Service Manual

Model

380S

MULITITRACKER

FOSTEX®

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NOTES

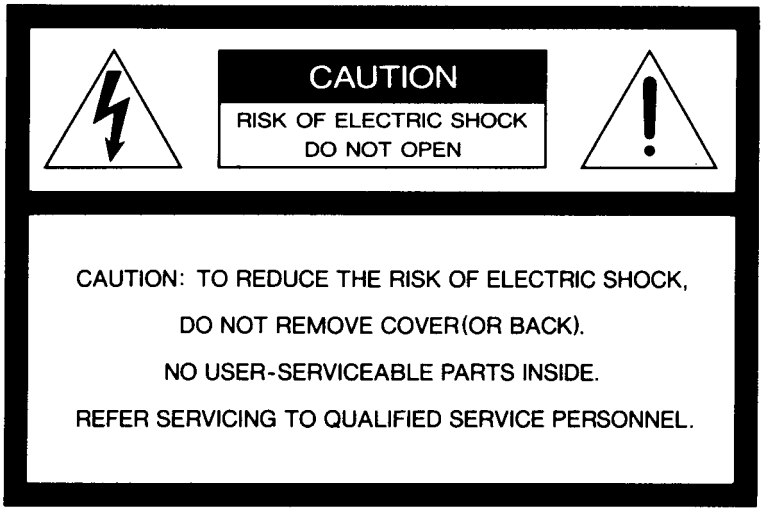
* Adjustment procedures are given in this manual which also includes a Parts List and schematic diagrams to assist the service technician in maintaining the Model 380S. Please feel free to contact the nearest Fostex Dealer and Distributor.

* The following accessory is supplied with 380S as the standard accessory.

  Owner's manual: 1 copy (P/N 8288327000 for domestic model)
  (P/N 8288326100 for export model)

CAUTION

⚠Parts marked with this sign are safety critical components. They must always be replaced with identical components. Refer to the Fostex Parts List and ensure exact replacement.



CAUTION:

TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

ATTENTION:

POUR ÉVITER LES CHOCS ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

"WARNING"

"TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE."

SAFETY INSTRUCTIONS

1. Read Instructions – All the safety and operating instructions should be read before the appliance is operated.
2. Retain Instructions – The safety and operating instructions should be retained for future reference.
3. Heed Warnings – All warnings on the appliance and in the operating instructions should be adhered to.
4. Follow Instructions – All operating and use instructions should be followed.
5. Water and Moisture – The appliance should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.
6. Carts and Stands – The appliance should be used only with a cart or stand that is recommended by the manufacturer.



An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

7. Wall or Ceiling Mounting – The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
8. Ventilation – The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
9. Heat – The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
10. Power Sources – The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
11. Grounding or Polarization – The precautions that should be taken so that the grounding or polarization means of an appliance is not defeated.
12. Power Cord Protection – Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
13. Cleaning – The appliance should be cleaned only as recommended by the manufacturer.
14. Nonuse Periods – The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
15. Object and Liquid Entry – Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
16. Damage Requiring Service – The appliance should be serviced by qualified service personnel when:
    A. The power supply cord or the plug has been damaged; or
    B. Objects have fallen, or liquid has been spilled into the appliance; or
    C. The appliance has been exposed to rain; or
    D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
    E. The appliance has been dropped, or the enclosure damaged.
17. Servicing – The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

1. SPECIFICATIONS

Mixer section

INPUT (x 12)

Input 1, 2: XLR connector / balanced

MIC impedance	Less than 600Ω
Input impedance	Higher than 3kΩ
Rated input level	MIC ..... -60dBV (1mV)
	LINE ..... -10dBV (0.3V)

Input 1~4: PHONE jack/unbalanced

MIC impedance	Less than 10kΩ
Input impedance	Higher than 20kΩ
Rated input level	MIC ..... -60dBV (1mV)
	LINE ..... -10dBV (0.3V)

Input 5 ~ 12: PHONE jack / unbalanced

Input impedance	Higher than 6kΩ
Rated input level	-10dBV (0.3V)

AUX RTN 1, 2 (L, R): PHONE jack

Input impedance	Higher than 10kΩ
Rated input level	-20dBV (0.1V)

Stereo output (L, R): RCA pin jack

Output load impedance	Higher than 10kΩ
Rated output level	-10dBV (0.3V)

AUX SEND 1, 2: PHONE jack

Output load impedance	Higher than 10kΩ
Rated output level	-10dBV (0.3V)

Monitor output (L, R): PHONE jack

Output load impedance	Higher than 10kΩ
Rated output level	-10dBV (0.3V)

Tape output 1 ~ 4: RCA pin jack

Output load impedance	Higher than 10kΩ
Rated output level	-10dBV (0.3V)

Headphone output (x 2): STEREO PHONE jack

Output load impedance	8 ~ 50Ω
Maximum output	25mW

SYNC input: RCA pin jack

Input impedance	Higher than 5kΩ
Rated input level	-10dBV (0.3V)

SYNC output: RCA pin jack

Output load impedance	Higher than 10kΩ
Rated output level	-10dBV (0.3V)

INSERT input/output: STEREO PHONE jack

SEND (tip)	
Output load impedance	Higher than 10kΩ
Rated output level	-10dBV (0.3V)
RETURN (ring)	
Input impedance	Higher than 10kΩ
Rated input level	-10dBV (0.3V)

Equalizer

HIGH		10kHz ± 15dB (Shelving)
MID		200Hz -6kHz ± 15dB (Parametric)
LOW		80Hz ±15dB (Shelving)
S/N	MIC	66dB (IHF-A)
	LINE	76dB (IHF-A)

Frequency response	20Hz ~ 20kHz
Crosstalk	60dB (1kHz)
Distortion	Less than 0.05%

Recorder section

Recording tape	C-60, C-90 (TYPEII/HIGH (CrO_2) POSITION, TDK SA or MAXELL XLII equivalent)
Recording track	4-track one way recording (4-channel simultaneous recording)
Noise reduction	* Dolby S NR type (9.5cm/s: ON-OFF switchable) (4.75cm/s: OFF fixed)
Tape speed	9.5cm/s, 4.75cm/s (switchable)

Wow flutter (9.5 cm/s)	±0.05% WTD, PEAK (IEC/ANSI)
Fast wind time	110 seconds (C-60 tape)
Pitch control	±10% or higher
Recording time	22.5 minutes (C-90, 9.5cm/s)
Frequency response	40Hz ~ 18kHz (9.5cm/s) 40Hz ~ 12kHz (4.75cm/s)
S/N (Dolby LEVEL = 0dB)	70dB (CCIR/ARM, 9.5cm/s)
Crosstalk	50dB (1kHz)
Distortion	Less than 1.5% (1kHz, 0dB)
Head	4-channel recording/playback (Hard Permalloy) 4-channel erase (Ferrite)

General

Power supply/power consumption	120VAC 60Hz 32W 230V ∿ 50/60Hz 32W 240V ∿ 50Hz 32W
Weight	5.5kg
Dimensions	515(W) x 356.7(D) x 110.9(H)

Specifications and appearance of this product subject to change without notice.

* Dolby noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.
Dolby and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

2. CONTROLS, INDICATORS & CONNECTORS

CONTROL PANEL section

1. INPUT SELECTOR SWITCH (INPUT selector ①)
2. ASSIGN SWITCH (ASSIGN ②)
3. INPUT FADER (INPUT fader ③)
4. INPUT TRIM (TRIM ④)
5. PANPOT (PAN ⑤)
6. EQUALIZER (EQ ⑥)
7. AUX 1 SEND CONTROL (AUX 1 ⑦)
8. AUX 2 SEND CONTROL (AUX 2 ⑧)
9. SUB MIX VOLUME CONTROL (SUB ⑨)
10. AUX 1 & 2 SEND CONTROL (AUX 1 & 2 ⑩)
11. AUX 1 RTN CONTROL (AUX RTN 1 ⑪)
12. AUX 2 RTN CONTROL (AUX RTN 2 ⑫)
13. MONITOR LEVEL CONTROL (MONITOR level ⑬)
14. HEADPHONE LEVEL CONTROL (PHONES level ⑭)
15. MONITOR SELECT SWITCH (MONITOR selector ⑮)
16. STEREO MASTER FADER (MASTER fader ⑯)
17. REC SELECT SWITCH (REC SELECT ⑰)
18. TRANSPORT CONTROL SECTION
19. MEMORY / AUTO FUNCTION SECTION
20. OPERATION DISPLAY (DISPLAY ⑳)
21. CASSETTE DECK TRANSPORT (Transport ㉑)
22. PITCH CONTROL (PITCH 22)
23. DOLBY S NOISE REDUCTION SWITCH (DOLBY NR ㉓)
24. TAPE SPEED SELECT SWITCH (SPEED H/N ㉔)

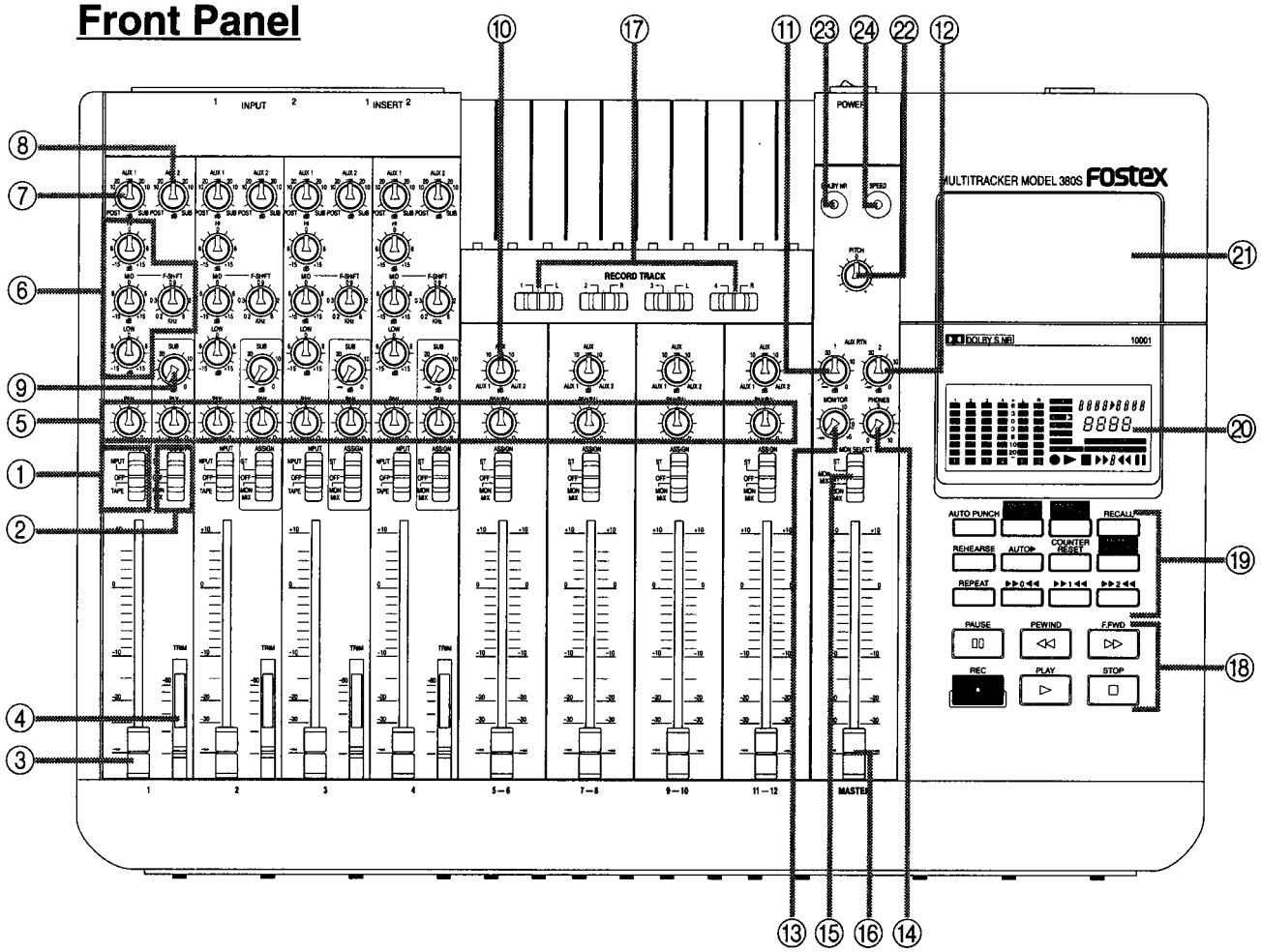
FRONT PANEL

25. INPUT JACKS 1–12 (INPUT jack ㉕)
26. HEADPHONE JACK (PHONES jack ㉖)
27. REMOTE PUNCH-IN/OUT JACK (PUNCH IN/OUT jack ㉗)

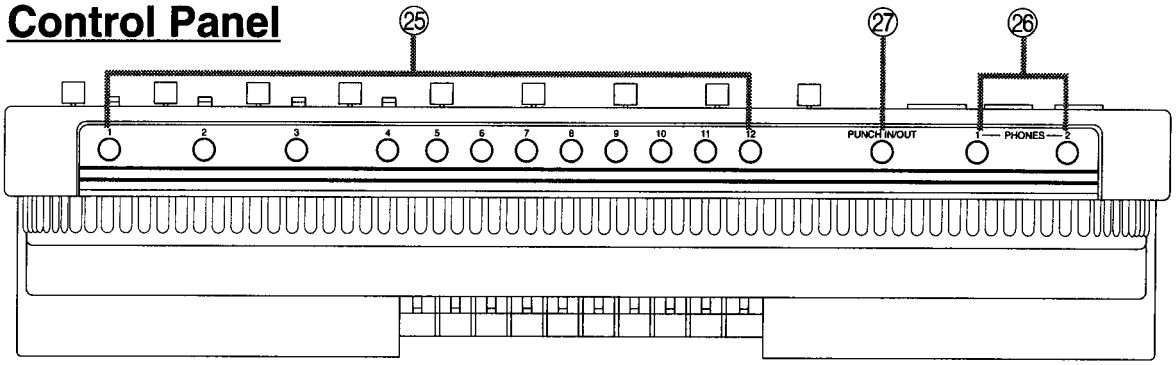
REAR PANEL

28. XLR INPUT CONNECTOR (XLR INPUT connector ㉘)
29. MONITOR OUT JACK (MON OUT jack ㉙)
30. AUX 1 SEND JACK (AUX 1 SEND jack ㉚)
31. AUX 2 SEND JACK (AUX 2 SEND jack ㉛)
32. AUX 1 RETURN JACK (AUX 1 RTN jack ㉜)
33. AUX 2 RETURN JACK (AUX 2 RTN jack ㉝)
34. STEREO OUT JACK (STEREO OUT jack ㉞)
35. TAPE OUT JACK (TAPE OUT jack ㉟)
36. SYNC IN JACK (SYNC IN jack ㊱)
37. SYNC OUT JACK (SYNC OUT jack ㊲)
38. INSERT JACK (INSERT jack ㊳)
39. POWER SWITCH

