

SONY®

AUDIO MIXER

MXP-310

VU METER UNIT
MXBK-M310

MAINTENANCE MANUAL

1st Edition

Serial No. 10001 and Higher (J)

Serial No. 20001 and Higher (UC)

Serial No. 50001 and Higher (CE)

警告

このマニュアルは、サービス専用です。

お客様が、このマニュアルに記載された設置や保守、点検、修理など行くと感電や火災、人身事故につながる可能性があります。

危険をさけるため、サービストレーニングを受けた技術者のみご使用ください。

WARNING

This manual is intended for qualified service personnel only.

To reduce the risk of electric shock, fire or injury, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

WARNUNG

Die Anleitung ist nur für qualifiziertes Fachpersonal bestimmt.

Alle Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal ausgeführt werden. Um die Gefahr eines elektrischen Schlages, Feuergefahr und Verletzungen zu vermeiden, sind bei Wartungsarbeiten strikt die Angaben in der Anleitung zu befolgen. Andere als die angegeben Wartungsarbeiten dürfen nur von Personen ausgeführt werden, die eine spezielle Befähigung dazu besitzen.

AVERTISSEMENT

Ce manuel est destiné uniquement aux personnes compétentes en charge de l'entretien. Afin de réduire les risques de décharge électrique, d'incendie ou de blessure n'effectuer que les réparations indiquées dans le mode d'emploi à moins d'être qualifié pour en effectuer d'autres. Pour toute réparation faire appel à une personne compétente uniquement.

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Manual Structure

Purpose of this manual

This manual is the Maintenance Manual of the Audio Mixer MXP-310 and VU Meter Unit MXBK-M310.

This manual is intended for use by trained system and service engineers, and describes the detailed service information with the intention of servicing based on the component parts.

Contents

This manual is organized by following sections.

Section 1 Service Overview

This section describes the board location, removing the cabinet, replacing the fuse and using the extension board.

Section 2 Electrical Alignment

This section describes checks and adjustments required when the boards or its components have been replalced.

Section 3 Spare Parts

This section describes spare parts.(mechanical parts list, electrical parts list and supplied accessories list)

Section 4 Semiconductor Pin Assignments

This section describes the appearance, pin assignments, and function descriptions of semiconductors.

Section 5 Block Diagrams

This section describes the block diagrams of circuit board.

Section 6 Board Layouts

This section describes board layouts.(the printed circuit patterns and printed symbols)

Section 7 Schematic Diagrams

This Section describes the schematic diagrams of circuit board.

Related manuals

The following manuals are prepared for this unit.

- **MXP-310 Operation Manual(Supplied with the MXP-310)**

This manual describes the application and operation of the MXP-310.

- **MXP-310 Installation Manual(Supplied with the MXP-310)**

This manual describes the information when installing MXP-310.

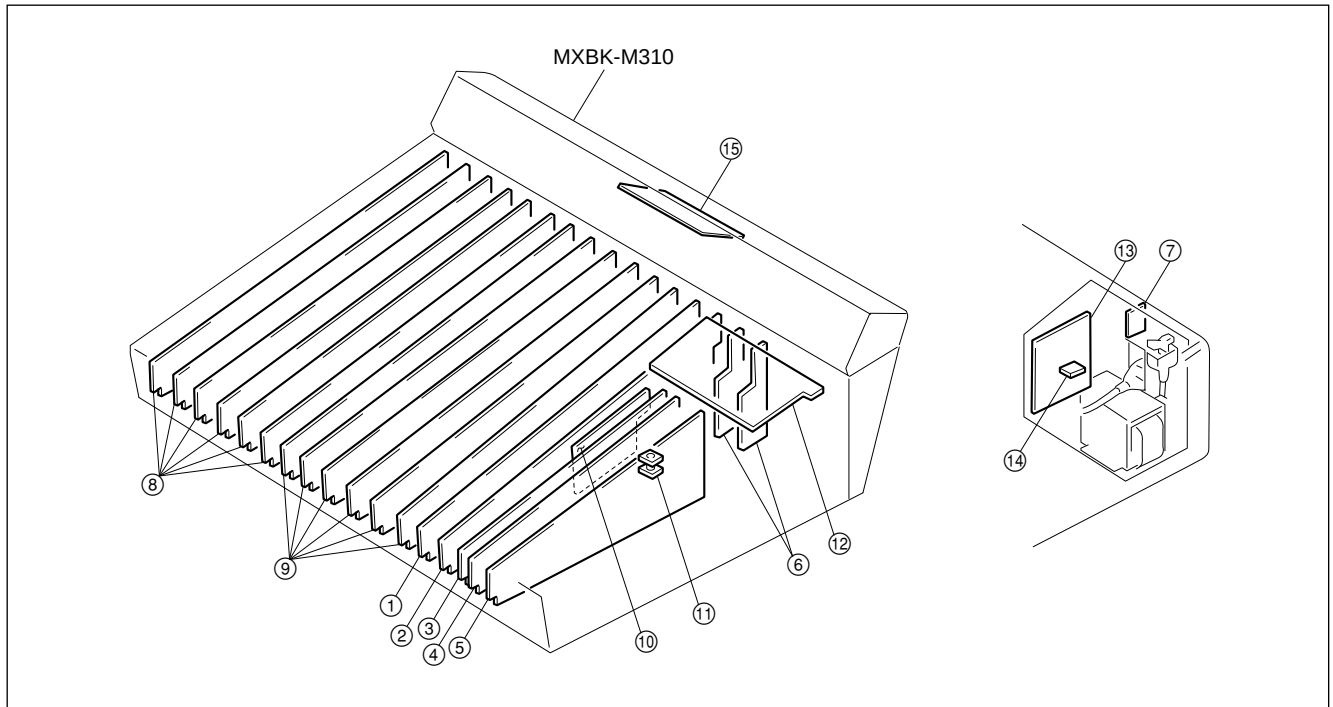
- **MXBK-M310 Installation Manual(Supplied with the MXBK-M310)**

This manual describes the information when installing MXBK-M310.

Section 1

Service Overview

1-1. Board Location



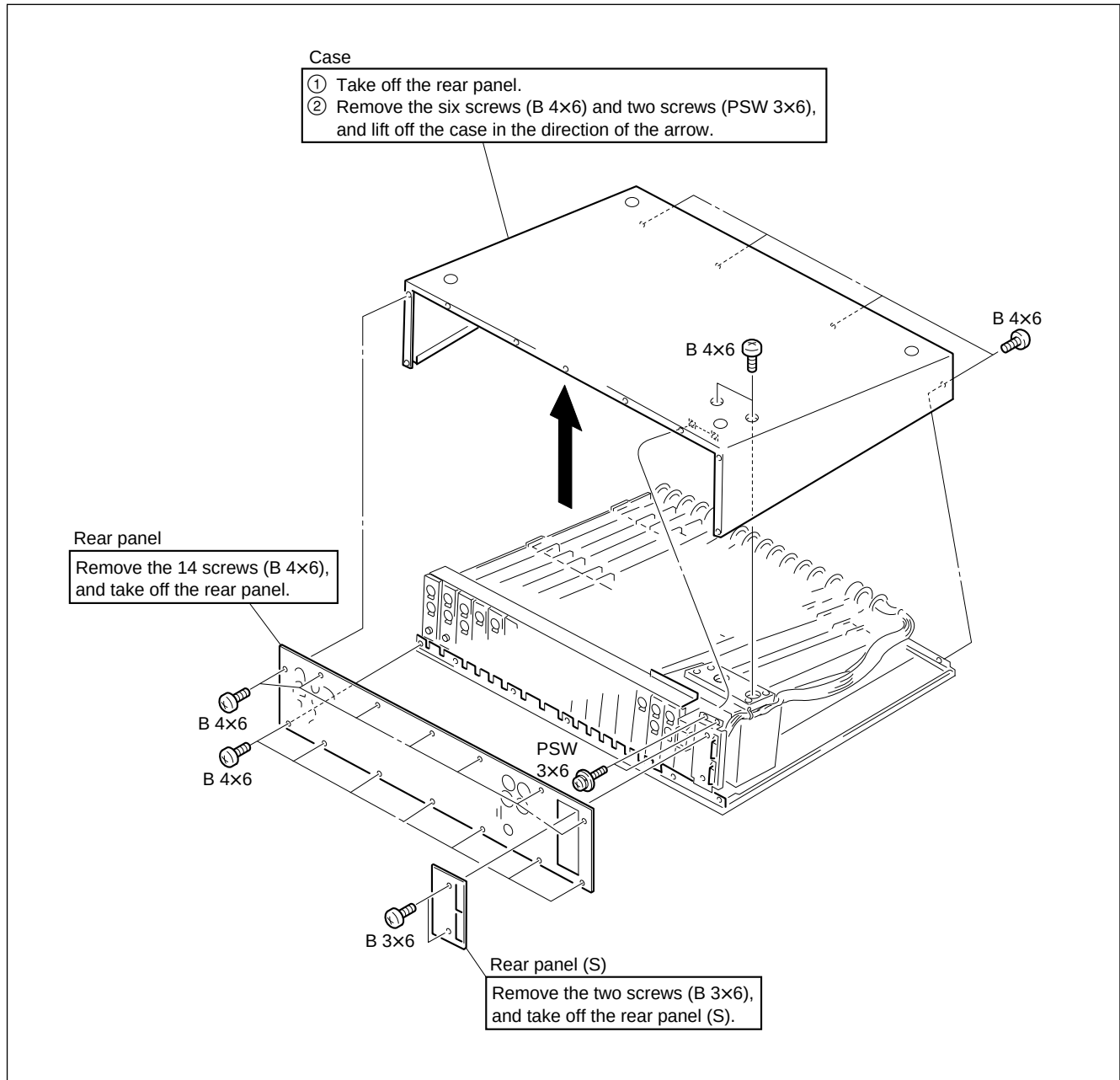
MXP-310

MXBK-M310

- ① AA-58A : 1
- ② AA-59A : 1
- ③ AA-60A : 1
- ④ AA-61A : 1
- ⑤ AA-62A : 1
- ⑥ CN-567A : 2
- ⑦ CN-1406 : 1
- ⑧ IPM-31A : 6
- ⑨ IPM-32A : 6
- ⑩ LED-114A : 1
- ⑪ MIC : 1
- ⑫ MT-69A : 1
- ⑬ PS-246 : 1
- ⑭ PS-279 : 1

- ⑮ CN-1407 : 1

1-2. Removing the Cabinet



1-3. Replacing the Fuse

The following fuse is mounted on the PS-246 board.
Replace the fuse with following as shown in the parts list of “Section 3 Spare Parts”.

