


ONKYO® SERVICE MANUAL

Stereo Graphic Equalizer MODEL EQ-101

UD	120V AC, 50Hz
UP	230V AC, 50Hz
UW	120V/220V AC, 50Hz/60Hz
UQ	240V AC, 50Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  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.

TABLE OF CONTENTS

Specifications.....	2
Block diagram.....	2
Front panel facilities.....	3
System connections.....	3
Chassis exploded view.....	4
Exploded view parts list.....	5
Packing parts list.....	5
Printed board parts list.....	6
Printed circuit board view.....	7
Schematic diagram.....	9
Precautions.....	11

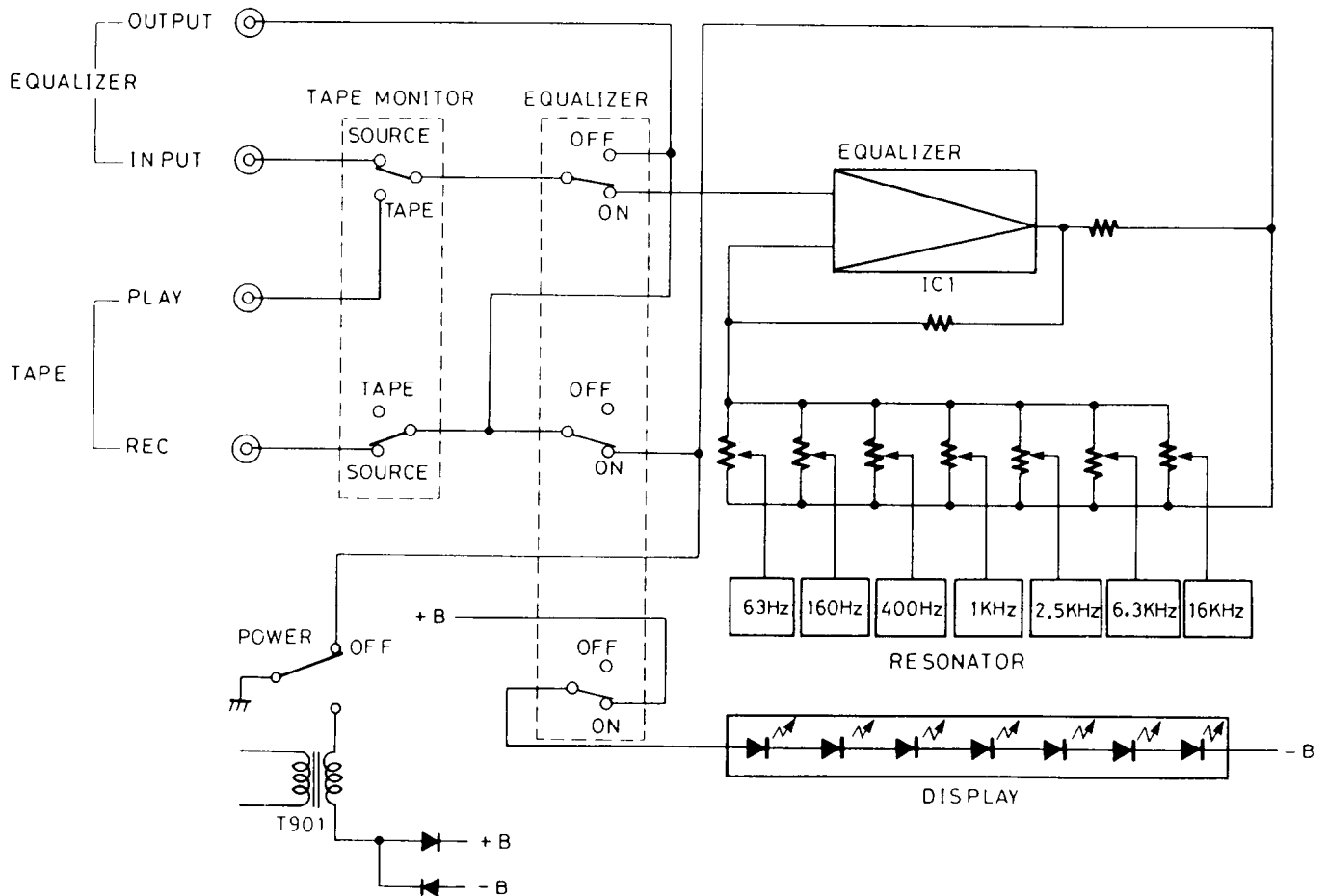


SPECIFICATIONS

Input:	Input sensitivity (FLAT): 150mV
	Input impedance: 50 kohms
Output:	Output voltage (FLAT): 150mV
	Output impedance: 1.0 kohms
Max. input:	5 volts, 20Hz – 20kHz, 0.05% THD
Frequency response:	10Hz to 35kHz (+0, -0.5dB)
