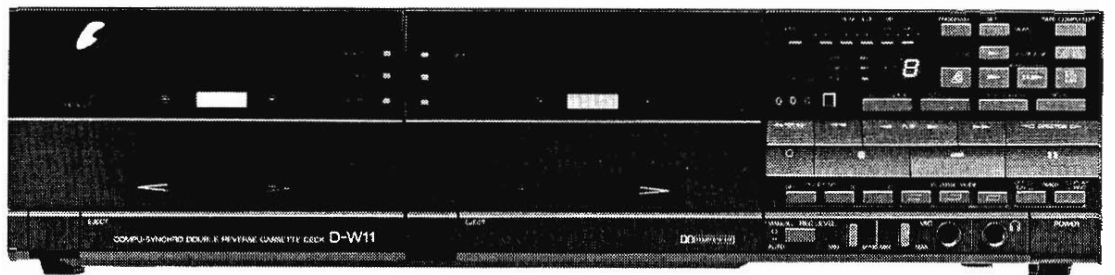




SERVICE MANUAL

D-W11

COMPU-SYNCHRO
DOUBLE REVERSE CASSETTE DECK



CAUTION

1. Parts identified by the \triangle symbol on the schematic diagram and the parts list are critical for safety. Use only replacement parts that have critical characteristics recommended by the manufacturer.
2. Make leakage-current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.

•SPECIFICATIONS

Track format 4-track/2-channel system
Tape speed 4.8 cm/sec.
Heads
 Rec/play head HIGH-Bs hard permalloy \times 2
 Erase head Double-gap HIGH-Bs ferrite \times 2
Motor Electronically controlled DC motor \times 2
 Reels: DC Motor \times 2
Wow/flutter 0.05% max (WRMS)
Fast forwarding (rewinding) time
 Approx. 85 sec. (for C-60 tape)
Frequency response (—20 VU recording/playback)
 Normal tape (LH) 20 to 15,000 Hz
 (30 to 14,000 Hz \pm 3 dB)
 Chrome tape 20 to 17,000 Hz
 (30 to 16,000 Hz \pm 3 dB)
 Metal tape 20 to 18,000 Hz
 (30 to 17,000 Hz \pm 3 dB)
Signal to noise ratio (Record/Playback)
 Metal Tape (without Dolby Noise Reduction)
 better than 57 dB
 (With Dolby Noise Reduction Effect)
 DOLBY "B" NR better than 66 dB
 (above 5 kHz)
 DOLBY "C" NR better than 73 dB
 (above 1 kHz)

Erasure factor (Metal Tape)
 more than 70 dB at 1 kHz
Recording bias frequency
 85 kHz
Input sensitivity/impedance
 LINE IN (REC) 150 mV/47 kohms (AUTO)
 70 mV/47 kohms (MANUAL)
 MIC 0.5 mV/10 kohms
Power requirements 120/220/240 V
 50/60 Hz
 For U.S.A. and Canada
 120V (60 Hz)
Power consumption 35W
Dimensions 430 mm (16-15/16") W
 111 mm (4-3/8") H
 304 mm (12") D
Weight 6.2 kg (13.7 lbs) net
 7.6 kg (16.8 lbs) packed

- * Design and specifications subject to changes without notice for improvements.
- * Dolby noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.
 "Dolby" and the double D symbol are trade marks of Dolby Laboratories Licensing Corporation.

NOTE

1. The symbols, UL, CSA, SA, BS, UK, EU, AS, SEV, SS and XX <EXPORT> on the parts list and the schematic diagram mean followings respectively.

- UL..... Manufactured for U.S.A market.
(Underwriters Laboratories approved model.)
- CSA Manufactured for Canadian market.
- SA..... Manufactured for South African market.
- BS, UK..... Manufactured for United Kingdom market.
- EU..... Manufactured for European market.
- AS..... Manufactured for Australian market.
- SEV..... Manufactured for Swiss market.
- SS..... Manufactured for Saudi Arabia market.
- XX <EXPORT> .. Standard Version.
- NON MARK..... Common Parts.

2. Some printed circuit boards are not supplied assembled. To separate these in this service manual, the stock numbers are not indicated for these boards. However, stock numbers for individual parts are indicated.
3. Since some capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors and resistors, which was issued on June 1987.
4. Abbreviations in this service manual are as follows.

•Abbreviations List

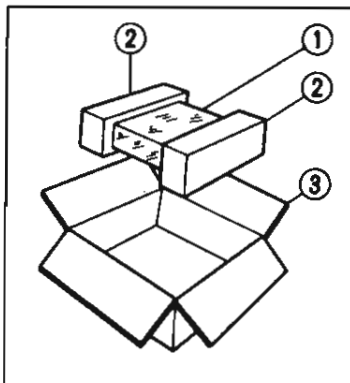
- C.R. : Carbon Resistor
- S.R. : Solid Resistor
- Ce.R. : Cement Resistor
- M.R. : Metal Film Resistor
- F.R. : Fusing Resistor
- N.I.R. : Non-Inflammable Resistor
- A.R. : Array Resistor
- C.C. : Ceramic Capacitor
- C.T. : Ceramic Capacitor, Temperature Compensation
- E.C. : Electrolytic Capacitor
- E.L. : Low Leak Electrolytic Capacitor
- E.B. : Bi-Polar Electrolytic Capacitor
- E.B.L. : Low Leak Bi-Polar Electrolytic Capacitor
- Ta.C. : Tantalum Capacitor
- F.C. : Film Capacitor
- M.P. : Metalized Paper Capacitor
- P.C. : Polystyrene Capacitor
- G.C. : Gimmic Capacitor
- A.C. : Array Capacitor
- V.R. : Variable Resistor
- S.V.R. : Semi Variable Resistor
- SW. : Switch
- Chip R. : Chip Resistor
- Chip C. : Chip Capacitor

Note

* For block diagrams, discription of ICs, operation of mechanism and main parts replacement, please refer to the D-W10 Service Manual previously issued.

1. PACKING LIST

Parts No.	Stock No.	Description
1	47859100	Vinyl Bag
2	47673600	Styrofoam Packing
3	27482800	Carton Case



2. ACCESSORY LIST

Stock No.	Description
07193400	PJP Cord
or 38103300	PJP Cord
49033000	Operating Instruction (*E•F•S)
49033100	Operating Instruction (*G•I•Sw)

*Note

E•F•S: English•French and Spanish Version
G•I•Sw: German•Italian and Swedish Version

3. ADJUSTMENTS

3-1. Tape Speed Adjustment

- Adjust the tape speed of B-side as fast as A-side.
- Note:** 1. Use Sansui Test Tape, SCT-S3K.
(3 kHz signals are recorded on the tape).
- 2. Connections are shown in Fig. 3-1.

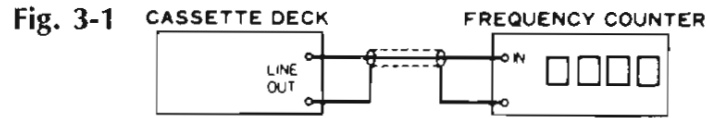
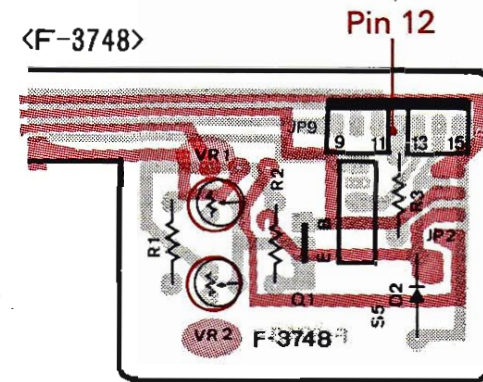


Fig. 3-2 <F-3748>



1) Tape Speed Adjustment (NORMAL SPEED)

STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1.	A Side Mecha. (NORMAL)	LINE OUT Frequency counter	Playback the TEST TAPE SCT-S3K. A Side Mecha.	Turn semi-variable resistor (tVR1) of A Side Mecha. as Fig. 3-2.	3000Hz ± 30Hz	Use small screw driver.
2.	B Side Mecha. (NORMAL)		Playback the TEST TAPE SCT-S3K. B Side Mecha.	Turn semi-variable resistor (tVR1) of B Side Mecha. as Fig. 3-2.	3000Hz ± 30Hz	

2) Tape Speed Adjustment (HIGH SPEED)

- Note:** 1. Before this adjustment, regulate "3-1. Tape Speed Adjustment (NORMAL SPEED)".
2. Short between Pin No.12 (R3) on the F-3748 and GND. (See Fig. 3-2)

STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1.	A Side Mecha. (HIGH)	LINE OUT Frequency counter	Playback the TEST TAPE SCT-S3K. A Side Mecha.	Turn semi-variable resistor (tVR2) of A Side Mecha. as Fig. 3-2.	6000Hz ± 60Hz	Use small screw driver.
2.	B Side Mecha. (HIGH)		Playback the TEST TAPE SCT-S3K. B Side Mecha.	Turn semi-variable resistor (tVR2) of B Side Mecha. as Fig. 3-2.	6000Hz ± 60Hz	

3-2. Playback Adjustment

- Note:** 1. Before this adjustment, clean REC/P.B. head surface.
2. For this adjustment, use Sansui Test Tape, SCT-F10K, and SCT-L400.
3. Set the Dolby NR switch to be OFF.
4. Connections are shown in Fig. 3-3.

