

ONKYO® SERVICE MANUAL

STEREO CASSETTE TAPE DECK Model TA-2040

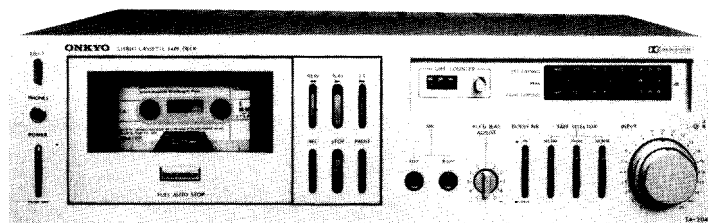


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SPECIFICATIONS

Track System:	4-track, 2-channel stereo
Recording System:	AC bias
Erasing System:	AC erase
Tape Speed:	4.8 cm/sec.
Wow and Flutter:	0.055% (WRMS)
Frequency Response:	20~15,000 Hz (Normal) 20~17,000 Hz (High Position Tape) 20~19,000 Hz (Metal Position Tape)
Signal-to-Noise Ratio:	Dolby NR out, 60dB (Metal Position Tape) A noise reduction of 10dB above 5 kHz and 5dB at 1 kHz is possible with the Dolby NR IN
Input Jacks:	Microphone Jacks: 2 Minimum input level 0.3 mV Input impedance 5 k Ω Optimum mic impedance 200 Ω ~ 50 k Ω Line In: 2 Minimum input level 50 mV Input impedance 50 k Ω

Outputs:	Line Out: 2 Output level 0.480 V (at 0 dB) Output impedance over 50 k Ω Headphone Jack: 1 8 Ω /200 Ω
Motor:	FG Servo DC Motor
Heads:	Sendust Head
Components:	TR: 43 Diodes: 19 IC: 8 LED: 5
Power Supply:	AC 110/120/220/240 V 50/60 Hz, AC 240V 50 Hz, or AC 120 V 60 Hz
Power Consumption:	25 W
Dimensions:	418 (W) x 120 (H) x 330 (D) mm 16-7/16" x 4-3/4" x 13"
Weight:	6.4 kg (14.1 lbs)
Accessories:	Pin-type connecting cords: 2

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

Current consumption (motor)

Playback:	75 – 110 mA
Recording:	75 – 110 mA
Fast forward:	90 – 120 mA
Rewind:	90 – 120 mA
Auto-Stop	
Playback-Stop:	150 – 170 mA

Mechanism specifications

- 1) Tape speed: 4.8 cm/sec. (3 kHz +3%, -2%)
Use a standard test tape, VTT-658 (3 kHz) or equipment.
- 2) Wow and Flutter: Less than 0.055% (WRMS)
- 3) Take-up torque: 35 – 70 gr-cm
- 4) F.F. torque: 60 – 120 gr-cm
- 5) Rewind torque: 60 – 120 gr-cm
- 6) Rewind time: Less than 110 sec. (use a C-60 cassette tape)
- 7) Automatic shut-off time: Less than 5 sec.

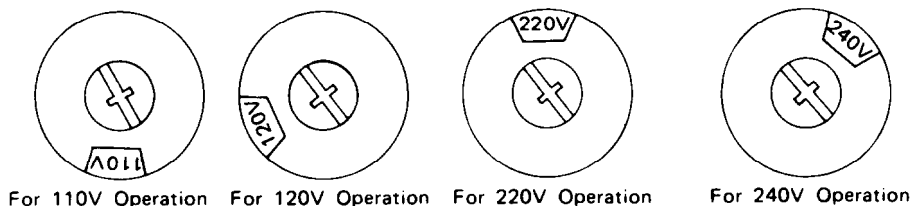
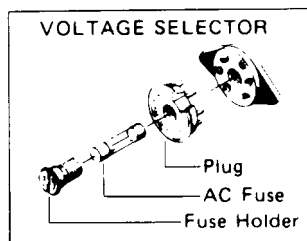
SERVICE PROCEDURES

1. Voltage conversion (Universal model)

This model is equipped with a universal power transformer to permit operation at either power source of 110, 120, 220 or 240V AC 50/60Hz.

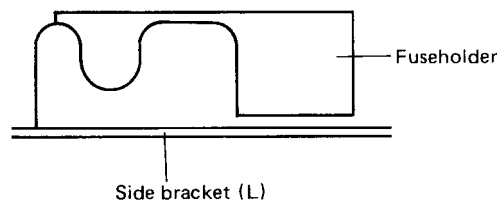
To convert the unit to a different power source voltage, change the plug as illustrated in the drawing below.

CAUTION: DISCONNECT POWER SUPPLY CORD FROM AC OUTLET BEFORE CONVERTING VOLTAGE.



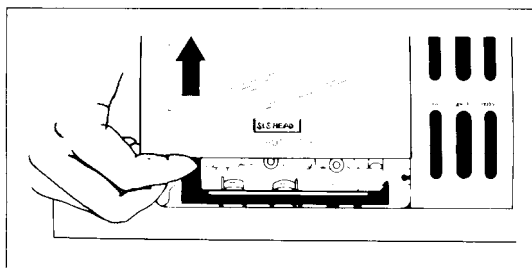
2. Replacing the AC fuse (120V model)

- 1) Remove the top cover.
- 2) For continued protection against fire hazard, replace only with same type and same rating fuse.



3. Removal the cassette door

Press the STOP/EJECT key to open the cassette door, then lift the door up and out to remove as illustrated below.

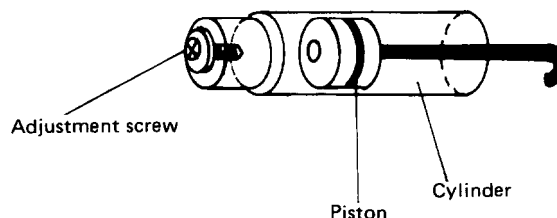


4. Replacement of reel platform

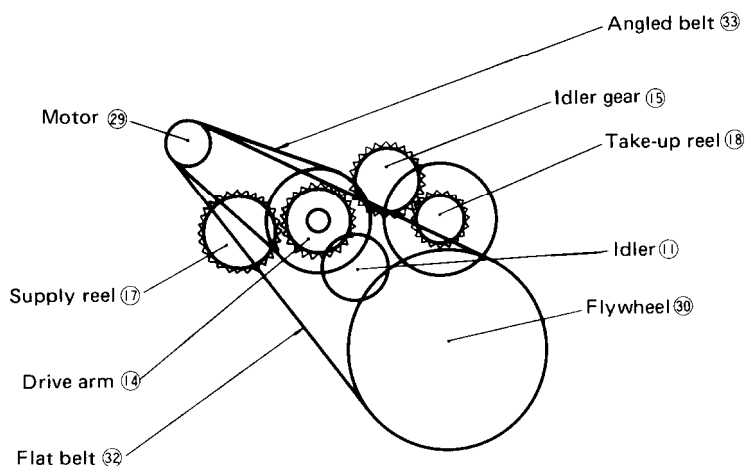
Remove the mechanism cover plate and take off the nylon washer from the reel platform spindle. Then replace the reel platform. Use a new nylon washer when re-inserting the reel platform.