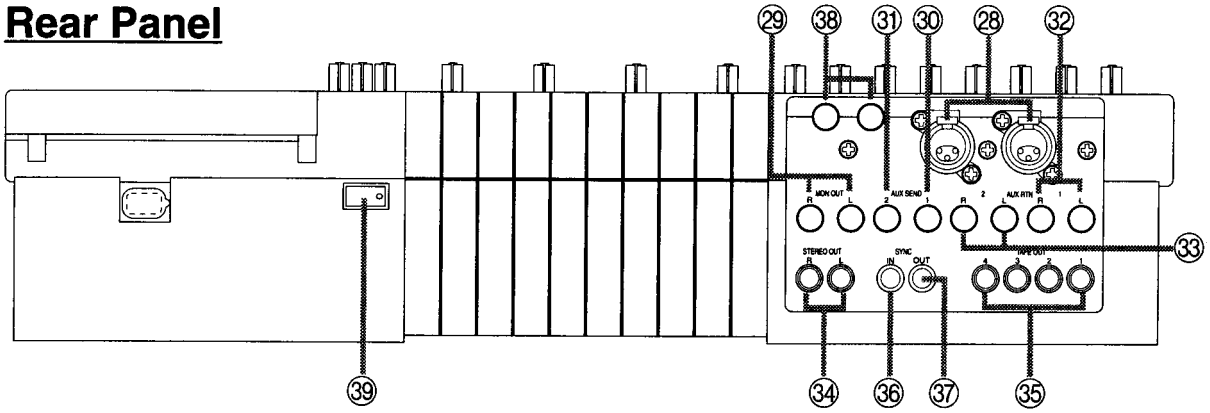
Front Panel



Control Panel



Rear Panel



3. MAINTENANCE

3.1 ROUTINE MAINTENANCE

3.1.1 CLEANING

1) Head

With constant use, the head surface becomes soiled with magnetic particles from the tape, dirt and dust. Under such conditions, the tape will not always be in smooth contact with the head and thus result in poor performance.
Less output in the high region and dropout (some parts of the sound not being reproduced) are typical symptoms. It is therefore recommended to clean the heads periodically before recording and playback to avoid such troubles.

2) Capstan and pinch roller

Build-up of magnetic particles and dust on these parts will cause increase of wow, flutter and wrapping of tape on the capstan. Thus, these parts must also be kept clean.
Cleaning is done with cotton buds moistened with fluids prescribed or recommended for tape recorders and especially the heads. Never use lacquer thinners, acetone or other organic solvents.

3.1.2 DEMAGNETIZING

The Rec/Play head becomes magnetized by extended use or when the head is touched with a magnetized object. As a result, frequency response (especially in the high region) will deteriorate, noise level increases, and in some cases may transfer noise to valuable prerecorded tapes. For this reason, do not touch the head with magnetized screwdrivers and scissors or allow DC current to flow through the head winding such as when testing continuity with a circuit tester. Should the head become magnetized, demagnetize it with a head eraser designed for this purpose.

3.1.3 DEMAGNETIZING PROCEDURE

1) After turning off power to the Model 380S, open the cassette door and if a cassette is loaded, remove it and place far away from the deck.

2) Switch on the head eraser while holding it about one meter away from the Model 380S, slowly move the eraser tip to the head and slowly wave the tip up and down several times close to the head surface.

3) On completing the above procedure, slowly draw the demagnetizer away from the

head and switch off the demagnetizer when it is more than one meter away from the head. As demagnetism in the head cannot be seen, unlike a soiled head, routine demagnetizing is necessary. It is recommended to do so at the same time the head is cleaned.

3.2 ADJUSTING TOOLS AND EQUIPMENT

The following tools and equipment are required for adjusting the Model 380S.

1)	Head height and tape contact Adjusting jig	 Fostex P/N 8286001000
2)	Torque meter Cassette torque meter Cassette torque meter	 0 ~ 200 g-cm (0 ~ 2.8 Oz-In.) SONY TW-2231, Fostex P/N 8286 0080 00 0 ~ 100 g-cm (0 ~ 1.4 Oz-In.) SONY TW-2111, Fostex P/N 8286 0090 00
3)	Mirror type cassette	Fostex P/N 8286 0020 00, MC112C
4)	Test tapes Flutter/speed (3kHz) Frequency response	 A-BEX, TCC-111 FOSTEX, 9152 Also 3150 Hz test tape for Wow/Flutter measurement is recommended. FOSTEX, 9151
5)	Blank tape	Maxell XL-II or TDK SA
6)	Audio oscillator	General type
7)	Frequency counter	General type
8)	Bandpass filter	General type used for erasure measurement.
9)	AC voltmeter	Stereo type is recommended.
10)	Oscilloscope	General type
11)	Wow & flutter meter	General type
12)	Distortion meter	General type
13)	Frequency Counter	General type

3.3 THE TAPE TRANSPORT MECHANICAL DATA

3.3.1 REEL TORQUE

1) Play mode:	Reel left	1.5 ~	6 g-cm
	Reel right	20 ~	70 g-cm
2) FWD/REW mode:	Reel left	70 ~	160 g-cm
	Reel right	70 ~	160 g-cm

3.3.2 PINCH ROLLER PRESSURE: 100 ~ 250 g-cm or more
(Pull force)

CAUTION:

Make sure the cassette is inserted correctly before operating.
If, for any reason, a cassette becomes jammed in the transport:

1) All controls will lock-up and the display will lock in full lighting.

2) To unlock the transport:
   a. Turn off the power.
   b. Turn over the recorder and locate the manual head release. Refer to figure 1. Insert a small flat head screw driver and rotate Flywheel counter clockwise. Be sure to use care when doing this. The head will return to its normal position and the cassette will be free.

3) After releasing the head, turn the recorder to its correct position and turn on the power.

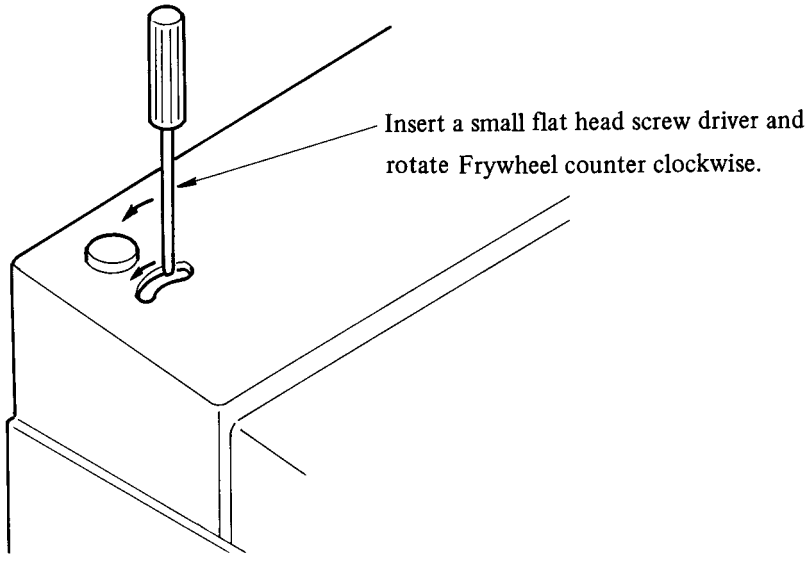


Fig. 1

3.4 CHECKING AND ADJUSTING HEAD AZIMUTH AND PHASE

1) Playback the Fostex 9151 test tape.

2) Connect an AC volt meter to the TAPE OUT 1 pin jack and roughly adjust azimuth via the 400Hz signal. After this procedure, adjust accurately with the 12.5kHz signal.

3) At the same time, check the phase of the TAPE OUT 1 pin jack and TAPE OUT 4 (or TAPE OUT 2 and TAPE OUT 3).
These two outputs are applied respectively to the vertical and horizontal inputs of an oscilloscope and the head adjusted so that the Lissajous pattern is less than 90° at 12.5kHz.

3.5 TAPE SPEED CHECK AND ADJUSTMENT

Adjusting points: V901 (Low Speed)
V902 (High Speed)

NOTE:

Since the low speed adjustment affects the high speed setting, the low tape speed must be adjusted before attempting to adjust the high tape speed.

3.5.1 LOW SPEED ADJUSTMENT

1) Connect a frequency counter or a wow/flutter meter with a counter to TAPE OUT 2 or 3.

2) Select the tape speed selector to low speed (4.75) and playback the A-BEX TCC-111 flutter/speed test tape with the PITCH CONTROL knob on the 380S at "0" (center) position.

3) Check tape speed to see if it is within 3000Hz ± 45Hz.

4) If it is not within this specification, adjust pot V901 on the control PCB assembly.

3.5.2 HIGH SPEED ADJUSTMENT

1) Connect a frequency counter or a wow/flutter meter with a counter to TAPE OUT 2 or 3.

2) Select the tape speed selector to high speed (9.5) and playback the FOSTEX 9152 flutter/speed test tape with the PITCH CONTROL knob on the 380S at the "0" (center) position.

3) Check tape speed to see if it is within 3000Hz ± 45Hz.

4) If it is not within this specification, adjust pot V902 on the control PCB assembly so that the tape speed will be within the specification.

3.6 CHECK OF WOW/FLUTTER

1) Connect a wow/flutter meter to the TAPE OUT 2 or 3.

2) Select a tape speed selector to the high speed and playback the FOSTEX 9152 flutter/ speed test tape and check if the wow/flutter is less than ± 0.08% WTD, CCIR.

3.7 CHECK AND MEASUREMENT ON THE MIXER SECTION

(Refer to the Block Diagram)

The following is in regards to the 380S Multitracker basic function check. Function checks for other signal routes can be made in this same way. A 1kHz sine wave signal is used for the function check in this manual. Change the frequency and level accordingly for the frequency response check and signal to noise ratio check etc.

The response you measure should be compared to the specifications on page 3.

Please proceed with the function check referring to the top panel layout drawing. The reference numbers at the parameters of the function check are related to the reference number appearing on the panel layout drawing.

3.7.1 INPUT ⟶ TAPE OUT

1) Apply a 1kHz, -10dBV (0.3V) reference signal to each INPUT 1 through 4 phone jack.

2) Connect an AC volt meter to the TAPE OUT 1 through 4 pin jacks respectively.

3) Set the controls as follows.

INPUT SELECTOR SW	: INPUT
INPUT FADER	: About 0dB position
EQ	: All gain pots to 0dB (center) position
TRIM	: -10dB position (lower position)
REC SELECTOR SW	: 1 through 4

4) Press the RECORD TRACK SW for the track required and press the REC button. Check to see if the recording indicator is blinking. (Status is input monitor mode)

5) Check the output level at TAPE OUT 1 through 4 to see if it has a -10dBV (0.3V) ±1dB reading.

3.7.2 INPUT ⟶ STEREO OUT

1) Apply a 1kHz, -10dBV (0.3V) reference signal to each INPUT 1 through 4 phone jack.

2) Connect an AC volt meter to the STEREO OUT L, R phone jack respectively.

3) Set the controls as follows.

INPUT SELECTOR SW	:	INPUT
INPUT FADER	:	About 0dB position
EQ	:	All gain pots to 0dB (center) position
TRIM	:	-10dB position (lower position)
PAN POT	:	L (Applied to STEREO OUT L) or R (Applied to STEREO OUT R)
MASTER FADER	:	About 0dB position

4) Check each STEREO OUT L, R level if it is -10dBV (0.3V) ±1dB reading.

5) Check for EQ
Change the input signal frequency from 1kHz to 100Hz and 10kHz. Check if the EQ HI, LO corresponds the following specifications.

100Hz	:	+15dB ± 3dB
		-15dB ± 3dB
10kHz	:	+15dB ± 3dB
		-15dB ± 3dB

After this procedure, sweep the input signal frequency from 200Hz to 5kHz. Check if the parametric EQ MID corresponds the following specification.

200Hz ~ 5kHz	:	±15dB ±3dB

3.7.3 INPUT (LINE) ⟶ MON OUT

1) Apply a 1kHz, -10dBV (0.3V) reference signal to each INPUT 1 through 4 phone jacks.

2) Connect an AC volt meter to the MON OUT L, R phone jack respectively and connect headphones to HEADPHONES JACK.

3) Set the controls as follows.

INPUT SELECTOR SW	:	INPUT
INPUT FADER	:	About 0dB position

EQ	: All gain pots to 0dB (center) position
TRIM	: -10dB position (lower position)
PAN POT	: L (Applied to MON OUT L) or R (Applied to MON OUT R)
MASTER FADER	: About 0dB position
MON SELECT SW	: STEREO
MONITOR LEVEL POT	: About 0dB position
PHONES LEVEL POT	: For appropriate position

4) Check each MON OUT L, R level if it is -10dBV (0.3V) ±1dB reading and also if the signal can be heard through the headphones.

3.7.4 INPUT (LINE) ⟶ AUX SEND

1) Apply a 1kHz, -10dBV (0.3V) reference signal to each INPUT 1 through 4 phone jack.

2) Connect an AC volt meter to the MON OUT L, R phone jack respectively.

3) Set the controls as follows.

INPUT SELECTOR SW	: INPUT
INPUT FADER	: About 0dB position
EQ	: All gain pots to 0dB (center) position
TRIM	: -10dB position (lower position)
AUX 1, 2 SEND POT	: POST (Full CCW) position

4) Check the AUX SEND 1, 2 level if it is -10dBV (0.3V) ±1dB reading.

3.8 CHECK AND ADJUSTMENT FOR THE RECORD/PLAYBACK AMP

3.8.1 PLAYBACK LEVEL CALIBRATION

Adjusting points: V102 ~ V402

1) Set the controls as follows:

RECORD TRACK SELECTOR	: All CH to OFF
Dolby NR SW	: OFF position
TAPE SPEED SELECTOR	: High Speed

2) Connect an AC volt meter to the TAPE OUT 1 through 4 pin jacks respectively.

3) Playback the 400Hz, 0dB part of the FOSTEX 9151 test tape and check the output

level at TAPE OUT 1 through 4 to see if it has a -10dBV (0.3V) ±1dB reading. If the reading is not within this specification, adjust V102 through V104 on the R/P AMP PCB Assy for -10dBV reading.

4) Check if the output level is within the spec even through the Dolby NR SW is set to ON position.

3.8.2 PLAYBACK FREQUENCY RESPONSE CHECK

Adjusting points: V103 ~ V403

1) Set the controls as follows:

RECORD TRACK SELECTOR	: All CH to OFF
Dolby NR SW	: OFF position
TAPE SPEED SELECTOR	: High speed

2) Connect an AC volt meter to the TAPE OUT 1 through 4 pin jack respectively.