Total harmonic distortion:	Less than 0.01% at 20Hz-20kHz, 1.5V output (FLAT)
Signal-to-noise ratio:	100 dB, 1.5V output, IHF-A input short
Adjustable range:	±12dB
Gain:	0 dB
Power supply:	USA & Canadian models: AC 120V, 60Hz
	European models: AC 230V, 50Hz
	British & Australian models: AC 240V, 50Hz
	Worldwide models: AC 120V and 220V switchable, 50Hz/60Hz
Dimensions:	455(W) × 90(H) × 302.5(D) mm
	17-15/16" × 3-1/2" × 11-15/16"
Weight:	3.0 kg, 6.6 lbs.

Specifications and features are subject to change without notice.

BLOCK DIAGRAM



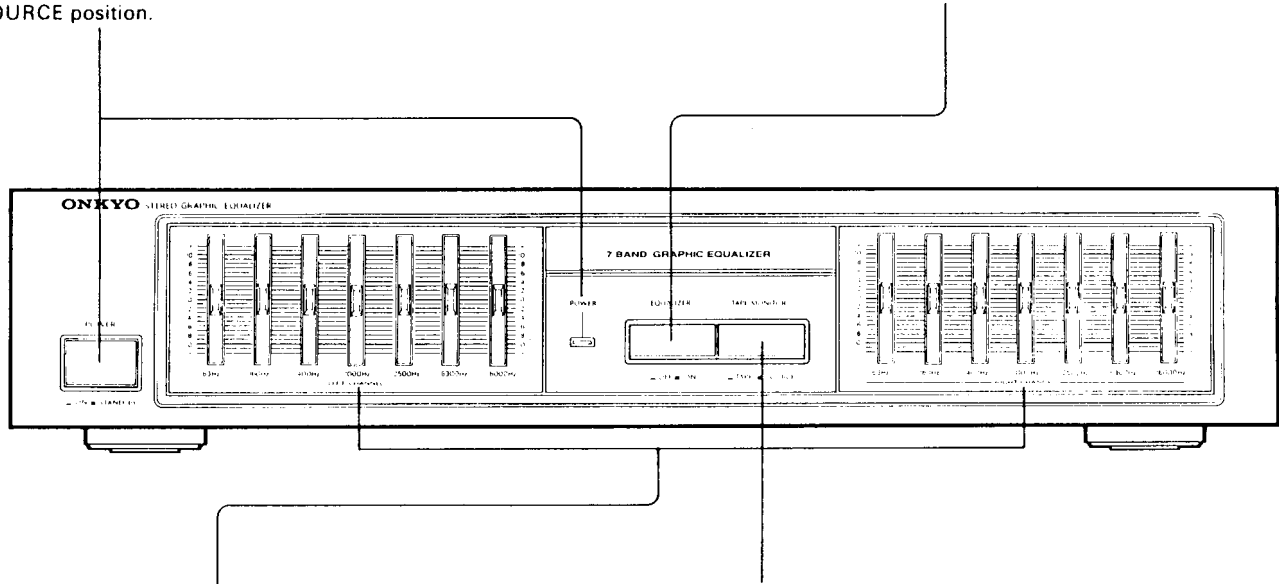
FRONT PANEL FACILITIES

Power Switch (POWER) and Indicator

Depress once to turn power ON and once again to turn power OFF. When Power is turned on, the Power Indicator lights. When Power is turned OFF, set the EQUALIZER switch to the OFF position or the Tape monitor switch of the Amplifier to the SOURCE position.