5. Adjustment of the eject mechanism

The speed of the opening and closing action of the cassette compartment can be controlled by the adjustment screw at the rear of the cylinder as shown in the graph. By turning the screw to the left, speed becomes faster, and to the right, slower.



MECHANISM OPERATION



Note: The figure following each name is the part number as shown in the exploded view.

1. Play mode

At the start of play mode, solenoid (36) is activated, resulting in the sub-chassis assembly (19) being thrust upwards, and the play idler (11) being pressed against the drive arm roller (14) and take-up reel base (18) by the spring (13), thereby driving the take-up reel.

Play torque is adjusted by the amount of friction applied to the piece of felt located in the center of the take-up reel.

2. Fast forward mode

When the FF key is pressed, solenoid (35) is activated and the gear of drive arm (14) engages the gear of take-up reel base (18) through the idler gear (15), thereby driving the take-up reel. FF and Rewind torques are adjusted by the amount of friction applied to the piece of felt located in the drive arm (14).

3. Rewind mode

When the Rewind key is pressed, solenoid (35) is activated and the gear of drive arm (14) engages the supply reel base (17), thereby driving the supply reel.

ELECTRICAL ADJUSTMENT PROCEDURES

PRECAUTIONS

1. Tape required:

- (1) Blank tape
- | | | |
|--------|----------|---------------------|
| MAXELL | UD-XL/I | (Normal) |
| | UD-XL/II | (CrO ₂) |
| SCOTCH | METAFINE | |
- (2) Test tape
- | | | |
|--------|---------|-------------------------------|
| VICTOR | VTT-658 | 10 kHz, -15 dB |
| TEAC | MTT-111 | 3 kHz, -10 dB |
| | MTT-150 | Dolby level calibration tone. |

2. Instrument required:

- (1) AC VTVM
- (2) Frequency counter
- (3) AF oscillator
- (4) Attenuator

3. The switches and controls should be set as follows unless otherwise specified.

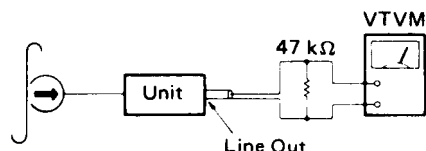
Tape selector bias switch:	Normal
Dolby NR switch:	Out
Accu bias adjust:	O (Center)

1. PLAYBACK MODE ADJUSTMENT

1-1. Head azimuth adjustment

PROCEDURES:

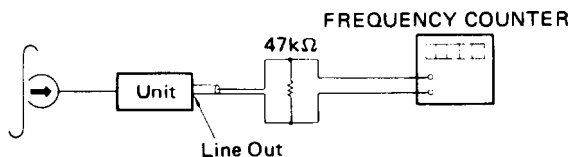
- 1) Play the 10 kHz portion of the test tape VTT-658 back. Adjust the head azimuth adjusting screw for maximum V.T.V.M. read.
- 2) If the peak output reads of the right and left channels are different, set the screw to obtain the mechanical center between the peaks.
- 3) After adjustment, lock the screw with bond.



1-2. Tape speed adjustment

PROCEDURES:

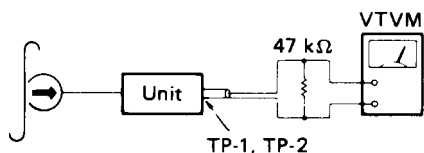
Play the 3 kHz portion of the test tape MTT-111 back. Adjust the tape speed adjusting semi-fixed resistor in the motor for 3,000 to 3,010 Hz counter indication.



1-3. Playback output adjustment

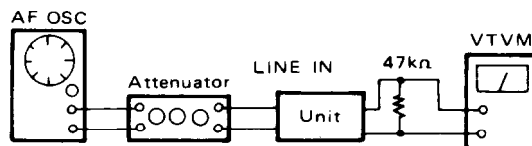
PROCEDURES:

- 1) Play the test tape MTT-150 back, adjust R135 and R136 for 775 mV V.T.V. M. reading. ^{TP-1, TP-2} LINE OUT
- 2) Proceed both for the left and right channels in the same manner.



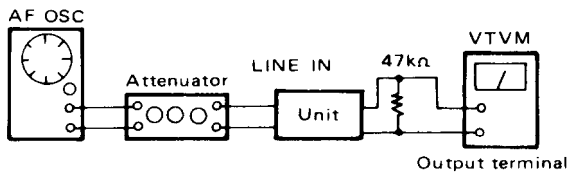
1-4. VU meter adjustment

- 1) Press the pause key, and put the tape deck into recording mode. Apply a 1,000Hz signal to the Line input terminals.
- 2) Turn the R251, R252 semi-fixed resistors until the end of counterclockwise.
- 3) Connect the AC VTVM to the TP-1 and TP-2 terminals.
- 4) Adjust the input level control to -45dBV (8.9mV), and adjust the R209 and R210 semi-fixed resistors until the fluorescent indicator tube light up to -20dB mark.
- 5) Adjust the input level control to -23dBV (71mV), and adjust the R251 and R252 semi-fixed resistors until the fluorescent indicator tube light up to 0dB mark.
- 6) Repeat steps 4 and 5 as necessary.



2. RECORDING MODE ADJUSTMENT

2-1. Record bias adjustment

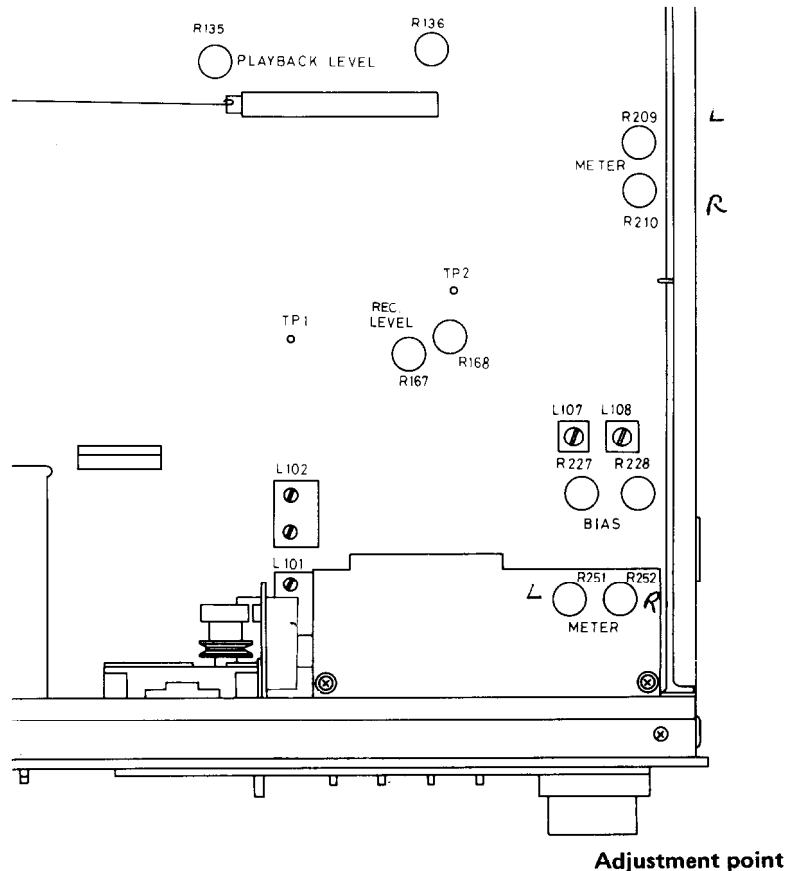
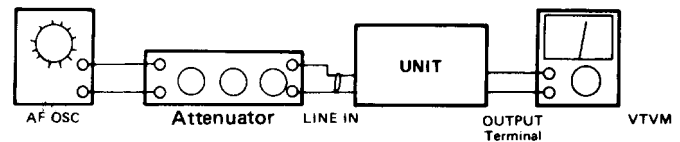


