

ONKYO SERVICE MANUAL

SERIAL NO. 3167

**STEREO CASSETTE
TAPE DECK****MODEL TA-2033**

UDN, UDC, UD	120V AC, 60Hz
UGV, UG	220V AC, 50Hz
UW	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 PARTS NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

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

SPECIFICATIONS

Track Format:	4 tracks, 2 channels
Erasing System:	AC erase
Tape Speed:	4.8 cm/sec. (1-7/8 i.p.s.)
Wow & Flutter:	0.045% (WRMS)
Frequency Response:	20–15,000 Hz (30–14,000 Hz \pm 3 dB) (normal position tape) 20–16,000 Hz (30–15,000 Hz \pm 3 dB) (high position tape) 21–17,000 Hz (30–16,000 Hz \pm 3 dB) (metal position tape)
Signal-to-Noise Ratio:	60 dB (metal position tape, Dolby NR out) A noise reduction of 10 dB above 5 kHz and 5 dB at 1 kHz is possible with Dolby B NR. A noise reduction of 20 dB at 5 kHz is possible with Dolby C NR.
Input Jacks:	Mic Jacks: 2 Minimum input level: 0.3 mV/600 ohms Input impedance: 5 kohms Line IN: 2 Minimum input level: 50 mV Input impedance: 50 kohms



Outputs:	Line OUT: 2 Std output level: 500 mV 500 mV (0 dB) Opt load impedance: Over 50 kohms
	Headphone Jack: 1 Opt load impedance: 8–200 ohms
Motor:	DC servo motor: 1
Heads:	Rec/PB head: Special Hard Permalloy Erase head: Ferrite
Semiconductors:	TR: 44 Diodes: 33 IC: 9 LED: 9
Power Consumption:	24 watts
Dimensions:	418(W) x 112(H) x 270(D)mm (16-1/2" x 4-3/8" x 10-5/8")
Weight:	4.5 kg. (9.9 lbs.)

Specifications and external appearance are subject to change without notice because of product improvements.

SERVICE PROCEDURES

1. Replacing the lamp

This unit used the lamp listed below.

Circuit No.	Parts No.	Description
PL-101	210090	PL14V 150mA

Caution; Before replacing the lamp. Be sure to unplug the power supply cable.

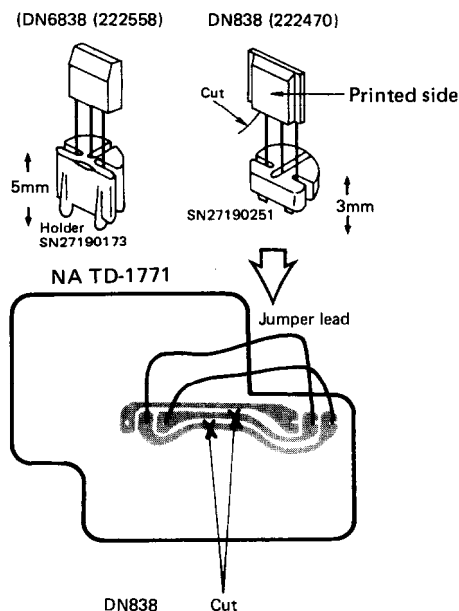
2. Instruction resistance measurement

Connect the insulating-resistance tester between the plug of power supply cord and chassis.

Specifications; D model	500V 3.3 ± 0.33MΩ
G/W models	500V more than 10MΩ

3. Replacing the Hall ICs

Cautions: As the position of leg of DN6838 and DN838 differ, use the same Hall IC when replacing.



FEATURES

Special Hard Permalloy Head Designed for Metal Tapes

The special process used to obtain the extra hard permalloy head surface ensures greater resistance to wear and a better saturation flux density in order to take full advantage of high performance metal tapes. The hyperbolic shape also improves head-to-tape contact.

Microcomputer-Controlled Full-Logic Operation

The TA-2033 employs full logic operation with microcomputer control in which separate solenoids are used for the FF, REW, PLAY and AMCS modes to assure excellent reliability.

Auto Music Control System (A.M.C.S.)

The AMCS automatically locates the beginning of every song on a cassette in either the forward or the reverse direction. When the forward AMCS button is pressed during the play mode, the tape is rapidly wound to the beginning of the next song and the first 10 seconds (approximately) is played. Then the tape is rapidly wound forward to the beginning of the next song and about 10 seconds is played again. This process continues until the PLAY button is pressed to cancel AMCS operation and return to normal playback. When the reverse AMCS button is pressed during the play mode, this process is performed in the reverse direction.

Dolby B and C Noise Reduction

Along with standard Dolby B NR, the TA-2033 also has the even more effective Dolby C NR system. Dolby C NR reduces tape background noise by 20 dB at 5 kHz, about 3 times more than Dolby B NR. In addition to its wide band noise reduction, Dolby C NR uses a sliding band technique that varies the band width of noise reduction according to the input level, thereby avoiding noise "pumping." Dolby C NR also has an anti-saturation effect to reduce the chance of tape saturation in the high range. All these features combine to eliminate the adverse effects on tape sound that other noise reduction systems can cause.

Auto Space Rec Mute Button

Press this button while you're making a recording to automatically enter a blank section of tape about five seconds long. Once the blank section has been entered, the TA-2033 will automatically switch to the REC-PAUSE mode. To continue recording, simply press the PLAY button. This function is convenient for temporarily interrupting recording, editing tape during dubbing and inserting unrecorded sections long enough for the automatic continuous song location function to detect.