Equalizer Switch (EQUALIZER)

Depress to the OFF position (—) to turn off the equalization effect set by the level controls. In the ON position (■) (Level Control Indicator lights), the program source is equalized according to the settings of the level controls.



Level Controls and Indicators

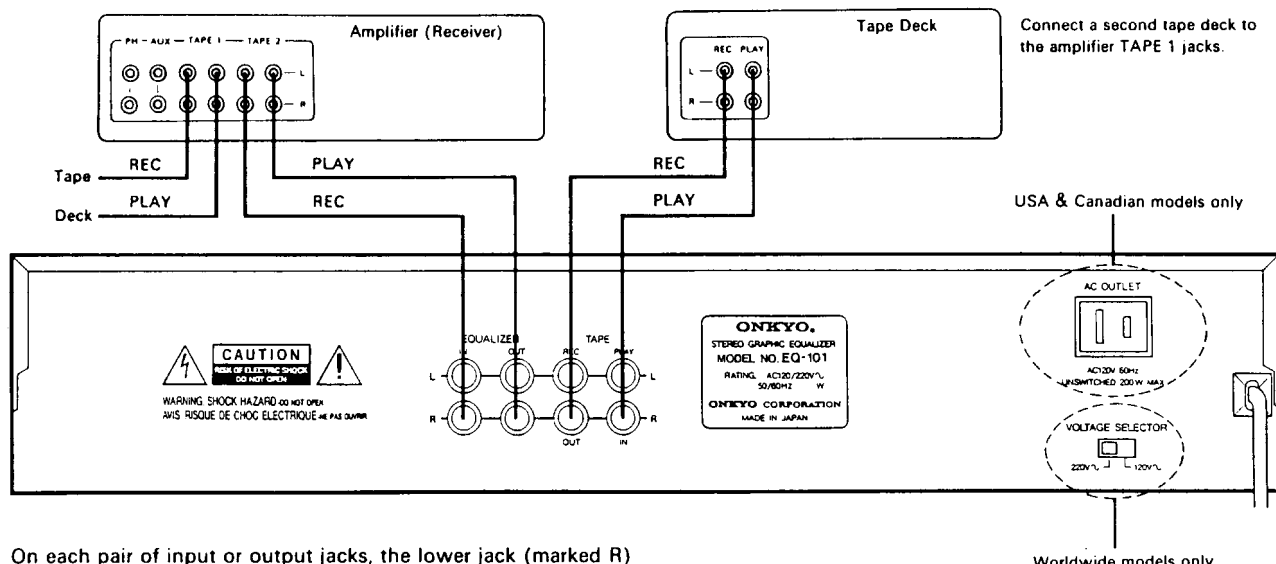
Each control raises and lowers the response of the frequency range centered at the indicated frequency. Above the center '0' click-stop position, response is emphasized; below the '0' position, response is attenuated.

Monitor Switch (TAPE MONITOR)

Depress to the TAPE position (—) to equalize the playback signal from the tape deck connected to the rear panel TAPE jacks. In the SOURCE position (■), the signal from the amplifier connected to the rear panel EQUALIZER INPUT jacks is input for equalization.

