms
	Tape/VCR-2 Rec: 150 mV/3 kohms (phono)
Phono Overload:	150 mV RMS at 1 kHz, 0.08% THD (REC)
Bass Control:	± 10 dB at 100 Hz
Treble Control:	± 10 dB at 10,000 Hz
Selective Tone Control:	± 15 dB at 50 Hz/ ± 6 dB at 10 kHz
Signal to Noise Ratio (IHF-A):	Phono: 80 dB (5 mV input)
	Source Direct (CD): 102 dB

General

Power Supply:	(except U.K.):	AC 220V, 50 Hz
	U.K. & Australian models:	AC 240V, 50 Hz
	Worldwide models:	AC 120V and 220V
		switchable, 50/60 Hz
Dimensions (W $\times$ H $\times$ D):	435 $\times$ 143 $\times$ 287 mm	
	17-1/8" $\times$ 5-5/8" $\times$ 11-5/16"	
Weight:	9.1 kg, 20.1 lbs.	

Remote Control Transmitter RC-143S

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Signal range:	Approx. 5 meters, 16ft.
Power supply:	Two "AA" batteries (1.5 V $\times$ 2)
Dimensions (W $\times$ H $\times$ D):	64 $\times$ 18 $\times$ 176 mm
	2-1/2" $\times$ 11/16" $\times$ 6-15/16"
Weight:	130 grams. 4.6 oz. (including batteries)

ADJUSTMENT PROCEDURES

Adjustments and Checking the Protection Circuitry

1. Preparations

- 1) Place the unit on the workbench. (There should be about 15 mm of space between the base plate of the unit and the work surface.)
- 2) Set up the unit as follows.
 - (1) No load
 - (2) No signal
 - (3) Volume turned all the way down
 - (4) Speaker switch OFF
 - (5) Power switch OFF

Note) Check the following points before making adjustments

- (1) The power switch should be OFF.
- (2) The interior of the unit should not be warm.

2. Idling current adjustment

- 1) Turn the power switch ON and allow the unit to warm up for about 10 minutes.
 - (1) Adjust R529 (R530) so that the voltage at test point VCT-ID on the NAAF-3547 circuit board is $9.5\text{mV} \pm 3.5\text{mV}$

3. Check of operation of protection circuitry

- 1) Check of operation of protection relay.
 - (1) Confirm that the relay turns ON approximately 5 seconds after the power switch is turned ON.
 - (2) The relay should turn OFF approximately 0.5 seconds after the power switch is turned OFF.
- 2) Check of DC detection
 - (1) Turn the power on with no load.
 - (2) After the speaker relay turns ON, apply DC +1.5V to the CD input terminals. Confirm that the relay turns OFF.
 - (3) Confirm that operation is the same as (2) above when an input of DC -1.5V is applied.

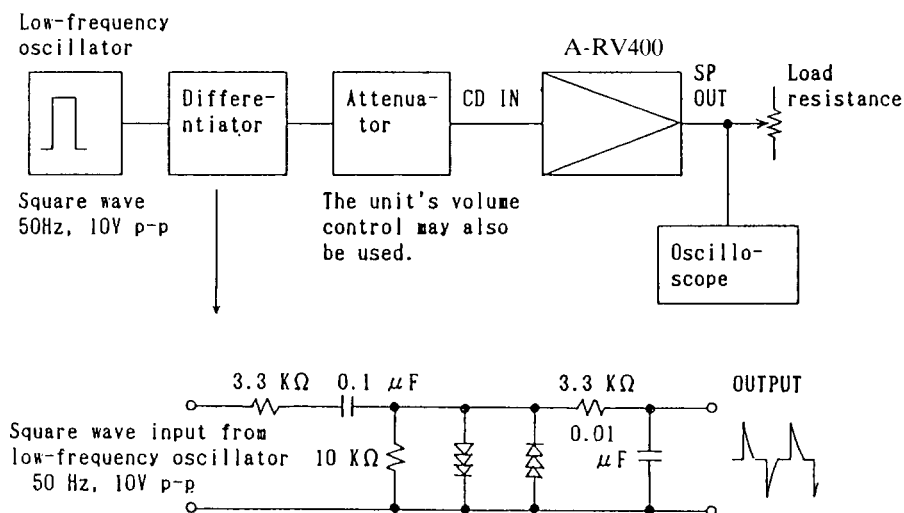
Note) Under no circumstances connect a load or short the speaker terminals when performing the above test.

3) Signal input from the circuit illustrated below with no load.

- (1) Confirm that the speaker relay does not turn OFF even when a 2 ohm load is connected when a peak value of 35V p-p is output.
- (2) Next, confirm that when a 1 ohm load is connected the speaker relay switches OFF and ON a couple of times and then stays OFF.

Note) The period before that relay stays OFF should not last for more than 10 second.

Relay OFF status can be canceled by switching the power OFF.



NOTE) Semi-fixed resistors enclosed in parentheses () are for the right channel.

PRECAUTIONS

1. Replacing the fuses

For continued protection against risk fire, replace only with same type and same rating fuse.

CIRCUIT NO. PART NO. DESCRIPTION

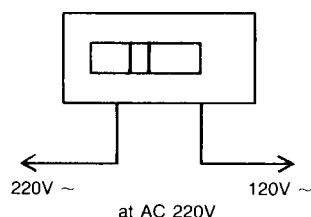
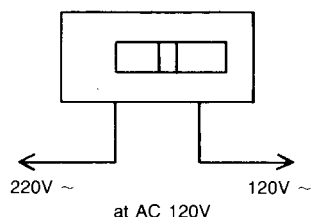
F901	252052	7A ST-6, Primary fuse (120V, 120V/220V model)
F902	252076 or 252076CC	3.15A-SE-EAK or 3.15A-SE-EAK Primary fuse (220V, 240V, 120V/220V model)

