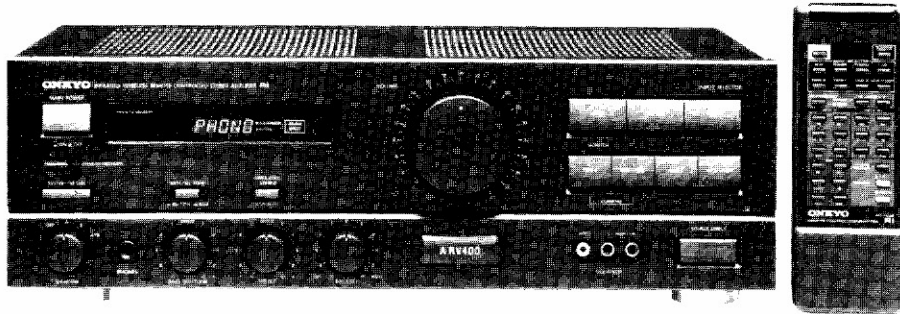


# ONKYO® SERVICE MANUAL

## Integrated Stereo Amplifier MODEL A-RV400, A-RV400M, A-8640



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  $\Delta$  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.

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**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 $\pm$ 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:	$\pm$ 10 dB at 100 Hz
Treble Control:	$\pm$ 10 dB at 10,000 Hz
Selective Tone Control:	$\pm$ 15 dB at 50 Hz/ $\pm$ 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 $\pm$ 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:	$\pm$ 10 dB at 100 Hz
Treble Control:	$\pm$ 10 dB at 10,000 Hz
Selective Tone Control:	$\pm$ 15 dB at 50 Hz/ $\pm$ 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

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)

# 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.

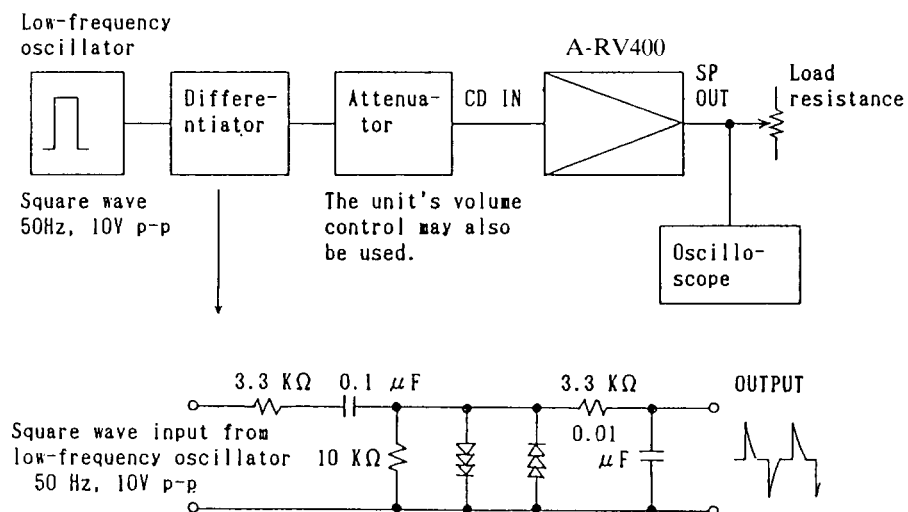
Note) Under no circumstances connect a load or short the speaker terminals when performing the above test.

#### 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.

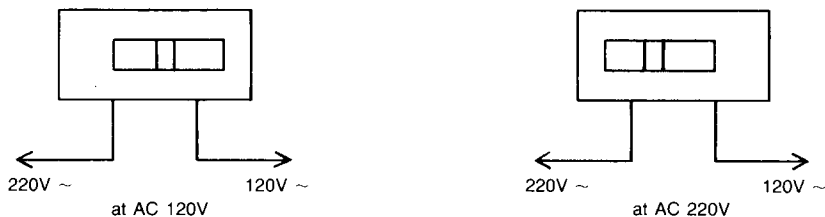
CIRCUIT NO.	PART NO.	DESCRIPTION
F901	252052	7A ST-6, Primary fuse (120V, 120V/220V model)
F902	252076 or 252076CC	3.15A-SE-EAK or 3.15A-SE-EAK Primary fuse (220V, 240V, 120V/220V model)