- 1) Press the pause key, and put the tape deck into recording mode. Apply a 400Hz signal to the Line input terminals, and adjust the AF oscillator output so that the VU meter reads 0VU.
- 2) Then set the input level to -20dB, and release the pause switch to record on the tape. Read the output level when this recording is played back again.
- 3) Next change the frequency of the oscillator to 8kHz, and record again as described above. During playback of this recording, obtain the same output level as with the 400Hz recording by readjusting R227 and R228.

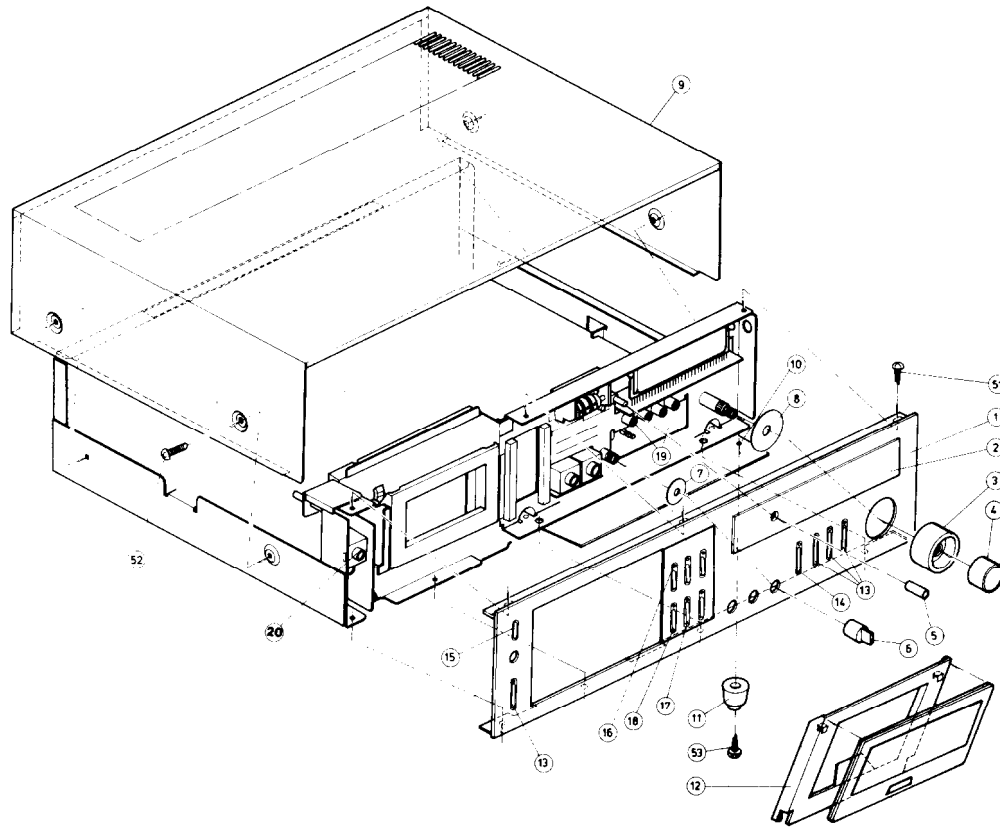
2-2. Record-playback output level adjustment

PROCEDURES:

- 1) Connect the 1 kHz input signal to the line in terminal.
- 2) Connect the VTVM to the output terminal.
- 3) Set the tape deck in the recording mode of operation.
- 4) Adjust the attenuator for 480mV VTVM read.
- 5) Set the deck in the playback mode of operation.
- 6) Adjust the R167 and R168 for 480mV VTVM read.