3) Playback 12.5kHz, -5dB part of test tape FOSTEX 9151 and check the output level at TAPE OUT 1 through 4 to see if it has -15dBV (0.18V) ±3dB reading. If the reading is not within this specification, adjust V103 through V403 on the R/P AMP PCB assembly so that the response will be within the specification.

3.9 ERASE CURRENT ADJUSTMENT

Adjusting points: T101 ~ T401

1) Set the controls as follows:

RECORD TRACK SELECTOR	: CH required to ON
Dolby NR SW	: OFF
TAPE SPEED SELECTOR	: High speed

2) Referring to the schematic diagram, connect an oscilloscope probe to the No. 1 pin on head connectors TP-1 through TP-4 respectively.

3) Load a blank cassette into the transport and set to record mode (press REC and PLAY button simultaneously).

4) Adjust T101 through T401 on the R/P AMP PCB Assy so that the AC voltage measured on the oscilloscope will be maximum voltage. This voltage is more than 30mV in normal situations.

3.9.1 RECORDING LEVEL CALIBRATION

Adjusting points: V104 ~ V404

1) Procedures 3.4 through 3.9 must be completed before proceeding with this adjustment.

2) Set the controls as follows:

RECORD TRACK SELECTOR	:	CH required to ON
Dolby NR SW	:	OFF
TAPE SPEED SELECTOR	:	High speed
AUX 1 RTN GAIN	:	0dB position (Max.)
MASTER FADER	:	About 0dB position

3) Apply a 400Hz, -20dBV (0.1V) sine wave signal to AUX1 RTN L phone jack.

4) Connect an AC volt meter to TAPE OUT 1 through 4 pin jack respectively.

5) Load a blank cassette into the transport and set the recorder to RECORD mode (press REC and PLAY button simultaneously).
Adjust the MASTER FADER for the output level at TAPE OUT 1 through 4 as -10dBV (0.3V) reading.

6) Record this signal on the blank cassette.

7) After recording some tape length of this signal, rewind the tape to the start point of recording and play it back. Check the level at TAPE OUT 1 through 4.
If the level meter reading is not within -10dBV (0.3V) ±1dB, adjust V104 through V404 on the R/P AMP PCB assembly so that the recording level will be within this specification.

3.9.2 OVERALL FREQUENCY RESPONSE CHECK

Adjusting points: V101 ~ V401

1) Set the controls as follows:

RECORD TRACK SELECTOR	:	CH required to ON
Dolby NR SW	:	ON
TAPE SPEED SELECTOR	:	High speed
AUX1 RTN GAIN	:	0dB position (Max.)
MASTER FADER	:	About 0dB position

(These settings are the same as 3.9.1)

2) Apply a 400Hz, -40dBV (10mV) sine wave signal to AUX1 RTN L phone jack.

3) Load a blank cassette into the transport and set the recorder to RECORD mode (press REC and PLAY button simultaneously).

4) Record a signal from 50Hz through 14kHz on the blank cassette.
After recording the signal, rewind the tape to the start point of recording and playback the tape.

5) Check if the frequency response is within the specification as shown below.

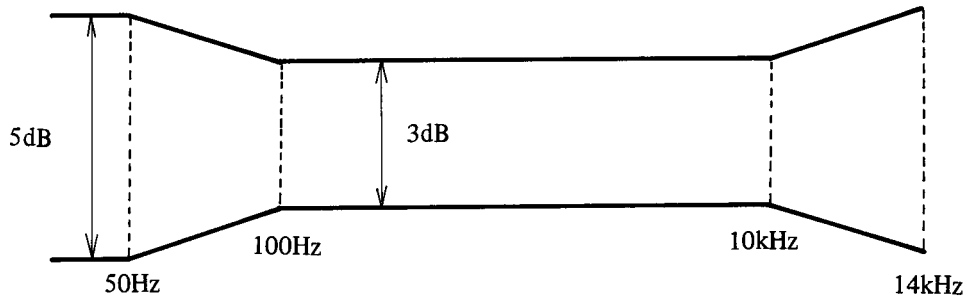


Fig. 2

If it is not within these specifications in higher frequency region, adjust V101 through V401 on the R/P AMP PCB Assy, repeating the procedure 5) above, so that the response will be within the spec.

7) After adjusting the V101 through V401 pot, the recording level calibration as per 3.9.1 must be checked again.

3.10 OVERALL S/N MEASUREMENT

1) Procedures up to 3.9.2 must be completed before doing this measurement.

2) Under the same conditions as for 3.9.1 calibrating the recording level, record a 400Hz, -20dBV (0.1V) sine wave signal on a blank cassette.

3) Disconnect the oscillator from AUX RTN L while recording this signal, and record a length of no-signal input.

4) Rewind the tape to the start point of recording and playback the tape. Measure the difference between the no-signal and the playback reference level at TAPE OUT.

Specification:
Dolby NR OFF : 55dB A-WTD
: 47dB UN WTD
Dolby NR ON : 65dB A-WTD
: 70dB CCIR-ARM

3.11 THD MEASUREMENT

1) Connect a distortion meter to TAPE OUT 1 through 4 pin jack respectively and set the Dolby NR SW to the off position.

2) Using the same conditions as 3.9.1 Recording Level Calibration, record a 400Hz -20dBV (0.1V) sine wave signal to the blank cassette.

3) Playback the recorded part and check the distortion level if it is less than 1.5%.

3.12 ERASURE MEASUREMENT

1) Connect the input terminal of 1kHz, bandpass filter to the TAPE OUT 1 through 4 pin jack respectively and the output terminal of the filter to an AC volt meter.

   Set the Dolby NR SW to OFF position.

2) Under the same condition as 3.9.1 Recording Level Calibration, apply a 1kHz, -10dBV (0.3V) sine wave signal to the AUX RTN L and record on the blank cassette.

3) Rewind the tape to the start point of the recording, advance the tape a short length and record a no-signal section on the remaining part of the tape.

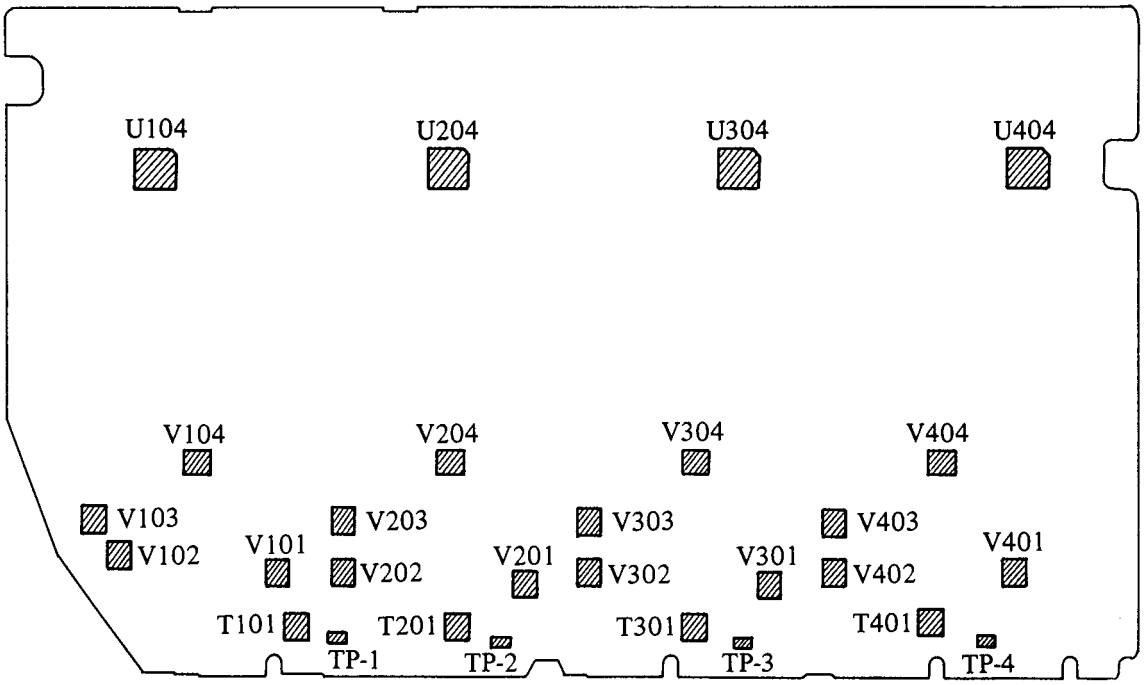
4) Rewind the tape to the start point and the playback tape.

5) Check the level ratio between the playback level and the no-signal section (erased part), if it is 70dB or more.

3.13 TABLE OF ADJUSTMENT ITEMS

ADJUSTMENT ITEM	MEASURING POINT		ADJUSTING POT	LOCATION
Tape speed LOW	Tape out		V901	Control PCB
Tape speed HIGH	Tape out		V902	Control PCB
P.B. Level Cal.	Tape out	1	V102	R/P AMP. PCB
		2	V202	
		3	V302	
		4	V402	
P.B. frequency Response	Tape out	1	V103	R/P AMP. PCB
		2	V203	
		3	V303	
		4	V403	

Erase current	Test point	TP-1 TP-2 TP-3 TP-4	T101 T201 T301 T401	R/P AMP. PCB
Rec level Cal.	Tape out	1 2 3 4	V104 V204 V304 V404	R/P AMP. PCB
Overall frequency Response	Tape out	1 2 3 4	V101 V201 V301 V401	R/P AMP. PCB



4. EXPLODED VIEW, PCB ASSEMBLY AND PARTS LIST

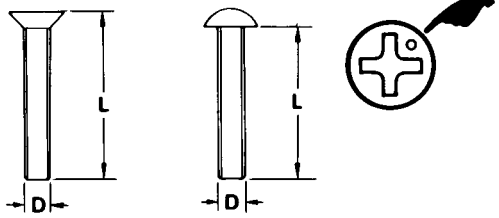
ASSEMBLING HARDWARE CODING LIST

All screws conform to ISO standards, and have crossrecessed heads, unless otherwise noted. ISO screws have the head inscribed with a point as in the figure to the right.

FOR EXAMPLE:

B M 3 x 6

- B — Nomenclature
- M — Metric System
- 3 — Diameter in mm (D) *
- 6 — Length in mm (L)