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

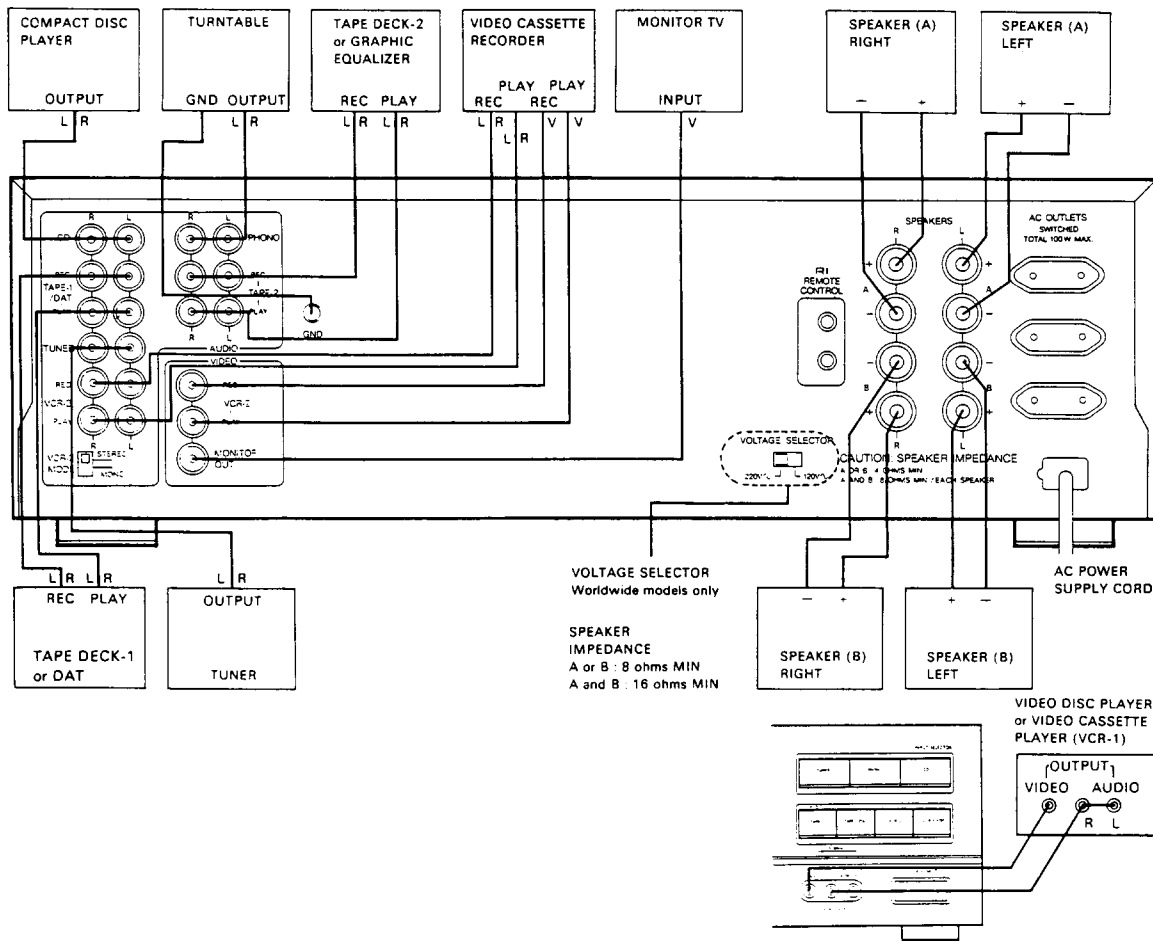
Connect the insulating-resistance tester between the plug of power supply cable and the terminal GND on the back panel. Specifications; More than 10 MΩ at 500V.

## 3. Voltage selector (rear panel)

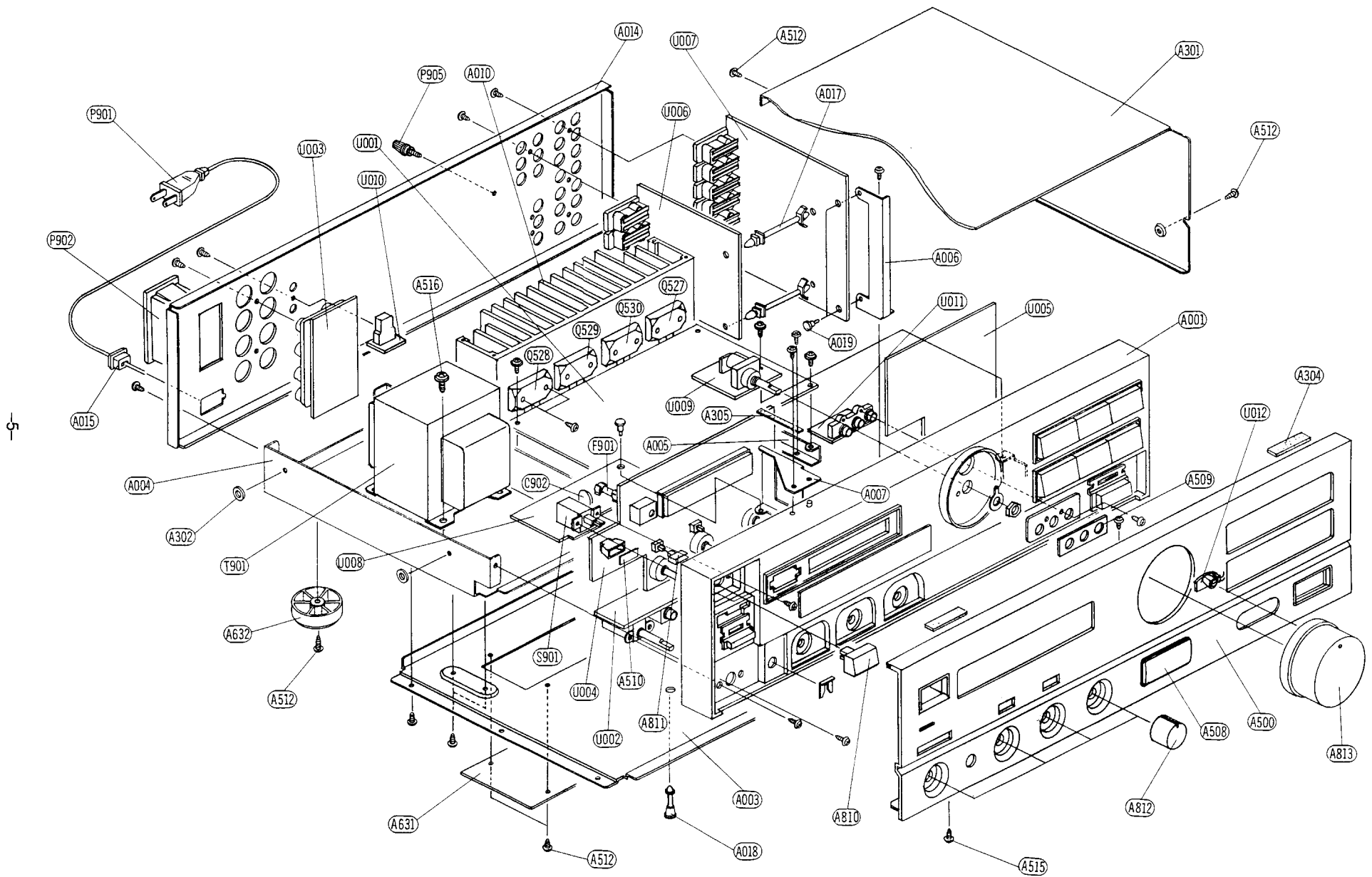
Worldwide models are equipped with a voltage selector to conform with local power supplies. Be sure to set this switch to match the voltage of the power supply in your area before turning the power switch on. Voltage is changed by sliding the groove in the switch with a screwdriver to the right or left. 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