2. Insulation resistance measurement (Only U.S.A. model)

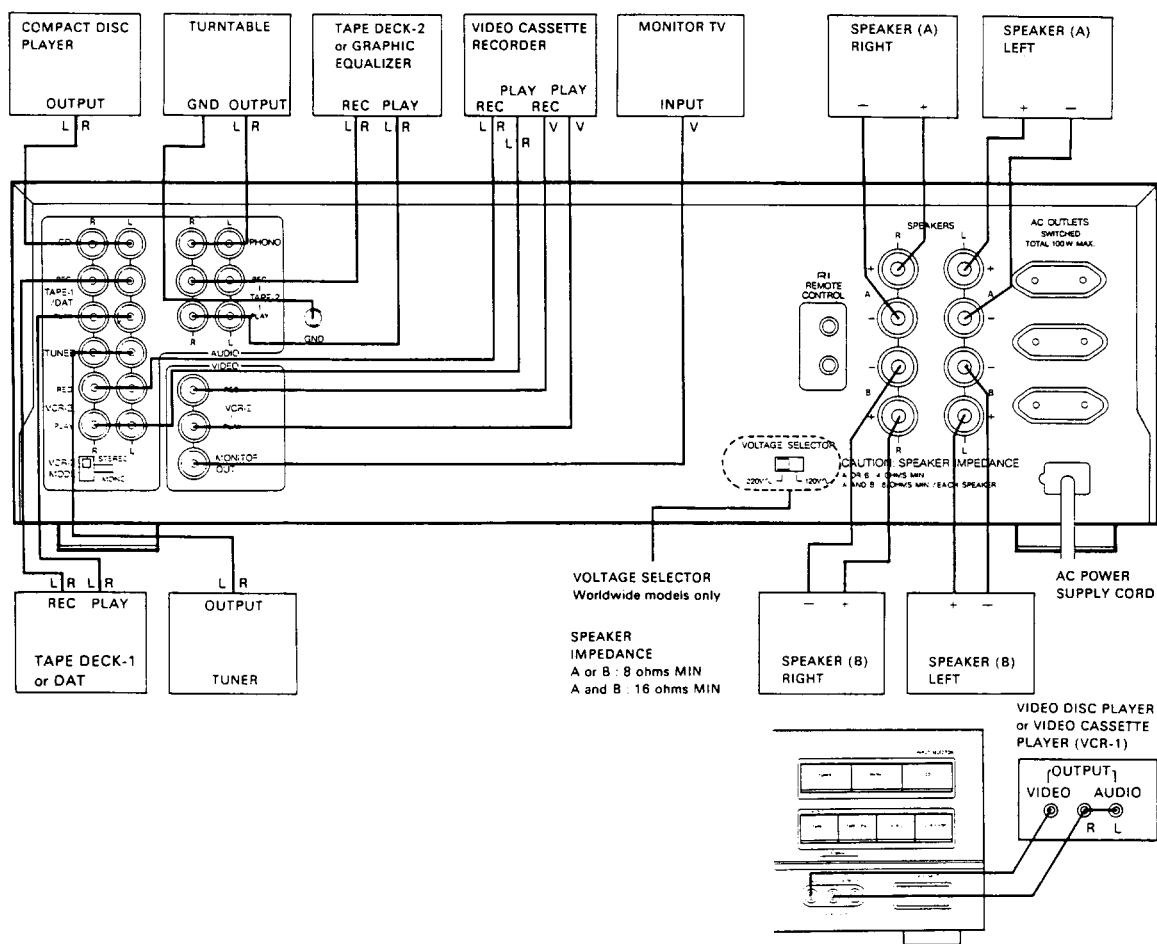
Connect the insulating-resistance tester between the plug of power supply cable and the terminal GND on the back panel.
Specifications; More than 10 MΩ at 500V.

3. Voltage selector (rear panel)

Worldwide models are equipped with a voltage selector to conform with local power supplies. Be sure to set this switch to match the voltage of the power supply in your area before turning the power switch on. Voltage is changed by sliding the groove in the switch with a 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. Models without a voltage selector can only be used in areas where the power supply is the same as that of the unit.



SYSTEM CONNECTIONS



This is a detailed exploded view diagram of a car stereo unit. The diagram shows the front panel, internal components, and the rear housing. Key components are labeled with alphanumeric codes:

- Front Panel:** Includes the faceplate (A512), display (A500), and various controls like buttons (A508, A509), knobs (A812, A813), and sliders (A304, A305).
- Internal Components:** Shows the main unit (A001), tuner (T901), and various electronic components like capacitors (C902, C903), resistors (R901, R902), and integrated circuits (U001, U002, U003, U004, U005, U006, U007, U008, U009, U010, U011, U012).
- Power and Grounding:** Includes the power supply (P901, P902) and ground points (A512, A515, A516, A518, A519, A520, A521, A522, A523, A524, A525, A526, A527, A528, A529, A530, A531, A532, A533, A534, A535, A536, A537, A538, A539, A540, A541, A542, A543, A544, A545, A546, A547, A548, A549, A550, A551, A552, A553, A554, A555, A556, A557, A558, A559, A560, A561, A562, A563, A564, A565, A566, A567, A568, A569, A570, A571, A572, A573, A574, A575, A576, A577, A578, A579, A580, A581, A582, A583, A584, A585, A586, A587, A588, A589, A590, A591, A592, A593, A594, A595, A596, A597, A598, A599, A600).
- Mounting and Assembly:** Shows various screws (A002, A003, A004, A005, A006, A007, A008, A009, A010, A011, A012, A013, A014, A015, A016, A017, A018, A019, A020, A021, A022, A023, A024, A025, A026, A027, A028, A029, A030, A031, A032, A033, A034, A035, A036, A037, A038, A039, A040, A041, A042, A043, A044, A045, A046, A047, A048, A049, A050, A051, A052, A053, A054, A055, A056, A057, A058, A059, A060, A061, A062, A063, A064, A065, A066, A067, A068, A069, A070, A071, A072, A073, A074, A075, A076, A077, A078, A079, A080, A081, A082, A083, A084, A085, A086, A087, A088, A089, A090, A091, A092, A093, A094, A095, A096, A097, A098, A099, A100), nuts (A001, A002, A003, A004, A005, A006, A007, A008, A009, A010, A011, A012, A013, A014, A015, A016, A017, A018, A019, A020, A021, A022, A023, A024, A025, A026, A027, A028, A029, A030, A031, A032, A033, A034, A035, A036, A037, A038, A039, A040, A041, A042, A043, A044, A045, A046, A047, A048, A049, A050, A051, A052, A053, A054, A055, A056, A057, A058, A059, A060, A061, A062, A063, A064, A065, A066, A067, A068, A069, A070, A071, A072, A073, A074, A075, A076, A077, A078, A079, A080, A081, A082, A083, A084, A085, A086, A087, A088, A089, A090, A091, A092, A093, A094, A095, A096, A097, A098, A099, A100), and washers (A001, A002, A003, A004, A005, A006, A007, A008, A009, A010, A011, A012, A013, A014, A015, A016, A017, A018, A019, A020, A021, A022, A023, A024, A025, A026, A027, A028, A029, A030, A031, A032, A033, A034, A035, A036, A037, A038, A039, A040, A041, A042, A043, A044, A045, A046, A047, A048, A049, A050, A051, A052, A053, A054, A055, A056, A057, A058, A059, A060, A061, A062, A063, A064, A065, A066, A067, A068, A069, A070, A071, A072, A073, A074, A075, A076, A077, A078, A079, A080, A081, A082, A083, A084, A085, A086, A087, A088, A089, A090, A091, A092, A093, A094, A095, A096, A097, A098, A099, A100).