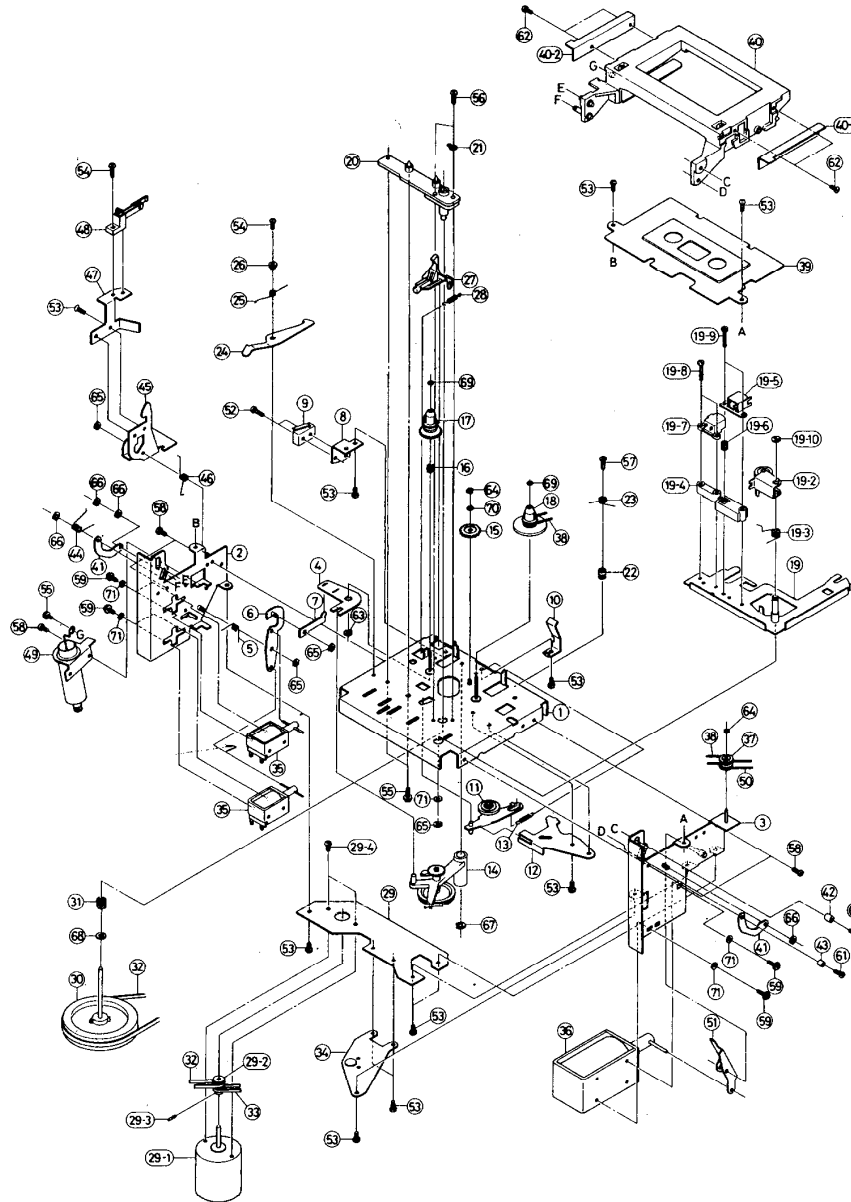


EXPLODED VIEW



REF. NO.	PARTS NO.	DESCRIPTION	REF. NO.	PARTS NO.	DESCRIPTION
1	16409121	Front panel ass'y (including 2, 13, 15, 16)		28198522	Facet
2	27300203	Window for meter		27180037	Spring
	27300204	Bracket for meter		28199019	Film
	28199018A	Film	14	27267050	Guide (Pow)
3	28320353	Knob (R)		28320341	Knob (Pow)
4	28320352	Knob (L)		28198522	Facet
5	28320355	Knob (Push)		27180037	Spring
6	28320354-1	Knob (Selector)		261002	Tape
7	27270034	Spacer	15	27267053	Guide (E)
8	27270035	Spacer		28320351	Knob (Eject)
9	28184059	Top cover		27180037	Spring
10	27170062	Bottom board	16	27267052	Guide (L)
11	27175009	Leg	17	28320363	Knob (P)
12	27300202	Cassette cover	18	28320364	Knob (S)
	27262051	Plate	19	27300149	Cushion rubber
	27300205-1	Cover	20	25045059	HLJ0275-01-020, Stereo headphone jack
	28135059	Badge	21	210063	PL12V30mAW-2.0, Pilot lamp
	27300205-1	Window	51	834130062	3STB+6BQ, Tapping screw
13	27267050	Guide (Pow)	52	838240109	4TTB+1OC(Ni), Screw
	28320341	Knob (Pow)	53	831130102	3STW+1OBQ, Tapping screw