# CHASSIS-EXPLODED VIEW



## CHASSIS EXPLODED VIEW PARTS LIST

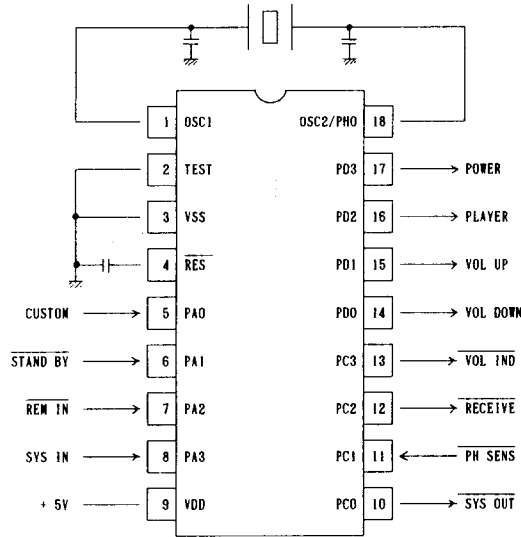
REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
A001	27110482A	FRONT ANGLE ASS'Y	▲ P902	25050336	NSCT-6P163, AC SOCKET [D]
A003	27100185A	CHASSIS	▲ P902~P904	25050337	NSCT-2P164, AC SOCKET [G][W][A][B]
A004	27130573B	BRACKET (PT)	P905	25060044	GROUND TERMINAL
A005	27141332	BRACKET (PC)	▲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

REF. NO.	PART NO.	DESCRIPTION
U010	1A143570-1A	NAETC-3570-1A, BUS TERMINAL PC BOARD ASS'Y [G][W][A][B]
U011	1A143571-1	NAETC-3571-1, VIDEO TERMINAL PC BOARD ASS'Y [D]
U011	1A143571-1A	NAETC-3571-1A, VIDEO TERMINAL PC BOARD ASS'Y [G][W][A][B]
U012	1A143572-1	NADIS-3572-1, VOLUME INDICATOR PC BOARD ASS'Y

