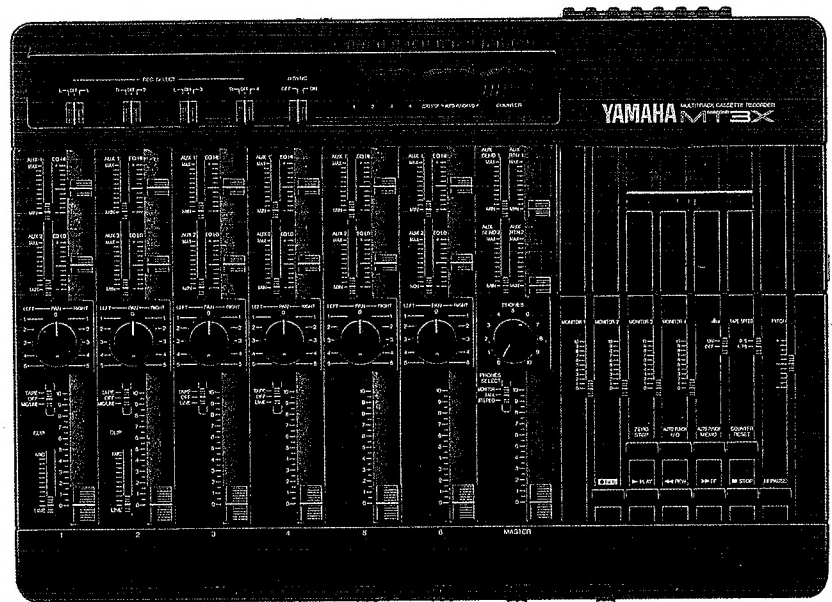


MULTITRACK CASSETTE RECORDER

MT3X

SERVICE MANUAL



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PARTS LIST	

IMPORTANT NOTICE

This manual has been provided for the use of authorized Yamaha Retailers and their service personnel. It has been assumed that basic service procedures inherent to the industry, and more specifically Yamaha Products, are already known and understood by the users, and have therefore not been restated.

WARNING: Failure to follow appropriate service and safety procedures when servicing this product may result in personal injury, destruction of expensive components and failure of the product to perform as specified. For these reasons, we advise all Yamaha product owners that all service required should be performed by an authorized Yamaha Retailer or the appointed service representative.

IMPORTANT: The presentation or sale of this manual to any individual or firm does not constitute authorization, certification or recognition of any applicable technical capabilities, or establish a principle-agent relationship of any form.

The data provided is believed to be accurate and applicable to the unit(s) indicated on the cover. The research, engineering, and service departments of Yamaha are continually striving to improve Yamaha products. Modifications are, therefore, inevitable and specifications are subject to change without notice or obligation to retrofit. Should any discrepancy appear to exist, please contact the distributor's Service Division.

WARNING: Static discharges can destroy expensive components. Discharge any static electricity your body may have accumulated by grounding yourself to the ground buss in the unit (heavy gauge black wires connect to this buss).

IMPORTANT: Turn the unit OFF during disassembly and parts replacement. Recheck all work before you apply power to the unit.

SPECIFICATIONS

TAPE TRANSPORT

Tape Type	Chrome (70 microsec. EQ)
Heads	4-channel Permalloy rec/play head, 4-channel ferrite erase head
Tape Speed	4.75 cm/sec., 9.5 cm/sec.
Pitch Control	± 10%
Wow & Flutter	Less than 0.05% WRMS
Rewind Time	Approx. 100 sec., for C-60 tape
Motor	DC servo motors (2)

CONNECTORS

Input 1 & 2	Input Impedance	10 k-ohms
	Rated Input Level	-10 dB to -50 dB (fader nominal)
	Max. Input Level	+10 dB (gain control min.)
	Min. Input Level	-56 dB (gain control, fader max.)
Input 3 - 6	Input Impedance	10 k-ohms
	Rated Input Level	-10 dB (fader nominal)
	Min. Input Level	-16 dB (fader max.)
Aux Return 1 & 2 (L,R)	Input Impedance	10 k-ohms
	Rated Input Level	-10 dB (fader nominal)
	Min. Input Level	-16 dB (fader max.)
Stereo Out L & R	Output Impedance	1 k-ohm
	Load Impedance	Greater than 10 k-ohms
	Rated Output Level	-10 dB into 50 k-ohms
Phones Out	Load Impedance	8 to 40 ohms
	Max. Output Level	100 mW + 100 mW/40 ohms
	Output Impedance	1 k-ohm
Monitor Out L & R	Load Impedance	Greater than 10 k-ohms
	Rated Output Level	-10 dB into 50 k-ohms
	Output Impedance	1 k-ohm
Tape Out 1 to 4	Load Impedance	Greater than 10 k-ohms
	Rated Output Level	-10 dB into 50 k-ohms
	Output Impedance	1 k-ohm
Aux Send 1 & 2	Load Impedance	Greater than 10 k-ohms
	Rated Output Level	-10 dB into 50 k-ohms
	Output Impedance	1 k-ohm

ELECTRICAL SPECIFICATIONS

Frequency Response	40 Hz to 18 kHz, ± 3 dB at 9.5 cm/sec. 40 Hz to 12.5 kHz, ± 3 dB at 4.75 cm/sec.
S/N ratio	85 dB, dbx ON, IHF-A
Distortion	Less than 1%, 315 Hz (EIAJ)
Channel Separation	Greater than 55 dB at 1 kHz
Erasure Ratio	Greater than 70 dB at 1 kHz
Noise Reduction	dbx *
Equalizer	± 12 dB (HIGH: 10 kHz, LOW: 100 Hz)

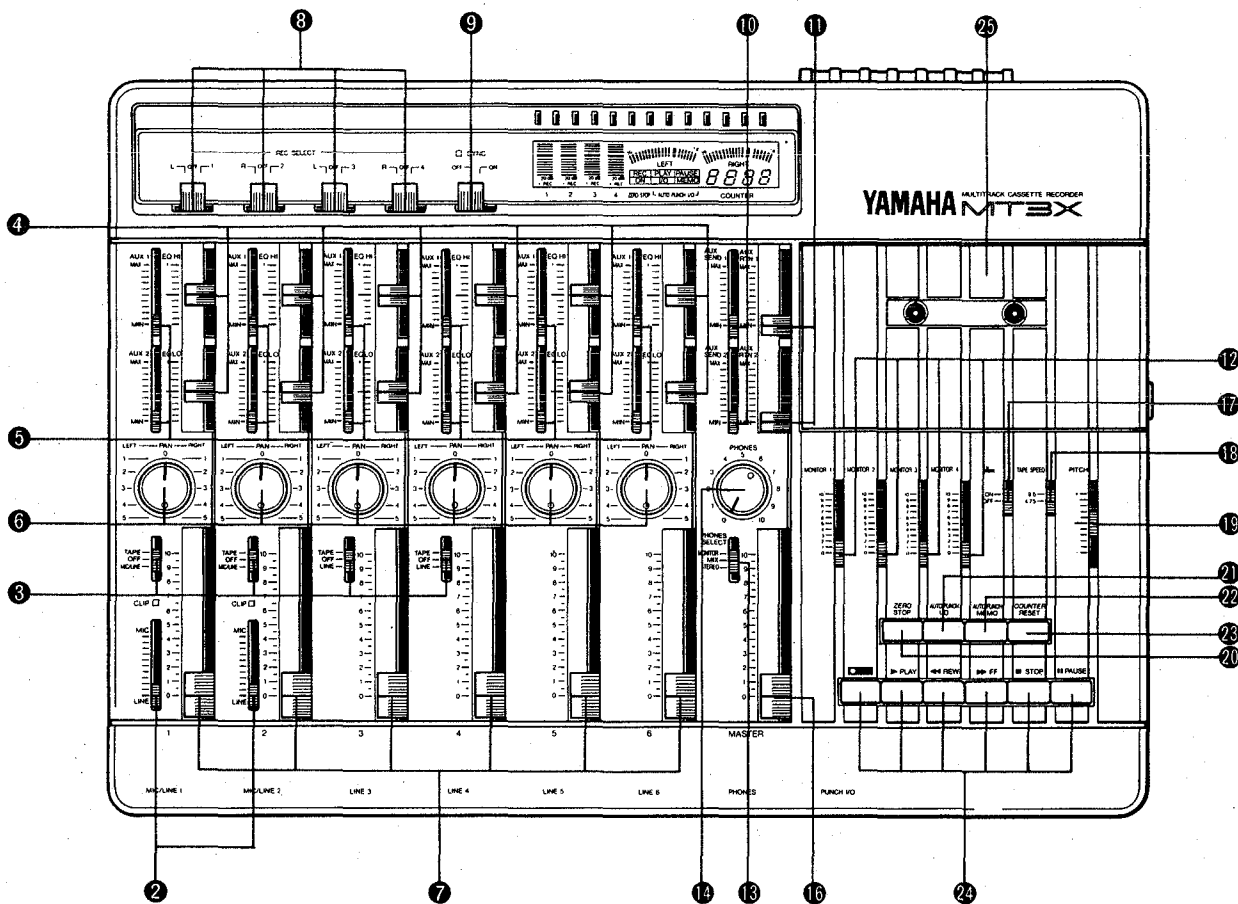
GENERAL

Power Requirements	U.S. & Canadian Models: 120 V AC, 60 Hz General Model: 220/240 V AC, 50/60 Hz
Power Consumption	U.S. & Canadian Models: 24 W General Model: 19 W
Dimensions (WxHxD)	443 x 107 x 325 mm (17-7/16" x 4-3/16" x 12-13/16")
Weight	U.S. & Canadian Models: 3.7 kg (8 lbs. 2 oz) General Model: 3.9 kg (8 lbs. 10 oz)

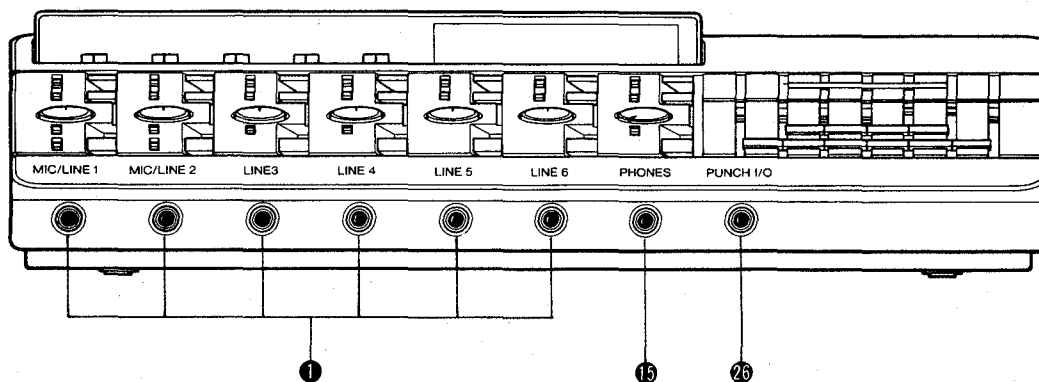
* dbx is a trademark of dbx Incorporated. • 0 dB = 0.775 Vr.m.s.

PANEL LAYOUT

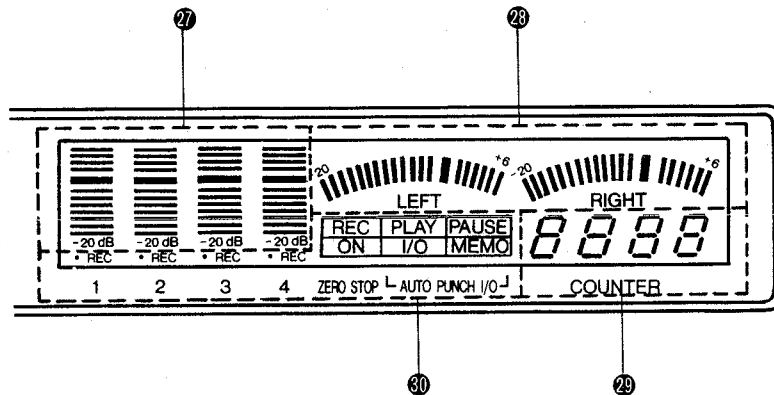
Control Panel



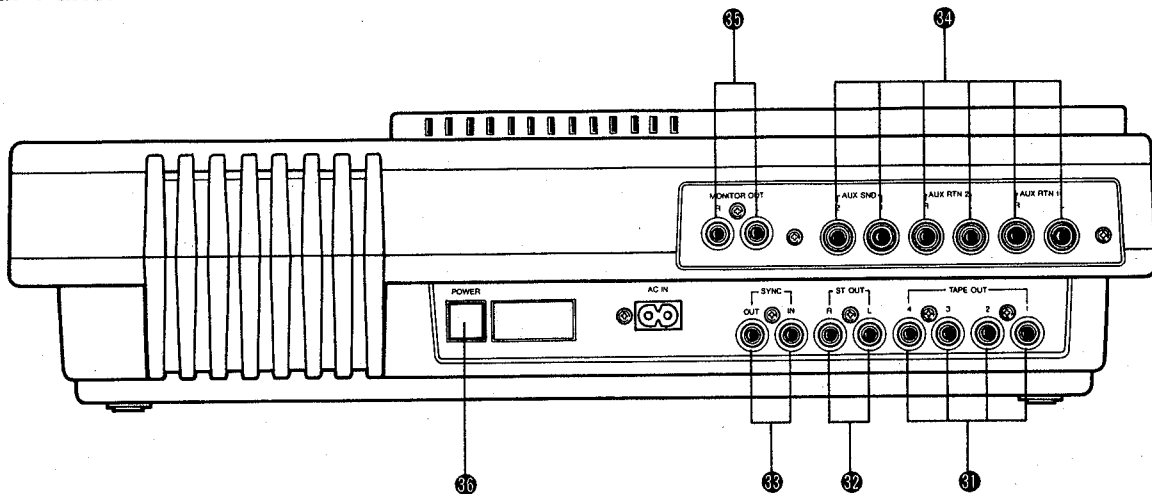
Front Panel



• Central Display Panel



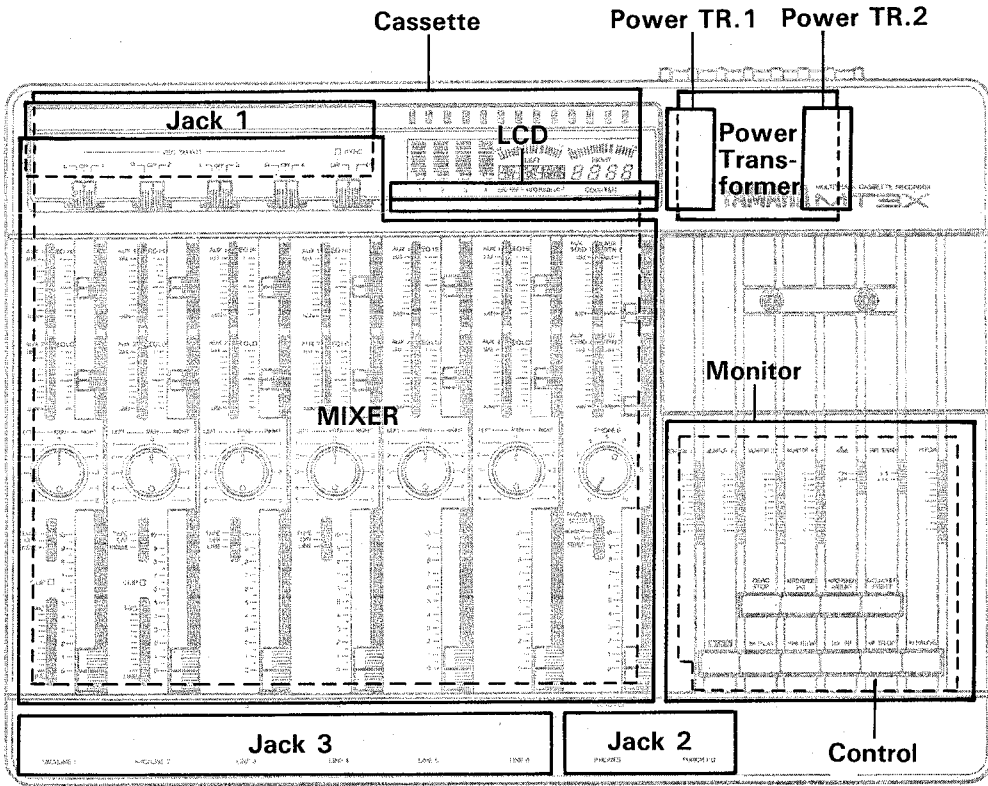
• Rear Panel



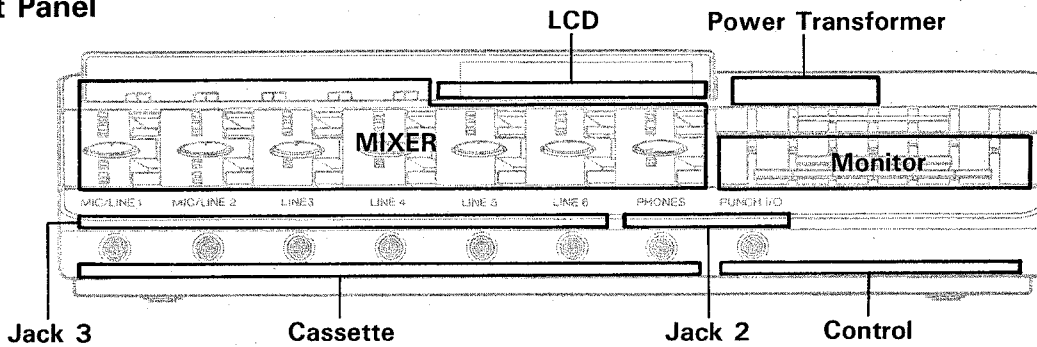
- | | |
|--|---|
| <ul style="list-style-type: none"> ① Input Jacks 1—6 ② MIC/LINE Trim Controls ③ TAPE-OFF-MIC/LINE Selectors ④ EQ LO & HI Controls ⑤ AUX 1 and AUX 2 Controls ⑥ PAN Controls ⑦ Channel Faders ⑧ REC SELECT Switches ⑨ SYNC Switch ⑩ AUX SEND 1 and AUX SEND 2 Controls ⑪ AUX RTN 1 and AUX RTN 2 Controls ⑫ MONITOR Controls ⑬ PHONES SELECT Switch ⑭ PHONES Control ⑮ PHONES Jack ⑯ MASTER Fader ⑰ dbx ON/OFF Switch ⑱ TAPE SPEED Switch | <ul style="list-style-type: none"> ⑲ PITCH Control ⑳ ZERO STOP Button ㉑ AUTO PUNCH I/O Button ㉒ AUTO PUNCH MEMO Button ㉓ COUNTER RESET Button ㉔ Transport Controls <ul style="list-style-type: none"> • REC Button • PLAY Button • REW Button • FF Button • STOP Button • PAUSE Button ㉕ Cassette Compartment ㉖ PUNCH I/O Footswitch Jack ㉗ Recorder Track Level Meters ㉘ LEFT and RIGHT Master Stereo Level Meters ㉙ Electronic Tape Counter ㉚ Mode Indicators ㉛ TAPE OUT Jacks ㉜ ST OUT R and L Jacks ㉝ SYNC IN and OUT Jacks ㉞ AUX SND & RTN Jacks ㉟ MONITOR OUT L and R Jacks ㊱ POWER Switch |
|--|---|

CIRCUIT BOARD LAYOUT

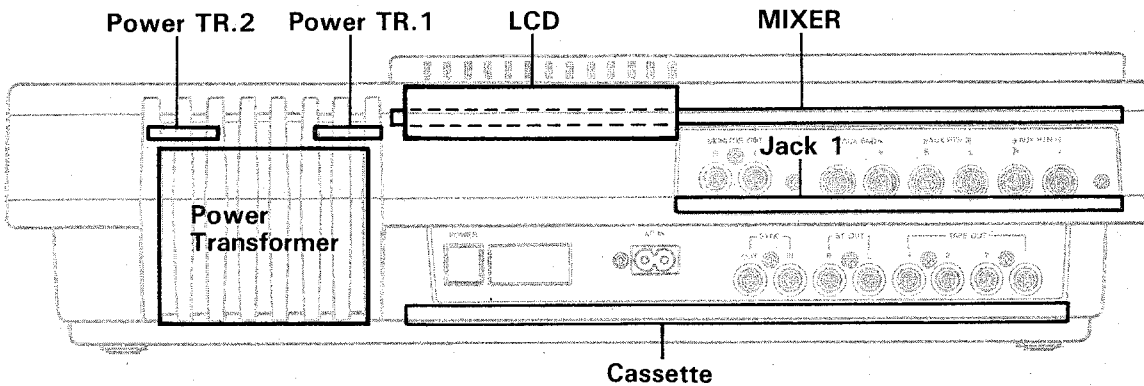
Control Panel



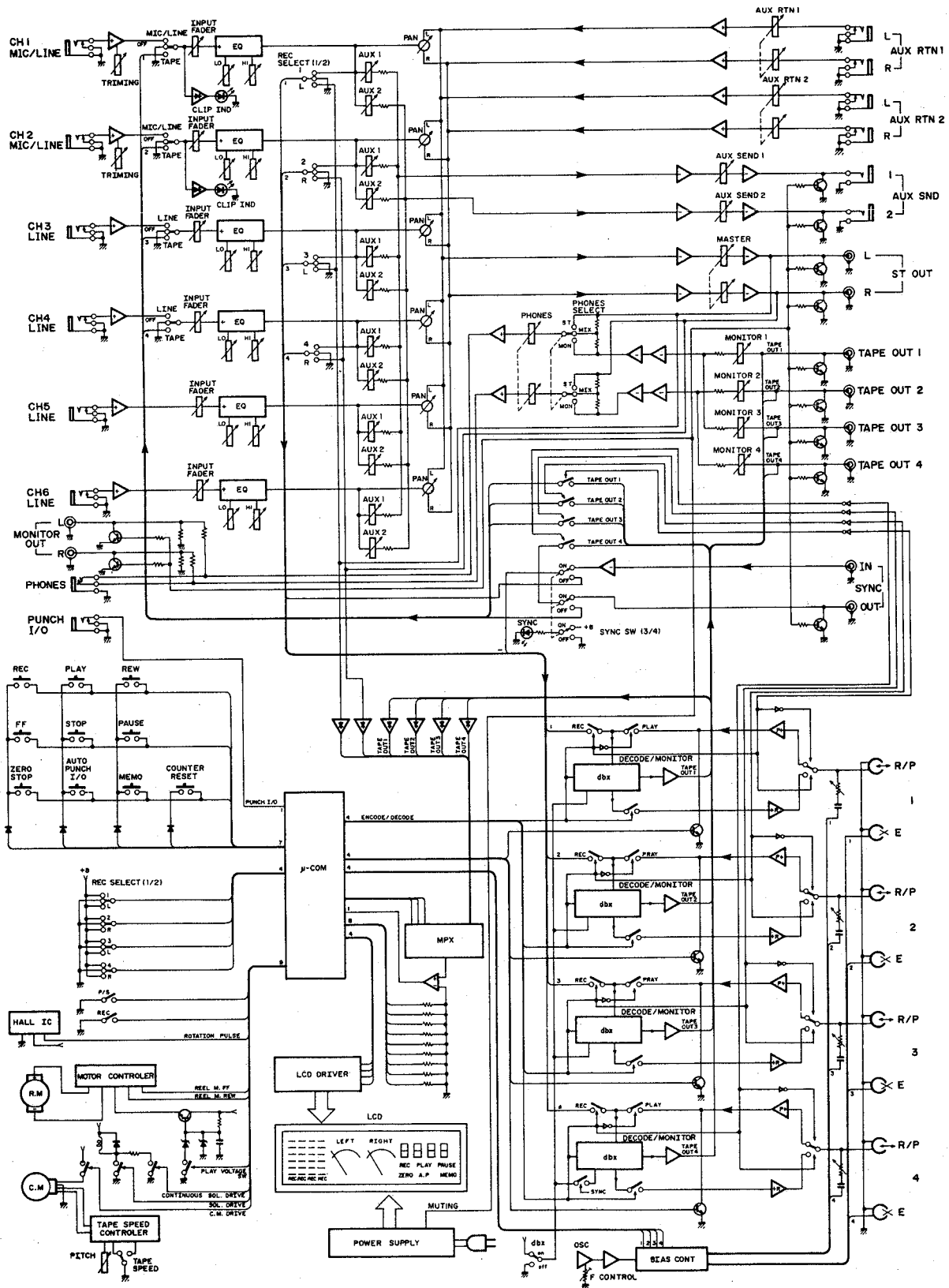
Front Panel



Rear Panel



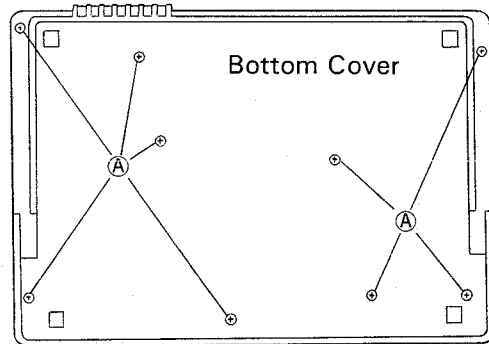
BLOCK DIAGRAM



DISASSEMBLY PROCEDURE

1. Removal of Top Cover

After the 9 pan head tapping screws **A** (3 × 35) have been removed, the Top cover can be removed. (Fig. 1)



(Fig. 1)

2. Removal of Cassette Circuit Board

2-1. Remove the Top cover. (see procedure 1.)