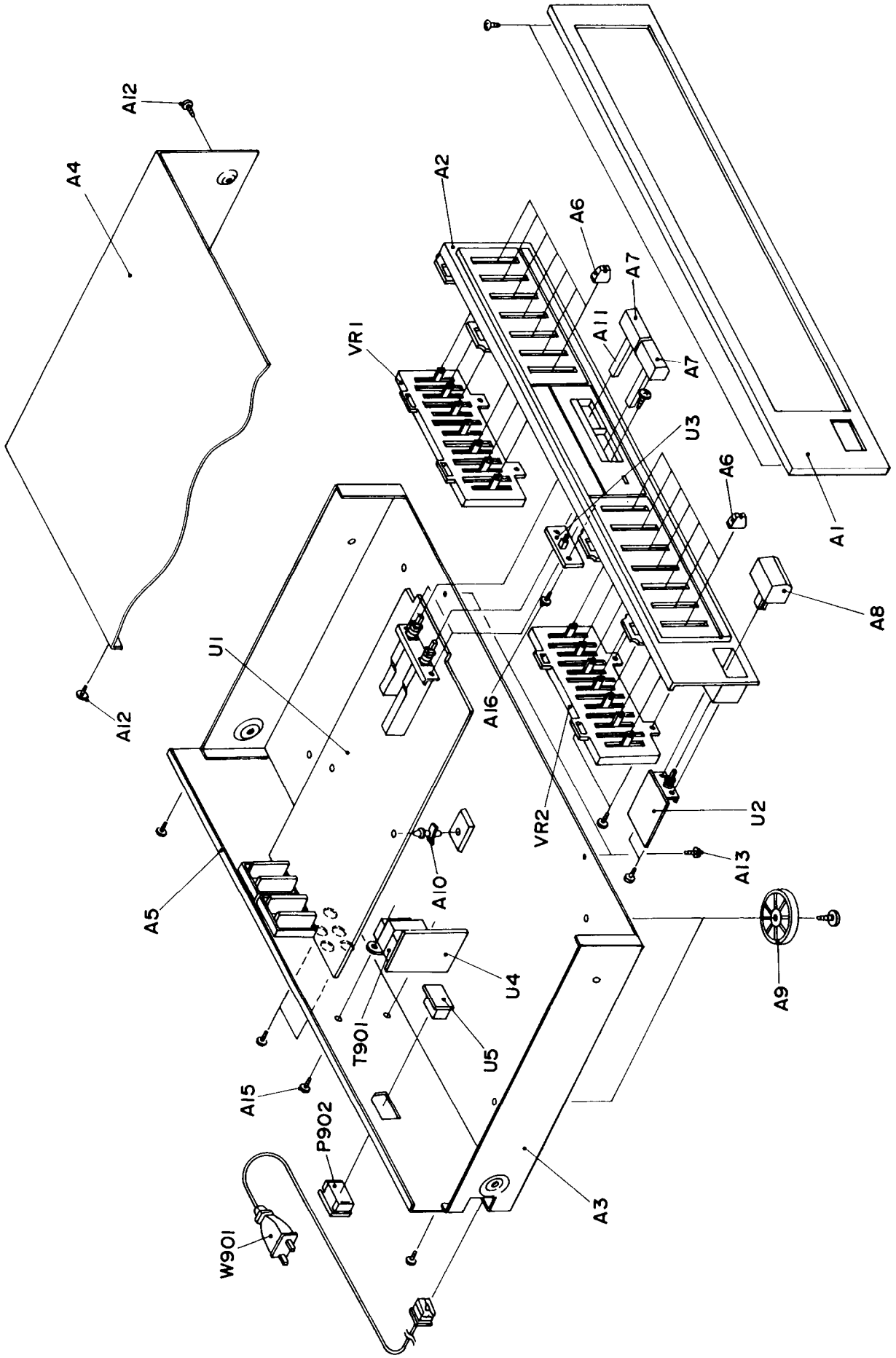
SYSTEM CONNECTIONS

- Do not plug in the power cord until all connections have been made.



On each pair of input or output jacks, the lower jack (marked R) corresponds to the right channel, and the upper jack (marked L) to the left channel. When jacks on other equipment or connection cables are color coded, the color red usually corresponds to the right channel (Red = Right).

