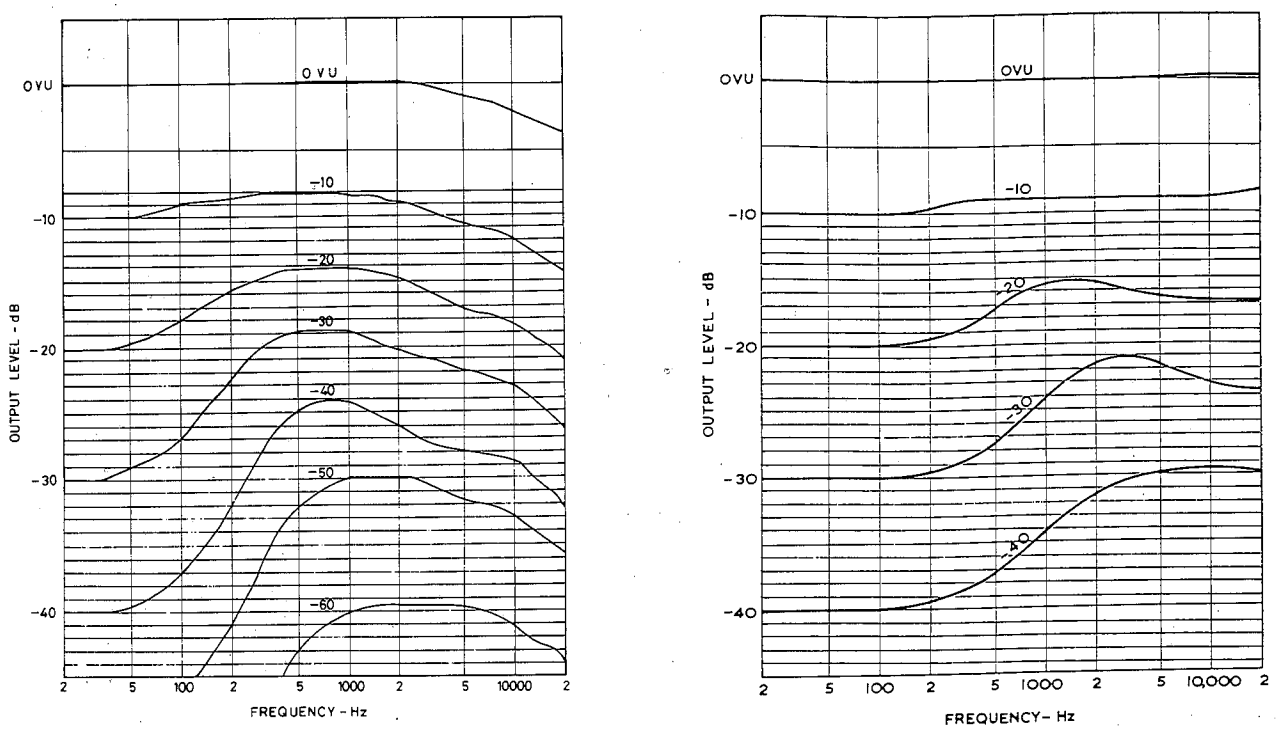


Dolby C **Dolby encoder** **Dolby B**

Fig. 3

Dolby Recording Calibration Controls

The Dolby Noise Reduction system is set to a standardized level that is obtained by using a standard tape. As a result, when different types of tapes are used, the recording sensitivity varies and the full benefits of Dolby NR can not be obtained. Perform the following procedure before starting recording operations to be sure you obtain optimum performance from the Dolby Noise Reduction system.

1. Insert a cassette, set the Monitor knob [28] to the SOURCE position and depress the appropriate Tape Selector button [25] .
2. Switch the Dolby Rec. Cal. control [30] to the ON (▬) position and set the NR Selector knob [29] to the DOLBY NR B position.
3. Adjust the Input Level Control knob [32] so that Peak Level Meters [15] are at about the Dolby Level 0 mark.
4. Press the Real Time Counter Reset button [2] to return the counter to 0:00, set the Memory switch [16] to the STOP position and press the ● Record [21] and ► Play [10] buttons simultaneously. Next, adjust the Dolby Recording Calibration controls [30] (LEFT and RIGHT) so that the peak level meter readings are the same when the Monitor knob [28] is switched back and forth between the SOURCE and TAPE MONITOR positions.
5. After this adjustment has been made, return the Dolby Rec. Cal. controls [30] to the OFF (■) position, press the ◄◄ Rewind button [7] to return the tape to the point where calibrations were started and start recording operations.

Auto Space Recording Pause

The ❚❚ Pause button [23] is normally used to cut out unwanted portions of a program (commercials, conversations, etc.) during recording operations. However, this often results in a tape where the next song begins immediately after the last one. The Auto Space button [22] is provided to solve this problem. To use this button, just press it once at the point in the recording where you want to enter a blank section about five seconds long. When the Auto Space button [22] is pressed, the play indicator flashes on and tape transport continues. However, no signal is recorded on the tape for a period of about five seconds. After the blank portion has been inserted, tape transport automatically stops and the deck returns to the REC/PAUSE standby mode. To insert a blank section of tape less than five seconds long, press the ► Play button [10] before the five second period has elapsed to return to the recording mode or press the ❚❚ Pause button [23] to return to the REC/PAUSE standby mode. To insert a blank section of tape more than five seconds long, keep the Auto Space button [22] depressed for as long as you want the blank section to be. The deck will return to the REC/PAUSE standby mode immediately after the button is released. To continue recording, press the ► Play button [10] to release the pause mode. This button is very convenient for making blank sections of sufficient length for automatic program sensing systems that operate by detecting the blank sections between songs.

ADJUSTMENT PROCEDURES

PRECAUTIONS

1. Before adjustment, clean the following parts with an alcohol moinstend swab.
   * record/playback head
   * erase head
   * pinch roller
   * capstan
   * rubber belt
2. Do not use magnetized screwdriver for adjustments.
3. Demagnetize record/playback head with a head demagnetizer.
4. The switches and controls should be set as follows unless otherwise specified.

TAPE SEL	NORM
DOLBY NR/HX	OUT
REC CAL	OFF
OUTPUT	MAX
INPUT LEVEL	0
ACCUBIAS	Center
TIMER/MEMORY	OFF

TEST EQUIPMENT/TOOLS REQUIRED:

Audio oscillator
Digital frequency counter
Oscilloscope
Attenuator
AC voltmeter
Non-magnetic screw drive
Blank tapes (completely erased)

NORMAL	UD-XL/I
HIGH	UD-XL/II
METAL	MX

Test tapes

VTT-658	:	10 kHz, –15 dB
MTT-111	:	3 kHz, –10 dB
MTT-150	:	Dolby level calibration 400 Hz tone 200 nWb/m
MTT-215C	:	315 Hz, 10 kHz
TW-2111	:	Torque meter
MC-12C or MC-9C	:	Mirror tape

1. Play torque adjustment

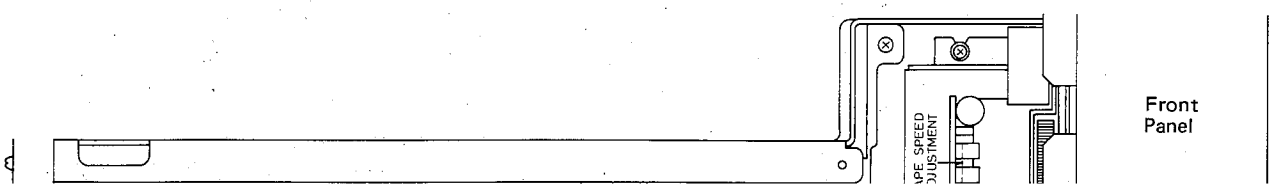
Play the torque meter TW-2111 back.
Adjust the R796 so that the torque of take-up reel becomes 40 gr-cm.

2. Tape speed adjustment

Connect the frequency counter to the line output terminal.
Play the MTT-111 back.
Adjust the semi-fixed resistor on the motor control pc board so that the counter indication becomes 3,000 Hz.

3. Real time counter adjustment

Connect the frequency counter to the F290 terminal on the control pc board.
Adjust the R797 so that the frequency counter indication becomes 289 Hz.



4. Head azimuth adjustment

1) Play the test tape VTT-658 back.
2) Adjust the head azimuth screw (2) so that the phase relationship between L- and R-channels approximates 0 degrees as indicated on the oscilloscope.
3) At this time confirm that play back output level is approximately the maximum value on the AC voltmeter.
4) Then confirm that the phase difference of the respective frequency is with in the rated value. 90 degrees or less in the range of 40 Hz to 10 kHz is required.
5) Secure the screw with the locking paint.

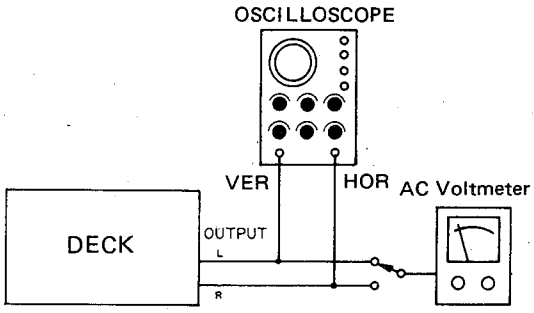


Fig. 5

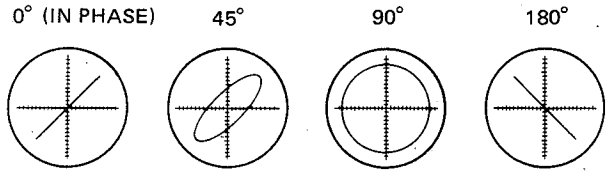


Fig. 6 Confirming phase relationship

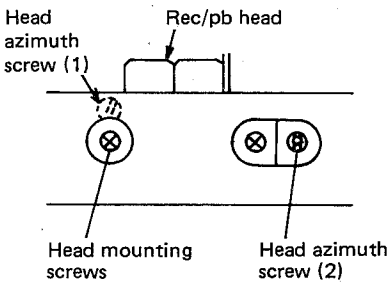


Fig. 7

Note: Perform the adjustment as shown below when the record/playback head is replaced.

1. Insert the mirror cassette tape into the cassette holder.
2. Play the mirror tape back.
3. Adjust the two azimuth screws so that the tape passes to the center of cassette guide as shown below.

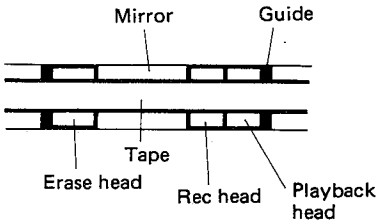


Fig. 8

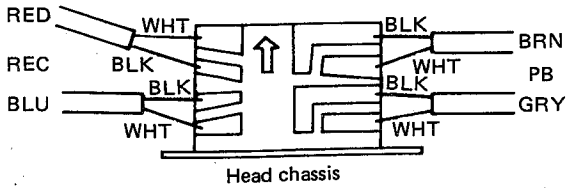


Fig. 9

4. Play the test tape VTT-658 back.
5. Adjust the head azimuth screws so that the AC voltmeter reads maximum.
6. Insert the normal blank tape into the cassette holder.
7. Apply the 10 kHz signal to the line-in terminals.
8. Set the monitor switch to the source position.
9. Adjust the AF oscillator output or input level volume so that the peak level meter reads 0VU.
10. Then set the attenuator for −10 dB input level, put the tape deck into the recording mode.
11. Set the monitor switch to the tape postion.
12. Adjust the two azimuth screws so tht the left and right channel outputs become the same and maximum level.

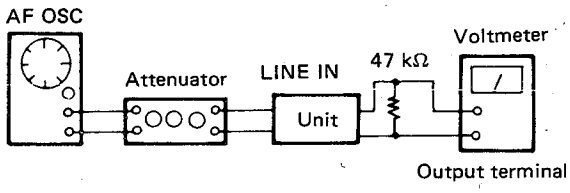


Fig. 10

5. Playback output level adjustment

Connect the AC voltmeter to the TP-1 and TP-2 terminals.
Play the MTT-150 back.
Adjust the R141 and R142 so that the indication of AC voltmeter becomes 775mV.

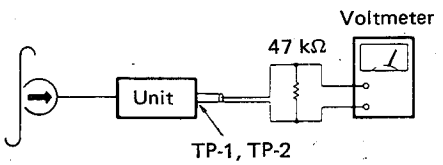


Fig. 11

6. Level meter adjustment

Play the MTT-150 back.
Adjust the R273 and R274 so that the 0 dB of level meter light on.

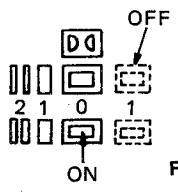


Fig. 12

Adjust points R141, R142, R273, R274, TP1, TP2 ... NAAF-1182 (See Page 10).

.K BRN
WHT PB
.K GRY
HT

at the AC volt-
cassette holder.
terminals.
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J.
input level, put
.
tion.
ht the left and
ame and maxi-

Voltmeter
Ω
Output terminal

TP-2 terminals.

7. Playback frequency adjustment

Connect the AC voltmeter to the line output terminal. Play the MTT-215C back. Adjust the R163 and R164 so that the 315 Hz and 10 kHz signal level become same. (See Page 10)

8. Dolby encoder level adjustment

Connect the AC voltmeter to the TP-10 and TP-11 terminal. Apply the 700 Hz signal to the line input terminals. Adjust the input level volume or AF oscillator output so that the indication of voltmeter becomes 775mV. Connect the AC voltmeter to the TP-201 and TP-202 terminals. Adjust the R425 and R426 so that the indication of voltmeter becomes 775mV.

9. Dolby encoder law adjust

Connect the elect. capacitor of 10μF/16V between Q201 pin no. 4 and 18 (Ground) terminals. Connect the AC voltmeter to the TP-201 and TP-202 terminals. Apply the 700Hz signal to the line input terminals. Adjust the input level volume or AF oscillator output so that the indication of voltmeter becomes 23.5mV. Connect the AC voltmeter

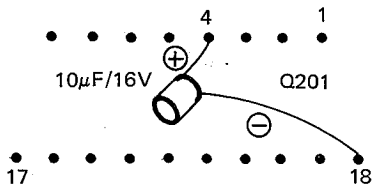


Fig. 13 Soldering side

to the DOL ECORD OUT terminal. Record the output level of DOL ECORD OUT. Set the DOLBY NR switch to FILTER OUT C position. Adjust the R455 so that the level of FILTER OUT C is increased 6.5dB ± 0.25 dB than level of OUT. Remove the elect. capacitor. Adjust the R415 so that the level of FILTER OUT C is increased 11.0 dB ± 0.25 dB than level of OUT. Set the DOLBY NR switch to the OUT position after adjustment.

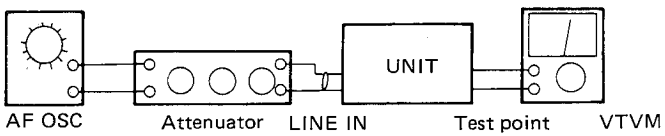
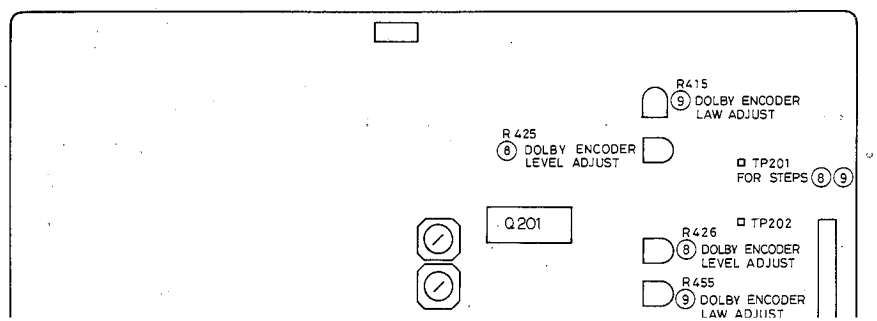


Fig. 14



10. Dolby decoder level adjustment

Remove the socket P101 and apply the 700 Hz signal to the terminal P101. Connect the AC voltmeter to the TP-1 and TP-2 terminals. Adjust the input level volume or AF oscillator output so that the indication of voltmeter becomes 755 mV. Connect the AC voltmeter to the TP-8 and TP-9 terminals. Adjust the R233 and R234 so that the indication of voltmeter becomes 775 mV.