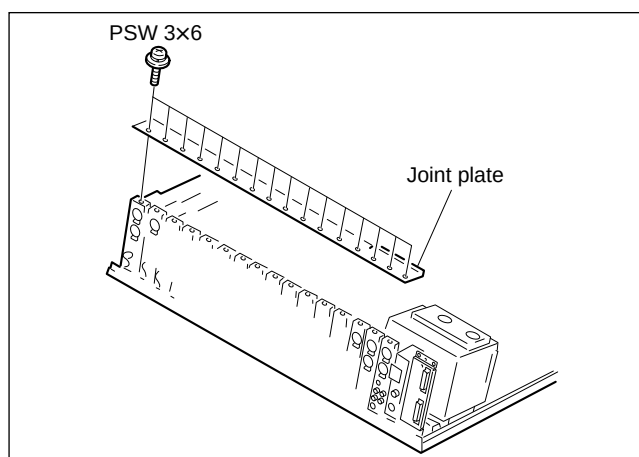
PS-246 board (Ref.No. F1) : Fuse 2 A 125 V (for J,UC)
Fuse 1 A 250 V (for CE)

Note

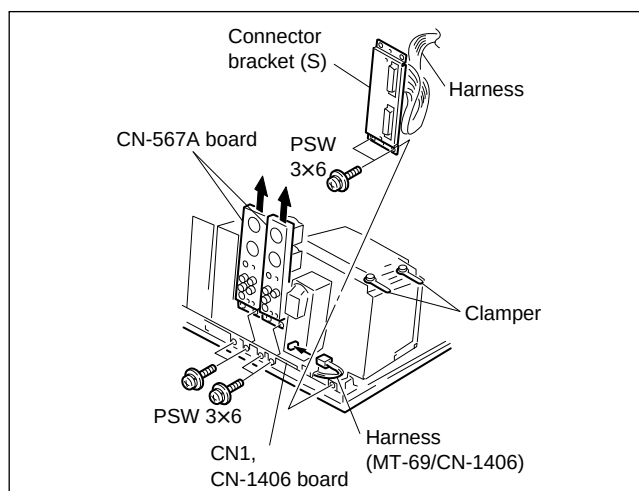
First turning off the power and unplug the power cord.

Procedure

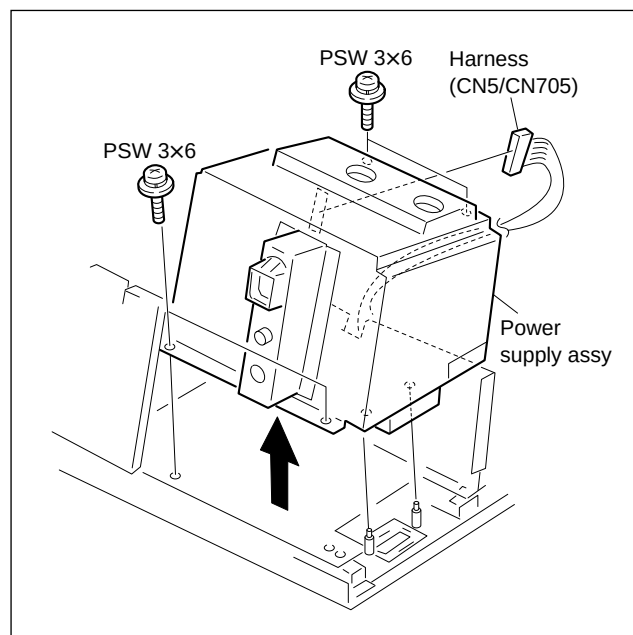
- (1) Take off the rear panel and rear panel (S), and lift off the case. (Refer to the “1-2. Revoming the Cabinet”)
- (2) Remove the 16 screws (PSW3 × 6) and joint plate.



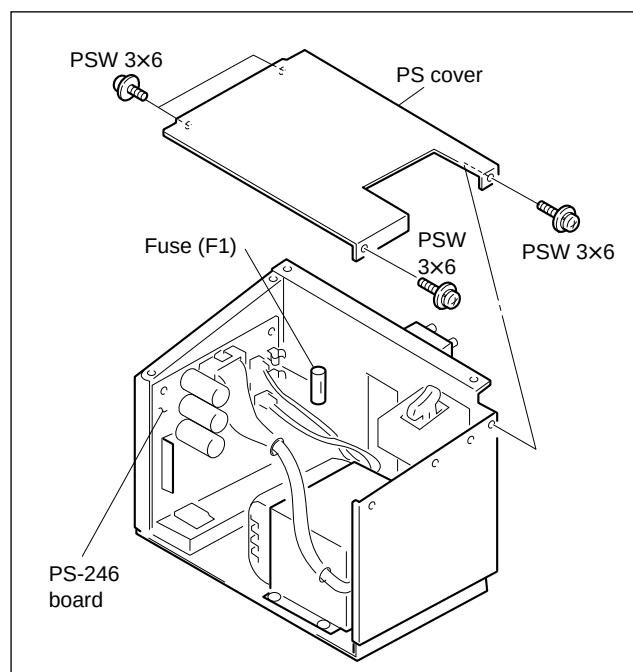
- (3) Remove the two screws (PSW3 × 6), and remove the harness from the clamper. Take off the connector bracket (S).
- (4) Disconnect the harness (MT-69/CN-1406) from the CN1 connector on the CN-1406 board.
- (5) Remove the four screws (PSW3 × 6), and take off the CN-567A board.



- (6) Remove the four screws (PSW3 × 6), and take off the power supply assy in the direciotn of the arrow.
- (7) Take off the harness (CN5/705) from the CN5 connector on the PS-246 board.



- (8) Remove the four screws (PSW3 × 6), and take off the PS cover from the power supply assy.
- (9) Take off the fuse (F1) out of the fuse holder on the PS-246 board.
- (10)After inserting with a new fuse, reassemble this device in the reverse order of (1) through (9) above.



1-4. Using Extension Board

Use extension board EX-364 when servicing the following boards:

IPM-31A, IPM-32A, AA-58A, AA-59A, AA-60A,
AA-61A and AA-62A Boards

The extension board is prepared as a tool.

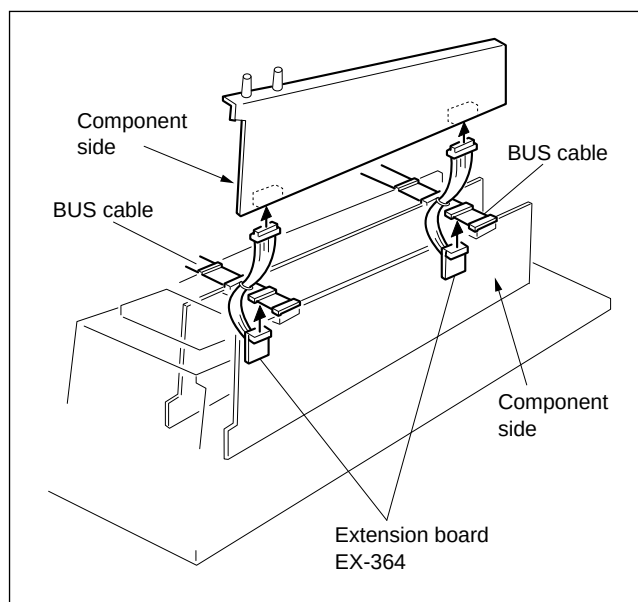
Extension board EX-364: Sony Parts No. J-7103-670-A

Note

Use two EX-364 extension boards.

Procedure

- (1) Remove the case. (Refer to “1-2. Removing the Cabinet”)
- (2) Take off the board to be extended.
- (3) Insert the connector an EX-364 extension board into each of the removed BUS cable connectors.
- (4) Insert the 16P BUS connector of an EX-364 extension board to each of the connectors on the board.



Section 2

Electrical Alignment

This section describes the electrical alignment that is need for maintenance and repair for the following boards.

MXP-310

IPM-31A board

IPM-32A board

AA-61A board

MT-69A board

MXBK-M310

CN-1407 board

Equipment required

Equipment	Specification	Model name
Audio analyzer	Oscillator	
	Frequency ; 10 Hz to 100 kHz	
	Output ; – 70 to + 20 dBs	SOUND TECHNOLOGY
	Balanced output	ST-1710A or equivalent
	Distortion analyzer	
	Frequency ; 20 Hz to 100 kHz	
Level meter	Balanced output	
	Range ; – 70 to + 30 dBs	
	Balanced input	

Notes on adjustment

- Remove all connection from the connectors on rear panel of the MXP-310, and the adjustment should be performed with rear panel and case removed while placing the MXP-310 with its control panel (front panel) facing downward.

2-1. Monaural Input Module Adjustment (IPM-31A board adjustment)

This section describes the monaural input module (channel 1 to 6) adjustment.

Equipment required

Audio analyzer (oscillator, level meter, distortion analyzer)

Switch and control setting

The switches and controls other than specified below are free.

Monaural input module (channel 1to 6)

INPUT SELECT switch	: BAL LINE
(INPUT) TRIM control	: “0” (MAX)
Low cut filter switch	: OFF
EQ switch	: OFF
Line output 1 switch	: ON
Line output 2 switch	: OFF
PAN control	: “C” (center)
PRE switch	: OFF
MUTE switch	: OFF
Channel fader	: “0” position

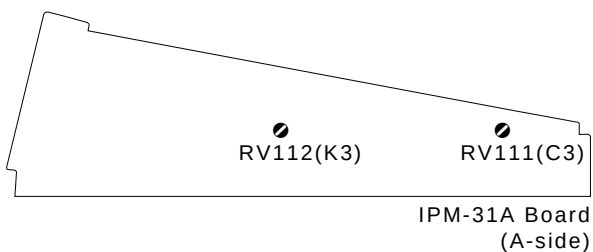
MASTER Faders section

MASTER faders 1 and 2	: “0” position
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OSCILLATOR section

OSCILLATOR ON /OFF switch	: OFF
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Adjustment location

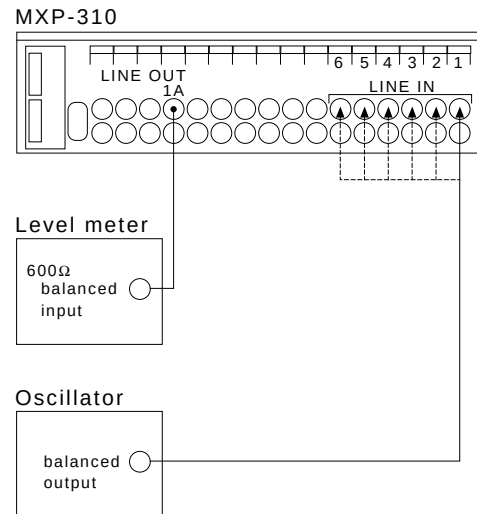


Preparation

Remove all connection from the connectors on MXP-310 rear panel.

2-1-1. Fader “0” Position Gain Adjustment

Connection



Procedure

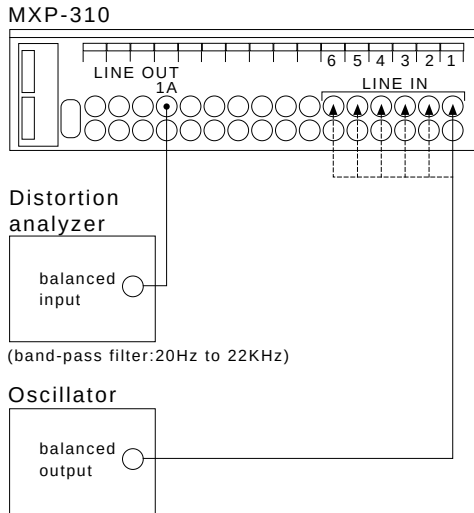
- (1) Connect the oscillator (audio analyzer) output of 1 kHz, − 20 dBs signal (sine wave) to LINE IN (balanced input) connector of desired (adjusted) monaural input module (channel 1, 2, 3, 4, 5 or 6). (0 dBs = 0.775 Vrms)
- (2) Connect the level meter (audio analyzer) to LINE OUT 1A(balanced output) connector.
- (3) Adjustment

Specification: LINE OUT 1A (balanced output) connector output level
= + 4.0 dBm ± 0.5 dB
(0 dBm = 0.775 Vrms, 600 Ω loaded)

Adjustment : ● RV111/IPM-31A board
(for monaural input module to be adjusted)

2-1-2. THD (Total Harmonic Distortion) Adjustment

Connection



Procedure

- (1) Connect the oscillator (audio analyzer) output of 1 kHz, + 12 dBs signal (sine wave) to LINE IN (balanced input) connector of desired (adjusted) monaural input module (channel 1, 2, 3, 4, 5 or 6).
(0 dBs = 0.775 Vrms)
- (2) Connect the distortion analyzer (audio analyzer) to LINE OUT 1A (balanced output) connector.
- (3) Adjust the TRIM control (for monaural input module to be adjusted) so that the output level of LINE OUT 1A (balanced output) connector becomes + 12 dBm. This level is specified as reference level.
- (4) Adjustment

Specification: Distortion analyzer
 = Minimum distortion

Adjustment : ⚙ RV112/IPM-31A board
 (for monaural input module to be adjusted)

2-2. Stereo Input Module Adjustment (IPM-32A board adjustment)

This section describes the stereo input module (channel 7 to 12) adjustment.