Fig. 3-3

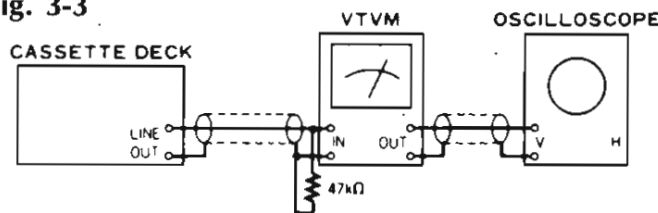
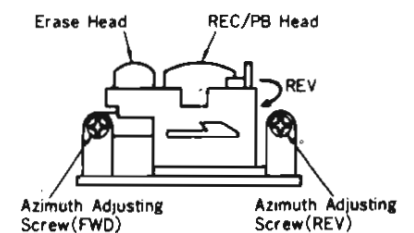


Fig. 3-4



1) A-Side Mecha. Adjustment

Note: Push A-button.

STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1.	REC/P.B. Head Adj.	LINE OUT VTVM and Scope	Playback the TEST TAPE SCT-F10K	Adjust the azimuth adjusting screw in Fig. 3-4.	MAX. Output both channels on FWD and REV PLAY	After this adjustment, lock the screw with paint.
2.	Playback Level Pre Adj.	Between across vR1 (L-CH and R-CH, F-4670) VTVM and Scope	Playback the TEST TAPE SCT-L400	Adjust each vVR101 (L-CH and R-CH, F-4678)	10mV ± 2dB	See Top View on Page 12.
3.	Playback Level Adj.	LINE OUT VTVM and Scope	Playback the TEST TAPE SCT-L400	Adjust each vVR2 (L-CH and R-ch, F-4670)	420mV ± 2dB	See Top View on Page 12.

2) B-Side Mecha. Adjustment

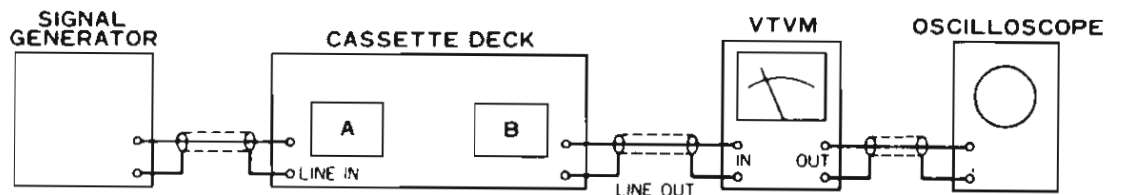
Note: Push B-button.

STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1.	REC/P.B. Head Adj.	LINE OUT VTVM and Scope	Playback the TEST TAPE SCT-F10K	Adjust the azimuth adjusting screw in Fig. 3-4.	MAX. Output both channels on FWD and REV PLAY	After this adjustment, lock the screw with paint.
2.	Playback Level Adj.	LINE OUT VTVM and Scope	Playback the TEST TAPE SCT-L400	Adjust each vVR101 (L-CH and R-CH, F-4678)	420mV ± 2dB	See Top View on Page 12.

3-3. REC Level & Frequency Response Adjustment

Note: 1. Connections are shown in Fig. 3-5.
2. Set the Dolby NR switch to be OFF.

Fig. 3-5



1) A-Side Mecha. Adjustment

Note: Push A-button.

STEP	SUBJECT	INPUT SIGNAL	MEASURE OUTPUT	SETTING	ADJUSTMENT	REMARKS
1.	REC Level Adj.	Feed 1kHz, 50mV from S.G. into LINE IN.	LINE OUT VTVM and Scope	Load the TEST TAPE SCT-SA. 1.Push REC button. 2.Playback the 1kHz signal.	Adjust vVR202 (L-CH and R-CH, F-4679) until playback level of the A side Mecha. and output signal level on recording operation will be equal.	See Top View on Page 12.
2.	Frequency Response Adj.	Feed 1kHz 15mV and 10kHz 15mV from S.G. into LINE IN	LINE OUT VTVM and Scope	Load the TEST TAPE SCT-SA. 1.Record the 1kHz and 10kHz signals from S.G. 2.Playback the 1kHz and 10kHz signals, then confirm 10kHz signal level in less than 1kHz signal level ± 2 dB on VTVM.	1.If not, adjust vVR203 (L-CH and R-CH, F-4679) slightly until the 10kHz signal level in less than 1kHz signal level ± 2 dB on VTVM.	See Top View on Page 12.
3.	Metal REC Level Adj.	Feed 1kHz, 50mV from S.G. into LINE IN	LINE OUT VTVM and Scope	Load the TEST TAPE SCT-MA. 1.Push REC button. 2.Playback the 1kHz signal.	Adjust vVR201 (L-CH and R-CH, F-4679) until playback level of the A side Mecha. and output signal level on recording operation will be equal.	See Top View on Page 12.

2) B-Side Mecha. Adjustment

Note: Push B-button.

STEP	SUBJECT	INPUT SIGNAL	MEASURE OUTPUT	SETTING	ADJUSTMENT	REMARKS
1.	REC Level Adj.	Feed 1kHz, 50mV from S.G. into LINE IN.	LINE OUT VTVM and Scope	Load the TEST TAPE SCT-SA. 1.Push REC button. 2.Playback the 1kHz signal.	Adjust vVR202 (L-CH and R-CH, F-4679) until playback level of the B side Mecha. and output signal level on recording operation will be equal.	See Top View on Page 12.
2.	Frequency Response Adj.	Feed 1kHz 15mV and 10kHz 15mV from S.G. into LINE IN	LINE OUT VTVM and Scope	Load the TEST TAPE SCT-SA. 1.Record the 1kHz and 10kHz signals from S.G. 2.Playback the 1kHz and 10kHz signals, then confirm 10kHz signal level in less than 1kHz signal level ± 2 dB on VTVM.	1.If not, adjust vVR203 (L-CH and R-CH, F-4679) slightly until the 10kHz signal level in less than 1kHz signal level ± 2 dB on VTVM.	See Top View on Page 12.
3.	Metal REC Level Adj.	Feed 1kHz, 50mV from S.G. into LINE IN	LINE OUT VTVM and Scope	Load the TEST TAPE SCT-MA. 1.Push REC button. 2.Playback the 1kHz signal.	Adjust vVR201 (L-CH and R-CH, F-4679) until playback level of the B side Mecha. and output signal level on recording operation will be equal.	See Top View on Page 12.

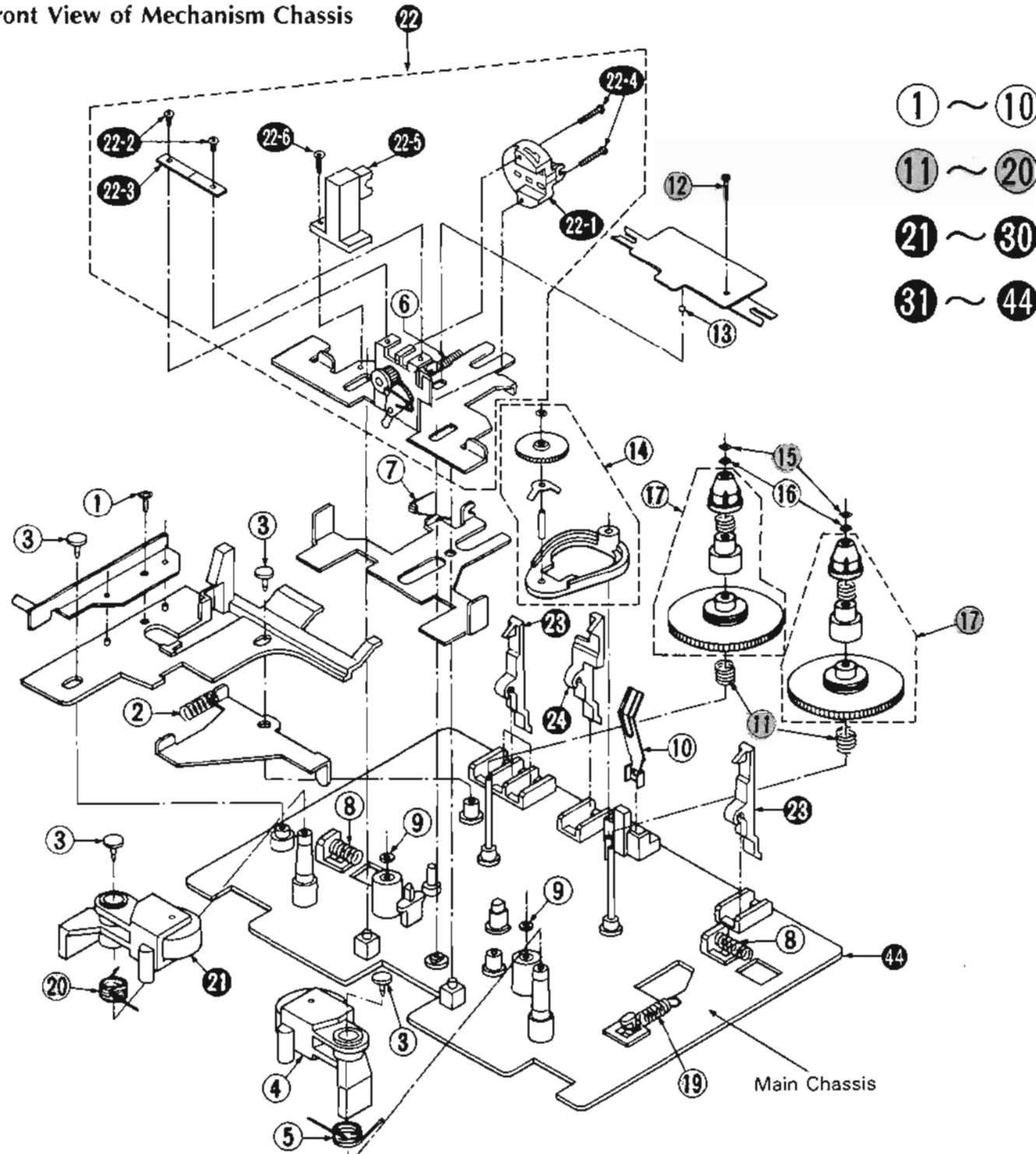
◆ List of Sansui Test Tape

Name of TEST TAPE	Recorded Frequency	Description	Equivalent To
SCT-F40	40 Hz	Playback Frequency Response Check	—
SCT-F1K	1 kHz	High Frequency Equalization Check	—
SCT-F10K	10 kHz	REC/PB Head Adjustment	—
SCT-L400N	400 Hz	Playback Level and Indicator Level Adjustment	—
SCT-S3K	3 kHz	Speed Check and Wow & Flutter Check	—
*SCT-AD (NORMAL)	—	Recording Bias Adjustment	TDK AD
*SCT-SA (HIGH)	—	REC/PB Level Adjustment	TDK SA
*SCT-MA (METAL)	—	Frequency Response Check	TDK MA