2-2. Remove the 2 bind head tapping screws **B** (3 × 10) and remove the Shield sheet. (Fig. 2)

2-3. After the bind head tapping screw **C** (3 × 10) and 5 bind head tapping screws **D** (3 × 10) have been removed, the Cassette circuit board can be removed. (Fig. 2, 3)

3. Removal of Monitor Circuit Board

3-1. Remove the Top cover. (see procedure 1.)

3-2. After the 4 bind head tapping screws **E** (3 × 10) have been removed, the Monitor circuit board can be removed. (Fig. 2)

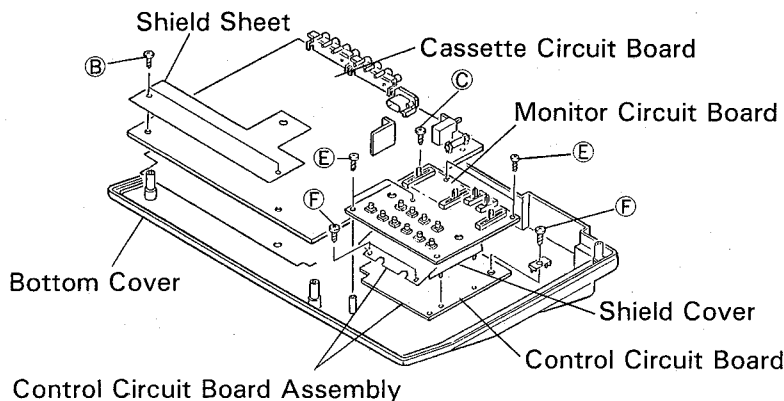
4. Removal of Control Circuit Board

4-1. Remove the Top cover. (see procedure 1.)

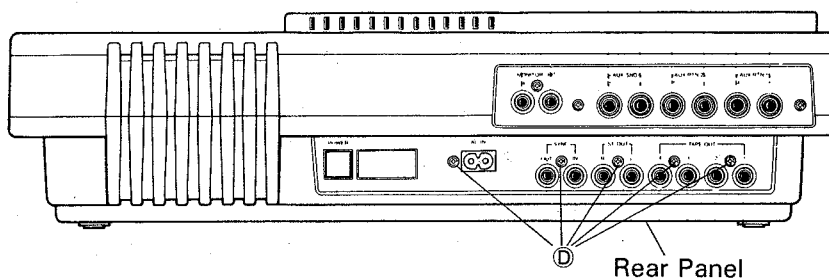
4-2. Remove the Monitor circuit board. (see procedure 3.)

4-3. Remove the 3 bind head tapping screws **F** (3 × 10) and remove the Control circuit board assembly. (Fig. 2)

4-4. Remove the shield cover from the Control circuit board by removing the solder. (Fig. 2)



(Fig. 2)



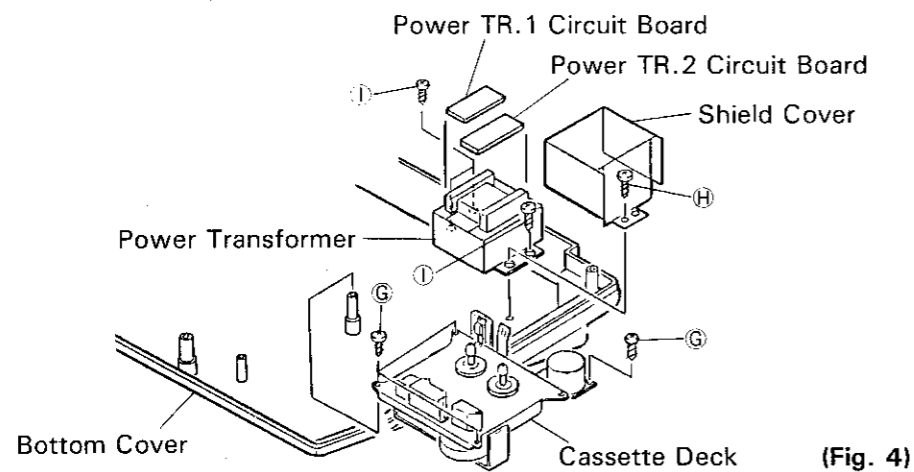
(Fig. 3)

5. Removal of Cassette Deck

- 5-1. Remove the Top cover. (see procedure 1.)
- 5-2. After the 4 bind head tapping screws ⑥ (3 × 10) have been removed, the Cassette deck can be removed. (Fig. 4)

6. Removal of Power Transformer (Power Transformer 1 and 2 circuit boards)

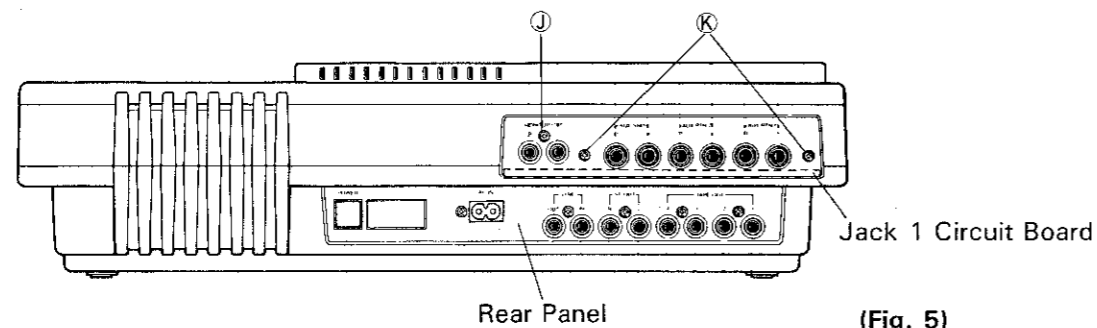
- 6-1. Remove the Top cover. (see procedure 1.)
- 6-2. Remove the bind head tapping screw ④ (3 × 10) and remove the Shield cover. (Fig. 4)
- 6-3. After the 3 bind head tapping screws ① (3 × 10) have been removed, the Power transformer can be removed. (Fig. 4)
- * The Power transformer 1 and 2 circuit boards are removed with the Power transformer.



(Fig. 4)

7. Removal of Jack 1 Circuit Board

- 7-1. Remove the Top cover. (see procedure 1.)
- 7-2. After the bind head tapping screw ① (3 × 10) and 2 bind head tapping screws ⑫ (3 × 8) have been removed, the Jack 1 circuit board can be removed. (Fig. 5)



(Fig. 5)

8. Removal of Jack 2 Circuit Board

- 8-1. Remove the Top cover (see procedure 1.)
- 8-2. After the bind head tapping screw ⑬ (3 × 10) has been removed, the Jack 2 circuit board can be removed. (Fig. 6)

9. Removal of Jack 3 Circuit Board

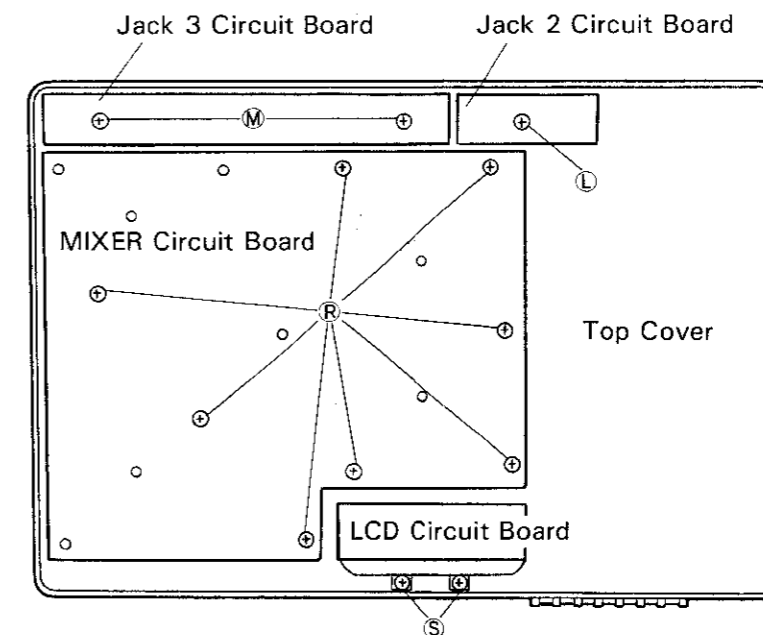
- 9-1. Remove the Top cover. (see procedure 1.)
- 9-2. After the 2 bind head tapping screws ⑭ (3 × 10) have been removed, the Jack 3 circuit board can be removed. (Fig. 6)

10. Removal of MIXER Circuit Board

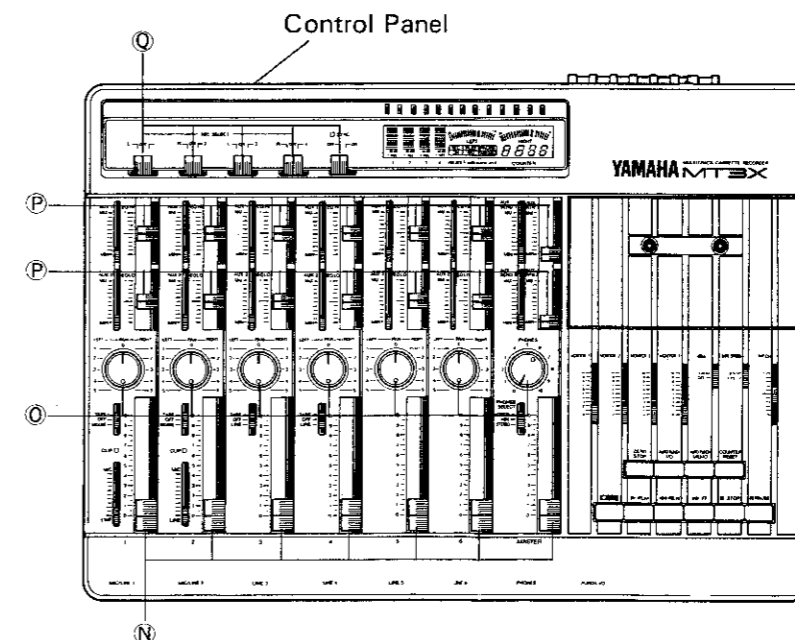
- 10-1. Pull out the 7 fader knobs ⑮, 7 PAN control knobs ⑯, 14 EQ knobs ⑰ and 5 REC select knobs ⑱. (Fig. 7)
- 10-2. Remove the Top cover. (see procedure 1.)
- 10-3. Remove the Jack 1 circuit board. (see procedure 7.)
- 10-4. After the 8 bind head tapping screws ⑲ (3 × 10) have been removed, the MIXER circuit board can be removed. (Fig. 6)

11. Removal of LCD Circuit board

- 11-1. Remove the Top cover. (see procedure 1)
- 11-2. After the 2 bind head tapping screws ⑳ (3 × 10) have been removed, the LCD circuit board can be removed. (Fig. 6)



(Fig. 6)

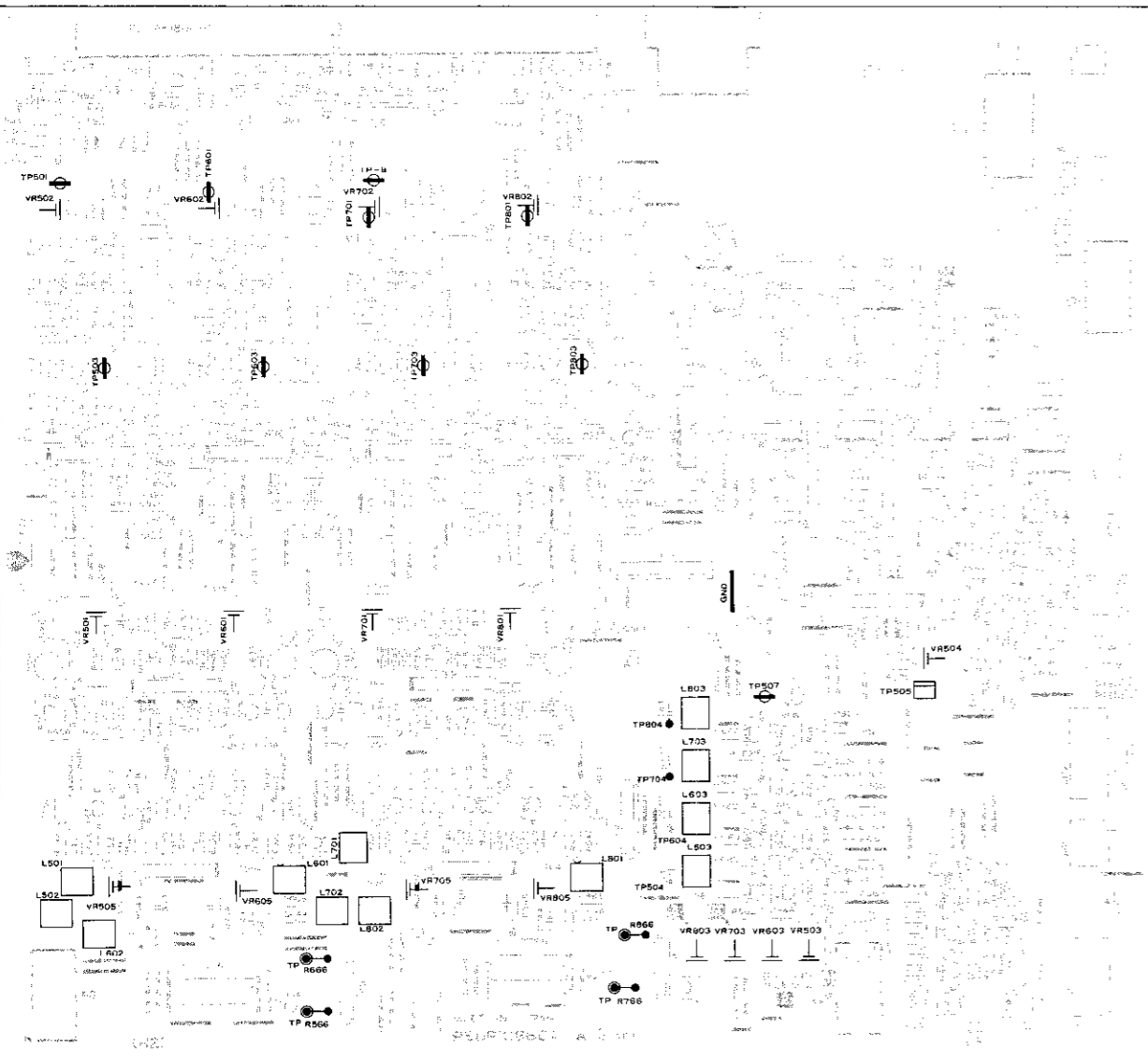


(Fig. 7)

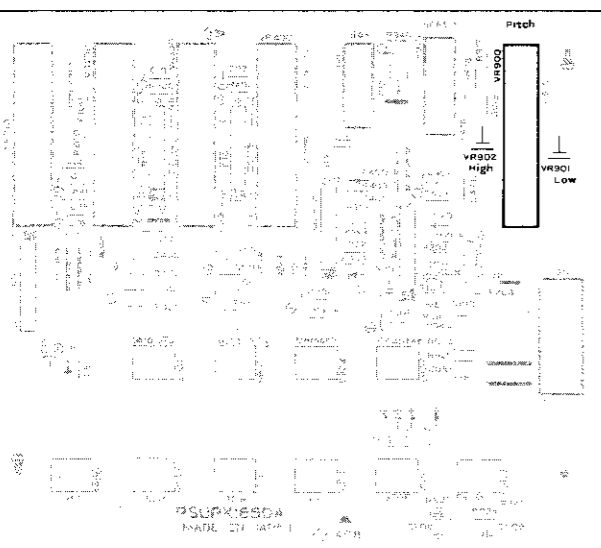
ADJUSTMENTS

1. Adjustment Locations

• Cassette Circuit Board



• Monitor Circuit Board



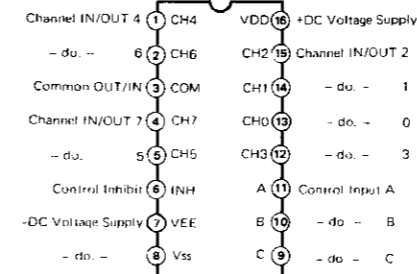
4. Cassette Section Adjustments

Adjustment	Equipment Required	Control/Switch Settings	Measure at	Adjust	Rating
dbx	DC millival		TP. 501 (CH1) TP. 601 (CH2) TP. 701 (CH3) TP. 801 (CH4)	VR. 502 (CH1) VR. 602 (CH2) VR. 702 (CH3) VR. 802 (CH4)	Adjust for DC millival reading of 18.4 mV ± 1.0mV.
Erase bias frequency	Frequency counter		TP. 507 (CH1~CH4)	VR. 504 (CH1~CH4)	Adjust for Frequency counter reading of 80 KHz ± 1 KHz.
Erase bias	Oscilloscope	• REC. SELECT Switch : on (1~4) • Cassette REC Button : on	TP. 504 (CH1) TP. 604 (CH2) TP. 704 (CH3) TP. 804 (CH4)	L. 503 (CH1) L. 603 (CH2) L. 703 (CH3) L. 803 (CH4)	Adjust for maximum peak to peak voltage (7~8.5) at 80 KHz.
Record amplifier bias trap	Oscilloscope	• REC. SELECT Switch : on (1~4) • Cassette REC Button : on	TP. 502 (CH1) TP. 602 (CH2) TP. 702 (CH3) TP. 802 (CH4)	L. 502 (CH1) L. 602 (CH2) L. 702 (CH3) L. 802 (CH4)	Adjust for minimum peak to peak voltage at about 80 KHz. (less than 10 mV)
Record bias	AC valve voltmeter	• REC. SELECT Switch : on (1~4) • Cassette REC Button : on	TP.R 566 (CH1) TP.R 666 (CH2) TP.R 766 (CH3) TP.R 866 (CH4)	VR. 503 (CH1) VR. 603 (CH2) VR. 703 (CH3) VR. 803 (CH4)	Adjust for voltmeter reading of 6.3 mV at about 78 KHz.
Record level	AC valve voltmeter AF oscillator	• REC. SELECT Switch : on (1~4) • Cassette REC Button : on	TP.R 566 (CH1) TP.R 666 (CH2) TP.R 766 (CH3) TP.R 866 (CH4) TP. 505 (CH1~CH4)	VR. 501 (CH1) VR. 601 (CH2) VR. 701 (CH3) VR. 801 (CH4)	Apply 1 KHz signals to the input terminals. Adjust the channel faders so that the output level at the TAPE OUT becomes -10 dBm (245 mV). Connect the test point (TP. 505) to the ground and adjust for voltmeter reading of 0.58 mV.
Playback amplifier bias trap	Oscilloscope	• Cassette REC Button : on • REC. SELECT Switch for CH1 : off • REC. SELECT Switch for CH2~CH4 : on * CH2~CH4 can be adjusted in same manner as CH1.	TAPE OUT 1 (CH1) TAPE OUT 2 (CH2) TAPE OUT 3 (CH3) TAPE OUT 4 (CH4)	L. 501 (CH1) L. 601 (CH2) L. 701 (CH3) L. 801 (CH4)	Adjust for minimum peak to peak voltage at about 80 KHz. (less than 30mV)

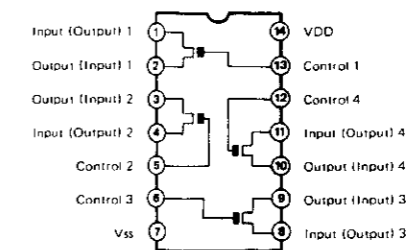
Adjustment	Equipment Required	Control/Switch Settings	Measure at	Adjust	Rating
Tape speed	Wow/flutter meter Frequency counter Test tape (QZZCWAS 3 KHz)	• PITCH control (VR. 900): center (click)	TAPE OUT (CH1)	VR. 902 (High) (CH1~CH4) VR. 901 (Low) (CH1~CH4)	Turn the TAPE SPEED switch (S910) to 9.5 cm/s (High). Play the test tape (QZZCWAS 3 KHz) and adjust for 6000 Hz ± 10Hz. Turn the TAPE SPEED switch (S910) to 4.75 cm/s (Low). Play the test tape and adjust for 3000 Hz ± 10Hz.
Azimuth	AC valve voltmeter Oscilloscope Test tape (QZZCAE 12.5 KHz)		TAPE OUT (CH1~CH4)	Azimuth adjustment screw	Play the test tape (QZZCAC. 12.5 KHz) and adjust for maximum output.
Playback amplifier level	AC valve voltmeter Test tape (QZZCLA 315 Hz)	• dbx Switch : off • RL : 10 kΩ	TAPE OUT (CH1~CH4)	VR. 505 (CH1) VR. 605 (CH2) VR. 705 (CH3) VR. 805 (CH4)	Play the test tape (QZZCLA315 Hz 0 dB) and adjust for -10 dBm (245mV).
dbx ON/OFF	Oscilloscope	• TAPE OUT level: -30 dBm	TAPE OUT (CH1~CH4) TP. 501 (CH1~CH4)	VR. 501 (CH1) VR. 601 (CH2) VR. 701 (CH3) VR. 801 (CH4)	Turn the dbx switch on and adjust for ± 3.5 dB at 1 KHz.