Equipment required

Audio analyzer (oscillator, level meter, distortion analyzer)

Switch and control settings

The switches and controls other than specified below are free.

Stereo input module (channel 7 to 12)

INPUT SELECT switch	: BAL LINE
(INPUT) TRIM control	: “0” (MAX)
Low cut filter switch	: OFF
EQ switch	: OFF
PRE switch	: OFF
SEND bus 1-2/3-4 switch	: 1-2
MONO SUM L, R switch	: OFF
Line output 1-2 switch	: ON
BAL control	: Center
MUTE switch	: OFF
Channel fader	: “0” position

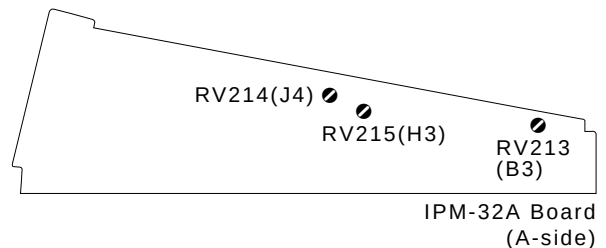
MASATER fader section

MASTER fadere 1 and 2	: “0” position
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OSCILLATOR section

OSCILLATOR ON /OFF switch	: OFF
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Adjustment location

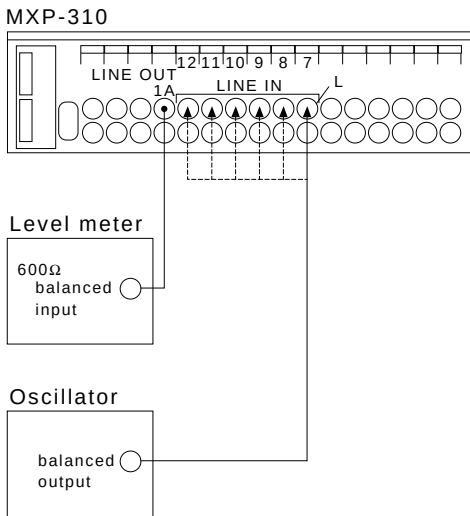


Preparation

Remove all connections from the connectors on MXP-310 rear panel.

2-2-1. Fader “0” Position Gain Adjustment

Connection



Procedure

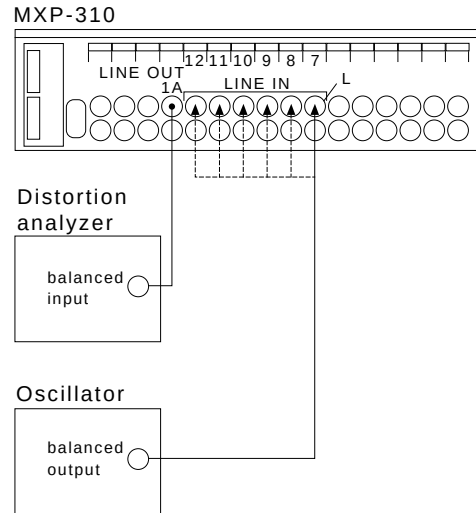
- (1) Connect the oscillator (audio analyzer) output of 1 kHz, -20 dBs signal (sine wave) to LINE IN L (balanced input) connector of desired (adjusted) stereo input module (channel 7, 8, 9, 10, 11 or 12).
(0 dBs = 0.775 Vrms)
- (2) Connect the level meter (audio analyzer) to LINE OUT 1A (balanced output) connector.
- (3) Adjustment

Specification: LINE OUT 1A (balanced output) connector output level
= $+4.0$ dBm ± 0.5 dB
(0 dBm = 0.775 Vrms, 600 Ω loaded)

Adjustment : ● RV213/IPM-32A board
(for monaural input module to be adjusted)

2-2-2. THD (Total Harmonic Distortion) Left Channel Adjustment

Connection



Procedure

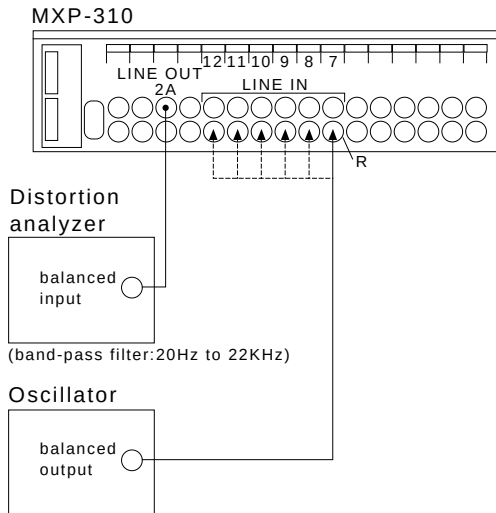
- (1) Connect the oscillator (audio analyzer) output of 1 kHz, $+12$ dBs signal (sine wave) to LINE IN L (balanced input) connector of desired (adjusted) stereo input module (channel 7, 8, 9, 10, 11 or 12).
(0 dBs = 0.775 Vrms)
- (2) Connect the distortion analyzer (audio analyzer) to LINE OUT 1A (balanced output) connector.
- (3) Adjust the TRIM control (for stereo input module to be adjusted) so that the output level of LINE OUT 1A (balanced output) connector becomes $+12$ dBm. This level is specified as reference level.
- (4) Adjustment

Specification: Distortion analyzer
= Minimum distortion

Adjustment : ● RV215/IPM-32A board
(for stereo input module to be adjusted)

2-2-3. THD (Total Harmonic Distortion) Right Channel Adjustment

Connection



Procedure

- (1) Connect the oscillator (audio analyzer) output of 1 kHz, + 12 dBs signal (sine wave) to LINE IN R (balanced input) connector of desired (adjusted) stereo input module (channel 7, 8, 9, 10, 11 or 12).
(0 dBs = 0.775 Vrms)
- (2) Connect the distortion analyzer(audio analyzer) to LINE OUT 2A(balanced output) connector.
- (3) Adjust the TRIM control (for stereo input module to be adjusted) so that the output level of LINE OUT 2A (balanced output) connector becomes + 12 dBm.
This level is specified as reference level.
- (4) Adjustment

Specification: Distortion analyzer
 = Minimum distortion

Adjustment : ● RV214/IPM-32A board
 (for stereo input module to be adjusted)

2-3. Oscillator Level Adjustment (AA-61A board Adjustment)

Equipment Required

Level meter (Audio analyzer)

Switch and control settings

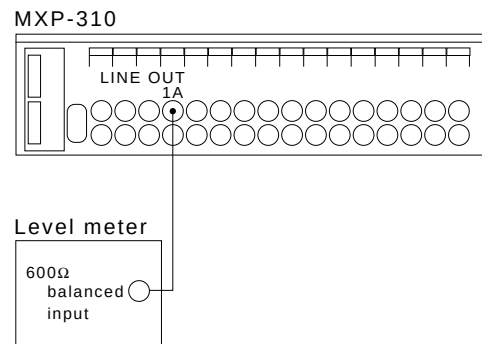
The switches and controls other than specified below are free.

OSCILLATOR section

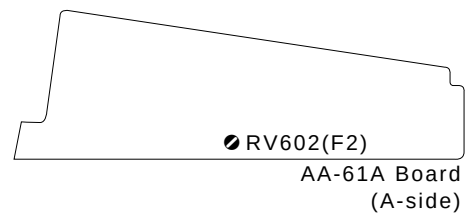
OSCILLATOR ON/OFF switch : ON

FREQ 400/1 k/ 10 k switch : 1 k (1 kHz)

Connection



Adjustment location



Preparation

Remove all connections from the connectors on MXP-310 rear panel.

Procedure

- (1) Connect the level meter (audio analyzer) to LINE OUT 1A (balance output) connector.
- (2) Adjustment

Specification: LINE OUT 1A (balanced output)
 connector output level
 = + 4.0 dBm $\pm$ 0.5 dB
 (0 dBm = 0.775 Vrms, 600 Ω loaded)

Adjustment : ● RV602/AA-61A board

2-4. Meter Adjustment (MT-69A board Adjustment)

This section describes the meter (16-segment LED) adjustment.

Equipment required

Audio analyzer (oscillator, level meter)

Switch and control settings

The switches and controls other than specified below are free.

Monaural input module (channel 1)

INPUT SELECT switch	: BAL LINE
(INPUT) TRIM control	: "0" (MAX)
Low cut filter switch	: OFF
EQ switch	: OFF
Line output 1 switch	: ON
Line output 2 switch	: OFF
PAN control	: "C" (center)
PRE switch	: OFF
MUTE switch	: OFF
Channel fader	: "0" position

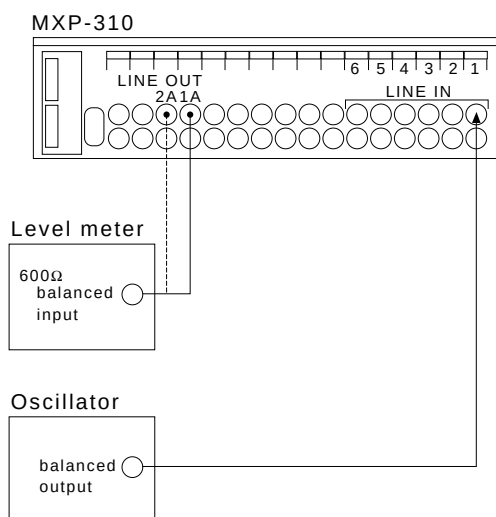
MASTER fader section

MASTER faders 1 and 2	: "0" position
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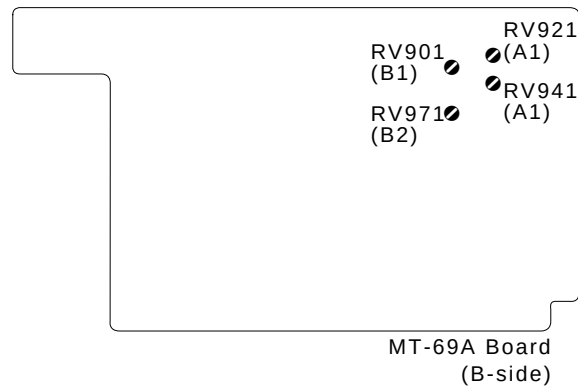
OSCILLATOR section

OSCILLATOR ON /OFF switch	: OFF
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Connection



Adjustment location



Preparation

Remove all connections from the connectors on MXP-310 rear panel.