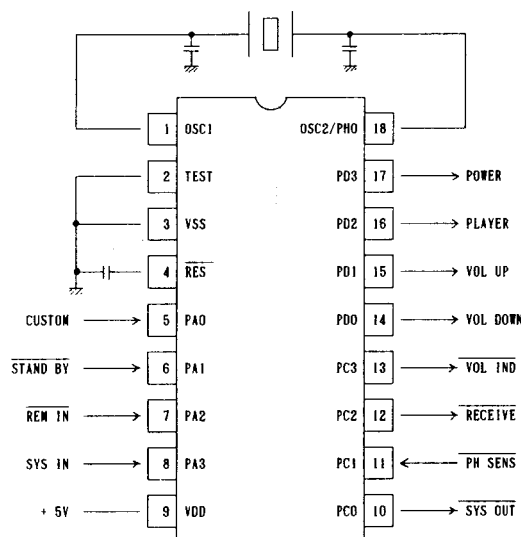
CHASSIS EXPLODED VIEW PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
A001	27110482A	FRONT ANGLE ASS'Y	 P902	25050336	NSCT-6P163, AC SOCKET [D]
A003	27100185A	CHASSIS	 P902~P904	25050337	NSCT-2P164, AC SOCKET
A004	27130573B	BRACKET (PT)			[G][W][A][B]
A005	27141332	BRACKET (PC)	P905	25060044	GROUND TERMINAL
A006	27141329	BRACKET (SW)	 S901	25035550	NPS-111-L512P, POWER
A007	27141324	BRACKET (POW)			SWITCH
A010	27160239	HEATSINK	 S902	25065123	NSS-1258P, SLIDE SWITCH [W]
A014	27121223A	BACK PLATE [D]	 C902	3500065A	0.01μF, AC400V/125V,
A014	27121224A	BACK PLATE [G]			CAPACITOR
A014	27121226A	BACK PLATE [W]	 F901	252052	7A(ST-6), FUSE [D][W]
A014	27121265	BACK PLATE [A][B]	 F902	252076 or	3.15A-SE-EAK or [G][W][A][B]
A015	27300750	BUSHING (CABLE)		252076CC	3.15A-SE-EAK FUSE
A017	27190369	KGLS-22S, PC HOLDER			[G][W][A][B]
A018	27190511	KGLS-16R, PC HOLDER	 F903	252075 or	2.5A-SE-EAK or [G]
A019	880009	NRP-345, REVET		252075CC	2.5A-SE-EAK, FUSE [G]
A301	28184436	TOP COVER	U001	1A143547-2	NAAF-3547-2, MAIN PC
A302	27270147	SPACER			BOARD ASS'Y [D]
A304	28140555	CUSHION	U001	1A143547-2A	NAAF-3547-2A, MAIN PC
A305	28140729	CUSHION			BOARD ASS'Y [G][W][A][B]
A500	1A143121	FRONT PANEL	U002	1A143548-2	NASW-3548-2, SPEAKER
(A503)	27267582A	GUIDE (POW)			SWITCH PC BOARD ASS'Y
(A504)	28198723A	PACKET	U003	1A143549-2	NAETC-3549-2, SPEAKER
(A505)	28191503A	CLEAR PLATE			TERMINAL PC BOARD
(A506)	27267584	GUIDE (SD)			ASS'Y [D]
(A507)	27267591	GUIDE (TONE)	U003	1A143549-2A	NAETC-3549-2A, SPEAKER
A508	28135176	NAME PLATE			TERMINAL PC BOARD ASS'Y
A509	27262415	PLATE (T)			[G][W][A][B]
A510	28149181	FILM	U004	1A143564-1	NADG-3564-1, SYSTEM
A512	834430088	3TTS+8BBC, TAPPING			CONTROL CIRCUIT PC
		SCREW			BOARD ASS'Y [D]
A515	833430080	3TTP+8PBC, TAPPING	U004	1A143564-1A	NADG-3564-1A, SYSTEM
		SCREW			CONTROL CIRCUIT PC
A516	830440089	4TTC+8CBC, TAPPING			BOARD ASS'Y [G][W]
		SCREW	U004	1A143564-1B	NADG-3564-1B, SYSTEM
A631	27170261	BOTTOM BOARD			CONTROL CIRCUIT PC
A632	27175219	BOTTOM BOARD			BOARD ASS'Y [A][B]
 A810	28323241-1	KNOB (POW)	U005	1A143565-1	NASW-3565-1, KEY SWITCH PC
A811	28323648	KNOB (STC)			BOARD ASS'Y
A812	28323677A	KNOB (TONE)	U006	1A143566-1	NAETC-3566-1, EQUALIZER
A813	28323675A	KNOB (VOL)			CIRCUIT PC BOARD ASS'Y
A890	29360626-1	CAUTION LABEL (FUSE) [D]			[D]
Q527, Q528	2201803 or	2SC3857-O or	U006	1A143566-1A	NAETC-3566-1A, EQUALIZER
	2201804 or	2SC3857-Y or			CIRCUIT PC BOARD ASS'Y
	2201806	2SC3857-P, TRANSISTOR			[G][W][A][B]
Q529, Q530	2201793 or	2SA1493-O or	U007	1A143567-1	NAAF-3567-1, SELECTOR
	2201794 or	2SA1493-Y or			SWITCH CIRCUIT PC BOARD
	2201796	2SA1493-P, TRANSISTOR			ASS'Y [D]
 T901	2300418	NPT-1029D, POWER	U007	1A143567-1A	NAAF-3567-1A, SELECTOR
		TRANSFORMER [D]			SWITCH CIRCUIT PC BOARD
 T901	2300419A	NPT-1030G, POWER			ASS'Y [G][W][A][B]
		TRANSFORMER [G]	U008	1A143568-1	NAPS-3568-1, POWER SWITCH
 T901	2300420	NPT-1030DG, POWER			CIRCUIT PC BOARD ASS'Y
		TRANSFORMER [W]			[D]
 T901	2300445	NPT-1030Q, POWER	U008	1A143568-1A	NAPS-3568-1A, POWER
		TRANSFORMER [A][B]			SWITCH CIRCUIT PC BOARD
 P901	253123 or	AS-UC-6 #18 or [D]			ASS'Y [G]
	253136 or	AS-UC-6 #18 or [D]	U008	1A143568-1B	NAPS-3568-1B, POWER
	253140 or	AS-UC-6 #18 or [D]			SWITCH CIRCUIT PC BOARD
	253146	AS-UC-6 #18, POWER SUPPLY			ASS'Y [W]
		CABLE [D]	U008	1A143568-1C	NAPS-3568-1C, POWER
 P901	253149	AS-CEE, POWER SUPPLY			SWITCH CIRCUIT PC BOARD
		CABLE [G]			ASS'Y [A][B]
 P901	253092-1A	AS-CEE-2, POWER SUPPLY	U009	1A143569-1	NAETC-3569-1, VOLUME
		CABLE [W]			CONTROL CIRCUIT PC
 P901	253118	AS-SAA, POWER SUPPLY			BOARD ASS'Y
		CABLE [A]	U010	1A143570-1	NAETC-3570-1, BUS
 P901	253104 or	C2.5BS2 or [B]			TERMINAL PC BOARD ASS'Y
	253105	C2.5BS2, POWER SUPPLY			[D]
		CABLE [B]			

REF. NO.	PART NO.	DESCRIPTION	NOTE:
U010	1A143570-1A	NAETC-3570-1A, BUS TERMINAL PC BOARD ASS'Y	[D]: ONLY 120V MODEL [G]: ONLY 220V MODEL
U011	1A143571-1	NAETC-3571-1, VIDEO TERMINAL PC BOARD ASS'Y	[W]: ONLY 120V/220V MODEL [A]: ONLY AUSTRALIAN MODEL [B]: ONLY BRITISH MODEL
U011	1A143571-1A	NAETC-3571-1A, VIDEO TERMINAL PC BOARD ASS'Y	
U012	1A143572-1	NADIS-3572-1, VOLUME INDICATOR PC BOARD ASS'Y	