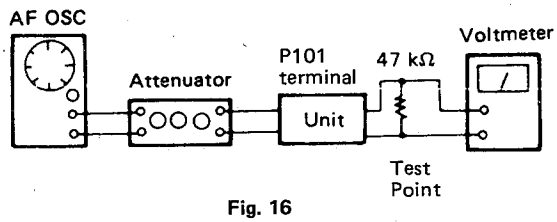


Fig. 16

11. Bias current adjustment

Set the semi-fixed resistors R545 to R550 to the center position. (See Fig. 17)

Insert the normal blank tape into the cassette holder. Apply the 400 Hz signal to the line input terminal. Press the rec and pause button together and set the tape deck to the recording mode. Adjust the input level volume or AF oscillator so that the 0 dB of level meter light on. Reduce the input level by 20 dB with the attenuator. Record the 400 Hz and 10 kHz signals on the tape. Set the tape monitor switch to the tape position. Adjust the R577 and R578 so that the 400 Hz and 10 kHz signal become the same level. Proceed the HIGH and METAL positions as same manners.

	left	right
HIGH	R579	R580
METAL	R581	R582

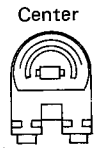


Fig. 17

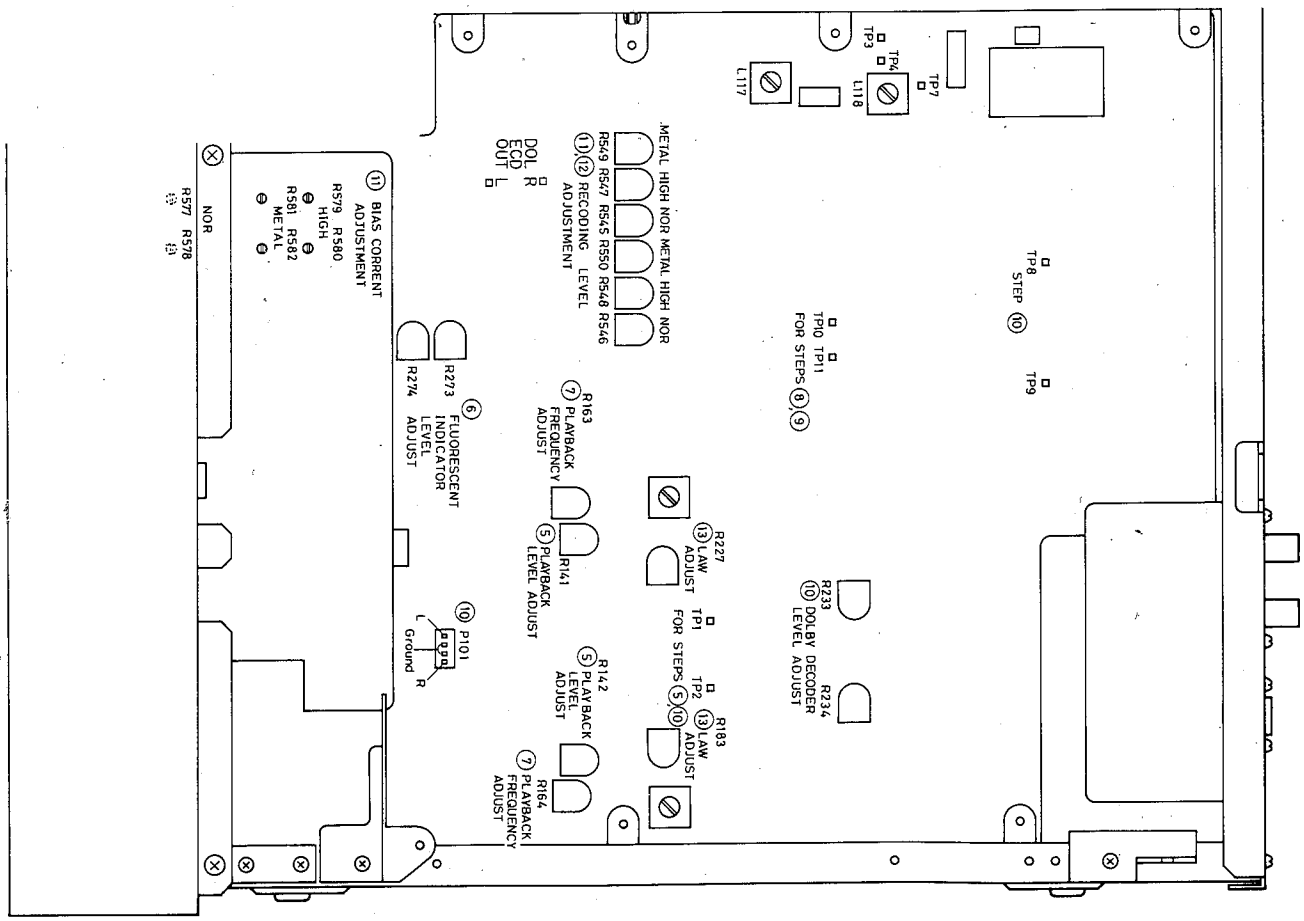


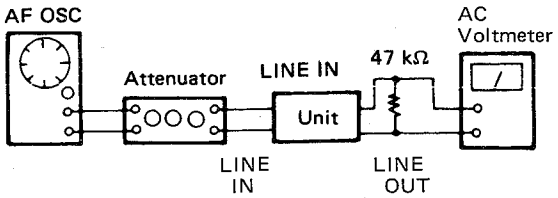
Fig. 18

12. Recording level adjustment

Apply the 700 Hz signal to the line input terminal. Insert the normal blank tape into the cassette holder. Connect the AC voltmeter to the line output terminal. Set the tape deck to the recording mode and the tape monitor switch to the source position. Adjust the input volume or AF oscillator output so that the 0 dB of level meter light on. Reduce the input level by 3 dB. Record the 700 Hz signal on the tape and adjust the R545 and R546 so that the level of source and tape position become same. Proceed the HIGH and METAL position as same manner.

	Left	right
HIGH	R547	R548
METAL	R549	R550

Connection diagram



Steps 11, 12, 13 and 15 **Fig. 19**

13. Dolby decoder law adjustment

Insert the normal blank tape into the cassette holder. Apply the 400 Hz signal to the line input terminal of right channel and adjust the input level volume so that the 0 dB of level meter lights on. Reduce the input level by 25 dB with the attenuator. Set the DOLBY NR switch to the FILTER OUT B position. Record the 400 Hz and 10 kHz signal on the tape. Adjust the R227 so that the 400 Hz and 10 kHz signal become the same level.

Next, set the DOLBY NR switch to FILTER OUT C position. Record the 400 Hz and 10 kHz signal on the tape and adjust the R183 so that the 400 Hz and 10 kHz signal become the same level.

14. Accubias signal adjustment

Connect the oscilloscope and AC voltmenter to the ACCU SIG terminal. Press the REC CAL switch to on position. Adjust the R1094 so that the 400 Hz and 10 kHz signal become the same level as shown below.

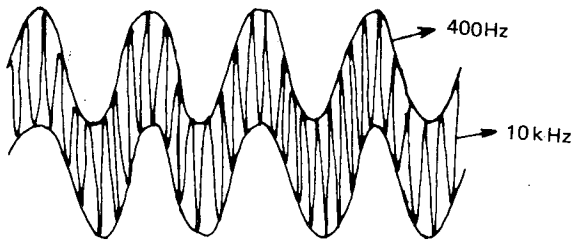


Fig. 20

Adjust the R1096 so that the indication of voltmeter becomes 5 mV.

15. Accubias frequency adjustment

1) Insert the normal blank tape into the cassette holder.
2) Set the tape counter to 0:00.
3) Press the pause and recording buttons together.
4) Press the accubias switch.
5) Apply the 400 Hz and 10 kHz signal of –20 dBV to the line input terminals and connect the AC voltmeter to the line output terminal.
6) Record the 400 Hz and 10 kHz signal on the tape.
7) When the 400 Hz and 10 kHz playback signal differ, turn the R1021 as shown below.
   400 Hz signal > 10 kHz signal : Counter-clockwise
   400 Hz signal < 10 kHz signal : Clockwise
8) Press the accubias reset switch.
9) Repeat the steps 2 through 8 until 400 Hz and 10 kHz playback level become same.

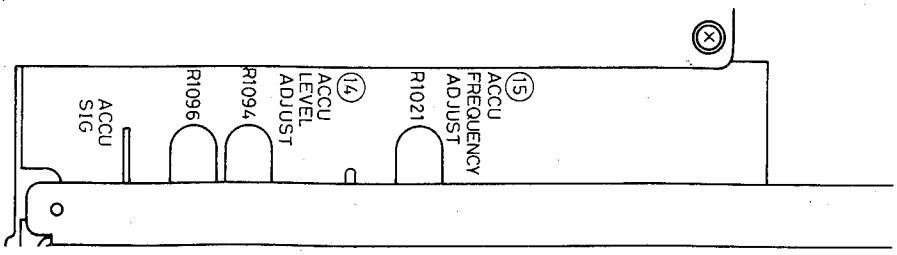


Fig. 21

TAPE MECHANISM-EXPLODED VIEW

REF. NO.	PARTS NO.	DESCRIPTION
1	24610648	Mechanism chassis
2	24606118	Sensor pc board ass'y
3	24610649	Head base ass'y
4	24610650	Connector plate ass'y
5	833125049	M2.5 x4mm, Pah head screw
6	24610651	Head stand
7	801251	M2x4mm, Screw
8	24605302	Spring, head
9	24610652	Shaft
10	24610495	Nut
11	801250	M2x4mm, Screw
12	24600014A	Erase head
13	24610653	Plate, erase head
14	82512012	M2x12mm, Bind screw
15	260208	Binder
16	24610351	2ϕ, Steelball
17	8930302	E3, Circlip
18	24610279	3ϕ, Steelball
19	24610496	Plate, head holding
20	833130049	M3x4mm, Pan head screw
21	24610654	Motor mounting bracket
22	24610371	Reel Stand case
23	24610494	Brake
24	82512304	M2.3x4mm, Bind screw
25	24601054	Reel motor
26	24610373	Spacer
27	24610374	Washer
28	24605194	Spring, motor
29	24602076	Idler lever ass'y
30	24610375	Felt
31	24601102	Motor pulley
32	82512603	M2.6x3mm, Bind screw
33	24605183	Cassette holding spring
34	833125059	M2.5x5mm, Pan head screw
35	24610655	Bracket
36	24601103	Motor, assist
37	801259	M2x3mm, Pan head screw
38	24602133	Cam gear
39	24606119	Leaf switch, code
40	833125209	M2.5x20mm, Pan head screw
41	24601104	DD motor unit
42	24602129	Belt
43	833130069	M3x6mm, Pan head screw

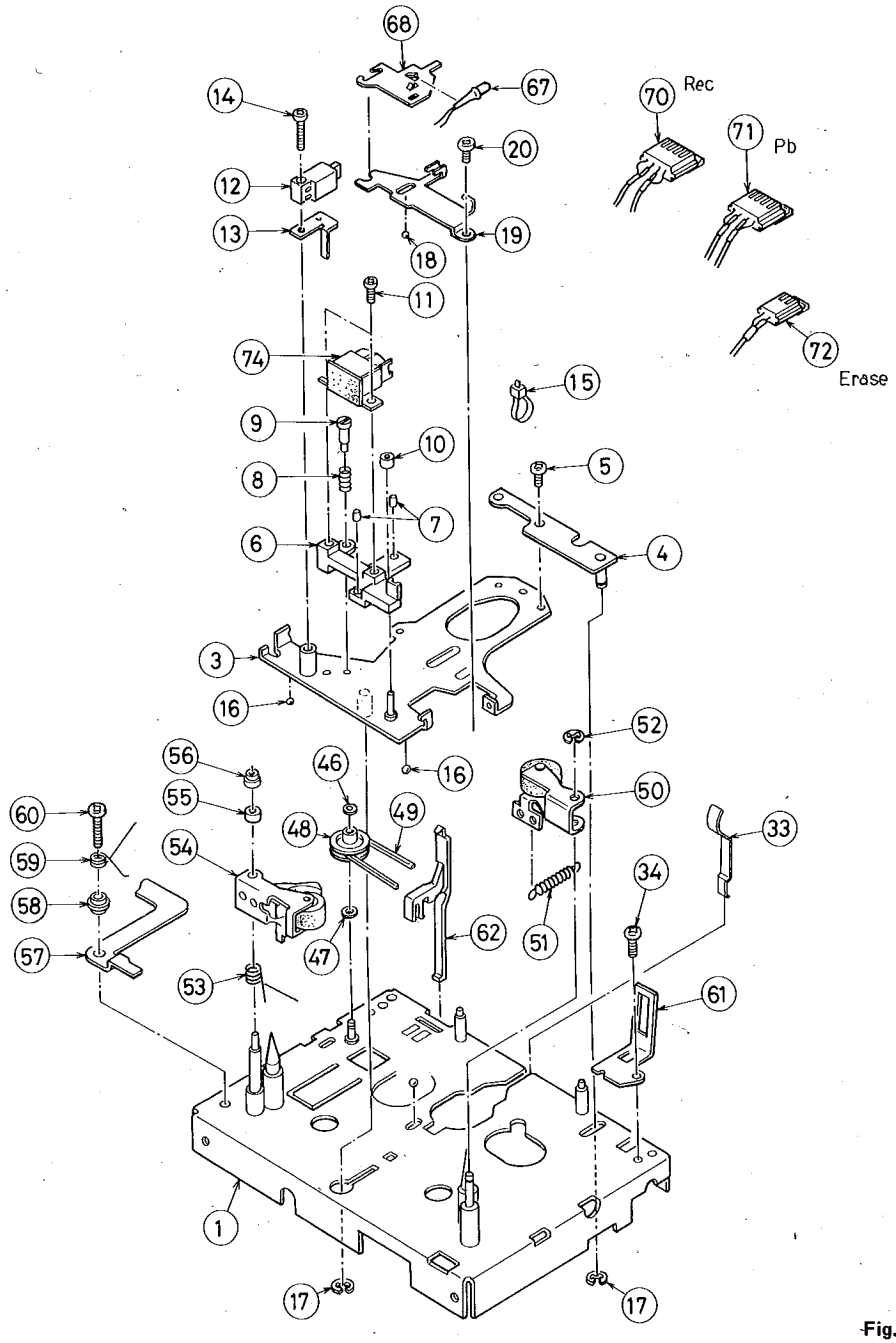


Fig. 22

REF. NO.	PARTS NO.	DESCRIPTION
44	24605193	Spring
45	24602130	Reel stand
46	24610349	Washer
47	870081	2x4x0.5mm, Washer
48	24602131	Pulley
49	24602132	Belt
50	24610656	Pinch arm ass'y
51	24605244	Spring
52	8930201	E2, Circlip
53	24605301	Spring
54	24610657	Pinch roller ass'y
55	24610662	Spacer
56	24610661	M2, Nylon washer
57	24610658	Lock plate
58	24610344	Collar
59	24605184	Spring
60	833125109	M2.5x10mm, Pan head screw
61	24610659	Protection plate
62	24603205	Recording lever
63	24606104	Leafswitch
64	24610660	Mounting plate
65	24603129	Leafswitch
66	833125069	M2.5x6mm, Pan head screw
67	24606107	Lamp
68	24610498	Lamp holder
69	25050110	Connector, 12P
70	25050111	Connector, 4P, Rec. head
71	25050112	Connector, 4P, Playback head
72	25050113	Connector, 2P. Erase head
73	25050114	Connector, 4P, Sensor
74	24600030	Recording/playback head