CHASSIS-EXPLODED VIEW



CHASSIS-EXPLODED VIEW-PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
A001	27211307	FRONT PANEL ASS'Y	U003	1W083548-3	NADIS-3348-3, DISPLAY PC BOARD ASS'Y
(A001a)	28125242	END CAP (L)	U004	1W083584-2	NAETC-3884-2, POWER TRANSFORMER PC BOARD ASS'Y [D]
(A001b)	28125243	END CAP (R)	U004	1W083584-2A	NAETC-3884-2A, POWER TRANSFORMER PC BOARD ASS'Y [P] [V]
(A001c)	28135199	NAME PLATE	U004	1W083584-2B	NAETC-3884-2B, POWER TRANSFORMER PC BOARD ASS'Y [W]
A002	27110645	FRONT ANGLE	U004	1W083584-2C	NAETC-3884-2C, POWER TRANSFORMER PC BOARD ASS'Y [A] [B]
A003	27100242	CHASSIS	U005	1W083585-2	NAETC-3885-2, AC OUTLET PC BOARD ASS'Y [D]
A004	28184488	TOP COVER	U006	1W083590-2	NASW-3890-2, SLIDE SWITCH PC BOARD ASS'Y [W]
A005	27121461	REAR PANEL [D] [P]			
A005	27121436	REAR PANEL [V]			
A005	27121437	REAR PANEL [W]			
A005	27121438	REAR PANEL [A] [B]			
A006	28322302	KNOB (GE)			
A007	28324403	KNOB (SEL)			
A008	28324140	KNOB (POW)			
A009	27175254	BOTTOM LEG ASS'Y			
A010	27270171	SPACER			
A012, A013	838430088	3TTB+8BBC, TAPPING SCREW			
A015	801439	3SMP8WSW+8FNBC, SPECIAL TAPPING SCREW			
A016	833220068	2TTB+6PBC, TAPPING SCREW			
VR1, VR2	6112007	N30LGLC100KW15ZX7, VARIABLE RESISTOR			
△ W901	253153	AS-EQ540UD, POWER SUPPLY CABLE [D]			
△ W901	253154	AS-EQ540UW, POWER SUPPLY CABLE [P] [V] [W]			
△ W901	253155	AS-EQ540UQA, POWER SUPPLY CABLE [A]			
△ W901	253156	AS-EQ540UQB, POWER SUPPLY CABLE [B]			
U001	1W083546-3	NAAF-3346-3, EQUALIZER CIRCUIT PC BOARD ASS'Y [D] [P] [W] [A] [B]			
U001	1W083546-3A	NAAF-3346-3A, EQUALIZER CIRCUIT PC BOARD ASS'Y [V]			
U002	1W083547-3	NASW-3347-3, STAND-BY SWITCH PC BOARD ASS'Y			

NOTE [D]: ONLY 120V MODEL
[P]: ONLY 230V MODEL
[W]: ONLY 120V/220V MODEL
[V]: ONLY WEST GERMANY 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 PART NUMBER SPECIFIED.

PACKING PART LIST

REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
A851	29052215	Master carton box		29365022	Warranty card [B]
A852	29091503	Pad		25055040	CV-K-2, Conversion plug [W]
A858	29100122	800×450, Poly-vinyl bag			
A855	29110077	Damplon tape			
A856	282301	Sealing hook			
A859	29355133	Caution (DBP) [V]			
	29360863	Label (CAUTION) [B]			
	ACCESSORY BAG ASS'Y				
	29100006A	250×360, Poly-vinyl bag			
	2010112	Connection cable			
	29341593	Instruction manual [D] [N]			
	29341594	Instruction manual [P] [W] [C] [F] [V] [A] [B]			
	29365019A	Warranty card [N]			
	29358002J	Service station list [N]			
	29365024	Warranty card [F]			
	29100107	Poly-vinyl bag (Warranty) [F]			
	29365020C	Warranty card [V]			
	29100094A	Poly-vinyl bag (Warranty) [V]			
	29365029	Warranty card [A]			

NOTE [D]: Only 120V model
[P]: Only 230V model
[W]: Only 120V/220V model
[N]: Only U.S.A. model
[C]: Only Canadian model
[V]: Only West Germany model
[F]: Only French model
[A]: Only Australian model
[B]: Only British model

PRINTED CIRCUIT BOARD PARTS LIST

EQUALIZER CIRCUIT PC BOARD (NAAF-3346-3, NAAF-3346-3A)