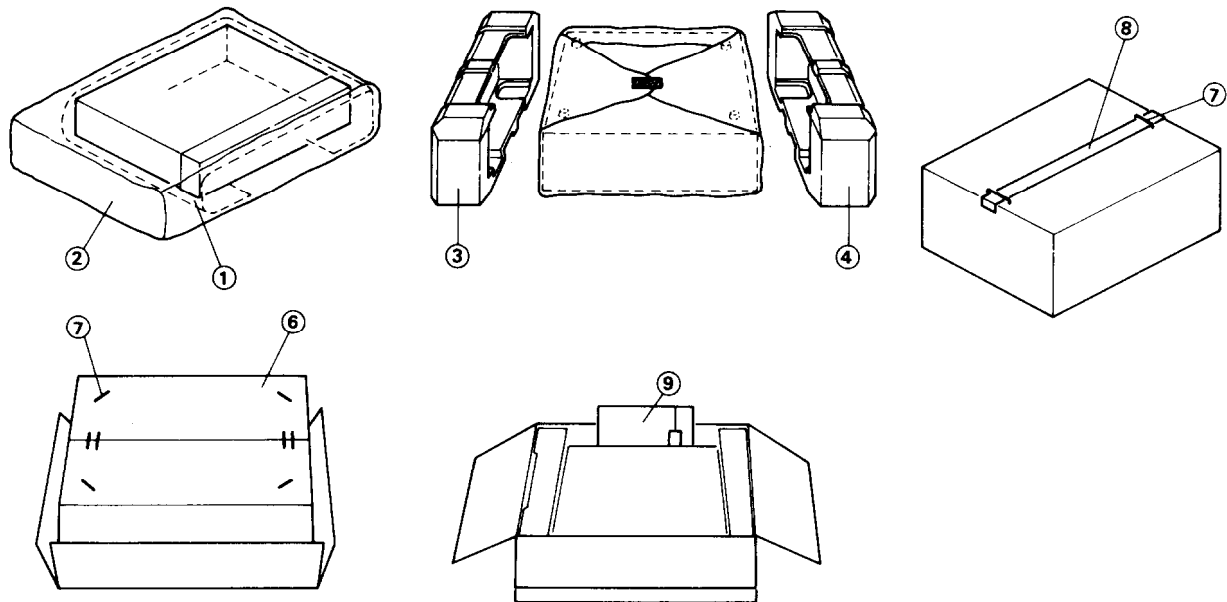
Semi-Automatic Tape Selection

The TA-2033 automatically senses when a normal position cassette is inserted and sets the tape selector to the normal position for you.

Full Auto-Stop Mechanism

Tape transport is automatically halted when the end of a cassette is reached to safeguard both tapes and the tape transport from undue strain.

PACKING VIEW



D model

REF. NO.	PARTS NO.	DESCRIPTION
1	29095012-1	500x800mm, Protection sheet
2	29100063	500x750mm, Poly bag
3	29090747	Pad, right
4	29090746	Pad, left
6	29050789	Master carton box
7	282301	Sealing hook
8	260012	W-500mm, Damplon tape
9		Accessory bag ass'y
	29340712	Instruction manual
	2010095	Connection cable
	29365006-1	Warranty card
	29358002	Service station list
	29100005	220x330mm, Poly bag

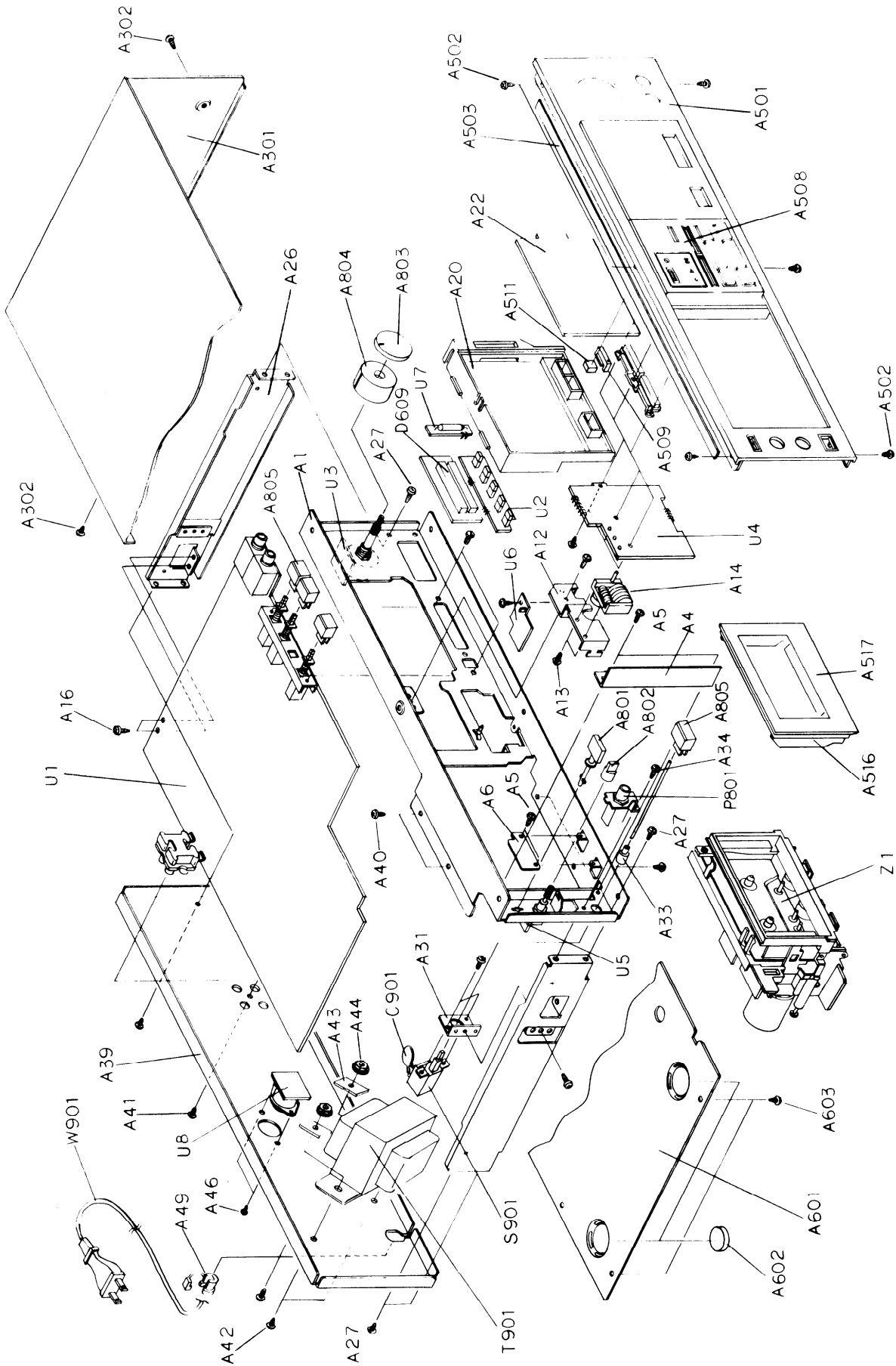
G/W model

REF. NO.	PARTS NO.	DESCRIPTION
1	29095012-1	500x850mm, Protection sheet
2	29100063	500x750mm, Poly bag
3	29090747	Pad, right
4	29090746	Pad, left
6	29050789	Master carton box
7	282301	Sealing hook
8	260012	W-500mm, Damplon tape
9		Accessory bag ass'y
	29340713	Instruction manual
	2010095	Connection cable
	29365005-3	Warranty card (V)
	25055040	CV-K-2, Conversion plug (W)
	29100005	220x330mm, Poly bag