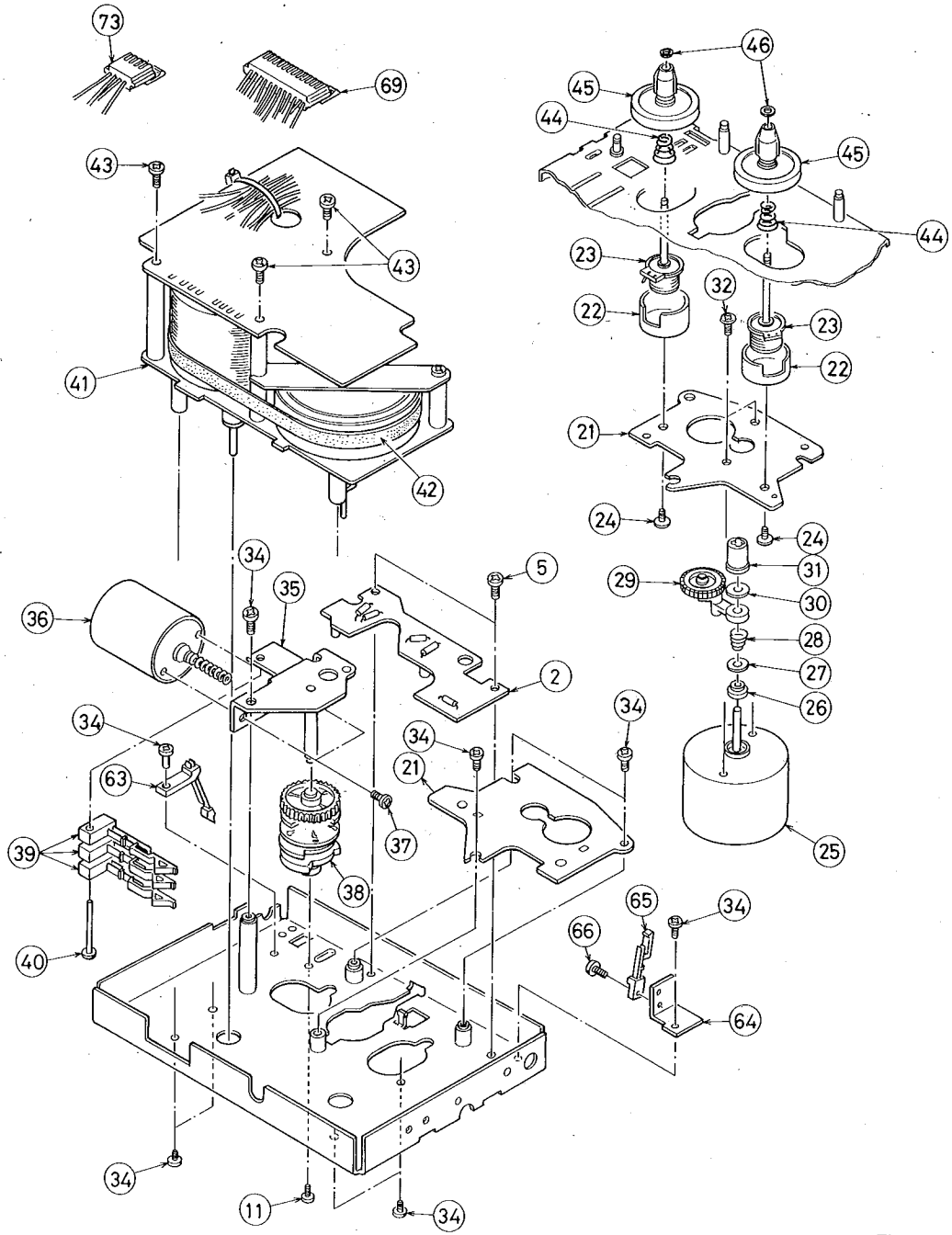


Fig. 23

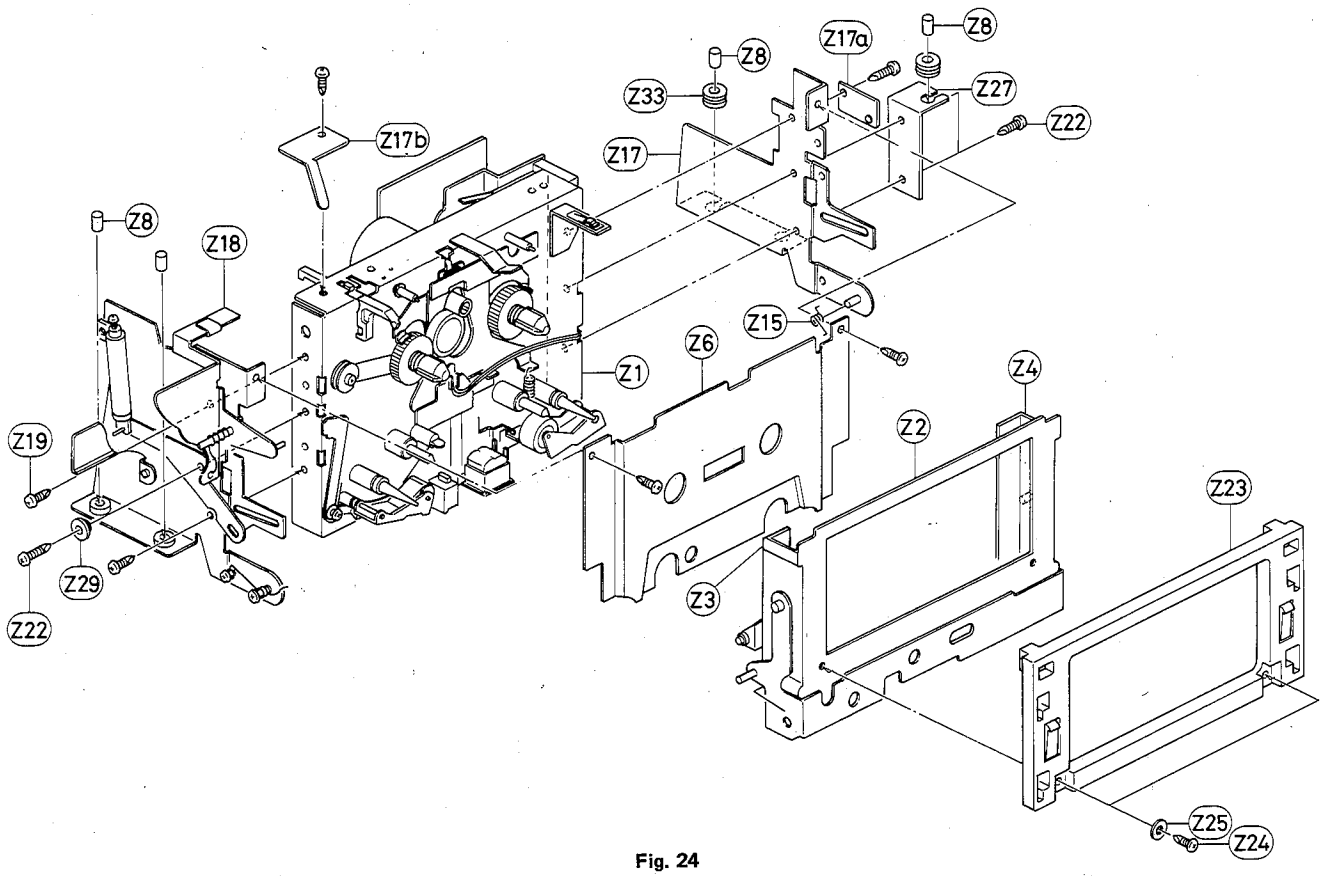


Fig. 24

REF. NO.	PARTS NO.	DESCRIPTION
Z1	244024	NDM-19, Tape deck
Z2	24610630-1	Mounting plate
Z3	24610631-1	Holder, left
Z4	24610632-1	Holder, right
Z5	24605300	Spring
Z6	16239903	Plate ass'y
Z8	24610645	Link
Z9	838126088	2.6TTB+8B, Tap screw
Z10	833425059	2.5TTP+5C(BC), Tap screw
Z11	24610508	Damper
Z12	24605296	Spring
Z13	23605297	Spring
Z15	24605299A	Spring
Z16	24603203	Lever
Z17	24610646	Side plate (R)
Z17a	27140631	Bracket
Z17b	27140632	Bracket
Z18	24610647	Side plate (L)
Z19	833425059	2.5TTP+5C(BC), Tap screw
Z20	833130127	3TTP+12S, Tap screw
Z21	27265057	ϕ3xϕ4x5t, Ring
Z22	833425089	2.5TTP+8C(BC), Tap screw
Z23	24610641	Holder (CA)
Z24	82522004	2B+4FN(Ni), Bind screw
Z25	8762200604	W2x6B(Ni), Flat washer

REF. NO.	PARTS NO.	DESCRIPTION
Z26	24603204A	Lever
Z27	27140578	Bracket
Z28	890012	2ϕ, Link
Z29	24610644	Spacer
Z30	893030S	ES-3, Circlip
Z31	223004	LUGB-5, Terminal

FRONT PANEL-EXPLODED VIEW

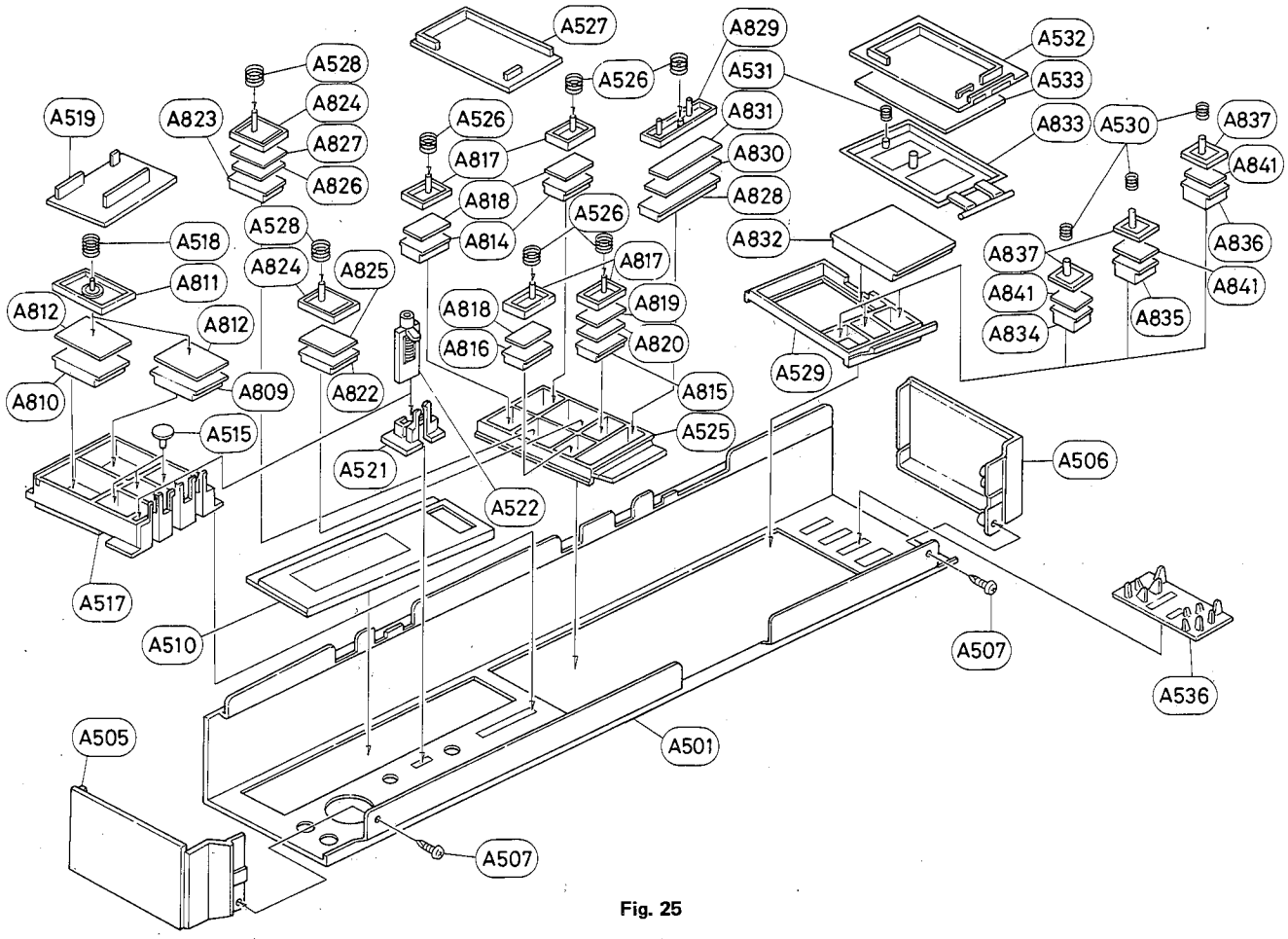


Fig. 25

REF. NO.	PARTS NO.	DESCRIPTION
A501	16239121	Front panel ass'y (D)
	16242121	Front panel ass'y (G/W)
A505	28125094	End cap, right side
A506	28125095	End cap, left side
A507	838430088	3TTB+8B(BC), Tap screw
A510	16239901	Clear plate ass.y
A515	28189558	Facet
A517	27267132A	Guide, accu.
A518	27180090	Spring
A519	2840041A	Lid, accu.
A521	27267131	Guide, push
A522	27180091	Spring
A525	27267134A	Guide (R)
A526	27180090	Spring
A527	28400043A	Lid (R)
A528	27180095	Spring
A529	27267135A	Guide (L)
A530	27180093	Spring
A531	27180094	Spring
A532	28400044A	Lid (L)
A533	27262117A	Plate (C)
A536	27267133	Guide, switch
A809	28320599A	Knob (S)
A810	28320696	Knob (R)
A811	28320600B	Knob, base

REF. NO.	PARTS NO.	DESCRIPTION
A812	27262118A	Plate (S)
A814	28320697	Knob, fast forward
A815	28320699	Knob, recording
A816	28320700	Knob, auto-stop
A817	28320602A	Knob, base
A818	26262155	Plate (A)
A819	27262157	Plate (R)
A820	27262156	Plate, recording
A822	28320701	Knob, stop
A823	28320702	Knob, play
A824	28320604A	Knob, base
A825	27262158	Plate, stop
A826	27262159	Plate, play
A827	27262160	Plate (P)
A828	28320703	Knob, pause
A829	28320606B	Knob, base
A830	27262161	Plate, pause
A831	27262162	Plate, pause
A832	28320607-1	Knob, counter
A833	28320610	Knob, base
A834	28320704	Knob, 46
A835	28320705	Knob, 60
A836	28320706	Knob, 90
A837	28320609B	Knob, base
A841	27262163	Plate (T)

DISASSEMBLING PROCEDURES

1. Front panel
   1) Remove the four screws (A302) holding the top cover and side brackets.
   2) Remove the two screws (A303) holding the top cover and back panel.
   3) Remove the top cover.
   4) Press the eject button and remove the cassette lid.
   5) Remove the cushion (A504) on the front panel and the three screws holding the front panel and front bracker from the top side.
   6) Remove the five screws (A) holding the front panel and front bracket from the bottom side.

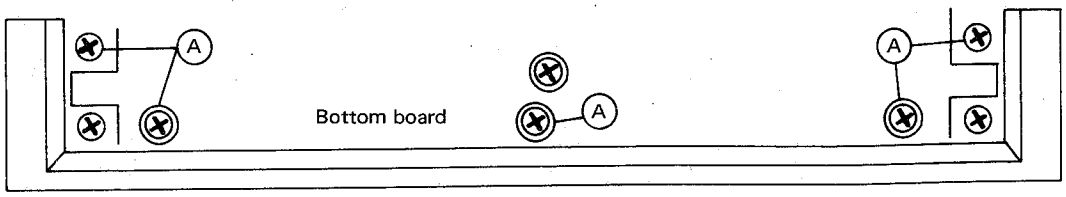


Fig. 26

2. Power supply pc board (NAAF-1269)
   1) Remove the stopper (A11) holding the power supply pc board and back panel.
   2) Remove the two screws of front side holding the pc board and brackets.
   3) Lift up the pc board from front side.

3. Cassette mechanism ass'y
   1) Remove the front panel.
   2) Remove the two sockets (P701 and P703) on the control pc board (NACOC-1143) and the three sockets (P101, P102, and P104) on the recording and playback amplifier pc board (NAAF-1182).
   3) Remove the control pc board.
   4) Remove the four screws (A9).
   5) Remove the cassette mechanism ass'y.

4. Switch pc board (NASW-1185)
   1) Remove the front panel.
   2) Remove the socket of level meter from back side.
   3) Remove the two screws holding the level meter ass'y and bracket from back side.
   4) Remove the two REC CAL knob and two nuts holding the REC CAL volume.
   5) Remove the two screws holding the switch bracket and front bracket.

CHASSIS EXPLODED VIEW-PARTS LIST

REF. NO.	PARTS NO.	DESCRIPTION
A1	27110146A	Front bracket
A2	834130088	3TTS+8B, Tap screw
A3	834130168	3TTS+16B, Tap screw
A4	82113006	3P+6FN, Pan head screw
A5	831130088	3TTW+8B, Tap screw
A6	27140577	Bracket, DIN terminal [G/W]
A9	831130128	3TTW+12B, Tap screw
A10	223004	LAGB-5, Terminal
A12	27140533	Bracket, headphone
A15	27140534	Bracket, microphone
A18	27115092	Side bracket
A21	27140535	Bracket (S)
A24	27140537	Bracket (P)
A28	27130261	Bracket, pc board
A31	27140598	Bracket (R)
A32	27130262	Bracket, power tansformer
A34	834430068	3TTS+6B(BC), Tap screw
A36	833140087	4TTP+8S, Tap screw
A37	27300412	Base, power transformer
A38	27190009	Holder
A39	28170016	Bushing
A40	27140599	Bracket, switch
A42	27260073A	Shaft
A43	28320135	Connector
A44	27270081A	Spacer
A45	27270082	Spacer
A46	27120334	Back panel [D]
	27120336	Back panel [G]
	27120344	Back panel [W]
A49	82142604	2.6P+4F(BC), Pan head screw
A50	82143006	3P+6FN(BC), Pan head screw
A51	270025	SR-3P-4, Strainrelief [D]
	270280	SR-4K-4, Strainrelief [G/W]
A53	27140536	Bracket, pc board
A57	28175043	Inslation plate
A58	27130275A	Bracket (ML)
A59	831430088	3TTS+8B, Tap screw
A301	28184065A	Top cover
A302	838440109	4TB+10C(BC), Tap screw
A303	834430108	3TTS+10B(BC), Tap screw

CHASSIS -EXPLODED VIEW

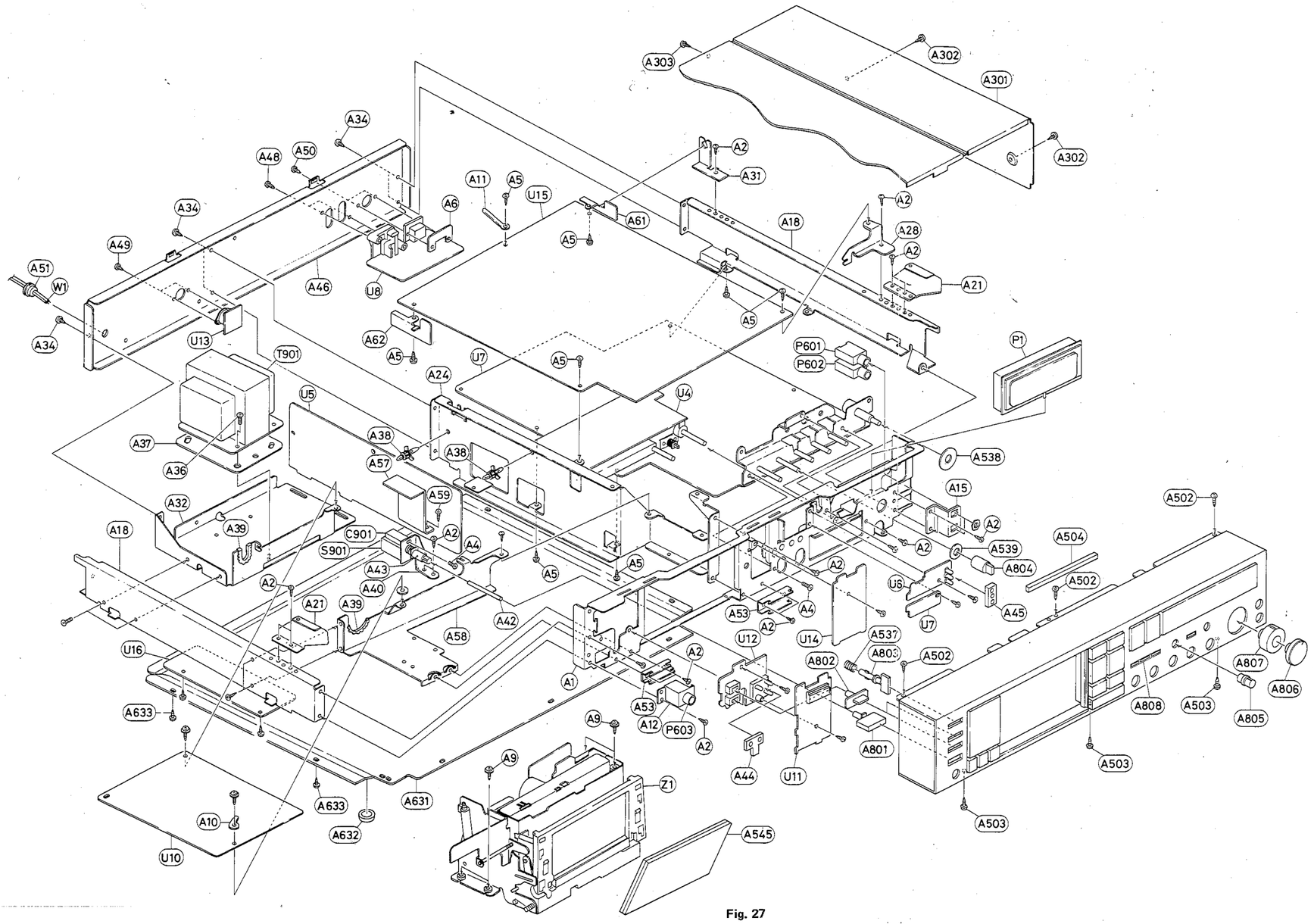


Fig. 27

REF. NO.	PARTS NO.	DESCRIPTION
P601	25045090	HLJ0606-01-020, Microphone jack
P602		
P603	25045089	HLJ0606-01-030, Stereo headphone jack
P1	212012	LB100-L14, Output/input level meter
S901	23035224	NPS-121-L188P, Power switch [D]
S901	25035192	NPS-122-L156P, Power switch [G]
S901	2503083	NPS-121-L171P, Power switch [W]
T901	230530	NPT-752D, Power transformer [D]
	230539	NPT-752G, Power transformer [G]
	230549	NPT-752DG, Power transformer [W]
U1	16239582	NAAF-1182, Rec./Palyback amplifier pc board ass'y
U4	16239585	NASW-1185, Tape selector switch pc board ass'y
U5	16239586	NACOC-1186, Accubias control pc board ass'y
U6	16239587	NAPL-1187, Accubias display pc board ass'y
U7	16239588	NAPL-1188, Tape selector display pc board ass'y
U8	16239589	NAAF-1189, Input/Output terminal pc board ass'y [D]
	16242589A	NAAF-1189a, DIN amplifier and input/output terminal ass'y [G/W]
U10	16239543	NACOC-1143, Mechanism control pc board ass'y
U11	16239544	NADIS-1144, Tape counter pc board ass'y
U12	16239545	NASW-1145, Counter key input pc board ass'y
U13	16239546	NARM-1146, Remote control pc board ass'y
U14	16239547	NASW-1147, Control key input pc board ass'y
U15	16239569	NAAF-1269, Power supply and line amplifier pc board ass'y
U16	16239504	NAMU-1304, Muting circuit pc board ass'y
W1	253099A	AS-UC3, Power supply cable [D]
	253083	AS-CEE, Power supply cable [G/W]
	260208	Binder
	25050096	NSAS-6P-072, Socket
S902	25065123	NSS-1258P, Voltage selector switch [W]