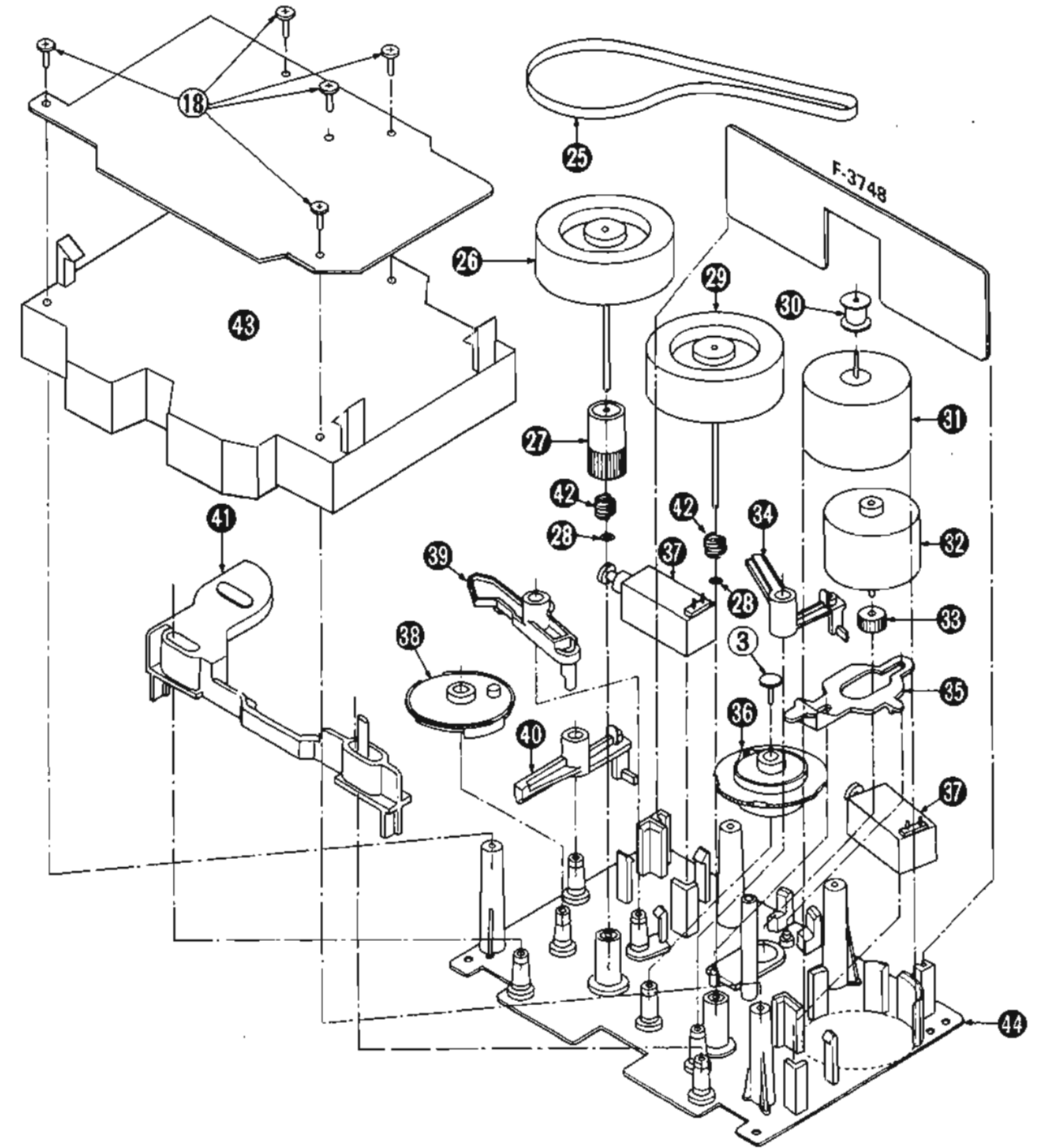
•**Note:** Some reference tapes marked * are not supplied.
As these are equivalent to ones indicated above, please obtain these blank tapes on your side as possible.

4. EXPLODED VIEW OF MECHANISM ASS'Y AND PARTS LIST

4-1. Front View of Mechanism Chassis



4-2. Rear View of Mechanism Chassis



Parts List <Front & Rear View of Mechanism Chassis>

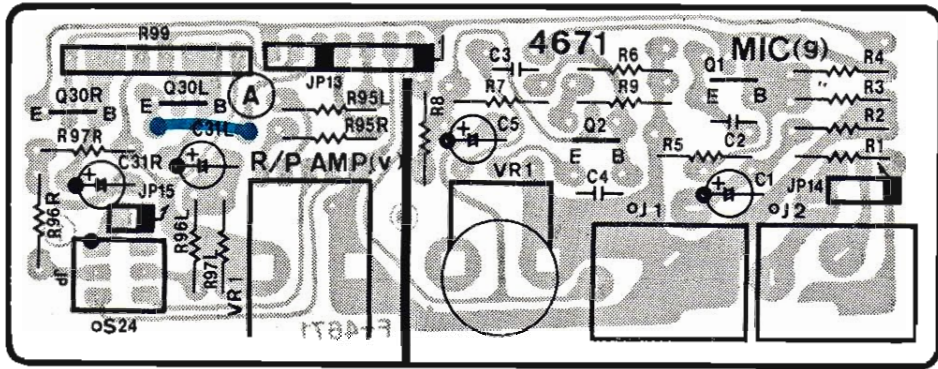
Parts No.	Stock No.	Description	Parts No.	Stock No.	Description
1	46267800	Tapping Screw, M3.0x8	14	47405000	Arm Ass'y
2	47644500	Spring, eject	15	27083100	Washer, d=1.6
3	47420900	Plastic Tack	16	47404600	Washer, d=2.0
4	47901500	Pinch Roller (R) Ass'y	17	47835510	Reel Gear Ass'y
5	27527100	Spring, pinch roller (R) ass'y	18	46268100	Screw, M3x10
6	47406200	Spring, head base	19	47406300	Spring, push arm
7	47405600	Spring, slide base	20	27527000	Spring, pinch roller (L) ass'y
8	47668600	Spring, plunger solenoid	21	47281910	Pinch Roller (L) Ass'y
9	47404700	Nylon Washer, d=2.5	22	16610301	REC/PB Head Ass'y with sensor
10	47293510	Spring, half	22-1	46858000	REC/P.B/Erase Head
11	47709620	Spring, reel	22-2	47835100	Spring, M2.0x5
12	18139300	Binding Head Screw, M2x12	22-3	47289200	Spring Plate, azimuth
13	47404900	Steel Ball, φ=2.0	22-4	46731300	Screw, M1.4x6

Parts List <Front & Rear View of Mechanism Chassis>

Parts No.	Stock No.	Description	Parts No.	Stock No.	Description
22-5	37031900	Photo Sensor Ass'y (with Photo Coupler, GP2L02)	33	47293110	Gear, reel motor
22-6	46398800	Screw, M2.0x6	34	47903310	Lock Arm (A)
23	47723020	Sensor Arm A2	35	47293810	Arm (B)
24	47292530	Sensor Arm B	36	47283840	Asist Gear (A)
25	47405200	Capstan Belt	37	47292610	Plunger Solenoid
26	27218900	Spring, pinch roller (R) Ass'y	38	47283910	Assist Gear (B)
27	47281210	Gear, flywheel ass'y	39	47283710	Push Arm
28	47404600	Washer, d=2.5	40	47281710	Lock Arm (B)
29	47283010	Flywheel (L) Ass'y	41	47284200	FWD-REV Change Plate
30	27070700	Pulley	42	47530000	Spring A, Flywheel
31	48122810	Capstan Motor	43	47292830	Sub Chassis
32	46737500	Reel Motor	44	47292530	Main Chassis