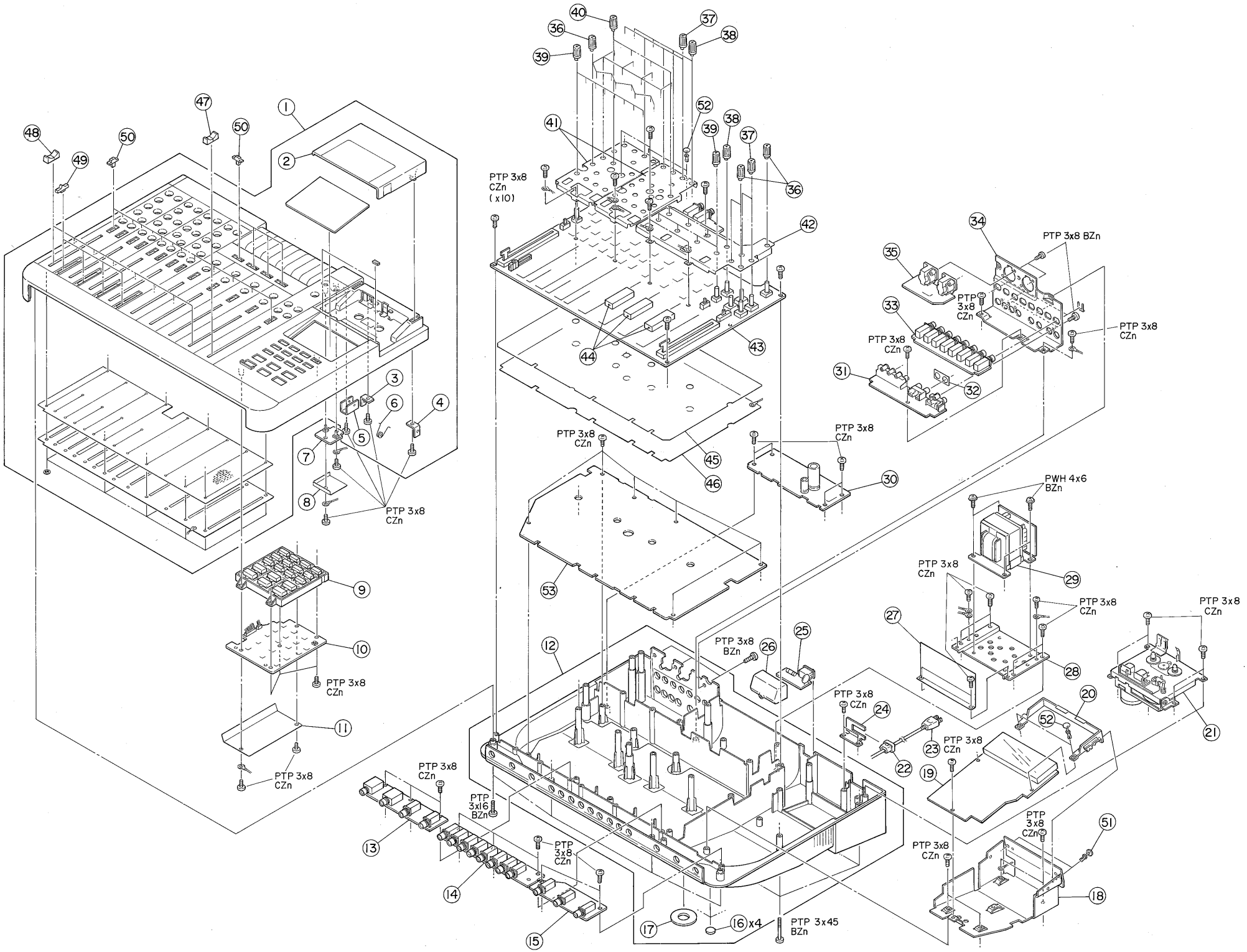
* Inner dia. for washers and nuts

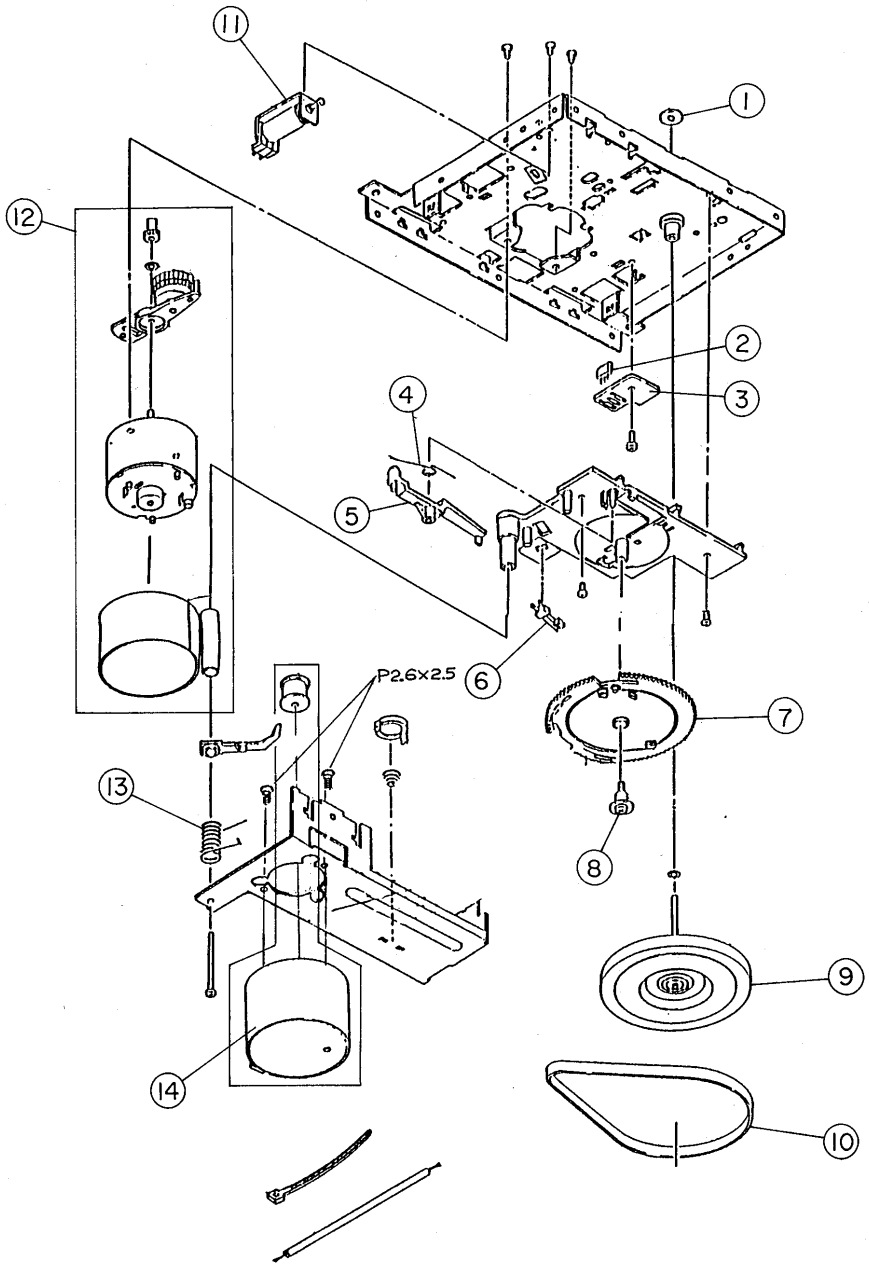
	CODE	NAME	TYPE
MACHINE SCREW	P	Pan Head Screw	
	T	Stove Head Screw (Truss)	
	B	Binding Head Screw	
	F	Flat Countersunk Head Screw	
	O	Oval Countersunk Head Screw	
	PWH	Pan-Washer Head Screw	
WOOD SCREW	RW	Round Head Wood Screw	
	FW	Flat Countersunk Wood Screw	
	OW	Oval Countersunk Wood Screw	
TAPPING SCREW	PTP	Pan Head Self Tapping Screw (B type)	
	PTPWH	Pan-washer Head Self Tapping Screw (B type)	
	TTP	Stove Head Self Tapping Screw (B type)	
	FTP	Flat Countersunk Head Self Tapping Screw (B type)	
TAPTITE SCREW	PTT	Pan Head Tapping Screw	
	PTTWH	Pan-Washer Head Tapping Screw	
	TTT	Stove Head Tapping Screw	
	FTT	Flat Countersunk Head Tapping Screw	
SEMS SCREW	PS	Pan Head Screw with Spring Washer	
	PSW	Pan Head Screw with Washer and Spring Washer	
WASHER, LUG, NUT	W	Flat Washer	
	LW	Spring Washer	
	LWI	Internal Teeth Lock Washer	
	LWE	External Teeth Lock Washer	

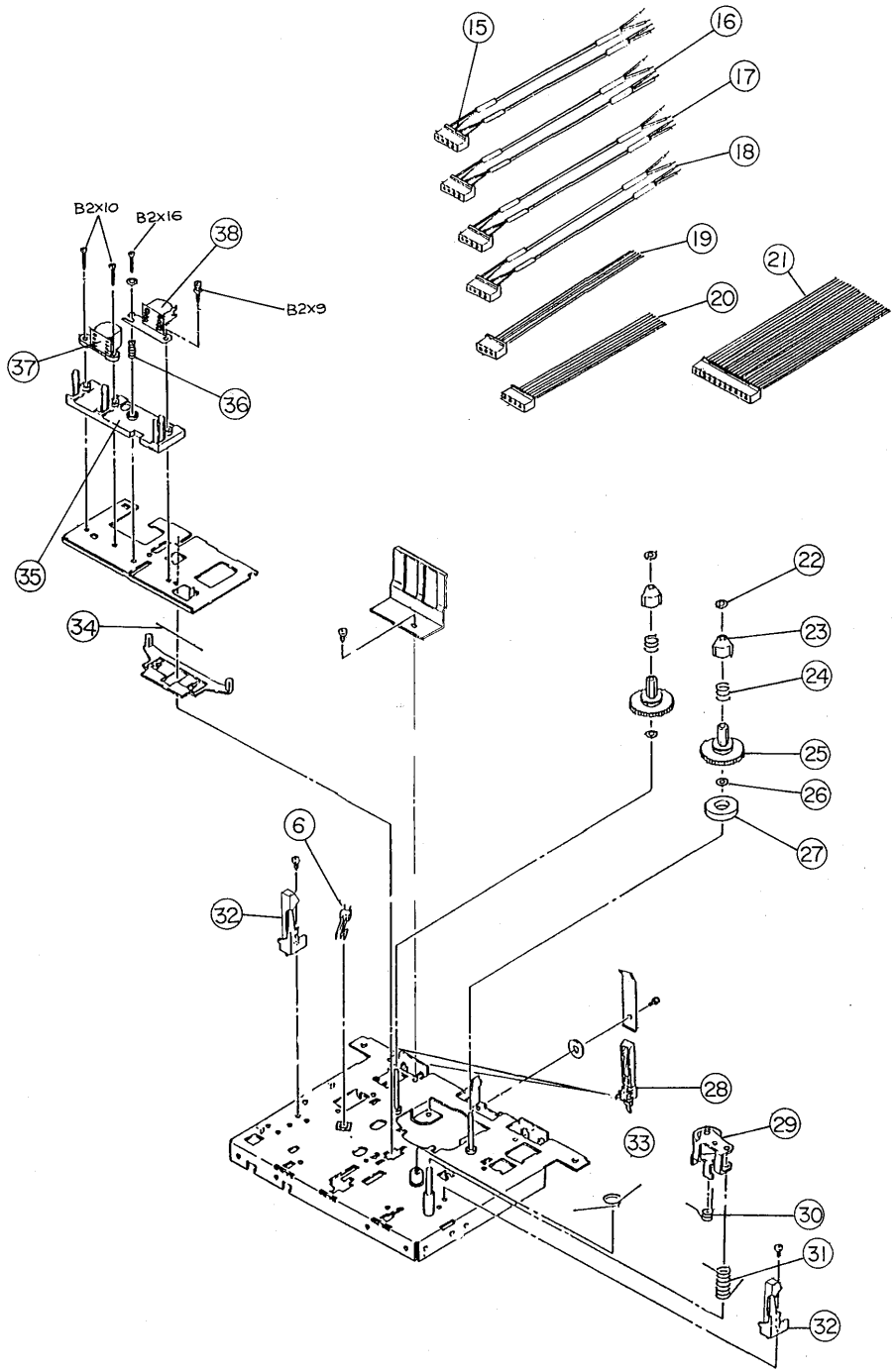
	CODE	NAME	TYPE
WASHER, LUG, NUT	TW	Trim Washer (Countersunk)	
	N	Hex Nut	
	L	Lug	
	THW	Thrust Washer (Poly Washer)	
SETSCREW	HSF	Hex Socket Setscrew (Flat Point)	
	HSC	Hex Socket Setscrew (Cup Point)	
	SSF	Slotted Socket Setscrew (Flat Point)	
	SSC	Slotted Socket Setscrew (Cup Point)	
BOLT	HSB	Hex Soket Head Bolt	
	HB	Hex Head Bolt	
RING, PIN	ER	E-Ring (Retaining Washer)	
	CRR	C-Ring (Inner)	
	CRS	C-Ring (Outer)	
	GR	Seeger Ring	
	SP	Spring Pin	
	SR	Snap Ring	
FINISH	Zn	Zinc plating	
	CZn	Colored zinc plating	
	BZn	Black zinc plating	
	Ni	Nickel plating	
	BNi	Black niekel plating	
	Cr	Chrome plating	
	BCr	Black chrome plating	

OVERALL EXPLODED VIEW

Ref. No.	Parts No.	Description
1	8260 4230 00	Case top, Assy, 380S
2	8212 4640 00	Cover, cassette, 380S
3	8221 0170 00	Bracket, cassette L
4	8221 0180 00	Bracket, cassette R
5	8221 0190 00	Bracket, spring
6	8214 2790 00	Spring, torsion
7	8273 8240 00	PCB Assy, SW B
8	8216 4950 00	Shield, tact
9	8226 1860 00	Knob, operation
10	8273 8230 00	PCB Assy, KEY
11	8216 4960 00	Shield, cont
12	8260 4240 00	Case, bottom Assy, 380S
13	8273 8180 00	PCB Assy, JACK B
14	8273 8140 00	PCB Assy, JACK A
15	8273 8250 00	PCB Assy, HP
16	8216 3210 00	Foot, NF
17	8207 0054 00	Foot
18	8216 4930 00	Shield, FL
19	8273 8220 00	PCB Assy, CONT
20	8207 0106 00	Holder, FL
21	8260 4220 00	Transport Assy, 380S
22	8207 0063 00	Cord, bush-2271
23	⚠ 8276 8270 00	Cord, power, EUR
	⚠ 8276 8290 00	Cord, power, DM
	⚠ 8276 8280 00	Cord, power, UK
	⚠ 8276 8370 00	Cord, power, USA/CND
24	8221 0210 00	Bracket, bushing
25	8273 8200 00	PCB Assy, SW A
26	8216 3140 00	Cover, switch
27	8216 4940 00	Shield, trans
28	8221 0220 00	Bracket, trans
29	⚠ 8242 2000 00	Trans, 120V
	⚠ 8242 2010 00	Trans, 230V
	⚠ 8242 2020 00	Trans, 240V
	⚠ 8242 2030 00	Trans, 100V
30	8273 8210 00	PCB Assy, SPLY
31	8273 8150 00	PCB Assy, JACK US
32	8212 4650 01	Cover, jack
33	8273 8190 00	PCB Assy, JACK C
34	8221 0200 00	Bracket, jack
35	8273 8170 00	PCB Assy, CANON
36	8226 1890 00	Knob, vol, GY
37	8226 1870 00	Knob, vol, R
38	8226 1900 00	Knob, vol, GR
39	8226 1880 00	Knob, vol, OR
40	8226 1910 00	Knob, vol, B
41	8221 0240 00	Bracket, vol, B
42	8221 0230 00	Bracket, vol, A
43	8273 8160 00	PCB Assy, MIX
44	8216 4920 00	Cushion, RB
45	8216 4910 00	Sheet, M
46	8216 4900 00	Shield, M
47	8226 1930 00	Knob, fader, R
48	8226 1920 00	Knob, fader
49	8226 1300 00	Knob, fader, S
50	8226 1940 00	Knob, slide, W
51	8207 0076 00	Plasti rivet, 30x65
52	8207 0105 00	Plasti rivet, 30x35
53	8273 8260 00	PCB Assy, R/P AMP


PTP 3x8 CZn (x10)
PTP 3x8 BZn
PTP 3x8 CZn
PWH 4x6 BZn
PTP 3x16 BZn
PTP 3x45 BZn
x4


11
1
12
2
3
4
5
6
P2.6x2.5
7
13
8
9
14
10


15
16
17
18
19
20
21
B2x10
B2x16
38
B2x9
37
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MECHA. EXPLODED VIEW

Ref. No.	Parts No.	Description
1	8204 0690 00	Polyslider, 1.9x7.0x0.5
2	8236 0719 00	IC, hall, DN6838-A
3	8251 3560 00	PCB, hall IC
4	~~8214 1840 00~~ 8214 1840 000	Spring, lever, trigger
5	~~8216 4610 00~~ 8212 4610 00	Trigger, lever
6	8253 9590 00	Leaf SW, LSA-119R-1AU
7	8212 4600 00	Gear, drive
8	8204 0050 06	Sholdek, 2.6x9
9	8223 2700 00	Flywheel
10	8216 4880 00	Belt, capstan
11	8249 0260 00	Solenoid
12	8270 6960 00	Reel motor, Assy, 380S
13	8214 2780 00	Spring, arm gear
14	8270 6970 00	Main motor, Assy, 380S
15	8277 1820 00	Cable Assy, WHT
16	8277 1830 00	Cable Assy, RED
17	8277 1840 00	Cable Assy, BLU
18	8277 1850 00	Cable Assy, YEL
19	8277 1870 00	Cable Assy, 3P
20	8277 1860 00	Cable Assy, 4P
21	8277 1810 00	Cable Assy, 11P
22	8204 0710 00	Polyslider, 1.6x3.2x0.40, cut
23	8212 2970 00	Hub, reel
24	8214 1860 00	Spring, reel
25	8212 4620 00	Reel, 380S
26	8204 0700 00	Polyslider, 2.1x4.0x0.5
27	8223 2710 00	Magnet, 15x7.2-12
28	8253 9600 00	Leaf SW, LSA-1132FAU
29	8260 3450 00	Pinch roller Assy
30	8214 1870 00	Spring, pinch roller
31	8214 1880 00	Spring, pinch roller support
32	8212 2990 00	Guide, cassette
33	8214 1890 00	Spring, head panel
34	8214 1910 00	Spring, arm brake
35	8212 4630 00	Head base
36	8214 1900 00	Spring, head
37	8259 0340 00	Head ERASE
38	8259 0430 00	Head R/P