[D] : Only 120 V model
[G] : Only 220 V model
[W] : Only 120/220 model

REF. NO.	PARTS NO.	DESCRIPTION
A501	16239121	Front panel ass'y [D]
	16242121	Front panel ass'y [G/W]
A502	834130068	3TTS+6B, Tap screw
A503	838430088	3TTB+8B(BC), Tap screw
A504	28140298	Cushion
A507	838430088	3TTB+8B(BC), Tap screw
A508	27262155	Plate A
A537	27180021	Spring
A538	28140185	Cushion
A539	28140219	Cushion
A545	16239902	Cassette lid ass'y
A631	27170110	Bottom board
A632	27175028	Leg
A633	838430088	3TTB+8B(BC), Tap screw
A634	28140380	Cushion
A801	28320591	Knob, power
A802	28320592	Knob, switch
A803	28320593	Knob, eject
A804	28320594	Knob, selector
A805	28320595	Knob, calibration
A806	28320596	Knob, input level, left side
A807	28320597A	Knob, input level, right side
A808	28320598	Knob, push
C901	3500057	0.01μF, 125V, Capacitor, ULCS[D]
C901	3500058	PME265MB510, Capacitor, IS [G]
C901, C902	3500058	PME265MB510, Capacitor, IS [W]

IC BLOCK DIAGRAM

TMP4315AP-1001

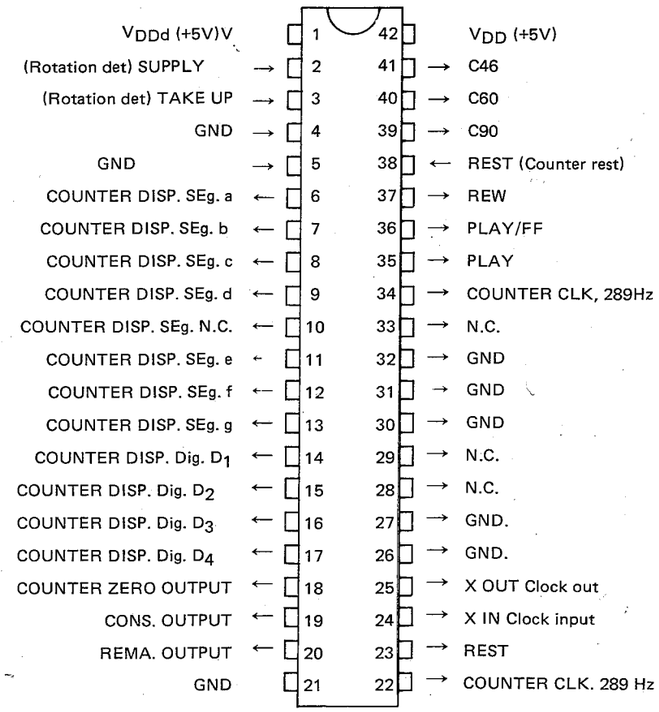


Fig. 28

TMP4315AP-1011

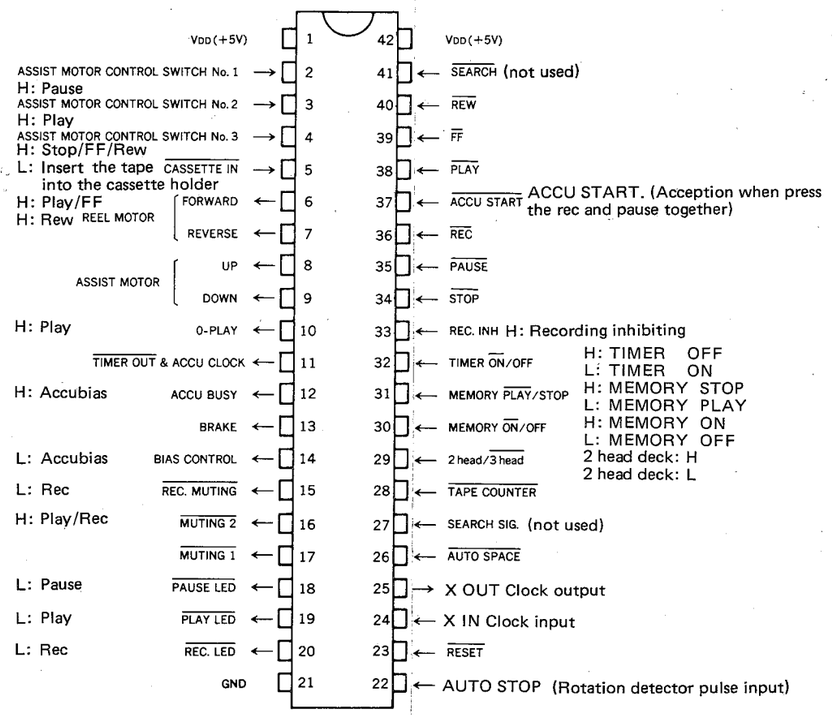


Fig. 29

TC4066BP (Analog switch)

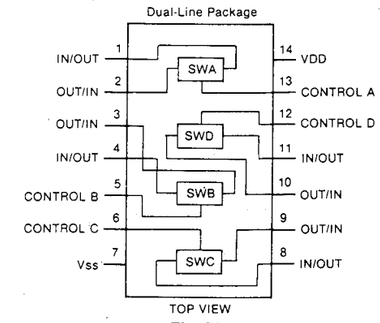


Fig. 32

NJM4558/4559 (Operational amplifier)

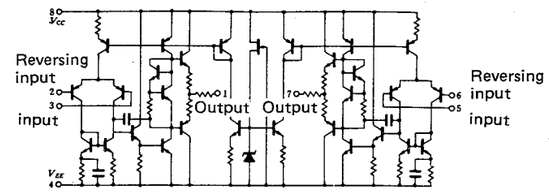
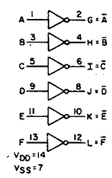


Fig. 33

TC4069UBP (Hex. inverter)

Block diagram



Logic diagram

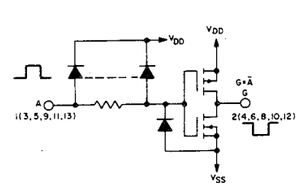


Fig. 34

LB1275 (Inverter)

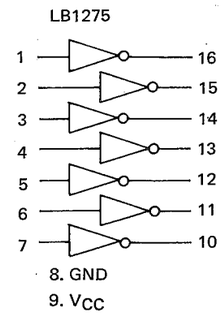
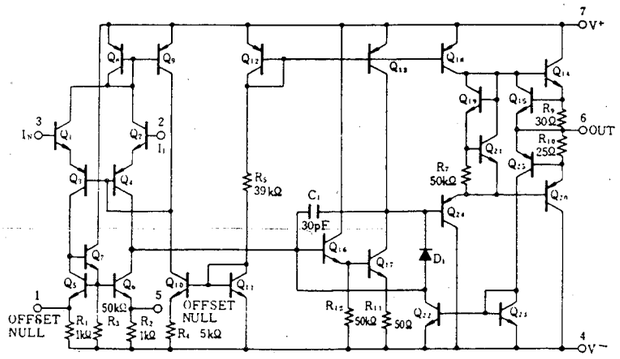


Fig. 35

μPC741C (Operational amplifier)

Equivalent circuit



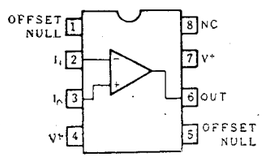
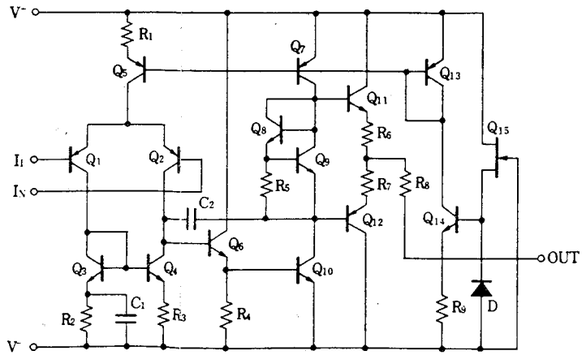


Fig. 30

μPC4557 (Dual operational amplifier)



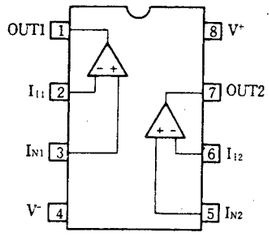


Fig. 31

HA11226 (Dolby decoder/encoder)

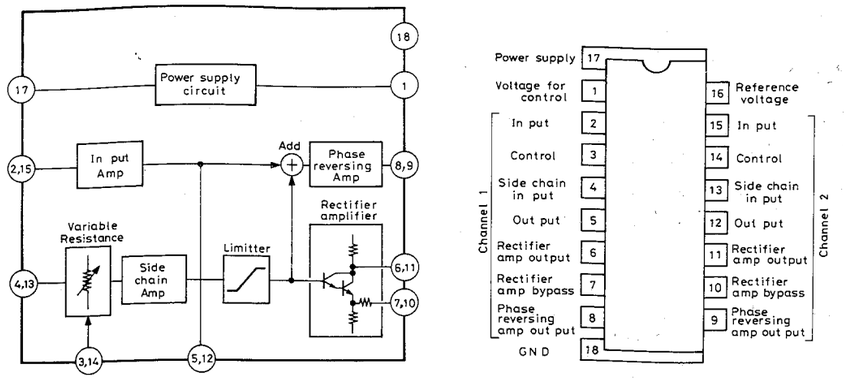
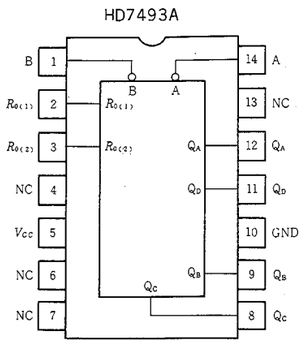


Fig. 36

HD7493A (4-bint binary counter)



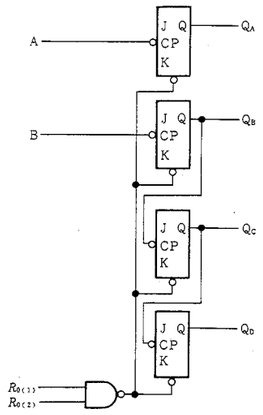


Fig. 37

COUNT SEQUENCE

Count	Output			
	Q_D	Q_C	Q_B	Q_A
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

HD7400 (NAND gate)

PIN ARRANGEMENT

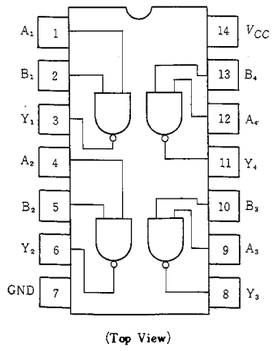


Fig. 38

SEMICONDUCTOR VIEW

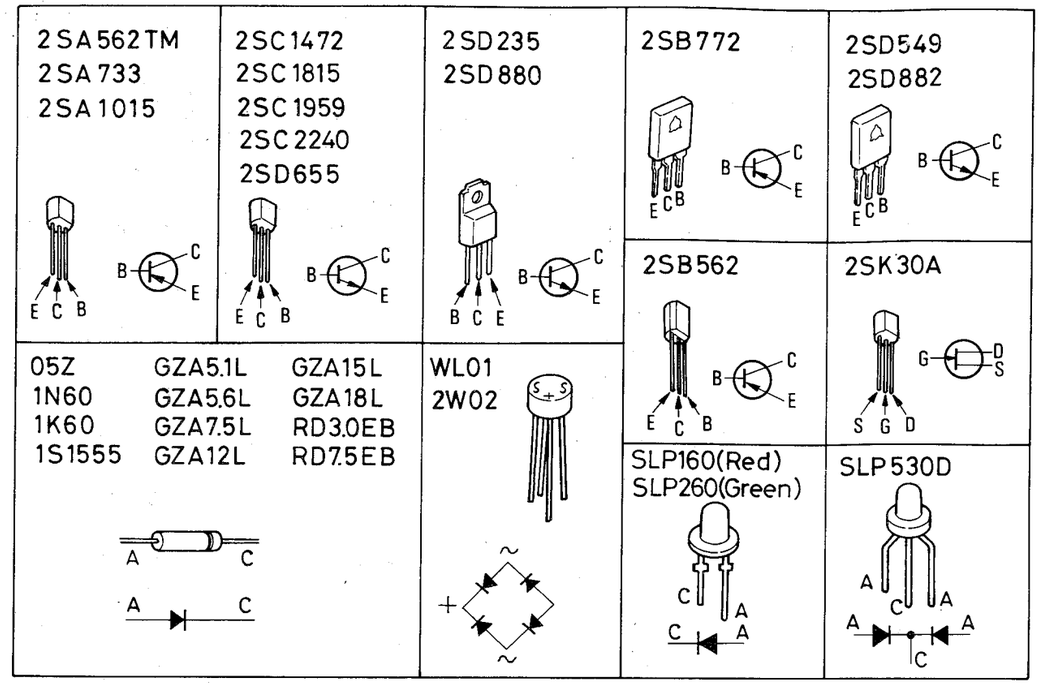


Fig. 39

PRINTED CIRCUIT BOARD-PARTS LIST

MECHANISM CONTROL PC BOARD (NACOC-1143) – PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
		ICs
Q701	222637	TMP4315AP-1011, Mechanism control
Q702	222638	TMP4315AP-1001, Tape counter control
Q703	222639	LB1275, Hex inverter
Q704	222840692	TC4069UBP, Hex inverters
		Transistors
Q705	2211253 or 2211254	2SC1815(O) or 2SC1815(Y)
Q706	2211706	2SD655(F)
Q707	2201074	2SD880(Y)
Q708, Q709	2211554	2SA562TM(Y)
Q710, Q712	2211253 or 2211254	2SC1815(O) or 2SC1815(Y)
Q715	2211543 or 2211544	2SC1959(O) or 2SC1959(Y)
Q711, Q713	2201060	2SD549
Q714	2211554	2SA562TM(Y)
Q716, Q717	2211951 or 2211952	2SC1472K(A) or 2SC1472K(B)
Q718,Q719	2211454	2SA1015(Y)
Q 720–Q725	2211253 or 2211254	2SC1815(O) or 2SC1815(Y)
Q726–Q728	2211454	2SA1015(Y)
Q729	2211253 or 2211254	2SC1815(O) or 2SC1815(Y)
Q731	2211706	2SD655(F)
Q732–Q735	2211253 or 2211254	2SC1815(O) or 2SC1815(Y)
Q736, Q737	2211563	2SB562(C)
Q738		
		Diode
D701	224173 or 224102	05Z7.5Z or GZA7.5U

CIRCUIT NO.	PARTS NO.	DESCRIPTION
		Capacitors
C701	352736829	6,800μF, 10V, Elect.
C704–C706	352780109	1μF, 50V, Elect.
C709	352781099	0.1μF, 50V, Elect.
C712	352734709	47μF, 10V, Elect.
		Resistors
R726–R728	49121222404	2.2Ωx4, 1/8W, Network
R734–R742	49121222409	3.9kΩx9, 1/8W, Network
R743–R751	49121222409	22Ωx4, 1/8W, Network
R762–R774	49121392413	100Ω, 1/2W, Metal oxide film
R775–R778	49121223404	10Ω, 1/2W, Metal oxide film
R793	441521014	100Ω, 1/2W, Metal Oxide film
R794	441521004	10Ω, 1/2W, Metal Oxide film
R795	441722704	27Ω, 2W, Metal oxide film
R796	5215020	N08HR5KBC, Semi-fixed
R797	5225076	N10HR22KBDM, Semi-fixed
		Transformer
L701	232100	NMIF-6030
		Plugs
P701	25055047	NPLG-12P35
P703	25055045	NPLG-4P-33

TAPE COUNTER PC BOARD (NADIS-1144) – PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
		L.E.D
D731	225094	SL-2405-20, Tape counter
		Switches
S701–S704	25035275	NPS-111-S239, Reset/C-90/C-60/C46

MEMORY/TIMER SWITCH PC BOARD (NASW-1145) – PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
	Diodes	
D751–D753	223103 or 223132	1N60 or 1K60
	L.E.Ds	
PL701	225093	SLP-260C
PL703	225092	SLP-160C
PL704, PL706	225093	SLP-260C
	Switches	
S731, S732	25065170	NSS-2377, Memory/Timer
	Holder	
	27190130	L.E.D.