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

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

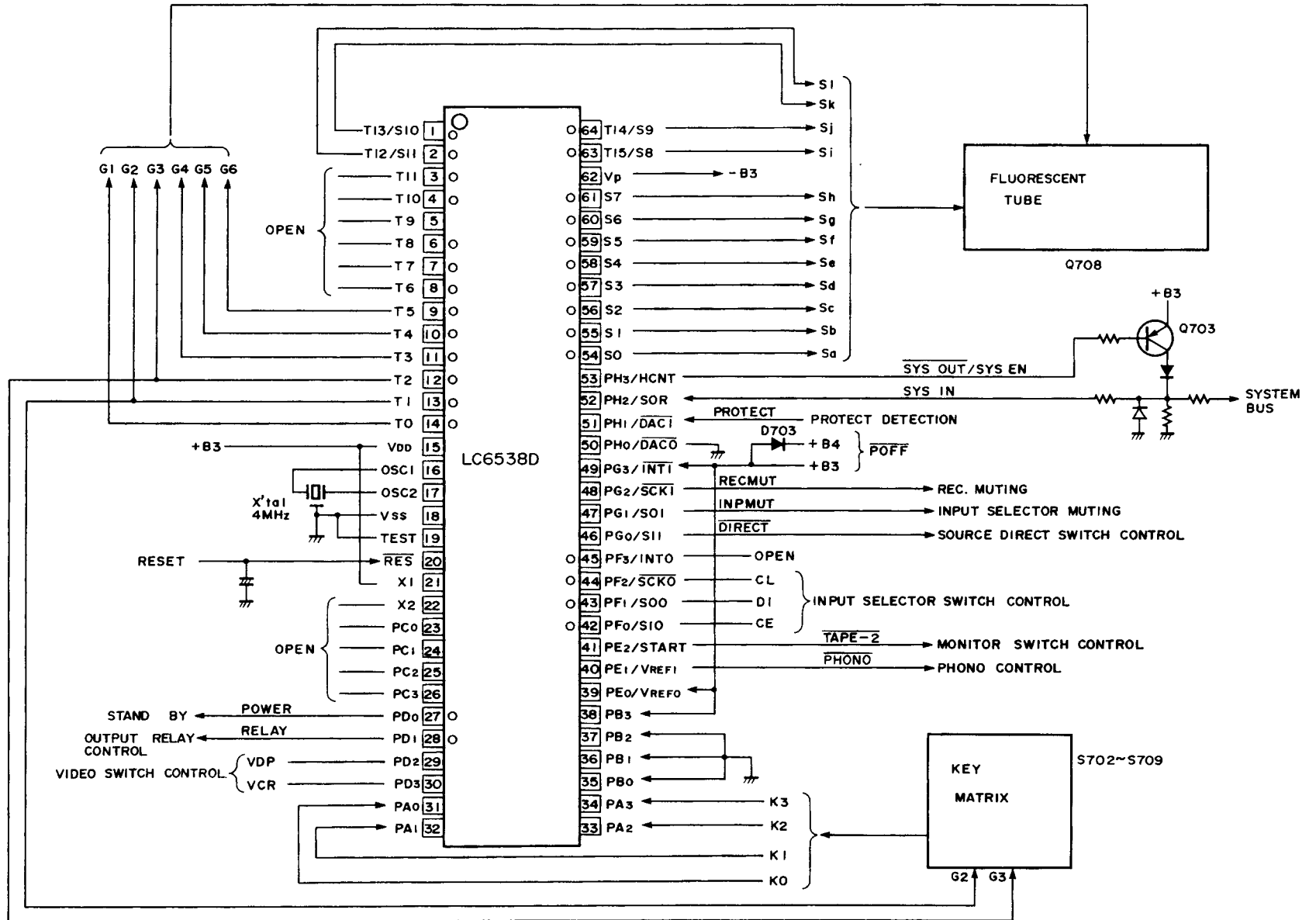
## IC BLOCK DIAGRAM



### 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 <sub>SS</sub> .									
3	V <sub>SS</sub>	V <sub>SS</sub>	Ground terminal									
4	RES	RES	Reset terminal.									
5	PA0	CUSTOM	Decoded input terminal with switchable custom codes and operations. <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Custom input</th> <th>Custom code</th> <th>Operation</th> </tr> </thead> <tbody> <tr> <td>L</td> <td>D26D</td> <td>System (export)</td> </tr> <tr> <td>H</td> <td>D225</td> <td>Tuner</td> </tr> </tbody> </table> This terminal is read when power is turned on and the above initial settings are carried out.	Custom input	Custom code	Operation	L	D26D	System (export)	H	D225	Tuner
Custom input	Custom code	Operation										
L	D26D	System (export)										
H	D225	Tuner										
6	PA1	STAND BY	Standby condition sensor terminal. Only the POWER code is decoded when STAND BY input is "L".									
7	PA2	REM IN	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 <sub>DD</sub>	V <sub>DD</sub>	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)

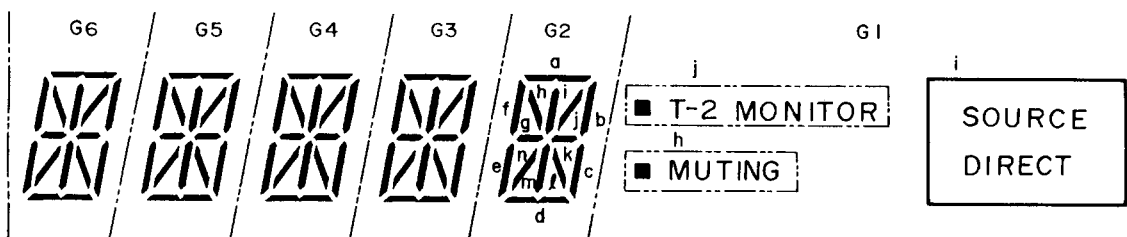
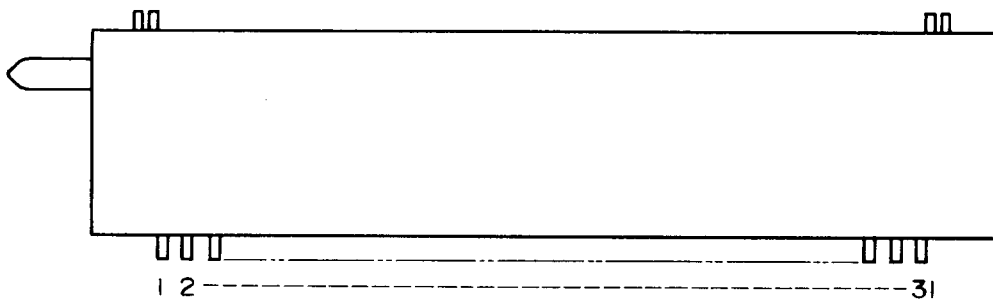