RP AMP PCB ASSEMBLY

Ref. No.	Parts No.	Description
	8273 8260 00	PCB Assy, R/P AMP, 380S
	8251 4230 00	Plain PCB, R/P AMP, 380S
		IC's
U101-401	8236 0366 00	Analog, NJM2068LD
U102-402	8236 0408 00	Analog, NJM2068MD-T1
U103-403	8236 0606 00	Digital, BU4066BF-T
U501	8236 0605 00	Digital, BU4011BF-T
U104-404	8236 0409 00	Analog, Dolby, CXA1417Q
		TRANSISTORS
Q101-401	8234 1906 00	FET, 2SJ103Y
Q102-402	8234 1907 00	FET, 2SK373Y
Q104-404	8236 0608 00	Digital, driver, DTC144TK
Q105-405	8236 0717 00	Digital, driver, DTC314S-TP
Q109-409	8236 0717 00	Digital, driver, DTC314S-TP
Q110-410	8236 0717 00	Digital, driver, DTC314S-TP
Q106-406	8236 0618 00	Digital, driver, DTA114TK-T
Q111-411	8236 0618 00	Digital, driver, DTA114TK-T
Q112-412	8236 0618 00	Digital, driver, DTA114TK-T
Q107-407	8236 0607 00	Digital, driver, DTC144EK-T
Q108-408	8236 0607 00	Digital, driver, DTC144EK-T
Q113-413	8234 1438 00	Tr, 2SC2712GR
Q114-414	8234 1723 00	Tr, 2SD1302-S
Q501	8234 1439 00	Tr, 2SC2412KQ-T
Q502	8236 0609 00	Digital, driver, DTC115TK-T
Q503-509	8236 0610 00	Digital, driver, DTA114EK-T
		DIODES
D101-115	8234 0176 00	Diode, 1SS131
D201-215	8234 0176 00	Diode, 1SS131
D301-315	8234 0176 00	Diode, 1SS131
D401-415	8234 0176 00	Diode, 1SS131
D119-419	8234 0176 00	Diode, 1SS131
D501	8234 0176 00	Diode, 1SS131
D117-417	8234 1981 00	Diode, HZS7A1
D118-418	8234 1981 00	Diode, HZS7A1
		CARBON RESISTORS
		All resistors, 1/10W, ±5%, flat mounting.
R193-493	8230 5001 09	1Ω
R105-405	8230 5003 30	33Ω
R140-440	8230 5003 30	33Ω
R150-450	8230 5003 30	33Ω
R155-455	8230 5003 30	33Ω
R192-492	8230 5003 30	33Ω
R151-451	8230 5004 70	47Ω
R156-456	8230 5004 70	47Ω
R506	8230 5004 70	47Ω
R501	8230 5006 80	68Ω
R103-403	8230 5001 01	100Ω
R194-494	8230 5001 01	100Ω
R195-495	8230 5001 01	100Ω
R134-434	8230 5001 81	180Ω
R129-429	8230 5002 41	240Ω
R110-410	8230 5003 31	330Ω
R102-402	8230 5001 02	1kΩ
R128-428	8230 5001 22	1.2kΩ
R152-452	8230 5001 22	1.2kΩ
R149-449	8230 5001 32	1.3kΩ
R161-461	8230 5001 52	1.5kΩ
R145-445	8230 5001 62	1.6kΩ
R158-458	8230 5001 62	1.6kΩ
R146-446	8230 5001 82	1.8kΩ
R157-457	8230 5001 82	1.8kΩ
R187-487	8230 5002 02	2kΩ
R119-419	8230 5002 22	2.2kΩ
R122-422	8230 5002 22	2.2kΩ
R507-512	8230 5002 22	2.2kΩ
R148-448	8230 5002 42	2.4kΩ
R154-454	8230 5002 42	2.4kΩ
R177-477	8230 5002 42	2.4kΩ
R126-426	8230 5002 72	2.7kΩ
R109-409	8230 5003 32	3.3kΩ
R197-497	8230 5003 32	3.3kΩ
R504	8230 5003 92	3.9kΩ
R147-447	8230 5004 72	4.7kΩ
R153-453	8230 5004 72	4.7kΩ
R186-486	8230 5004 72	4.7kΩ
R191-491	8230 5004 72	4.7kΩ
R503	8230 5004 72	4.7kΩ
R144-444	8230 5005 12	5.1kΩ
R159-459	8230 5005 12	5.1kΩ
R167-467	8230 5005 12	5.1kΩ
R173-473	8230 5005 12	5.1kΩ
R176-476	8230 5005 12	5.1kΩ
R118-418	8230 5005 62	5.6kΩ
R163-463	8230 5008 22	8.2kΩ
R181-481	8230 5008 22	8.2kΩ
R107-407	8230 5001 03	10kΩ
R112-412	8230 5001 03	10kΩ
R125-425	8230 5001 03	10kΩ

Ref. No.	Parts No.	Description
R127-427	8230 5001 03	10kΩ
R131-431	8230 5001 03	10kΩ
R142-442	8230 5001 03	10kΩ
R164-464	8230 5001 03	10kΩ
R513	8230 5001 03	10kΩ
R165-465	8230 5001 13	11kΩ
R172-472	8230 5001 13	11kΩ
R182-482	8230 5001 13	11kΩ
R162-462	8230 5001 33	13kΩ
R132-432	8230 5001 53	15kΩ
R199-499	8230 5001 53	15kΩ
R178-478	8230 5001 63	16kΩ
R180-480	8230 5001 63	16kΩ
R120-420	8230 5001 83	18kΩ
R123-423	8230 5001 83	18kΩ
R141-441	8230 5001 83	18kΩ
R196-496	8230 5001 83	18kΩ
R168-468	8230 5002 03	20kΩ
R190-490	8230 5002 23	22kΩ
R169-469	8230 5002 43	24kΩ
R179-479	8230 5002 73	27kΩ
R170-470	8230 5003 03	30kΩ
R171-471	8230 5003 03	30kΩ
R175-475	8230 5003 03	30kΩ
R502	8230 5003 33	33kΩ
R174-474	8230 5003 63	36kΩ
R183-483	8230 5003 93	39kΩ
R184-484	8230 5003 93	39kΩ
R111-411	8230 5004 73	47kΩ
R166-466	8230 5006 83	68kΩ
R188-488	8230 5006 83	68kΩ
R108-408	8230 5001 04	100kΩ
R121-421	8230 5001 04	100kΩ
R124-424	8230 5001 04	100kΩ
R135-435	8230 5001 04	100kΩ
R189-489	8230 5001 04	100kΩ
R198-498	8230 5001 04	100kΩ
R101-401	8230 5002 24	220kΩ
R104-404	8230 5002 24	220kΩ
R113-413	8230 5002 24	220kΩ
R106-406	8230 5003 94	390kΩ
R114-414	8230 5004 74	470kΩ
R115-415	8230 5004 74	470kΩ
R143-443	8230 5008 24	820kΩ
R160-460	8230 5008 24	820kΩ
R117-417	8230 5001 05	1MΩ
R130-430	8230 5001 05	1MΩ
R133-433	8230 5001 05	1MΩ
R185-485	8230 5003 35	3.3MΩ

CAPACITORS

ALU = Electrolytic type, SME-VB
CER = Ceramic type, SL
PES = Mylar type, AMZV
PPR = Polypropylene type, APS
Unless otherwise noted.

C102-402	8232 8022 20	CER,	50V,	22pF,	10%
C101-401	8232 8022 21	CER,	50V,	220pF,	10%
C103-403	8232 8023 31	CER,	50V,	330pF,	10%
C108-408	8232 8023 31	CER,	50V,	330pF,	10%
C148-448	8232 8024 71	CER,	50V,	470pF,	10%
C125-425	8232 8026 81	CER,	50V,	680pF,	10%
C170-470	8232 8031 03	CER,	50V, 0.01μF,	+80 -20%,	YF
C127-427	8232 9011 02	PES,	50V, 0.001μF,		5%
C146-446	8232 9011 02	PES,	50V, 0.001μF,		5%
C122-422	8232 9011 22	PES,	50V, 0.0012μF,		5%
C175-475	8232 9011 22	PES,	50V, 0.0012μF,		5%
C110-410	8232 9011 52	PES,	50V, 0.0015μF,		5%
C167-467	8232 9011 52	PES,	50V, 0.0015μF,		5%
C150-450	8232 9011 82	PES,	50V, 0.0018μF,		5%
C151-451	8232 9011 82	PES,	50V, 0.0018μF,		5%
C152-452	8232 9011 82	PES,	50V, 0.0018μF,		5%
C158-458	8232 9011 82	PES,	50V, 0.0018μF,		5%
C147-447	8232 9012 22	PES,	50V, 0.0022μF,		5%
C503,504	8232 9014 72	PES,	50V, 0.0047μF,		5%
C107-407	8232 9015 62	PES,	50V, 0.0056μF,		5%
C173-473	8232 9015 62	PES,	50V, 0.0056μF,		5%
C128-428	8232 9018 22	PES,	50V, 0.0082μF,		5%
C145-445	8232 9018 22	PES,	50V, 0.0082μF,		5%
C131-431	8232 9011 53	PES,	50V, 0.015μF,		5%
C144-444	8232 9011 53	PES,	50V, 0.015μF,		5%
C156-456	8232 9011 83	PES,	50V, 0.018μF,		5%
C115-415	8232 9012 23	PES,	50V, 0.022μF,		5%
C154-454	8232 9012 23	PES,	50V, 0.022μF,		5%
C165-465	8232 9012 23	PES,	50V, 0.022μF,		5%
C501	8232 9012 23	PES,	50V, 0.022μF,		5%
C116-416	8232 9013 33	PES,	50V, 0.033μF,		5%
C164-464	8232 9013 33	PES,	50V, 0.033μF,		5%
C126-426	8232 9013 93	PES,	50V, 0.039μF,		5%
C149-449	8232 9013 93	PES,	50V, 0.039μF,		5%

Ref. No.	Parts No.	Description
C143-243	8232 9014 73	PES, 50V, 0.047μF, 5%
C502	8232 9014 73	PES, 50V, 0.047μF, 5%
C130-430	8232 9018 23	PES, 50V, 0.082μF, 5%
C139-439	8232 9018 23	PES, 50V, 0.082μF, 5%
C155-455	8232 9011 04	PES, 50V, 0.1μF, 5%
C157-457	8232 9011 04	PES, 50V, 0.1μF, 5%
C159-459	8232 9011 04	PES, 50V, 0.1μF, 5%
C166-466	8232 9011 04	PES, 50V, 0.1μF, 5%
C117-417	8232 9012 24	PES, 50V, 0.22μF, 5%
C129-429	8232 9012 24	PES, 50V, 0.22μF, 5%
C138-438	8232 9013 34	PES, 50V, 0.33μF, 5%
C172-472	8232 0315 62	PPR, 100V, 0.0056μF, 5%
C132-432	8232 1461 04	ALU, 50V, 0.1μF, 20%
C135-435	8232 1461 04	ALU, 50V, 0.1μF, 20%
C141-441	8232 1461 04	ALU, 50V, 0.1μF, 20%
C161-461	8232 1461 04	ALU, 50V, 0.1μF, 20%
C163-463	8232 1461 54	ALU, 50V, 0.15μF, 20%
C123-423	8232 1462 24	ALU, 50V, 0.22μF, 20%
C134-434	8232 1462 24	ALU, 50V, 0.22μF, 20%
C142-442	8232 1462 24	ALU, 50V, 0.22μF, 20%
C133-433	8232 1464 74	ALU, 50V, 0.47μF, 20%
C140-440	8232 1464 74	ALU, 50V, 0.47μF, 20%
C153-453	8232 1464 74	ALU, 50V, 0.47μF, 20%
C124-424	8232 1461 05	ALU, 50V, 1μF, 20%
C176-476	8232 1461 05	ALU, 50V, 1μF, 20%
C169-469	8232 1464 75	ALU, 50V, 4.7μF, 20%
C105-405	8232 1461 06	ALU, 50V, 10μF, 20%
C109-409	8232 1461 06	ALU, 50V, 10μF, 20%
C114-414	8232 1461 06	ALU, 50V, 10μF, 20%
C162-462	8232 1461 06	ALU, 50V, 10μF, 20%
C168-468	8232 1461 06	ALU, 50V, 10μF, 20%
C174-474	8232 1461 06	ALU, 50V, 10μF, 20%
C505	8232 1461 06	ALU, 50V, 10μF, 20%
C111-411	8232 1442 26	ALU, 25V, 22μF, 20%
C160-460	8232 1442 26	ALU, 25V, 22μF, 20%
C506	8232 1442 26	ALU, 25V, 22μF, 20%
C106-406	8232 1444 76	ALU, 25V, 47μF, 20%
C118-418	8232 1444 76	ALU, 25V, 47μF, 20%
C136-436	8232 1444 76	ALU, 25V, 47μF, 20%
C137-437	8232 1444 76	ALU, 25V, 47μF, 20%
C177-477	8232 1444 76	ALU, 25V, 47μF, 20%
C178-478	8232 1444 76	ALU, 25V, 47μF, 20%
C179-479	8232 1444 76	ALU, 25V, 47μF, 20%
C180-480	8232 1444 76	ALU, 25V, 47μF, 20%
C112-412	8232 1431 07	ALU, 16V, 100μF, 20%
C113-413	8232 1431 07	ALU, 16V, 100μF, 20%
C507-508	8232 1431 07	ALU, 16V, 100μF, 20%