IC BLOCK DIAGRAM

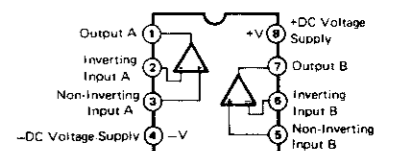
- NJU4051BD (IX804340) Single 8-Ch. Multiplexer/Demultiplexer



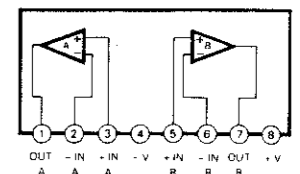
- LC4066BH (IX600780) Quad Bilateral Switch



- NJM2903D (IX000620) Dual Operational Amplifier

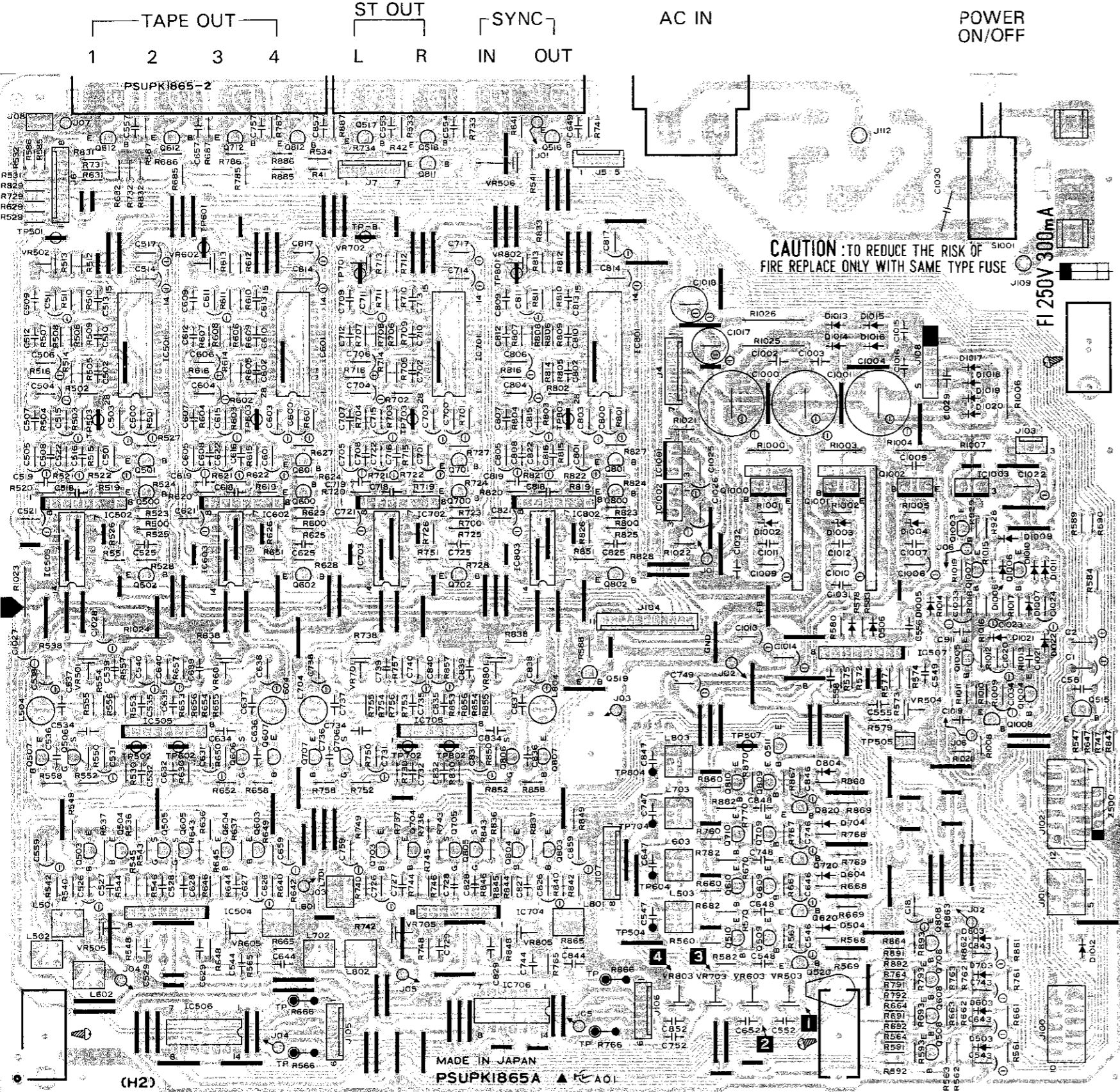


- NJM4558SD (IX803430) RC2043LE (IX804170) Dual Operational Amplifier



CIRCUIT BOARDS

Cassette Circuit Board (U.S. & Canadian model)



Notes)

- Circuit Board, Cassette PSXPK440-A (IX807260) U, C PSUPK1865A
 - Circuit Board, Cassette PSXPK441-A (IX807310) E, X PSUPK1868A
1. IC
 IC501, 60, 701, 801: AN6292NK (IX803220) dbx
 IC502, 602, 702, 802, 505, 705: NJM4558SD (IX803430) OP AMP.
 IC503, 603, 703, 803: LC4066BH (IX600780) SWITCH
 IC504, 507, 704: RC2043LE (IX804170) OP AMP.
 IC506, 706: μ PC1290C (XA508001)
 IC1001: AN78N07 (IX804290) Regulator
 IC1002: AN79N07 (IX804300) Regulator
 IC1003: AN7805 (IG083100) Regulator
 2. Transistor
 Q500, 600, 700, 800: UN4116 (IX553390)
 Q501, 601, 701, 801, 502, 602, 702, 802, 504, 604, 704, 804, 507, 607, 707, 807, 509, 609, 709, 809, 515, 1005, 1006: 2SC3311S-TA (IX801680)
 Q503, 603, 703, 803, 512, 612, 712, 812, 516-518: 2SC2878A (IX608390)
 Q508, 608, 708, 808, 519: UN4214-TA (IX803450)
 Q510, 610, 710, 810: 2SC1383-Q (XX808800)
 Q520, 620, 720, 820, 511, 1004, 1008: UN4115 (IX804350)
 Q811: UN4216 (IX553410)
 Q1000, 1002: 2SD2012 (IX803230)
 Q1001: 2SB1375 (IX804280)
 Q1003, 1007: 2SA1309R-TA (IX802240)
 3. FET
 Q505, 605, 705, 805, 506, 606, 706, 806: 2SK655-T (IX803480)
 4. Diode
 D503, 603, 703, 803, 504, 604, 704, 804, 506, 1005-1007, 1009-1012, 1022: SVD1SS119-04T (XX808790)
 D1013-1020: RL1N4003-NO2 (IX802840)
 D1021: 1SS199T (IX804270)
 5. Zener Diode
 D1002, 1003: HZS12B2TD (IX804160)
 D1004: HZS9A2TD (IX804150)
 6. Capacitor Array
 Z500: EXFP4103ZW (FX800480)
 7. Trimmer Potentiometer
 VR501, 601, 701, 801: EVND4AA00B14 (XX808860)
 VR502, 602, 702, 802: EVND4AA00BQ3 (HX804880)
 VR503, 603, 703, 803: EVND4AA00B15 (XX808870)
 VR504: EVND4AA00B13 (HX804860)
 VR505, 605, 705, 805: EVND4AA00BC2 (HX804790)
 VR506: EVN61AA00B54 (HX551750)
 8. Electrolytic Cap.
 C1000, 1001: ECEA1FU222E-S (FJ249220) 220 μ F 25V
 C1004: ECEA1CU332E-S (UW939330) 330 μ F 16V
 9. Coil
 L501, 601, 701, 801, 502, 602, 702, 802: PSLC02T (GX801890)
 L503, 603, 703, 803: PSLE03T (GX801900)
 L504, 604, 704, 804: QLQX2422T (GX801300)
 10. Power Switch
 S1001: PSSHK91 (KX801620) POWER
 11. Switch
 PSSRK26 (KX801660) E, X
 12. Jack
 SJF3061-14N 4P (LX801930) TAPE OUT, SYNC
 13. AC Inlet
 SJS9236 (LX801940) J, E, X AC IN
 SJS9237 (LX801950) U, C AC IN
 14. Fuse
 F1: XBA2E03NS5 (KX801690) J
 F1: XBA2F03NU100 (KX801700) U, C
 F1: XBA2C03TBOS (KX801680) E, X

FOR CANADIAN SPEC.
 (In accordance with CSA standard C22.2 No. 1)
 Pour les spécifications du Canada
 (En conformité avec les Normes CSA C22.2 N°1)

*** Fuse replacement marking (Repère de remplacement de fusible) ***

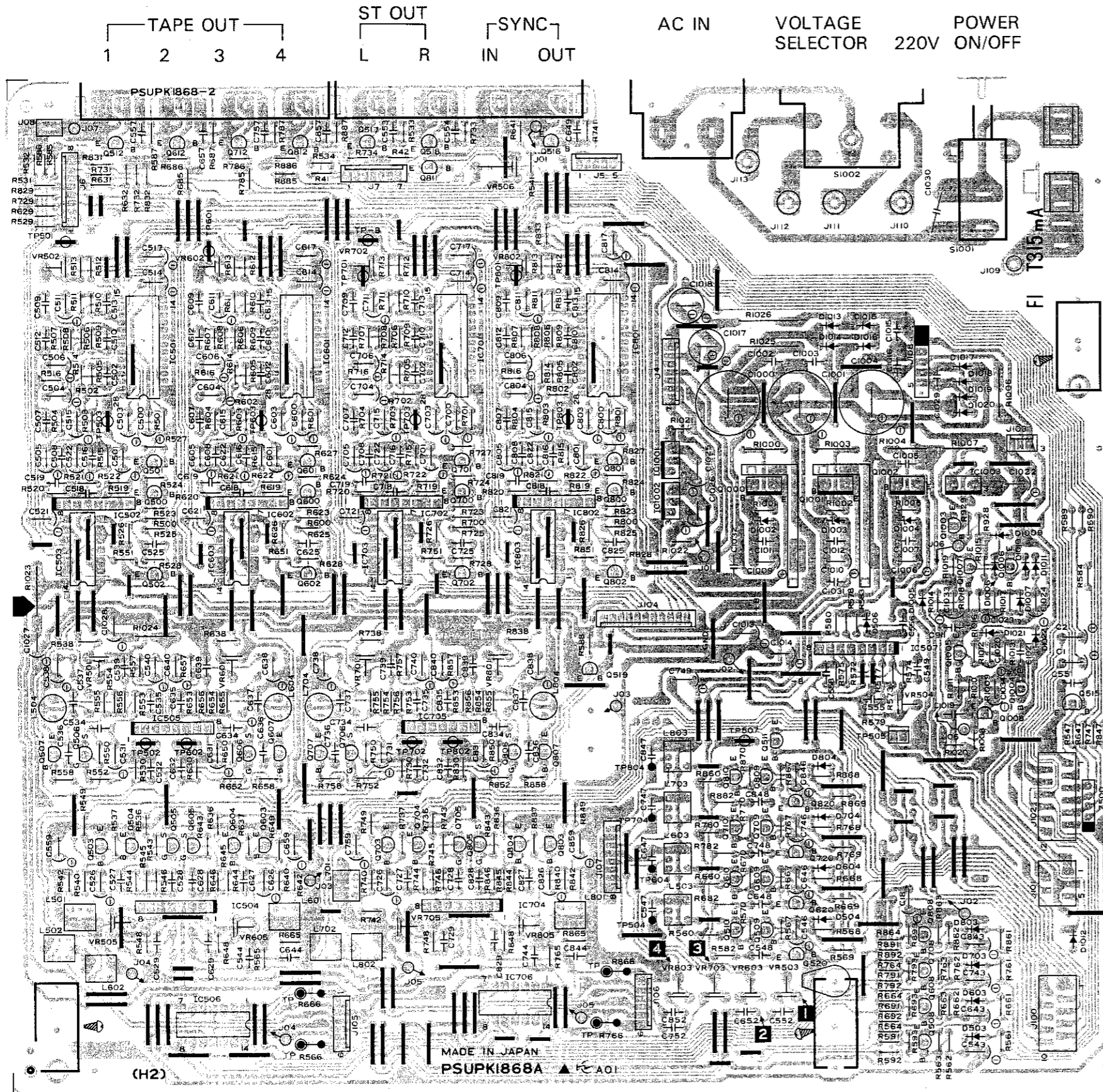
250V 300mA Fast operation fuse
 (250V 300mA Fusible à régime fixe)

CAUTION: TO REDUCE THE RISK OF FIRE, REPLACE ONLY WITH SAME TYPE FUSE.
ATTENTION: AFIN DE RÉDUIRE LE RISQUE DE FEU, REMPLACER UNIQUEMENT PAR UN FUSIBLE DE MEME TYPE.

Cassette

Connector	Destination
J4	MIXER-J4
J5	MIXER-J5
J6	MIXER-J6
J7	MIXER-J7
J100	Control-J100
J101	Control-J101
J102	Control-J102
J103	LCD-J103
J104	Monitor-J104
J105	Rec/PB head Ch1 & 2
J106	Rec/PB head Ch3 & 4
J107	Erase head Ch1-4
J108	Power TR.1-J108
J109	Power TR.2-J109
J110 (E, X)	Power TR.2-J110 (E, X)
J111 (E, X)	Power TR.2-J111 (E, X)
J112	Power TR.2-J112
J113 (E, X)	Power TR.2-J113 (E, X)

• Cassette Circuit Board (European & General Export model)



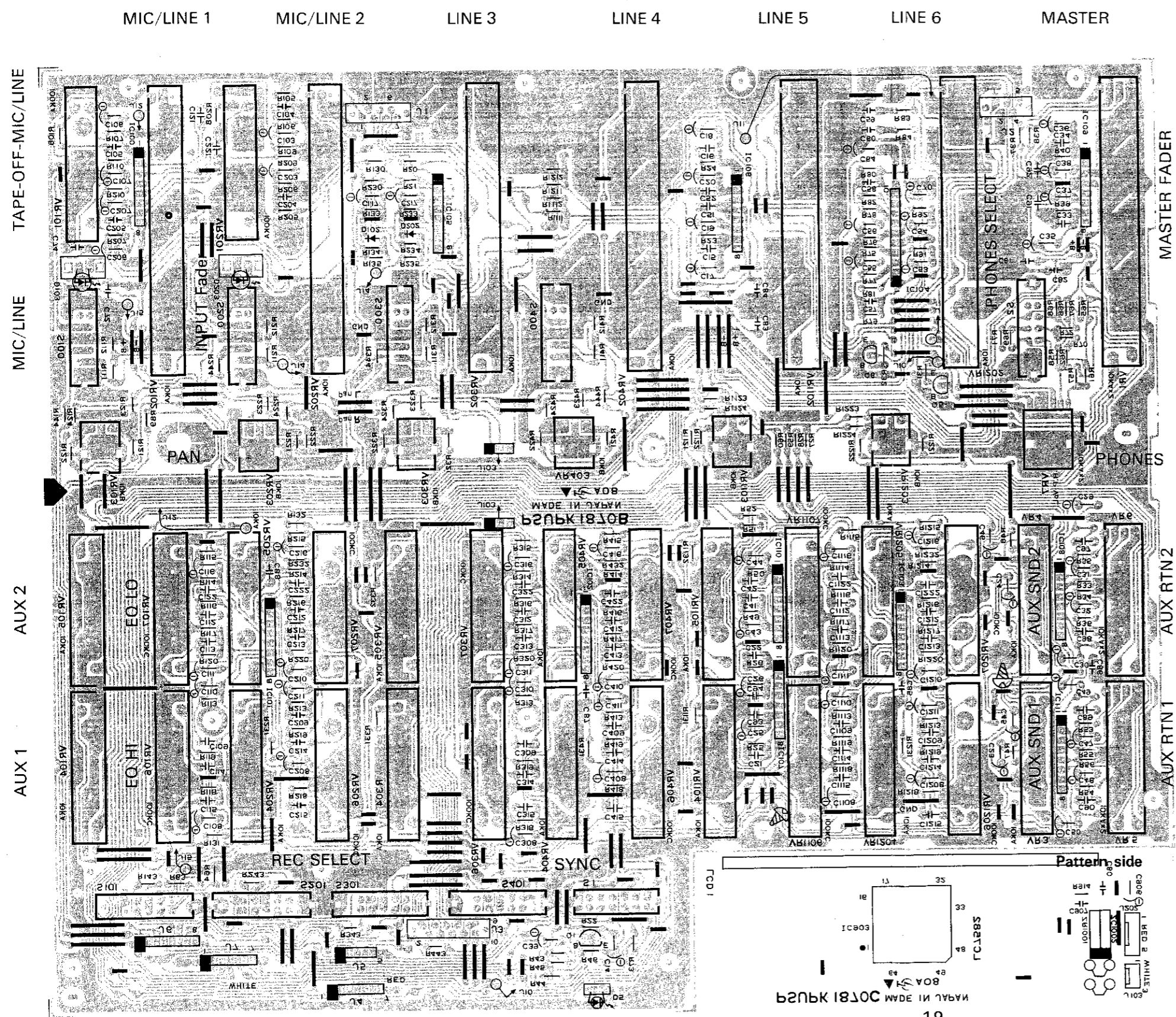
Notes)

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 - Circuit Board, Cassette PSXPK441-A (NX807310) E, X PSUPK1868A
1. IC
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 IC502, 602, 702, 802, 505, 705: NJM4558SD (IX803430) OP AMP.
 IC503, 603, 703, 803: LC4066BH (IX600780) SWITCH
 IC504, 507, 704: RC2043LE (IX804170) OP AMP.
 IC506, 706: μ PC1290C (XA508001)
 IC1001: AN78N07 (IX804290) Regulator
 IC1002: AN79N07 (IX804300) Regulator
 IC1003: AN7805 (IG083100) Regulator
 2. Transistor
 Q500, 600, 700, 800: UN4116 (IX553390)
 Q501, 601, 701, 801, 502, 602, 702, 802, 504, 604, 704, 804, 507, 607, 707, 807, 509, 609, 709, 809, 515, 1005, 1006: 2SC3311S-TA (IX801680)
 Q503, 603, 703, 803, 512, 612, 712, 812, 516-518: 2SC2878A (IX608390)
 Q508, 608, 708, 808, 519: UN4214-TA (IX803450)
 Q510, 610, 710, 810: 2SC1383-Q (XX808800)
 Q511, 1004, 1008: UN4115 (IX804350)
 Q811: UN4216 (IX553410)
 Q1000, 1002: 2SD2012 (IX803230)
 Q1001: 2SB1375 (IX804280)
 Q1003, 1007: 2SA1309R-TA (IX802240)
 3. FET
 Q505, 605, 705, 805, 506, 606, 706, 806: 2SK655-T (IX803480)
 4. Diode
 D503, 603, 703, 803, 504, 604, 704, 804, 506, 1005-1007, 1009-1012, 1022: SVD1SS119-04T (XX808790)
 D1013-1020: RL1N4003-NO2 (IX802840)
 D1021: 1SS199T (IX804270)
 5. Zener Diode
 D1002, 1003: HZS12B2TD (IX804160)
 D1004: HZS9A2TD (IX804150)
 6. Capacitor Array
 Z500: EXFP4103ZW (FX800480)
 7. Trimmer Potentiometer
 VR501, 601, 701, 801: EVND4AA00B14 (XX808860)
 VR502, 602, 702, 802: EVND4AA00BQ3 (HX804880)
 VR503, 603, 703, 803: EVND4AA00B15 (XX808870)
 VR504: EVND4AA00B13 (HX804860)
 VR505, 605, 705, 805: EVND4AA00BC2 (HX804790)
 VR506: EVN61AA00B54 (HX551750)
 8. Electrolytic Cap.
 C1000, 1001: ECEA1EU222E-S (FJ249220) 2200 μ F 25V
 C1004: ECEA1CU332E-S (UW939330) 3300 μ F 16V
 9. Coil
 L501, 601, 701, 801, 502, 602, 702, 802: PSLC02T (GX801890)
 L503, 603, 703, 803: PSLE03T (GX801900)
 L504, 604, 704, 804: QLQX2422T (GX801300)
 10. Power Switch
 S1001: PSSHK91 (KX801620) POWER
 11. Switch
 PSSRK26 (KX801660) E, X
 12. Jack
 SJF3061-14N 4P (LX801930) TAPE OUT, SYNC
 13. AC Inlet
 SJS9236 (LX801940) J, E, X AC IN
 SJS9237 (LX801950) U, C AC IN
 14. Fuse
 F1: XBA2E03NS5 (KX801690) J
 F1: XBA2F03NU100 (KX801700) U, C
 F1: XBA2C03TBOS (KX801680) E, X

• Cassette

Connector	Destination
J4	MIXER-J4
J5	MIXER-J5
J6	MIXER-J6
J7	MIXER-J7
J100	Control-J100
J101	Control-J101
J102	Control-J102
J103	LCD-J103
J104	Monitor-J104
J105	Rec/PB head Ch1 & 2
J106	Rec/PB head Ch3 & 4
J107	Erase head Ch1-4
J108	Power TR.1-J108
J109	Power TR.2-J109
J110 (E, X)	Power TR.2-J110 (E, X)
J111 (E, X)	Power TR.2-J111 (E, X)
J112	Power TR.2-J112
J113 (E, X)	Power TR.2-J113 (E, X)

• MIXER Circuit Board

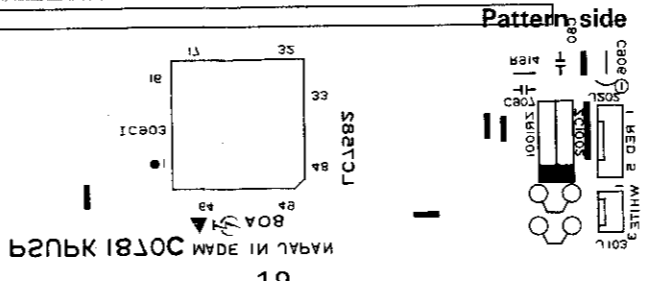


Notes)