## LC6538D

Pin No.	Pin name	Symbol	Function
1 2	T13/S10 T12/S11	SK SI	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 <sub>DD</sub>	V <sub>DD</sub>	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 <sub>SS</sub>	V <sub>SS</sub>	Ground terminal.
19	TEST	TEST	LSI test terminal. Connected to V <sub>SS</sub> .
20	RES	RES	Reset input terminal. Active: "L".
21 22	X1 X2	X1 X2	Sub-clock terminals. Not used. X1 terminal is connected V <sub>DD</sub> .
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/SCKO	CL	Output terminal connected to CL terminals of PLL LM7001 and switch LC7821.
45	PF3/INTO	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/ICNT	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: Grids                      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
	<b>Transistors</b>			<b>Capacitors</b>	
Q501, Q502	2212285 or 2212286	2SC2878-A or 2SC2878-B	C501, C502	354741009	10 $\mu$ F, 16V, Elect.
Q503~Q506	2211455 or 2210803	2SA1015-GR or 2SA733-P	C505, C506, C653	354722219	220 $\mu$ F, 6.3V, Elect.
Q507, Q508	2211371 or 2211372	2SC2259-O-001 or 2SC2259-O-002	C511, C512	354780229	2.2 $\mu$ F, 50V, Elect.
Q509, Q510	2211732 or 2211733	2SC1845-F or 2SC1845-E	C529, C530	371124734	0.047 $\mu$ F, 50V, Mylar
Q511, Q512	2211255 or 2210746	2SC1815-GR or 2SC945A-P	C533, C534		
Q513, Q514	2211353 or 2211354	2SA949-O or 2SA949-Y	C535, C536	354790479	4.7 $\mu$ F, 100V, Elect. [D]
Q515, Q516	2211633 or 2211634	2SC2229-O or 2SC2229-Y	C535, C536	354771019	100 $\mu$ F, 63V, Elect. [G][W][A][B]
Q517, Q518	2211255 or 2210746	2SC1815-GR or 2SC945A-P	C652	354790479	4.7 $\mu$ F, 100V, Elect.
Q519, Q520	2211633 or 2211634	2SC2229-O or 2SC2229-Y	C654	354780109	1 $\mu$ F, 50V, Elect.
Q521, Q522	2211353 or 2211354	2SA949-O or 2SA949-Y	C911, C912	3504191	10000 $\mu$ F, 71V, Elect.
Q523, Q524	2201643 or 2201644	2SC3298-O or 2SC3298-Y	C913	354772219	220 $\mu$ F, 63V, Elect. [D]
Q525, Q526	2201633 or 2201634	2SA1306-O or 2SA1306-Y	C913	354782219	220 $\mu$ F, 50V, Elect. [G][W][A][B]
Q531, Q532	2211633 or 2211634	2SC2229-O or 2SC2229-Y	C914	354782219	220 $\mu$ F, 50V, Elect.
Q651	2211455 or 2212495	2SA1015-GR or JA101-Q	C915, C916	354761019	100 $\mu$ F, 100V, Elect.
Q652	2211792 or 2211793	2SA992-F or 2SA992-E	C919, C921	354742219	220 $\mu$ F, 16V, Elect.
Q653, Q654	2211732 or 2211733	2SC1845-F or 2SC1845-E	C920	354754719	470 $\mu$ F, 25V, Elect.
Q655	2211255 or 2212485	2SC1815-GR or JC501-Q	C922	354772219	220 $\mu$ F, 63V, Elect.
Q911, Q913	2201754 or 2201755	2SD1913-R or 2SD1913-S	C923	354741019	100 $\mu$ F, 16V, Elect.
Q912	2201764 or 2201765	2SB1274-R or 2SB1274-S	C925	354722219	220 $\mu$ F, 6.3V, Elect.
D501, D502	4000120	KB265, Varistor	C931	354742209	22 $\mu$ F, 16V, Elect.
D503, D504, D652	223163	ISS133			
D911~D914	223897 or 22380003	P300DL or 1N5402F			
D915	224151602 or 224651602 or 224451603	05AZ16Y or HZ16EB2 or MTZ16B, Zener	R527, R528	442522704	27 $\Omega$ , 1/2W, Metal oxide film
D916	224152003 or 224652003 or 224452003	05AZ20Z or HZ20ZB3 or MTZ20C, Zener	R529, R530	5210062	N06HR4.7KBD, Semi-fixed
D918	224151601 or 224651601 or 224451601	05AZ16X or HZ16EB1 or MTZ16A, Zener	R535, R536	442529104	91 $\Omega$ , 1/2W, Metal oxide film
D919	224150623 or 224650623 or 224450623	05AZ6.2Z or HZ6.2EB3 or MTZ6.2C, Zener	R537, R538	442521024	1 $\Omega$ , 1/2W, Metal oxide film
D931, D932	223880 or 223896	GP101N4003 or 1N4003F	R539, R540	442521014	100 $\Omega$ , 1/2W, Metal oxide film
D933	224150512 or 224650512 or 224450512	05AZ5.1Y or HZ5.1EB2 or MTZ5.1B, Zener	R541~R544	442520224	2.2 $\Omega$ , 1/2W, Metal oxide film
			R545, R546	441720104	1 $\Omega$ , 2W, Metal oxide film
			R547~R550	4000080 or 4500022	0.47 $\Omega$ , 5W or 0.47 $\Omega$ , 5W, Metal plate
			R559, R560	442520824	8.2 $\Omega$ , 1/2W, Metal oxide film
			R564, R565	442522204	22 $\Omega$ , 1/2W, Metal oxide film
			R658	441721224	1.2K $\Omega$ , 2W, Metal oxide film [D]
			R658	441729114	910 $\Omega$ , 2W, Metal oxide film [G][W][A][B]
			R911, R912	441722414	240 $\Omega$ , 2W, Metal oxide film
			R913	442525624	5.6K $\Omega$ , 1/2W, Metal oxide film [D]
			R913	442524324	4.3K $\Omega$ , 1/2W, Metal oxide film [G][W][A][B]
			R914	442525124	5.1K $\Omega$ , 1/2W, Metal oxide film [D]
			R914	442523624	3.6K $\Omega$ , 1/2W, Metal oxide film [G][W][A][B]
			R915	441723914	390 $\Omega$ , 2W, Metal oxide film
			R917	441621114	110 $\Omega$ , 1W, Metal oxide film
			R918, R919	441721214	120 $\Omega$ , 2W, Metal oxide film
			R920	442527524	7.5K $\Omega$ , 1/2W, Metal oxide film [D]
			R920	442525624	5.6K $\Omega$ , 1/2W, Metal oxide film [G][W][A][B]
			R931	441621824	1.8K $\Omega$ , 1W, Metal oxide film [D]
			R931	441621524	1.5K $\Omega$ , 1W, Metal oxide film [G][W][A][B]
			R932	442523914	390 $\Omega$ , 1/2W, Metal oxide film
			R941	442522294	0.22 $\Omega$ , 1/2W, Metal oxide film
			RL501	25065134	NRL-2P5A-DC24V-07