5-2. F-4671 Mic Amp. Board

Component Side



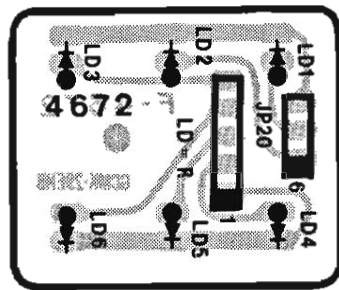
5-7. F-4677 A-Half Indicator Board

Component Side



5-3. F-4672 AUTO TAPE SELECTOR

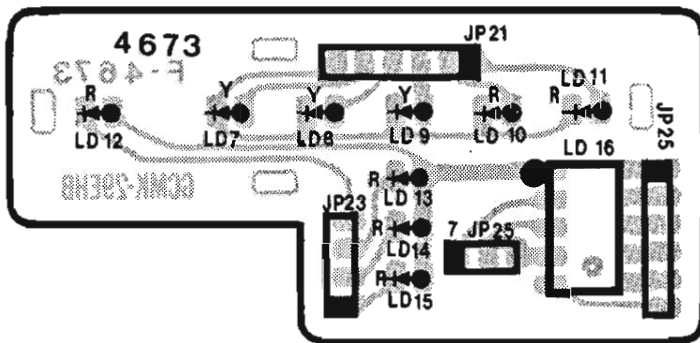
Component Side



Indicators Board

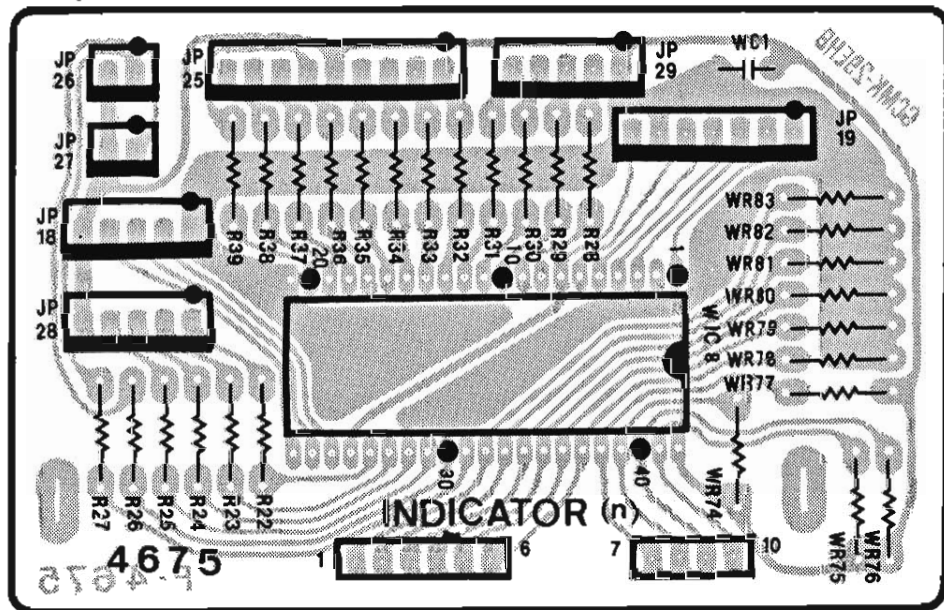
5-4. F-4673 PEAK LEVEL Indicator Board

Component Side



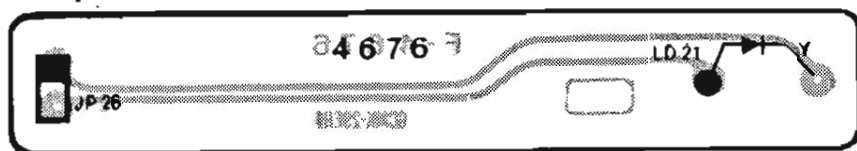
5-5. F-4675 Input/Output Control Board

Component Side



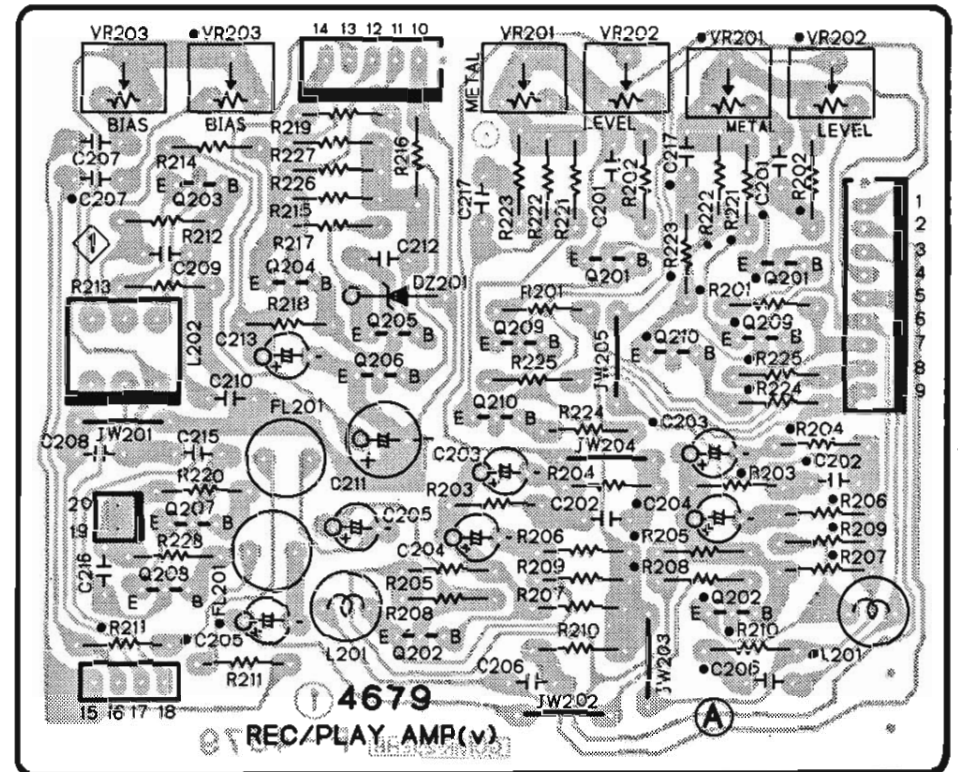
5-6. F-4676 B-Half Indicator Board

Component Side



5-8. F-4679 Recording Amp. Board

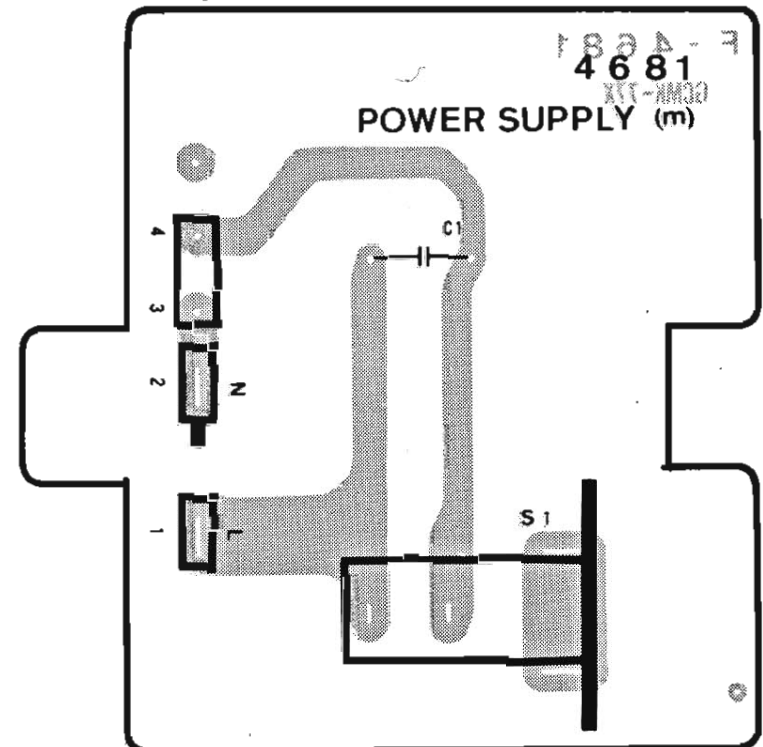
Component Side



•Note: On this circuit board, the right channel is specified by "●" mark on top of the parts number.