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

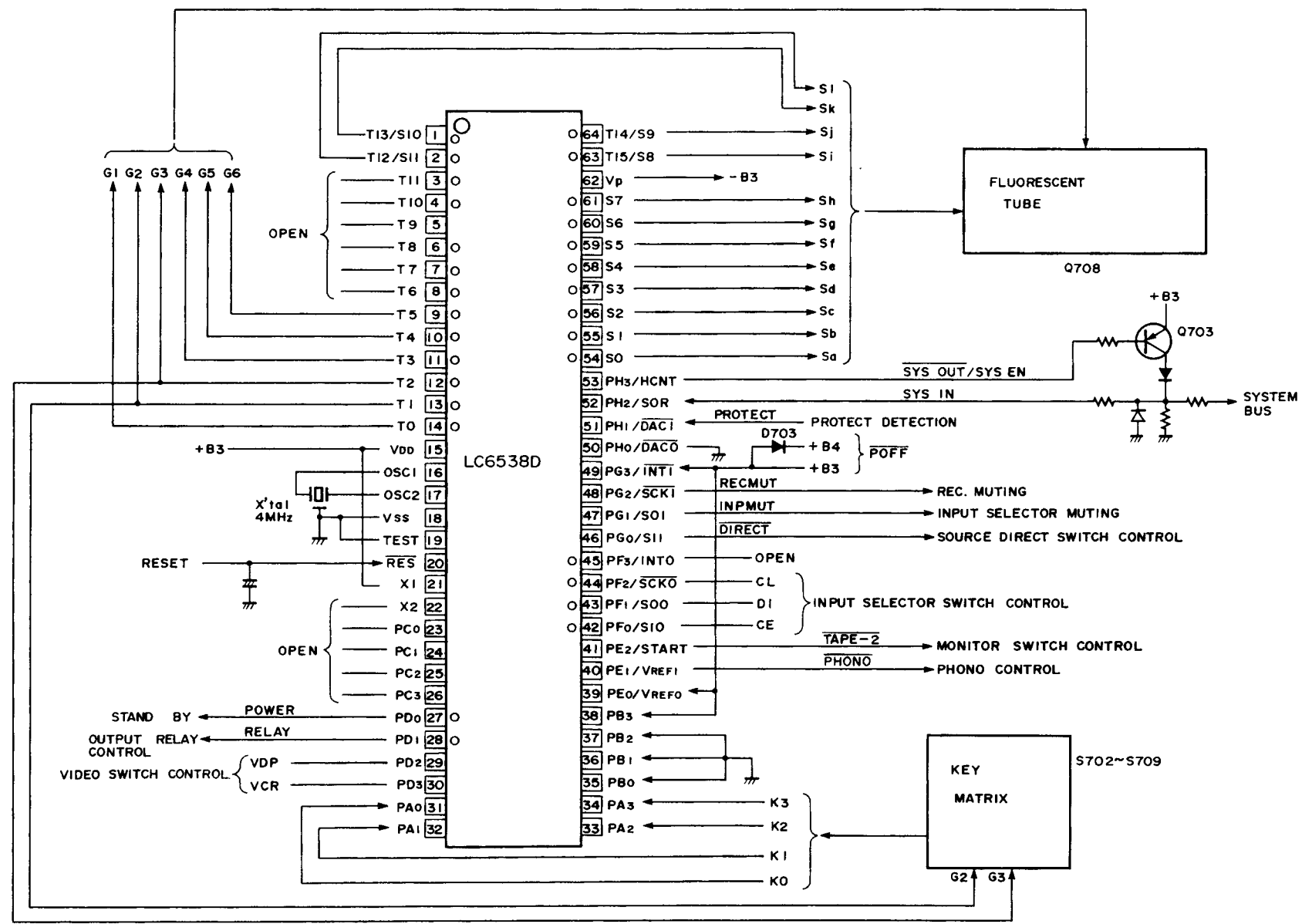
IC BLOCK DIAGRAM



LC6527C (Remoto controlle decoder)

Pin No.	Pin name	Symbol	Function		
1	OSC1	OSC1	Ceramic oscillator connector terminal. 4 MHz. 1/3 division.		
2	TEST	TEST	Test terminal. Connected to V _{SS} .		
3	V _{SS}	V _{SS}	Ground terminal		
4	RES	RES	Reset terminal.		
5	PA0	CUSTOM	Decoded input terminal with switchable custom codes and operations.		
			Custom input	Custom code	Operation
			L	D26D	System (export)
			H	D225	Tuner
			This terminal is read when power is turned on and the above initial settings are carried out.		
6	PA1	STANDBY	Standby condition sensor terminal. Only the POWER code is decoded when STAND BY input is "L".		
7	PA2	REMIN	Remote control signal input terminal. Active: "L". The photo-sensor output is connected to this terminal.		
8	PA3	SYS IN	System code input terminal. Active: "H". Output system codes are monitored at this terminal.		
9	V _{DD}	V _{DD}	Power supply (+5V) terminal.		
10	PC0	SYS OUT	System code output terminal. Active: "L". This terminal output the appropriate system code in response to input from the remote control.		
11	PC1	PH SENS	PHONO sensor input terminal. Active: "L". This terminal is valid during system. The remote control K64 code is decoded only when this terminal is "L".		
12	PC2	RECEIVE	RECEIVE display output terminal. Active: "L". "L" when remote control codes for decoding are being input.		
13	PC3	VOL IND	VOLUME indicator output terminal. Active: "L". Normally "L". Outputs waveform which is "H" for 250 ms then "L" for 250 ms during VOLUME UP or VOLUME DOWN output.		
14	PD0	VOL DOWN	VOLUME DOWN control output terminal. Active: "H". Output is "H" when remote control K4 code is input.		
15	PD1	VOL UP	VOLUME UP control output terminal. Active: "H". Output is "H" when remote control K3 code is input.		
16	PD2	PLAYER	PLAYER control output terminal. Active: "H". This terminal is valid during system. Output is "H" for 200 ms if remote control K64 code is input when PH SENS input is "L".		
17	PD3	POWER	POWER control output terminal. Active: "H". Reverses output whenever remote control K5 code is input.		
18	OSC2/PHO	OSC2	Ceramic oscillator connector terminal. 4 MHz 1/3 division.		