Procedure

Note

Remove the power supply assy (the harness for power supply assy must be connected) from the unit to perform the adjustment.

(Refer to the section "1-4. Replacing the Fuse".)

Perform the adjustment from the B-side (adjustment hole) of the MT-69A board.

- Set the Line output 1 switch of monaural input module (channel 1) to ON.
- Connect the oscillator output of 1 kHz, - 20 dBs signal (sine wave) to LINE IN (balanced input) connector of monaural input module (channel 1). (0 dBs = 0.775 Vrms)
- Connect the level meter (audio analyzer) to the LINE OUT 1A (balanced output) connector.
- Perform the section "2-1-1. Fader "0" Position Gain Adjustment" so that output level of LINE OUT 1A (balanced output) connector becomes + 4.0 dBm (0 dBm = 0.775 Vrms, 600 Ω loaded).
- Meter LINE 1 adjustment

Specification: 0 VU LED (red) of meter LINE 1
= Lights ON.

Adjustment : ⚙ RV901/MT-69A board

- Set the Line output 2 switch of monaural input module (channel 1) to ON.
- Connect the level meter (audio analyzer) to LINE OUT 2A (balanced output) connector, and check that output level is + 4.0 dBm.

(8) Meter LINE 2 adjustment

Specification: 0 VU LED(red) of meter LINE 2
 = Lights ON.

Adjustment : ⚙ RV921/MT-69A board

(9) Set the LINE 1-2 switch of MONITOR SOURCE section to ON.

(Select the LINE OUT signal to monitor output.)

(10) Set the Line output 1 switch of monaural input module (channel 1) to ON.

(11) Meter MONITOR 1 adjustment

Specification: 0 VU LED(red) of meter
 MONITOR1 = Lights ON.

Adjustment : ⚙ RV941/MT-69 board

(12) Set the Line output 2 switch of monaural input module (channel 1) to ON.

(13) Meter MONITOR 2 adjustment

Specification: 0 VU LED(red) of meter
 MONITOR 2 = Lights ON.

Adjustment : ⚙ RV971/MT-69A board

2-5. VU Meter Indication Level Adjustment (MXBK-M310 Adjustment)

When VU meter and others of MXBK-M310 have been replaced, and if calibration of VU meter to the reference level (0VU) is required, perform the adjustment as follows. Install (connect) the MXBK-M310 to the MXP-310 to perform the adjustment, and the MXP-310 built-in oscillator is used for adjustment.

Remove all connection from the connectors on MXP-310 rear panel.

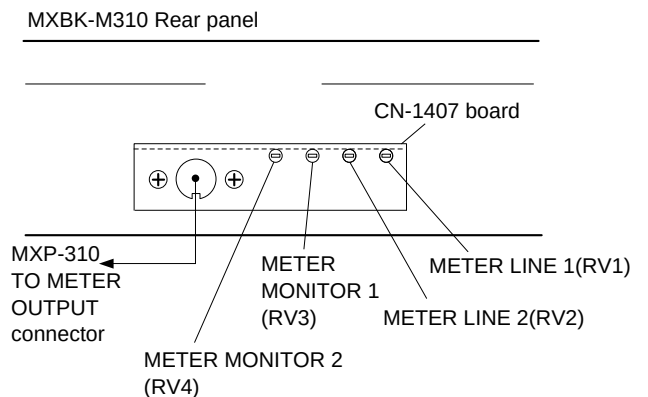
Procedure

(1) Set the MXP-310 as follows:

- Turn the OSCILLATOR ON/OFF switch to ON, and set the FREQ(frequency of oscillator) switch to 1 k (1 kHz).
 (LINE OUT 1, 2 connector (XLR 3PIN, balanced) output: + 4.0 dBm $\pm$ 0.5 dB)
Note 0 dBm = 0.775 Vrms, 600 Ω loaded
- Set the LINE1-2 switch of MONITOR SOURCE section to ON to set the LINE output signal to monitor signal.
- Set the MASATAR FADERS 1 and 2 to “0” position.

(2) Adjust the ⚙ RV1, 2, 3 and 4 on the CN-1407 board so that the indication level(0 VU) of the respective meters (LINE 1 and 2, MONITOR 1 and 2) of the MXBK-M310.

Adjust the RVs from the adjustment hole of the MXBK-M310 rear panel.



Section 3

Spare Parts

3-1. Notes on Repair Parts

1. Safety Related Components Warning

WARNING

Components marked $\triangle$ are critical to safe operation.
Therefore, specified parts should be used in the case of replacement.

2. Standardization of Parts

Some repair parts supplied by Sony differ from those used for the unit. These are because of parts commonality and improvement.
Parts list has the present standardized repair parts.

3. Stock of Parts

Parts marked with “o” at SP (Supply code) column of the spare parts list may not be stocked. Therefore, the delivery date will be delayed.

4. Units Representation

The following represented units are changed or omitted in writing.

	Units	Representation
Capacitance	μ F	uF
Inductance	μ H	uH
Resistance	Ω	Abbreviation
Temperature	$^{\circ}$ C	XXX-DEG-C

5. Destination Representation

The part indicated “For J/UC/CE” in the spare parts list is used in the unit written below.

For J : The part is used in a unit for Japan.

For UC : The part is used in a unit for U.S.A. and Canada.

For CE : The part is used in a unit for regions except the above countries.

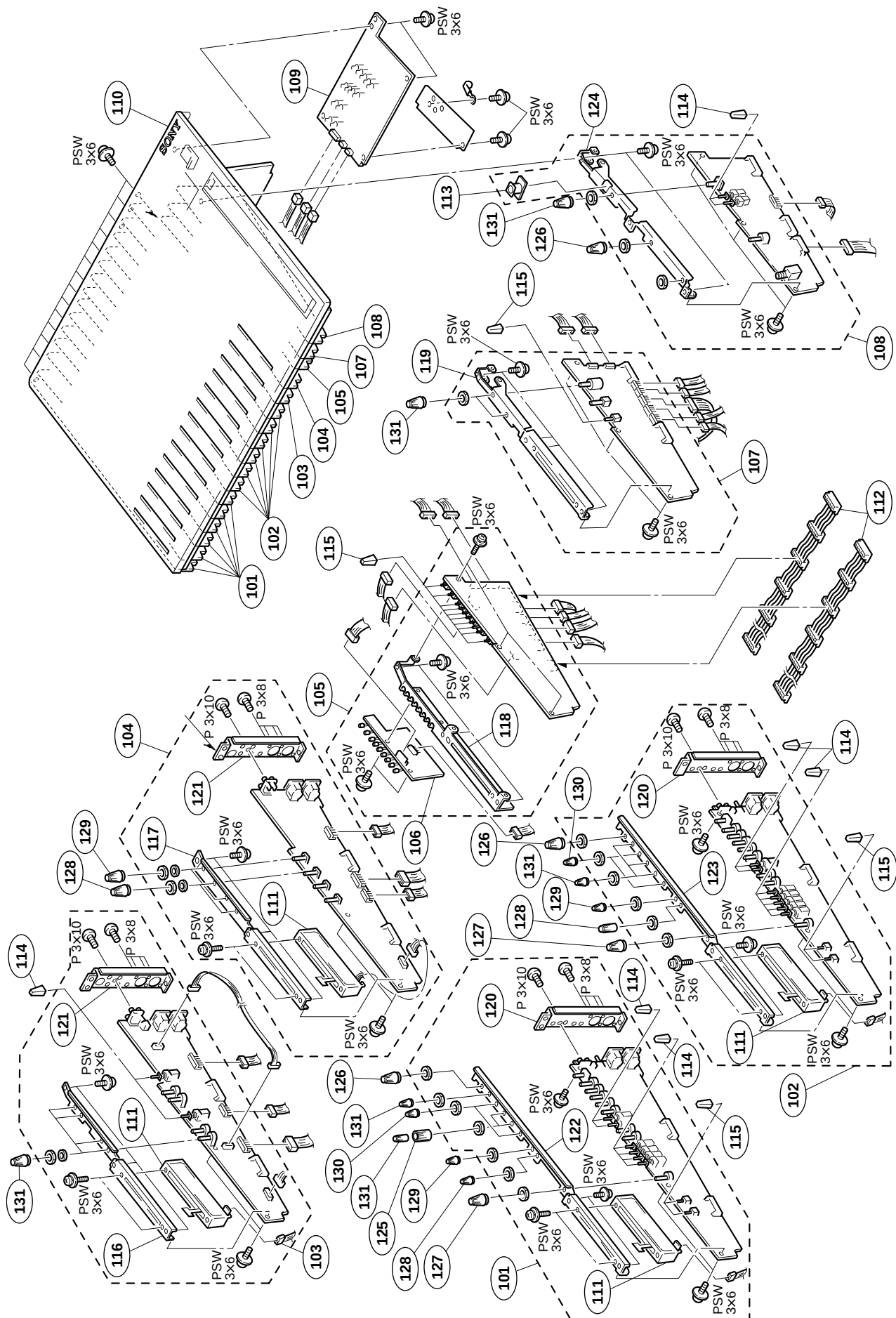
[MXP-310]

No.	Part No.	SP Description
1	A-8271-494-A	0 MOUNTED CIRCUIT BOARD, PS-246 (for J, UC)
2	A-8271-503-A	0 MOUNTED CIRCUIT BOARD, PS-246 (for CE)
3	A-8316-216-A	0 MOUNTED CIRCUIT BOARD, CN-567A
4	T-9453-812-1	0 TY-WRAP HOLDER, ADHESIVE BACKED
5	T-9456-109-1	0 WRITING PLATE
	X-4801-204-1	0 S TERMINAL ASSY
6	Δ 1-450-980-11	0 S TRANSFORMER, POWER (for CE)
	Δ 1-450-981-11	0 S TRANSFORMER, POWER (for J, UC)
7	Δ 1-532-078-00	0 S FUSE, TIME-LAG (for CE)
	Δ 1-532-743-11	0 S FUSE, GLASS TUBE (for J, UC)
8	Δ 1-580-375-11	0 S INLET AC, 3P
9	1-664-195-11	0 PRINTED CIRCUIT BOARD, PS-279
10	1-667-276-11	0 PRINTED CIRCUIT BOARD, CN-1406
11	Δ 1-762-954-11	0 S SWITCH, POWER
12	2-227-746-01	0 S CUSHION
13	2-990-241-02	0 S HOLDER (A), PLUG
14	3-176-783-01	0 PANEL (2), REAR SUB
15	3-176-793-01	0 CASE
16	3-193-911-01	0 PANEL, BLANK
17	3-193-912-01	0 PANEL (S), REAR
18	3-193-916-01	0 PANEL, REAR
19	3-668-459-11	0 SCREW, CONNECTOR
20	3-688-814-01	0 S CAP, SWITCH
21	3-720-322-01	0 S SCREW, STEP
22	4-937-102-01	0 S KNOB, FADER
23	4-937-102-11	0 S KNOB, FADER

[MXBK-M310]

No.	Part No.	SP Description
24	A-8315-836-A	0 MOUNTED CIRCUIT BOARD, CN-1407
25	T-9413-546-1	0 S METER, VU, SM, 6V LAMPS
26	3-193-917-01	0 WINDOW
27	3-193-917-11	0 WINDOW
28	3-193-922-01	0 CABINET
29	3-193-923-01	0 COVER

Modules



[MXP-310]