5-9. F-4681 Power Switch Board

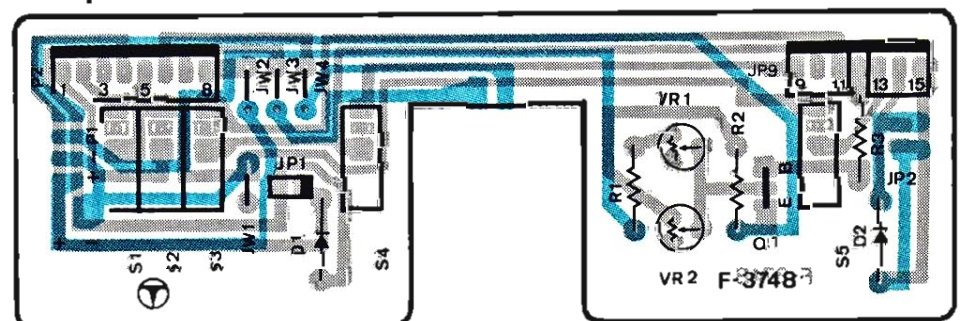
Component Side



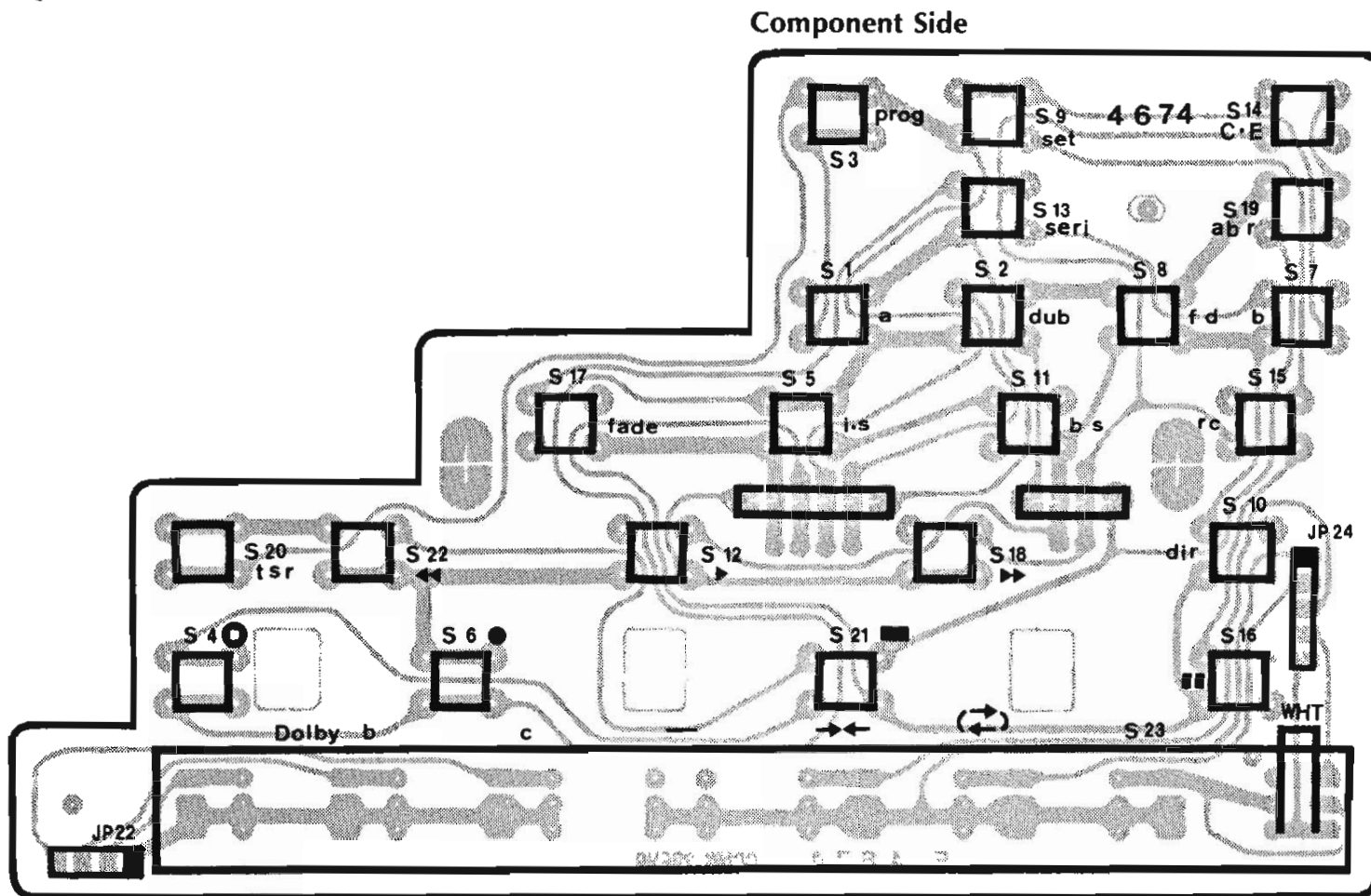
5-10. F-3748 Half and Prevention

Component Side

Tab Sensor Board

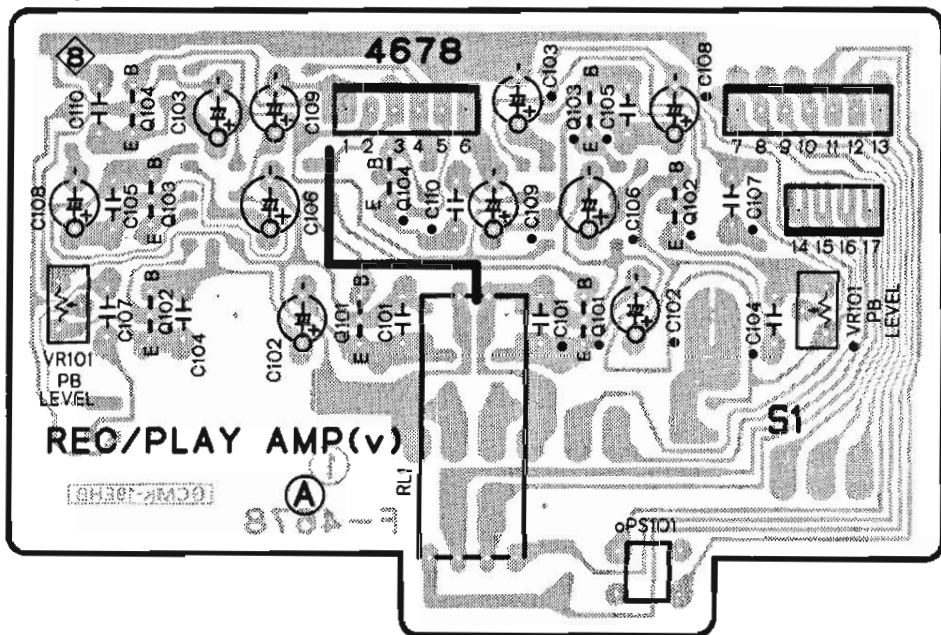


5-11. F-4674 Operation Switch Board

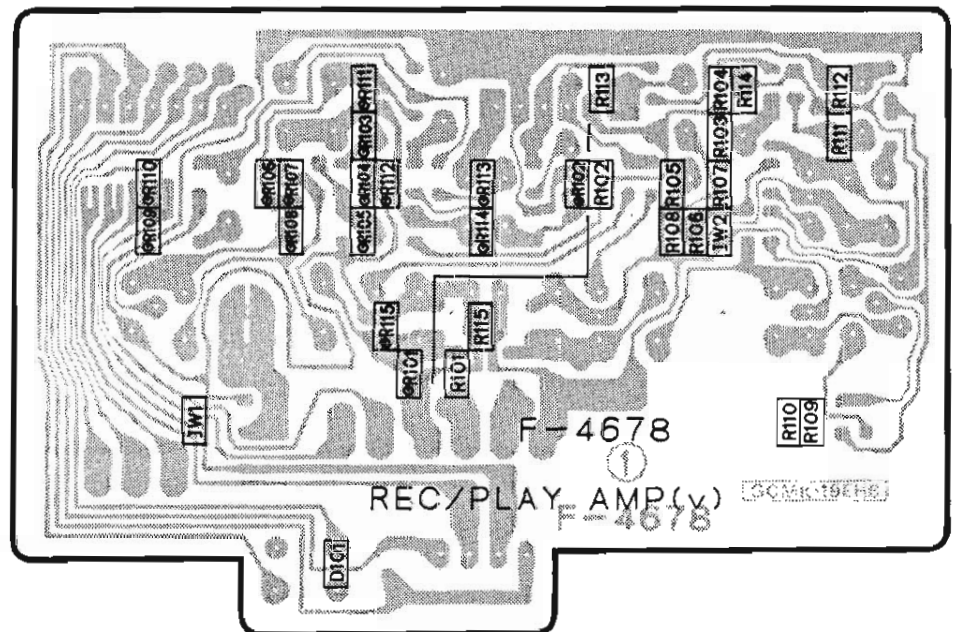


5-12. F-4678 Playback Amp. Board

Component Side



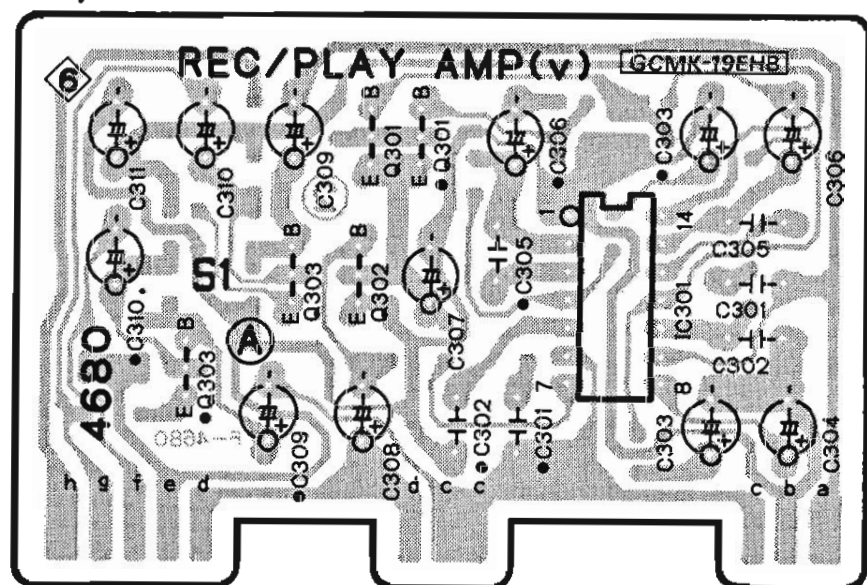
Pattern Side < Chip Parts >



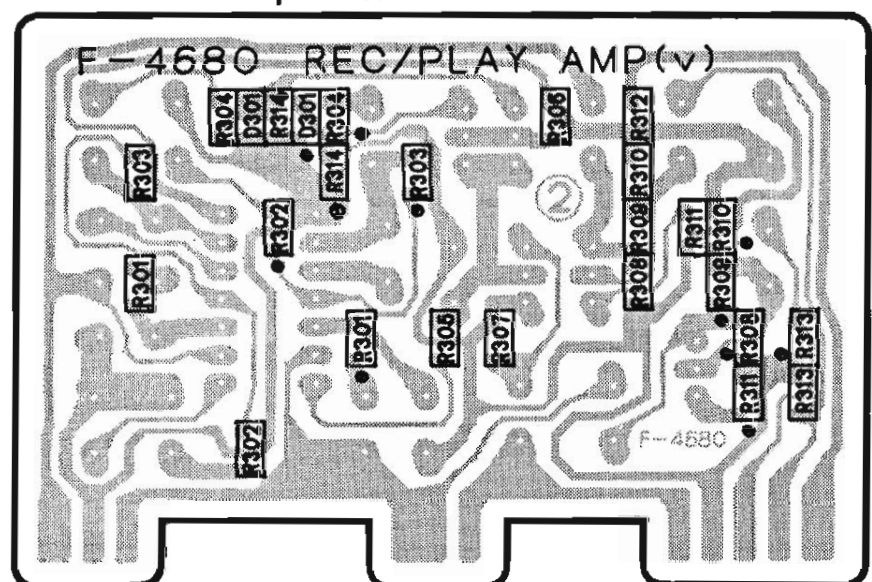
•Note: On this circuit board, the left channel is specified by "●" mark on top of the parts number.