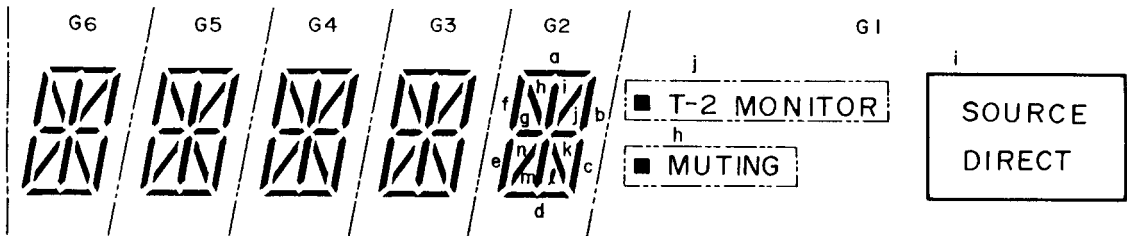
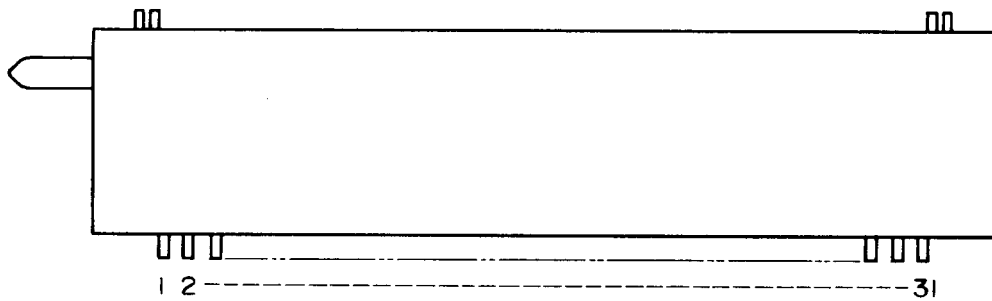
LC6538D (Micro computer)



LC6538D

Pin No.	Pin name	Symbol	Function
1 2	T13/S10 T12/S11	SK S1	Segment output terminals. Active: "H".
3	T11	DISPLAY	Display control output terminal. "H" when display is illuminated.
4	T10	DIRECT	Direct display output terminal. "H" when direct is on.
5	T9	FM	FM control output terminal (receiver only). "H" when set to FM. Controls the automatic reception mode display.
6 7 8 9 10 11 12 13 14	T8 T7 T6 T5 T4 T3 T2 T1 T0	D9 D8 D7 D6 D5 D4 D3 D2 D1	Digit output terminals. Active: "H". Key scan output terminals.
15	V _{DD}	V _{DD}	Power supply terminal (+5V)
16 17	OSC1 OSC2	OSC1 OSC2	Main system clock terminals. Connected to 4 MHz ceramic oscillator. The system clock mode is equivalent to the main clock 1/2 mode (cycle time: 21s).
18	V _{SS}	V _{SS}	Ground terminal.
19	TEST	TEST	LSI test terminal. Connected to V _{SS} .
20	RES	RES	Reset input terminal. Active: "L".
21 22	X1 X2	X1 X2	Sub-clock terminals. Not used. X1 terminal is connected V _{DD} .
23 24 25 26	PC0 PC1 PC2 PC3	LOCAL DX AUTO MONO	Automatic reception mode display output terminals. Active: "L". "L" when in automatic reception mode (receiver only). (The settings for DX and LOCAL as well as AUTO and MONO are always the reverse of one another.) All are always "L" for amplifier.
27	PD0	POWER	POWER signal output terminal. "H" when ON.
28	PD1	RELAY	Speaker relay control output terminal. Active "H".
29 30	PD2 PD3	VDP VDP	Video signal control output terminals. Active: "H".
31 32 33 34	PA0 PA1 PA2 PA3	K0 K1 K2 K3	Key input terminals. Active: "H".
35	PB0	SD	Station detect input terminal (receiver only). Active: "L". Turns off auto tuning.
36	PB1	STEREO	Stereo broadcast detect terminal. Active: "L". Controls "STEREO" indication (receiver only).
37	PB2	RF IN	RF input terminal (receiver only). DX when "H".
38 39	PB3 PE0/VREF0	REC/AMP BACK	Initial setting input terminals.
40	PE1/VREF1	PHONO	PHONO control output terminal. "L" when selector is set to PHONO.
41	PE2/START	AUTO/MONO/ TAPE-2	(1) Receiver: AUTO/MONO switching output terminal. "L" when AUTO (receiver only). (2) Amplifier: TAPE-2 control output terminal. "L" when TAPE-2 is on.
42	PF0/SI0	SEL	Output terminal connected to analog switch LC7821 CE terminal.
43	PF1/SO0	DATA	Output terminal connected to DATA terminal of PLL LM7001 and DI terminal of switch LC7821.
44	PF2/SCK0	CL	Output terminal connected to CL terminals of PLL LM7001 and switch LC7821.
45	PF3/INT0	PLL	Receiver: output terminal connected to CE terminal of PLL LM7001.
46	PC0/S11	DIRECT	DIRECT control output terminal. Active: "L".
47	PG1/SO1	INP MUT	INPUT selector muting output terminal. Active: "H".
48	PG2/SCK1	REC MUT	Record output muting output terminal. Active: "H".
49	PG3/INT1	POFF	Power off sensor input terminal. Active: "L". "L" shorter than 100μs is ignored.
50	PH0/DAC0	TU MUT	Tuner muting output terminal (receiver only). Active: "H".
51	PH1/DAC1	PROTECT	Protect operation sensor input terminal. "H" during protect operation. "H" shorter than 100μs is ignored. Controls RELAY output.
52	PH2/SQR	SYS IN	System code input terminal. Active: "H".
53	PH3/HICNT	SYS OUT/ SYS EN	System code output terminal. Active: "L". Becomes initial setting input terminal SYS EN when power is turned on.
54 55 56 57 58 59 60 61	S0 S1 S2 S3 S4 S5 S6 S7	Sa Sb Sc Sd Se Sf Sg Sh	Segment output terminals. Active: "H".
62	VP	VP	Power supply terminal for pull down resistance.
63 64	T15/S8 T14/S9	Si Sj	Segment output terminals. Active: "H".

CPF3027GR (Fluorescent indicator tube)