- * Circuit Board, MIXER PSXPK422-B (NX807220) PSUPK1870B
- 1. IC
 IC100: RC2043LE (IX804170) OP AMP.
 IC101, 103, 105 ~ 111: NJM4558SD (IX803430) OP AMP.
 IC104: LA6515 (IX804310)
- 2. Transistor
 Q1: 2SC3311S-T (IX801680)
 Q5, 6: 2SC2878A (IX608390)
- 3. Diode
 D102, 202: SVD1SS119-04T (XX808790)
- 4. LED
 D5: LN81CPHL (IX804330) SYNC
 D103, 203: LN265RPH (XX808820) CLIP
- 5. Variable Resistor
 VR1: PSVS602AA14 (HX804820) MASTER Fader
 VR3, 4, 104, 105, 204, 205, 304, 305, 404, 405, 1104, 1105, 1204, 1205: PSVS251AA14 (HX802500) AUX SEND/MASTER
 VR5, 6: PSVS252AA14 (HX802520) AUX RTN Faders
 VR7: EVJY70F20A14 (HX804830) PHONES
 PSVS251AA15 (HX802480) MIC/LINE
 VR101, 201: PSVS601AA14 (HX804800) CH Faders
 VR102, 202, 302, 402, 1102, 1202: PSVS601AA14 (HX804800) CH Faders
 VR103, 203, 303, 403, 1103, 1203: EVUF2F20B14 (HX804890) PAN
 VR106, 107, 206, 207, 306, 307, 406, 407, 1106, 1107, 1206, 1207: PSVS251CC15 (HX804810) EQ Vol.
- 6. Switch
 S1: PSSSK23-K (KX801670) SYNC
 S2, 100, 200, 300, 400: PSSSK17-K (KX801060) PHONES SELECT
 S101, 201, 301, 401: PSSK22-K (KX801630) REC SELECT

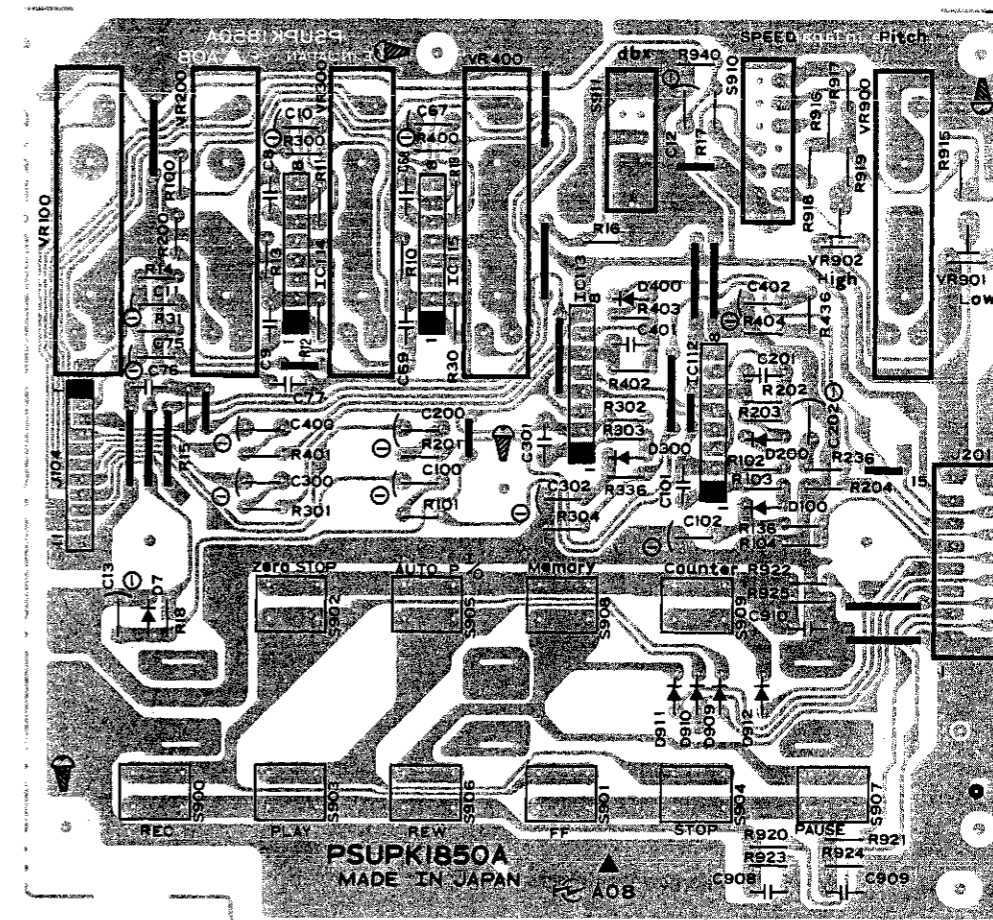
• MIXER

Connector	Destination
J1	Jack3-J1
J2	Jack2-J2
J3	Jack1-J3
J4	Cassette-J4
J5	Cassette-J5
J6	Cassette-J6
J7	Cassette-J7



• Monitor Circuit Board

MONITOR 2 MONITOR 4 dbx TAPE SPEED
 MONITOR 1 MONITOR 3 ON/OFF 9.5/4.75 PITCH



REC PLAY REW FF STOP PAUSE
 Components side

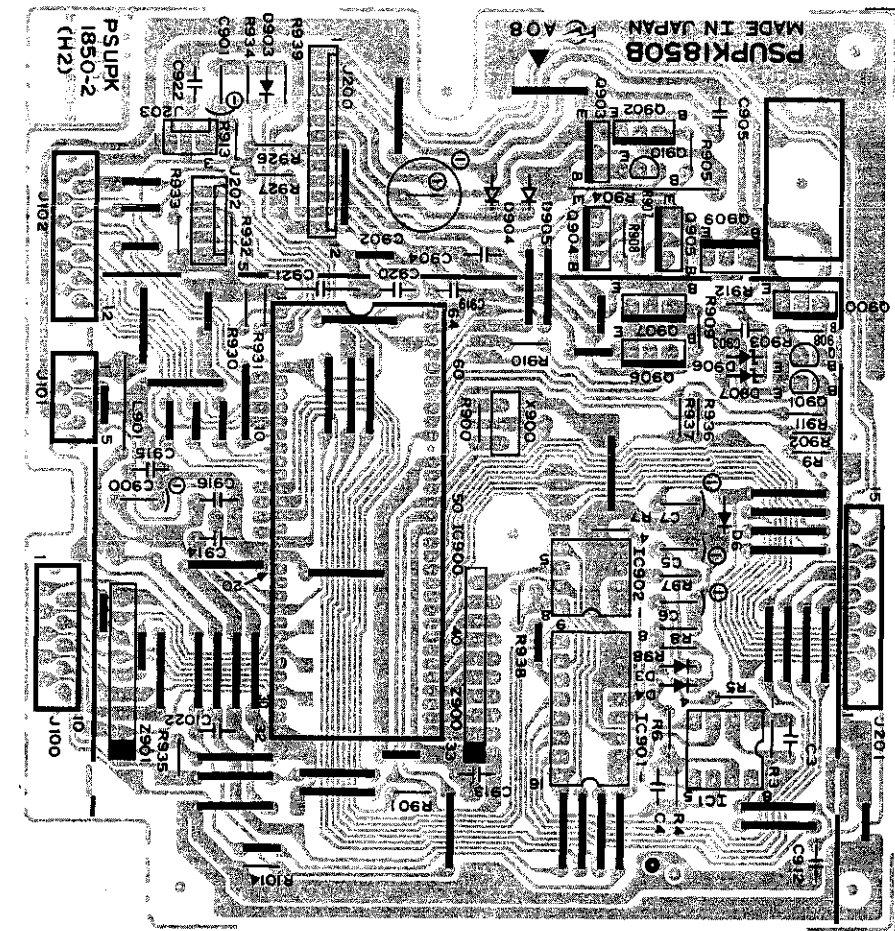
Notes)

- * Circuit Board, Monitor PSXPK423-A (NX807240) PSUPK1850A
- 1. IC
 IC112, 113, 114, 115: NJM4558SD (IX803430) OP AMP.
- 2. Diode
 D7: 1SS199T (IX804270)
 D909 - 912, 100, 200, 300, 400: SVD1SS119-04T (XX808790)
- 3. Variable Resistor
 VR100, 200, 300, 400: PSVS251AA14 (HX802500) MONITOR
 VR900: PSVS251CB14 (HX804840) PITCH
- 4. Trimmer Potentiometer
 VR901, 902: EVND4AA00B14 (HX804870) High, Low
- 5. Switch
 S900 - 909: EVQQAC07K (KX801650)
 S910: PSSSK18 (KX801050) TAPE SPEED
 S911: PSSSK19 (KX801070) dbx

• Monitor

Connector	Destination
J104	Cassette-J104
J201	Control-J201

• Control Circuit Board



Components side

Notes)

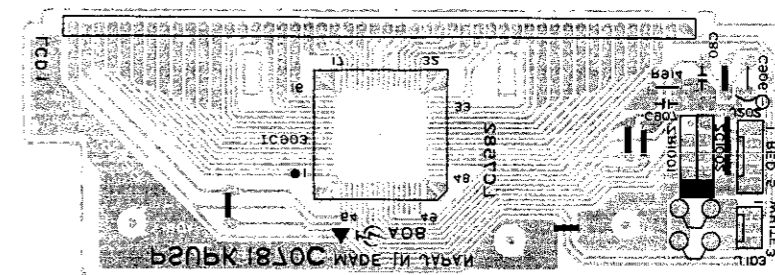
* Circuit Board, Control PSXPK423-B (NX807250) PSUPK1850B

1. IC
 IC1: NJM4558SD (IX803430) OP AMP.
 IC900: HD614042SJ61 (IX804200) CPU
 IC901: NJU4051BD (IX804340)
 IC902: NJM2903D (IX000620)
2. Transistor
 Q900, 904, 905: 2SB909M (IX606750)
 Q901, 908: 2SC3311S-T (IX801680)
 Q902, 903, 906, 907: 2SD1225M QR (IX601880)
 Q909: 2SD2012 (IX803230)
 Q910: UN4216 (IX553410)
3. Diode
 D 3, 4: SVD1SS119-04T (XX808790)
 D6, 903: 1SS199T (IX804270)
 D904, 905: RL1N4003-N02 (IX802840)
4. Zener Diode
 D906: HZS6C3TD (IX803240)
 D907: HZS3B3TD (IX803520)
5. Resistor Array
 Z900: EXBF10L795J (HX804900)
 Z901, 902: EXBF9E332J (HX804910)
6. Electrolytic Cap.
 C902: ECEA1CU102ES (FJ239100) 1000 μ F 16V
7. Coil
 L901: ELEA102KA (GX801910)
8. X900: EFOFC4004A3 (GX801860)

• Control

Connector	Destination
J100	Cassette-J100
J101	Cassette-J101
J102	Cassette-J102
J200	Motor, Rec SW, Play/Stop SW
J201	Monitor-J201
J202	LCD-J202
J209	DN6851

• LCD Circuit Board



Pattern side

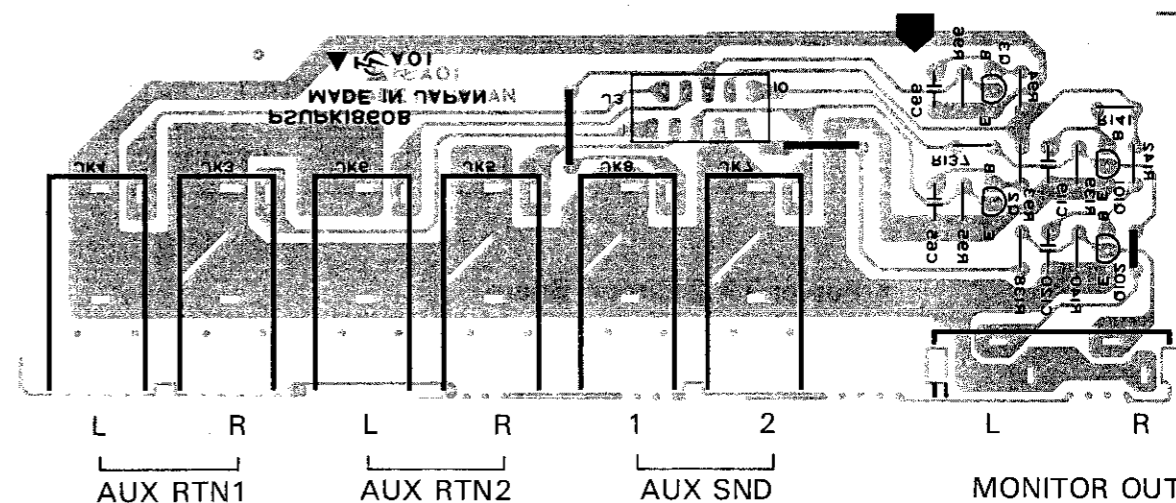
Notes)

- * Circuit Board, LCD PSXPK422-C (NX807230) PSUPK1870C
- 1. IC
IC903: LC7582B (IX804320)
- 2. LCD
LCD901: PSALFTD6B88 (IX804190)
- 3. Lamp
Lamp1, 2 XAMK4A (JX800220)
- 4. Resistor Array
Z1001: EXBP84102J (HX804920)
- 5. Capacitor
Z1002: EXFP4222ZZW (FX800480)

• LCD

Connector	Destination
J103	Cassette-J103
J202	Control-J202

• Jack 1 Circuit Board



Pattern side

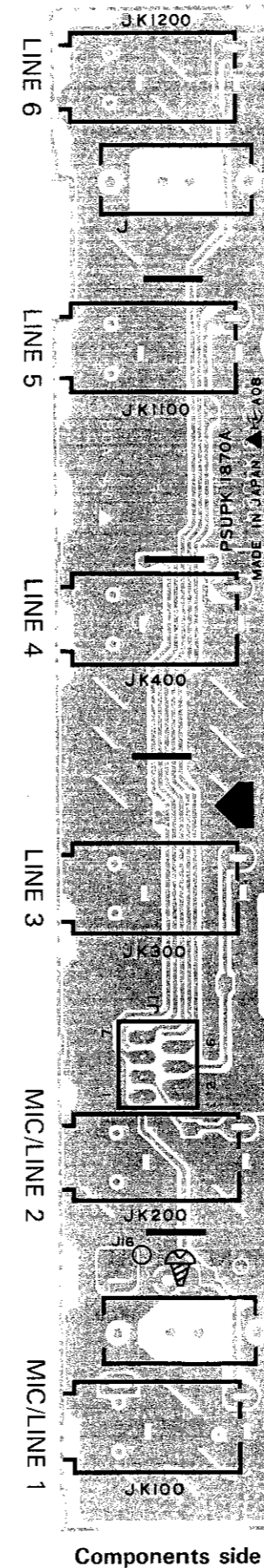
Notes)

- * Circuit Board, Jack 1 PSXPK440-B (NX807270) U, C PSUPK 1865B
PSXPK441-B (NX807320) E, X PSUPK 1868B
- 1. Transistor
Q2, 3, 101, 102: 2SD1915-T (IX803460)
- 2. Jack
JK3 ~ 8: PSJJ38 (LX800760) AUX SEND/RTN
PSJFK7 2P (LX801920) MONITOR OUT

• Jack 1

Connector	Destination
J3	MIXER-J3

• Jack 3 Circuit Board



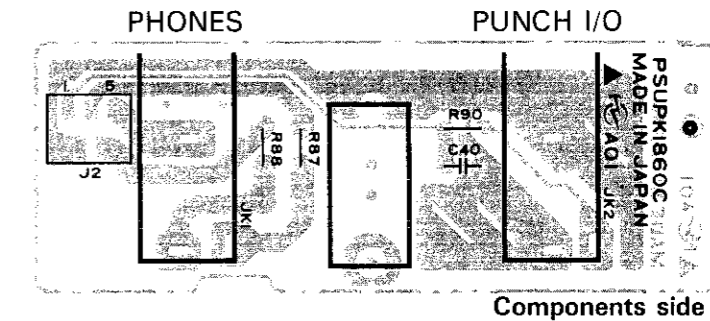
Notes)

- * Circuit Board, Jack 3 PSXPK422-A (NX807210) PSUPK1870A
- 2. Jack JK100, 200, 300, 400, 1100, 1200: PSJJ38 (LX800760) MIC/LINE, LINE

• Jack 3

Connector	Destination
J1	MIXER-J1

• Jack 2 Circuit Board



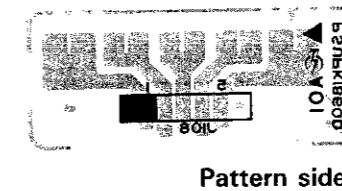
Notes)

- * Circuit Board, Jack 2 PSXPK440-C (NX807280) U, C PSUPK1865C PSXPK441-C (NX807330) E, X PSUPK1868C
- 1. Jack JK1: SJJ134B (LX800770) PHONES
JK2: PSJJ38 (LX800760) PUNCH I/O

• Jack 2

Connector	Destination
J2	MIXER-J2

• Power TR.1 Circuit Board

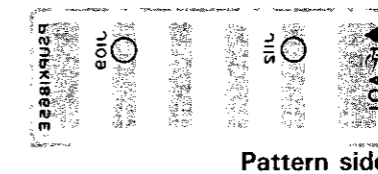


• Power TR.1

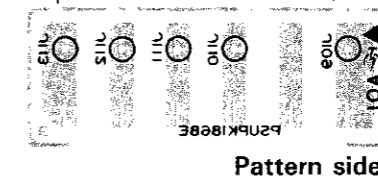
Connector	Destination
J108	Cassette-J108

• Power TR.2 Circuit Board

(U.S. & Canadian model)



(European & General model)



• Power TR.2

Connector	Destination
J109	Cassette-J109
J110 (E, X)	Cassette-J110 (E, X)
J111 (E, X)	Cassette-J111 (E, X)
J112	Cassette-J112
J113 (E, X)	Cassette-J113 (E, X)

MULTITRACK CASSETTE RECORDER

MT3X

PARTS LIST

Notes DESTINATION ABBREVIATIONS

J : Japanese model	A : Australian model
U : U.S. model	E : European model
C : Canadian model	D : West German model
X : General model	B : British model
M : South African model	I : Indonesian model
H : North European model	

ELECTRICAL PARTS

Ref. No.	Part No.	Description	部品名	Remarks	ランク	
	NX807160	Circuit Board, Cassette	PSXPK421-A	カセットシート	J PSUPK1860A	
	NX807260	Circuit Board, Cassette	PSXPK440-A	カセットシート	U,C PSUPK1865A	
	NX807310	Circuit Board, Cassette	PSXPK441-A	カセットシート	E,X PSUPK1868A	
	NX807170	Circuit Board, Jack 1	PSXPK421-B	ジャック1シート	J PSUPK1860B	
	NX807270	Circuit Board, Jack 1	PSXPK440-B	ジャック1シート	U,C PSUPK1865B	
	NX807320	Circuit Board, Jack 1	PSXPK441-B	ジャック1シート	E,X PSUPK1868B	
	NX807180	Circuit Board, Jack 2	PSXPK421-C	ジャック2シート	J PSUPK1860C	
	NX807280	Circuit Board, Jack 2	PSXPK440-C	ジャック2シート	U,C PSUPK1865C	
	NX807330	Circuit Board, Jack 2	PSXPK441-C	ジャック2シート	E,X PSUPK1868C	
	NX807190	Circuit Board, Power TR.1	PSXPK421-D	トランス1シート	J PSUPK1860D	
	NX807290	Circuit Board, Power TR.1	PSXPK440-D	トランス1シート	U,C PSUPK1865D	
	NX807340	Circuit Board, Power TR.1	PSXPK441-D	トランス1シート	E,X PSUPK1868D	
	NX807200	Circuit Board, Power TR.2	PSXPK421-E	トランス2シート	J PSUPK1860E	
	NX807300	Circuit Board, Power TR.2	PSXPK440-E	トランス2シート	U,C PSUPK1865E	
	NX807350	Circuit Board, Power TR.2	PSXPK441-E	トランス2シート	E,X PSUPK1868E	
	NX807210	Circuit Board, Jack 3	PSXPK422-A	ジャック3シート	PSUPK1870A	
	NX807220	Circuit Board, MIXER	PSXPK422-B	ミキサシート	PSUPK1870B	
	NX807230	Circuit Board, LCD	PSXPK422-C	LCDシート	PSUPK1870C	
	NX807240	Circuit Board, Monitor	PSXPK423-A	モニターシート	PSUPK1850A	
	NX807250	Circuit Board, Control	PSXPK423-B	コントロールシート	PSUPK1850B	
	NX807160	Circuit Board, Cassette	PSXPK421-A	カセットシート	J PSUPK1860A	
	NX807260	Circuit Board, Cassette	PSXPK440-A	カセットシート	U,C PSUPK1865A	
	NX807310	Circuit Board, Cassette	PSXPK441-A	カセットシート	E,X PSUPK1868A	
	XA508001	IC	μ PC1290C	IC		04
	IX804170	IC	RC2043LE	IC	OP AMP.	04
	IX803430	IC	NJM4558SD	IC	OP AMP.	03
	IX600780	IC	LC4066BH	IC	SWITCH	06
	IX803220	IC	AN6292NK	IC	dbx	10
	IX804290	IC	AN78N07	IC	Regulator	04
	IX804300	IC	AN79N07	IC	Regulator	05
	IG083100	IC	AN7805	IC	Regulator	05
	IX803450	Transistor	UN4214-TA	トランジスタ		01
	IX804350	Transistor	UN4115	トランジスタ		01
	IX802240	Transistor	2SA1309R-TA	トランジスタ		01
	IX553300	Transistor	UN4116	トランジスタ		02
	IX553410	Transistor	UN4216	トランジスタ		02
	IX801680	Transistor	2SC3311S-TA	トランジスタ		03
	IX608390	Transistor	2SC2878A	トランジスタ		03
	XX808800	Transistor	2SC1383-Q	トランジスタ		03
	IX804280	Transistor	2SB1375	トランジスタ		03
	IX803230	Transistor	2SD2012	トランジスタ		02
	IX803480	FET	2SK655-T	FET		02
	XX808790	Diode	SVD1SS119-04T	ダイオード		01
	IX802840	Diode	RL1N4003-N02	ダイオード		01
	IX804270	Diode	1SS199T	ダイオード		01
	IX804150	Zener Diode	HZS9A2TD	ツェナーダイオード		01
	IX804160	Zener Diode	HZS12B2TD	ツェナーダイオード		01
	FX800480	Capactor Array	EXFP4103ZW	コンデンサアレイ		03
	XX808870	Trimmer Potentiometer	EVND4AA00B15	半固定ポリウム		01
	XX808860	Trimmer Potentiometer	EVND4AA00B14	半固定ポリウム		01
	HX804860	Trimmer Potentiometer	EVND4AA00B13	半固定ポリウム		01
	HX804790	Trimmer Potentiometer	EVND4AA00BC2	半固定ポリウム		01
	HX804880	Trimmer Potentiometer	EVND4AA00BQ3	半固定ポリウム		01
	HX551750	Trimmer Potentiometer	EVN61AA00B54	半固定ポリウム		01
	UW939330	Electrolytic Cap.	ECEA1CU332E-S	ケミコン	3300 μ F 16V	03
	FJ249220	Electrolytic Cap.	ECEA1EU222E-S	ケミコン	2200 μ F 25V	03
	GX801890	Coil	PSLC02T	コイル		03
	GX801900	Coil	PSLE03T	コイル		03
	GX801300	Coil	QLQX2422T	コイル		03
	KX801620	Power Switch	PSSHK91C	パワースイッチ	POWER	05
	KX801660	Switch	PSSRK26	スイッチ	E,X	05
	LX801930	Jack	SJF3061-14N 4P	ジャック	TAPE OUT, SYNC	04
	LX801940	AC Inlet	SJS9236	ACインレット	J,E,X AC IN	03
	LX801950	AC Inlet	SJS9237	ACインレット	U,C AC IN	03
	CX807870	Fuse Clip	SJT345	ヒューズクリップ	J,U,C	01
	CX807880	Fuse Clip	SJT347	ヒューズクリップ	E,X	01
	NX807170	Circuit Board, Jack 1	PSXPK421-B	ジャック1シート	J PSUPK1860B	
	NX807270	Circuit Board, Jack 1	PSXPK440-B	ジャック1シート	U,C PSUPK1865B	
	NX807320	Circuit Board, Jack 1	PSXPK441-B	ジャック1シート	E,X PSUPK1868B	
	IX803460	Transistor	2SD1915-T	トランジスタ		01
	LX800760	Jack	PSJJ38	ジャック	AUX SEND/RTN	03
	LX801920	Jack	PSJFK7 2P	ジャック	MONITOR OUT	03
	NX807180	Circuit Board, Jack 2	PSXPK421-C	ジャック2シート	J PSUPK1860C	
	NX807280	Circuit Board, Jack 2	PSXPK440-C	ジャック2シート	U,C PSUPK1865C	
	NX807330	Circuit Board, Jack 2	PSXPK441-C	ジャック2シート	E,X PSUPK1868C	
	LX800770	Jack	SJJ134B	ジャック	PHONES	03