(V) : Only West Germany model

(W) : Only 120/220 V model

CHASSIS EXPLODED VIEW



CHASSIS EXPLODED VIEW—PARTS LIST

REF. NO.	PARTS NO.	DESCRIPTION	REF. NO.	PARTS NO.	DESCRIPTION	REF. NO.	PARTS NO.	DESCRIPTION
A1	27110196A	Front bracket	A302	834430068	3TTS+6B (BC), Tapping screw	△	S902	NSS-1258P, Voltage selector switch (W)
A2	27140705	Bracket H	A501	11108121	Front panel ass'y	△	T901	NPT-812D, Power transformer (D)
A3	834430068	3TTS+6B (BC), Tapping screw	A502	11168121	Front panel ass'y (B)	△		
A4	28400098A	Plate	A503	838430068	3TTB+6B (BC), Tapping screw	△		
A5	834430068	3TTS+6B (BC), Tapping screw	A505	28140024	10x390x0.5mm, Cushion	△		
A6	28175075	Insulator plate	A505	27267216	Guide, eject	△		
A7	834430068	3TTS+6B (BC), Tapping screw	A506	27267215	Guide, power	△		
A8	27140706	Bracket M	A507	27267272	Guide, power (B)	U1		
A9	834430068	3TTS+6B (BC), Tapping screw	A508	28191149	Clear plate			
A10	82143006	3P+6FN (BC), Pan head screw	A509	27215080	Decoration frame			
A11	27140786	Bracket C	A511	28320871	Decoration frame (B)	U2		
A12	834430068	3TTS+6B (BC), Tapping screw	A513	28321303	Knob, push	U3		
A13	834430068	3TTS+6B (BC), Tapping screw	A516	28140490	Knob, push (B)	U4		
A14	24601142	Counter	A517	833430080	Cushion	U5		
A15	834426068	2.6TTS+6B (BC), Tapping screw	A519	28400140	3TTP+8P (BC), Tapping screw	U6		
A16	831130088	3TTW+8B, Tapping screw	A601	28400149	Cassette lid	U7		
A17	270370A	Cushion	A602	28400150	Window	U8		
A18	11108704	Holder ass'y	A603	28400150	Window (B)	U9		
A19	28130194	Dial plate	A801	27273024	Joint	U10		
A20	27115130	Side bracket	A802	27270117	Spacer	U11		
A21	834430068	3TTS+6B (BC), Tapping screw	A803	27170155	Bottom board	U12		
A22	831130088	3TTW+8B, Tapping screw	A804	27175028	Leg	U13		
A23	27140478	Bracket, power	A805	834430068	3TTS+6B (BC), Tapping screw	U14		
A24	834430068	3TTS+6B (BC), Tapping screw	A901	28320856	Knob, eject	U15		
A25	28320135	Connector	A902	28321165A	Knob, eject (B)	U16		
A26	27260091	Shaft	A903	28320797	Knob, selector	U17		
A27	82143006	3P+6FN (BC), Pan head screw	A904	28321130	Knob, selector (B)	U18		
A28	27120521	Back panel (D)	A905	28320671	Knob L	U19		
A29	27120522	Back panel (G)	A906	28320900	Knob R	U20		
A30	27120523	Back panel (W)	A907	28320928	Knob R (B)	U21		
A31	834430068	3TTS+6B (BC), Tapping screw	A908	28320852	Knob, power	U22		
A32	834430108	3TTS+10B (BC), Tapping screw	A909	28321160	Knob, power (B)	U23		
A33	838440109	4TTB+10C (BC), Tapping screw	A910	3500065A	Capacitor IS	U24		
A34	870065	Washer, power transformer	A911	27300601	Cover, capacitor	U25		
A35	86414010	FWN4x10FN, Flange nut	A912	225129	SEL-8833, LED, meter	U26		
A36	82142604	2.6P+4F (BC), Pan head screw	A913	25045092	HLJ-0607-01-020, Stereo headphone jack	U27		
A37	270025	SR-3P-4, Strainrelief (D)	A914	2000218	NSAS-12P-122, Socket for level meter	U28		
A38	270280	SR-4K-4, Strainrelief (G/W)	A915	260208	Binder	U29		
A39	833430080	3TTP+8P (BC), Tapping screw	A916	25035375	NPS-111-L-339P, Power switch	U30		
A40	28140488	60x10x13mm, Cushion	A917			U31		
A41	27190252	Holder, pcb	A918			U32		
A42	834430108	3TTS+10B(BC), Tapping screw (G/W)	A919			U33		
A43	28184193	Top cover	A920			U34		
A44	28184192	Top cover (B)	A921			U35		

Note: (D): Only 120V model
(G): Only 220V model
(W): Only 120/220V model
(B): Only back model