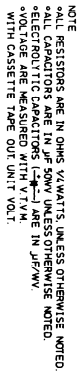
MECHANISM-EXPLODED VIEW

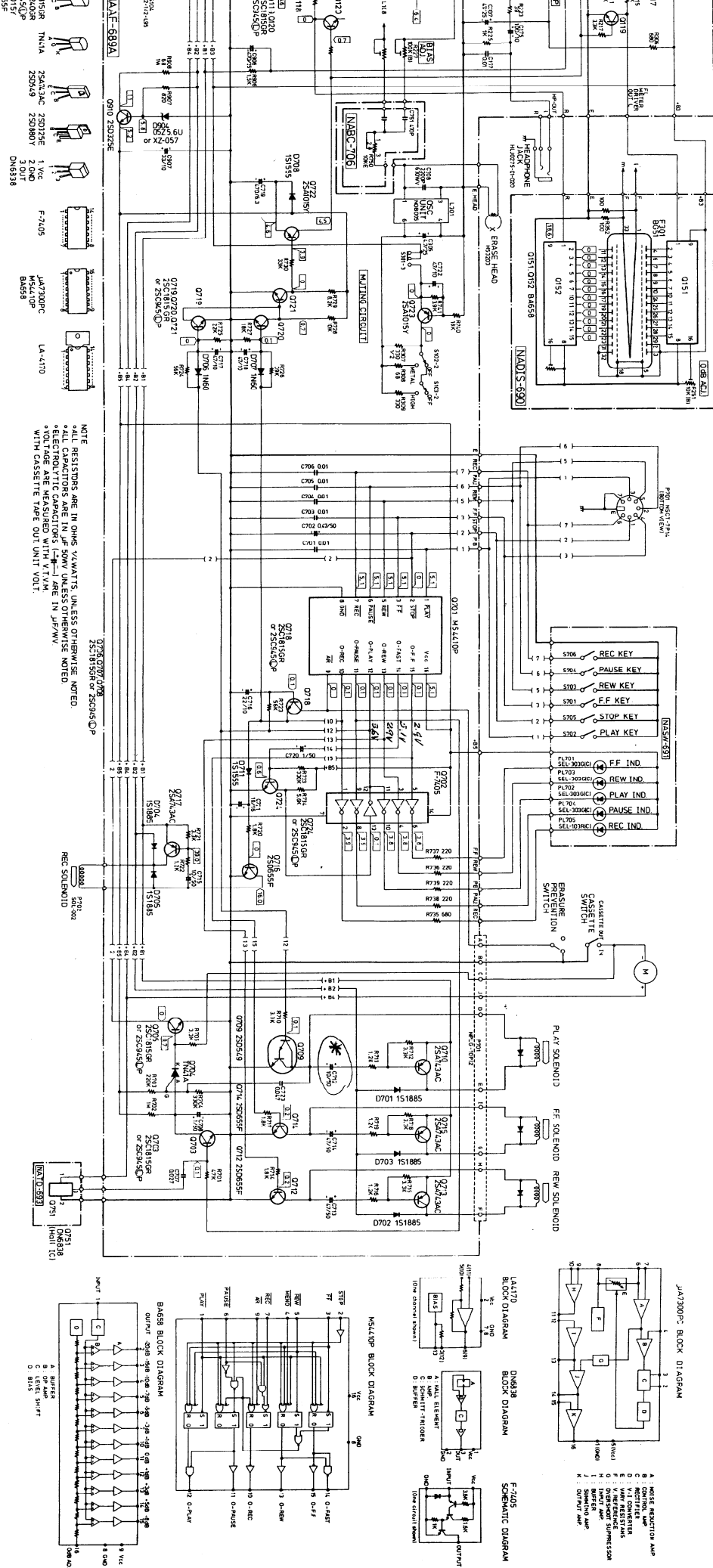


REF. NO.	PARTS NO.	DESCRIPTION	REF. NO.	PARTS NO.	DESCRIPTION	REF. NO.	PARTS NO.	DESCRIPTION
1	24610294	Chassis	20	24610309	Bearing holder	43	24610325	3x4, Spacer
2	24610295	Chassis (L)	21	24610310	Ground terminal	44	24605174	Spring
3	24610296	Chassis (R)	22	24610311	Collar	45	24610326	Eject lever
4	24610297	Connection plate (C)	23	24605170	Spring	46	24605175	Spring
5	24605168	Spring for 6	24	24605171	Lever	47	24610327	Switch plate (C)
6	24610298	Connection plate (A)	25	24605172	Spring	48	24603123	Leaf switch
7	24610299	Connection plate (B)	26	24610312	Collar	49	24610328	Damper
8	24610300	Switch plate (A)	27	24610201	Erase prevention switch	50	24602044	Belt
9	24603122	Microswitch	28	24605173	Spring for 27	51	24603124	Operation lever
10	24605142	Spring	29	24610313	Motor bearing	52	801206	M2x8, Pan head screw
11	24610207	Idler	29-1	24610314	Motor ass'y	53	833126058	M2.6x5, Pan head screw
12	24610301	Idler pressure plate	29-2	24601047	Motor pulley	54	83312606	M2.6x6, Pan head screw
13	24605162	Spring for 11	29-3	801202	M2x3, Screw for pulley	55	831126062	M2.6x6, Pan head screw
14	24610302	Drive arm ass'y	29-4	82112603	M2.6x3, Screw	56	801207	M2.6x8, Pan head screw
15	24602049	Idler gear	30	24602066	Flywheel	57	801208	M2.6x12, Screw
16	24605139	Spring for supply reel brake	31	24605135	Spring for 30	58	801209	M3x5, Pan head screw
17	24602050	Supply reel ass'y	32	24602052	Belt	59	801182	M3x5, Pan head screw with spring
18	24610303	Take-up reel ass'y	33	24602067	Belt	60	801210	M3x8, Pan head screw
19	24610304	Head chassis ass'y	34	24610315	Flywheel thrust	61	801211	M2.6x10, Pan head screw
19-1	24610305	Head chassis	35	24610321	Solenoid	62	83312605	M2.6x5, Pan head screw
19-2	24610306	Arm for pinch roller	36	24610322	Solenoid	63	890007	CS-3, Retaining clip
19-3	24610307	Spring for pinch roller	37	24610316	Pulley	64	891015	E-1.5, Circlip
19-4	24610308	Seat for head	38	24602069	Belt	65	891025	E-2.5, Circlip
19-5	24600009	Rec./pb. head	39	24610317	Plate	66	891030	E-3, Circlip
19-6	24605136	Spring for head	40	24610318	Cassette case ass'y	67	893040	E-4, Circlip
19-7	24600015	Erase head	40-1	24610319	Mounting plate for cassette case	68	24610229	Poly slider washer
19-8	801203	M2x15, Flat head screw	40-2	24610320	Mounting plate for cassette case	69	24610134	1.6x4x0.2, Mylar washer
19-9	801200	M2x12, Flat head screw	41	24610323	Door ring	70	24610226	2.2x5x0.2, Mylar washer
19-10	893040	E-4, Circlip	42	24610324	Collar	71	870064	3.2x8x0.5, Washer

TA-2040

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PRINTED CIRCUIT BOARD-PARTS LIST

REC., AND PLAYBACK PC BOARD (NAAF-689A) — PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
ICs		
Q107, Q108	222554	μ A7300PC
Q301	222543	LA-4170
Q701	222555	M54410P
Q702	222556	F-7405
Transistors		
Q101-Q106	2211405	2SC2240 (GR)
Q109-Q120	2211255	2SC1815 (GR) or
Q703, Q705	2210743	2SC945L (P) or
Q704	2211571	TN41A
Q709	2201060	2SD549
Q710	2210853	2SA743A (C)
Q712, Q714, Q716	2211706	2SD655 (F)
Q713, Q715, Q717	2210853	2SA743A (C)
Q718-Q721	2211255	2SC1815 (GR) or
Q724	2210743	2SC945 (L) (P) or
Q722, Q723	2211454	2SA1015 (Y)
Q910	2201035	2SD325 (E)
Diodes		
D101, D102	223105	1S1555
D103-D106	223103	1N60
D701-D705	223802	1S1885
D706, D707	223103	1N60
D708, D711	223105	1S1555
D901, D902	223862	WL01
D903	224086	XZ-185
D904	224041	05Z5.6U or
	224087	XZ-057 or
Capacitors		
C101, C102	392883397	0.33 μ F, 50V, LL
C105, C106	352780101	1 μ F, 50V, Elect.
C109, C110	392850477	4.7 μ F, 25V, LL
C115, C116	352780331	3.3 μ F, 50V, Elect.
C117, C118	352724701	47 μ F, 6.3V, Elect.
C121, C122	352780101	1 μ F, 50V, Elect.
C123, C124	392883397	0.33 μ F, 50V, LL
C125, C126	392881097	0.1 μ F, 50V, LL
C129, C130	352780101	1 μ F, 50V, Elect.
C131, C132	352732201	22 μ F, 10V, Elect.
C137, C138	352741001	10 μ F, 16V, Elect.
C139, C140	352734701	47 μ F, 10V, Elect.
C141, C142	352732201	22 μ F, 10V, Elect.
C143, C144	392882297	0.22 μ F, 50V, LL
C145, C146	352750471	4.7 μ F, 25V, Elect.
C147, C148	352780221	2.2 μ F, 50V, Elect.
C149, C150	352780471	4.7 μ F, 50V, Elect.
C159-C166	352750471	4.7 μ F, 25V, Elect.
C167, C168	352780101	1 μ F, 50V, Elect.
C169-C172	352750471	4.7 μ F, 25V, Elect.
C173, C174	352741001	10 μ F, 16V, Elect.
C175, C176	352731011	100 μ F, 10V, Elect.
C301, C303	352754701	47 μ F, 25V, Elect.
C302, C304	352741011	100 μ F, 16V, Elect.
C305	352750471	4.7 μ F, 25V, Elect.
C306	352753301	33 μ F, 25V, Elect.
C307	352754701	47 μ F, 25V, Elect.
C308	38417225	2,200pF $\pm$ 10%, DT
C702	352784791	0.47 μ F, 50V, Elect.
C708	352780101	1 μ F, 50V, Elect.
C712, C715	352781001	10 μ F, 50V, Elect.
C713, C714	352784701	47 μ F, 50V, Elect.
C716	352732201	22 μ F, 10V, Elect.
C717, C718	352734701	47 μ F, 10V, Elect.
C719	352724711	470 μ F, 6.3V, Elect.
C720	352780101	1 μ F, 50V, Elect.
C721	352741001	10 μ F, 16V, Elect.
C722	352734701	47 μ F, 10V, Elect.
C901	352781021	1,000 μ F, 50V, Elect.
C902	352751021	1,000 μ F, 25V, Elect.
C903	352754711	470 μ F, 25V, Elect.
C904	352741011	100 μ F, 16V, Elect.
C905	352754701	47 μ F, 25V, Elect.
C906	352764711	470 μ F, 35V, Elect.
C907	352733301	33 μ F, 10V, Elect.