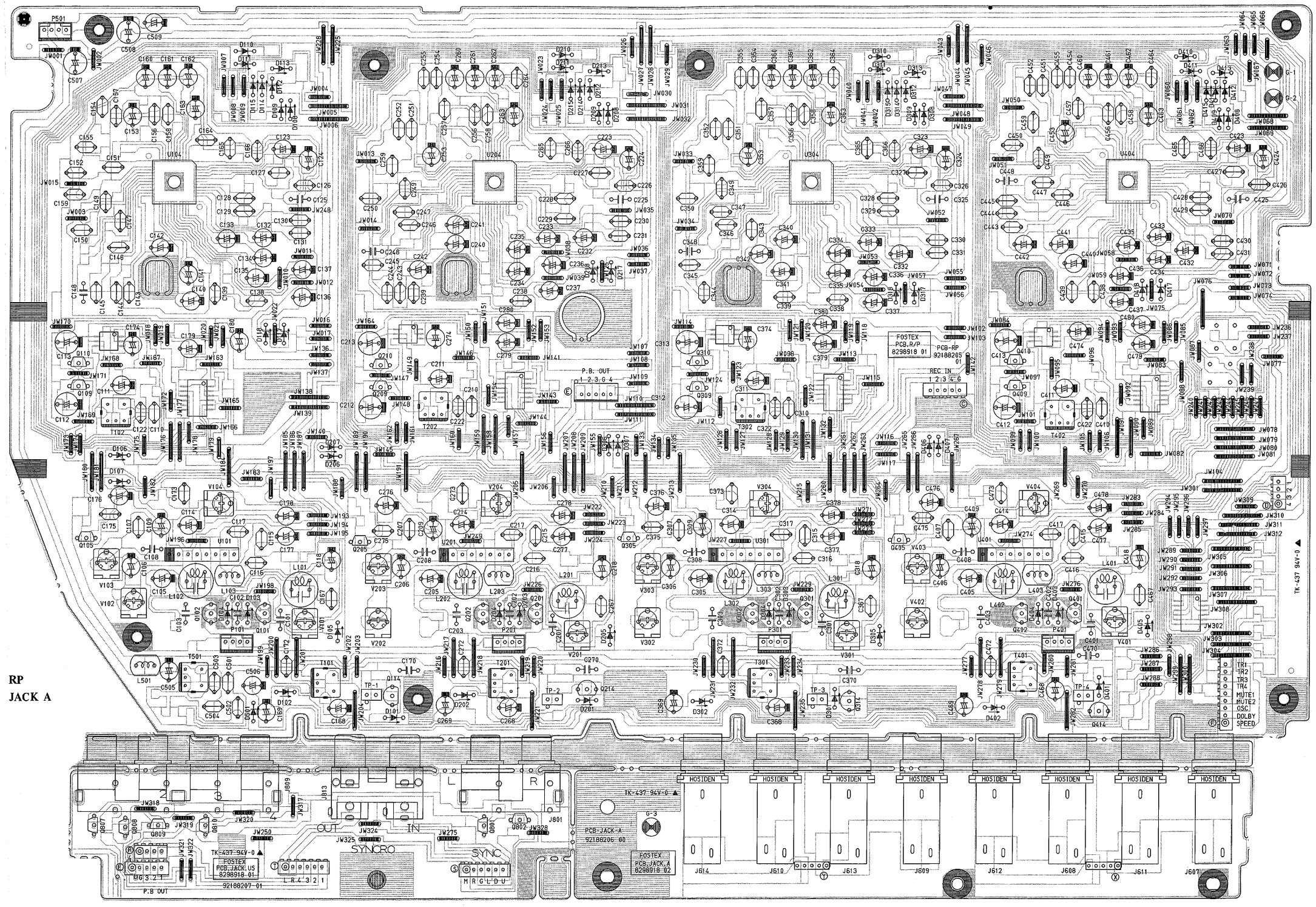
Ref. No.	Parts No.	Description
		MISCELLANEOUS
V102-402	8240 2210 00	Pot, semi-fixed, 470Ω, B
V104-404	8240 2220 00	Pot, semi-fixed, 47kΩ, B
V103-403	8240 2230 00	Pot, semi-fixed, 10kΩ, B
V101-401	8240 2240 00	Pot, semi-fixed, 100kΩ, B
L101-401	8256 0660 00	Module, trap, AF
L102-402	8256 0660 00	Module, trap, AF
L103-403	8256 1180 00	Module, trap, 332K
L501	8242 1420 00	Coil, choke, BIAS
T501	8242 1250 00	Trans, osc, MAIN
T101-401	8242 1990 00	Trans, osc, SUB
T102-402	8256 1190 00	Filter, MPX

JACK A PCB ASSEMBLY

Ref. No.	Parts No.	Description
	8273 8140 00	PCB Assy, JACK A, 380S
	8251 4200 00	Plain PCB, JACK A, 380S
		RESISTORS
R641-644	8230 5002 21	Res, 1/10W, 220Ω, 5%
		MISCELLANEOUS
J607-614	8245 3470 00	Connector, phone jack, 6.5

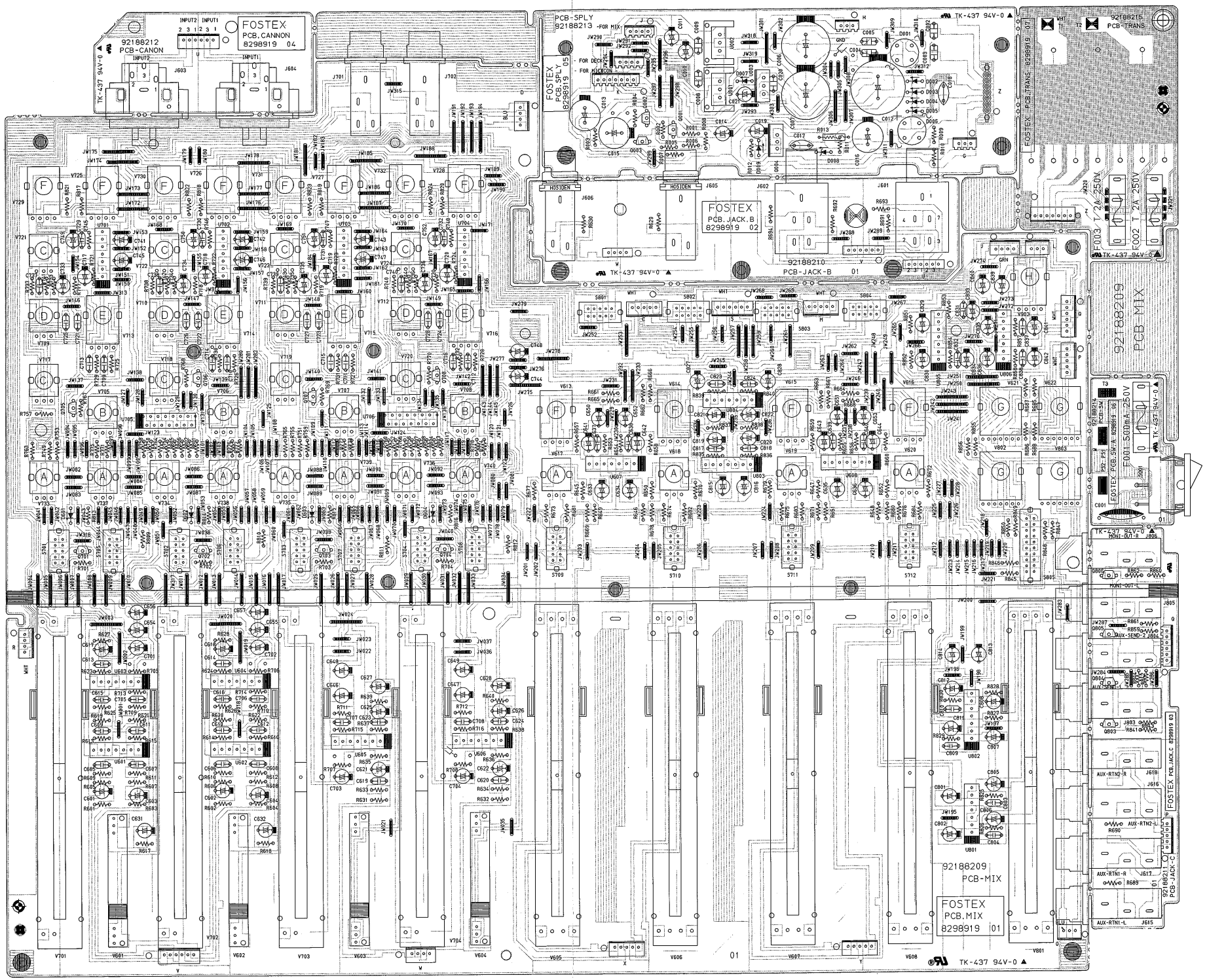
JACK US PCB ASSEMBLY

Ref. No.	Parts No.	Description
	8273 8150 00	PCB Assy, JACK US, 380S
	8251 4210 00	Plain PCB, JACK US, 380S
		TRANSISTORS
Q801,802	8236 0746 00	Digital, driver, DTC114TS-TP
Q807-810	8236 0746 00	Digital, driver, DTC114TS-TP
		RESISTORS
R833,834	8230 5004 71	Res, 1/10W, 470Ω, 5%
R877-880	8230 5004 71	Res, 1/10W, 470Ω, 5%
R831,832	8230 5001 03	Res, 1/10W, 10kΩ, 5%
		MISCELLANEOUS
J809-812	8245 2260 00	Connector, RCA jack, US4P
J813,814	8245 2270 00	Connector, RCA jack, US2P
J801,802	8245 2280 00	Connector, RCA jack, US2P


FOSTEX
PCB-RP
8298918 01
92186205
01
REC IN
1 2 3 4 6
P.B. OUT
1 2 3 G 4
TK-437 94V-0
PCB-JACK-A
92186206 00
FOSTEX
PCB-JACK-A
8298918-02
FOSTEX
PCB-JACK-US
8298918-01
92186207-01
HOSIDEN
J614
J610
J613
J609
J612
J608
J611
J607
OUT
IN
SYNCRO
SYNC
L
R
TR1
TR2
TR3
TR4
MUTE1
MUTE2
OSC
DOLBY
SPEED

RP
JACK A

JACK US
MIX
CANON
JACK B
JACK C
SW A
TRANS
SPLY



MIX PCB ASSEMBLY

Ref. No.	Parts No.	Description
	8273 8160 00	PCB Assy, MIX, 380S
	8251 4220 00	Plain PCB, MIX, 380S
		IC's
U601,602	8236 0366 00	Analog, NJM2068LD
U605-608	8236 0366 00	Analog, NJM2068LD
U801,803	8236 0366 00	Analog, NJM2068LD
U805	8236 0366 00	Analog, NJM2068LD
U603,604	8236 0342 02	Analog, NJM4558L
U701-704	8236 0342 02	Analog, NJM4558L
U802,804	8236 0342 02	Analog, NJM4558L
U806	8236 0342 02	Analog, NJM4558L
U705,706	8236 0410 00	Analog, BU4066BL
		TRANSISTORS
Q705-708	8236 0746 00	Digital, driver, DTC114TS-TP
Q701-704	8236 0717 00	Digital, driver, DTC314S-TP
		DIODES
D601-604	8234 0176 00	Diode, 1SS131
		CARBON RESISTORS
		All resistors, 1/4W, ±5%, flat mounting.
R639,640	8230 1385 60	56Ω
R609-612	8230 1381 01	100Ω
R633,634	8230 1381 01	100Ω
R617,618	8230 1381 21	120Ω
R725-732	8230 1381 52	1.5kΩ
R741-744	8230 1381 82	1.8kΩ
R701-704	8230 1382 22	2.2kΩ
R845,846	8230 1384 72	4.7kΩ
R623-626	8230 1388 22	8.2kΩ
R619-622	8230 1381 03	10kΩ
R709-712	8230 1381 03	10kΩ
R717-724	8230 1381 03	10kΩ
R733-740	8230 1381 03	10kΩ
R767-770	8230 1381 03	10kΩ
R657-660	8230 1381 23	12kΩ
R613-616	8230 1382 23	22kΩ
R637,638	8230 1382 23	22kΩ
R661-672	8230 1382 23	22kΩ
R677-680	8230 1382 23	22kΩ
R705-708	8230 1382 23	22kΩ
R713-716	8230 1382 23	22kΩ
R827,828	8230 1382 23	22kΩ
R855,856	8230 1382 23	22kΩ
R673-676	8230 1383 33	33kΩ
R681-684	8230 1383 33	33kΩ
R749-752	8230 1383 93	39kΩ
R757-760	8230 1383 93	39kΩ
R771-778	8230 1383 93	39kΩ
R605-608	8230 1384 73	47kΩ
R627,628	8230 1384 73	47kΩ
R631,632	8230 1384 73	47kΩ
R635,636	8230 1384 73	47kΩ
R645-652	8230 1384 73	47kΩ
R817-824	8230 1384 73	47kΩ
R835-840	8230 1384 73	47kΩ
R857,858	8230 1384 73	47kΩ
R685-688	8230 1386 83	68kΩ
R829,830	8230 1386 83	68kΩ
R601-604	8230 1381 04	100kΩ
R753-756	8230 1381 04	100kΩ
R763-766	8230 1381 04	100kΩ
R801-816	8230 1381 04	100kΩ
R653-656	8230 1381 54	150kΩ
R825,826	8230 1382 24	220kΩ
R847-854	8230 1382 24	220kΩ
R745-748	8230 1381 05	1MΩ

CAPACITORS

ALU = Electrolytic type, SME-VB
CER = Ceramic type, SL
PES = Mylar type, AMZV

C831,832	8232 8024 75	CER, 50V,	4.7pF, ±1pF
C637-640	8232 8021 00	CER, 50V,	10pF, ±1pF
C803,804	8232 8021 00	CER, 50V,	10pF, ±1pF
C809,810	8232 8021 50	CER, 50V,	15pF, 10%
C609-612	8232 8022 20	CER, 50V,	22pF, 10%
C623,624	8232 8022 20	CER, 50V,	22pF, 10%
C705-708	8232 8022 20	CER, 50V,	22pF, 10%
C817,818	8232 8022 20	CER, 50V,	22pF, 10%
C823,824	8232 8022 20	CER, 50V,	22pF, 10%
C837,838	8232 8022 20	CER, 50V,	22pF, 10%
C729-732	8232 8021 51	CER, 50V,	150pF, 10%
C605-608	8232 8022 21	CER, 50V,	220pF, 10%
C613-616	8232 8022 21	CER, 50V,	220pF, 10%
C619,620	8232 8024 71	CER, 50V,	470pF, 10%
C721-728	8232 9011 03	PES, 50V,	0.01μF, 5%
C737-740	8232 9011 03	PES, 50V,	0.01μF, 5%
C713-716	8232 9011 23	PES, 50V,	0.012μF, 5%

Ref. No.	Patts No.	Description
C709-712	8232 9012 73	PES, 50V, 0.027μF, 5%
C733-736	8232 1461 05	ALU, 50V, 1μF, 20%
C601-604	8232 1462 25	ALU, 50V, 2.2μF, 20%
C621,622	8232 1462 25	ALU, 50V, 2.2μF, 20%
C633-636	8232 1454 75	ALU, 35V, 4.7μF, 20%
C701-704	8232 1454 75	ALU, 35V, 4.7μF, 20%
C625,626	8232 1431 06	ALU, 16V, 10μF, 20%
C641-644	8232 1431 06	ALU, 16V, 10μF, 20%
C717-720	8232 1431 06	ALU, 16V, 10μF, 20%
C801,802	8232 1431 06	ALU, 16V, 10μF, 20%
C807,808	8232 1431 06	ALU, 16V, 10μF, 20%
C815,816	8232 1431 06	ALU, 16V, 10μF, 20%
C821,822	8232 1431 06	ALU, 16V, 10μF, 20%
C829,830	8232 1431 06	ALU, 16V, 10μF, 20%
C835,836	8232 1431 06	ALU, 16V, 10μF, 20%
C617,618	8232 1432 26	ALU, 16V, 22μF, 20%
C805,806	8232 1432 26	ALU, 16V, 22μF, 20%
C811,812	8232 1432 26	ALU, 16V, 22μF, 20%
C819,820	8232 1432 26	ALU, 16V, 22μF, 20%
C827,828	8232 1432 26	ALU, 16V, 22μF, 20%
C833,834	8232 1432 26	ALU, 16V, 22μF, 20%
C841,842	8232 1432 26	ALU, 16V, 22μF, 20%
C646-657	8232 1434 76	ALU, 16V, 47μF, 20%
C741-752	8232 1434 76	ALU, 16V, 47μF, 20%
C813,814	8232 1434 76	ALU, 16V, 47μF, 20%
C839,840	8232 1434 76	ALU, 16V, 47μF, 20%
C627,628	8232 1412 27	ALU, 6.3V, 220μF, 20%
C631,632	8232 1412 27	ALU, 6.3V, 220μF, 20%