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

TAPE MECHANISM-PARTS LIST

PLACE	REF. NO.	PARTS NO.	DESCRIPTION	PLACE	REF. NO.	PARTS NO.	DESCRIPTION
D1	1	24610913	Cassette detection lever	D5	61	24604051	Collar
D1	2	24610914	Recording detection lever	D5	62	24605449	Spring
B3	3	24610915	Cassette holder ass'y	D6	63	24602218	Flywheel
B4	4	24605399	Spring for door	C6	64	24604050	Spacer
A1	5	24607025	Eject arm	A4-A5	65	2000234	Connector
A1	6	24604048	Spacer	C7	66	24607024	Motor bracket
A1	7	82113006	3x6mm, Pan head screw	G3	67	24602231	Counter belt
B2	8	24610912	Cassette panel	B7	68	24601132	Motor
B2	9	801293	2.6x12mm, Tapping screw	B4, B5, C5	69	24606178	Pc board
G1	10	24600040	Rec/pb head	H2	70		Connector
G1	11	24600032	Erase head	G1	71		Connector
H1	12	801291	Screw	B5	72	25035389	Tact switch
G1, G2	13	24605387	Head azimuth spring	A6	73		Connector
F1	14	24604049	Head stand	B4	74		Lead wire
F1	15	24610923	Washer	F5	75	24610977	Cushion
F1	16	24602211	Supply reel ass'y	G4	76	893015	E1.5, Circlip
F2	17	24602212	Take-up reel ass'y	E3	77	24610840	Washer
F2, G2	18	24610924	Poly-slider washer	D1	78	24610978	Chrome tape detection switch
E2	19	24610921	Spring holder				
E2	20	24610916	Head chassis				
E2	21	24607018	Brake arm L				
E3	22	24607019	Brake arm R				
E3	23	24605437	Brake spring				
G4	24	24610917	Lock plate				
G4	25	24605438	Spring for 24				
F3	26	2480104	Washer				
F3	27	24602214	Pinch roller ass'y				
F4	28	24605439	Spring for 27				
F3	29	24605440	Spring				
F4	30	24610918	Operation plate				
F4	31	24605441	Assist spring				
E3	32	24610926	Washer				
C6, D4, E3	33	801176	2.6x4, Screw with washer				
E2	34	24605442	Back tension spring				
E3	35	24602213	Idler gear				
D3	36	801177	2.6x5, Screw with washer				
B6, D2, F5	37	833130057	3x5, Tapping screw				
C2	38	833120127	2x12, Tapping screw				
C3	39	24605443	Eject arm spring				
D4	40	24610919	Chassis				
C4	41	24605444	Cassette holding spring				
A3, A4	42	24606156	Solenoid				
C4	43	24610920	Clutch ass'y				
A3	44	24606157	Solenoid				
D2	45	24610834	Damper				
C4	46	24607020	Change arm				
B5	47	24602186	Belt				
C5	48	24602215	Belt				
D5	49	24606158	Solenoid				
D4	50	24607021	Plyback arm				
D4	51	24605445	Spring for 50				
D4	52	24602216	Idler ass'y				
D5	53	24605446	Spring for 52				
E5	54	24607022	Bracket R				
D2	55	24607023	Bracket L				
F5	56	24605447	Head base spring				
F5	57	24605448	Assist base spring				
F5	58	24610922	Assist base				
E6	59	24602217	Playback gear				
D6	60	870094	Washer				

ADJUSTMENT PROCEDURES

PRECAUTIONS

- Before adjustment, clean the following parts with an alcohol moistend swab.
 - * record/playback head
 - * erase head
 - * pinch roller
 - * capstan
- Do not use magnetized screwdriver for adjustments.
- Demagnetize record/playback head with a head demagnetizer.

TEST EQUIPMENT/TOOLS REQUIRED:

Audio oscillator
Digital frequency counter

Oscilloscope
Attenuator
AC voltmeter
Non-magnetic screw driver
Blank tapes (completely erased)

NORMAL	NEW UD90
HIGH	NEW XL-II90
METAL	NEW MX60

Test tapes

VTT-658	: 10 KHz, -15dB
MTT-111	: 3 kHz, -10dB
MTT-150	: Dolby level calibration 400Hz, tone 200nWb/m

Item	Connection of instrument	Line input	Test tape	Mode	Output indicator	Adjustment point	Adjust	Remarks	
1	Tape speed	Frequency counter to LINE output terminal	MTT-111	PB	Frequency counter	Semi-fixed on the moter	3,000 to 3,010Hz		
2	Head azimuth	AC voltmeter and oscilloscope to LINE output terminal	VTT-658	PB	AC voltmeter	Head azimuth screws	Maximum and same phase at channels L and R.	See fig. 1 Set the semi-fixed resistors R129 and R130 to center position.	
3	Playback level	AC voltmeter to terminals TP-1 and TP-2	MTT-150	PB	AC voltmeter	R129 (Ch. L) R130 (Ch. R)	580mV		
4	Bias current	Fig. 2	1kHz, -20dB and 12kHz, -20dB	NEW XL-II 90	REC/PB	AC voltmeter	R437 (Ch. L) R438 (Ch. R)	Same level at REC/PB	INPUT VOLUME maximum
5	Record level	Fig. 2	1kHz	REC PAUSE	AC voltmeter	Attenuator or AF OSC output	580mV	INPUT VOLUME maximum	
				REC/PB	AC voltmeter	R401, R402	Same level at REC/PB.		
6	Clock adjustment Connect the frequency counter via the resistor 100 kΩ to the terminal TP701 on the control pc board. Adjust the R715 so that the frequency counter indication becomes 170 ± 10 kHz.		<pre> graph LR TP701[Test point TP701] --- R100K[100K] --- FC[Frequency Counter] </pre>						