CIRCUIT NO.	PARTS NO.	DESCRIPTION
Resistors		
R115, R116	5104055	N24RKL50KA35H, Input level variable
R135, R136	5225034	N10HR47KBD, Semi-fixed
R167, R168	5225015	N10HR10KBD, Semi-fixed
R209, R210	5225015	N10HR10KBD, Semi-fixed
R227, R228	5225016	N10HR100KBD, Semi-fixed
R908	441626804	68 Ω , 1W, Metal oxide film
Lamps		
PL102-PL105	210061	PL12V30mA AW-0.6
	210063	PL12V30mA AW-2.0
Coils		
L101, L102	233153	NMC-5013
L103, L104	24606068	NCH-1006
L105, L106	24606080	NCH-1022
L107, L108	233146	NCH-4021
Oscillator block		
L301	24606081	NOB-005
Jack & Plug		
P301	25045057	HLJ-0296-01-510, Mic.
P302	25045020	NPJ-4PDBL11, Input/Output
P701	25065056	NPLG-10P12
Switches		
S101-S104	25035129	NPS-362-142-L95
S301	25065087	NSS-7248

PEAK INDICATOR PC BOARD — PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
F301	212003	BG-51, Fluorescent tube
Q151, Q152	222557	BA658, IC
R251, R252	5225015	N10HR10KBD, Semi-fixed resistor

SWITCH PC BOARD (NASW-691) — PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
PL701-PL704	2250261	SEL-303G (C), L.E.D.
PL705	2250101	SEL-103 (R) (C), L.E.D.
S701-S706	25035089	NPS-111-S54

POWER SUPPLY PC BOARD (NAPS-692) — PARTS LIST

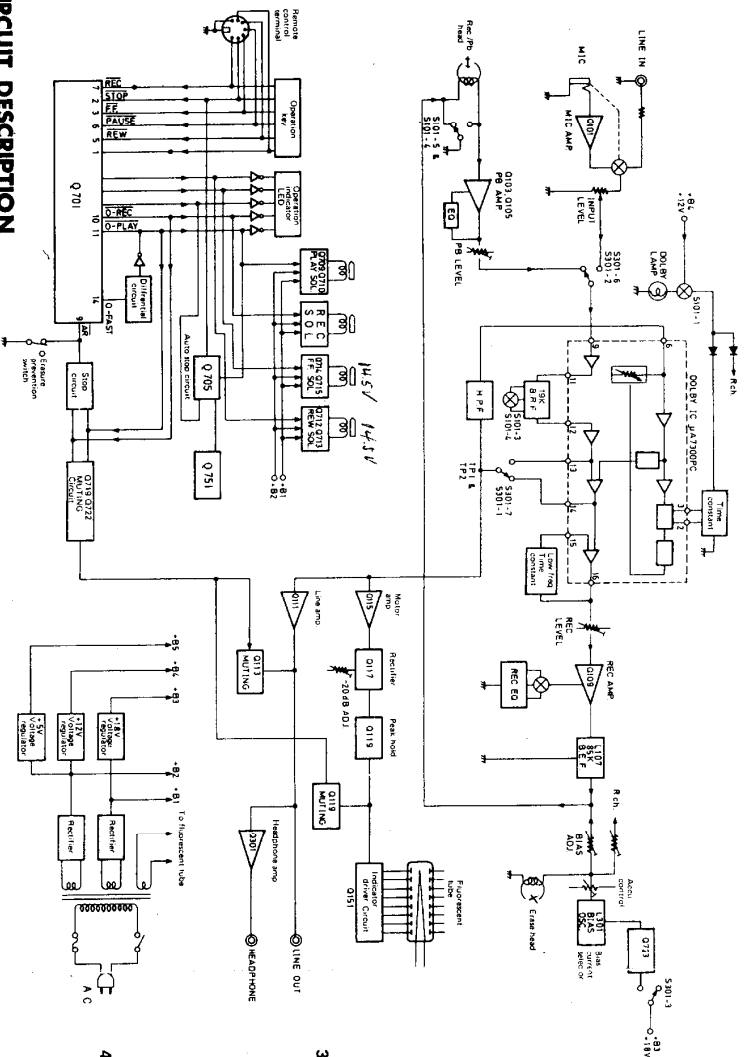
CIRCUIT NO.	PARTS NO.	DESCRIPTION
Q901, Q902	2201074	2SD880(Y), Transistor
R901	441622204	22 Ω , 1W, Metal, oxide film resistor
R902	441623304	33 Ω , 1W, Metal, oxide film resistor
	27160046B	Radiator

Hall IC PC BOARD (NATD-693) — PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
Q751	222558	DN6838, Hall IC

ACCU. CONTROL PC BOARD (NABC-706) — PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
R750	5104089	N16RLC10KE15, Variable resistor
	27225043	Shielded case



CIRCUIT DESCRIPTION

1. Basic Circuit

The operation IC Q701 is equipped with 7 input terminals (including the AR input for prevention of incorrect recording) and 6 output terminals (including FAST), each being connected by the respective resistances. The FAST output is employed for FF and REW mode operations.

Except for the AR input, momentary grounding of the input terminals results in the appearance of an output signal at the corresponding output terminals. The O-FF and O-REW outputs are used to drive the respective FF and REW solenoids, and are also applied to the Q702 inverter to light up the LED lamps.

The O-PAUSE output halts the auto-stop circuit, and also lights up the corresponding LED lamp via the Q702 inverter. Likewise, the O-REC output drives the S301 record/playback switch, and lights up the corresponding LED lamp via the same inverter.

The O-PLAY output circuit is designed to introduce a temporary stop when the PLAY key is pressed during FF and REW modes. In this case (and this case only), Q724 is turned OFF by the drop edge of the O-FAST output, resulting in the shorting of the Q702 inverter (pin No. 12), and the subsequent absorption of the O-PLAY output voltage, thereby forming a STOP period.

This period is determined by C720, once the capacitor has been charged up, the Q702 inverter output (pin No. 12) is switched to HIGH impedance to permit passage of the output signal used to drive the PLAY solenoid and light up the corresponding LED lamp.

2. Incorrect Recording Prevention Circuit

The recording input is blocked when pin No. 9 of IC701 is grounded, but passed when the pin is switched to HIGH. This involves a circuit which prevents switching over to recording mode when the REC and PLAY keys are pressed during playback mode.

When the PLAY key is pressed during stop mode the O-PLAY output forms the base current for Q718, and the AR input terminal is dropped to ground level as a result of Q718 being turned ON. If the REC and PLAY keys are then pressed at the same time, the recording input will not be accepted.

When the PLAY and REC keys are pressed together during stop mode, Q718 remains OFF and the AR terminal is switched to HIGH, thereby permitting the acceptance of the recording input. Output signals will thus appear at the O-PLAY and O-REC output terminals. Recording mode is maintained by keeping Q718 turned OFF.