5-13. F-4680 Auto Level Control Board

Component Side

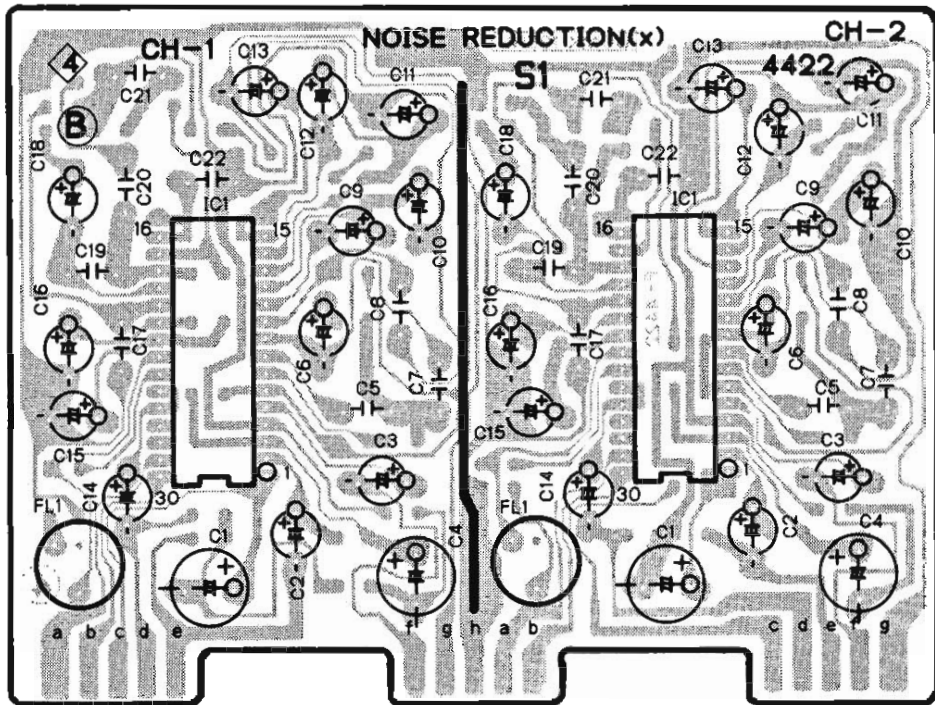


Pattern Side < Chip Parts >

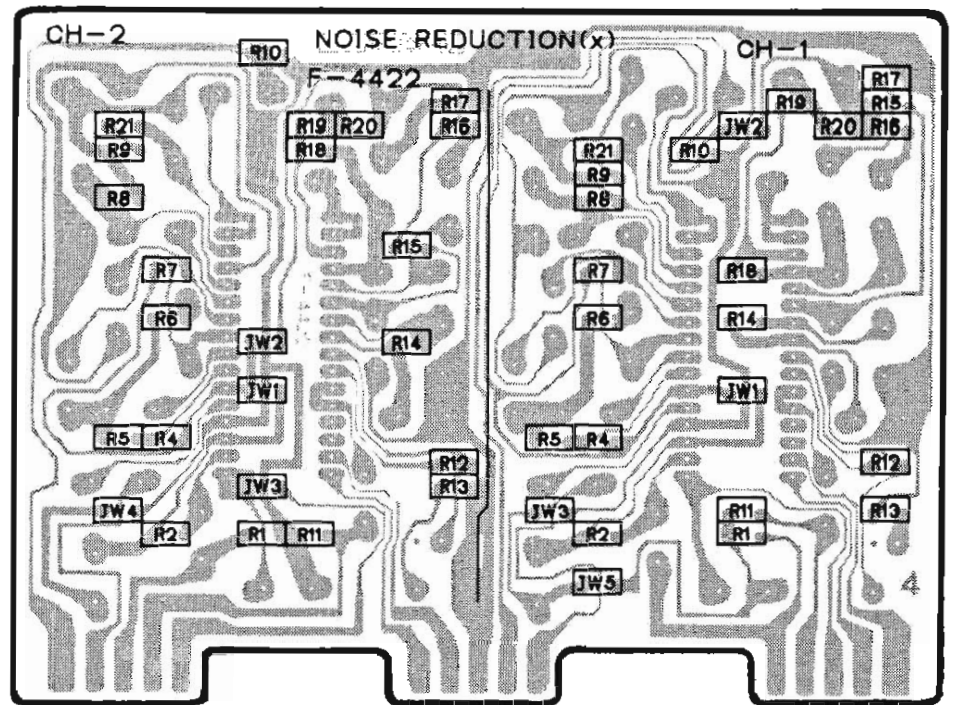


•Note: On this circuit board, the left channel is specified by "●" mark on top of the parts number.

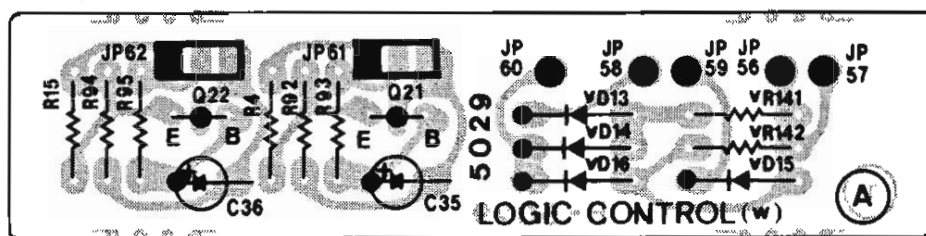
5-14. F-4422 Noise Reduction Board
Component Side



Pattern Side <Chip Parts>



5-15. F-5029 Sub Logic Control Board
Component Side



5-16. F-4736 Tape Operation Indicators Board
Component Side



6. PARTS LIST OF BOARD

6-1. F-4670 Main Board <Stock No. 00837801>

Parts No.	Stock No.	Description
• Transistor		
△mQ1	03086101	2SD357
mQ2	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
mQ3, 4	46367001	2SA1115
	or 46392001	2SA1175
	or 48058601	2SA933S
• Diode		
△mD1	46273600	DBB10-B
△mD2	03117000	RB152-LFF
mD3~5	03117600	1S2473T77
	or 46086000	1S1588
• Zener Diode		
mDZ1	46111700	05Z6.2-X
	or 46111800	05Z6.2-Y
△mR1	00111500	150Ω 1/4W F.R.
△mR2	00111500	150Ω 1/4W F.R.
△mR11	00192400	8.2Ω 2W N.I.R.
mC2	48316900	470μF 25V E.C
mC13	07120100	2200μF 16V E.C
• IC		
nIC1	03611600	LB1416
nIC2	46502800	TA78

Parts No.	Stock No.	Description
• Diode		
nD1, 2	03117600	1S2473T77
	or 46086000	1S1588
oJ3	46371500	4P Terminal Board, LINE IN/LINE OUT
• Transistor		
vQ1	46719900	DTC124
vQ2~8	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
vQ10~17	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
vQ18, 19	46367001	2SA1115
	or 46392001	2SA1175
	or 48058601	2SA933S
vQ20, 21	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
vQ22, 23	46367001	2SA1115
	or 46392001	2SA1175
	or 48058601	2SA933S
vQ24, 25	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
vQ26	46719900	DTC124
vQ27	46719800	DTA124

to be continued ▶

<F-4670>

Parts No.	Stock No.	Description
vQ28	46719900	DTC124
vQ29	46719800	DTA124
vQ31	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
vQ32	46719800	DTA124
vQ33 ~ 36	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
vQ37	46719900	DTC124
vQ38	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
•FET		
vFT1	46643800	2SJ103-Y
	or 46643801	2SJ103-GR
•IC		
vIC1	46421000	UPD4066BC
	or 48054500	MSM4066BRS
	or 48063800	BU4066B
vIC2	46421000	UPD4066BC
	or 48054500	MSM4066BRS
	or 48063800	BU4066B
vIC3	46421000	UPD4066BC
	or 48054500	MSM4066BRS
	or 48063800	BU4066B
vIC4	46671600	LC7530
vIC5, 6	46078900	M5218L
•Diode		
vD1 ~ 3	46464000	MC921
vD5 ~ 12	03117600	1S2473T77
	or 46086000	1S1588
•Zener Diode		
vDZ1, 2	46111100	05Z5.1-X
	or 46111200	05Z5.1-Y
vR98	46346800	100k Ω \times 6 1/8W A.R.
vFL1	46177501	Dolby Filter
vFL2	46935500	Low Pass Filter (85kHz)
vVR2	46839300	1k Ω S.V.R., P.B. Level Adj.
•Transistor		
wQ1, 2	46719900	DTC124ES
wQ3, 4	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
wQ5, 6	46359701	2SA952
	or 46614001	2SA1283
	or 48000801	2SA934
wQ7, 8	46614101	2SC3243
wQ9 ~ 17	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
wQ19	46923300	DTA124ES
wQ20	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
•IC		
wIC1	48198900	MB88421-170M
wIC2	46397500	BA612
wIC3, 4	46149600	BA6208
wIC5	46427000	UPD4069UBC
	or 48050700	MSM4069UBRS
	or 48063900	BU4069UB
	or 48156500	HD14069UBP
wIC6	46427000	UPD4069UBC
	or 48050700	MSM4069UBRS
	or 48063900	BU4969UB