PLAY torque 35 ~ 55gcm
FF, REW torque 70 ~ 130gcm

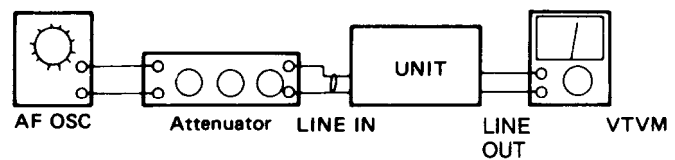
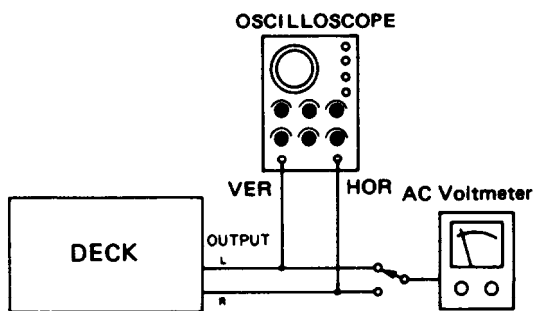
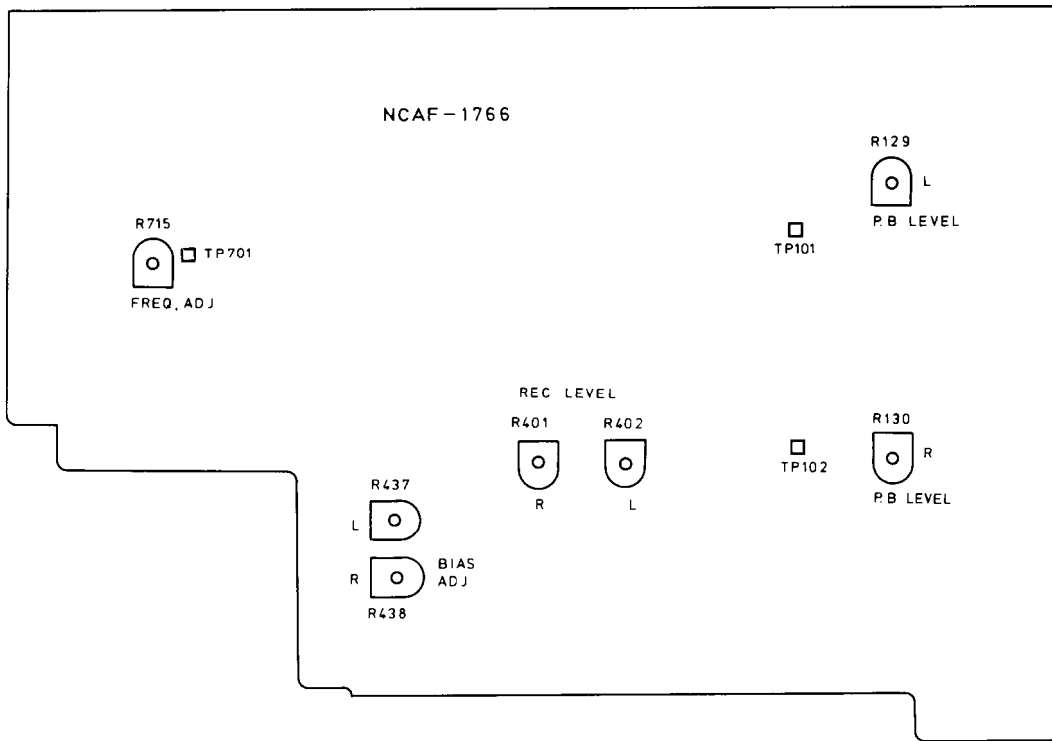
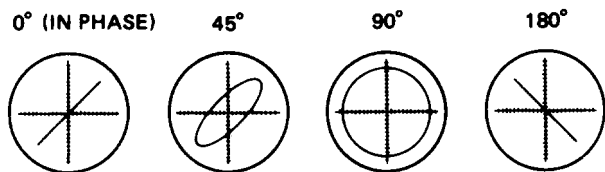