MISCELLANEOUS

V701-704	8231 0330 00	Fader, VRS100A-30K
V605-608	8231 0340 00	Fader, VRS100A-30K-D
V801	8231 0340 00	Fader, VRS100A-30K-D
V601,602	8231 0350 00	Fader, VRS30C-200K
V603,604	8240 1770 03	Fader, VRS30C-20K
V617-620	8240 1940 00	Pot, VR9B-50K
V733-740	8240 1940 00	Pot, VR9B-50K
V717-724	8240 2140 00	Pot, VR9B-50K
V709-712	8240 2150 00	Pot, VR9B-10K
V705-708	8240 2160 00	Pot, VR9A-10K
V613-616	8240 2170 00	Pot, VR11B-50K
V725-732	8240 2170 00	Pot, VR11B-50K
V713-716	8240 2180 00	Pot, VR11C-50K
V621,622	8240 2190 00	Pot, VR14A-30K-D
V802,803	8240 2190 00	Pot, VR14A-30K-D
V903	8240 2200 00	Pot, VR11B-3K

Ref. No.	Parts No.	Description
S701-712	8253 6750 00	Switch, slide, ERC TRX
S801-804	8253 6750 00	Switch, slide, ERC TRX
S805	8253 4180 00	Switch, slide, MON SELECT
J701,702	8245 2290 00	Connector, phone jack, 6.5ST

CANON PCB ASSEMBLY

Ref. No.	Parts No.	Description
	8273 8170 00	PCB Assy, CANON, 380S
	8251 4240 00	Plain PCB, CANON, 380S
J603,604	8245 2300 00	Connector jack, canon

JACK B PCB ASSEMBLY

Ref. No.	Parts No.	Description
	8273 8190 00	PCB Assy, JACK B, 380S
	8251 4250 00	Plain PCB, JACK B, 380S

RESISTORS

R629,630	8230 1382 21	Res, 1/4W, 220Ω, 5%
R691-694	8230 1383 32	Res, 1/4W, 3.3kΩ, 5%

MISCELLANEOUS

J605,606	8245 3470 00	Connector, phone jack, 6.5
J601,602	8245 2310 00	Connector, phone jack, 6.5ST

JACK C PCB ASSEMBLY

Ref. No.	Parts No.	Description
	8273 8190 00	PCB Assy, JACK C, 380S
	8251 4260 00	Plain PCB, JACK C, 380S

TRANSISTORS

Q803-806	8236 0746 00	Digital, driver, DTC114TS-TP

CARBON RESISTORS

All resistors, 1/4W, ±5%, flat mounting.

R689,690	8230 1382 21	220Ω
R843,844	8230 1384 71	470Ω
R861,862	8230 1384 71	470Ω
R841,842	8230 1381 03	10kΩ
R859,860	8230 1381 03	10kΩ

Ref. No.	Parts No.	Description
		MISCELLANEOUS
J615-618	8245 2320 00	Connector, phone jack, 6.5
J803-806	8245 2320 00	Connector, phone jack, 6.5

SW A PCB ASSEMBLY

Ref. No.	Parts No.	Description
	8273 8200 00	PCB Assy, SW A, 380S
	8251 4270 00	Plain PCB, SW A, 380S
S001	8253 0660 01	Switch, seesaw, power
C001	8256 1200 00	Spark killer, CK45F-2B103M
F001	8239 1080 00	Fuse, 0.5UCJ, FXA, CND, DM
	8239 1090 00	Fuse, 0.16S-T, EUR, UK
	8245 1970 00	Terminal, power
	8239 0028 00	Holder, fuse

TRANS PCB ASSEMBLY

Ref. No.	Parts No.	Description
	8251 4280 00	Plain PCB, TRANS, 380S
	8242 2000 00	Trans, 120V
	8242 2010 00	Trans, 230V
	8242 2020 00	Trans, 240V
	8242 2030 00	Trans, 100V

SPLY PCB ASSEMBLY

Ref. No.	Parts No.	Description
	8273 8210 00	PCB Assy, SPLY, 380S
	8251 4290 00	Plain PCB, SPLY, 380S
		IC's
U003	8236 0320 01	Analog, NJM78M05FA
U001	8236 0320 04	Analog, NJM78M09FA
U002	8236 0411 00	Analog, NJM79M09FA
		TRANSISTORS
Q001	8234 1427 02	Tr, 2SC1740S-R-TP
Q002,003	8234 1001 01	Tr, 2SA933S-R-TP
Q004	8234 1243 00	Tr, 2SB889F-Q

Ref. No.	Parts No.	Description
		DIODES
D001,006	8234 1961 00	Diode stack, D-W02-X
D002-005	8234 1974 00	Diode, D-1A2-ES80
D007	8234 1974 00	Diode, D-1A2-ES80
D008	8234 1983 00	Diode, D-HZS30-2
D009	8234 1982 00	Diode, D-HZS6C3

CARBON RESISTORS

All resistors, 1/4W, ±5%, flat mounting, unless otherwise noted.

R009,010	8230 1384 70	47Ω
R003	8230 1381 01	100Ω
R011	8230 1381 02	1kΩ
R012	8230 1384 72	4.7kΩ
R005-007	8230 1381 03	10kΩ
R004,008	8230 1384 73	47kΩ
R001	8230 1381 04	100kΩ
R002	8230 1384 74	470kΩ
R013	8230 1134 79	metal, 4.7Ω

CAPACITORS

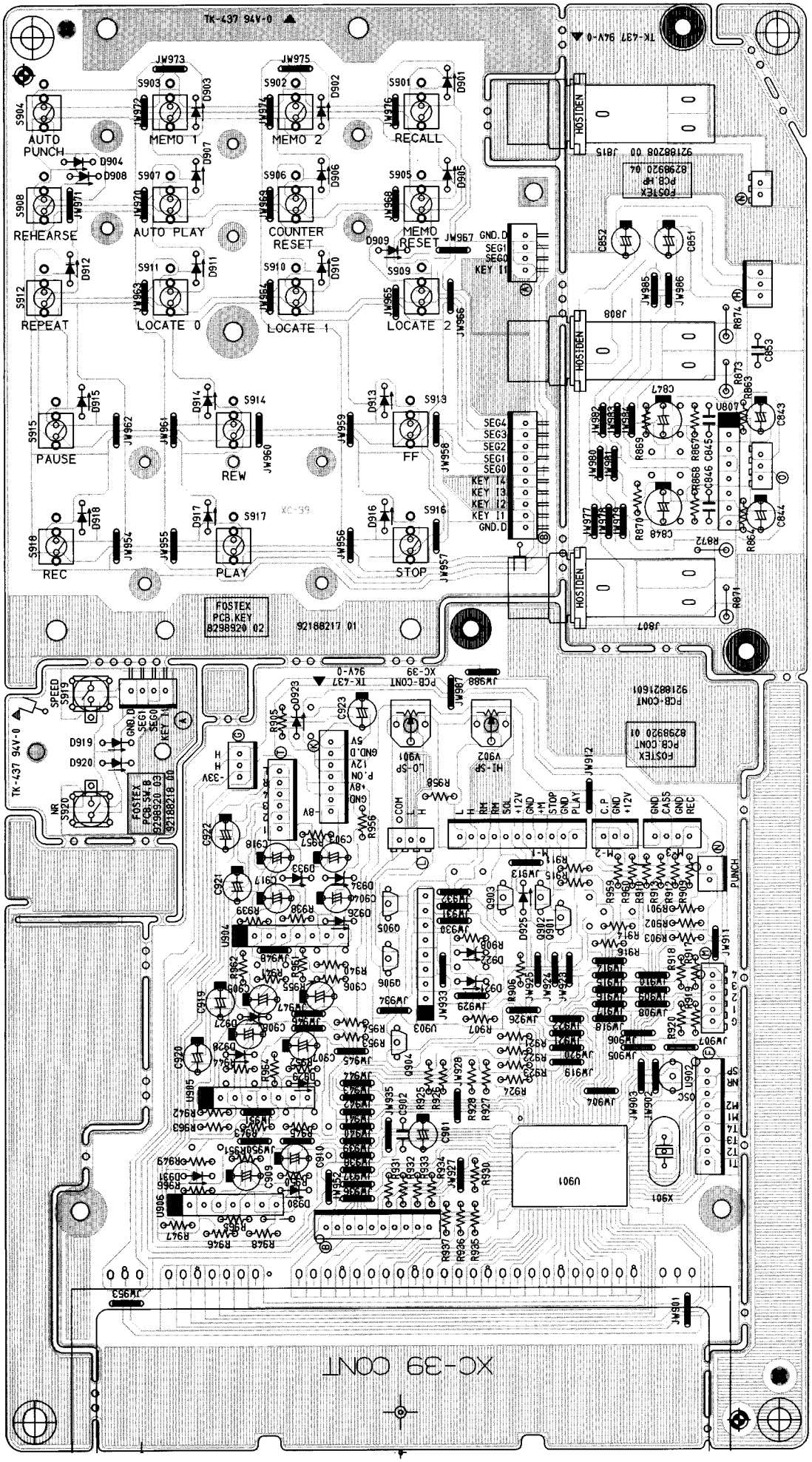
ALU = Electrolytic type, SME-VB
CER = Ceramic type, SL

C017,018	8232 8142 23	CER, 50V, 0.022μF, 10%
C002-005	8232 8142 23	CER, 50V, 0.022μF, 10%
C008,009	8232 8142 23	CER, 50V, 0.022μF, 10%
C020	8232 8142 23	CER, 50V, 0.022μF, 10%
C014	8232 1464 75	ALU, 50V, 4.7μF, 20%
C015	8232 1444 76	ALU, 25V, 47μF, 20%
C021	8232 1421 07	ALU, 10V, 100μF, 20%
C010,011	8232 1431 07	ALU, 16V, 100μF, 20%
C019	8232 1451 07	ALU, 35V, 100μF, 20%
C013	8232 1434 77	ALU, 16V, 470μF, 20%
C016	8232 1464 77	ALU, 50V, 470μF, 20%
C006,007	8232 1434 78	ALU, 16V, 4700μF, 20%
C012	8232 0951 09	ALU, 16V, 10000μF, 20%

MISCELLANEOUS

8207 1040 00	Heat sink

CONT
KEY
SW B
HP



CONT PCB ASSEMBLY

Ref. No.	Parts No.	Description
	8273 8220 00	PCB Assy, CONT, 380S
	8251 4300 00	Plain PCB, CONT, 380S
		IC's
U901	8236 0612 00	Digital, M38172M4-076FP
U902	8236 0613 00	Digital, S80741AL-TP
U903	8236 0412 00	Analog, TA8409S
U904-906	8236 0342 02	Analog, NJM4558L
		TRANSISTORS
Q901,904	8236 0551 00	Digital, driver, DTC144TS-TP
Q902	8236 0615 00	Digital, driver, DTB123TS-T
Q903	8236 0616 00	Digital, driver, DTD123TS-T
Q905,906	8236 0758 00	Digital, driver, DTA115TS-TP
		DIODES
D926-931	8234 0176 00	Diode, 1SS131
D921-923	8234 1984 00	Diode, HZS5C1
D933,934	8234 1984 00	Diode, HZS5C1
D925	8234 1974 00	Diode, 1A2-ES80
		CARBON RESISTORS
		All resistors, 1/4W, ±5%, flat mounting.
R956,957	8230 1381 01	100Ω
R905,908	8230 1381 52	1.5kΩ
R958	8230 1383 32	3.3kΩ
R961-966	8230 1384 72	4.7kΩ
R906,907	8230 1381 03	10kΩ
R921-924	8230 1381 03	10kΩ
R925-928	8230 1382 23	22kΩ
R950-955	8230 1382 23	22kΩ
R938,939	8230 1383 63	36kΩ
R942,943	8230 1383 63	36kΩ
R946,947	8230 1383 63	36kΩ
R930-937	8230 1387 53	75kΩ
R901,902	8230 1381 04	100kΩ
R909-920	8230 1381 04	100kΩ
R940,941	8230 1381 04	100kΩ
R944,945	8230 1381 04	100kΩ
R948,949	8230 1381 04	100kΩ
R959,960	8230 1383 34	330kΩ
R903	8230 1381 05	1MΩ

Ref. No.	Parts No.	Description
		CAPACITORS
		ALU = Electrolytic type, SME-VB
		CER = Ceramic type, SL
C902	8232 8142 23	CER, 50V, 0.022μF, 10%
C901	8232 1411 07	ALU, 6.3V, 100μF, 20%
C903,904	8232 1411 07	ALU, 6.3V, 100μF, 20%
C923	8232 1444 76	ALU, 25V, 47μF, 20%
C905-910	8232 1454 75	ALU, 35V, 4.7μF, 20%
C917-922	8232 1461 06	ALU, 50V, 10μF, 20%
		MISCELLANEOUS
V901	8240 2250 00	Pot, semi-fixed, 102B
V902	8240 2260 00	Pot, semi-fixed, 202B
	8256 1210 00	Display, FLD
X901	8256 1220 00	Crystal, CST6.3MGW

KEY PCB ASSEMBLY

Ref. No.	Parts No.	Description
	8273 8230 00	PCB Assy, KEY, 380S
	8251 4310 00	Plain PCB, KEY, 380S
D901-918	8234 0176 00	Diode, 1SS131
S901-918	8253 4190 00	Switch, KEY1C1P-T

SW B PCB ASSEMBLY

Ref. No.	Parts No.	Description
	8273 8240 00	PCB Assy, SW B, 380S
	8251 4330 00	Plain PCB, SW B, 380S
D919,920	8234 0176 00	Diode, 1SS131
S919,920	8253 1290 00	Switch, tact, SKHHPP

HP PCB ASSEMBLY

Ref. No.	Parts No.	Description
	8273 8250 00	PCB Assy, HP, 380S
	8251 4320 00	Plain PCB, HP, 380S
		IC
U807	8236 0413 00	Analog, NJM4556L

Ref. No.	Parts No.	Description

CARBON RESISTORS

All resistors, 1/4W, ±5%, flat mounting, unless otherwise noted.