Pin No.	1	2	3	4	5	6	7	8	9	10	11
Connection	F	F	NP	G6	NC	f	G5	a	b	G4	l

Pin No.	12	13	14	15	16	17	18	19	20	21	22
Connection	G3	d	n	G2	m	c	G1	e	h	k	g

Pin No	23	24	25	26	27	28	29	30	31
Connection	G1	j	i	NC	NC	G1	NP	F	F

F: Filament

G: Gride

P: Anode

NP: No pin

NC: Non connection

PRINTED CIRCUIT BOARD PARTS LIST

MAIN CIRCUIT PC BOARD (NAAF-3547-2, NAAF-3547-2A) PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION	CIRCUIT NO.	PART NO.	DESCRIPTION
Transistors			Capacitors		
Q501, Q502	2212285 or	2SC2878-A or	C501, C502	354741009	10 μ F, 16V, Elect.
	2212286	2SC2878-B	C505, C506, C653	354722219	220 μ F, 6.3V, Elect.
Q503~Q506	2211455 or	2SA1015-GR or	C511, C512	354780229	2.2 μ F, 50V, Elect.
	2210803	2SA733-P	C529, C530	371124734	0.047 μ F, 50V, Mylar
Q507, Q508	2211371 or	2SC2259-O-001 or	C533, C534		
	2211372	2SC2259-O-002	C535, C536	354790479	4.7 μ F, 100V, Elect. [D]
Q509, Q510	2211732 or	2SC1845-F or	C535, C536	354771019	100 μ F, 63V, Elect.
	2211733	2SC1845-E			[G][W][A][B]
Q511, Q512	2211255 or	2SC1815-GR or	C652	354790479	4.7 μ F, 100V, Elect.
	2210746	2SC945A-P	C654	354780109	1 μ F, 50V, Elect.
Q513, Q514	2211353 or	2SA949-O or	C911, C912	3504191	10000 μ F, 71V, Elect.
	2211354	2SA949-Y	C913	354772219	220 μ F, 63V, Elect. [D]
Q515, Q516	2211633 or	2SC2229-O or	C913	354782219	220 μ F, 50V, Elect.
	2211634	2SC2229-Y			[G][W][A][B]
Q517, Q518	2211255 or	2SC1815-GR or	C914	354782219	220 μ F, 50V, Elect.
	2210746	2SC945A-P	C915, C916	354761019	100 μ F, 100V, Elect.
Q519, Q520	2211633 or	2SC2229-O or	C919, C921	354742219	220 μ F, 16V, Elect.
	2211634	2SC2229-Y	C920	354754719	470 μ F, 25V, Elect.
Q521, Q522	2211353 or	2SA949-O or	C922	354772219	220 μ F, 63V, Elect.
	2211354	2SA949-Y	C923	354741019	100 μ F, 16V, Elect.
Q523, Q524	2201643 or	2SC3298-O or	C925	354722219	220 μ F, 6.3V, Elect.
	2201644	2SC3298-Y	C931	354742209	22 μ F, 16V, Elect.
Q525, Q526	2201633 or	2SA1306-O or			
	2201634	2SA1306-Y			
Q531, Q532	2211633 or	2SC2229-O or	R527, R528	442522704	27 Ω , 1/2W, Metal oxide film
	2211634	2SC2229-Y	R529, R530	5210062	N06HR4.7KBD, Semi-fixed
Q651	2211455 or	2SA1015-GR or	R535, R536	442529104	91 Ω , 1/2W, Metal oxide film
	2212495	JA101-Q	R537, R538	442521024	1 Ω , 1/2W, Metal oxide film
Q652	2211792 or	2SA992-F or	R539, R540	442521014	100 Ω , 1/2W, Metal oxide film
	2211793	2SA992-E	R541~R544	442520224	2.2 Ω , 1/2W, Metal oxide film
Q653, Q654	2211732 or	2SC1845-F or	R545, R546	441720104	1 Ω , 2W, Metal oxide film
	2211733	2SC1845-E	R547~R550	4000080 or	0.47 Ω , 5W or
Q655	2211255 or	2SC1815-GR or		4500022	0.47 Ω , 5W, Metal plate
	2212485	JC501-Q	R559, R560	442520824	8.2 Ω , 1/2W, Metal oxide film
Q911, Q913	2201754 or	2SD1913-R or	R564, R565	442522204	22 Ω , 1/2W, Metal oxide film
	2201755	2SD1913-S	R658	441721224	1.2K Ω , 2W, Metal oxide film
Q912	2201764 or	2SB1274-R or			[D]
	2201765	2SB1274-S	R658	441729114	910 Ω , 2W, Metal oxide film
Diodes					[G][W][A][B]
D501, D502	4000120	KB265, Varistor	R911, R912	441722414	240 Ω , 2W, Metal oxide film
D503, D504, D652	223163	1SS133	R913	442525624	5.6K Ω , 1/2W, Metal oxide film
D911~D914	223897 or	P300DL or			[D]
	22380003	1N5402F	R913	442524324	4.3K Ω , 1/2W, Metal oxide film
D915	224151602 or	05AZ16Y or	R914	442525124	[G][W][A][B]
	224651602 or	HZ16EB2 or			5.1K Ω , 1/2W, Metal oxide film
	224451603	MTZ16B, Zener	R914	442523624	[D]
D916	224152003 or	05AZ20Z or			3.6K Ω , 1/2W, Metal oxide film
	224652003 or	HZ20ZB3 or	R915	441723914	[G][W][A][B]
	224452003	MTZ20C, Zener	R917	441621114	390 Ω , 2W, Metal oxide film
D918	224151601 or	05AZ16X or	R918, R919	441721214	110 Ω , 1W, Metal oxide film
	224651601 or	HZ16EB1 or	R920	442527524	120 Ω , 2W, Metal oxide film
	224451601	MTZ16A, Zener			7.5K Ω , 1/2W, Metal oxide film
D919	224150623 or	05AZ6.2Z or	R920	442525624	[D]
	224650623 or	HZ6.2EB3 or			5.6K Ω , 1/2W, Metal oxide film
	224450623	MTZ6.2C, Zener	R931	441621824	[G][W][A][B]
D931, D932	223880 or	GPI01N4003 or			1.8K Ω , 1W, Metal oxide film
	223896	1N4003F	R931	441621524	[D]
D933	224150512 or	05AZ5.1Y or			1.5K Ω , 1W, Metal oxide film
	224650512 or	HZ5.1EB2 or	R932	442523914	[G][W][A][B]
	224450512	MTZ5.1B, Zener	R941	442522294	390 Ω , 1/2W, Metal oxide film
					0.22 Ω , 1/2W, Metal oxide film
			Relay		
			RL501	25065134	NRL-2P5A-DC24V-07

CIRCUIT NO.	PART NO.	DESCRIPTION
	Jumper sockets	
JL302a, JL901a	25050267	NSCT-3P95
JL903a		
JL902a	25050272	NSCT-8P100
	Radiator	
	27160209	RAD-67
	Bracket	
	27141059	Ground

SPEAKER SWITCH PC BOARD (NASW-3548-2) PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Coils	
L571, L572	231134	S-0.8E
	Resistors	
R571, R572	442520564	5.6 Ω , 1/2W, Metal oxide film
R573, R574	441623914	390 Ω , 1W, Metal oxide film
	Switch	
S571	25030290	NRSF-144-25SS
	Stereo jack	
	25045183	HLJ-4318-01-3020

SPEAKER TERMINAL PC BOARD (NAETC-3549-2, NAETC-3549-2A) PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Terminal	
P571	25060134	NTM-8PDMN-063

SYSTEM CONTROL CIRCUIT PC BOARD (NADG-3564-1, NADG-3564-1A, NADG-3564-1B) PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Photo receiving unit	
U701	24130001	GP1U501S
	ICs	
Q301	22240014	μ PC4570HA
Q305, Q307	22240050	μ PC4570C
Q701	22240244	LC6538D-3984
Q706	22240243	LC6527C-3987
	Transistors	
Q702, Q704, Q705	2211255 or 2212485	2SC1815-GR or JC501-Q
Q703	2211455 or 2212495	2SA1015-GR or JA101-Q
Q707	2211504	2SA950-Y
	FL tube	
Q708	212074	CPF3027GR
	Diodes	
D701~D703, D706	223163	1SS133
D721, D722, D724		
D704	224150563 or 224650563 or 224450563	05AZ5.6Z or HZ5.6EB3 or MTZ5.6C, Zener
D705, D707	223145	1S2076
D723	224150562 or 224650562 or 224450562	05AZ5.6Y or HZ5.6EB2 or MTZ5.6B, Zener
D725	225141	SEL2213C, LED
	Osc. element	