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

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

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

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

CIRCUIT NO.	PART NO.	DESCRIPTION
P571	25060134	NTM-8PDMN-063
	<b>Terminal</b>	

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

CIRCUIT NO.	PART NO.	DESCRIPTION
U701	24130001	GP1U501S
	<b>Photo receiving unit</b>	
	<b>ICs</b>	
Q301	22240014	$\mu$ PC4570HA
Q305, Q307	22240050	$\mu$ PC4570C
Q701	22240244	LC6538D-3984
Q706	22240243	LC6527C-3987
	<b>Transistors</b>	
Q702, Q704, Q705	2211255 or 2212485	2SC1815-GR or JC501-Q
Q703	2211455 or 2212495	2SA1015-GR or JA101-Q
Q707	2211504	2SA950-Y
	<b>FL tube</b>	
Q708	212074	CPF3027GR
	<b>Diodes</b>	
D701~D703, D706 D721, D722, D724 D704	223163	1SS133
	224150563 or 224650563 or 224450563	05AZ5.6Z or HZ5.6EB3 or MTZ5.6C, Zener
D705, D707 D723	223145 224150562 or 224650562 or 224450562	1S2076 05AZ5.6Y or HZ5.6EB2 or MTZ5.6B, Zener
D725	225141	SEL2213C, LED
	<b>Osc. element</b>	
X701, X702	3010150	CST4.00MGW

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

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

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

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

CIRCUIT NO.	PART NO.	DESCRIPTION
	<b>ICs</b>	
Q101, Q102	22240191	NJM4565DD
Q401	222840661	4066B
	<b>Transistors</b>	
Q402, Q404~Q406	2211255	2SC1815-GR
Q403	2211455	2SA1015-GR
	<b>Capacitors</b>	
C103, C104	372121014	100 pF, 50V, Styrene [G][W][A][B]
C105, C106, C401 C403	354741009	10 $\mu$ F, 16V, Elect.
C109, C110, C117 C118	354721019	100 $\mu$ F, 6.3V, Elect.
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 $\mu$ F, 16V, Elect.
C402, C404	354724719	470 $\mu$ F, 6.3V, Elect.
C406	354741029	1000 $\mu$ F, 16V, Elect.

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

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

CIRCUIT NO.	PART NO.	DESCRIPTION
		<b>ICs</b>
Q201	22240079	LC7821
Q207, Q209	22240025	LC4966
Q251	22240050	μPC4570C
		<b>Transistors</b>
Q801, Q804, Q805	2211455 or 2212495	2SA1015-GR or JA101-Q
Q802, Q803, Q806	2211255 or 2212485	2SC1815-GR or JC501-O
		<b>Diodes</b>
D801, D802	224150562 or 224650562 or 224450562	05AZ5.6Y or HZ5.6EB2 or MTZ5.6B, Zener
		<b>Capacitors</b>
C211~C214, C811 C251~C254	354780229	2.2 μF, 50V, Elect.
C813, C816 C814	354744709 354780109	47 μF, 16V, Elect. 1 μF, 50V, Elect.
		<b>Terminals</b>
P201, P202	25045213	NPJ-6PDBL-92
		<b>Jumper sockets</b>
JL204a, JL301a JL701a	25050267 25050270	NSCT-3P95 NSCT-6P98
		<b>Switch</b>
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
		<b>Diode</b>
D905	223163	1SS133 [D][G][W]
		<b>Capacitors</b>
C901, C902	3500065A	0.01 μF, AC400V/125V, IS
		<b>Switch</b>
S901	25035550	NPS-111-L512P [D][G][W]
		<b>Terminal</b>
	25060092	NTM-1S33
		<b>Relay</b>
RL901	25065269	NRL-1P5A-DC12-36ZA [D]
RL901	25065248	NRL-1P15A-DC12-29ZA [G][W]
		<b>Fuse holder</b>
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
		<b>IC</b>
Q751	222963	LB1630
		<b>Diodes</b>
D752, D753	223163	1SS133
		<b>Capacitors</b>
C751	354741009	10 μF, 16V, Elect.
C752	354780339	3.3 μF, 50V, Elect.
		<b>Resistors</b>
R361, (R362)	5104234	N16RGM50KA30F, Variable
		<b>Socket ass'y</b>
P351	2000635A	NSAS-4P591
		<b>Plate</b>
	27141059	

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

CIRCUIT NO.	PART NO.	DESCRIPTION
		<b>Mini jack</b>
P701	25045172	HSJ-1003-01-020

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

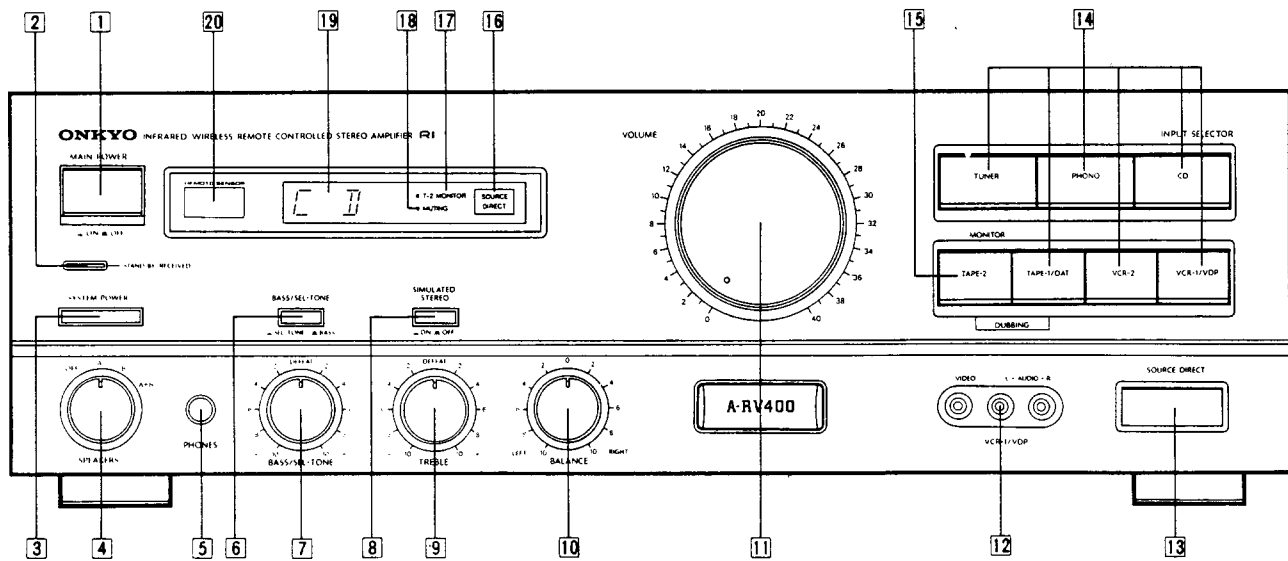
CIRCUIT NO.	PART NO.	DESCRIPTION
		<b>Terminal</b>
P204	25045206	NPJ-3PDYE086