* New Parts (新規部品)

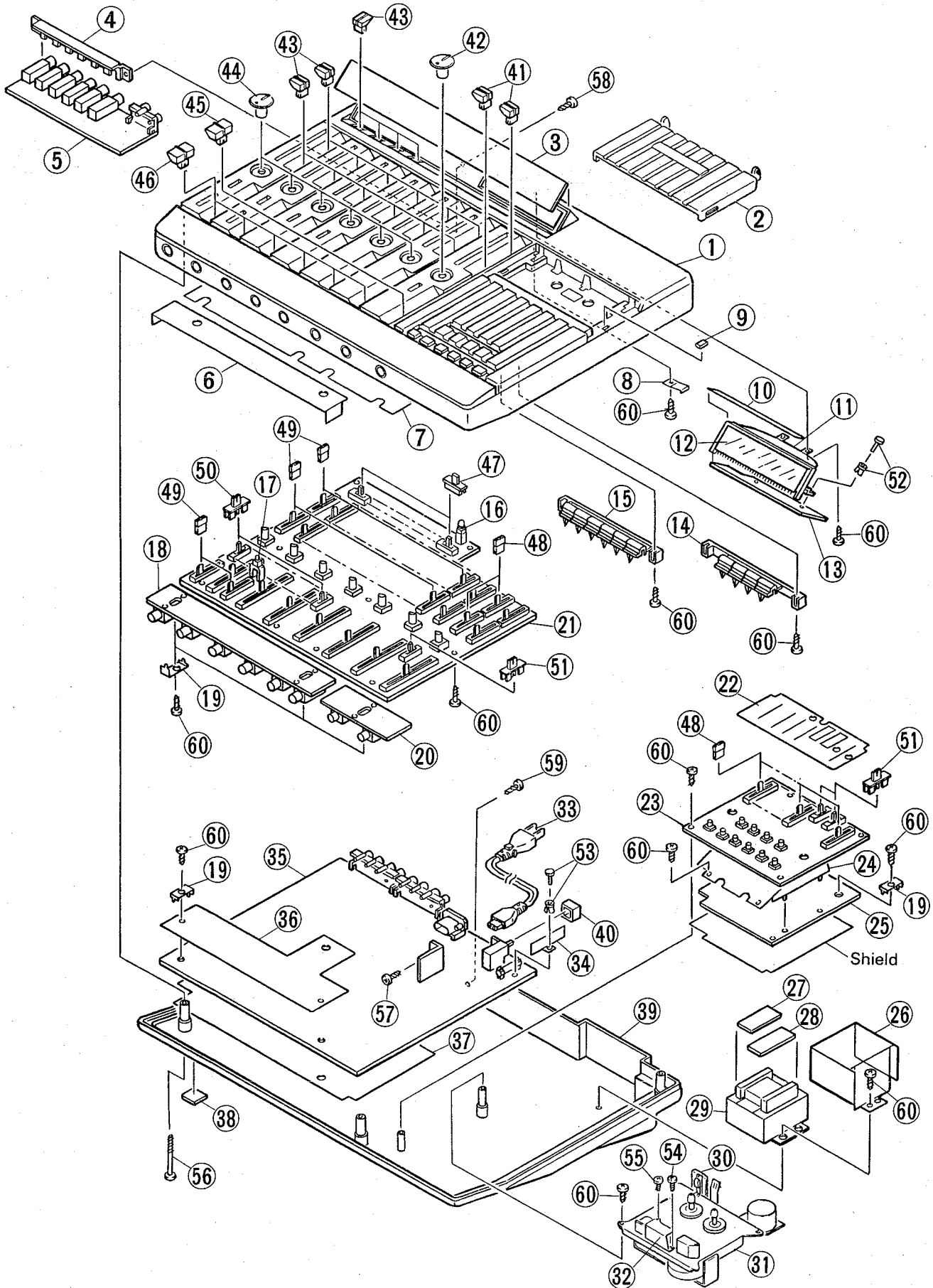
ランク : Japan only

Ref. No.	Part No.	Description	部 品 名	Remarks	ランク	
	NX807210 LX800780	Circuit Board, Jack 3 Jack	PSXPK422-A PSJJ38	ジャック3シート ジャック	PSUPK1870A MIC/LINE,LINE	03
	NX807220 LX804170	Circuit Board, MIXER IC	PSXPK422-B RC2043LE	ミキサーシート IC	PSUPK1870B OP AMP.	04
	IX803430	IC	NJM4558SD	IC	OP AMP.	03
	IX804310	IC	LA8515	IC		06
	IX801680	Transistor	2SC3311S-T	トランジスタ		03
	IX808390	Transistor	2SC2878A	トランジスタ		03
	XX808790	Diode	SVD1SS119-04T	ダイオード		01
	IX804330	LED	LN81CPHL	LED	SYNC	02
	XX808820	LED	LN265RPH	LED	CLIP	03
	HX802500	Variable Resistor	PSVS251AA14	可変抵抗器	AUX SEND/MASTER	04
	HX802520	Variable Resistor	PSVS252AA14	可変抵抗器	AUX RTN Faders	05
	HX802480	Variable Resistor	PSVS251AA15	可変抵抗器	MIC/LINE	04
	HX804800	Variable Resistor	PSVS601AA14	可変抵抗器	CH Faders	05
	HX804810	Variable Resistor	PSVS251CC15	可変抵抗器	EQ Vol.	04
	HX804820	Variable Resistor	PSVS602AA14	可変抵抗器	MASTER Fader	06
	HX804890	Variable Resistor	EVUF2F20B14	可変抵抗器	PAN	03
	HX804830	Variable Resistor	EVJY7QF20A14	可変抵抗器	PHONES	04
	KX801060	Switch	PSSSK17-K	スイッチ	PHONES SELECT	03
	KX801630	Switch	PSSSK22	スイッチ	REC SELECT	04
	KX801670	Switch	PSSSK23-K	スイッチ	SYNC	04
	NX807230	Circuit Board, LCD	PSXPK422-C	LCDシート	PSUPK1870C	
	IX804320	IC	LC7582B	IC		08
	IX804190	LCD	PSALFTD6B88	LCD		17
	JX800220	Lamp	XAMK4A	ランプ		04
	HX804920	Resistor Array	EXBP84102J	抵抗アレイ		01
	FX800480	Capactor Array	EXFP4222ZZW	コンデンサアレイ		03
	CX807910	Dispersion Sheet	PSDHK29	拡散シート		04
	NX807240	Circuit Board, Monitor	PSXPK423-A	モニターシート	PSUPK1850A	
	IX803430	IC	NJM4558SD	IC	OP AMP.	03
	XX808790	Diode	SVD1SS119-04T	ダイオード		01
	IX804270	Diode	1SS199T	ダイオード		01
	HX802500	Variable Resistor	PSVS251AA14	可変抵抗器	MONITOR	04
	HX804840	Variable Resistor	PSVS251CB14	可変抵抗器	PITCH	04
	HX804870	Trimmer Potentiometer	EVND4AA00B14	半固定ボリューム	High,Low	01
	KX801050	Switch	PSSSK18	スイッチ	TAPE SPEED	03
	KX801070	Switch	PSSSK19	スイッチ	dbx	03
	KX801650	Switch	EVQQAC07K	スイッチ		01
	NX807250	Circuit Board, Control	PSXPK423-B	コントロールシート	PSUPK1850B	
	IX803430	IC	NJM4558SD	IC	OP AMP.	03
	IX804340	IC	NJU4051BD	IC		04
	IX000620	IC	NJM2903D	IC		05
	IX804200	IC	HD614042SJ61	IC	CPU	10
	IX801680	Transistor	2SC3311S-T	トランジスタ		03
	IX803230	Transistor	2SD2012	トランジスタ		02
	IX606750	Transistor	2SB909M	トランジスタ		03
	IX601880	Transistor	2SD1225M QR	トランジスタ		03
	IX553410	Transistor	UN4216	トランジスタ		02
	XX808790	Diode	SVD1SS119-04T	ダイオード		01
	IX804270	Diode	1SS199T	ダイオード		01
	IX802840	Diode	RL1N4003-N02	ダイオード		01
	IX803240	Zener Diode	HZS6C3TD	ツェナーダイオード		01
	IX803520	Zener Diode	HZS3B3TD	ツェナーダイオード		01
	HX804900	Resistor Array	EXBF10L795J	抵抗アレイ		03
	HX804910	Resistor Array	EXBF9E332J	抵抗アレイ		01
	FJ239100	Electrolytic Cap.	ECEA1CU102ES	ケミコン	1000μF 16V	02
	GX801910	Coil	ELEA102KA	コイル		01
	GX801860		EFOFC4004A3	振動子		03
	GX801780	Power Transformer	PSLTK5V16-W	電源トランス	J	14
	GX801790	Power Transformer	PSLTK5V17-W	電源トランス	U	14
	GX801800	Power Transformer	PSLTK5V18-W	電源トランス	C	14
	GX801810	Power Transformer	PSLTK5V19-W	電源トランス	E, X	15
	MX800670	AC Cord	SJAB6	電源コード	J	05
	MX800680	AC Cord	SJA172-1	電源コード	U	05
	MX800690	AC Cord	SJA172	電源コード	C	06
	MX800700	AC Cord	SFDAC05E03	電源コード	E, X	06
	KX801690	Fuse	XBA2E03NS5	ヒューズ	J	03
	KX801700	Fuse	XBA2F03NU100	ヒューズ	U, C	04
	KX801680	Fuse	XBA2C03TB0S	ヒューズ	E, X	04
	GX801310	Motor	MMU-5U2RWJ	モーター		09
	GX801870	Rec/Playback Head	PSJHK13	(準)録再ヘッド		37
	GX801880	Erase Head	PSJHK14	(準)消去ヘッド		31

* New Parts (新規部品)

ランク: Japan only

OVERALL ASSEMBLY



Ref. No.	Part No.	Description	部品名	Remarks	ランク
1	CX807740	Top Cover	PSKMK370A	上キャビネット	J 14
1	CX807750	Top Cover	PSKMK370B	上キャビネット	E,X 14
1	CX807730	Top Cover	PSKMK370-1A	上キャビネット	U,C 16
2	CX805400	Cassette Door	PSGUK33	カセット扉	05
3	CX807670	Protector	PSGUK38	化粧板	07
4	AX805540	Angle Bracket, Jack	PSUVK520	ジャック取付金具	03
5	NX807170	Circuit Board, Jack 1	PSXPK421-B	ジャック1シート	J PSUPK1860B
5	NX807270	Circuit Board, Jack 1	PSXPK440-B	ジャック1シート	U,C PSUPK1865B
5	NX807320	Circuit Board, Jack 1	PSXPK441-B	ジャック1シート	E,X PSUPK1868B
6	CX807780	Shield, Jack	PSMCK48	ジャックシールド板	03
7	CX807680	Shield A, Volume	PSGXK144	ボリューム飾り(A)	08
8	CX805410	Spring, Cassette Door	PSUSK21-1	カセット扉バネ	01
9	XX807700	Catch Rubber, Cassette Door	PSHGK486	カセット扉受ゴム	01
10	CX807890	Shield, LCD	PSHSK168	光もれヒメロン	03
11	CX807820	Lamp Reflector	PSMPK10	反射カバー	03
12	IX804190	LCD	PSALFTD6B88	L.C.D.	17
13	NX807230	Circuit Board, LCD	PSXPK422-C	L.C.D.シート	PSUPK1870C
14	CX807530	AUTO PUNCH Button	PSBCK91-1	オートパンチボタン	03
15	CX807520	Cassette Button	PSBCK91	カセットボタン	03
16	CX807840	LED Holder	PSUDK30	L.E.D.ホルダー	SYNC 01
17	XX807530	LED Holder	PSUDK18	L.E.D.ホルダー	CLIP 01
18	NX807210	Circuit Board, Jack 3	PSXPK422-A	ジャック3シート	PSUPK1870A
19	AX805530	Angle, Circuit Board	PSUSK41	シート取付金具	01
20	NX807180	Circuit Board, Jack 2	PSXPK421-C	ジャック2シート	J PSUPK1860C
20	NX807280	Circuit Board, Jack 2	PSXPK440-C	ジャック2シート	U,C PSUPK1865C
20	NX807330	Circuit Board, Jack 2	PSXPK441-C	ジャック2シート	E,X PSUPK1868C
21	NX807220	Circuit Board, MIXER	PSXPK422-B	ミキサーシート	PSUPK1870B
22	CX807690	Shield B, Volume	PSGXK145	ボリューム飾り(B)	04
23	NX807240	Circuit Board, Monitor	PSXPK423-A	モニターシート	PSUPK1850A
24	CX807770	Shield Sheet	PSMCK50	モニターシートシールド板	04
25	NX807250	Circuit Board, Control	PSXPK423-B	コントロールシート	PSUPK1850B
26	CX807800	Shield Cover	PSMXX58	コントロールリアシート	03
27	NX807190	Circuit Board, Power TR.1	PSXPK421-D	トランス1シート	J PSUPK1860D
27	NX807290	Circuit Board, Power TR.1	PSXPK440-D	トランス1シート	U,C PSUPK1865D
27	NX807340	Circuit Board, Power TR.1	PSXPK441-D	トランス1シート	E,X PSUPK1868D
28	NX807200	Circuit Board, Power TR.2	PSXPK421-E	トランス2シート	J PSUPK1860E
28	NX807300	Circuit Board, Power TR.2	PSXPK440-E	トランス2シート	U,C PSUPK1865E
28	NX807350	Circuit Board, Power TR.2	PSXPK441-E	トランス2シート	E,X PSUPK1868E
29	GX801780	Power Transformer	PSLTK5V16-W	電源トランス	J 14
29	GX801790	Power Transformer	PSLTK5V17-W	電源トランス	U 14
29	GX801800	Power Transformer	PSLTK5V18-W	電源トランス	C 14
29	GX801810	Power Transformer	PSLTK5V19-W	電源トランス	E,X 15
30	AX805520	Protector, Leaf Switch	PSMQK3018	リーフスイッチ保護金具	01
31	NX807150	Cassette	PSJDK17	デッキ	63
32	CX805370	Shield, Head	PSMCK39	ヘッドシールド板	02
33	MX800670	AC Cord	SJAB6	電源コード	J 05
33	MX800680	AC Cord	SJA172-1	電源コード	U 05
33	MX800690	AC Cord	SJA172	電源コード	C 06
33	MX800700	AC Cord	SFDAC05E03	電源コード	E,X 06
34	CX807810	Barrier	PSMXX59	ヒューズバリアー	02
35	NX807160	Circuit Board, Cassette	PSXPK421-A	カセットシート	J PSUPK1860A
35	NX807260	Circuit Board, Cassette	PSXPK440-A	カセットシート	U,C PSUPK1865A
35	NX807310	Circuit Board, Cassette	PSXPK441-A	カセットシート	E,X PSUPK1868A
36	CX807790	Shield Sheet	PSMCK49	カセットシートシールド板	04
37	CX807760	Shield, Bottom Cover	PSMCK46	底キャビネットシールド板	06
38	CX805360	Foot	SK1293	脚	01
39	CX807700	Bottom Cover	PSKFK250	底キャビネット	J 11
39	CX807710	Bottom Cover	PSKFK250-1	底キャビネット	U,C 13
39	CX807720	Bottom Cover	PSKFK250-2	底キャビネット	E,X 11
40	CX807510	Knob	PSBCK45	ツマミ	POWER 01
41	CX807580	Knob	PSBDK26B RE	ツマミ	AUX RTN 02
42	CX807540	Knob	PSBNK51B RE	ツマミ	PHONES 02
43	CX807590	Knob	PSBDK26C GL	ツマミ	EQ,REC SEL,SYNC 02
44	CX807550	Knob	PSBNK51C GL	ツマミ	PAN 02
45	CX807560	Knob	PSBDK25B RE	ツマミ	MASTER 02
46	CX807570	Knob	PSBDK25C GL	ツマミ	CH Fader 02
47	CX807830	Rod	PSUBK19	連結棒	REC SELECT,SYNC 01
48	CX807630	Knob	PSBDK27 RE	ツマミ	MONITOR,PITCH 02
49	CX807640	Knob	PSBDK27C GL	ツマミ	AUX SEND,Input 02
50	CX807660	Knob	PSBDK28-1C GL	ツマミ	INPUT SELECT 02
51	CX807650	Knob	PSBDK28-1 RE	ツマミ	dbx.TAPE SPEED 02
52	CX807850	Latch	SHR415	ナイラッチ	01
53	CX807860	Latch	SHRK908	ナイラッチ	01
54	EA020066	Pan Head Screw	XSB2+6	ナベ小ネジ	2.0X6 ZMC2Y 01
55	EA020046	Pan Head Screw	XTN2+4J	ナベ小ネジ	2.0X4 ZMC2Y 01
56	EJ130356	Pan Head Tapping Screw	XTV3+35G	ハントタッピングネジ	3.0X35 FNN33G 01
57	EI030086	Bind Head Tapping Screw	XTB3+8J	ハントタッピングネジ	3.0X8 ZMC2Y 01
58	EI330086	Bind Head Tapping Screw	XTB3+8JFZ	ハントタッピングネジ	3.0X8 ZMC2BL 01
59	EI330106	Bind Head Tapping Screw	XTB3+10GFZ	ハントタッピングネジ	3.0X10 ZMC2BL 01
60	XX808700	Bind Head Tapping Screw	XTB3+10G	ハントタッピングネジ	3.0X10 ZMC2Y 01

* New Parts (新規部品)

ランク: Japan only



YAMAHA CORPORATION

*Combo
Products*

SERVICE NEWS

Issued by Electronic Products
Service Division.