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C301	354780229	2.2 μ F, 50V, Elect.
C303	371121124	1100 pF, 50V, Mylar
C305	371121234	0.012 μ F, 50V, Mylar
C307, C309, C310	354780229	2.2 μ F, 50V, Elect.
C313, C314, C317		
C318		
C315, C316	371128224	8200 pF, 50V, Mylar
C319, C320, C703	354780109	1 μ F, 50V, Elect.
C721		
C321, C322	371123934	0.039 μ F, 50V, Mylar
C325, C326	371122234	0.022 μ F, 50V, Mylar
C701	3000051	0.047 F, 5.5V, Super
C705	354780339	3.3 μ F, 50V, Elect.
C706, C707	354761009	10 μ F, 35V, Elect.
C709	354781009	10 μ F, 50V, Elect.
C723	354741009	10 μ F, 16V, Elect.
	Resistors	
R325	5104228	N11RHC250KWT22Z, Variable
R333, (R334)	5104229	N14RHC100KWT22Z, Variable
R347, (R348)		
R791	442525104	51 Ω , 1/2W, Metal oxide film [D][G][W]
	Switches	
S301, S302	25035588	NPS-142-L550
S701	25035548	NPS-111-S510
	Holder	
	27190659A	(FL)
	27190697	(LED-ST)

KEY SWITCH PC BOARD (NASW-3565-1) PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Diodes	
D731, D732	223163	1SS133
	Switches	
S702~S709	25035548	NPS-111-S510

EQUALIZER CIRCUIT PC BOARD (NAETC-3566-1, NAETC-3566-1A) PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q101, Q102	22240191	NJM4565DD
Q401	222840661	4066B
	Transistors	
Q402, Q404~Q406	2211255	2SC1815-GR
Q403	2211455	2SA1015-GR
	Capacitors	
C103, C104	372121014	100 pF, 50V, Styrene [G][W][A][B]
C105, C106, C401	354741009	10 μ F, 16V, Elect.
C403		
C109, C110, C117	354721019	100 μ F, 6.3V, Elect.
C118		
C111, C112	372121814	180 pF, 50V, Styrene
C113, C114	371126224	6200 pF, 50V, Mylar
C115, C116	371121824	1800 pF, 50V, Mylar
C119, C120	354742219	220 μ F, 16V, Elect.
C402, C404	354724719	470 μ F, 6.3V, Elect.
C406	354741029	1000 μ F, 16V, Elect.

CIRCUIT NO.	PART NO.	DESCRIPTION
	Resistor	
R421	442526204	62 Ω , 1/2W, Metal oxide film
	Terminal	
P203	25045252	NPJ-6PDBL124
P401	25045205	NPJ-3PDYE085
	Socket ass'y	
P402	2000971	NSAS-4P923
	Jumper socket	
JL401a	25050270	NSCT-6P98

SELECTOR SWITCH CIRCUIT PC BOARD (NAAF-3567-1, NAAF-3567-1A) PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q201	22240079	LC7821
Q207, Q209	22240025	LC4966
Q251	22240050	μ PC4570C
	Transistors	
Q801, Q804, Q805	2211455 or 2212495	2SA1015-GR or JA101-Q
Q802, Q803, Q806	2211255 or 2212485	2SC1815-GR or JC501-Q
	Diodes	
D801, D802	224150562 or 224650562 or 224450562	05AZ5.6Y or HZ5.6EB2 or MTZ5.6B, Zener
	Capacitors	
C211~C214, C811 C251~C254	354780229	2.2 μ F, 50V, Elect.
C813, C816 C814	354744709 354780109	47 μ F, 16V, Elect. 1 μ F, 50V, Elect.
	Terminals	
P201, P202	25045213	NPJ-6PDBL-92
	Jumper sockets	
JL204a, JL301a JL701a	25050267 25050270	NSCT-3P95 NSCT-6P98
	Switch	
S201	25065286	NSS-22112

POWER SWITCH CIRCUIT PC BOARD (NAPS-3568-1, NAPS-3568-1A, NAPS-3568-1B, NAPS-3568-1C) PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Diode	
D905	223163	1SS133 [D][G][W]
	Capacitors	
C901, C902	3500065A	0.01 μ F, AC400V/125V, IS
	Switch	
S901	25035550	NPS-111-L512P [D][G][W]
	Terminal	
	25060092	NTM-1S33
	Relay	
RL901	25065269	NRL-1P5A-DC12-36ZA [D]
RL901	25065248	NRL-1P15A-DC12-29ZA [G][W]
	Fuse holder	
F901a	250113	SN5051 [D][W]
F902a	25050065	YSH4037 [G][W][A][B]
F903a	25050065	YSH4037 [G]

VOLUME CONTROL CIRCUIT PC BOARD (NAETC-3569-1, NAETC-3569-1A) PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	IC	
Q751	222963	LB1630
	Diodes	
D752, D753	223163	1SS133
	Capacitors	
C751	354741009	10 μ F, 16V, Elect.
C752	354780339	3.3 μ F, 50V, Elect.
	Resistors	
R361, (R362)	5104234	N16RGM50KA30F, Variable
	Socket ass'y	
P351	2000635A	NSAS-4P591
	Plate	
	27141059	

BUS TERMINAL PC BOARD (NAETC-3570-1, NAETC-3570-1A) PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Mini jack	
P701	25045172	HSJ-1003-01-020

VIDEO TERMINAL PC BOARD (NAETC-3571-1, NAETC-3571-1A) PARTS LIST

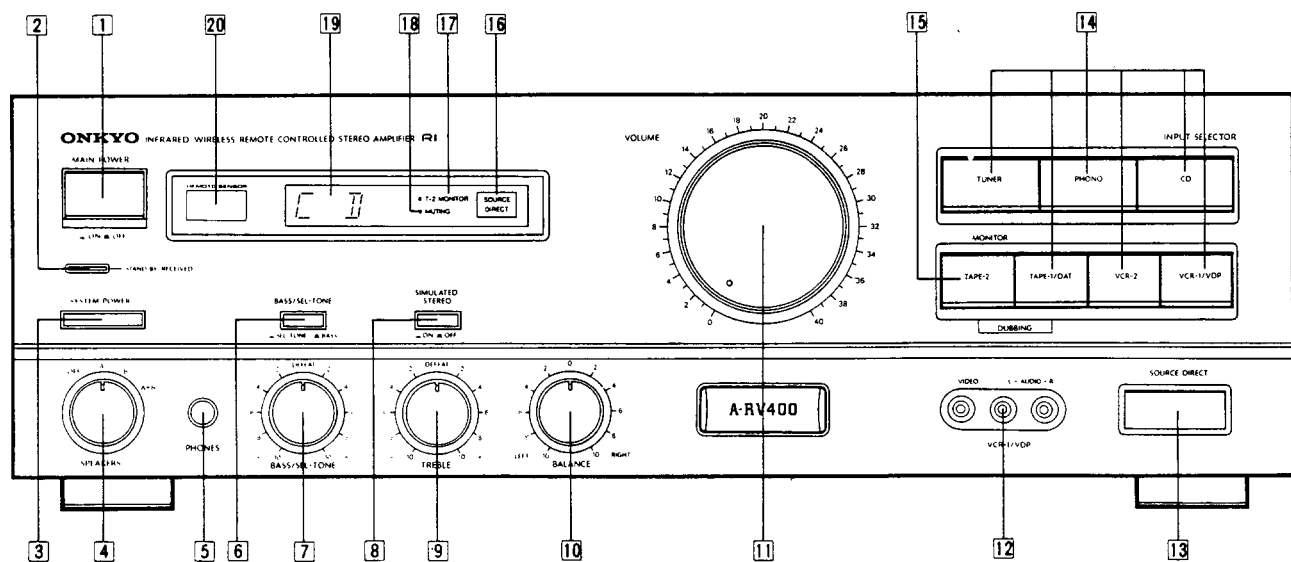
CIRCUIT NO.	PART NO.	DESCRIPTION
	Terminal	
P204	25045206	NPJ-3PDYE086