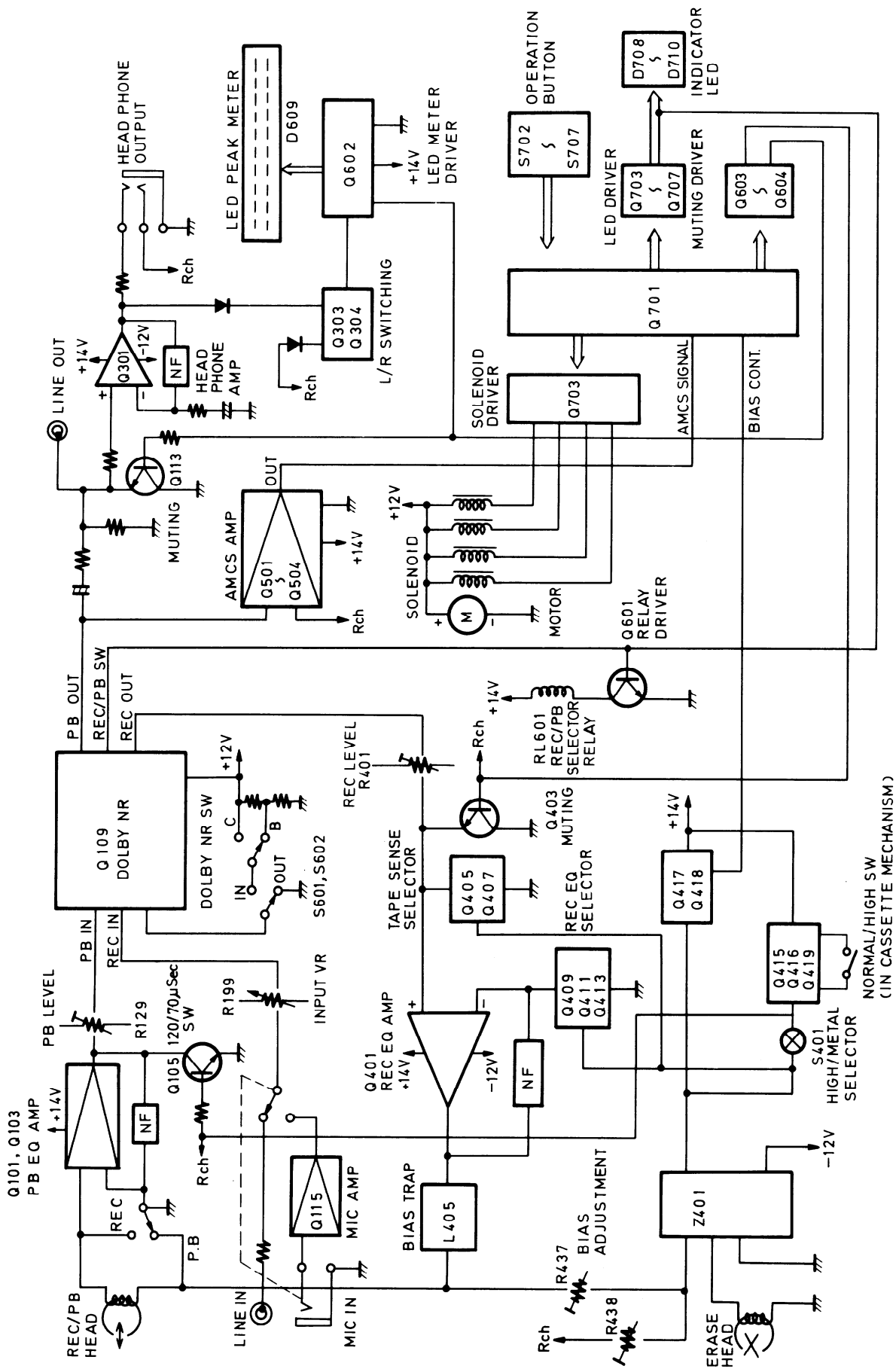
fig-2



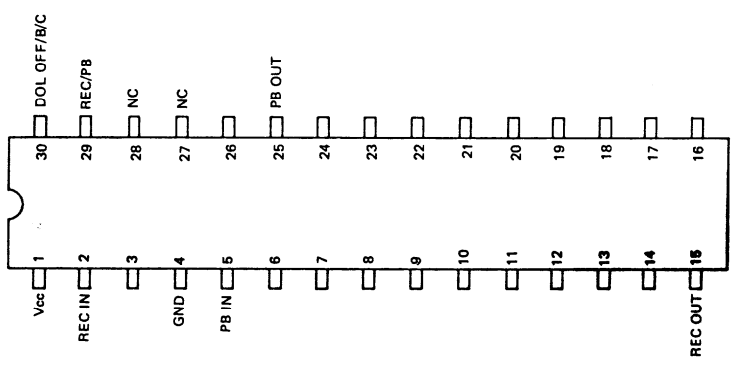
Confirming phase relationship

fig-1

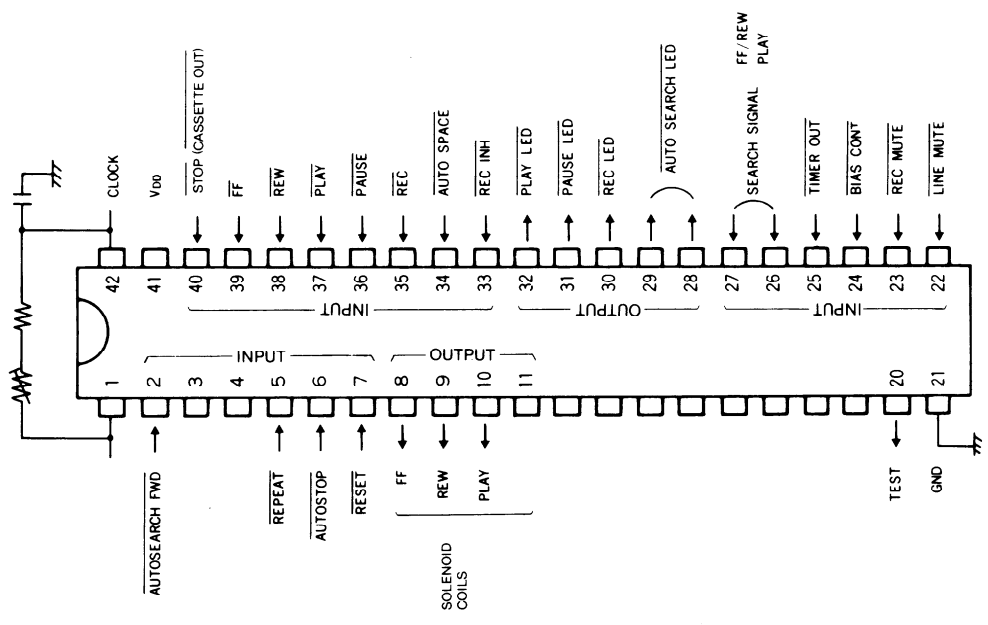
BLOCK DIAGRAM



HA-12058 NT
(DOLBY B & C TYPE NOISE REDUCTION SYSTEM)



LM6405L-233
(MICROCOMPUTER)



PRINTED CIRCUIT BOARD-PARTS LIST

REC/PB AMPLIFIER PC BOARD (NAAF-1766/a)