No.	Part No.	SP Description
101	A-8315-827-A	0 MOUNTED CIRCUIT BOARD, IPM-31A
102	A-8315-828-A	0 MOUNTED CIRCUIT BOARD, IPM-32A
103	A-8315-829-A	0 MOUNTED CIRCUIT BOARD, AA-58A
104	A-8315-830-A	0 MOUNTED CIRCUIT BOARD, AA-59A
105	A-8315-831-A	0 MOUNTED CIRCUIT BOARD, AA-60A
106	A-8315-832-A	0 MOUNTED CIRCUIT BOARD, LED-114A
107	A-8315-833-A	0 MOUNTED CIRCUIT BOARD, AA-61A
108	A-8315-834-A	0 MOUNTED CIRCUIT BOARD, AA-62A
109	A-8315-835-A	0 MOUNTED CIRCUIT BOARD, MT-69A
110	A-8316-361-A	0 TOP PANEL ASSY
111	A-8316-366-A	s FADER ASSY
112	1-569-372-11	s HOUSING, NDR 16P
113	1-609-885-11	0 PRINTED CIRCUIT BOARD, MIC
114	2-380-412-51	s KNOB (SMALL), PUSH BUTTON
115	3-176-768-01	s KNOB (SMALL), PUSH BUTTON
116	3-176-777-01	0 PANEL (3), SUB
117	3-176-778-01	0 PANEL (4), SUB
118	3-176-779-01	0 PANEL (5), SUB
119	3-176-780-01	0 PANEL (6), SUB
120	3-176-782-02	0 PANEL (1), REAR SUB
121	3-176-783-01	0 PANEL (2), REAR SUB
122	3-176-794-01	0 PANEL (1), SUB
123	3-176-795-01	0 PANEL (2), SUB
124	3-176-796-03	0 PANEL (7), SUB
125	4-904-320-31	s KNOB, SELECTOR
126	4-906-510-21	s KNOB (LARGE), ROTARY
127	4-906-510-31	s KNOB (LARGE), ROTARY
128	4-935-181-01	s KNOB (SMALL), ROTARY
129	4-935-181-11	s KNOB (SMALL), ROTARY
130	4-935-181-21	s KNOB (SMALL), ROTARY
131	4-935-181-41	s KNOB (SMALL), ROTARY

3-3. Electrical Parts List

3-3-1. MXP-310

AA-58A BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc (This assembly includes the following parts.)	A-8315-829-A	o	MOUNTED CIRCUIT BOARD, AA-58A
1pc	1-562-736-11	o	HOUSING 3P
1pc	1-564-831-11	o	CONTACT, FEMALE
1pc	1-569-193-11	o	CONTACT, FEMALE
1pc	1-569-198-11	o	HOUSING, CONNECTOR 5P
1pc	3-176-777-01	o	PANEL (3), SUB
1pc	3-176-783-01	o	PANEL (2), REAR SUB
4pcs	7-682-548-04	s	SCREW +B 3X8
4pcs	7-682-947-01	s	SCREW +PSW 3X6
1pc	7-685-647-79	s	SCREW +BVTP 3X10
C1	1-126-947-11	s	ELECT 47uF 20% 35V
C3	1-102-959-00	s	CERAMIC 22PF 5% 50V
C11	1-126-947-11	s	ELECT 47uF 20% 35V
C13	1-102-959-00	s	CERAMIC 22PF 5% 50V
C21	1-126-947-11	s	ELECT 47uF 20% 35V
C23	1-102-959-00	s	CERAMIC 22PF 5% 50V
C31	1-126-947-11	s	ELECT 47uF 20% 35V
C33	1-102-959-00	s	CERAMIC 22PF 5% 50V
C50	1-102-959-00	s	CERAMIC 22PF 5% 50V
C59	1-126-934-11	s	ELECT 220uF 20% 16V
C62	1-102-959-00	s	CERAMIC 22PF 5% 50V
C63	1-126-933-11	s	ELECT 100uF 20% 16V
C64	1-102-959-00	s	CERAMIC 22PF 5% 50V
C65	1-102-959-00	s	CERAMIC 22PF 5% 50V
C66	1-126-934-11	s	ELECT 220uF 20% 16V
C67	1-126-934-11	s	ELECT 220uF 20% 16V
C70	1-126-947-11	s	ELECT 47uF 20% 35V
C71	1-126-947-11	s	ELECT 47uF 20% 35V
C72	1-126-947-11	s	ELECT 47uF 20% 35V
C77	1-102-959-00	s	CERAMIC 22PF 5% 50V
C80	1-126-157-11	s	ELECT 10uF 20% 16V
C101	1-126-947-11	s	ELECT 47uF 20% 35V
C102	1-126-947-11	s	ELECT 47uF 20% 35V
C103	1-126-947-11	s	ELECT 47uF 20% 35V
C104	1-126-947-11	s	ELECT 47uF 20% 35V
C105	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C107	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C108	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C109	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C112	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C114	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C121	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C122	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C123	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C124	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C127	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C128	1-130-483-00	s	MYLAR 0.01uF 5% 50V
CN301	1-569-375-11	s	CONNECTOR NRD 16P, MALE
CN302	1-569-375-11	s	CONNECTOR NRD 16P, MALE
CN304	1-506-485-11	s	CONNECTOR 6P, MALE
CN305	1-506-489-11	s	CONNECTOR 10P, MALE
CN306	1-564-014-11	s	CONNECTOR 4P, MALE
CN307	1-564-004-11	o	CONNECTOR 5P, MALE
CN310	1-566-853-11	o	CONNECTOR XLR, 3P, FEMALE
CN311	1-569-373-11	s	CONNECTOR, XLR 3P, MALE
IC1-5	8-759-981-96	s	IC RC4560D

(AA-58A BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC8	8-759-981-96	s	IC RC4560D
IC9	8-759-356-16	s	IC NJM4556AD
IC10	8-759-981-96	s	IC RC4560D
J301	1-569-378-11	s	JACK, PIN 4P, FEMALE
Q1	8-729-119-78	s	TRANSISTOR 2SC2785-HFE
R1	1-249-441-11	s	CARBON 100K 5% 1/4W
R2	1-249-429-11	s	CARBON 10K 5% 1/4W
R3	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R6	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R7	1-249-417-11	s	CARBON 1K 5% 1/4W
R8	1-249-417-11	s	CARBON 1K 5% 1/4W
R9	1-249-430-11	s	CARBON 12K 5% 1/4W
R11	1-249-441-11	s	CARBON 100K 5% 1/4W
R12	1-249-429-11	s	CARBON 10K 5% 1/4W
R13	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R16	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R17	1-249-417-11	s	CARBON 1K 5% 1/4W
R18	1-249-417-11	s	CARBON 1K 5% 1/4W
R19	1-249-430-11	s	CARBON 12K 5% 1/4W
R21	1-249-441-11	s	CARBON 100K 5% 1/4W
R22	1-249-429-11	s	CARBON 10K 5% 1/4W
R23	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R26	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R27	1-249-417-11	s	CARBON 1K 5% 1/4W
R28	1-249-417-11	s	CARBON 1K 5% 1/4W
R29	1-249-430-11	s	CARBON 12K 5% 1/4W
R31	1-249-441-11	s	CARBON 100K 5% 1/4W
R32	1-249-429-11	s	CARBON 10K 5% 1/4W
R33	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R36	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R37	1-249-417-11	s	CARBON 1K 5% 1/4W
R38	1-249-417-11	s	CARBON 1K 5% 1/4W
R39	1-249-430-11	s	CARBON 12K 5% 1/4W
R40	1-249-428-11	s	CARBON 8.2K 5% 1/4W
R41	1-249-428-11	s	CARBON 8.2K 5% 1/4W
R44	1-249-428-11	s	CARBON 8.2K 5% 1/4W
R45	1-249-428-11	s	CARBON 8.2K 5% 1/4W
R50	1-249-428-11	s	CARBON 8.2K 5% 1/4W
R51	1-249-429-11	s	CARBON 10K 5% 1/4W
R53	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R76	1-249-431-11	s	CARBON 15K 5% 1/4W
R77	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R78	1-249-426-11	s	CARBON 5.6K 5% 1/4W
R79	1-249-429-11	s	CARBON 10K 5% 1/4W
R80	1-249-428-11	s	CARBON 8.2K 5% 1/4W
R81	1-249-429-11	s	CARBON 10K 5% 1/4W
R82	1-249-406-11	s	CARBON 120 5% 1/4W
R83	1-249-441-11	s	CARBON 100K 5% 1/4W
R84	1-215-433-00	s	METAL 3.3K 1% 1/6W
R85	1-215-454-00	s	METAL 24K 1% 1/6W
R86	1-215-433-00	s	METAL 3.3K 1% 1/6W
R87	1-215-454-00	s	METAL 24K 1% 1/6W
R88	1-215-399-00	s	METAL 120 1% 1/6W
R89	1-215-454-00	s	METAL 24K 1% 1/6W
R90	1-215-433-00	s	METAL 3.3K 1% 1/6W
R91	1-215-433-00	s	METAL 3.3K 1% 1/6W
R92	1-215-454-00	s	METAL 24K 1% 1/6W

(AA-58A BOARD)

Ref. No. or Q'ty	Part No.	SP Description
R93	1-215-399-00	s METAL 120 1% 1/6W
R94	1-249-441-11	s CARBON 100K 5% 1/4W
R95	1-249-441-11	s CARBON 100K 5% 1/4W
R101	1-249-441-11	s CARBON 100K 5% 1/4W
R102	1-249-441-11	s CARBON 100K 5% 1/4W
R103	1-215-456-00	s METAL 30K 1% 1/6W
R104	1-215-456-00	s METAL 30K 1% 1/6W
R105	1-215-437-00	s METAL 4.7K 1% 1/6W
R106	1-215-437-00	s METAL 4.7K 1% 1/6W
R107	1-249-441-11	s CARBON 100K 5% 1/4W
R116	1-249-381-11	s CARBON 1 5% 1/4W
R123	1-247-887-00	s CARBON 220K 5% 1/4W
RV1	1-238-928-11	s RES, VAR CARBON 20Kx2
RV2	1-238-926-11	s RES, VAR CARBON 20Kx2
RV3	1-238-928-11	s RES, VAR CARBON 20Kx2
RV4	1-238-926-11	s RES, VAR CARBON 20Kx2
RV5	1-241-953-13	s RES, VAR, CARBON
S1	1-554-472-00	s SWITCH, PUSH
S3	1-554-472-00	s SWITCH, PUSH