3. Solenoid Drive Circuits (PLAY, FF, REW, and REC)

solenoid circuits are all identical. When Q1 is turned ON by the output signal from Q701, a charging current corresponding to the resultant potential difference is applied to C1, resulting in Q2 being turned ON, and a 30V voltage being applied to the solenoid. Once the capacitor is fully charged, Q2 is turned OFF, and a voltage of +15V is applied to the solenoid via D1. The solenoid is thereby maintained in the activated position by a relatively low voltage.

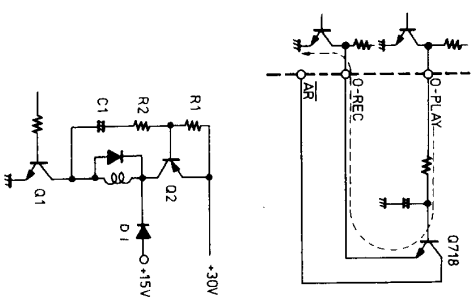
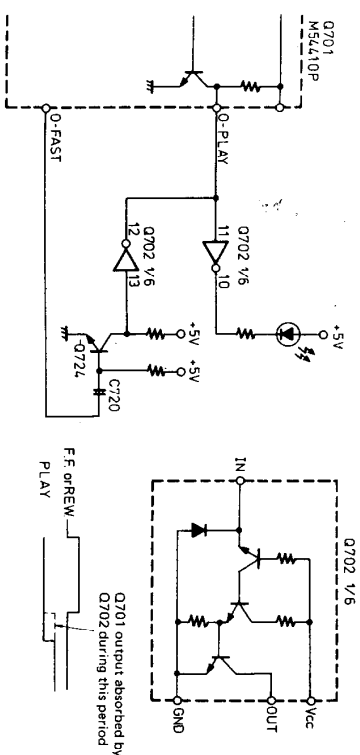
4. Auto-Stop Circuit

This circuit is essentially the same as the Auto-stop circuit in the TA-2080.

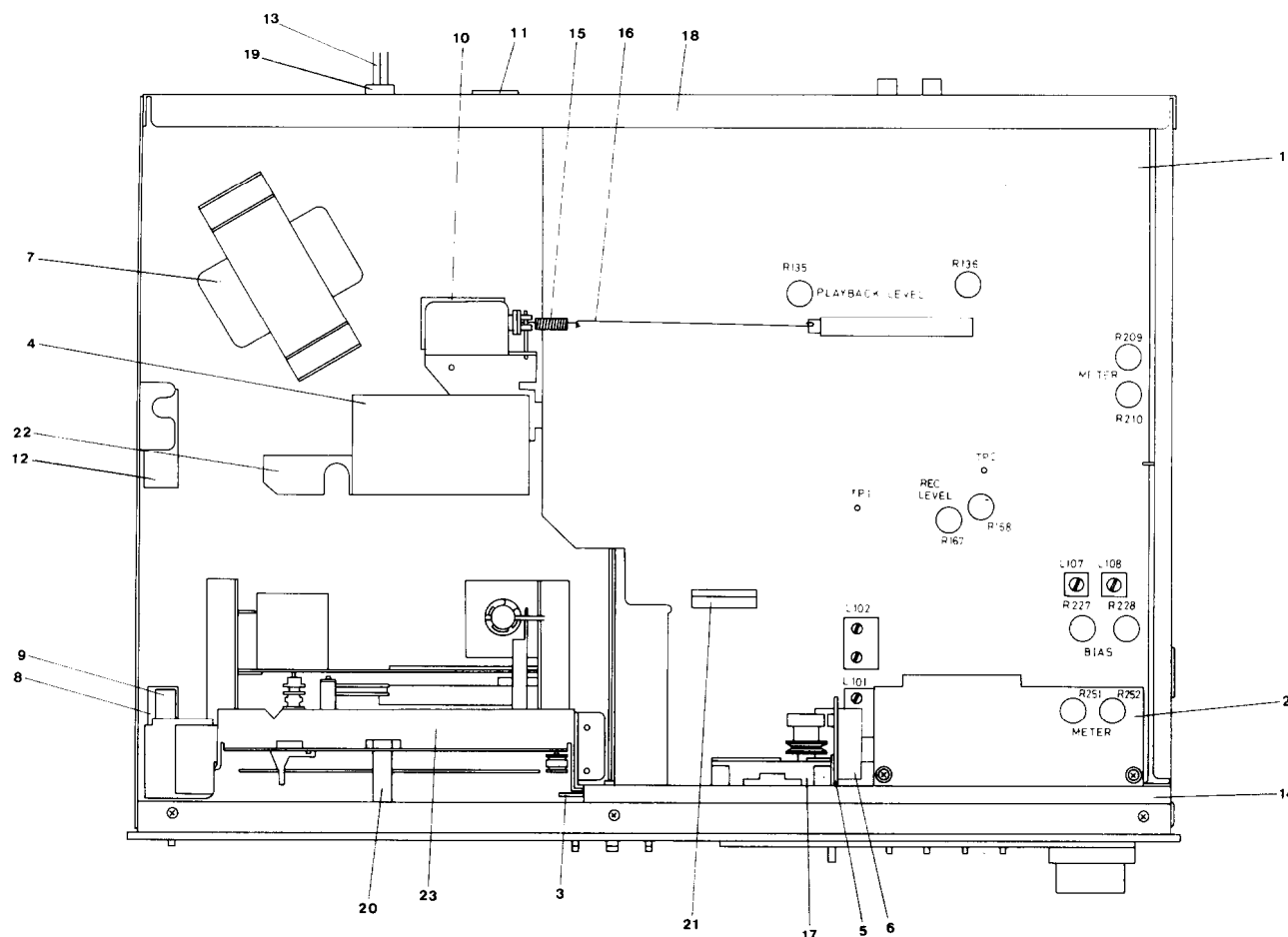
When the cassette compartment lid is opened, the ground of motor becomes "open", resulting in Q705 being turned ON via R705, and the STOP input being switched to LOW level.

During pause mode, Q703 is turned ON by the PAUSE output, thereby preventing the Auto-stop circuit from operating.

Even during stop mode, an oscillator (Q704) located in the Auto-stop circuit continues to oscillate, generating STOP pulses with every oscillation. Consequently, the moment the PLAY key is pressed, the gate potential is dropped via C723, and C708 forced to charge up, thereby preventing activation of the Auto-stop circuit. Although STOP pulses are still generated at this time, the pulse width is extremely small. The tape deck therefore proceeds to commence in play mode.