REMOTE CONTROL TERMINAL PC BOARD (NARM-1146) – PARTS LIST

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

CONTROL KEY PC BOARD (NASW-1147) – PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
	L.E.Ds	
PL751, PL753	225092	SLP160C
PL752	225093	SLP260C
	Switches	
S751–S754 S756–S759	25035275	NPS-111-S239, Rewind/FF/Play/ Rec./Stop/Auto space/Pause
	Spacers	
	27270071	

RECORDING AND PLAYBACK AMPLIFIER PC BOARD (NAAF-1182) – PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
	Transistors	
Q101, Q102	2211406	2SC2240(BL)
Q103, Q104	2211255	2SC1815(GR)
Q105, Q106	2211406	2SC2240(BL)
Q107, Q108	2211255	2SC1815(GR)
Q109, Q110	2211454	2SA1015(Y)
Q111–Q118	2211255	2SC1815(GR)
Q121–Q124	2211255	2SC1815(GR)
Q135–Q137	2211255	2SC1815(GR)
Q139, Q141	2211255	2SC1815(GR)
Q159, Q160	2211255	2SC1815(GR)
Q189, Q190	2211255	2SC1815(GR)
Q193	2211454	2SA1015(Y)
Q194	2211255	2SC1815(GR)
Q608	2200014	2SD235(Y)
Q609	2211554	2SA562TM(Y)
	ICs	
Q119	222465	NJM-4558D
Q120	222575	TC4066BP
Q134, Q138	222465	NJM-4558D
Q140, Q142	222460	HA11226
Q143	222603	μPC4557C
Q144	222575	TC4066BP
Q161, Q188	222465	NJM-4558D
Q191	222534	NJM-4559DX
Q198	222502	NJM-4558DX
Q199, Q200	222575	TC4066BP
Q617	222465	NJM-4558D
Q618	222545	μPC741C

CIRCUIT NO.	PARTS NO.	DESCRIPTION
	Diodes	
D101, D102	223132	1K60
D103–D114	223105	1S1555
D115, D116	223132	1K60
D117, D118	223105	1S1555
D119, D120	223132	1K60
D121, D123	223105	1S1555
D143, D144	223105	1S1555
D150	223105	1S1555
D909	224260	RD3.0E-B
D911	223953	RD7.5EB
	Capacitors	
C103, C104	352751019	100μF, 25V, Elect.
C105, C106	392850337	3.3μF, 25V, LL
C109, C110	352732209	22μF, 10V, Elect.
C113, C114	379128224	8,200pF±5%, 50V, DEW
C115, C116	352750479	4.7μF, 25V, Elect.
C117, C118	379125624	5,600pF±5%, 50V, DEW
C121, C122	392850477	4.7μF, 25V, LL
C123, C124	352752219	220μF, 25V, Elect.
C125	352754719	470μF, 25V, Elect.
C127, C128	392853397	0.33μF, 50V, Elect.
C129, C130	352780109	1μF, 50V, Elect.
C131, C132	352750109	1μF, 25V, Elect.
C133	352744719	470μF, 16V, Elect.
C135–C138	379121534	15,000pF±5%, 50V, DEW
C141, C142	352741009	10μF, 16V, Elect.
C143, C144	378124724	4,700pF±5%, 50V, DEW
C145, C146	379124734	47,000pF±5%, 50V, DEW
C147, C148	379121545	0.15μF±5%, 50V, DEW
C149, C150	392850107	1μF, 50V, LL
C151, C152	352741009	10μF, 16V, Elect.
C155–C157	352741009	10μF, 16V, Elect.
C159	352744719	470μF, 16V, Elect.
C161, C162	379124734	47,000pF±5%, 50V, DEW
C163–C166	379121534	15,000pF±5%, 50V, DEW
C167, C168	379124724	4,700pF±5%, 50V, DEW
C169, C170	392850107	1μF, 50V, LL
C171, C172	379121045	0.1μF±10%, 50V, DEW
C173, C174	352741009	10μF, 16V, Elect.
C175–C178	392851097	0.1μF, 50V, LL
C179–C182	392853397	0.33μF, 50V, LL
C183	352741009	10μF, 16V, Elect.
C185, C186	392850107	1μF, 50V, Elect.
C203–C206	352742209	22μF, 16V, Elect.
C207	352733319	330μF, 10V, Elect.
C209	352781009	10μF, 50V, Elect.
C251, C252	352741009	10μF, 16V, Elect.
C335, C336	352784799	0.47μF, 50V, Elect.
C341, C342	352781009	10μF, 50V, Elect.
C371, C372	352781099	0.1μF, 50V, Elect.
C375, C376	352741009	10μF, 16V, Elect.
C618	352752219	220μF, 25V, Elect.
C619	352752209	22μF, 25V, Elect.
C905	352721019	100μF, 6.3V, Elect.
C910, C920	352741019	100μF, 16V, Elect.
	Resistors	
R141, R142	5215046	N08HR50KBC, Semi-fixed
R149, R150	5104123	N16RKL50KA40F, Input level variable
R163, R164	5215046	N08HR50KBC, Semi-fixed
R183	5215021	N08HR10KBC, Semi-fixed
R227	5215021	N08HR10KBC, Semi-fixed
R233, R234	5215043	N08HR2KBC, Semi-fixed
R273, R274	5215021	N08HR10KBC, Semi-fixed
R301, R302	5104121	N12RGL10KB25M, Output level variable
R545–R550	5215022	N08HR20KBC, Semi-fixed
R1062	5104120	N12RLSC5KB25M, Accubias variable
	Coils	
L101, L102	233146	NCH4021
L103, L104	233245	NMC-2029
L109, L110	233245	NMC-2029
L111, L112	24606108	NCH-1048
L113, L114	24606070	NCH-1008
L115, L116	24606069	NCH-1007
L117, L118	233256	NCH-4055

CIRCUIT NO.	PARTS NO.	DESCRIPTION
	Oscillator block	
Z001	24606114	NOB-015
	Switches	
S101	25030203	NRSM-185-25SS, Dolby NR
S102	25030205	NRSM-142-25SS, Input selector
S103	25030204	NRSM-162-25SS, Tape monitor
	Sockets	
	25050098A	NSAS-6P-074, dbx EXDR OUT
	25050097	NSAS-4P-073, dbx ECDR IN
	25050104	NSAS-10P-079, Level meter
	25050099A	NSAS-9P-075, DOLBY ECDR IN
	25050100A	NSAS-12P-076, DOLBY ECDR OUT
	25050101	NSAS-12P-077, dbx DCOR IN
	Plugs	
	25055045	NPLG-4P33, playback/recording head
	25055038	NPLG-2P-29, Erase head
	25055037	NPLG-6P28, Bias
	Bracket	
	27130269	

TAPE SELECTOR PC BOARD (NASW-1185) – PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
	Diodes	
D146, D147	223105	1S1555
	Capacitor	
C801	352751009	10μF, 25V, Elect.
	Resistors	
R531, R532	5104122	N12RLC10KB30, Rec. calibration
R577–R582	5215023	N08HR50KBC, Semi-fixed
	Plugs	
	25055037	NPLG6P28
	25055067	NPLG9P53
	25055047	NPLG12P35
	Switch	
S104	25035273	NPS-142-L237, Rec. calibration
S106	25035272A	NPS-362-L236, Tape selector

ACCUBIAS CONTROL PC BOARD (NACOC-1186) – PARTS LIST

CURCUIT NO.	PARTS NO.	DESCRIPTION
	Transistors	
Q601	2211454	2SA1015(Y)
Q602–Q607	2211255	2SC1815(GR)
Q610, Q611	2211454	2SA1015(Y)
Q612-Q614	2211255	2SC1815(GR)
Q615	2211454	2SA1015(Y)
	ICs	
Q616, Q619	222465	NJM4558D
Q620	222576	HD7493A
Q621–Q623	222478	HD7400
	Diodes	
D602–D607	223105	1S1555
D608	224093	GZA5.1-L
D609–D612	223103	1N60
D613	223105	1S1555
D614	224093	GZA5.1-L
D615, D616	223105	1S1555
	Capacitors	
C602, C604	352750479	4.7μF, 25V, Elect.
C606	352741009	10μF, 16V, Elect.
C607	352742209	22μF, 16V, Elect.
C608, C612	352784799	0.47μF, 50V, Elect.
C623, C625	352741009	10μF, 16V, Elect.
C624, C626	352780339	3.3μF, 50V, Elect.
C631	352734709	47μF, 10V, Elect.

CIRCUIT NO.	PARTS NO.	DESCRIPTION
	Resistors	
R1021	5215033	N08HR10KBA, Semi-fixed
R1094	5215036	N08HR100KBA, Semi-fixed
R1096	5215035	N08HR50KBA, Semi-fixed
	Relay	
RY601	25065174	NRL-2P1A-DC12-019

ACCUBIAS SWITCH CIRCUIT PC BOARD (NAPL-1187) – PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
	L.E.Ds	
PL104, PL105	225092	SLP-160C
PL601	225102	SLP-530D
	Switches	
	25035275	NPS-111-S239
	Spacers	
	27270072	
	27270071	

TAPE SELECTOR DISPLAY PC BOARD (NAPL-1188) – PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
	L.E.Ds	
PL101–PL103	225093	SLP-260C
	Spacer	
	27270071	

POWER SUPPLY AND LINE AMPLIFIER PC BOARD (NAAF-1269) – PARTS LIST

CIRCUIT NO.	PARTS NO.	DESCRIPTION
	ICs	
Q201, Q202	222460	HA11226, Dolby
	Transistors	
Q125, Q126	2211454	2SA1015(Y)
Q129–Q132	2211454	2SA1015(Y)
Q147, Q148	2211454	2SA1015(Y)
Q149–Q158	2211255	2SC1815(GR)
Q163–Q172	2211255	2SC1815(GR)
Q173–Q176	2211454	2SA1015(Y)
Q179, Q180	2211454	2SA1015(Y)
Q181	2211255	2SC1815(GR)
Q901	2201074	2SD880(Y)
Q902, Q903	2201285	2SD882(Q)
Q904	2211255	2SC1815(GR)
Q905	2201285	2SD882(Q)
Q906	2201275	2SB772(Q)
Q907	2210274	2SK30A(Y)
	Diodes	
D125, D126	223132	1K60
D127–D138	223105	1S1555
D139, D140	223132	1K60
D141, D142	223105	1S1555
D157, D158	223132	1K60
D901	224112	GZA12U
D902, D905	224095	GZA5.6-L
D903, D904	223862	WL01
D906	224119	GZA18-L
D907, D908	224115	GZA15-L
D910	223868	2W02
D911	223953	RD7.5EB

CIRCUIT NO.	PARTS NO.	DESCRIPTION
	Capacitors	
C231	352752219	220μF, 50V, LL
C233, C234	392880477	4.7μF, 50V, LL
C235, C236	352780109	1μF, 50V, Elec.
C237, C238	392880107	1μF, 50V, LL
C239, C240	352781009	10μF, 50V, Elect.
C243	352754719	470μF, 25V, Elect.
C245	352744719	470μF, 16V, Elect.
C253–C256	379121534	15,000pF±5%, 50V, DEW
C257, C258	392880107	1μF, 50V, LL
C259, C260	379121045	0.1μF±5%, 50V, DEW
C261, C262	379124724	4,700pF±5%, 50V, DEW
C263, C264	392880107	1μF, 50V, Elect.
C265, C266	352741009	10μF, 16V, Elect.
C267, C268	392881097	0.1μF, 50V, LL
C269, C270	392883397	0.33μF, 50V. LL
C271, C272	379121834	0.018μF±5%, 50V, DEW
C273, C274	392881097	0.1μF, 50V, LL
C275, C276	392883397	0.33μF, 50V, LL
C277	352741009	10μF, 16V, Elect.
C279	352744719	470μF, 16V, Elect.
C281, C282	379121534	15,000pF±5%, 50V, DEW
C283, C284	379124724	4,700pF±5%, 50V, DEW
C285, C286	379121534	0.015μF±5%, 50V, DEW
C289, C290	352741009	10μF, 16V, Elect.
C291, C292	379124734	47,000pF±5%, 50V, DEW
C293, C294	379121545	0.15μF±5%, 50V, DEW
C295–C297	352741009	10μF, 16V, Elect.
C901	352741029	1,000μF, 16V, Elect.
C902	352742219	220μF, 16V, Elect.
C903	352752229	2,200μF, 25V, Elect.
C904	352744709	47μF, 16V, Elect.
C906	352733309	33μF, 10V, Elect.
C907	352724719	470μF, 6.3V, Elect.
C909	352781529	1,500μF, 50V, Elect.
C911, C913	352754719	470μF, 25V, Elect.
C912	352763319	330μF, 35V, Elect.
C914, C915	352761029	1,000μF, 35V, Elect.
C916, C917	352741019	100μF, 16V, Elect.
C918, C919	352744719	470μF, 16V, Elect.
C921–C925	352752229	2,200μF, 25V, Elect.
	Resistors	
R415	5215021	N08HR10KBC, Semi-fixed
R425, R426	5215043	N08HR2KBC, Semi-fixed
R455	5215021	N08HR10KBC, Semi-fixed
R901	441524794	0.47Ω, 1/2W, Metal oxide film
R902	442621024	1kΩ, 1W, Metal oxide film
R905	442522724	2.7kΩ, 1/2W, Metal oxide film
R904	441820684	6.8Ω, 3W, Metal oxide film
R906	441824704	47Ω, 3W, Metal oxide film
R911	442528204	82Ω, 1/2W, Metal oxide film
R912	441622714	270Ω, 1W, Metal oxide film
R917, R918	442520684	6.8Ω, 1/2W,Metal oxide film
	Coils	
L105, L106	233245	NMC-2029
L107, L108	233221	NMC-5021
	Plug	
	25055047	NPLG-12P35
	Radiator	
	27160096	
	Spacer	
	223019	AC-229, Transistor
	Bush	
	223017	AC-310
A61	27140596	Bracket, pc board, right
A62	27140597	Bracket, pc board, left

CONNECTION VIEW

POWER SUPPLY AND LINE AMPLIFIER PC BOARD (NAAF-1269)

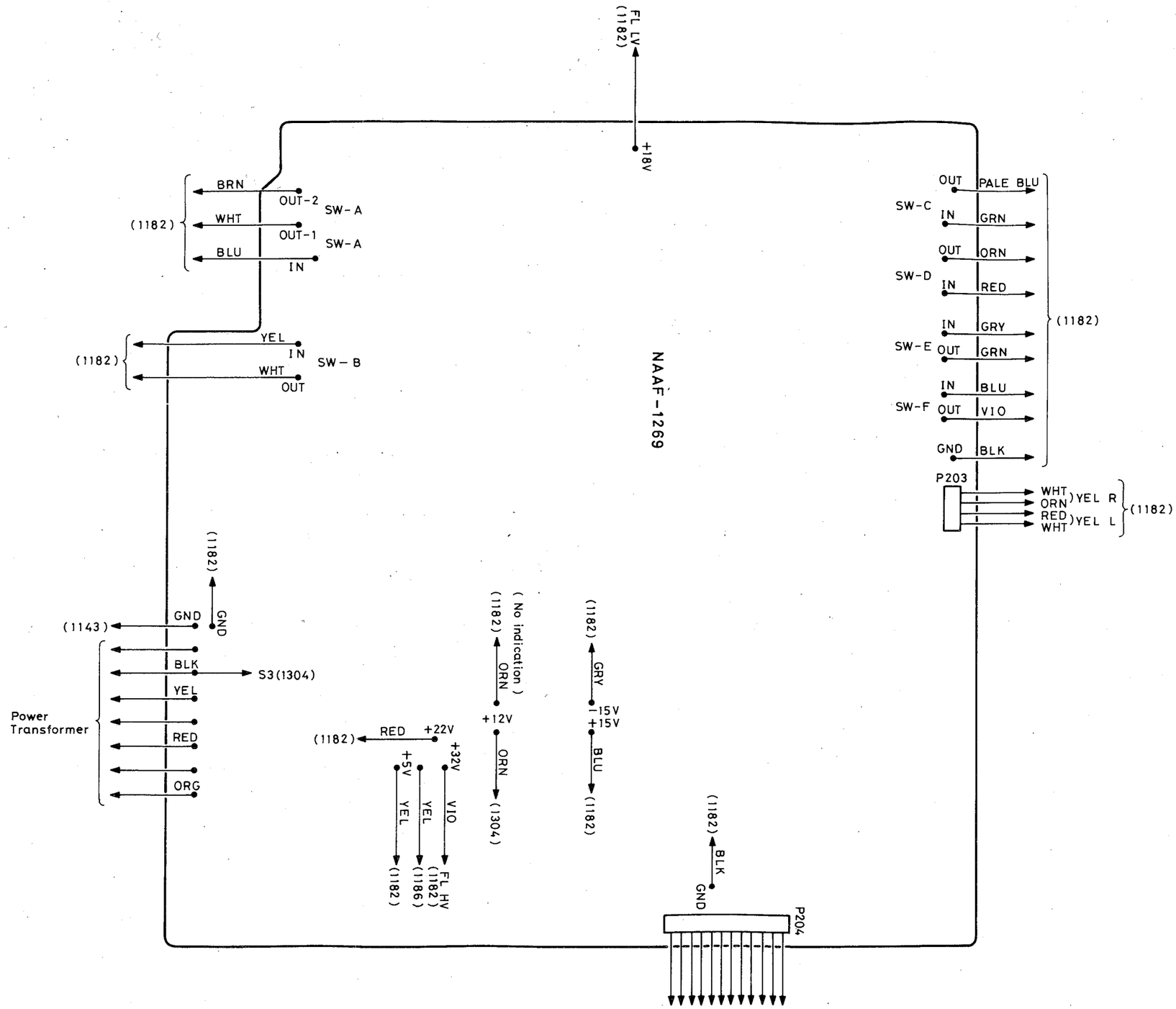


Fig. 40

REC /PB AMPLIFIER PC BOARD (NAAF-1182)

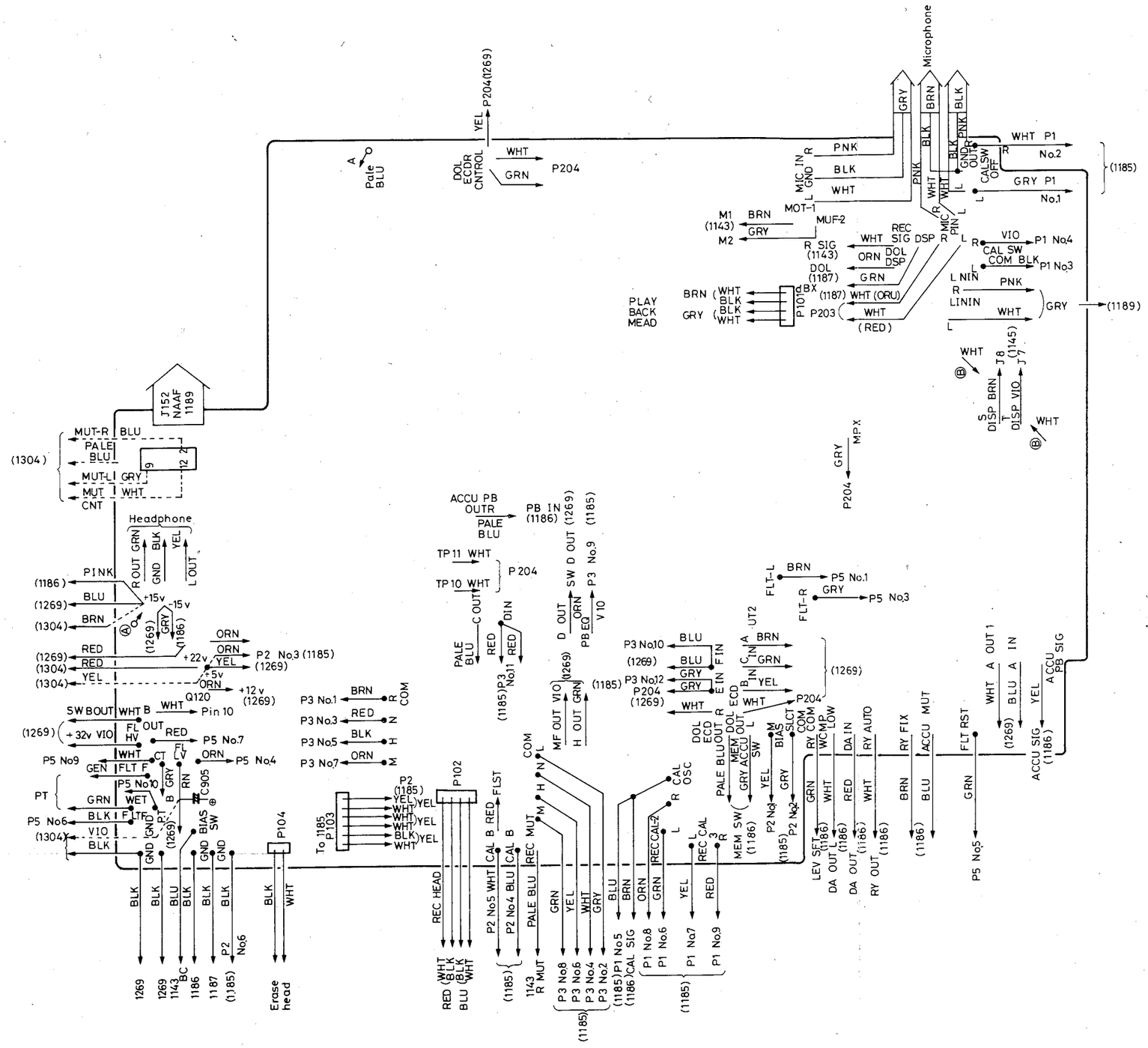


Fig. 41

MUTING CIRCUIT PC BOARD (NAMU-1304)