AA-59A BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8315-830-A	o MOUNTED CIRCUIT BOARD, AA-59A (This assembly includes the following parts.)
1pc	1-562-737-11	o HOUSING 4P
1pc	1-564-831-11	o CONTACT, FEMALE
1pc	1-569-193-11	o CONTACT, FEMALE
1pc	1-569-198-11	o HOUSING, CONNECTOR 5P
1pc	3-176-778-01	o PANEL (4), SUB
1pc	3-176-783-01	o PANEL (2), REAR SUB
4pcs	7-682-548-04	s SCREW +B 3X8
4pcs	7-682-947-01	s SCREW +PSW 3X6
1pc	7-685-647-79	s SCREW +BVTP 3X10
C1	1-126-923-11	s ELECT 220uF 20% 10V
C2	1-102-959-00	s CERAMIC 22PF 5% 50V
C3	1-102-959-00	s CERAMIC 22PF 5% 50V
C4	1-126-933-11	s ELECT 100uF 20% 16V
C5	1-126-923-11	s ELECT 220uF 20% 10V
C6	1-102-959-00	s CERAMIC 22PF 5% 50V
C7	1-102-959-00	s CERAMIC 22PF 5% 50V
C8	1-126-933-11	s ELECT 100uF 20% 16V
C9	1-126-923-11	s ELECT 220uF 20% 10V
C10	1-102-959-00	s CERAMIC 22PF 5% 50V
C11	1-102-959-00	s CERAMIC 22PF 5% 50V
C12	1-126-933-11	s ELECT 100uF 20% 16V
C13	1-126-923-11	s ELECT 220uF 20% 10V
C14	1-102-959-00	s CERAMIC 22PF 5% 50V
C15	1-102-959-00	s CERAMIC 22PF 5% 50V
C16	1-126-933-11	s ELECT 100uF 20% 16V
C20	1-102-959-00	s CERAMIC 22PF 5% 50V
C21	1-126-934-11	s ELECT 220uF 20% 16V
C32	1-102-959-00	s CERAMIC 22PF 5% 50V
C33	1-126-933-11	s ELECT 100uF 20% 16V
C34	1-102-959-00	s CERAMIC 22PF 5% 50V
C35	1-102-959-00	s CERAMIC 22PF 5% 50V
C36	1-126-934-11	s ELECT 220uF 20% 16V
C37	1-126-934-11	s ELECT 220uF 20% 16V
C40	1-126-947-11	s ELECT 47uF 20% 35V
C41	1-126-947-11	s ELECT 47uF 20% 35V
C42	1-126-947-11	s ELECT 47uF 20% 35V
C47	1-102-959-00	s CERAMIC 22PF 5% 50V
C60	1-126-947-11	s ELECT 47uF 20% 35V
C61	1-126-947-11	s ELECT 47uF 20% 35V
C62	1-126-947-11	s ELECT 47uF 20% 35V
C63	1-126-947-11	s ELECT 47uF 20% 35V
C65	1-130-483-00	s MYLAR 0.01uF 5% 50V
C67	1-130-483-00	s MYLAR 0.01uF 5% 50V
C70	1-130-483-00	s MYLAR 0.01uF 5% 50V
C72	1-130-483-00	s MYLAR 0.01uF 5% 50V
C76	1-130-483-00	s MYLAR 0.01uF 5% 50V
C78	1-130-483-00	s MYLAR 0.01uF 5% 50V
C81	1-130-483-00	s MYLAR 0.01uF 5% 50V
C83	1-130-483-00	s MYLAR 0.01uF 5% 50V
CN401	1-569-375-11	s CONNECTOR NRD 16P, MALE
CN402	1-569-375-11	s CONNECTOR NRD 16P, MALE
CN404	1-506-485-11	s CONNECTOR 6P, MALE
CN405	1-506-488-11	s CONNECTOR 9P, MALE
CN406	1-506-484-11	s CONNECTOR 5P, MALE
CN407	1-564-004-11	o CONNECTOR 5P, MALE
CN410	1-566-853-11	o CONNECTOR XLR, 3P, FEMALE

(AA-59A BOARD)

Ref. No. or Q'ty	Part No.	SP Description
CN411	1-569-373-11	s CONNECTOR, XLR 3P, MALE
IC1-5	8-759-981-96	s IC RC4560D
IC8	8-759-981-96	s IC RC4560D
IC9	8-759-356-16	s IC NJM4556AD
IC10	8-759-981-96	s IC RC4560D
J401	1-569-378-11	s JACK, PIN 4P, FEMALE
Q1	8-729-119-78	s TRANSISTOR 2SC2785-HFE
R1	1-249-421-11	s CARBON 2.2K 5% 1/4W
R2	1-249-428-11	s CARBON 8.2K 5% 1/4W
R4	1-249-441-11	s CARBON 100K 5% 1/4W
R5	1-247-807-31	s CARBON 100 5% 1/4W
R6	1-249-421-11	s CARBON 2.2K 5% 1/4W
R7	1-249-428-11	s CARBON 8.2K 5% 1/4W
R9	1-249-441-11	s CARBON 100K 5% 1/4W
R10	1-247-807-31	s CARBON 100 5% 1/4W
R11	1-249-421-11	s CARBON 2.2K 5% 1/4W
R12	1-249-428-11	s CARBON 8.2K 5% 1/4W
R14	1-249-441-11	s CARBON 100K 5% 1/4W
R15	1-247-807-31	s CARBON 100 5% 1/4W
R16	1-249-421-11	s CARBON 2.2K 5% 1/4W
R17	1-249-428-11	s CARBON 8.2K 5% 1/4W
R19	1-249-441-11	s CARBON 100K 5% 1/4W
R20	1-247-807-31	s CARBON 100 5% 1/4W
R21	1-249-414-11	s CARBON 560 5% 1/4W
R22	1-249-414-11	s CARBON 560 5% 1/4W
R23	1-249-414-11	s CARBON 560 5% 1/4W
R24	1-249-414-11	s CARBON 560 5% 1/4W
R25	1-249-413-11	s CARBON 470 5% 1/4W
R26	1-249-413-11	s CARBON 470 5% 1/4W
R27	1-249-413-11	s CARBON 470 5% 1/4W
R28	1-249-413-11	s CARBON 470 5% 1/4W
R29	1-249-428-11	s CARBON 8.2K 5% 1/4W
R30	1-249-429-11	s CARBON 10K 5% 1/4W
R32	1-249-421-11	s CARBON 2.2K 5% 1/4W
R46	1-249-431-11	s CARBON 15K 5% 1/4W
R47	1-249-421-11	s CARBON 2.2K 5% 1/4W
R48	1-249-429-11	s CARBON 10K 5% 1/4W
R49	1-249-426-11	s CARBON 5.6K 5% 1/4W
R50	1-249-428-11	s CARBON 8.2K 5% 1/4W
R51	1-249-429-11	s CARBON 10K 5% 1/4W
R52	1-249-406-11	s CARBON 120 5% 1/4W
R53	1-249-441-11	s CARBON 100K 5% 1/4W
R54	1-215-433-00	s METAL 3.3K 1% 1/6W
R55	1-215-454-00	s METAL 24K 1% 1/6W
R56	1-215-399-00	s METAL 120 1% 1/6W
R57	1-215-433-00	s METAL 3.3K 1% 1/6W
R58	1-215-454-00	s METAL 24K 1% 1/6W
R59	1-215-433-00	s METAL 3.3K 1% 1/6W
R60	1-215-454-00	s METAL 24K 1% 1/6W
R61	1-215-433-00	s METAL 3.3K 1% 1/6W
R62	1-215-454-00	s METAL 24K 1% 1/6W
R63	1-215-399-00	s METAL 120 1% 1/6W
R67	1-249-441-11	s CARBON 100K 5% 1/4W
R68	1-249-441-11	s CARBON 100K 5% 1/4W
R70	1-249-441-11	s CARBON 100K 5% 1/4W
R71	1-249-441-11	s CARBON 100K 5% 1/4W

(AA-59A BOARD)

Ref. No. or Q'ty	Part No.	SP Description
R72	1-215-456-00	s METAL 30K 1% 1/6W
R73	1-215-456-00	s METAL 30K 1% 1/6W
R74	1-215-437-00	s METAL 4.7K 1% 1/6W
R75	1-215-437-00	s METAL 4.7K 1% 1/6W
R76	1-249-441-11	s CARBON 100K 5% 1/4W
R83	1-249-381-11	s CARBON 1 5% 1/4W
R92	1-247-887-00	s CARBON 220K 5% 1/4W
RV1	1-238-925-11	s RES, VAR CARBON 20K
RV2	1-238-925-11	s RES, VAR CARBON 20K
RV3	1-238-925-11	s RES, VAR CARBON 20K
RV4	1-238-925-11	s RES, VAR CARBON 20K
RV5	1-241-953-13	s RES, VAR, CARBON

AA-60A BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8315-831-A	o	MOUNTED CIRCUIT BOARD, AA-60A (This assembly includes the following parts and LED-114A board. For details for LED-114A board see page 3-18.)
2pcs	1-562-737-11	o	HOUSING 4P
8pcs	1-564-831-11	o	CONTACT, FEMALE
42pcs	1-569-191-11	o	CONTACT, FEMALE AWG22-26
2pcs	1-569-202-11	o	HOUSING 9P
2pcs	1-569-205-11	o	HOUSING, 12P
1pc	3-176-779-01	o	PANEL (5), SUB
2pcs	3-847-356-02	o	CLAMP
5pcs	7-682-947-01	s	SCREW +PSW 3X6
C1	1-126-947-11	s	ELECT 47uF 20% 35V
C2	1-126-947-11	s	ELECT 47uF 20% 35V
C3	1-126-947-11	s	ELECT 47uF 20% 35V
C4	1-126-947-11	s	ELECT 47uF 20% 35V
C9	1-102-959-00	s	CERAMIC 22PF 5% 50V
C10	1-126-933-11	s	ELECT 100uF 20% 16V
C11	1-102-959-00	s	CERAMIC 22PF 5% 50V
C12	1-126-947-11	s	ELECT 47uF 20% 35V
C13	1-102-959-00	s	CERAMIC 22PF 5% 50V
C14	1-126-947-11	s	ELECT 47uF 20% 35V
C19	1-126-947-11	s	ELECT 47uF 20% 35V
C25	1-102-959-00	s	CERAMIC 22PF 5% 50V
C26	1-102-959-00	s	CERAMIC 22PF 5% 50V
C27	1-126-933-11	s	ELECT 100uF 20% 16V
C28	1-126-933-11	s	ELECT 100uF 20% 16V
C41	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C42	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C43	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C51	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C52	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C53	1-102-959-00	s	CERAMIC 22PF 5% 50V
C54	1-102-959-00	s	CERAMIC 22PF 5% 50V
CN501	1-569-375-11	s	CONNECTOR NRD 16P, MALE
CN502	1-569-375-11	s	CONNECTOR NRD 16P, MALE
CN504	1-506-489-11	s	CONNECTOR 10P, MALE
CN505	1-506-488-11	s	CONNECTOR 9P, MALE
CN506	1-506-490-21	s	CONNECTOR, 11P MALE (ANGLE TYPE)
CN507	1-564-014-11	s	CONNECTOR 4P, MALE
CN508	1-506-490-21	s	CONNECTOR, 11P MALE (ANGLE TYPE)
CN509	1-506-491-11	s	CONNECTOR 12P, MALE
CN510	1-506-474-11	s	CONNECTOR 9P, MALE
CN511	1-564-011-11	o	CONNECTOR 12P, MALE
D1	8-719-911-19	s	DIODE 1SS119
D2	8-719-911-19	s	DIODE 1SS119
IC1	8-759-981-96	s	IC RC4560D
IC2	8-759-981-96	s	IC RC4560D
IC6	8-759-356-16	s	IC NJM4556AD
IC7	8-759-981-96	s	IC RC4560D
IC8	8-759-981-96	s	IC RC4560D
IC9	8-759-000-47	s	IC MC14051BCP
IC10	8-759-000-47	s	IC MC14051BCP
IC11	8-759-000-47	s	IC MC14051BCP
IC12	8-759-000-47	s	IC MC14051BCP
IC13	8-759-140-53	s	IC UPD4053BC
IC14	8-759-140-53	s	IC UPD4053BC