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

CIRCUIT NO.	PART NO.	DESCRIPTION
		<b>Diode</b>
D751	225141	SEL2213C, LED
		<b>Holder</b>
	27190545	(LED)

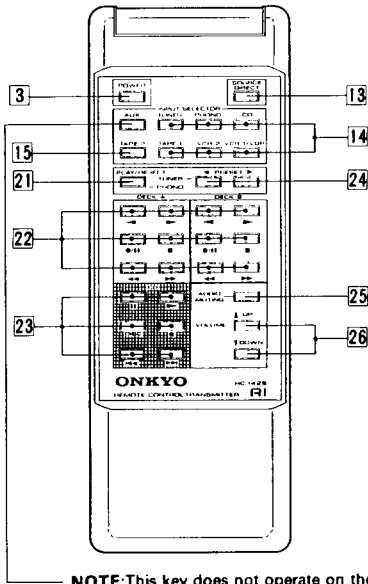
NOTE {D}: Only 120V model  
 {G}: Only 220V model  
 {W}: Only 120V/220V model  
 {A}: Only Australian model  
 {B}: Only British model

# 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

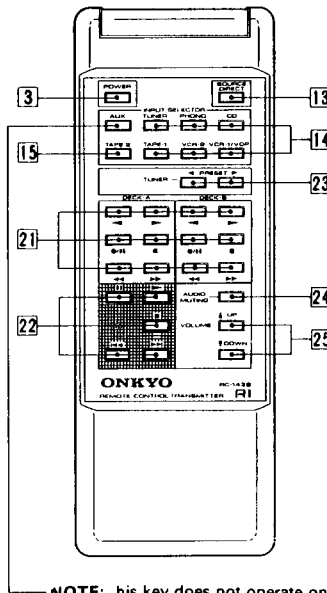
Remote control transmitter controls (RC-142S)



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]