CIRCUIT NO.	PART NO.	DESCRIPTION
	IC	
IC1	22240044	NJM4560DD
	Transistors	
Q1-Q7	2213354	2SA933SR
Q51-Q57	2213284	2SC1740SR
	Diodes	
D101, D102	22380025	MPG06B
	Capacitors	
C1, C51	354780109	1 μ F 50V, Elect.
C2, C52	370132214	220 pF, 100V, Film (APS)
C3, C53	354750479	4.7 μ F 25V, Elect.
C4, C54	354780339	3.3 μ F 50V, Elect.
C5, C55	371126834	0.068 μ F 50V, Mylar
C6, C56	354780159	1.5 μ F 50V, Elect.
C7, C57	371122234	0.022 μ F 50V, Mylar
C8, C58	354784799	0.47 μ F 50V, Elect.
C9, C59	371121034	0.01 μ F 50V, Mylar
C10, C60	354781599	0.15 μ F 50V, Elect.
C11, C61	371126824	6800 pF, 50V, Mylar
C12, C62	371126834	0.068 μ F 50V, Mylar
C13, C63	371122724	2700 pF, 50V, Mylar
C14, C64	371122734	0.027 μ F 50V, Mylar
C15, C65	371121524	1500 pF, 50V, Mylar
C16, C66	371121034	0.01 μ F 50V, Mylar
C17, C67	370138214	820 pF, 100V, Film (APS)
C102, C103	354751029	1000 μ F 25V, Elect.
C104, C105	354741029	1000 μ F 16V, Elect.
C109, C110	370133314	330 pF, 100V, Film (APS) [V]
C111, C112	370131014	100 pF, 100V, Film (APS) [V]
C113, C114	370133314	330 pF, 100V, Film (APS) [V]
	Resistors	
R101	441725624	5.6k Ω , 2W, Metal oxide film
R102-R105	441722714	270 Ω , 2W, Metal oxide film
	Switches	
S2, (S3)	25035502	NPS-142-162-L464, Push switch
	Input terminals	
	25045167	NPJ-4PDBL61

STAND-BY SWITCH PC BOARD (NASW-3347-3)

CIRCUIT NO.	PART NO.	DESCRIPTION
S1	25035501	NPS-122-L463, Push switch

DISPLAY PC BOARD (NADIS-3348-3)

CIRCUIT NO.	PART NO.	DESCRIPTION
	LED	
LED101	225260	SLB-15VR5F

POWER TRANSFORMER PC BOARD (NAETC-3884-2, NAETC-3884-2A, NAETC-3884-2B)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transformer	
T901	2300536	NPT-1069D [D]
	2300690	NPT-1069P [P][V]
	2300539	NPT-1069DG [W]

CIRCUIT NO.	PART NO.	DESCRIPTION
	2300540	NPT-1069Q [Q]

Plugs

25055483	NPLG-2P-464
25055099	NPLG-2P83

AC OUTLET PC BOARD (NAETC-3885-2)

CIRCUIT NO.	PART NO.	DESCRIPTION
-------------	----------	-------------

AC OUTLET

\triangle	25050411	NSCT-2P236 [D]
-------------	----------	----------------

AC OUTLET PC BOARD (NAETC-3890-2)

CIRCUIT NO.	PART NO.	DESCRIPTION
-------------	----------	-------------

Switch

\triangle	25065228	NSS-2299, Slide switch [W]
-------------	----------	----------------------------