Parts No.	Stock No.	Description
wIC7	or 48156500 46359400	HD14069UBP L78N05
wX01	46505500	Ceramic Element KBR-3.58M
•Diode		
wD1, 2	46464000	MC921
wD3 ~ 6	03117600	1S2473T77
	or 46086000	1S1588
•Zener Diode		
wDZ1	46111100	05Z5.1-X
wDZ2, 3	46111900	05Z6.2-Z
	or 46112000	05Z6.8-X
wDZ4	46111100	05Z5.1-X
wDZ5	46113000	05Z9.1-Y
	or 46113100	05Z9.1-Z
Δ wR11	00192400	8.2 Ω 2W N.I.R.
wR39	46341500	4.7k Ω \times 4 1/8W A.R.
Δ wR40	00184900	82 Ω 1W N.I.R.
Δ wR41	00184900	82 Ω 1W N.I.R.
Δ wR48	00181100	22 Ω 1W N.I.R.
Δ wR49	00181100	22 Ω 1W N.I.R.
wR62	46345200	4.7k Ω \times 6 1/8W A.R.
wC7	08451000	10 μ F 16V E.B.
wC8	48103600	3.3 μ F 50V E.B.
wC11	08451000	10 μ F 16V E.B.
wC12	48103600	3.3 μ F 50V E.B.
wBZ1	07244900	Buzzer PKM12

6-2. F-4671 Mic Amp. Board <Stock No. 00837901>

Parts No.	Stock No.	Description
•Transistor		
gQ1, 2	46577801	2SC2320L
	or 46581701	2SC1845
	or 46947401	2SC2459
gVR1	48080700	20k Ω (A) V.R., MIC
oS24	46556400	Push SW., REC LEVEL
oJ1	48109200	Jack, MIC
oJ2	46706300	Jack, PHONES
•Transistor		
vQ30	46577801	2SC2320L
	or 46581701	2SC1845
	or 46947401	2SC2459
vR99	48076000	100k Ω \times 4 A.R.
vVR1	48080800	20k Ω (A) V.R., REC LEVEL

6-3. F-4672 Auto Tape Selector Indicators Board

Parts No.	Stock No.	Description
•LED		
nLD1	46176900	TLS-123, METAL•b-side
nLD2	46176900	TLS-123, HIGH•b-side
nLD3	46176900	TLS-123, NOR•b-side
nLD4	46176900	TLS-123, METAL•a-side
nLD5	46176900	TLS-123, HIGH•a-side
nLD6	46176900	TLS-123, NOR•a-side

6-4. F-4673 Peak Level Indicator Board

Parts No.	Stock No.	Description
•LED		
nLD7	48841200	SEL3910A, PEAK LEVEL
nLD8	48841200	SEL3910A, PEAK LEVEL
nLD9	48841200	SEL3910A, PEAK LEVEL
nLD10	46176900	TLS-123, PEAK LEVEL
nLD11	46176900	TLS-123, PEAK LEVEL
nLD12	46176900	TLS-123, COMPU EDIT
nLD13	46176900	TLS-123, SERIES
nLD14	46176900	TLS-123, DUBBING
nLD15	46176900	TLS-123, DOUBLE DUBBING
nLD16	48069000	GL-9P03D, RMPS

6-5. F-4674 Operation Switch Board

Parts No.	Stock No.	Description
oS1	46549500	Push SW., a
oS2	46549500	Push SW., DUBBING ▷
oS3	46549500	Push SW., PROGRAM
oS4	46549500	Push SW., REC. MUTE
oS5	46549500	Push SW., INTRO SKIP
oS6	46549500	Push SW., REC
oS7	46549500	Push SW., b
oS8	46549500	Push SW., DUBBING 2x ▷
oS9	46549500	Push SW., SET
oS10	46549500	Push SW., DIRECTION
oS11	46549500	Push SW., BLANK SEARCH
oS12	46549500	Push SW., PLAY
oS13	46549500	Push SW., SERIES
oS14	46549500	Push SW., COMPU EDIT
oS15	46549500	Push SW., RCPS
oS16	46549500	Push SW., PAUSE
oS17	46549500	Push SW., AUTO FADER
oS18	46549500	Push SW., F.F
oS19	46549500	Push SW., REC ONLY a b
oS20	46549500	Push SW., TSR
oS21	46549500	Push SW., STOP
oS22	46549500	Push SW., REW
oS23	48080900	Push SW., DOLBY NR/REVERSE MODE/TIMER

6-6. F-4675 Input/Output Control Board

< Stock No. 00838301 >

Parts No.	Stock No.	Description
•IC		
wIC8	48109300	MB8841H-1357K

6-7. F-4676 B-Half Indicator Board

Parts No.	Stock No.	Description
•LED		
nLD21	48157400	LD-702YY

6-8. F-4677 A-Half Indicator Board

Parts No.	Stock No.	Description
•LED		
nLD21	48157400	LD-702YY

6-9. F-4678 Playback Amp. Board

< Stock No. 00838601 >

Parts No.	Stock No.	Description
•Transistor		
vQ101	46359801	2SC2001
	or 48055901	2SD1468S
vQ102, 103	46577801	2SC2320L
	or 46581701	2SC1845
vQ104	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
•Diode		
vD101	46852000	RLS-73
vJW2	46741100	Cross Conductor (Chip)
vVR101	48078600	1k Ω S.V.R., Pre P.B. Level Adj.
vS101	46133300	Push SW., Direction Sensor
vRL101	11504700	Relay
	or 11504701	Relay

6-10. F-4679 Recording Amp. Board

< Stock No. 00838701 >

Parts No.	Stock No.	Description
•Transistor		
vQ201, 202	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
vQ203	46725801	2SC1627A
vQ204	46614101	2SC3243
vQ205, 206	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
vQ209, 210	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
•Zener Diode		
vDZ201	46109300	05Z3.0-X
	or 46109400	05Z3.0-Y
vC208	46657000	3900pF 100V F.C.
vR214	46680900	4.7 Ω 1/4W F.R.
vFL201	42904400	Peaking Coil
vL201	48121500	Inductor 2.7mH
vL202	46362200	Bias OSC Coil
vVR201	10354100	47k Ω (B) S.V.R., Metal Rec Level Adj.
vVR202	10353900	22k Ω (B) S.V.R., Rec Level Adj.
vVR203	10354300	100k Ω (B) S.V.R., Bias Adj.

6-11. F-4680 Auto Level Control Board

< Stock No. 00838801 >

Parts No.	Stock No.	Description
•Transistor		
vQ301~303	46367101	2SC2603
	or 46391901	2SC2785
	or 48058801	2SC1740S
•IC		
vIC301	46899000	LA3220
•Diode		
vD301	46852000	RLS-73

6-12. F-4681 Power Switch Board

Parts No.	Stock No.	Description
△pC1	46425800	0.01μF 400V C.C.
△pS1	46413900	Push SW., POWER (XX·UL·EU·UK·SEV)
△	48065200	Push SW., POWER (CSA)

6-13. F-3748 Half and Prevention Tab Sensor Board

Parts No.	Stock No.	Description
•Transistor		
tQ1	07206901	2SC2001
•Diode		
tD1	03111600	1S2473D
tD2	03111600	1S2473D
tVR1	46839400	2.2kΩ S.V.R., NORMAL SPEED
tVR2	46839500	4.7kΩ S.V.R., HIGH SPEED
tS1	47292700	Leaf SW., half sensor
tS2	47292700	Leaf SW., prevention tab sensor (for A-side)
tS3	47292700	Leaf SW., tape sel. HIGH
tS4	47292700	Leaf SW., tape sel. METAL
tS5	47292700	Leaf SW., prevention tab sensor (for B-side)

6-14. F-4422 Noise Reduction Board

< Stock No. 00775301 >

Parts No.	Stock No.	Description
•IC		
xIC1	46671900	HA12058NT
xFL1	46177600	Trap Filter (19.8kHz)