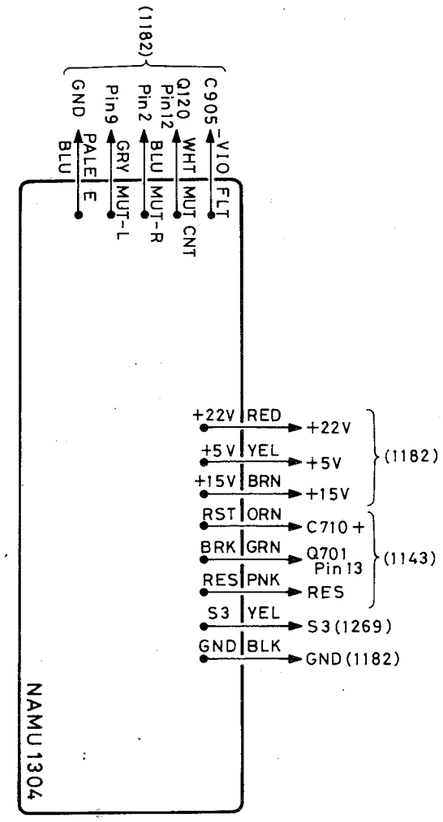


Fig. 42

DIN AMPLIFIER PC BOARD (NAAF-1189)

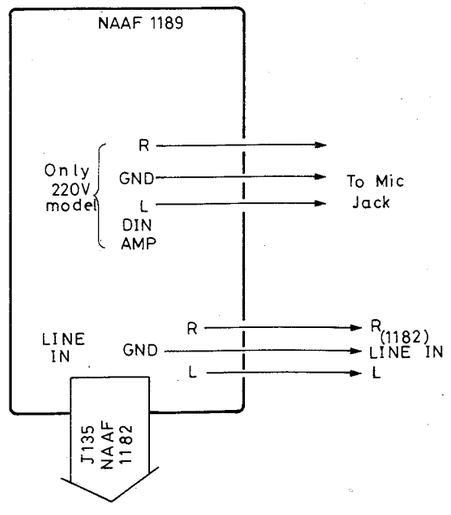
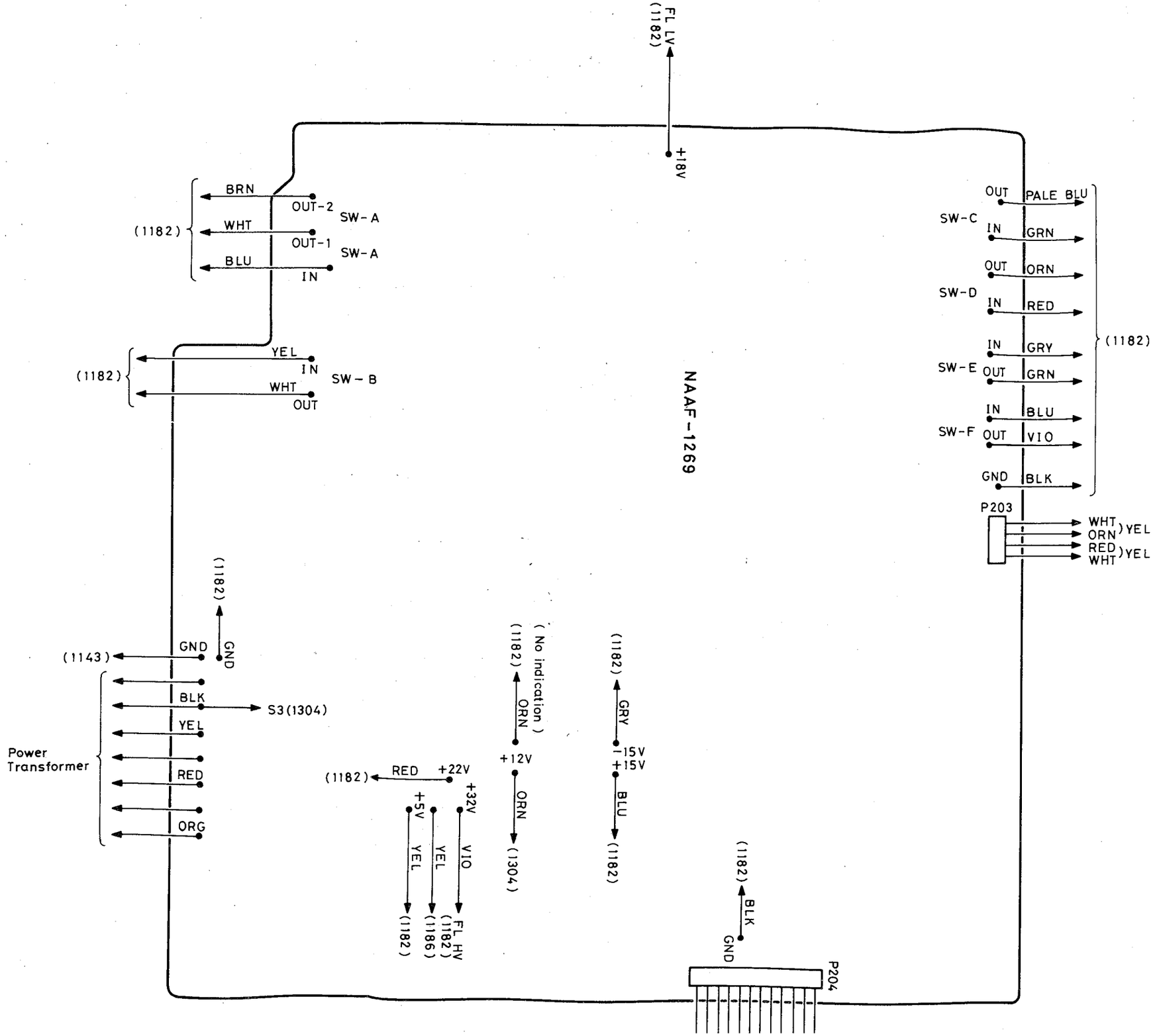


Fig. 43

ARTS NO.	DESCRIPTION
Capacitors	
2752219	220μF, 50V, LL
2880477	4.7μF, 50V, LL
2780109	1μF, 50V, Elec.
2880107	1μF, 50V, LL
2781009	10μF, 50V, Elect.
2754719	470μF, 25V, Elect.
2744719	470μF, 16V, Elect.
9121534	15,000pF±5%, 50V, DEW
2880107	1μF, 50V, LL
9121045	0.1μF±5%, 50V, DEW
9124724	4,700pF±5%, 50V, DEW
2880107	1μF, 50V, Elect.
2741009	10μF, 16V, Elect.
2881097	0.1μF, 50V, LL
2883397	0.33μF, 50V, LL
9121834	0.018μF±5%, 50V, DEW
2881097	0.1μF, 50V, LL
2883397	0.33μF, 50V, LL
2741009	10μF, 16V, Elect.
2744719	470μF, 16V, Elect.
9121534	15,000pF±5%, 50V, DEW
9124724	4,700pF±5%, 50V, DEW
9121534	0.015μF±5%, 50V, DEW
2741009	10μF, 16V, Elect.
9124734	47,000pF±5%, 50V, DEW
9121545	0.15μF±5%, 50V, DEW
2741009	10μF, 16V, Elect.
2741029	1,000μF, 16V, Elect.
2742219	220μF, 16V, Elect.
2752229	2,200μF, 25V, Elect.
2744709	47μF, 16V, Elect.
2733309	33μF, 10V, Elect.
2724719	470μF, 6.3V, Elect.
2781529	1,500μF, 50V, Elect.
2754719	470μF, 25V, Elect.
2763319	330μF, 35V, Elect.
2761029	1,000μF, 35V, Elect.
2741019	100μF, 16V, Elect.
2744719	470μF, 16V, Elect.
2752229	2,200μF, 25V, Elect.
Resistors	
15021	N08HR10KBC, Semi-fixed
15043	N08HR2KBC, Semi-fixed
15021	N08HR10KBC, Semi-fixed
1524794	0.47Ω, 1/2W, Metal oxide film
2621024	1kΩ, 1W, Metal oxide film
2522724	2.7kΩ, 1/2W, Metal oxide film
1820684	6.8Ω, 3W, Metal oxide film
1824704	47Ω, 3W, Metal oxide film
2528204	82Ω, 1/2W, Metal oxide film
1622714	270Ω, 1W, Metal oxide film
2520684	6.8Ω, 1/2W,Metal oxide film
Coils	
3245	NMC-2029
3221	NMC-5021
Plug	
055047	NPLG-12P35
Radiator	
160096	
Spacer	
3019	AC-229, Transistor
Bush	
3017	AC-310
140596	Bracket, pc board, right
140597	Bracket, pc board, left

CONNECTION VIEW

POWER SUPPLY AND LINE AMPLIFIER PC BOARD (NAAF-1269)



ACCUBIAS CONTROL PC BOARD (NACOC-1186)

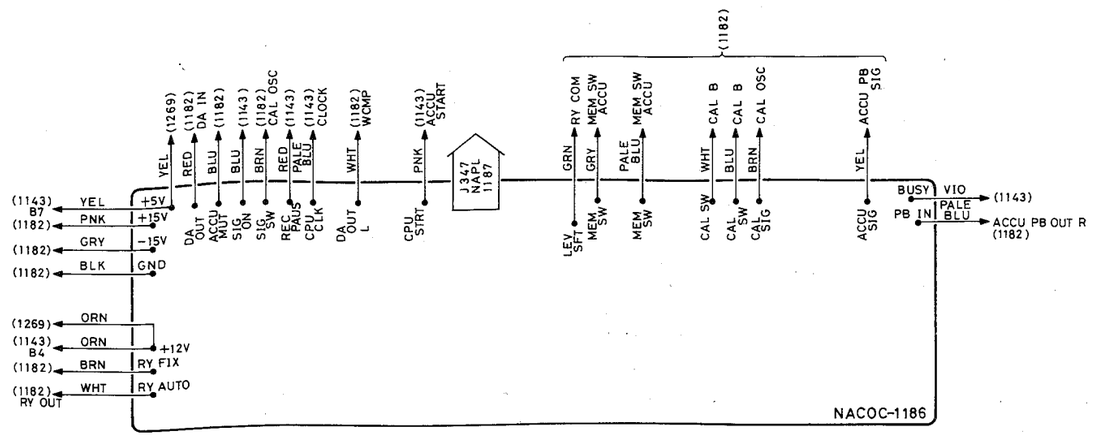


Fig. 44

MECHANISM CONTROL PC BOARD (NACOC-1143)

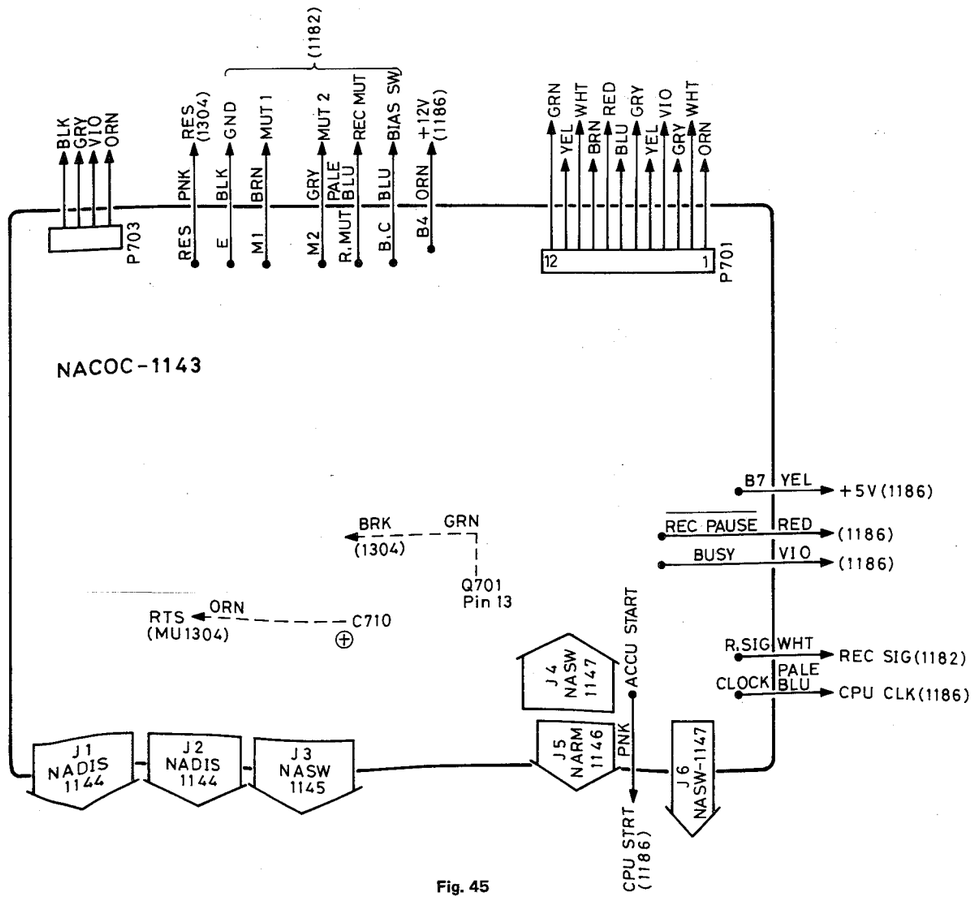


Fig. 45

TAPE SELECTOR SWITCH PC BOARD (NASW-1185)

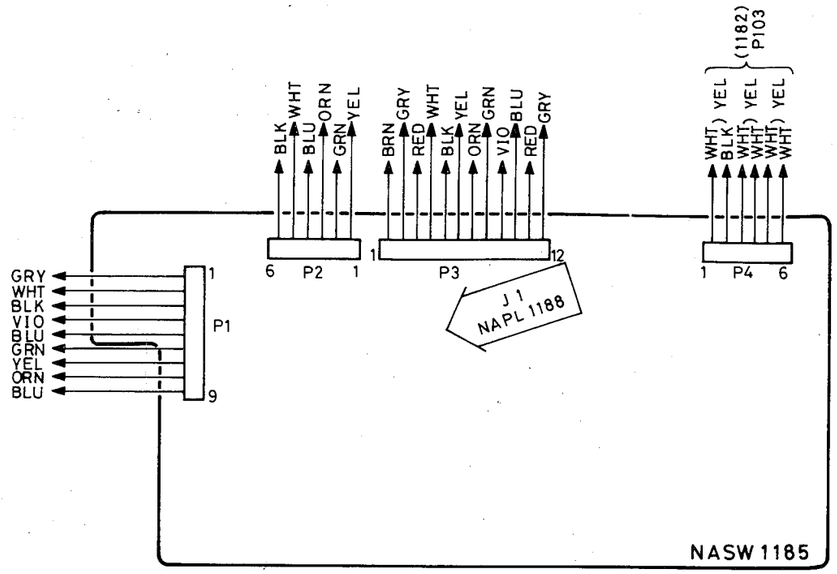


Fig. 46

ACCUBIAS DISPLAY PC BOARD (NAPL-1187)

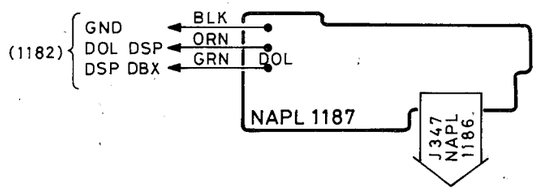


Fig. 47

MEMORY/TIMER SWITCH PC BOARD (NASW-1145)