R871-874	8230 1446 80	2W, metal, 68Ω
R869,870	8230 1381 02	1kΩ
R863,864	8230 1381 53	15kΩ
R867,868	8230 1383 34	330kΩ

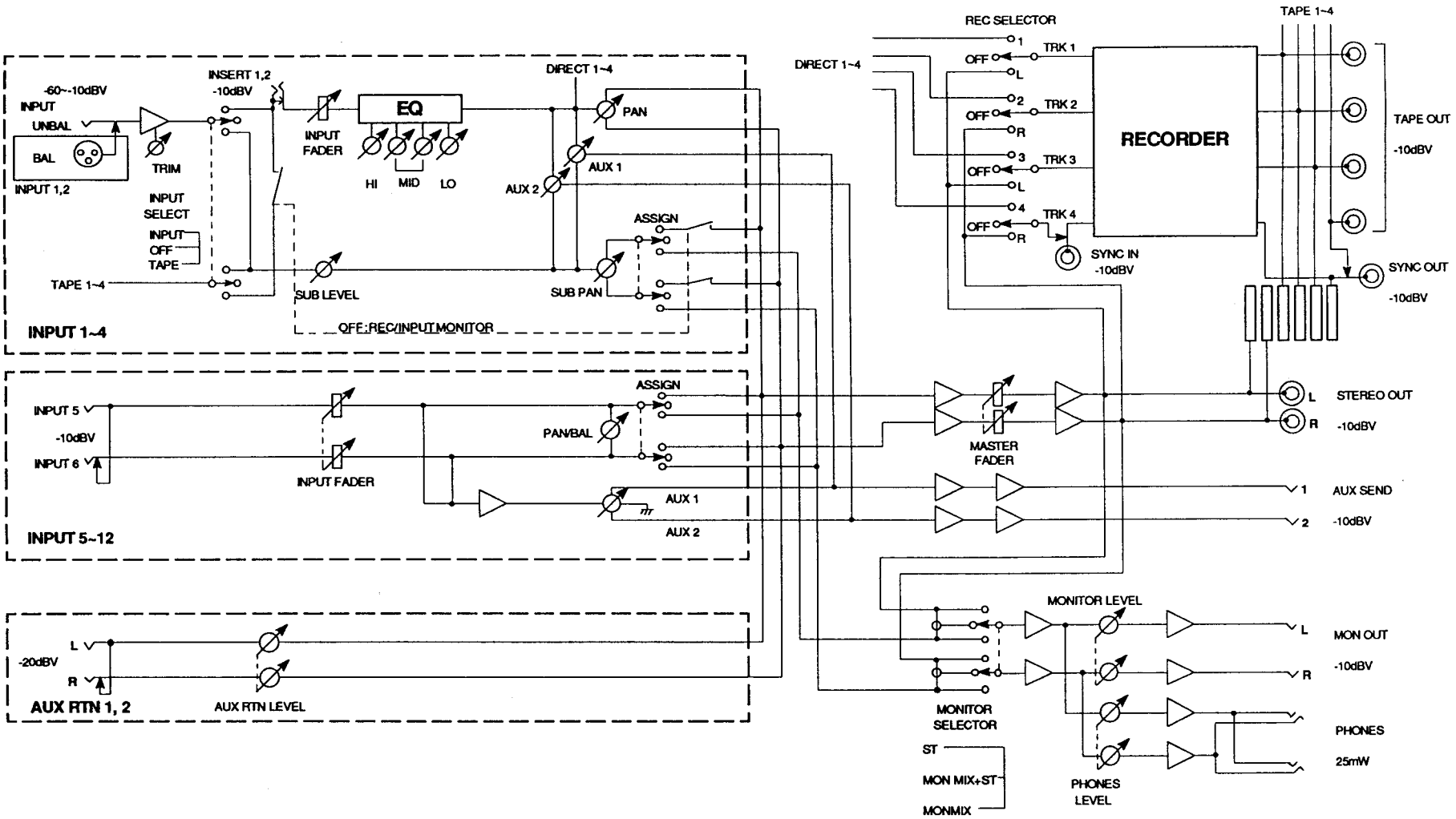
CAPACITORS

ALU = Electrolytic type, SME-VB
CER = Ceramic type, SL
unless otherwise noted.

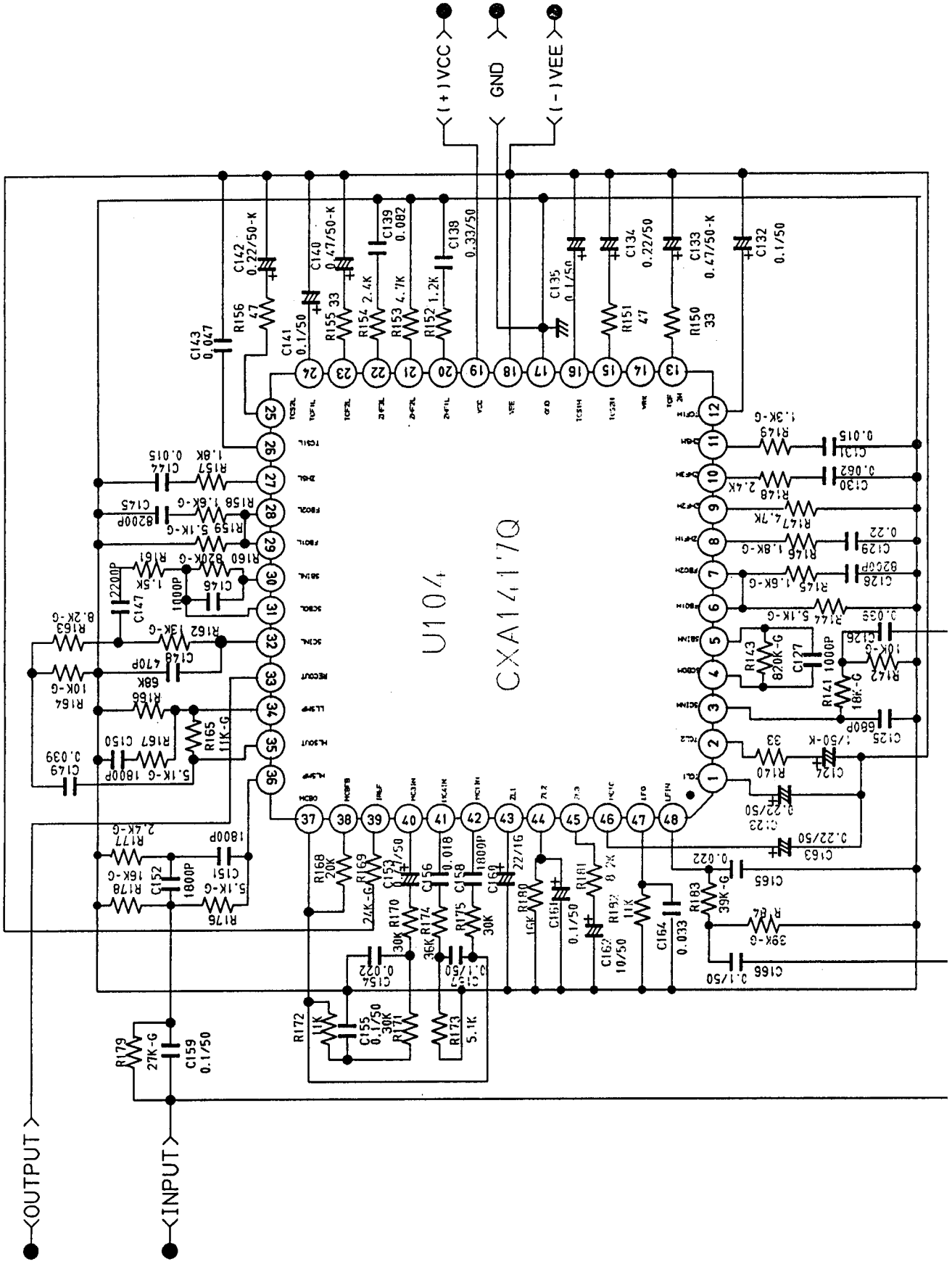
C845,846	8232 8021 50	CER, 50V, 15pF, 10%
C853	8232 8031 03	CER, 50V, 0.01μF, +80-20%, YF
C843,844	8232 1461 06	ALU, 50V, 10μF, 20%
C851,852	8232 1434 76	ALU, 16V, 47μF, 20%
C847,848	8232 1431 07	ALU, 16V, 100μF, 20%

MISCELLANEOUS

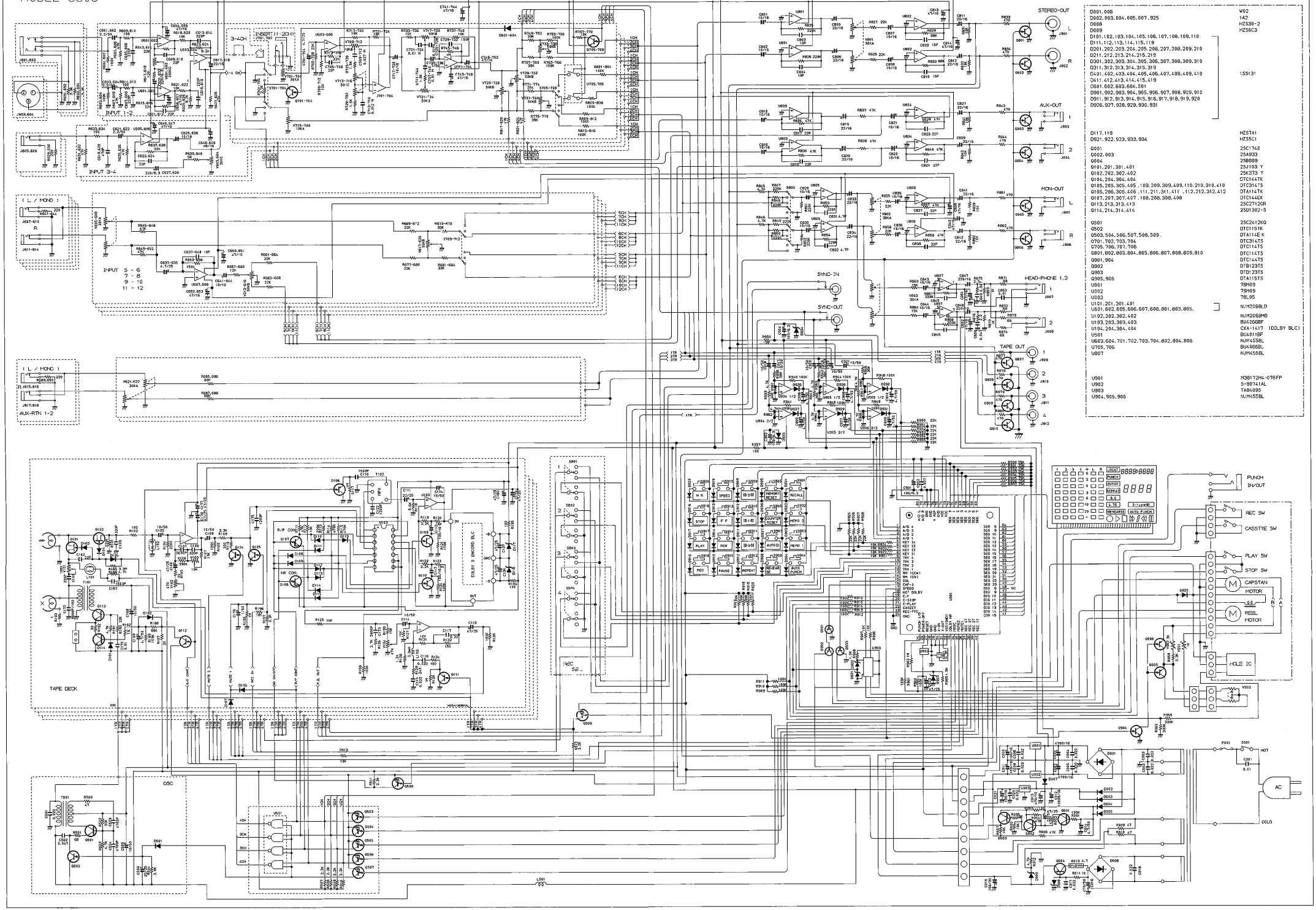
J807,808	8245 3480 00	Connector, phone jack, 6.5ST
J815	8245 3480 00	Connector, phone jack, 6.5ST


INPUT 1~4
-60~-10dBV
INPUT
UNBAL
BAL
INPUT 1,2
TRIM
INSERT 1,2
-10dBV
INPUT SELECT
INPUT
OFF
TAPE
TAPE 1~4
INPUT FADER
EQ
HI
MID
LO
DIRECT 1~4
PAN
AUX 1
AUX 2
ASSIGN
SUB LEVEL
SUB PAN
OFF:REC/INPUT MONITOR
INPUT 5~12
INPUT 5
-10dBV
INPUT 6
INPUT FADER
PAN/BAL
ASSIGN
AUX 1
AUX 2
AUX RTN 1, 2
L
-20dBV
R
AUX RTN LEVEL
DIRECT 1~4
REC SELECTOR
1
OFF
L
TRK 1
2
OFF
R
TRK 2
3
OFF
L
TRK 3
4
OFF
R
TRK 4
RECORDER
SYNC IN
-10dBV
TAPE 1~4
TAPE OUT
-10dBV
SYNC OUT
-10dBV
MASTER FADER
L
R
STEREO OUT
-10dBV
1
2
AUX SEND
-10dBV
MONITOR LEVEL
MONITOR SELECTOR
ST
MON MIX+ST
MONMIX
PHONES LEVEL
L
R
MON OUT
-10dBV
PHONES
25mW

6. CIRCUIT DIAGRAM



MODEL-380S



D001,006	W02
D002,003,004,005,007,925	1A2
D008	HZS30-2
D009	HZS6C3
D101,102,103,104,105,106,107,108,109,110 D111,112,113,114,115,119 D201,202,203,204,205,206,207,208,209,210 D211,212,213,214,215,219 D301,302,303,304,305,306,307,308,309,310 D311,312,313,314,315,319 D401,402,403,404,405,406,407,408,409,410 D411,412,413,414,415,419 D501,502,503,504,505 D901,902,903,904,905,906,907,908,909,910 D911,912,913,914,915,916,917,918,919,920 D926,927,928,929,930,931	1S5131
D117,118	HZS7A1
D921,922,923,933,934	HZS5C1
Q001	2SC1740
Q002,003	2SA933
Q004	2SB889
Q101,201,301,401	2SJ109 Y
Q102,202,302,402	2SK373 Y
Q104,204,304,404	DTC144TK
Q105,205,305,405,109,209,309,409,110,210,310,410	DTC314TS
Q106,206,306,406,111,211,311,411 ,112,212,312,412	DTA114TK
Q107,207,307,407,108,208,308,408	DTC144EK
Q113,213,313,413	2SC2712GR
Q114,214,314,414	2SD1302-S
Q501	2SC2412KQ
Q502	DTC115TK
Q503,504,506,507,508,509.	DTA114EK
Q701,702,703,704	DTC314TS
Q705,706,707,708	DTC114TS
Q801,802,803,804,805,806,807,808,809,810	DTC114TS
Q901,904	DTC144TS
Q902	DTB123TS
Q903	DTD123TS
Q905,906	DTA115TS
U001	78M09
U002	79M09
U003	78L05
U101,201,301,401 U601,602,605,606,607,608,801,803,805.	NJM2068LD
U102,202,302,402	NJM2068MD
U103,203,303,403	BU4066BF
U104,204,304,404	CXA-1417 (DOLBY BLC)
U501	BU4011BF
U603,604,701,702,703,704,802,804,806	NJM4558L
U705,706	BU4066BL
U807	NJM4558L
U901	M38172M4-076FP
U902	S-80741AL
U903	TA8409S
U904,905,906	NJM4558L

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