6-15. F-4736 Tape Operation Indicators Board

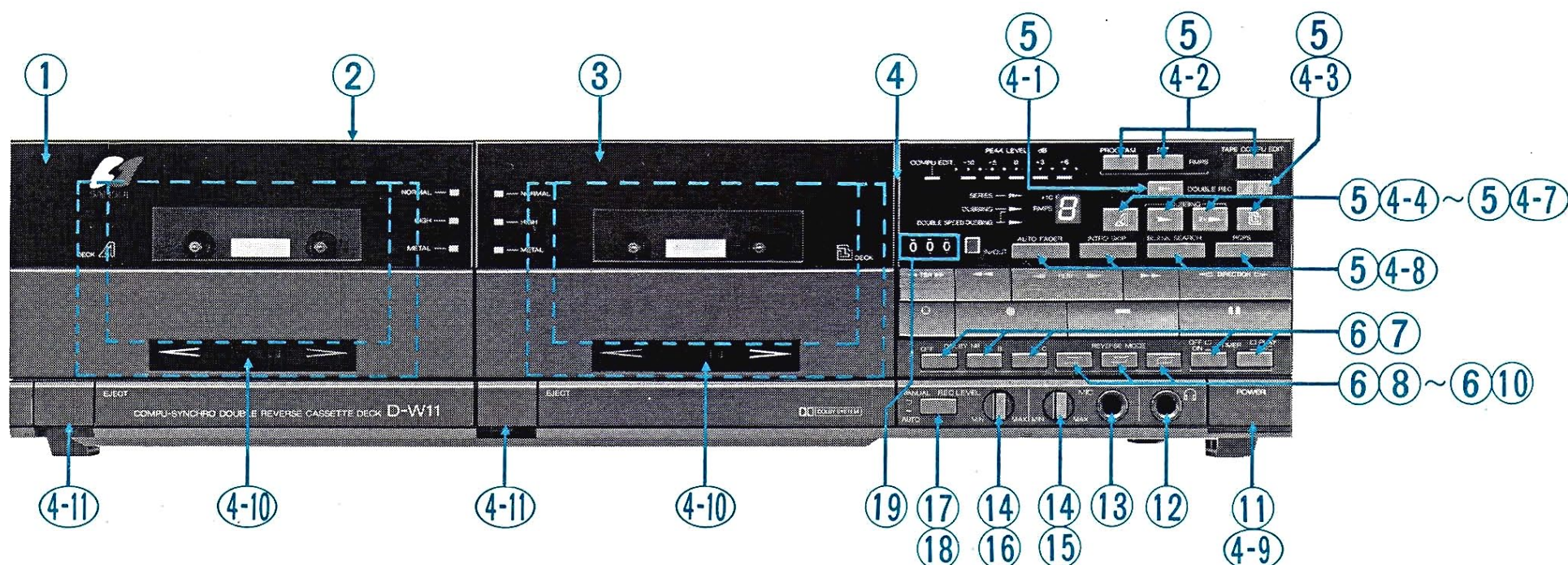
Parts No.	Stock No.	Description
•LED		
nLD17	48069100	LD-6021MT, < (direction)
nLD18	48069100	LD-6021MT, > (direction)
nLD19	48120400	LD-6021YT, II (pause)
nLD20	48120300	LD-6021VT, O (rec)

6-16. F-5029 Sub Logic Control Board

Parts No.	Stock No.	Description
•Diode		
vD13~16	03117600 or 46086000	1S2473 1S1588
•Transistor		
wQ21, 22	46367001 or 46392001 or 48058601	2SA1115 2SA1175 2SA933S

7. OTHER PARTS

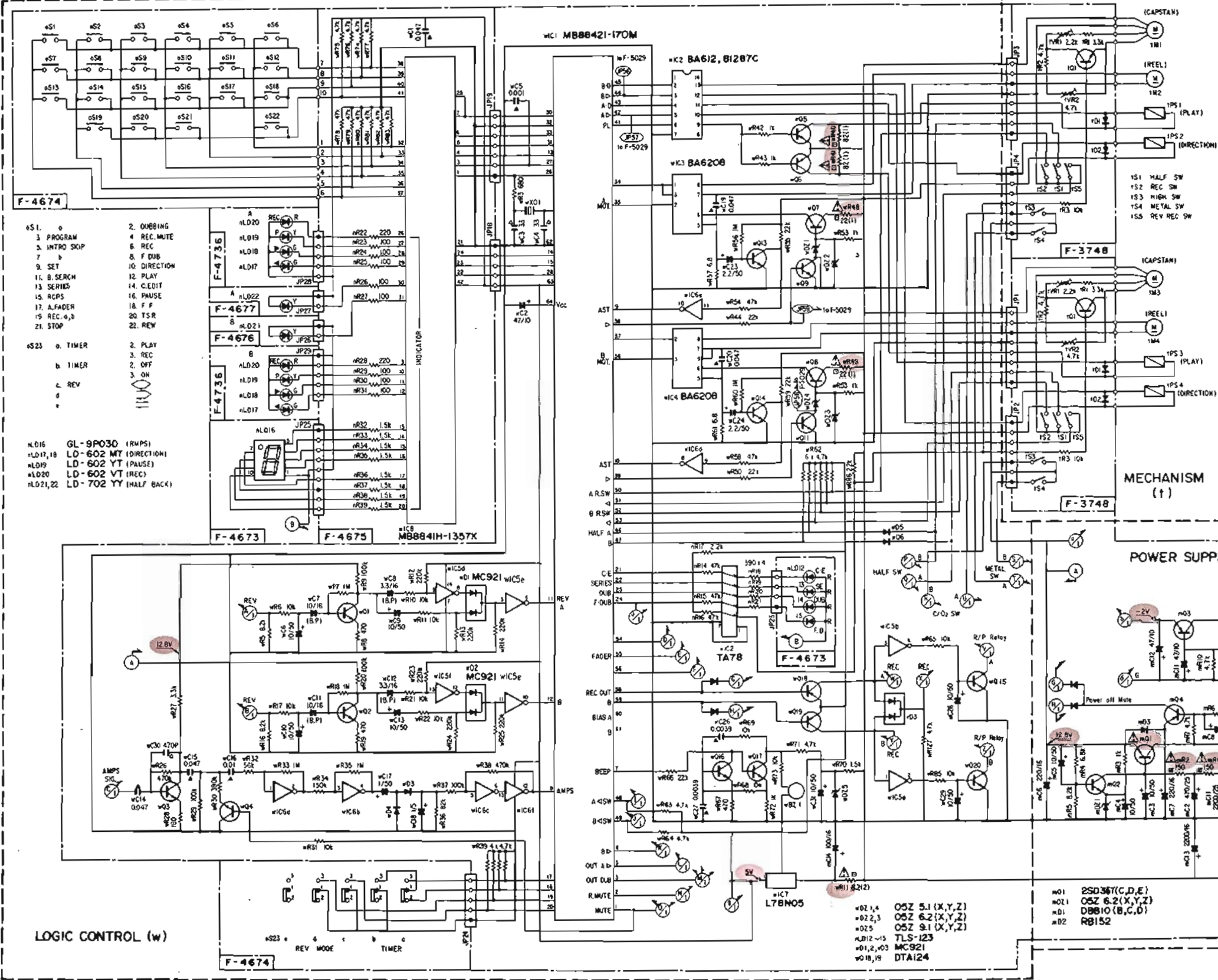
7-1. Front View



8-3. Control Section

* Design and specifications subject to change without notice for improvement.
 * La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
 * Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.

2



SYMBOL OF FUNCTION
 (m) POWER SUPPLY (n) INDICATOR
 (o) SELECTOR (p) FIXED PARTS
 (r) MECHANISM
 (v) REC / PLAY AMP
 (w) LOGIC CONTROL
 (x) NOISE REDUCTION

SYMBOL
 (C) Polypropylene
 (G) Ceramic
 (L) Barium Layer Capacitor
 (M) Non-Inflammable Resistor
 (C) Chip Component (Cylindrical Type)
 (R) Fusing Resistor

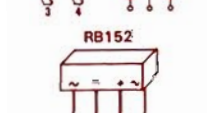
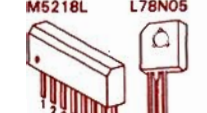
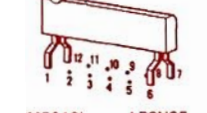
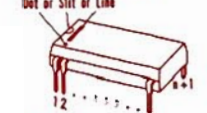
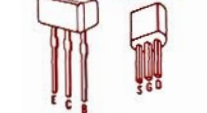
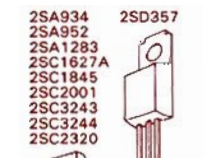
RESISTORS
 Are in ohms, 1/4 Watts, ±5% Tolerance
 Unless Otherwise Method 1, 10, M, M.D.

CAPACITORS
 Are in μF, Unless Otherwise Noted p/pF

OPTIONAL USE OF SEMICONDUCTOR

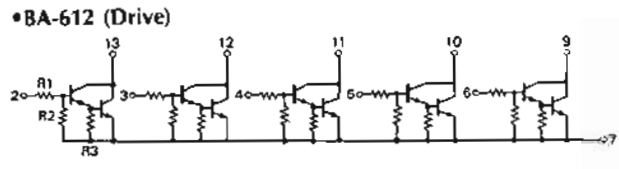
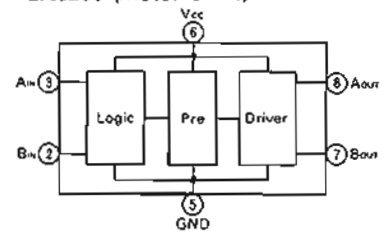
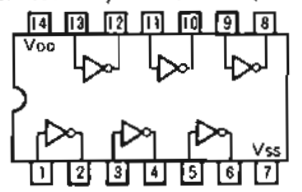
PARTS NO	TYPE NO
w03-5, 10, 12, 103-12	IS2473, IS158B
w02, w07-9, 10-17, 20	2SC2603 (E, F, G)
21, 24, 25, 34, 30, 33-36	2SC2785 (J, H, F, E)
36, 30-3	2SC1740S (R, S, E)
w01-4, 9-17, 20	2SA1115 (E, F)
w03, 4, 10B, 19, 22	2SA1175 (J, H, F, E)
23	2SA933S (R, S, E)
w05, 6	2SA952 (M, L), 2SA934 (R, S)
101	2SC2001 (M, L), 2SD1468 (R, S)
w07, 8	2SC3243 (D, E)
103, 6	BU4069UB, HD14069UBP μPD4069UBC, MSM4069UBRS

Each D.C. Voltage shows the nominal value in volts at rated load.
 Electrolytic Capacitor: Capacitance(μF) / Volt (V)
 ⚠ Safety Part.
 Use only replacement parts recommended by the manufacturer.



•MSM4069RS/μPD4069UBC (Inverter) •BA6208 (Motor Drive)

•BA-612 (Drive)



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