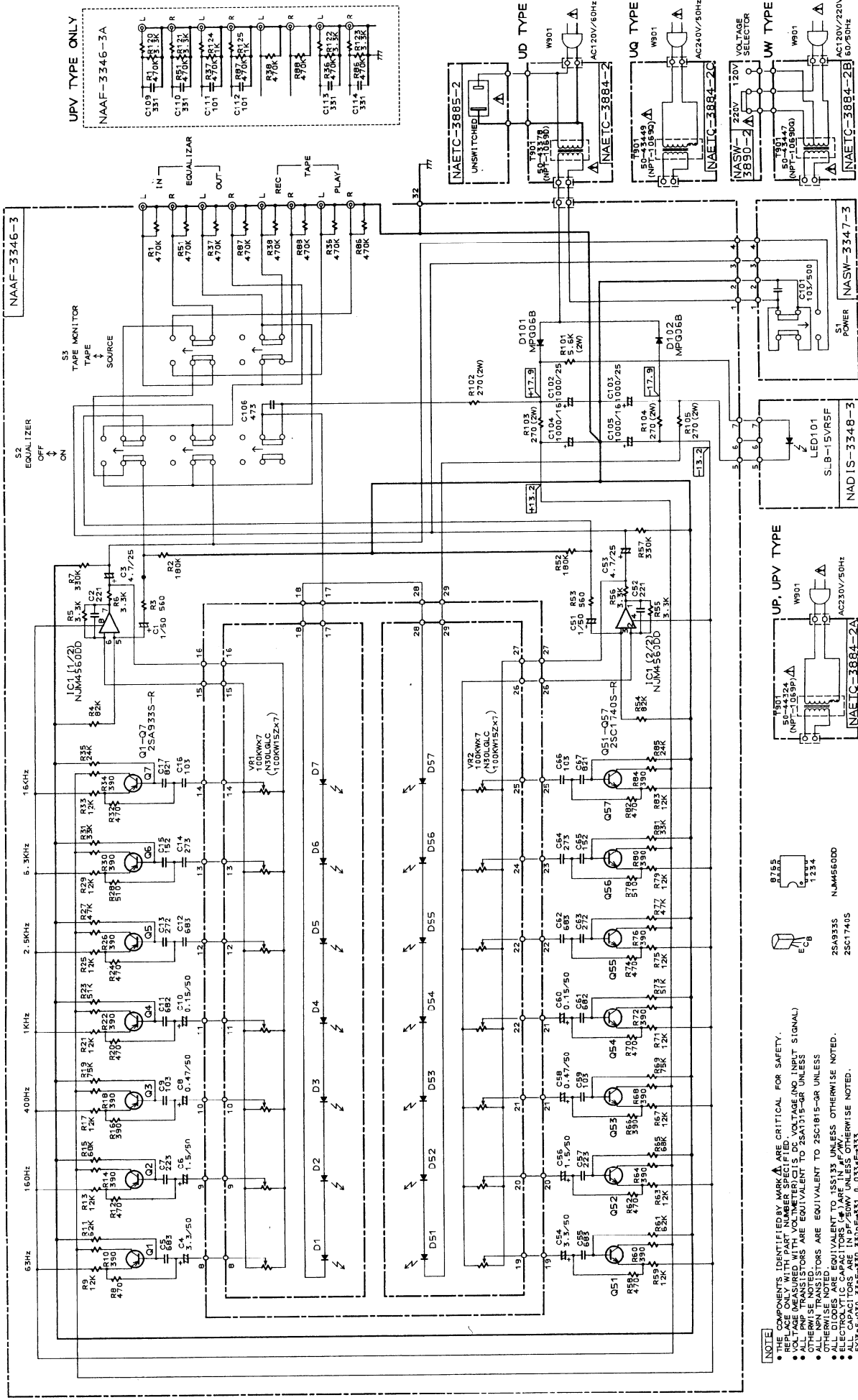
NOTE [D]: Only 120V model
 [P]: Only 230V model
 [W]: Only 120V/220V model
 [Q]: Only 240V model
 [V]: Only Germany model

NOTE:

THE COMPONENTS IDENTIFIED BY MARK \triangle ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

A B C D E F G

**SCHEMATIC DIAGRAM
MODEL EQ-101**



(NOTE)

- THE COMPONENTS IDENTIFIED BY MARK **▲** ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
- VOLTAGE MEASUREMENTS ARE EQUIVALENT TO 25A(15) 50Hz AC UNLESS OTHERWISE NOTED.
- ALL RESISTORS ARE EQUIVALENT TO 25C(16) 5-OR UNLESS OTHERWISE NOTED.
- ALL DIODES ARE EQUIVALENT TO 1S(13) UNLESS OTHERWISE NOTED.
- ELECTROLYTIC CAPACITORS ARE IN OHMS UNLESS OTHERWISE NOTED.
- EXCEPT **EX-101, 3346-3350, 3350F-331, 0.0334F-333** UNLESS OTHERWISE NOTED.
- ALL RESISTORS ARE IN OHMS UNLESS OTHERWISE NOTED.
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

PRECAUTIONS

1. 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. Specification; More than 10 M Ω at 500V.

2. Voltage selector (rear panel)

Worldwide models are equipped with a voltage selector to conform with local power supplies. Be sure to select this switch to match the voltage of the power supply in your area before plugging in the unit. 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 plugging in the unit. Models without a voltage selector can only be used in areas where the power supply is the same as that of the unit.