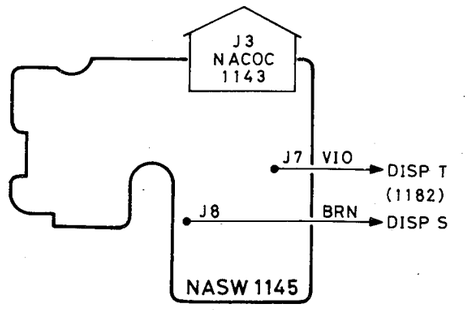


Fig. 48

WIRING DIAGRAM

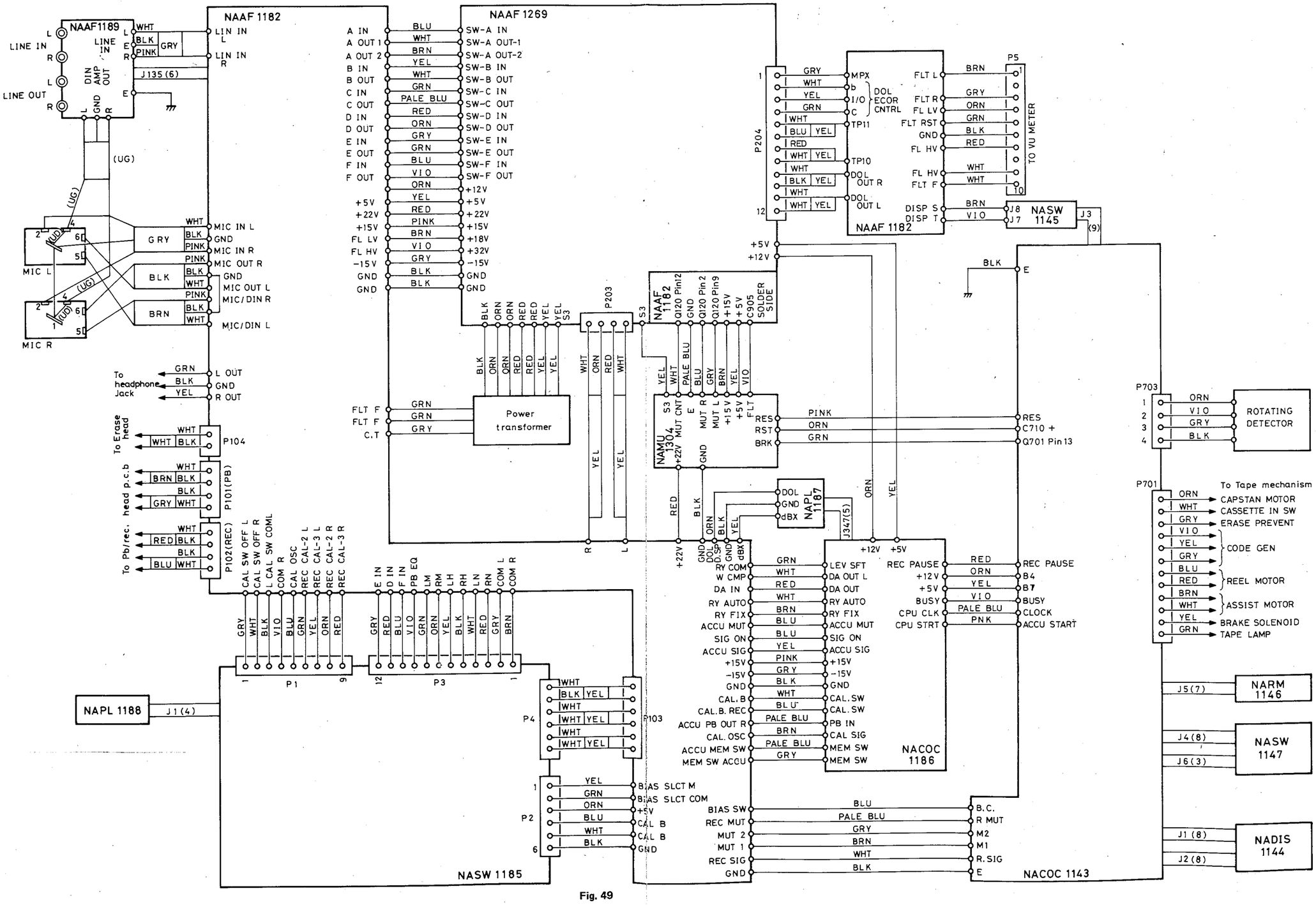
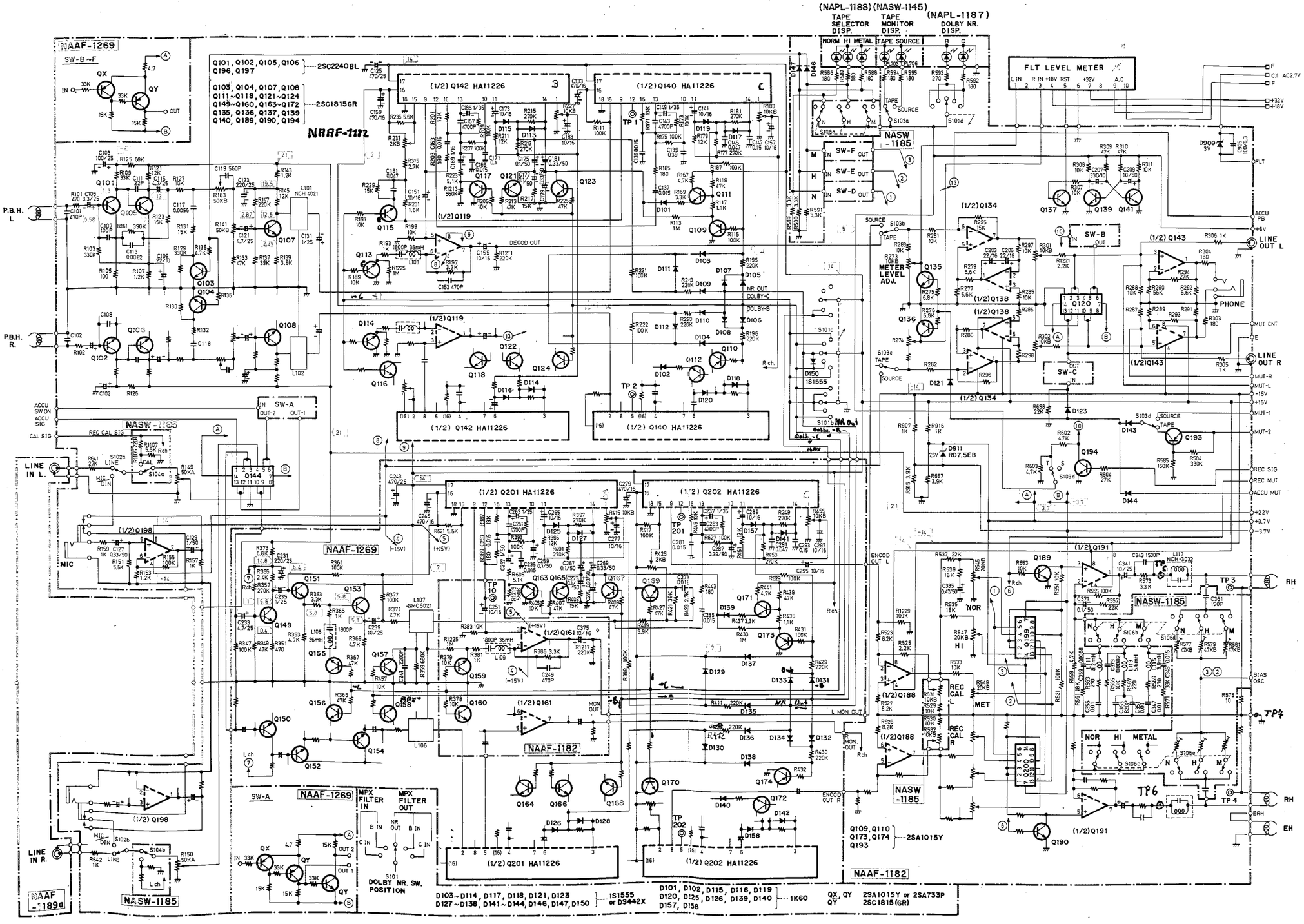


Fig. 49

SCHEMATIC DIAGRAM

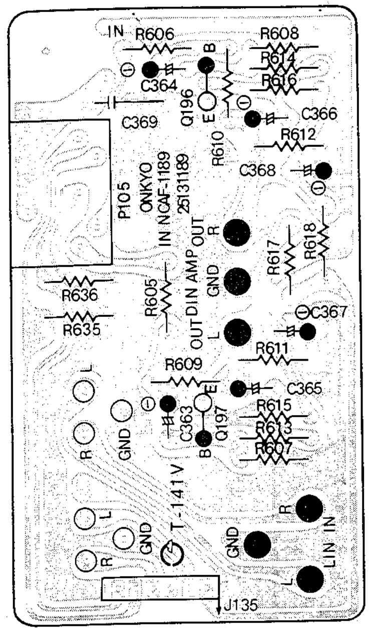
LINE INPUT/OUTPUT AMPLIFIER SECTION (D model)



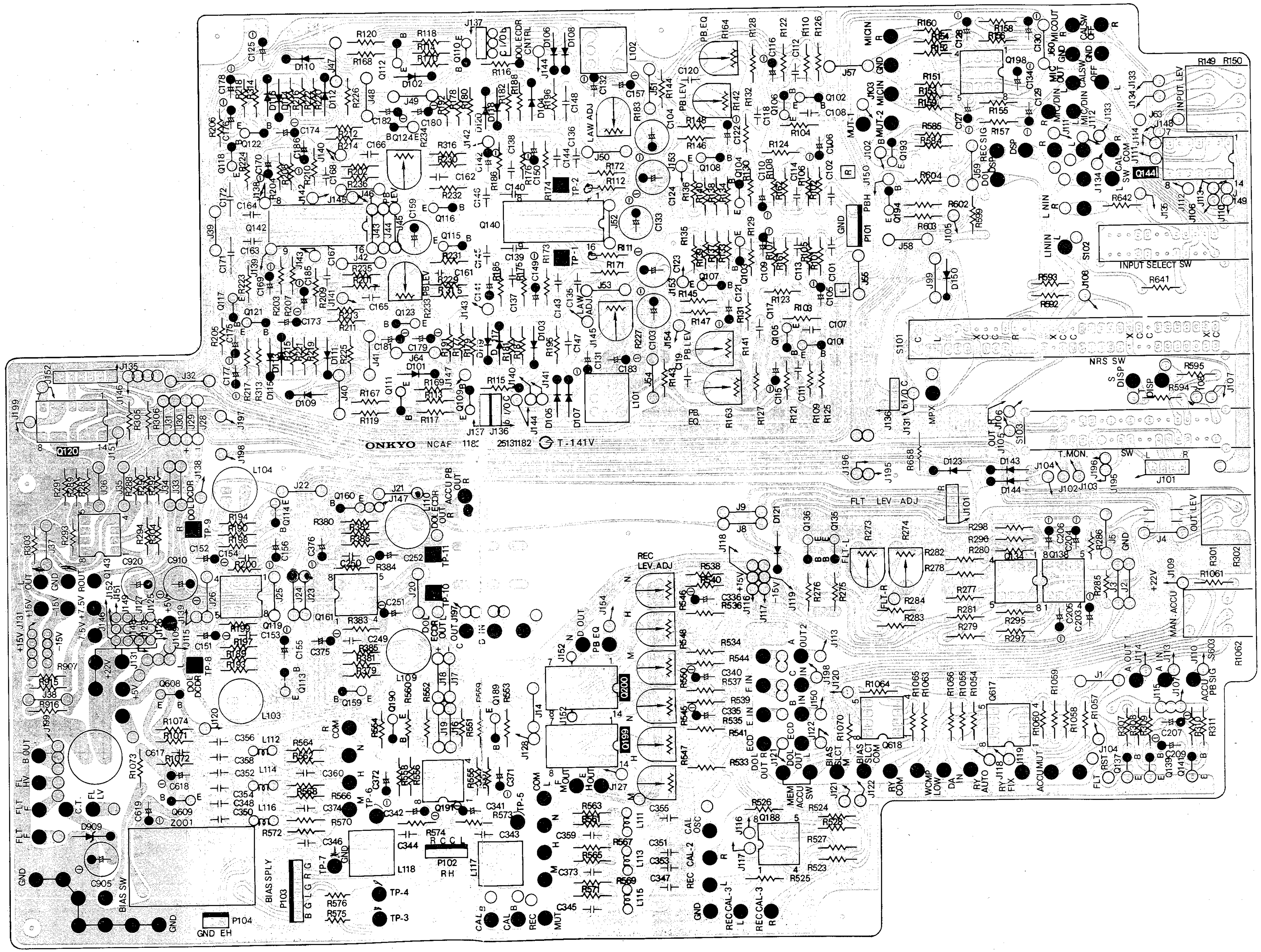
ONKYO CORPORATION

PC BOARD VIEW FROM COMPONENT SIDE

DIN AMPLIFIER PC BOARD (NAAF-1189)

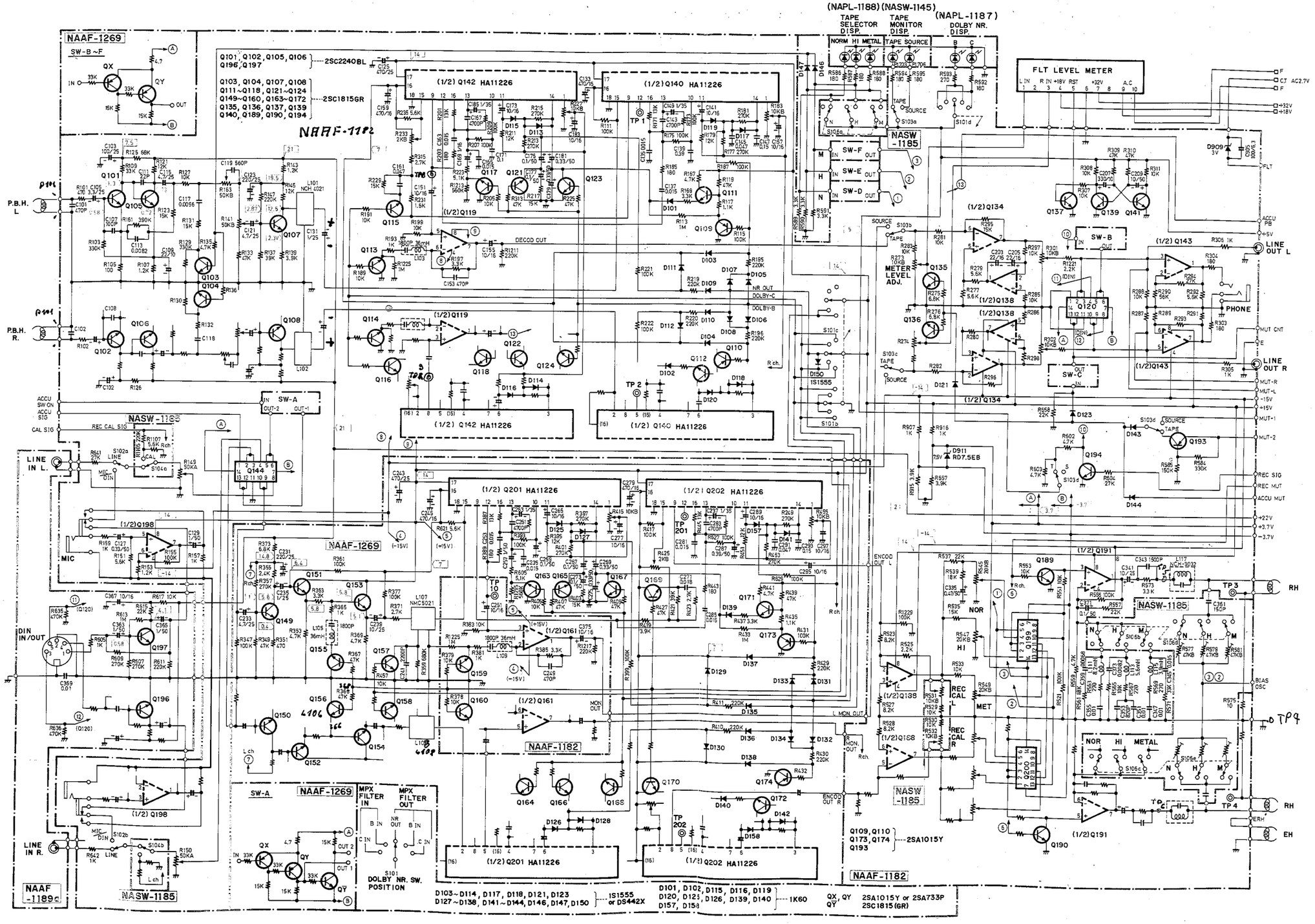


REC /PLAYBACK AMPLIFIER PC BOARD (NAAF-1182)



SCHEMATIC DIAGRAM

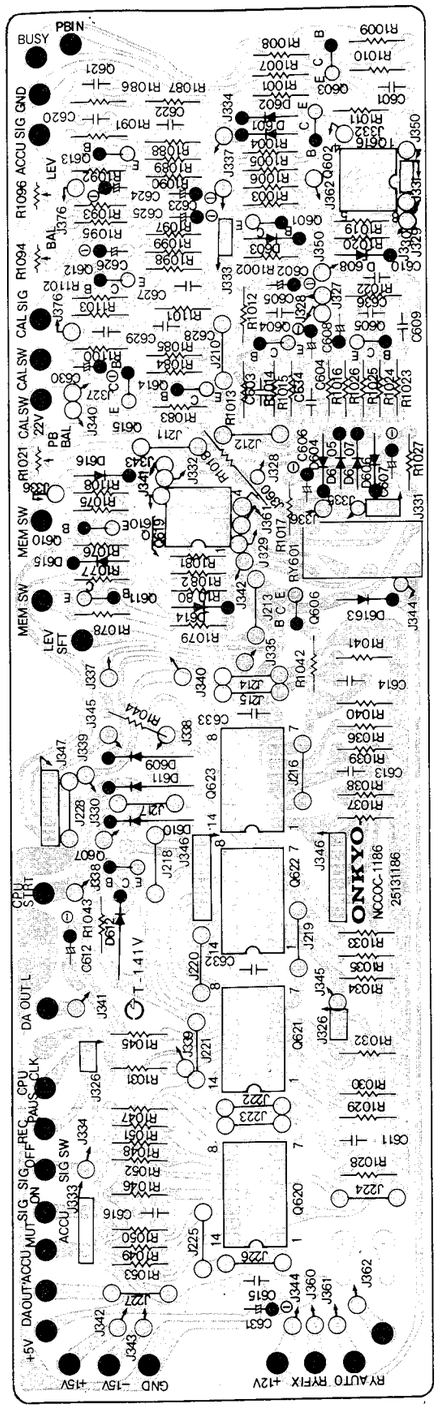
LINE INPUT/OUTPUT AMPLIFIER SECTION (G/W model)