(AA-60A BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R3	1-249-441-11	s	CARBON 100K 5% 1/4W
R4	1-249-441-11	s	CARBON 100K 5% 1/4W
R9	1-249-429-11	s	CARBON 10K 5% 1/4W
R10	1-249-429-11	s	CARBON 10K 5% 1/4W
R11	1-249-429-11	s	CARBON 10K 5% 1/4W
R12	1-249-429-11	s	CARBON 10K 5% 1/4W
R13	1-249-441-11	s	CARBON 100K 5% 1/4W
R14	1-249-427-11	s	CARBON 6.8K 5% 1/4W
R15	1-249-427-11	s	CARBON 6.8K 5% 1/4W
R16	1-249-441-11	s	CARBON 100K 5% 1/4W
R17	1-249-441-11	s	CARBON 100K 5% 1/4W
R23	1-249-381-11	s	CARBON 1 5% 1/4W
R30	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R31	1-249-429-11	s	CARBON 10K 5% 1/4W
R32	1-249-406-11	s	CARBON 120 5% 1/4W
R33	1-249-441-11	s	CARBON 100K 5% 1/4W
R41	1-249-381-11	s	CARBON 1 5% 1/4W
R43	1-215-433-00	s	METAL 3.3K 1% 1/6W
R44	1-215-454-00	s	METAL 24K 1% 1/6W
R45	1-215-399-00	s	METAL 120 1% 1/6W
R46	1-215-454-00	s	METAL 24K 1% 1/6W
R47	1-249-441-11	s	CARBON 100K 5% 1/4W
R48	1-215-433-00	s	METAL 3.3K 1% 1/6W
R49	1-215-433-00	s	METAL 3.3K 1% 1/6W
R50	1-215-454-00	s	METAL 24K 1% 1/6W
R51	1-215-454-00	s	METAL 24K 1% 1/6W
R52	1-215-399-00	s	METAL 120 1% 1/6W
R53	1-249-441-11	s	CARBON 100K 5% 1/4W
R56	1-249-381-11	s	CARBON 1 5% 1/4W
R57	1-249-381-11	s	CARBON 1 5% 1/4W
R61	1-215-433-00	s	METAL 3.3K 1% 1/6W
R65	1-249-431-11	s	CARBON 15K 5% 1/4W
R66	1-247-887-00	s	CARBON 220K 5% 1/4W
R67	1-249-422-11	s	CARBON 2.7K 5% 1/4W
R68	1-215-477-00	s	METAL 220K 1% 1/6W
R71	1-247-843-11	s	CARBON 3.3K 5% 1/4W
R72	1-247-843-11	s	CARBON 3.3K 5% 1/4W
R73	1-249-438-11	s	CARBON 56K 5% 1/4W
R74	1-247-807-31	s	CARBON 100 5% 1/4W
SW1	1-692-194-11	s	SWITCH, PUSH
SW3	1-692-194-11	s	SWITCH, PUSH
SW5-10	1-692-194-11	s	SWITCH, PUSH
SW13	1-554-115-11	s	SWITCH, PUSH

AA-61A BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc (This assembly includes the following parts.)	A-8315-833-A o	MOUNTED CIRCUIT BOARD, AA-61A
1pc	3-176-780-01 o	PANEL (6), SUB
3pcs	7-682-947-01 s	SCREW +PSW 3X6
C1	1-102-959-00 s	CERAMIC 22PF 5% 50V
C2	1-126-947-11 s	ELECT 47uF 20% 35V
C3	1-102-959-00 s	CERAMIC 22PF 5% 50V
C4	1-126-947-11 s	ELECT 47uF 20% 35V
C5	1-102-959-00 s	CERAMIC 22PF 5% 50V
C6	1-126-947-11 s	ELECT 47uF 20% 35V
C7	1-102-959-00 s	CERAMIC 22PF 5% 50V
C8	1-126-947-11 s	ELECT 47uF 20% 35V
C9	1-102-959-00 s	CERAMIC 22PF 5% 50V
C10	1-126-947-11 s	ELECT 47uF 20% 35V
C11	1-102-959-00 s	CERAMIC 22PF 5% 50V
C12	1-126-947-11 s	ELECT 47uF 20% 35V
C13	1-102-959-00 s	CERAMIC 22PF 5% 50V
C14	1-126-947-11 s	ELECT 47uF 20% 35V
C15	1-102-959-00 s	CERAMIC 22PF 5% 50V
C16	1-126-947-11 s	ELECT 47uF 20% 35V
C20	1-102-959-00 s	CERAMIC 22PF 5% 50V
C21	1-126-933-11 s	ELECT 100uF 20% 16V
C22	1-102-959-00 s	CERAMIC 22PF 5% 50V
C23	1-126-933-11 s	ELECT 100uF 20% 16V
C24	1-102-959-00 s	CERAMIC 22PF 5% 50V
C25	1-126-933-11 s	ELECT 100uF 20% 16V
C40	1-130-476-00 s	MYLAR 0.0027uF 5% 50V
C41	1-130-471-00 s	MYLAR 0.001uF 5% 50V
C42	1-102-973-00 s	CERAMIC 100PF 5% 50V
C43	1-130-476-00 s	MYLAR 0.0027uF 5% 50V
C44	1-130-471-00 s	MYLAR 0.001uF 5% 50V
C45	1-102-973-00 s	CERAMIC 100PF 5% 50V
C46	1-130-476-00 s	MYLAR 0.0027uF 5% 50V
C47	1-130-471-00 s	MYLAR 0.001uF 5% 50V
C48	1-102-973-00 s	CERAMIC 100PF 5% 50V
C49	1-126-960-11 s	ELECT 1uF 20% 50V
C60-67	1-130-483-00 s	MYLAR 0.01uF 5% 50V
C70	1-130-483-00 s	MYLAR 0.01uF 5% 50V
C71	1-130-483-00 s	MYLAR 0.01uF 5% 50V
C72	1-130-483-00 s	MYLAR 0.01uF 5% 50V
C73	1-130-483-00 s	MYLAR 0.01uF 5% 50V
C78	1-126-947-11 s	ELECT 47uF 20% 35V
C79	1-126-947-11 s	ELECT 47uF 20% 35V
C80	1-130-483-00 s	MYLAR 0.01uF 5% 50V
C81	1-130-483-00 s	MYLAR 0.01uF 5% 50V
C82	1-130-483-00 s	MYLAR 0.01uF 5% 50V
C83	1-130-483-00 s	MYLAR 0.01uF 5% 50V
C87	1-126-947-11 s	ELECT 47uF 20% 35V
C88	1-126-947-11 s	ELECT 47uF 20% 35V
C89	1-126-947-11 s	ELECT 47uF 20% 35V
C90	1-126-947-11 s	ELECT 47uF 20% 35V
CN601	1-569-375-11 s	CONNECTOR NRD 16P, MALE
CN602	1-569-375-11 s	CONNECTOR NRD 16P, MALE
CN604	1-564-014-11 s	CONNECTOR 4P, MALE
CN605	1-506-484-11 s	CONNECTOR 5P, MALE
CN606	1-506-490-21 s	CONNECTOR, 11P MALE (ANGLE TYPE)

(AA-61A BOARD)

Ref. No. or Q'ty	Part No.	SP Description
CN607	1-506-487-11 s	CONNECTOR 8P, MALE
CN608	1-506-489-11 s	CONNECTOR 10P, MALE
CN609	1-506-490-21 s	CONNECTOR, 11P MALE (ANGLE TYPE)
CN610	1-506-491-11 s	CONNECTOR 12P, MALE
D601	8-719-911-19 s	DIODE 1SS119
D603	8-719-911-19 s	DIODE 1SS119
D604	8-719-911-19 s	DIODE 1SS119
IC601	8-759-981-96 s	IC RC4560D
IC602	8-759-981-96 s	IC RC4560D
IC603	8-759-981-96 s	IC RC4560D
IC604	8-759-981-96 s	IC RC4560D
IC605	8-759-140-53 s	IC UPD4053BC
IC606	8-759-140-53 s	IC UPD4053BC
IC607	8-759-916-12 s	IC SN74HC00N
IC609	8-759-981-96 s	IC RC4560D
IC610	8-759-356-16 s	IC NJM4556AD
IC613	8-759-981-96 s	IC RC4560D
Q601	8-729-119-78 s	TRANSISTOR 2SC2785-HFE
Q602	8-729-119-78 s	TRANSISTOR 2SC2785-HFE
Q603	8-729-119-78 s	TRANSISTOR 2SC2785-HFE
Q604	8-729-119-78 s	TRANSISTOR 2SC2785-HFE
R1	1-249-427-11 s	CARBON 6.8K 5% 1/4W
R6	1-249-427-11 s	CARBON 6.8K 5% 1/4W
R9	1-247-863-91 s	CARBON 22K 5% 1/4W
R10	1-249-428-11 s	CARBON 8.2K 5% 1/4W
R11	1-249-420-11 s	CARBON 1.8K 5% 1/4W
R12	1-249-429-11 s	CARBON 10K 5% 1/4W
R13	1-249-428-11 s	CARBON 8.2K 5% 1/4W
R14	1-247-807-31 s	CARBON 100 5% 1/4W
R15	1-249-441-11 s	CARBON 100K 5% 1/4W
R16	1-249-428-11 s	CARBON 8.2K 5% 1/4W
R17	1-247-863-91 s	CARBON 22K 5% 1/4W
R18	1-249-420-11 s	CARBON 1.8K 5% 1/4W
R19	1-249-429-11 s	CARBON 10K 5% 1/4W
R20	1-249-428-11 s	CARBON 8.2K 5% 1/4W
R21	1-247-807-31 s	CARBON 100 5% 1/4W
R22	1-249-441-11 s	CARBON 100K 5% 1/4W
R23	1-247-863-91 s	CARBON 22K 5% 1/4W
R24	1-249-428-11 s	CARBON 8.2K 5% 1/4W
R25	1-249-420-11 s	CARBON 1.8K 5% 1/4W
R26	1-249-429-11 s	CARBON 10K 5% 1/4W
R27	1-249-428-11 s	CARBON 8.2K 5% 1/4W
R28	1-247-807-31 s	CARBON 100 5% 1/4W
R29	1-249-441-11 s	CARBON 100K 5% 1/4W
R30	1-247-863-91 s	CARBON 22K 5% 1/4W
R31	1-249-428-11 s	CARBON 8.2K 5% 1/4W
R32	1-249-420-11 s	CARBON 1.8K 5% 1/4W
R33	1-249-429-11 s	CARBON 10K 5% 1/4W
R34	1-249-428-11 s	CARBON 8.2K 5% 1/4W
R35	1-247-807-31 s	CARBON 100 5% 1/4W
R36	1-249-441-11 s	CARBON 100K 5% 1/4W
R40	1-247-887-00 s	CARBON 220K 5% 1/4W
R47	1-249-381-11 s	CARBON 1 5% 1/4W
R49	1-249-428-11 s	CARBON 8.2K 5% 1/4W
R50	1-249-429-11 s	CARBON 10K 5% 1/4W
R51	1-249-406-11 s	CARBON 120 5% 1/4W
R52	1-249-441-11 s	CARBON 100K 5% 1/4W
R53	1-215-433-00 s	METAL 3.3K 1% 1/6W

(AA-61A BOARD)