COMPONENT LOCATION



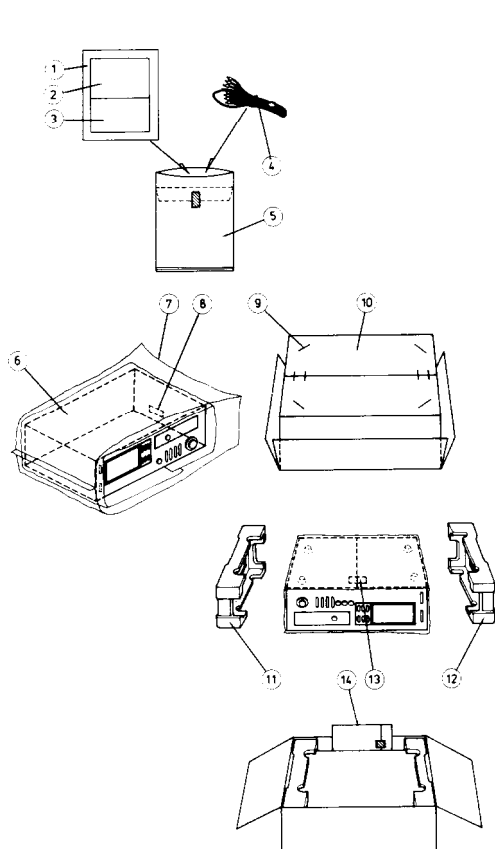
120V model

REF. NO.	CIRCUIT NO.	PARTS NO.	DESCRIPTION
1	U1	16409589A	NAAF-689A, Rec./pb. ampli. p.c.b.
2	U2	16468590	NADIS-690, Peak indicator p.c.b.
3	U3	16468591	NASW-691, Switch p.c.b.
4	U4	16468592	NAPS-692, Power supply p.c.b.
5	U5	16468593	NATD-693, Auto-stop p.c.b.
6	U6	16409506	NABC-706, Accu. volume p.c.b.
7	T901	230306	NPT-677D, Power transformer
8	C910	3504012	UL125V103M, UL capacitor
9	S901	25035047	NPS-111-12P, Power switch
10	P702	24606092	SOL-002, Solenoid
11	P701	25050045	NSCT-7P14, DIN socket
12		250143	FF-1S4, Fuseholder
		252023	0.5A-T, Fuse
13		253099A	AS-UC3, Power supply cord
14	A001	27110089A	Front bracket
15	A046	27180042A	Spring
16	A047	27180045	Spring
17	A048	24601023	Counter
18		27120181	Back panel
19	A057	270025	SR-3P3, Strainrelief
20	Z001	244012	Deck mechanism
21	P705	2000134	NSAS-10P011, Socket
22		27160046B	Radiator
23		27130160	Bracket

Universal model

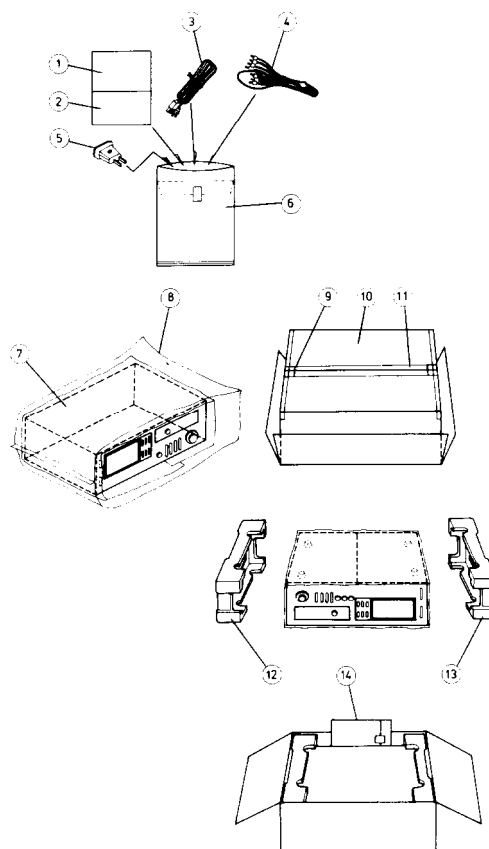
REF. NO.	CIRCUIT NO.	PARTS NO.	DESCRIPTION
1	U1	16409589A	NAAF-689A, Rec./pb. ampli. p.c.b.
2	U2	16468590	NADIS-690, Peak indicator p.c.b.
3	U3	16468591	NASW-691, Switch p.c.b.
4	U4	16468592	NAPS-692, Power supply p.c.b.
5	U5	16468593	NATD-693, Auto-stop p.c.b.
6	U6	16409506	NABC-706, Accu. volume p.c.b.
7	T901	230307	NPT-677ADGQ, Power transformer
8	C910, C911	3500052	PME271Y510CEE, IS capacitor
9	S901	25035034	NPS-121-L, Power switch
10	P702	24606092	SOL-002, Solenoid
11	P701	25050045	NSCT-7P14, DIN socket
		25050021	X-17240, Voltage selector socket
		252023	0.5A-T, Fuse
		253083	PA-125, 3P Inlet
14	A001	27110089A	Front bracket
15	A046	27180042A	Spring
16	A047	27180045	Spring
17	A048	24601023	Counter
18		27120182	Back panel
20	Z001	244012	Deck mechanism
21	P705	2000134	NSAS-10P011, Socket
22		27160046B	Radiator
23		27130160	Bracket

PACKING PROCEDURES



U.S.A. model

REF. NO.	PARTS NO.	DESCRIPTION
1	29340367	Instruction manual
2	29358002	Service station list
3	29365006	Warranty card
4	253074	Pin-pin connection cord
5	29100005	330 x 220 mm, Poly bag
6	29095012	500 x 800 mm, Protection sheet
7	29100037	650 x 500 mm, Poly bag
8	29360298	Label
9	282301	Sealing hook
10	29050298	Carton box
11	29090428	Pad (R)
12	29090427	Pad (L)
13	293041	Caution label
14		Accessory bag



Universal model

REF. NO.	PARTS NO.	DESCRIPTION
1	29340368	Instruction manual
2	29365005	Warranty card (G)
3	29380038	Voltage tag
	253083	Power supply cord (U)
	253089	Power supply cord (G)
4	253074	Pin-pin connection cord
5	25055018	Conversion plug (U)
6	29100006	330 x 250 mm, Poly bag
7	29095012	500 x 800 mm, Protection sheet
8	29100037	650 x 500 mm, Poly bag
9	282301	Sealing hook
10	29050298	Carton box
11	260012	Damplon tape
12	29090428	Pad (R)
13	29090427	Pad (L)
14		Accessory bag

Note: (U) : Only Universal model
(G) : Only Germany model

ONKYO CORPORATION

International Division: No. 24 Mori Bldg., 23-5, 3-chome, Nishi-Shinbashi, Minato-ku, Tokyo, Japan
Telex: 2423551 ONKYO J. Phone: 03-432-6981

ONKYO U.S.A. CORPORATION

Eastern Office
42-07 20th Avenue, Long Island City, New York 11105, U.S.A. Phone: (212) 728-4639
Midwest Office
935 Sivert Drive, Wooddale, Illinois 60191, U.S.A. Phone: (312) 595-2970

ONKYO DEUTSCHLAND GMBH, ELECTRONICS

8034 München-Germering, Industriestrasse 18, West Germany. Telex: 521726 Telefon: (089)-84-5041