CIRCUIT NO.	PARTS NO.	DESCRIPTION	CIRCUIT NO.	PARTS NO.	DESCRIPTION
			D602	2239591 or 2231063	RD10EB1 or GZA9.1Z (G/W)
			D603-D608	223105,	1S1555,
Q109, Q110	222729	HA-12058NT	D613	223133 or	DS442X or
Q301, Q302	222652	M5218L	D701-D705	223145	1S2076TD
Q401, Q402	222465	NJM4458D	D706, D707	223132	1K60
Q501-Q504	222681, 222695 or 222604	1R3702, LA6324 or LM324N	D901	223862	WL01
Q602	222507	TA7612AP	D902, D903	223842	GP-15B
Q701	222728	LM6405-233	D904	2241133 or 2239671	GZA13Z or RD15EB1
Q703	222698	LB1287	D905	2240952 or 2239473	GZA5.6Y or RD5.6EB 3
			D906	2241151 or 2239672	GZA15X or RD15EB2
Q101-Q104	2211896 or	2SC1815L (L) or	D907, D908	224113 or 2239651	GZA12Z or RD13EB1
Q115, Q116	2212256	2SC2458L (L)			
Q105, Q106	2211254, 2212114 or 2210747	2SC1815 (Y), 2SC2458 (Y) or 2SC945A (Q1)			
Q107, Q108	2211255, 2212115 or 2210746	2SC1815 (GR), 2SC2458 (GR) or 2SC945A (P)	L101, L102	233221	NMC-5021
Q113, Q114	2211706	2SD655 (F)	L103, L104	233245	NMC-2029
Q117, Q118	2212304, 2212303, 2211945 or 2211944	2SK381 (D), 2SK381 (C), 2SK246 (GR) or 2SK246 (Y), (G/W)	L401, L402	24606070 or 231041	NCH-1008 or NCH-2080
Q303, Q304	2211255, 2212115 or 2210746	2SC1815 (GR), 2SC2458 (GR) or 2SC945A (P)	L403, L404	24606069 or 231039	NCH-1007 or NCH-2079
Q403, Q404	2212115 or 2210746	2SC2458 (GR) or 2SC945A (P)	L405, L406	233283	NCH-4060
Q405-Q414	2211254, 2212114 or 2210747	2SC1815 (Y), 2SC2458 (Y) or 2SC945A (Q1)	Z401	24606141	NOB-022
Q415	2211454,	2SA1015 (Y),			
Q418, Q419	2212124 or	2SA1048 (Y) or			
Q603-Q605	2210804	2SA733A (Q)			
Q416, Q417	2211255, 2212115 or 2210746	2SC1815 (GR), 2SC2458 (GR) or 2SC945A (P)	C103, C104	392841007	10 μ F, 16V, LL
Q601	2211254, 2212114 or 2210747	2SC1815 (Y), 2SC2458 (Y) or 2SC945A (Q1)	C109, C110	352732209	22 μ F, 10V, Elect.
Q704	2211254, 2212114 or 2210747	2SA1015 (Y), 2SA1048 (Y) or 2SA733A (Q)	C111, C112	352741009	10 μ -F, 50V, Elect.
Q705-Q707	2211454, 2212124 or 2210804	2SA1015 (Y), 2SA1048 (Y) or 2SA733A (Q)	C117, C118	352780109	1 μ F, 50V, Elect.
Q901	2201074, 2201035 or 2201385	2SD880 (Y), 2SD325 (E) or 2SD330 (E)	C119-C122	352741009	10 μ F, 16V, Elect.
Q902, Q903	2201285 or 2201286	2SD882 (Q) or 2SD882 (P)	C127, C128	352732219	220 μ F, 10V, Elect.
Q904	2211544 or 2211543	2SC1959 (Y) or 2SC1959 (O)	C131, C132	392850477	4.7 μ F, 25V, LL
Q905	2201275 or 2201276	2SB772 (Q) or 2SB772 (P)	C137, C138	352783399	0.33 μ F, 50V, Elect.
D103, D104	223105, 223133 or 223145	1S1555, DS442X or 1S2076TD (G/W)	C139, C140	352781599	0.15 μ F, 50V, Elect.
D301, D302	223132	1K60	C141, C142	352784799	0.47 μ F, 50V, Elect.
D303, D304	223105,	1S1555,	C143, C144	352786899	0.68 μ F, 50V, Elect.
D402, D502	223133 or	DS442X or	C153, C154	392850477	4.7 μ F, 25V, LL
D503, D601	223145	1S2076TD	C157, C158	352781599	0.15 μ F, 50V, Elect.
D402, D403	2241051, 2241052, 2239572 or 22399573	GZA9.1X, GZA9.1Y, RD9.1EB2 or RD9.1EB3	C159, C160	352784799	0.47 μ F, 50V, Elect.
			C161, C162	352741009	10 μ F, 16V, Elect.
			C163, C164	352751009	10 μ F, 25V, Elect.
			C165-C168	352780109	10 μ F, 16V, Elect.
			C301, C302	352741009	10 μ F, 16V, Elect.
			C303, C304	352780339	3.3 μ F, 50V, Elect.
			C401, C402	352782299	0.22 μ F, 50V, Elect.
			C403, C404	352741009	10 μ F, 16V, Elect.
			C415	352780109	1 μ F, 50V, Elect.
			C416	352734709	47 μ F, 10V, Elect.
			C504	352741009	10 μ F, 16V, Elect.
			C505	352780109	1 μ F, 50V, Elect.
			C601	352741009	10 μ F, 16V, Elect.
			C602	352750479	4.7 μ F, 25V, Elect.
			C604	352734709	47 μ F, 10V, Elect.
			C605	352780109	1 μ F, 50V, Elect.
			C702	352784799	0.47 μ F, 25V, Elect.
			C902	352754719	470 μ F, 16V, Elect.
			C903	352744709	47 μ F, 16V, Elect.
			C904	352780109	10 μ F, 16V, Elect.
			C907	352780109	1 μ F, 50V, Elect.
			C908	352753329	3,300 μ F, 25V, Elect.
			C909	352742219	100 μ F, 25V, Elect.
			C910, C913	352742219	220 μ F, 16V, Elect.

CIRCUIT NO.	PARTS NO.	DESCRIPTION
C911, C912	352741019	100 μ F, 16V, Elect.
C914	352752229	2,200 μ F, 25V, Elect.
C915	352742219	220 μ F, 16V, Elect.
C916, C917	352741019	100 μ F, 16V, Elect.
C918	352734709	47 μ F, 10V, Elect.
C919	352741019	100 μ F, 16V, Elect. (G/W)
C920	352724719	470 μ F, 6.3V, Elect.
C921, C922	352741009	10 μ F, 16V, Elect.
C923, C924	352734709	47 μ F, 10V, Elect.
Resistors		
R129, R130	5215046	N08HR50KBC, Semi-fixed
R401, R402	5215044	N08HR5KBC, Semi-fixed
R437, R438	5215065	N08HR150KBC, Semi-fixed
R439	441523904	39ohm, 1/2W, Metal oxide film
R442	441524714	470ohm, 1/2W, Metal oxide film
R443	441526814	680ohm, 1/2W, Metal oxide film
R444	441521804	18ohm, 1/2W, Metal oxide film
R701-R706	49121392406	3.9kohm \times 6, 1/8W, Network
R707-R714	49121392408	3.9kohm \times 8, 1/8W, Network
R715	5215022	N08HR20KBC, Semi-fixed
R718-R721	49121222404	2.2kohm \times 4, 1/8W, Network
R901	441520224	2.2ohm, 1/2W, Metal oxide film
R902	431523315	330ohm, 1/2W, Solid
R903	441521514	150ohm, 1/2W, Metal oxide film
R905	441520224	2.2ohm, 1/2W, Metal oxide film
R906, R909	431524715	470ohm, 1/2W, Solid
R910	441520224	2.2ohm, 1/2W, Metal oxide film
Switches		
S401, S601	25035353	NPS-322-L316, Dolby & Tape selector
S602		
Relay		
RL601	25065174	NRL-2P1A-DC-12-09
Terminals		
P601	25045120	NPJ-4PDBL49, Input/output
P602	25045134	HLJ4337-01-010, Microphone
P606	25050064	NSCT-5P18, DIN (G/W)
Plugs		
P401	25055042	NPLG-3P, Erase head
P604	25055037	NPLG-6P28, Rec/pb head
P605	25055047	NPLG-12P35, Meter
Socket		
P702	2000251	NSAS-11P189, Tape mechanism
Radiators		
	27160029	RD-07
	27160029-1	RD-07B

Note: G: Only 220V model
W: Only 120/220V model

TAPE SELECTOR AND DOLBY INDICATOR PC BOARD (NADIS-1767)

CIRCUIT NO.	PARTS NO.	DESCRIPTION
D404-D406	225125	SLP-273B-01, LEDs
D610, D611	225124	SLP-173B-01, LEDs
	27190121	Holder, LED

INPUT LEVEL CONTROL PC BOARD (NAVR-1768)