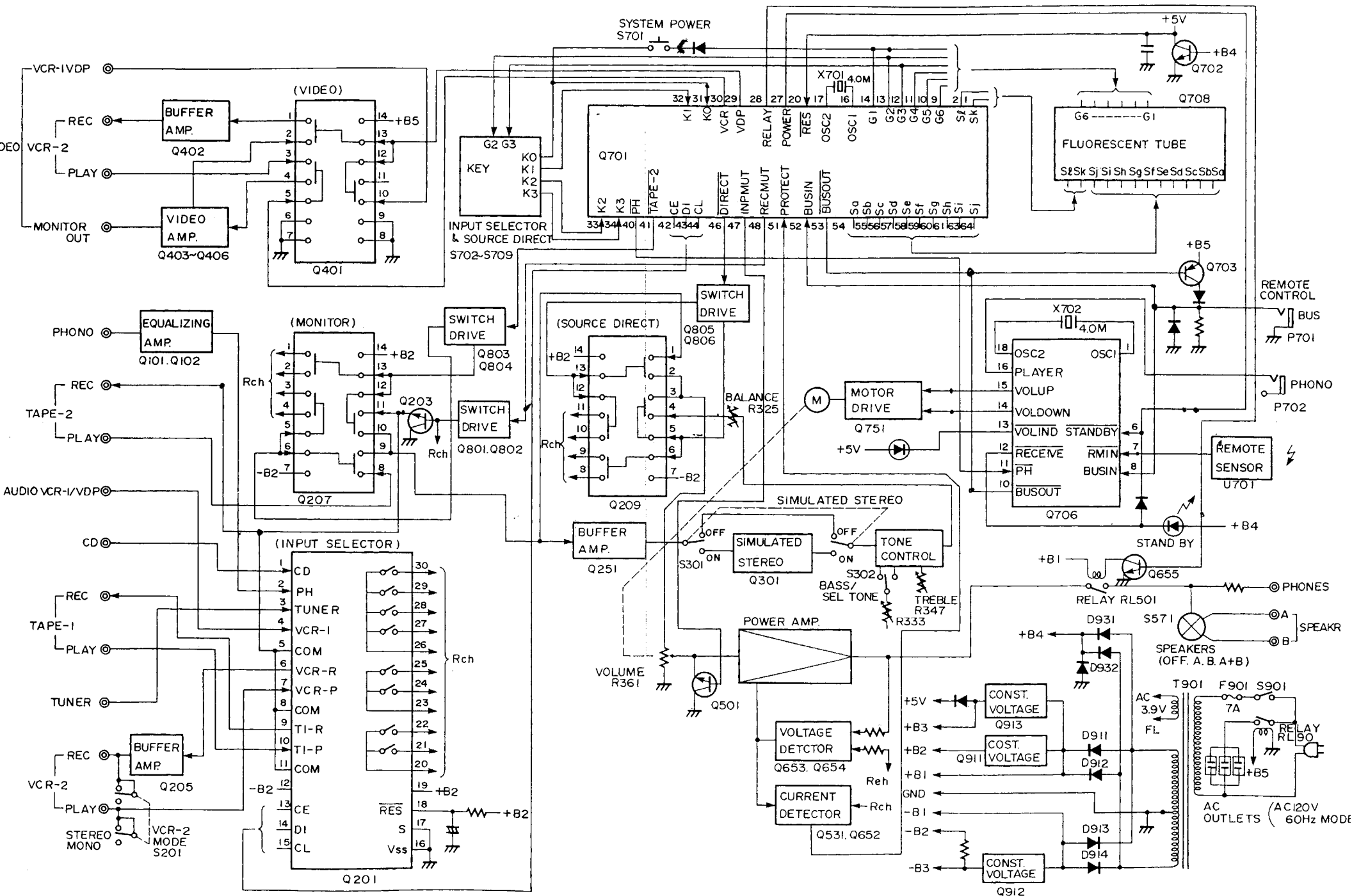
A-RV400M

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

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

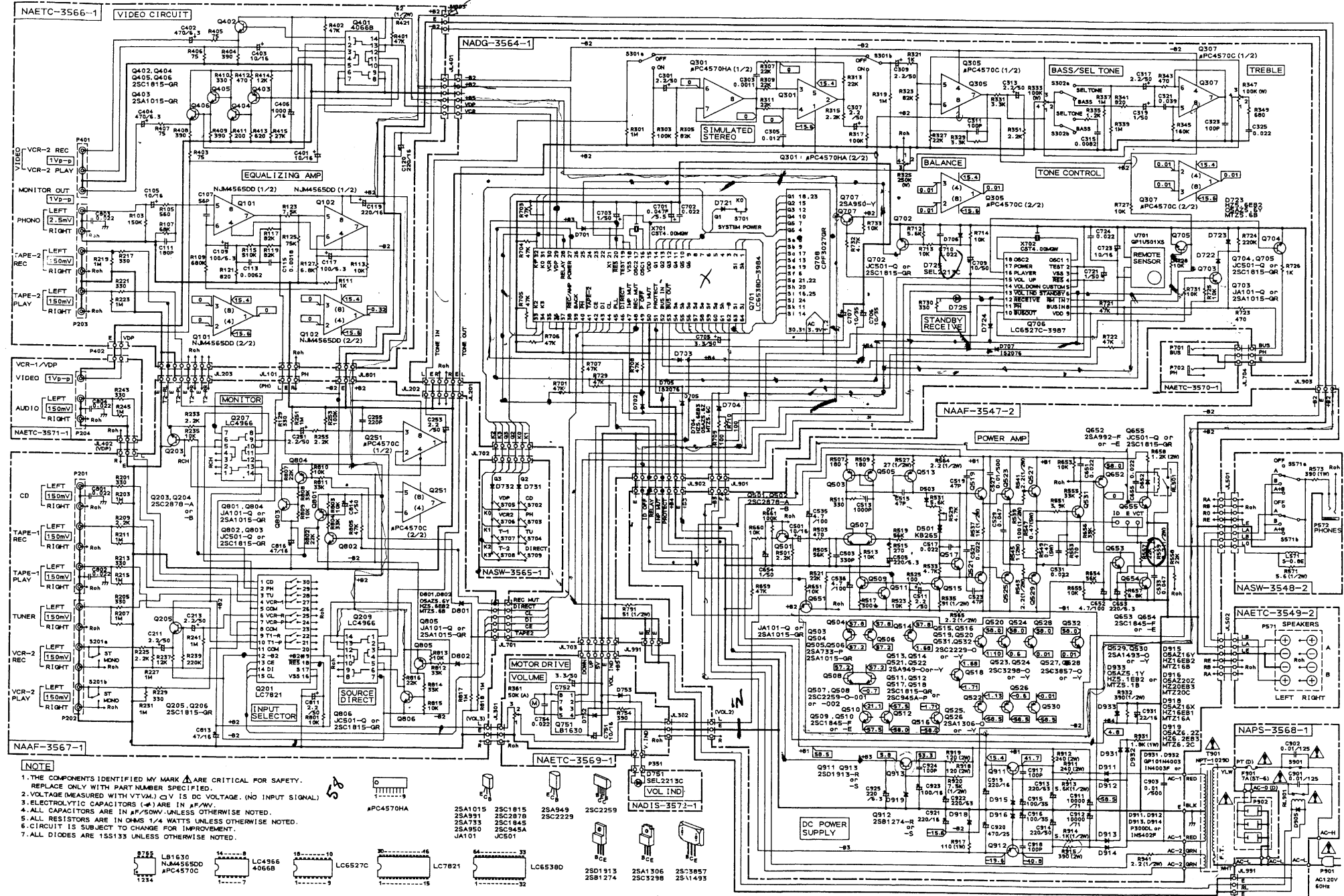
BLOCK DIAGRAM





A                      B                      C                      D                      E                      F                      G

# SCHEMATIC DIAGRAM (120V Model)



- NOTE**
1. THE COMPONENTS IDENTIFIED BY MARK  $\Delta$  ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
  2. VOLTAGE MEASURED WITH VTVM. CV IS DC VOLTAGE. (NO INPUT SIGNAL)
  3. ELECTROLYTIC CAPACITORS (E) ARE IN  $\mu$ F/V.
  4. ALL CAPACITORS ARE IN pF/ $\mu$ SOV UNLESS OTHERWISE NOTED.
  5. ALL RESISTORS ARE IN OHMS 1/4 WATT UNLESS OTHERWISE NOTED.
  6. CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.
  7. ALL DIODES ARE 1S1133 UNLESS OTHERWISE NOTED.

$\Delta$ LB1630	$\Delta$ N4M45650D	$\Delta$ LC4966	$\Delta$ LC6527C	$\Delta$ LC7821	$\Delta$ LC6538D	$\Delta$ 2S01913	$\Delta$ 2S1306	$\Delta$ 2S3967
1314	15	7	5	15	32	3811274	25C3298	2S11493