MT3X

BULLETIN NO.: E-563

DATE: OCTOBER, 1989

ERRATA AND ADDITION TO SERVICE MANUAL

1. Please correct the error shown below which appears in the specifications on page 1 of the Service Manual.

~~Wow & Flutter — Less than 0.05% WRMS~~

↓
Wow & Flutter Less than 0.15% WRMS

2. Please correct the electrical parts section on page 1 of the Parts List.

Electrical parts

Ref. No.	Part No.	Description	
	NX807160	Circuit Board, Cassette	PSXPK421-A
	NX807260	Circuit Board, Cassette	PSXPK440-A
	NX807310	Circuit Board, Cassette	PSXPK441-A
	NX807170	Circuit Board, Jack 1	PSXPK421-B
	NX807270	Circuit Board, Jack 1	PSXPK440-B
	NX807320	Circuit Board, Jack 1	PSXPK441-B
	NX807180	Circuit Board, Jack 2	PSXPK421-C
	NX807280	Circuit Board, Jack 2	PSXPK440-C
	NX807330	Circuit Board, Jack 2	PSXPK441-C
	NX807190	Circuit Board, Power TR. 1	PSXPK421-D
	NX807290	Circuit Board, Power TR. 1	PSXPK440-D
	NX807340	Circuit Board, Power TR. 1	PSXPK441-D
	NX807200	Circuit Board, Power TR. 2	PSXPK421-E
	NX807300	Circuit Board, Power TR. 2	PSXPK440-E
	NX807350	Circuit Board, Power TR. 2	PSXPK441-E
	NX807210	Circuit Board, Jack 3	PSXPK422-A

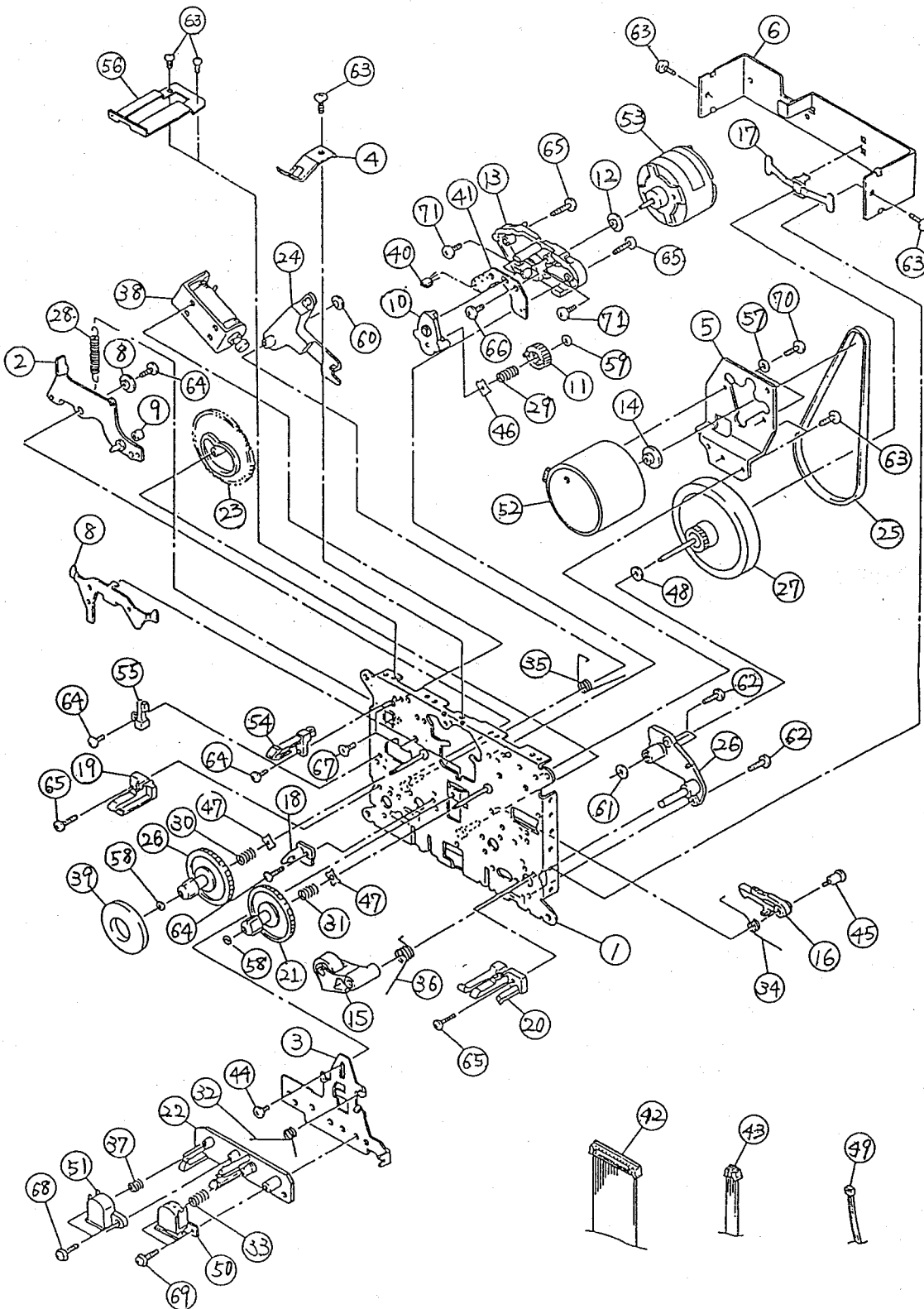
} Eliminate these parts.

Eliminate the Power Transformer circuit boards from this list. TR1 and TR2 have been included with the cassette circuit boards.

3. Add the cassette mechanism section to the Parts List.
4. Please add the attached multitrack cassette recorder measuring standards to your Service Manual.

MT3X CASSETTE MECHANISM

BULLETIN NO.: E-563



BULLETIN NO.: E-563

MT3X CASSETTE MECHANISM PARTS LIST

Ref. No.	Parts No.	Description		Ref. No.	Parts No.	Description	
1.	AX803760	Chassis Assembly	RC1316	36.	AX804080	Spring, Pinch Roller	RD6305
2.	AX803770	Shift Arm Assembly	RD1354	37.	AX804090	Head Spring (E)	G46084
3.	AX803780	Head Chassis	RCS1385	38.	AX804100	Solenoid	RD9301
4.	AX803790	Pack Spring	RD1311	39.	AX804110	Reel Magnet	RDS9367
5.	AX803800	Motor Bracket	RD1318	40.	IX803760	Whole IC DN 685 ID	RD9443
6.	AX803810	Flywheel Bracket	RCS1384	41.	NX805610	P.C.B, Whole IC	RD9374
7.	AX803830	Break Lever	RD1345	*42.	NX808660	Wire Assembly, Pin	RD9583
8.	AX803840	Coller, Shift Arm (large)	RD2311	*43.	NX808670	Wire Assembly, 3Pin	RD9582
9.	AX803850	Coller, Shift Arm (small)	RD3351	44.	EX801450	Fixed Screw, Head Chassis	MD8002
10.	AX 803860	Idler Arm Assembly	RD3311	45.	EX801460	Fixed Screw, Break Arm	MD8003
11.	AX803870	Idler Gear	RD3310	46.	EX801470	Idler Washer	RD8319
12.	AX803880	Motor Gear	RD3312	47.	EX801480	Reel Washer	RD8321
13.	AX803890	Idler Base	RC3308	48.	EX801490	Washer, Flywheel	RD8318
*14.	AX807810	Motor Pulley	RD3343	49.	CX806150	Nylon Band	96025001
15.	NX805600	Pinch Roller Assembly	RD3307	*50.	GX802360	Rec/Playback Head	PSJHK13
16.	AX803910	Break Arm	RD3329	*51.	GX802370	Erase Head	PSJHK14
17.	CX806120	Capstan Spacer	RD3324	52.	GX801460	Motor	91999112
18.	AX803920	Cassette Guide (C)	RD3301	53.	GX801450	Reel Motor	91300039
19.	AX803930	Cassette Guide (L)	RCS3371	54.	KX801220	Leaf Switch	94081039
20.	AX803940	Cassette Guide (R)	RCS3372	55.	KX801230	Leaf Switch	84019040
21.	AX803950	Reel Table	RC3313	*56.	AX807880	Leaf Switch Bracket (H)	PSMQK3018
22.	AX803960	Head Base	RCS3373	57.	EX801500	Toothed Lock Washer	8135026001
23.	AX803970	Play Gear	RB3316	58.	EX801510	Washer, Polyslider (Reel)	8341116029
24.	AX803980	Play Arm	RD3361	59.	EX801520	Washer, Poly Slider (Idler)	8342132044
25.	CX806130	Drive Belt	RD4306	60.	EX801530	Washer, Poly Slider (Play Arm)	8341121034
26.	MX800550	Housing Assembly	RC5301	61.	EX801540	Nylon Washer (Housing Ass'y)	8340419002
27.	AX803990	Flywheel Assembly	RD5310	62.	ED220046	Bind Head Screw 2x4	
28.	AX804000	Shift Arm Spring	RD6325	63.	EX801550	Screw 2x4	8113112004
29.	AX804010	Clutch Spring	RD6344	64.	EX801560	Screw 2x5	8113112005
30.	AX804020	Reel Spring (L)	RD6339	65.	EX801570	Screw 2x8	8113112008
31.	AX804030	Reel Spring (R)	RD6338	66.	EX801580	Tapping Screw 2x5	8114112005
32.	AX804040	Spring, Head Chassis	RD6335	67.	EF226040	Phillips Head Screw 2.6x4	
33.	AX804050	Head Spring (REC/PB)	KD6009	68.	EX801590	Binding Screw 2x12	8115512012
34.	AX804060	Break Spring	RD6312	69.	EX801600	Washer Head Screw 2x10	8115812010
35.	AX804070	Spring, Play Arm	RD6308	70.	EX801610	Pan Head Screw 2.6x3	8115112603
				71.	EX801660	Mounting Screw	8115712604

MEASURING STANDARDS FOR THE MULTITRACK CASSETTE RECORDER

CONTENTS

General Instructions4
 Wow and Flutter5
 Overall Frequency Response6
 Tape Out Signal-to-Noise Ratio6
 Overall Distortion7
 Channel Separation8

GENERAL INSTRUCTIONS

1. Standard Measuring Conditions

Measure at 25°C and 65% RH. However, measuring at room temperature and humidity is permissible if these factors will not affect the results.

2. Power Supply

The power supply voltage and frequency must conform with the power ratings for the test unit. As a rule, the voltage must be within $\pm 1\%$ of the rated power supply voltage, and the frequency $\pm 2\%$. The harmonic wave content of sine waves must be less than 2%.

3. Measuring Position

The laboratory or bench used for measuring purposes must be well protected against unwanted external interference signals. A room sufficiently shielded against external electric fields (at least 60dB filtering of external fields) should be used.

4. Measuring Test Tapes

Part Number	Description		
TX911650	MTT-111DN	Wow & flutter test tape	(3KHz/-10dB)
TX911670	MTT-212CN	Reference level test tape	(315Hz/-4dB)
TX911680	MTT-114NA	Azimuth adjustment test tape	(10KHz/-10dB)
TX911550	TCW 211	Wow & flutter test tape	(3KHz/ 0dB)
TX911750	TDK SA60	Alignment tape	

Checks prior to tape deck measurements

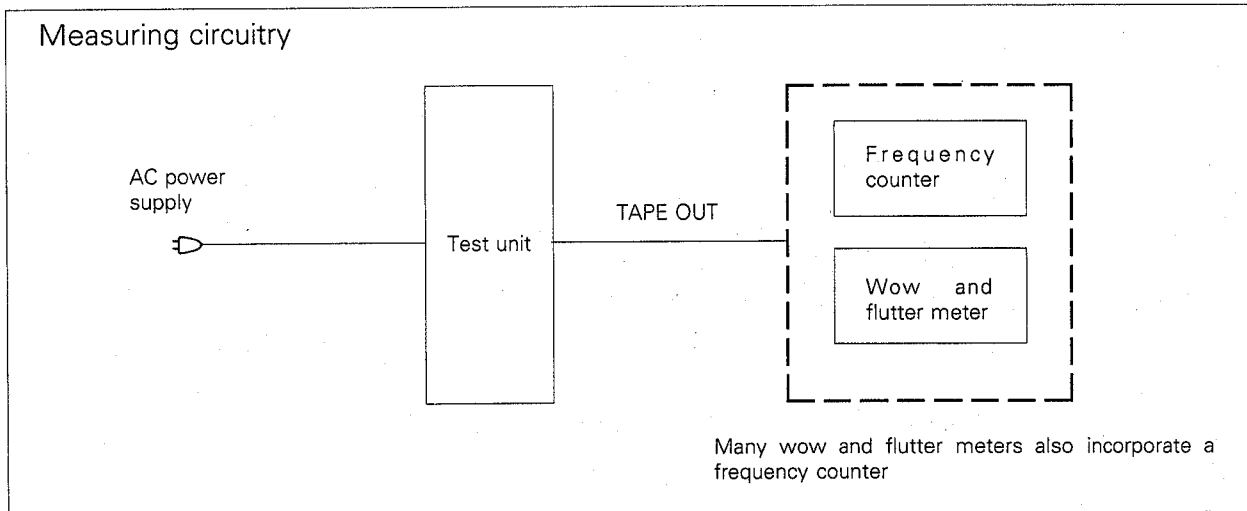
- (1) Conformity of power supply voltage and frequency with the voltage and frequency ratings of the test unit.
- (2) Capacity of the audio frequency generator and distortion meter etc. to sufficiently measure the performance range of the test unit.
- (3) Sufficient margin of safety in the measuring range of the level meter.
- (4) Accurate adjustment of audio frequency generator output level and test frequency.
- (5) Absence of residual noise and unwanted hum etc. in the measuring circuitry.

Measuring Instruments

Instruments used to measure specification ratings must be (at least) equal in performance to the following measuring instruments.

- (1) Audio frequency generator:
10Hz to 20KHz, distortion 0.1% max.
- (2) AC voltmeter: Impedance $1M\Omega$ min., 10Hz to 100KHz
- (3) Oscilloscope: For monitoring waveforms
- (4) AC voltage adjuster: For rectification of AC voltage ratings
- (5) Distortion meter
- (6) Wow & flutter meter
- (7) Bandpass filter: 1KHz 50dB/oct. min.

WOW AND FLUTTER



Measuring Method

1. Set up the measuring system as outlined above.
2. Play the test tape TX911650 (MTT-111DN).
3. Play the test tape TX911650 (MTT-111DN) 10-30 seconds at the beginning, center and end of the tape.
4. Read the frequency counter and wow & flutter meters each time.
Monitor the meter peak indications. Record this number at each tape position for those sections which peak more than three times in a ten second period. Take the highest number of these three points as the wow & flutter value of the product.

Tape speed (counter reading): $3,000\text{Hz} \pm 10\text{Hz}$

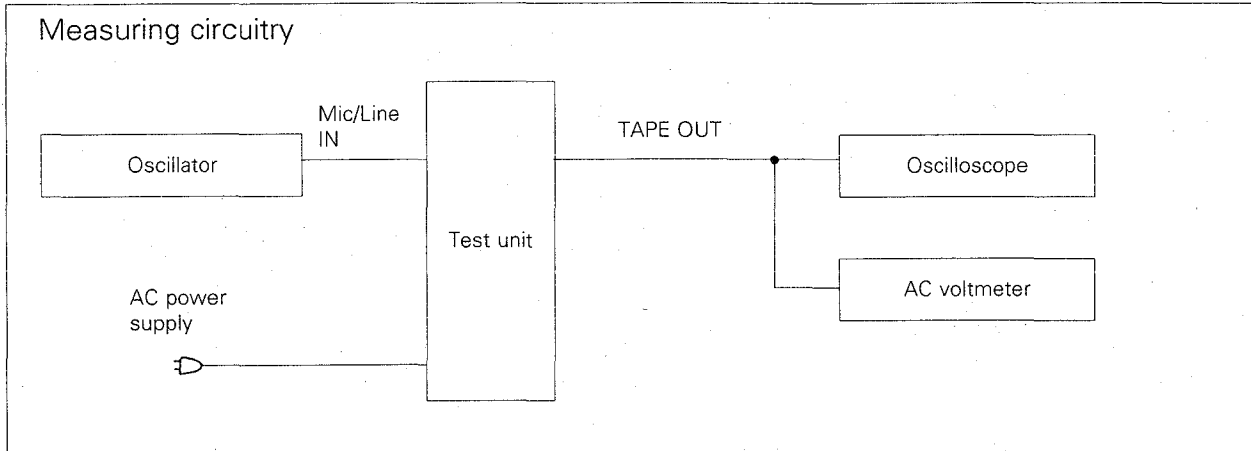
Wow & flutter: EIAJ WTD (Use the wow & flutter meter selector switch.)

Note: Wow & flutter ratings vary according to model.

Measuring conditions:

The pitch control is set to the center position.

OVERALL FREQUENCY RESPONSE



Measuring Method

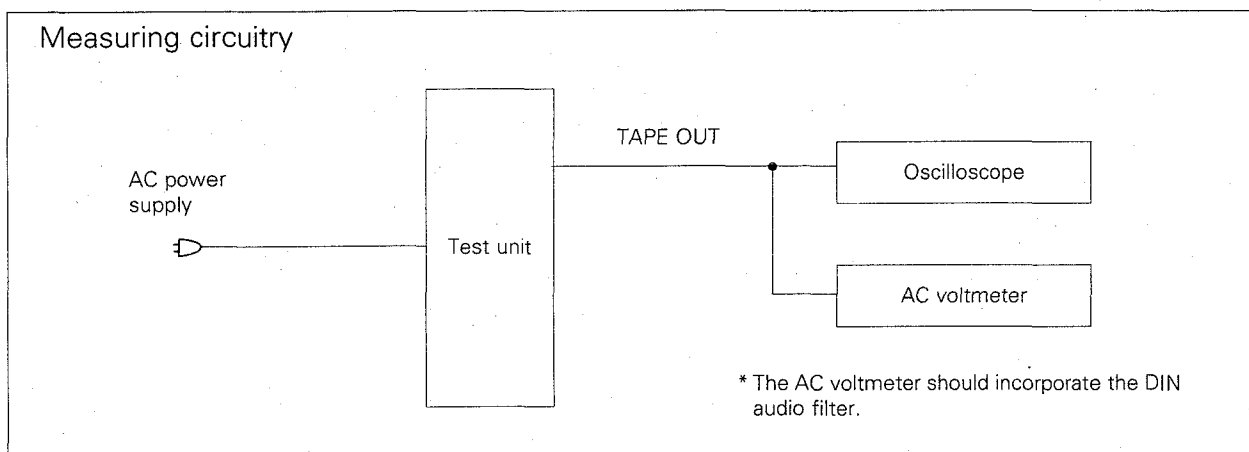
1. Set up the measuring system as outlined above.
2. Load the alignment tape TX911750 (TDK SA60) and set into recording mode.
3. Adjust the input fader to obtain a TAPE OUT level of -30dB at 315Hz.
4. Depress the play button to start recording.
5. Record at each of the different frequencies required for this measurement.
6. Rewind the recorded sections and play back the tape.
7. Check the TAPE OUT levels at each frequency which lies within the specified range.
8. Repeat steps No.2 to No.7 for the frequency response of high speed recording.

Note: The specification ranges differ according to tape speed and model.

Measuring conditions:

The pitch control is set to the center position.

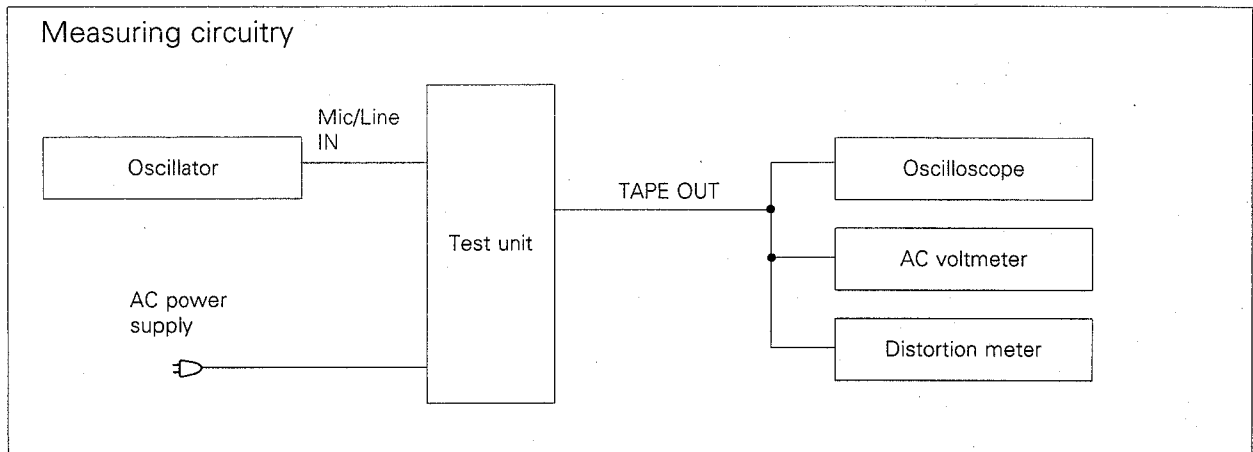
TAPE OUT SIGNAL-TO-NOISE RATIO



Measuring Method

1. Set up the measuring system as outlined above.
2. Load and play the alignment tape TX911750 (TDK SA60).
3. Measure the TAPE OUT level using the DIN audio filter on. The difference between the peak recording level (-2dB) and the noise level will be the signal-to-noise ratio.

OVERALL DISTORTION

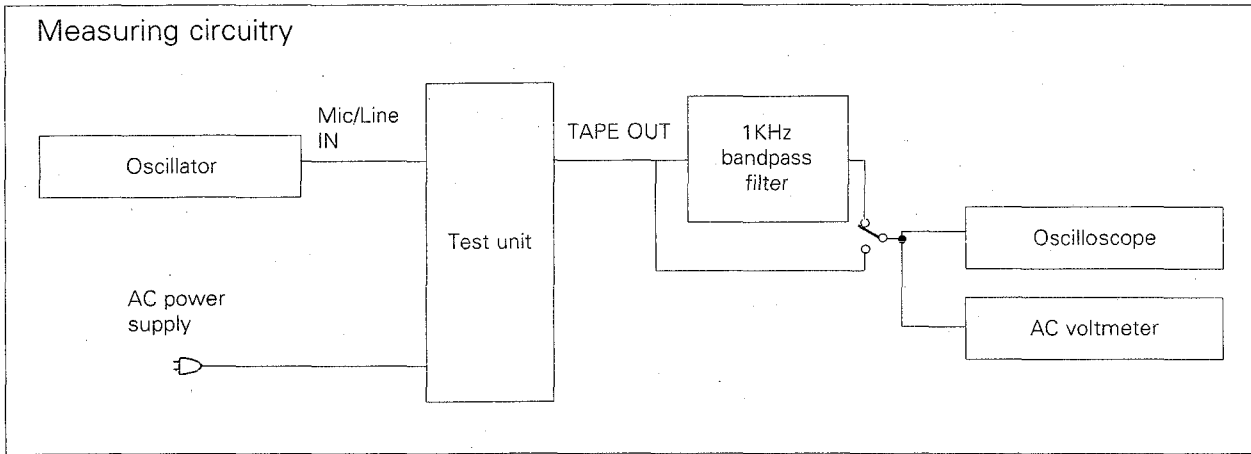


Measuring Method

1. Set up the measuring system as outlined above.
2. Load the alignment tape TX911750 (TDK SA60) and set the recording mode.
3. Adjust the input fader to obtain a TAPE OUT level of -10dB at 315Hz.
4. Depress the play button to start recording.
5. Rewind the recorded sections and play back the tape.
6. Read the distortion meter at this time.

Note: The specification ranges differ according to model.