CIRCUIT NO.	PARTS NO.	DESCRIPTION
R199, R200	5104132	N16RKF50KA45F, Variable resistor

OPERATION SWITCH PC BOARD (NASW-1769)

CIRCUIT NO.	PARTS NO.	DESCRIPTION
D708	225127	GL-3PG1, LED
D709, D710	225126	GL-3PR1, LEDs
S702-S710	25035275 or 25035389	NPS-111-S239 or NPS-111-S353, Push switches

TIMER SWITCH PC BOARD (NASW-1770)

CIRCUIT NO.	PARTS NO.	DESCRIPTION
S701	25030227	NRS-123-25U, Rotary switch

HALL IC PC BOARD (NATD-1771)

CIRCUIT NO.	PARTS NO.	DESCRIPTION
Q702	222558 27190173	DN6838, Hall IC Holder

LAMP PC BOARD (NAPL-1772)

CIRCUIT NO.	PARTS NO.	DESCRIPTION
PL601	210090 28140488	PL14V150mA, Lamp Cushion

REMOTE CONTROL TERMINAL PC BOARD (NARM-1773)

CIRCUIT NO.	PARTS NO.	DESCRIPTION
P701	25050070	NSCT-7P20, DIN terminal

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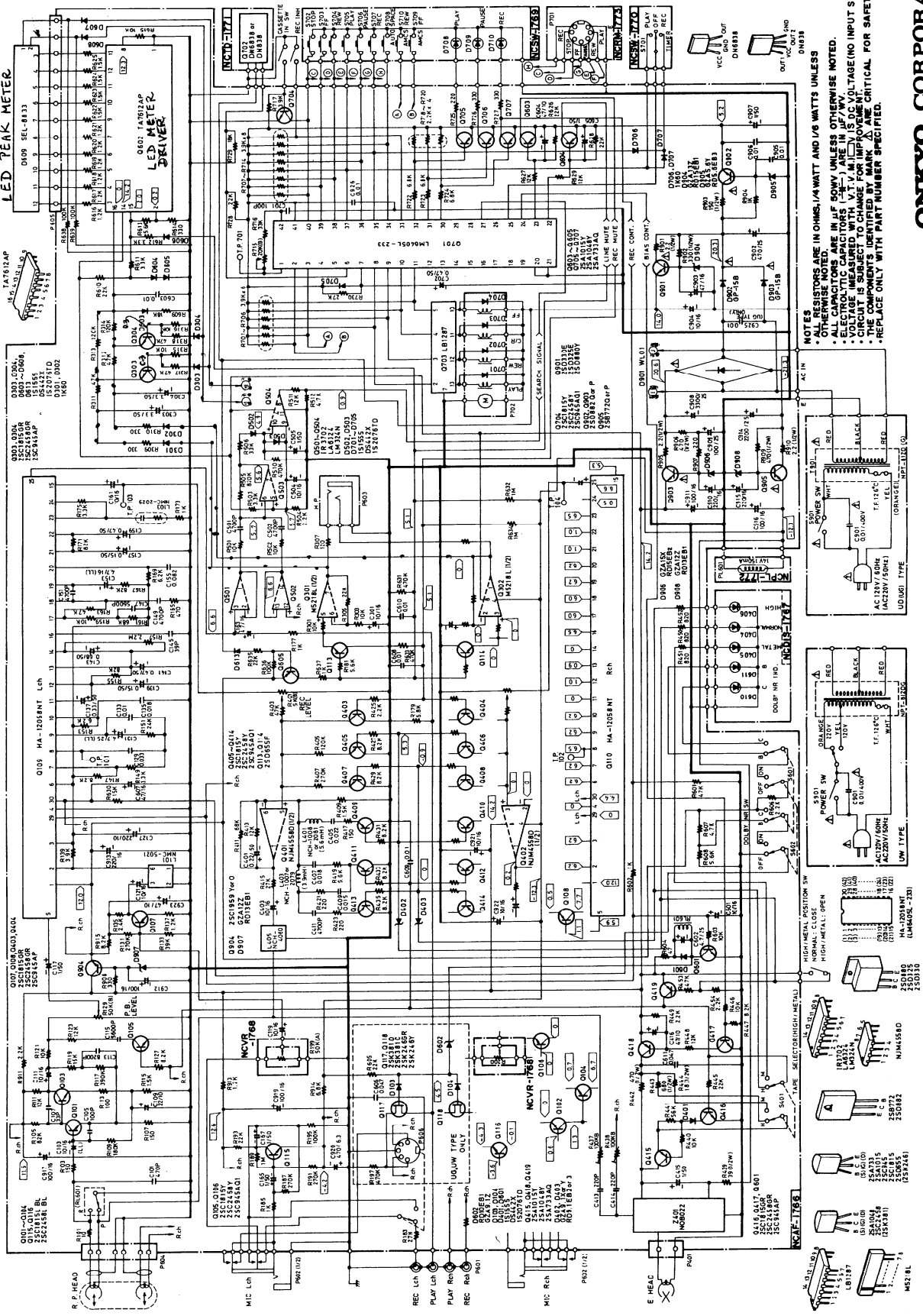
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A B C D E F G

SCHEMATIC DIAGRAM



LED PEAK METER

LED PEAK METER

LED PEAK METER

LED PEAK METER

LED PEAK METER

LED PEAK METER

LED PEAK METER

NOTES:
*ALL RESISTORS ARE IN OHMS, 1/4 WATT AND 1/6 WATT UNLESS OTHERWISE NOTED.
*ELECTROLYTIC CAPACITORS (-E-) ARE IN UF/WV.
*VOLTAGE MEASURED WITH A.T.V.M. IS D.C. VOLTAGE (NO INPUT SIGNAL).
*CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT AND WITHOUT NOTICE.
*REPLACE ONLY WITH PART NUMBER SPECIFIED.

POWER SW
AC 120V/50HZ
AC 220V/50HZ
LOW TYPE

POWER SW
AC 120V/50HZ
AC 220V/50HZ
LOW TYPE

POWER SW
AC 120V/50HZ
AC 220V/50HZ
LOW TYPE

POWER SW
AC 120V/50HZ
AC 220V/50HZ
LOW TYPE

ONKYO CORPORATION

TAPE MECHANISM-EXPLODED VIEW