VOLUME INDICATOR PC BOARD (NADIS-3572-1) PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Diode	
D751	225141	SEL2213C, LED
	Holder	
	27190545	(LED)

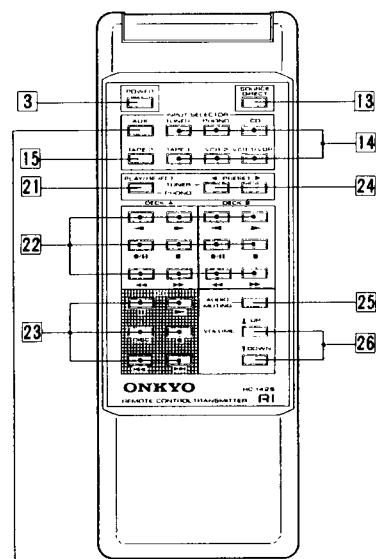
NOTE [D]: Only 120V model
 [G]: Only 220V model
 [W]: Only 120V/220V model
 [A]: Only Australian model
 [B]: Only British model

FRONT PANEL FACILITIES



1. Main power switch (MAIN POWER)
2. Stand-by/Received indicator
3. System power button (SYSTEM POWER)
4. Speaker selector (SPEAKERS)
OFF, A, B, A+B
5. Headphone jack (PHONES)
6. Bass/Selective tone switch (BASS/SEL-TONE)
BASS, SEL-TONE
7. Bass control/Selective tone control knob (BASS/SEL-TONE)
8. Simulated stereo switch (SIMULATED STEREO)
9. Treble control knob (TREBLE)
10. Balance control knob (BALANCE)
11. Volume control knob (VOLUME)
12. Video cassette recorder or Video disk player input jack (VCR-1/VDP)
13. Source direct button (SOURCE DIRECT)
14. Input selector buttons (INPUT SELECTOR)
Audio selectors ----- TUNER, PHONO, CD, TAPE-1/DAT
Video selectors ----- VCR-1/VDP, VCR-2
15. Tape monitor button (TAPE-2/MONITOR)
16. Source direct indicator
17. T-2 Monitor indicator
18. Muting indicator
19. Input selector display
20. Remote control sensor

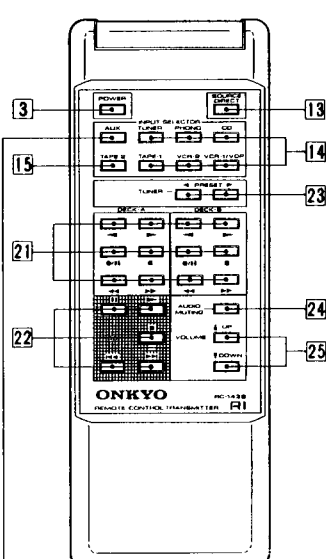
Remote control transmitter controls (RC-142S)



NOTE: This key does not operate on the A-RV400.

- 21. Phono operation key (PLAY/REJECT)
- 22. Tape operation keys (DECK-A, DECK-B)
REVERSE PLAY, FORWARD PLAY, REC PAUSE,
STOP, FAST REWIND, FAST FORWARD
- 23. CD operation key (CD)
PAUSE, PLAY, STOP, DISC, UP, DOWN
- 24. Tuner operation keys (PRESET)
- 25. Audio muting keys (AUDIO MUTING)
- 26. Volume keys (UP, DOWN)

Remote control transmitter controls (RC143S)



NOTE: his key does not operate on the A-RV400.

- 21. Tape operation keys (DECK-A, DECK-B)
REVERSE PLAY, FORWARD PLAY, REC PAUSE,
STOP, FAST REWIND, FAST FORWARD
- 22. CD Operation keys (CD)
PAUSE, PLAY, STOP, DOWN, UP
- 23. Tuner operation keys (PRESET)
- 24. Audio muting key (AUDIO MUTING)
- 25. Volume keys (UP, DOWN)

PARTS LIST OF PACKING

A-RV400

REF. NO.	PART NO.	DESCRIPTION
A851	29051884	MASTER CARTON BOX
A852	29091322B	PAD, LEFT
A853	29091323B	PAD, RIGHT
A854	261504	W = 30 mm, PAPER TAPE
A865	29100063	580 × 750, POLY-VINYL BAG
A866	282301	SEALING HOOK
A867	260012	W = 50 mm, DAMPLON TAPE
A868	29360778	LABEL (FLASH) [N]
A869	29380054	BS-2, AC COARD TAG [B]
A900	ACCESSORY BAG ASS'Y	
	29341391A	INSTRUCTION MANUAL [D][N]
	29341392A	INSTRUCTION MANUAL [G][W][A][B]
	29365019	WARRANTY CARD [N]
	29365022	WARRANTY CARD [B]
	29358002G	SERVICE STATION LIST [N]
	291000097	350 × 250, POLY-VINYL BAG
	24140142A	RC-142S, REMOTE CONTROL UNIT [D][N]
	24140143	RC-143S, REMOTE CONTROL UNIT [G][W][A][B]
	3010054	UM-3, TOW BATTERIES
	2010169	3.5 MINI PLUG
	25055018	CV-K-1, CONVERSION PLUG [W]
	29360863	LABEL (CAUTION) [B]

NOTE
[D]: ONLY 120V MODEL
[G]: ONLY 220V MODEL
[W]: ONLY 120V/220V MODEL
[N]: ONLY U.S.A. MODEL
[A]: ONLY AUSTRALIAN MODEL
[B]: ONLY BRITISH MODEL

A-RV400M

REF. NO.	PART NO.	DESCRIPTION
A851	29051952	MASTER CARTON BOX
A852	29091322B	PAD, LEFT
A853	29091323B	PAD, RIGHT
A854	261504	W = 30 mm, PAPER TAPE
A865	29100063	580 × 750, POLY-VINYL BAG
A866	282301	SEALING HOOK
A867	260012	W = 50 mm, DAMPLON TAPE
A868	29360778	LABEL (FLASH) [N]
A900	ACCESSORY BAG ASS'Y	
	29341391A	INSTRUCTION MANUAL
	29365019	WARRANTY CARD [N]
	29358002G	SERVICE STATION LIST [N]
	291000097	350 × 250, POLY-VINYL BAG
	24140035	RC-AV20M, REMOTE CONTROL UNIT
	29341378	INSTRUCTION MANUAL FOR REMOTE CONTROL
	29355154	CAUTION FOR REMOTE CONTROL
	3010109	AM-4, FOUR BATTERIES
	2010169	3.5 MINI PLUG

NOTE
[N]: ONLY U.S.A. MODEL

BLOCK DIAGRAM