CHANNEL SEPARATION



Measuring Method

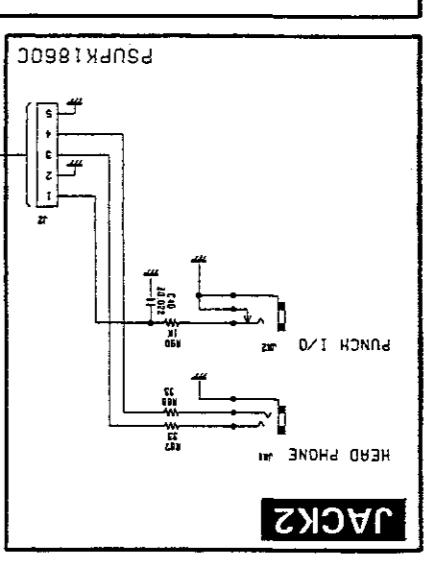
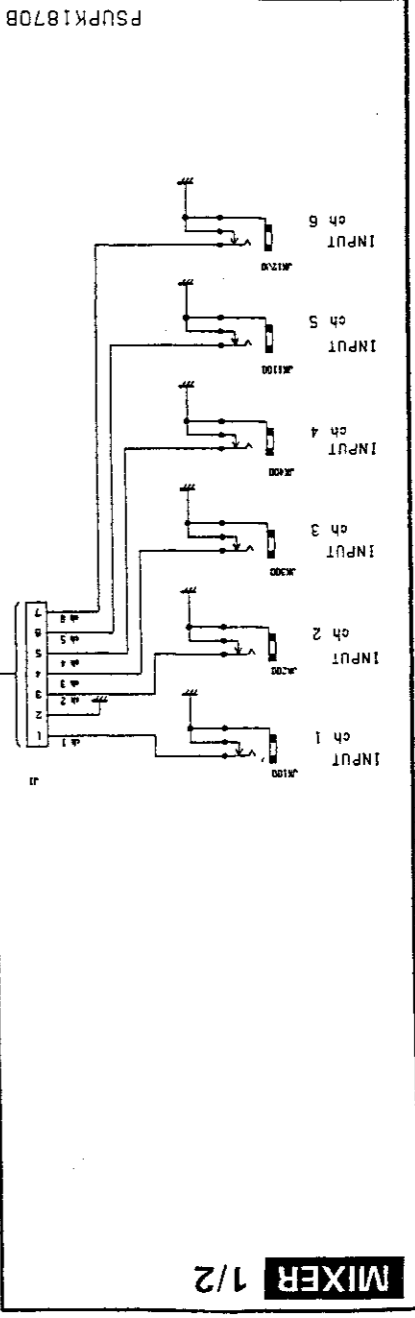
1. Set up the measuring system as outlined above.
2. Load the alignment tape TX911750 (TDK SA60) and set into recording mode.
3. Apply the input signal to one channel only and set other channel's input faders at minimum position.
4. Adjust the input fader to obtain a TAPE OUT level of -2dB at 1KHz.
5. Depress the play button to start recording.
6. Rewind the recorded sections and play back the tape.
7. Measure the adjacent non-recorded channel TAPE OUT level after passing the signal through a 1KHz bandpass filter (residual noise level). The difference between the peak recording level (-2dB) and the noise level will be the channel separation ratio.

Note: The specification ranges differ according to model.

MT3X/CMXIII OVERALL CIRCUIT DIAGRAM 1/2

MIXER 2/2

MIXER 1/2



A

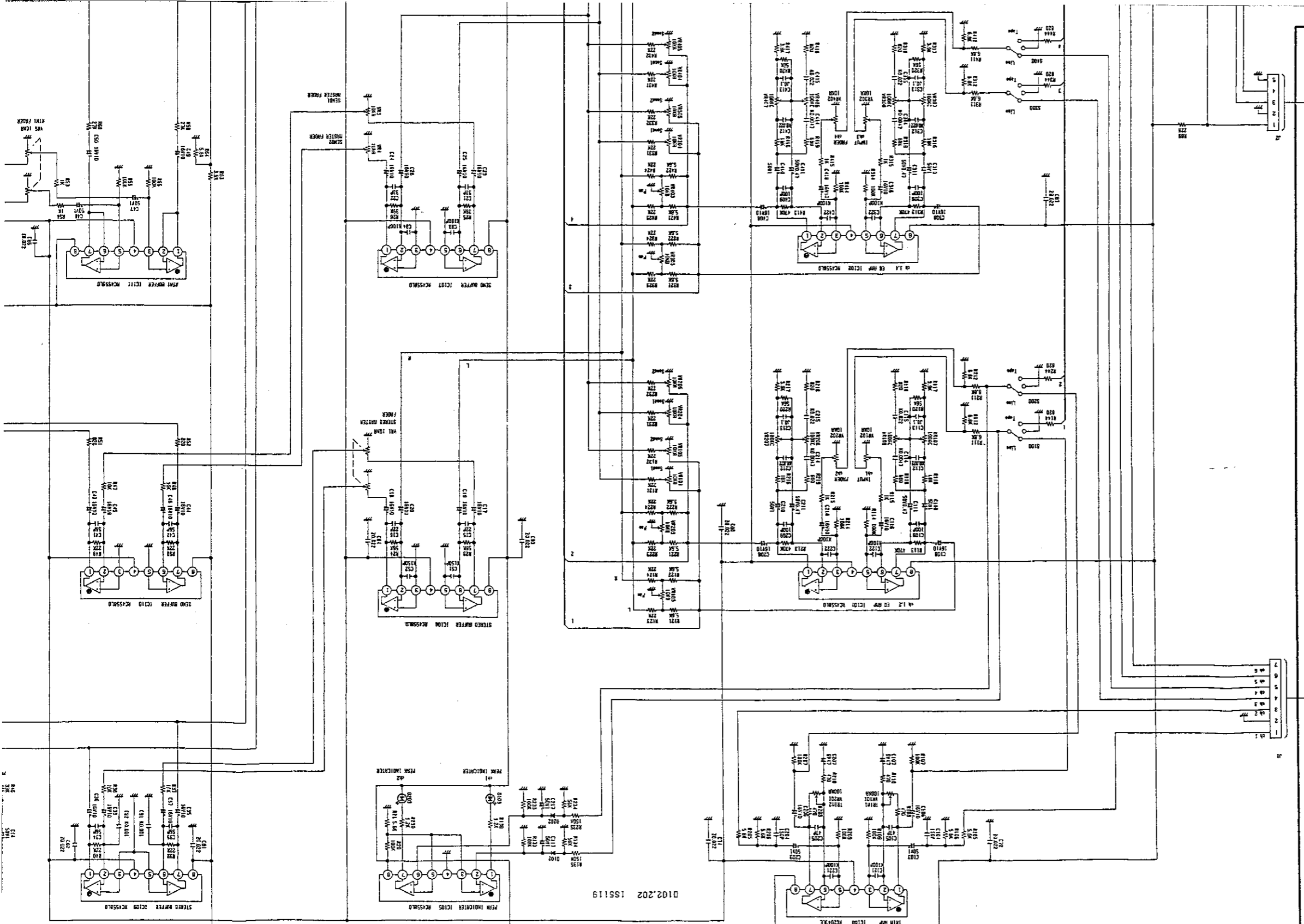
B

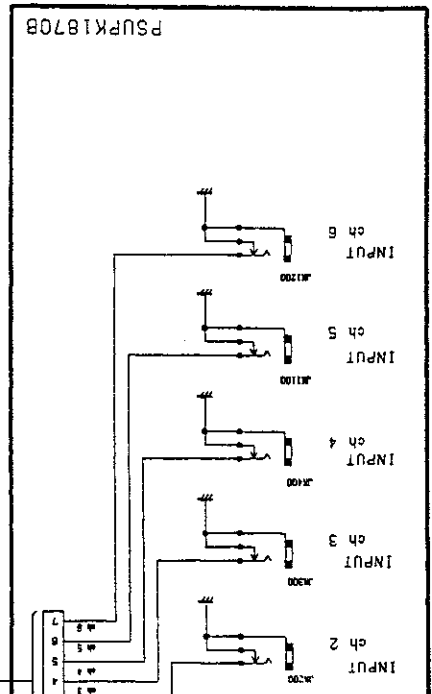
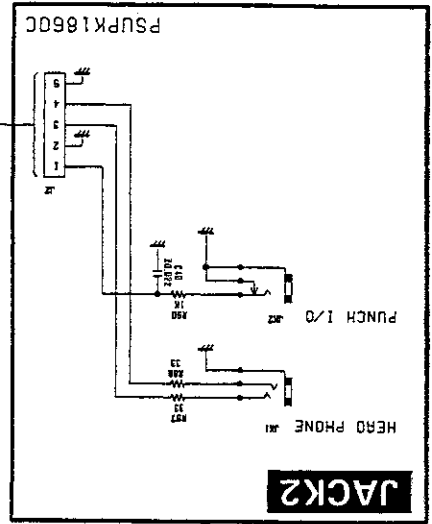
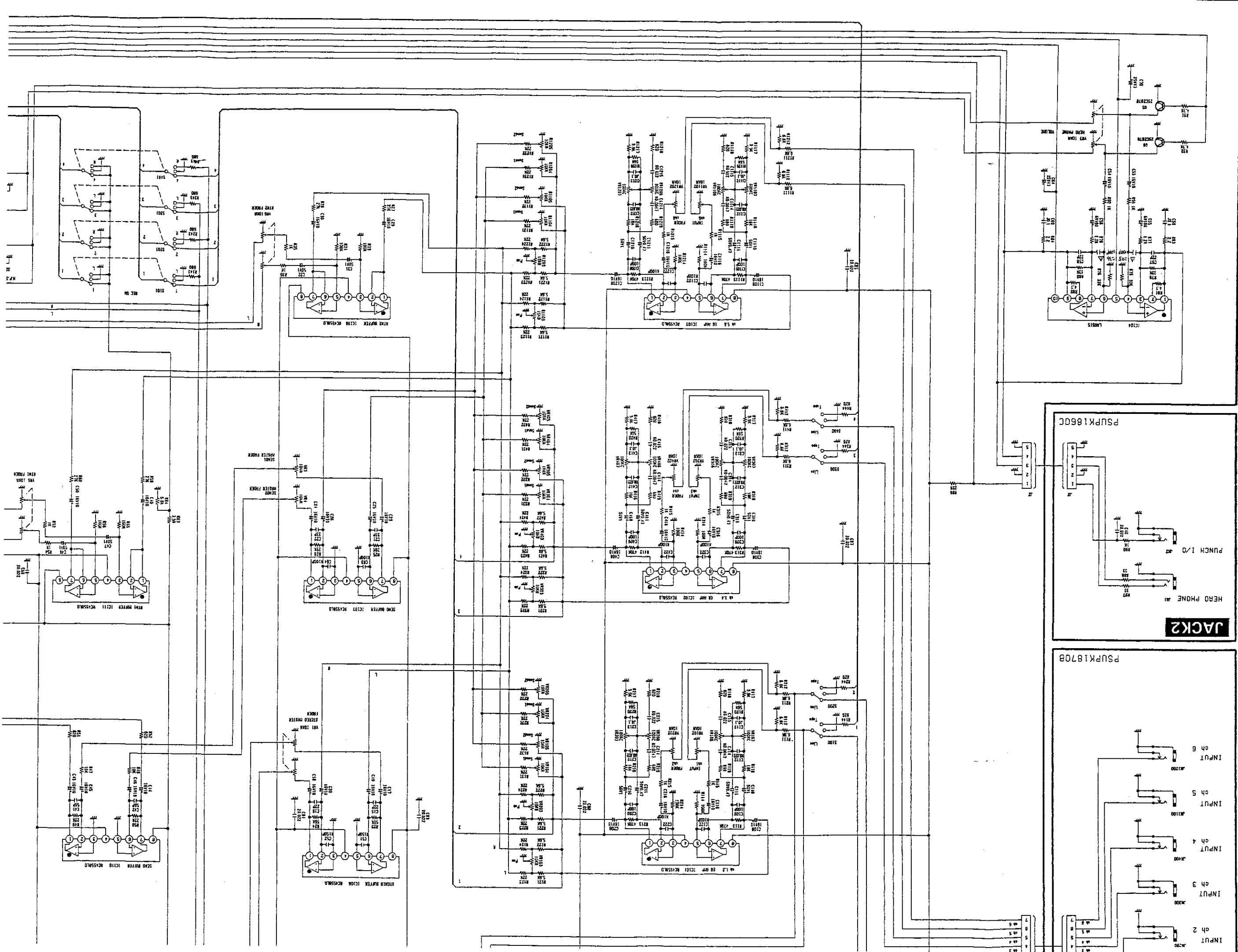
C

D

E

F

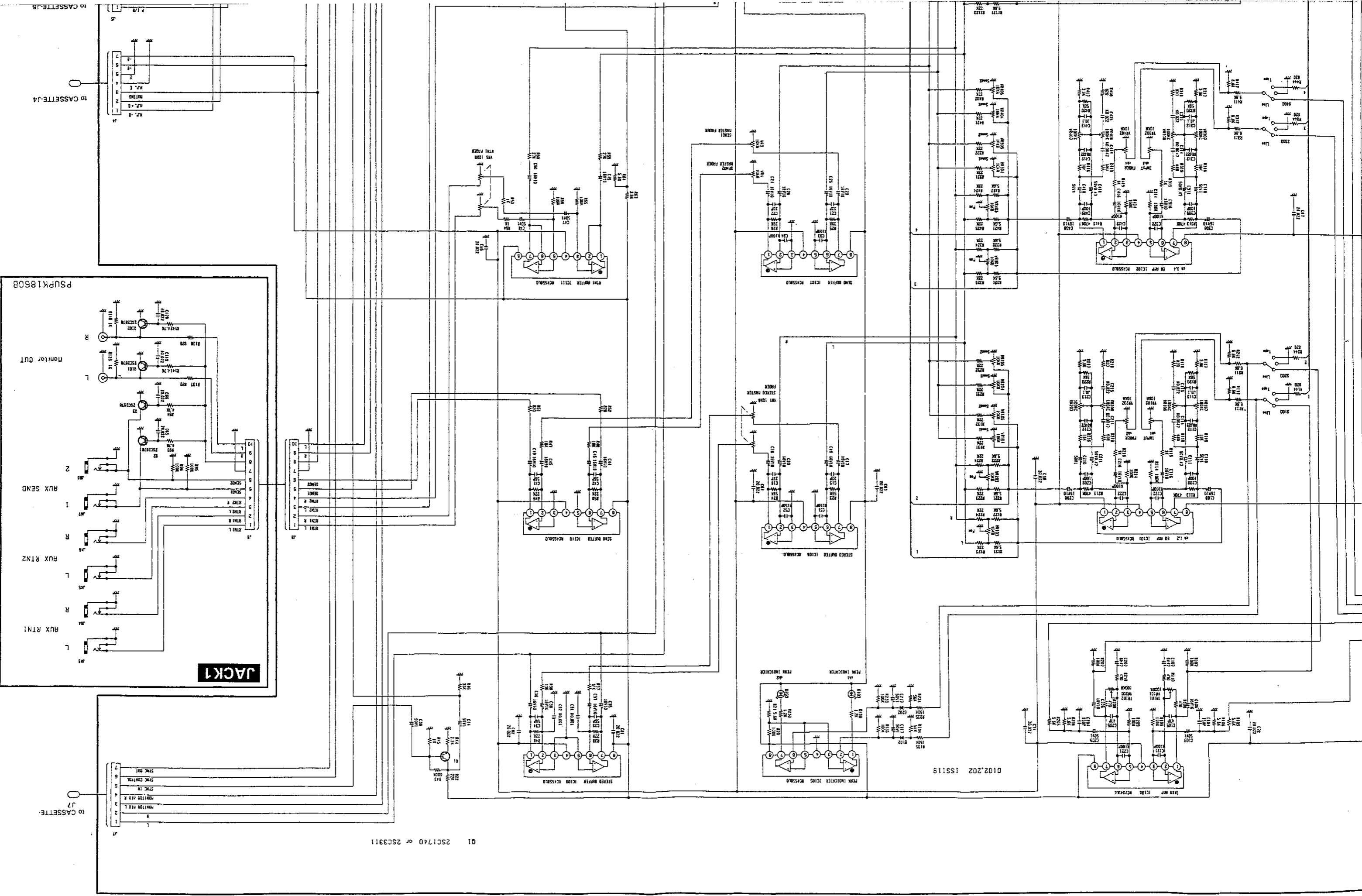




C D E F G H

01 25C1740 of 25C3911

D102.202 15S119



JACK1

PSUPK18608

to CASSETTE-J4

to CASSETTE-J7

Monitor OUT

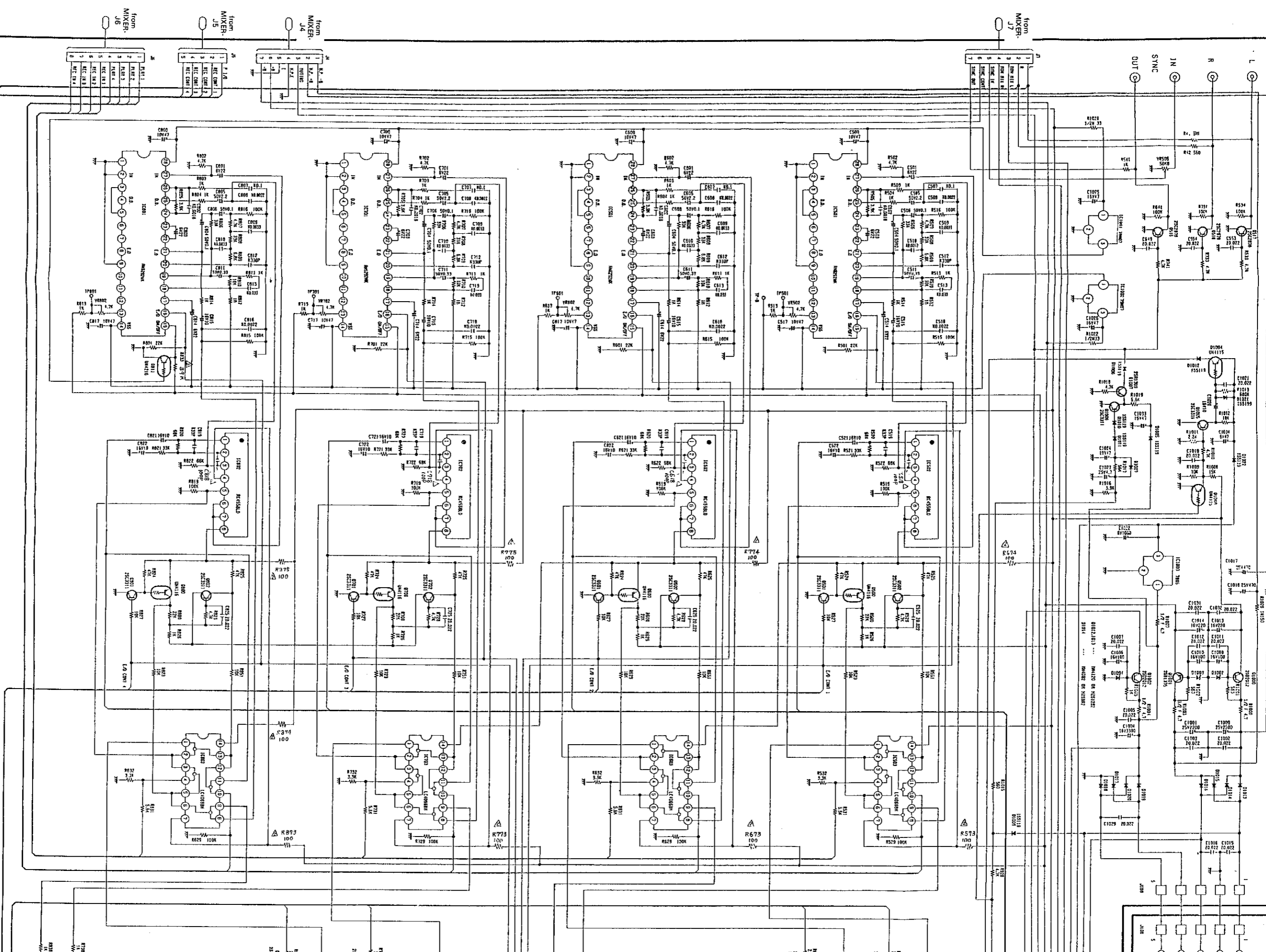
RUX SEND

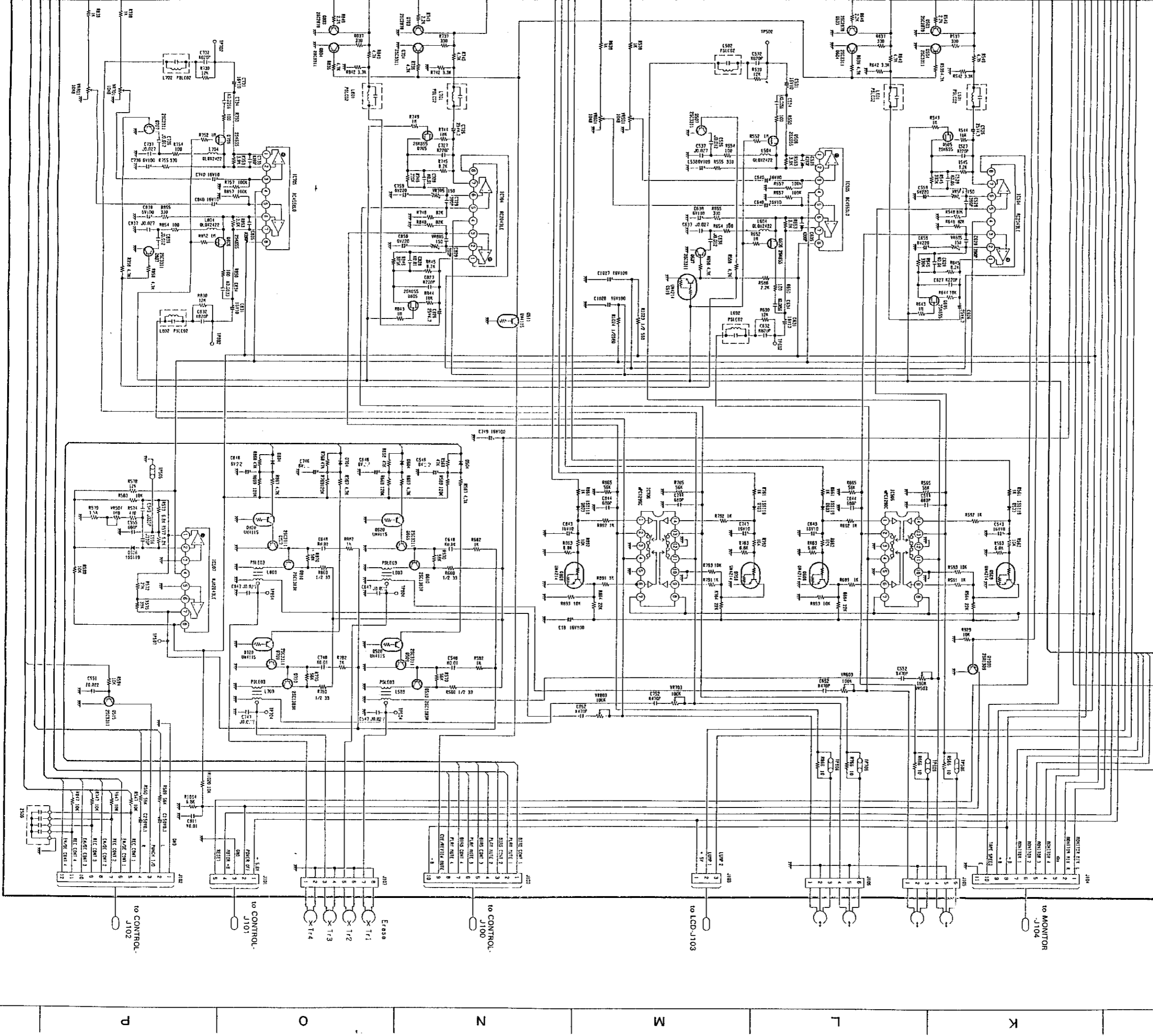
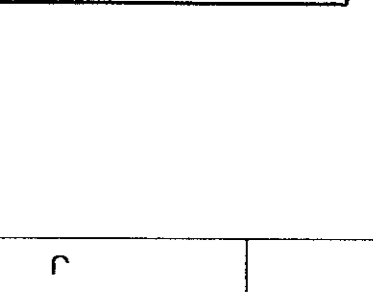
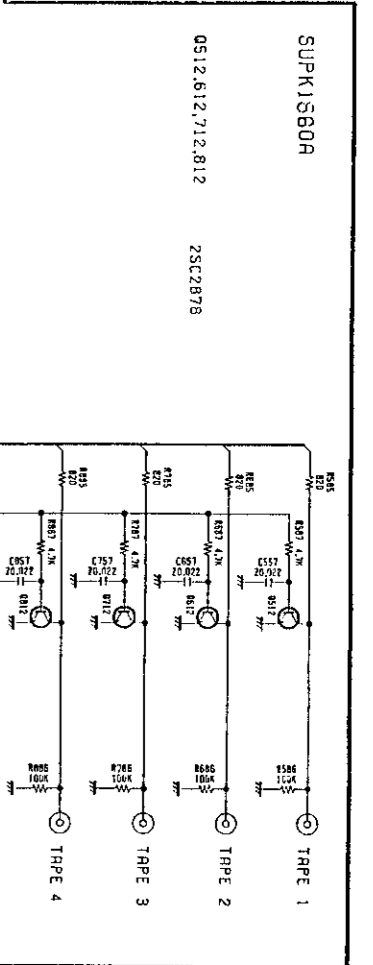
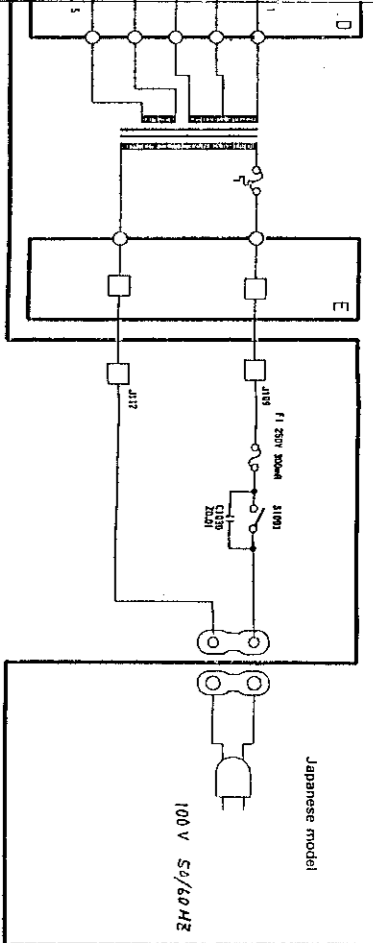
RUX RTN2