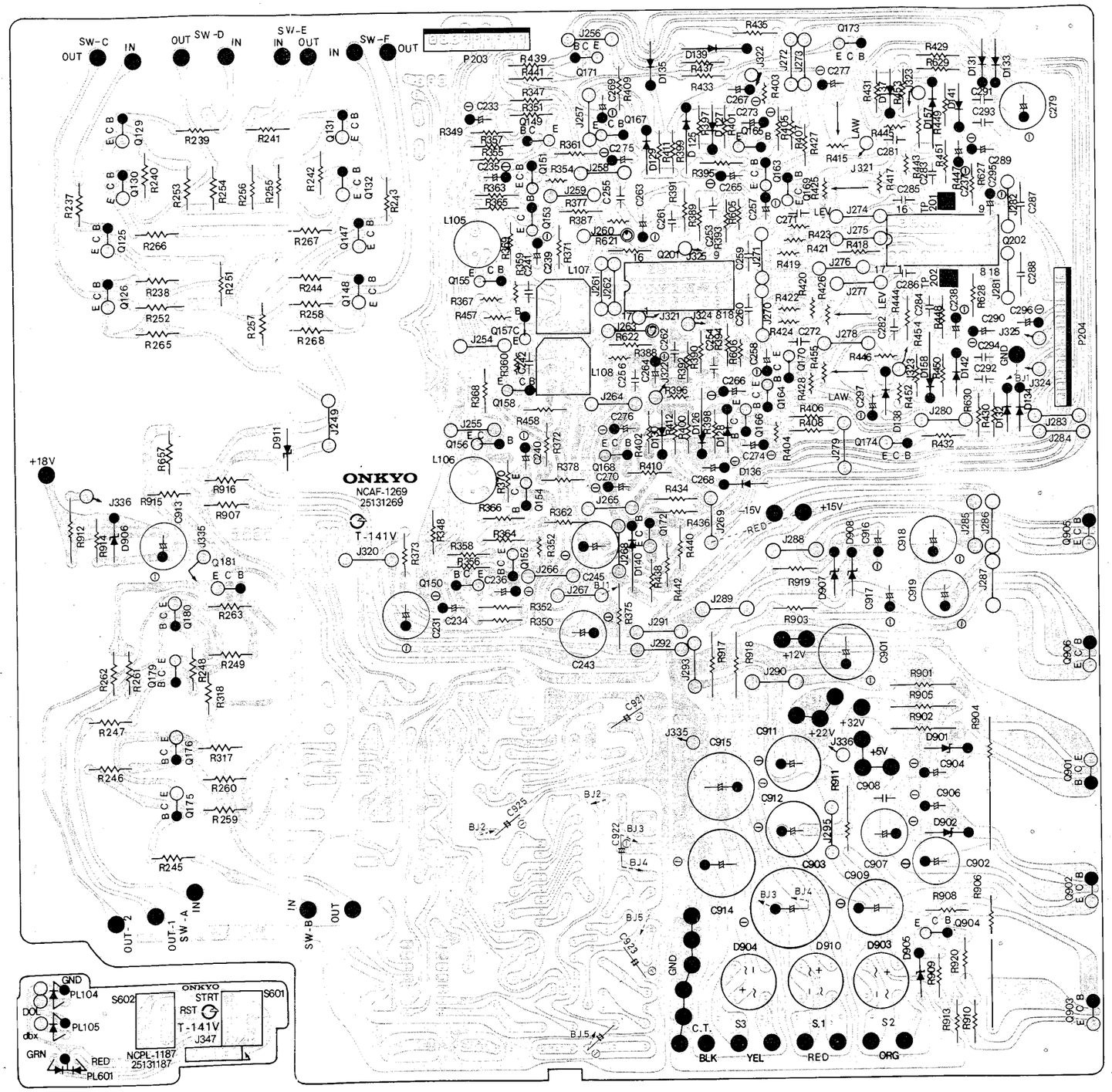
ONKYO CORPORATION

PC BOARD VIEW FROM COMPONENT SIDE

ACCUBIAS CONTROL PC BOARD (NACOC-1186)

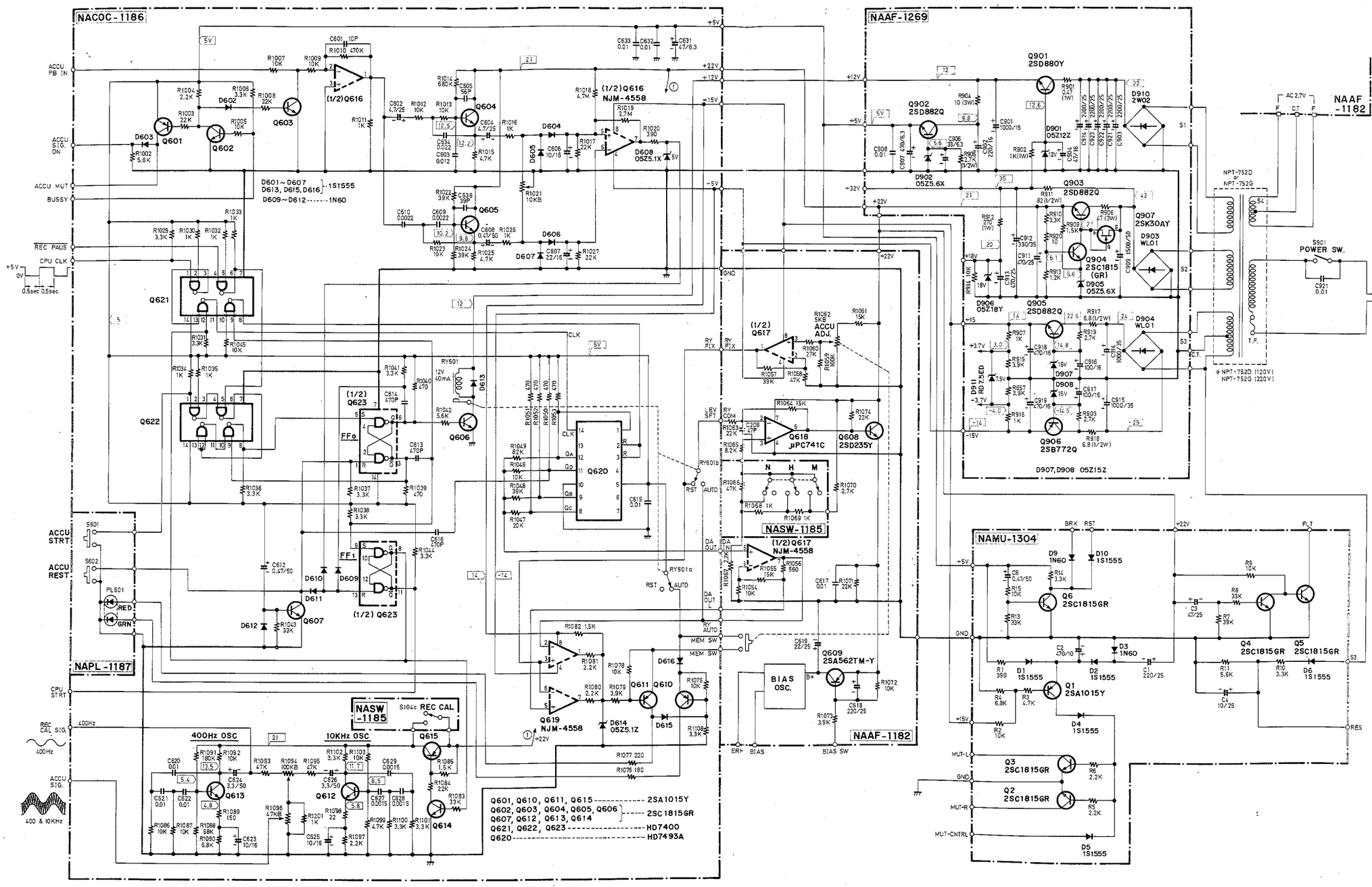


POWER SUPPLY AND LINE AMPLIFIER PC BOARD (NAAF-1269)



SCHEMATIC DIAGRAM

POWER SUPPLY AND ACCUBIAS CIRCUIT SECTION



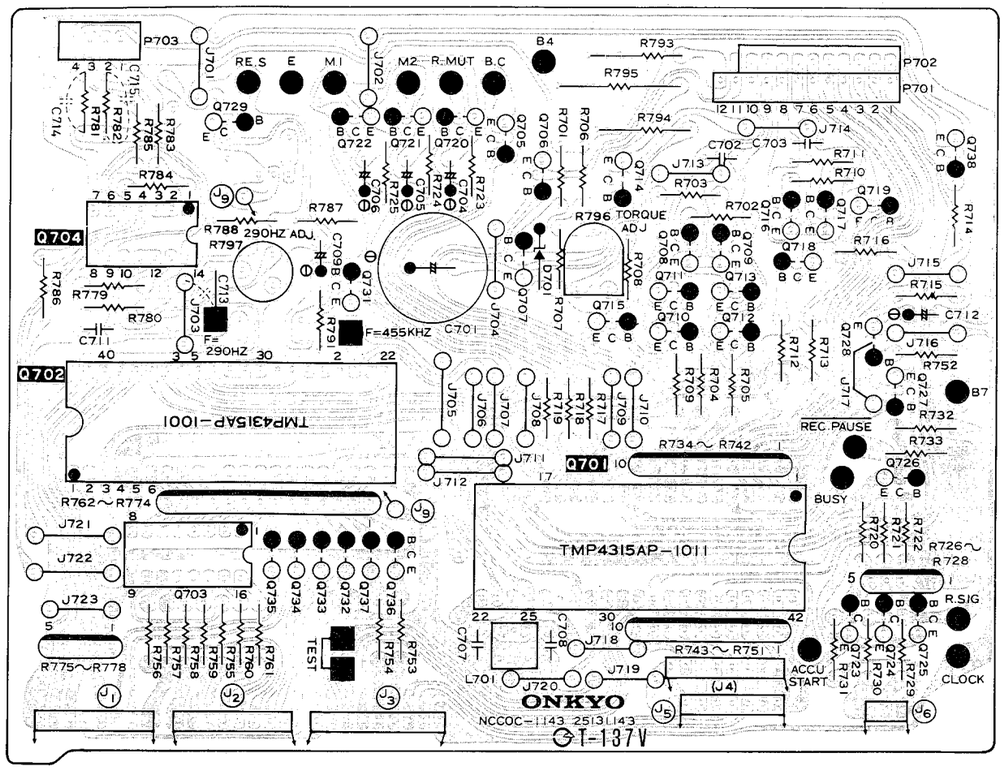
NOTES:

- ALL RESISTORS ARE IN OHMS, 1/4 WATT UNLESS OTHERWISE NOTED.
- ALL CAPACITORS ARE IN µF 50WV UNLESS OTHERWISE NOTED.
- ELECTROLYTIC CAPACITORS (⊣|⊢) ARE IN µF/WV.
- VOLTAGE (MEASURED WITH V.T.V.M.).
  V DC VOLTAGE (NO INPUT SIGNAL).

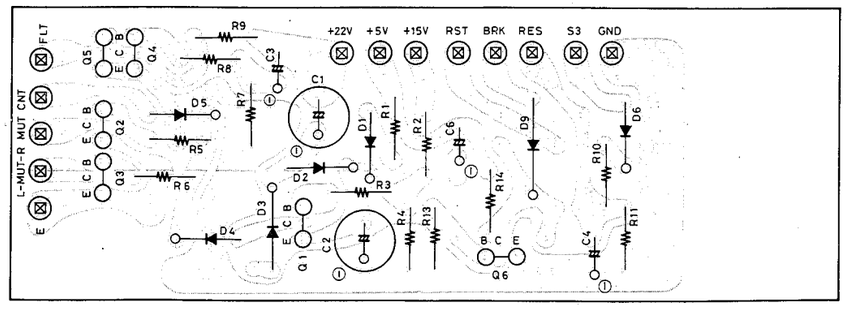
TA-2070

PC BOARD VIEW FROM COMPONENT SIDE

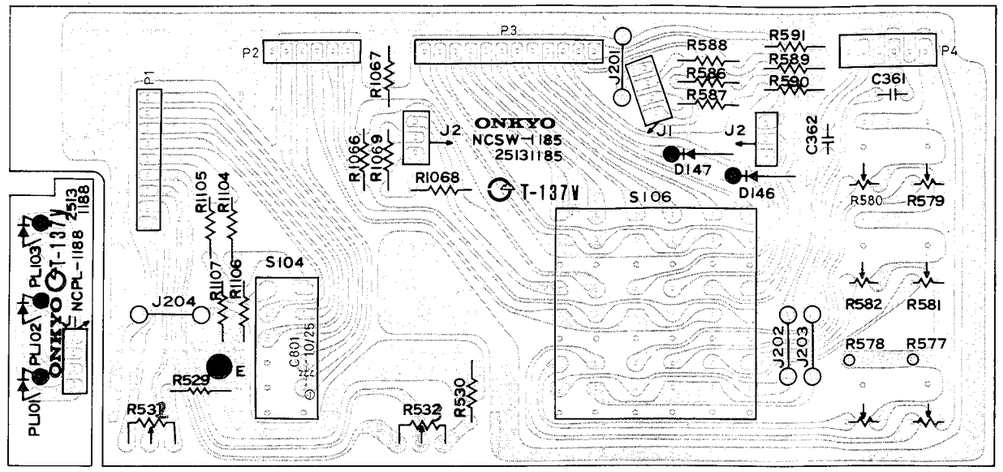
MECHANISM CONTROL PC BOARD (NACOC-1143)



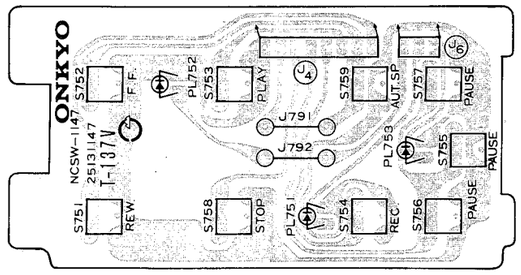
MUTING CIRCUIT PC BOARD (NAMU-1304)



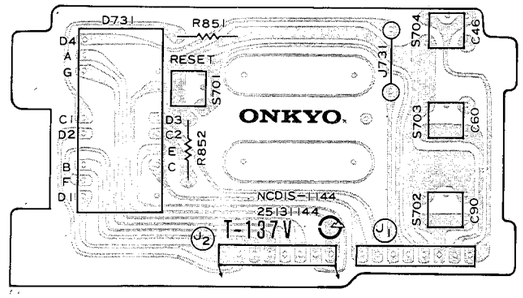
TAPE SELECTOR SWITCH PC BOARD (NASW-1185)



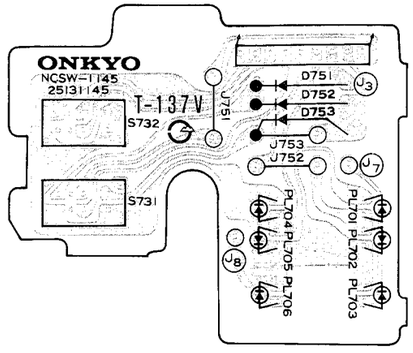
CONTROL KEY INPUT PC BOARD (NASW-1147)



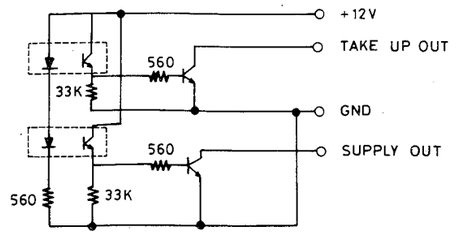
TAPE COUNTER PC BOARD (NADIS-1144)



MEMORY/TIMER SWITCH PC BOARD (NASW-1145)

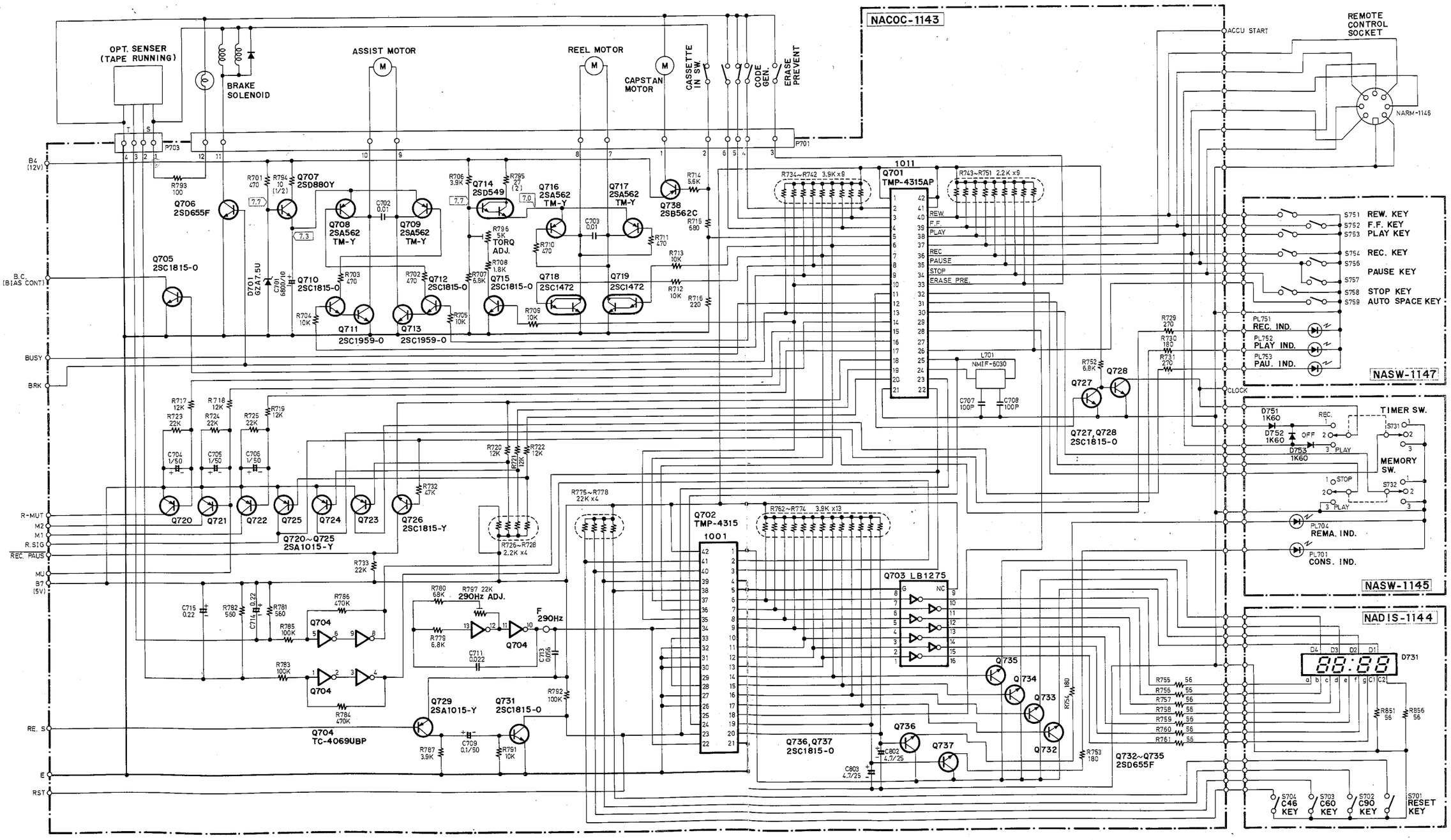


ROTATION DETECTOR CIRCUIT



SCHEMATIC DIAGRAM

CONTROL SECTION



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