RUX RTN1

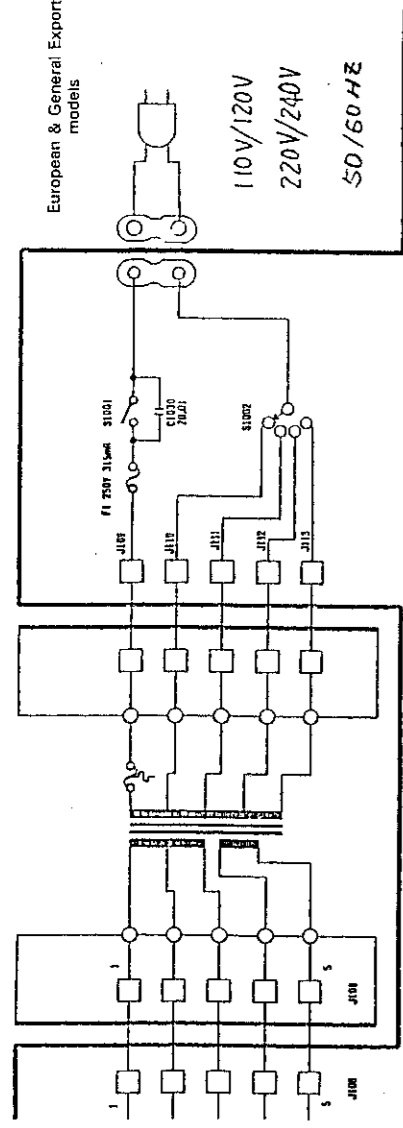
to CASSETTE-J7

CASSETTE





0 0 4 0 2 0



Notes)

- * Circuit Board, Jack 1 PSXPK440-B (NX807270) U, C PSUPK 1865B
PSXPK441-B (NX807320) E, X PSUPK 1868B

- 1. Transistor Q2, 3, 101, 102: 2SD1915-T (IX803460)

- 2. Jack JK3-8: PSJJ38 (LX800760) AUX SEND/RTN
PSJFK7 2P (LX801920) MONITOR OUT

Notes)

- * Circuit Board, Jack 2 PSXPK440-C (NX807280) U, C PSUPK1865C
PSXPK441-C (NX807330) E, X PSUPK1868C

- 1. Jack JK1: SJJ134B (LX800770) PHONES
JK2: PSJJ38 (LX800760) PUNCH I/O

Notes)

- * Circuit Board, Jack 3 PSXPK422-A (NX807210) PSUPK1870A

- 2. Jack JK100, 200, 300, 400, 1100, 1200: PSJJ38 (LX800760) MIC/LINE, LINE

Notes)

- * Circuit Board, MIXER PSXPK422-B (NX807220) PSUPK1870B

- 1. IC IC100: RC2043LE (IX804170) OP AMP
IC101, 103, 105-111: NJM4558SD (IX803430) OP AMP.
IC104: LA6515 (IX804310)

- 2. Transistor Q1: 2SC3311S-T (IX801680)
Q5, 6: 2SC2878A (IX608390)

- 3. Diode D102, 202: SVD1SS119-04T (XX808790)

- 4. LED D5: LN81CPHL (IX804330) SYNC
D103, 203: LN265RPH (XX808820) CLIP

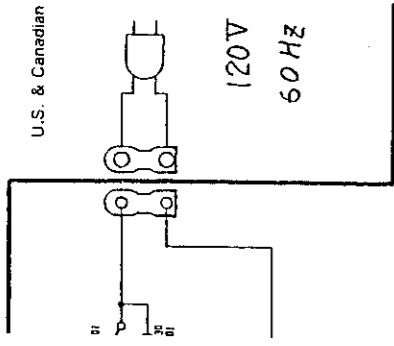
5. Variable Resistor

- VR1: PSVS602AA14 (HX804820) MASTER Fader
- VR3, 4, 104, 105, 204, 205, 304, 305, 404, 405, 1104, 1105, 1204, 1205: PSVS251AA14 (HX802500) AUX SEND/MASTER
PSVS252AA14 (HX802520) AUX RTN Faders
EVJY70F20A14 (HX804830) PHONES
PSVS251AA15 (HX802480) MIC/LINE

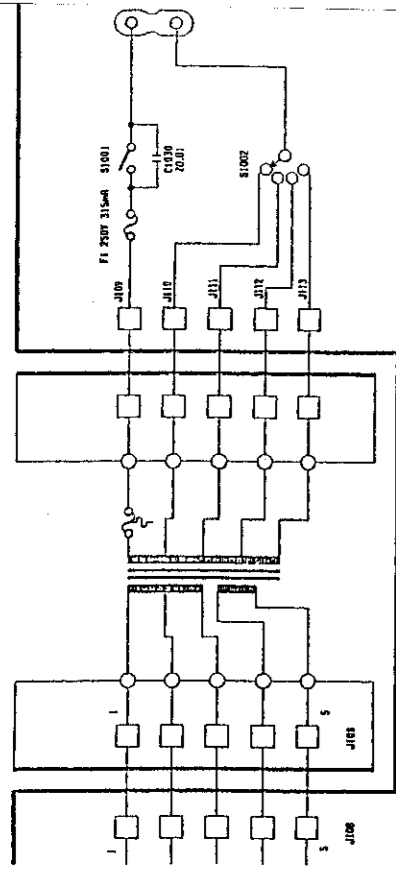
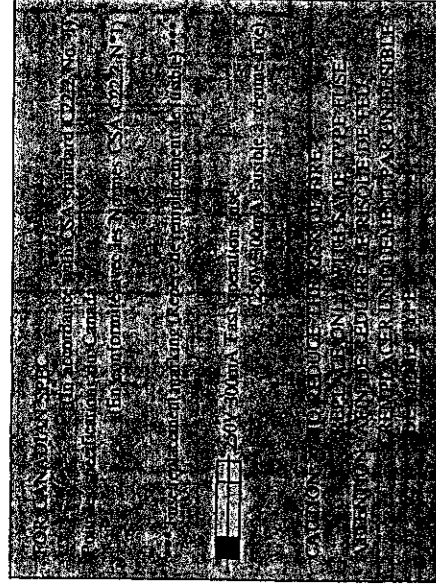
- VR7: PSVS601AA14 (HX804800) CH Faders
- VR101, 201: EVUF2F20B14 (HX804890) PAN
- VR102, 202, 302, 402, 1102, 1202: PSVS601AA14 (HX804800) CH Faders
- VR103, 203, 303, 403, 1103, 1203: EVUF2F20B14 (HX804890) PAN
- VR106, 107, 206, 207, 306, 307, 406, 407, 1106, 1107, 1206, 1207: PSVS251CC15 (HX804810) EQ Vol.

6. Switch

- S1: PSSSK23-K (KX801670) SYNC
- S2, 100, 200, 300, 400: PSSSK17-K (KX801060) PHONES SELECT
- S101, 201, 301, 401: PSSK22-K (KX801630) REC SELECT



U.S. & Canadian models



1865A
1868A
0A

- Notes)**
* Circuit Board, LCD
1. IC
IC903:
 2. LCD
LCD901:
 3. Lamp
Lamp 1, 2
 4. Resistor Array
Z1001:
 5. Capacitor
Z1002:
- PSXP422-C (NX807230) PSUPK1870C
LC7582B (IX804320)
PSALFTD6B88 (IX804190)
XAMK4A (JX800220)
EXBP84102J (HX804920)
EXFP422ZZZW (FX800480)

- Notes)**
* Circuit Board, Monitor
1. IC
IC112, 113, 114, 115:
 2. Diode
D7:
D909-912, 100, 200,
300, 400:
 3. Variable Resistor
VR100, 200, 300, 400:
 4. Trimmer Potentiometer
VR901, 902:
 5. Switch
S900-909:
S910:
S911:
- PSXP423-A (NX807240) PSUPK1850A
NJM4558SD (IX803430) OP AMP.
1SS199T (IX804270)
SVD1SS119-04T (XX808790)
PSVS251AA14 (HX802500) MONITOR
PSVS251CB14 (HX804840) PITCH
EVND4AA00B14 (HX804870) High, Low
EVQAC07K (KX801650)
PSSSK18 (KX801050) TAPE SPEED
PSSSK19 (KX801070) dbx

- Notes)**
* Circuit Board, Control
1. IC
IC1:
IC900:
IC901:
IC902:
 2. Transistor
Q900, 904, 905:
Q901, 908:
Q902, 903, 906, 907:
Q909:
Q910:
 3. Diode
D 3, 4:
D6, 903:
D904, 905:
 4. Zener Diode
D906:
D907:
 5. Resistor Array
Z900:
Z901, 902:
 6. Electrolytic Cap.
C902:
 7. Coil
L901:
 8. X900:
- PSXP423-B (NX807250) PSUPK1850B
NJM4558SD (IX803430) OP AMP.
HD614042SJ61 (IX804200) CPU
NJU4051BD (IX804340)
NJM2903D (IX000620)
2SB909M (IX606750)
ZSC3311S-T (IX801680)
2SD1225M QR (IX601880)
2SD2012 (IX803230)
UN4216 (IX553410)
SVD1SS119-04T (XX808790)
1SS199T (IX804270)
RL1N4003-N02 (IX802840)
HZS6C3TD (IX803240)
HZS3B3TD (IX803520)
EXBF10L795J (HX804900)
EXBF9E332J (HX804910)
ECEA1CU102ES (FJ239100) 1000µF 16V
ELEA102KA (GX801910)
EFOFC4004A3 (GX801860)

25V
F 16V

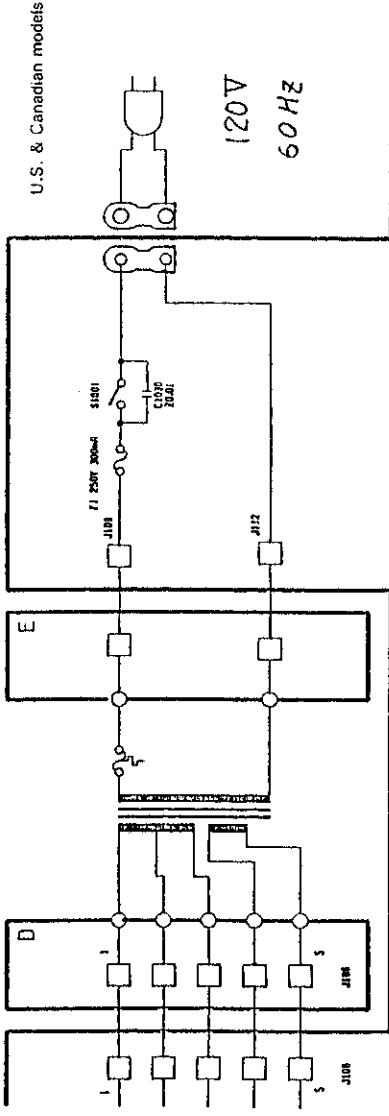
OUT, SYNC

- Notes)**
* Circuit Board, Jack 1
1. Transistor
Q2, 3, 101, 102:
 2. Jack
JK3-8:
- PSXPK440-B (NX807270) U, C PSUPK 1865B
PSXPK441-B (NX807320) E, X PSUPK 1868B
2SD1915-T (IX803460)
PSJJ38 (LX800760) AUX SEND/RTN
PSJFK7 2P (LX801920) MONITOR OUT

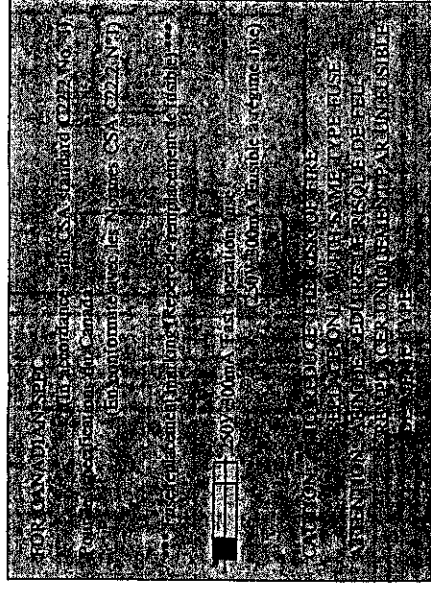
- Notes)**
* Circuit Board, Jack 2
1. Jack
JK1:
JK2:
- PSXPK440-C (NX807280) U, C PSUPK1865C
PSXPK441-C (NX807330) E, X PSUPK1868C
SJJ134B (LX800770) PHONES
PSJJ38 (LX800760) PUNCH I/O

- Notes)**
* Circuit Board, Jack 3
2. Jack
JK100, 200, 300, 400,
1100, 1200:
- PSXPK422-A (NX807210) PSUPK1870A
PSJJ38 (LX800760) MIC/LINE, LINE

- Notes)**
* Circuit Board, MIXER
1. IC
IC100:
IC101, 103, 105-111:
IC104:
 2. Transistor
Q1:
Q5, 6:
 3. Diode
D102, 202:
 4. LED
D5:
D103, 203:
 5. Variable Resistor
VR1:
VR3, 4, 104, 105, 204,
205, 304, 305, 404,
405, 1104, 1105,
1204, 1205:
VR5, 6:
VR7:
VR101, 201:
VR102, 202, 302, 402,
1102, 1202:
VR103, 203, 303, 403,
1103, 1203:
VR106, 107, 206, 207,
306, 307, 406, 407,
1106, 1107, 1206,
1207:
 6. Switch
S1:
S2, 100, 200, 300, 400:
S101, 201, 301, 401:
- PSXPK422-B (NX807220) PSUPK1870B
RC2043LE (IX804170) OP AMP.
NJM4558SD (IX803430) OP AMP.
LA6515 (IX804310)
ZSC3311S-T (IX801680)
ZSC2878A (IX608390)
SVD1SS119-04T (XX808790)
LN81CPHL (IX804330) SYNC
LN265RRPH (XX808820) CLIP
PSVS602AA14 (HX804820) MASTER Fader
PSVS251AA14 (HX802500) AUX SEND/MASTER
PSVS252AA14 (HX802520) AUX RTN Faders
EVJY70F20A14 (HX804830) PHONES
PSVS251AA15 (HX802480) MIC/LINE
PSVS601AA14 (HX804800) CH Faders
EVJUF2F20B14 (HX804890) PAN
PSVS251CC15 (HX804810) EQ Vol.
PSSSK23-K (KX801670) SYNC
S2, 100, 200, 300, 400:
PSSSK17-K (KX801060) PHONES SELECT
S101, 201, 301, 401:
PSSK22-K (KX801630) REC SELECT



U.S. & Canadian models



Notes)
 * Circuit Board, Cassette
 * Circuit Board, Cassette
 * Circuit Board, Cassette

- IC
 IC501, 60, 701, 801;
 IC502, 602, 702, 802,
 505, 705;
 IC603, 603, 703, 803;
 IC504, 507, 704;
 IC506, 706;
 IC1001;
 IC1002;
 IC1003;

PSXPK440-A (NX807260) U, C PSUPK 1865A
 PSXPK441-A (NX807310) E, X PSUPK 1868A
 PSXPK421-A (NX807160) J PSUPK1860A

- Transistor
 Q500, 600, 700, 800;
 Q501, 601, 701, 801,
 502, 602, 702, 802,
 504, 604, 704, 804,
 507, 607, 707, 807,
 509, 609, 709, 809,
 515, 1005, 1006;
 Q503, 603, 703, 803,
 512, 612, 712, 812,
 516-518;
 Q508, 608, 708, 808,
 519;
 Q510, 610, 710, 810;
 Q520, 620, 720, 820,
 511, 1004, 1008;
 Q1000, 1002;
 Q1001;
 Q1003, 1007;

UN4116 (IX553390)

AN6292NK (IX803220) dbx

NJM4558SD (IX803430) OP AMP.
 LC4066BH (IX600780) SWITCH
 RC2043LE (IX804170) OP AMP.
 μPC1290C (XA508001)
 AN78N07 (IX804290) Regulator
 AN79N07 (IX804300) Regulator
 AN7805 (IG083100) Regulator

UN4116 (IX553390)

25C3311S-TA (IX801680)

25C2878A (IX608390)

UN4214-TA (IX803450)
 25C1383-Q (IX808800)

UN4216 (IX553410)
 25D2012 (IX803230)
 25B1375 (IX804280)
 25A1309R-TA (IX802240)

25K655-T (IX803480)

SVD15S119-04T (XX808790)
 RL1N4003-N02 (IX802840)
 15S199T (IX804270)

HZS12B2TD (IX804160)
 HZS9A2TD (IX804150)

EXFP4103ZW (FX800480)

EVND4AA00B14 (XX808860)
 EVND4AA00BQ3 (HX804880)
 EVND4AA00B15 (XX808870)
 EVND4AA00B13 (HX804860)
 EVND4AA00BC2 (HX804790)
 EVN61AA00B54 (HX551750)

ECEA1EU222E-S (FJ249220) 2200μF 25V
 ECEA1CU332E-S (UW939330) 3300μF 16V

PSLC02T (GX801890)
 PSLE03T (GX801900)
 QLOX2422T (GX801300)

PSSHK91 (KX801620) POWER
 PSSRK26 (KX801660) E, X
 SJF3061-14N 4P (LX801930) TAPE OUT, SYNC
 SJS9236 (LX801940) J, E, X AC IN
 SJS9237 (LX801950) U, C AC IN
 XBA2E03NS5 (KX801690) J
 XBA2F03NU100 (KX801700) U, C
 XBA2C03TBOS (KX801680) E, X

Notes)
 * Circuit Board, LCD

- IC
 IC903;
 LC7582B (IX804320)
- LCD
 LCD901;
 PSALFTD6888 (IX804190)
- Lamp
 Lamp1, 2
 XAMK4A (JX800220)
- Resistor Array
 Z1001;
 EXBP84102J (HX804920)
- Capacitor
 Z1002;
 EXFP422ZZW (FX800480)

PSXPK422-C (NX807230) PSUPK1870C

LC7582B (IX804320)

PSALFTD6888 (IX804190)

XAMK4A (JX800220)

EXBP84102J (HX804920)

EXFP422ZZW (FX800480)

Notes)

* Circuit Board, Monitor

- IC
 IC112, 113, 114, 115;
 NJM4558SD (IX803430) OP AMP.
- Diode
 D7;
 D909-912, 100, 200,
 300, 400;
 SVD15S119-04T (XX808790)
- Variable Resistor
 VR100, 200, 300, 400;
 VR900;
 EVND4AA00B14 (HX804870) High, Low
- Trimmer Potentiometer
 VR901, 902;
- Switch
 S900-909;
 S910;
 S911;

PSXPK423-A (NX807240) PSUPK1850A

NJM4558SD (IX803430) OP AMP.

15S199T (IX804270)

SVD15S119-04T (XX808790)

PSVS251AA14 (HX802500) MONITOR
 PSVS251CB14 (HX804840) PITCH

EVND4AA00B14 (HX804870) High, Low

EYOOAC07K (KX801650)
 PSSSK18 (KX801050) TAPE SPEED
 PSSSK19 (KX801070) dbx

Notes)

* Circuit Board, Control

- IC
 IC1;
 IC900;
 IC901;
 IC902;
- Transistor
 Q900, 904, 905;
 Q901, 908;
 Q902, 903, 906, 907;
 Q908;
 Q910;
- Diode
 D3, 4;
 D6, 903;
 D904, 905;
- Zener Diode
 D906;
 D907;
- Resistor Array
 Z900;
 Z901, 902;
- Electrolytic Cap.
 C902;
- Coil
 L901;
- X900;

PSXPK423-B (NX807250) PSUPK1850B

NJM4558SD (IX803430) OP AMP.
 HD614042SJ61 (IX804200) CPU
 NJU4051BD (IX804340)
 NJM2903D (IX000620)

25B909M (IX606750)
 25C3311S-T (IX801680)
 25D1225M OR (IX601880)
 25D2012 (IX803230)
 UN4216 (IX553410)

SVD15S119-04T (XX808790)
 15S199T (IX804270)
 RL1N4003-N02 (IX802840)

HZS6C3TD (IX803240)
 HZS3B3TD (IX803520)

EXBF10L795J (HX804900)
 EXBF9E332J (HX804910)

ECEA1CU102ES (FJ239100) 1000μF 16V

ELEA102KA (GX801910)

EFOFC4004A3 (GX801860)