Ref. No. or Q'ty	Part No.	SP Description
R54	1-215-477-00	s METAL 220K 1% 1/6W
R55	1-215-454-00	s METAL 24K 1% 1/6W
R56	1-215-433-00	s METAL 3.3K 1% 1/6W
R57	1-215-454-00	s METAL 24K 1% 1/6W
R58	1-215-399-00	s METAL 120 1% 1/6W
R59	1-215-454-00	s METAL 24K 1% 1/6W
R60	1-249-441-11	s CARBON 100K 5% 1/4W
R61	1-215-433-00	s METAL 3.3K 1% 1/6W
R62	1-249-441-11	s CARBON 100K 5% 1/4W
R63	1-215-433-00	s METAL 3.3K 1% 1/6W
R64	1-215-454-00	s METAL 24K 1% 1/6W
R65	1-215-399-00	s METAL 120 1% 1/6W
R85	1-215-473-00	s METAL 150K 1% 1/6W
R86	1-249-431-11	s CARBON 15K 5% 1/4W
R87	1-249-429-11	s CARBON 10K 5% 1/4W
R88	1-249-429-11	s CARBON 10K 5% 1/4W
R89	1-249-431-11	s CARBON 15K 5% 1/4W
R90	1-215-473-00	s METAL 150K 1% 1/6W
R91	1-249-431-11	s CARBON 15K 5% 1/4W
R92	1-215-473-00	s METAL 150K 1% 1/6W
R93	1-249-436-11	s CARBON 39K 5% 1/4W
R94	1-249-436-11	s CARBON 39K 5% 1/4W
R95	1-247-807-31	s CARBON 100 5% 1/4W
R96	1-247-807-31	s CARBON 100 5% 1/4W
RV601	1-241-951-11	s RES, VAR CARBON 20Kx4
RV602	1-238-787-11	s RES, ADJ METAL 10K
S605	1-692-195-11	s SWITCH, ROTARY
S606	1-554-115-11	s SWITCH, PUSH

AA-62A BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8315-834-A	o MOUNTED CIRCUIT BOARD, AA-62A (This assembly includes the following parts and MIC board.)
1pc	1-609-885-00	o PRINTED CIRCUIT BOARD, MIC
1pc	2-380-406-00	o SUPPORT, MICROPHONE
1pc	3-176-796-03	o PANEL (7), SUB
1pc	3-574-761-00	s HOLDER, MICROPHONE
1pc	3-660-978-11	s SHEET, HEAT RESISTING
4pcs	7-682-947-01	s SCREW +PSW 3X6
C1	1-126-925-11	s ELECT 470uF 20% 10V
C2	1-109-889-11	s ELECT 1uF 20% 50V
C3	1-126-947-11	s ELECT 47uF 20% 35V
C4	1-124-234-00	s ELECT 22uF 20% 16V
C5	1-128-578-11	s ELECT 1uF 20% 100V
C6	1-124-915-11	s ELECT 10uF 20% 63V
C7	1-124-915-11	s ELECT 10uF 20% 63V
C16	1-126-948-11	s ELECT 100uF 20% 35V
C17	1-126-933-11	s ELECT 100uF 20% 16V
C18	1-126-948-11	s ELECT 100uF 20% 35V
C19	1-126-933-11	s ELECT 100uF 20% 16V
C30	1-126-947-11	s ELECT 47uF 20% 35V
C31	1-102-959-00	s CERAMIC 22PF 5% 50V
C32	1-126-924-11	s ELECT 330uF 20% 10V
C33	1-126-947-11	s ELECT 47uF 20% 35V
C34	1-102-959-00	s CERAMIC 22PF 5% 50V
C35	1-126-924-11	s ELECT 330uF 20% 10V
C36	1-126-157-11	s ELECT 10uF 20% 16V
C37	1-130-471-00	s MYLAR 0.001uF 5% 50V
C38	1-124-463-00	s ELECT 0.1uF 20% 50V
C39	1-102-959-00	s CERAMIC 22PF 5% 50V
C40	1-126-157-11	s ELECT 10uF 20% 16V
C41	1-126-157-11	s ELECT 10uF 20% 16V
C42	1-102-959-00	s CERAMIC 22PF 5% 50V
C43	1-126-947-11	s ELECT 47uF 20% 35V
C50	1-126-948-11	s ELECT 100uF 20% 35V
C51	1-126-948-11	s ELECT 100uF 20% 35V
C52	1-130-483-00	s MYLAR 0.01uF 5% 50V
C53	1-130-483-00	s MYLAR 0.01uF 5% 50V
CN701	1-569-375-11	s CONNECTOR NRD 16P, MALE
CN702	1-569-375-11	s CONNECTOR NRD 16P, MALE
CN704	1-506-487-11	s CONNECTOR 8P, MALE
CN705	1-564-910-11	s CONNECTOR, ILG 14P, MALE
D701	8-719-911-19	s DIODE 1SS119
D702	8-719-911-19	s DIODE 1SS119
D703	8-719-911-19	s DIODE 1SS119
D706	8-719-911-19	s DIODE 1SS119
D707	8-719-911-19	s DIODE 1SS119
D708	8-719-911-19	s DIODE 1SS119
D709	8-719-911-19	s DIODE 1SS119
IC701	8-759-443-64	s IC TL783CKC
IC703	8-759-701-75	s IC NJM7805FA
IC704	8-759-012-67	s IC MC7905CT
IC705	8-759-356-16	s IC NJM4556AD
IC706	8-759-981-96	s IC RC4560D
J701	1-563-347-11	s JACK, PHONE
M1	8-814-189-31	s MICROPHONE, BUILT-IN (C-1007A)
Q701	8-729-119-76	s TRANSISTOR 2SA1115P

(AA-62A BOARD)

Ref. No. or Q'ty	Part No.	SP Description
R1	1-249-431-11	s CARBON 15K 5% 1/4W
R2	1-247-863-91	s CARBON 22K 5% 1/4W
R3	1-247-807-31	s CARBON 100 5% 1/4W
R4	1-247-863-91	s CARBON 22K 5% 1/4W
R5	1-249-429-11	s CARBON 10K 5% 1/4W
R7	1-215-407-00	s METAL 270 1% 1/6W
R8	1-215-452-00	s METAL 20K 1% 1/6W
R9	1-215-452-00	s METAL 20K 1% 1/6W
R12	1-249-437-11	s CARBON 47K 5% 1/4W
R13	1-249-429-11	s CARBON 10K 5% 1/4W
R22	1-249-427-11	s CARBON 6.8K 5% 1/4W
R27	1-249-427-11	s CARBON 6.8K 5% 1/4W
R28	1-249-441-11	s CARBON 100K 5% 1/4W
R29	1-249-417-11	s CARBON 1K 5% 1/4W
R30	1-249-417-11	s CARBON 1K 5% 1/4W
R31	1-247-843-11	s CARBON 3.3K 5% 1/4W
R32	1-247-843-11	s CARBON 3.3K 5% 1/4W
R33	1-249-401-11	s CARBON 47 5% 1/4W
R34	1-249-441-11	s CARBON 100K 5% 1/4W
R35	1-249-417-11	s CARBON 1K 5% 1/4W
R36	1-249-417-11	s CARBON 1K 5% 1/4W
R37	1-247-843-11	s CARBON 3.3K 5% 1/4W
R38	1-249-441-11	s CARBON 100K 5% 1/4W
R39	1-249-401-11	s CARBON 47 5% 1/4W
R40	1-249-427-11	s CARBON 6.8K 5% 1/4W
R41	1-247-843-11	s CARBON 3.3K 5% 1/4W
R42	1-249-420-11	s CARBON 1.8K 5% 1/4W
R43	1-249-426-11	s CARBON 5.6K 5% 1/4W
R44	1-249-417-11	s CARBON 1K 5% 1/4W
R45	1-249-435-11	s CARBON 33K 5% 1/4W
R46	1-249-441-11	s CARBON 100K 5% 1/4W
R47	1-249-417-11	s CARBON 1K 5% 1/4W
R48	1-249-417-11	s CARBON 1K 5% 1/4W
R49	1-249-431-11	s CARBON 15K 5% 1/4W
R50	1-249-441-11	s CARBON 100K 5% 1/4W
R51	1-247-807-31	s CARBON 100 5% 1/4W
R52	1-249-429-11	s CARBON 10K 5% 1/4W
R53	1-247-863-91	s CARBON 22K 5% 1/4W
R54	1-247-863-91	s CARBON 22K 5% 1/4W
R55	1-249-431-11	s CARBON 15K 5% 1/4W
R60	1-247-791-91	s CARBON 22 5% 1/4W
R61	1-247-791-91	s CARBON 22 5% 1/4W
RV701	1-238-926-11	s RES, VAR CARBON 20Kx2
RV702	1-238-925-11	s RES, VAR CARBON 20K
S706	1-570-372-11	s SWITCH, PUSH
S707	1-570-372-11	s SWITCH, PUSH

CN-567A BOARD

Ref. No. or Q'ty	Part No.	SP Description
2pcs	A-8316-216-A	o MOUNTED CIRCUIT BOARD, CN-567A (This assembly includes the following parts.)
1pc	3-176-783-01	o PANEL (2), REAR SUB
4pcs	7-682-548-04	s SCREW +B 3X8
1pc	7-685-647-79	s SCREW +BVTP 3X10
C1	1-161-772-11	s CERAMIC 0.1uF 10% 25V
CN1	1-506-476-11	s CONNECTOR, 11P, MALE
CN2	1-564-011-11	o CONNECTOR 12P, MALE
CN11	1-569-373-11	s CONNECTOR, XLR 3P, MALE
CN12	1-569-373-11	s CONNECTOR, XLR 3P, MALE
J2	1-569-378-11	s JACK, PIN 4P, FEMALE

CN-1406 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-667-276-11	o PRINTED CIRCUIT BOARD, CN-1406
CN1	1-506-473-11	s CONNECTOR 8P, MALE
CN2	1-563-508-11	s CONNECTOR, DIN 8P

IPM-31A BOARD

Ref. No. or Q'ty	Part No.	SP	Description
6pcs (This assembly includes	A-8315-827-A	o	MOUNTED CIRCUIT BOARD, IPM-31A the following parts.)
1pc	A-8316-366-A	s	FADER ASSY
1pc	3-176-782-02	o	PANEL (1), REAR SUB
1pc	3-176-794-01	o	PANEL (1), SUB
4pcs	7-682-548-04	s	SCREW +B 3X8
5pcs	7-682-947-01	s	SCREW +PSW 3X6
1pc	7-685-647-79	s	SCREW +BVTP 3X10
C100	1-126-947-11	s	ELECT 47uF 20% 35V
C101	1-102-959-00	s	CERAMIC 22PF 5% 50V
C102	1-126-947-11	s	ELECT 47uF 20% 35V
C103	1-126-947-11	s	ELECT 47uF 20% 35V
C104	1-126-947-11	s	ELECT 47uF 20% 35V
C105	1-102-959-00	s	CERAMIC 22PF 5% 50V
C106	1-102-959-00	s	CERAMIC 22PF 5% 50V
C107	1-126-947-11	s	ELECT 47uF 20% 35V
C108	1-102-959-00	s	CERAMIC 22PF 5% 50V
C109	1-126-934-11	s	ELECT 220uF 20% 16V
C110	1-126-947-11	s	ELECT 47uF 20% 35V
C111	1-128-551-11	s	ELECT 22uF 20% 63V
C112	1-128-551-11	s	ELECT 22uF 20% 63V
C113	1-128-551-11	s	ELECT 22uF 20% 63V
C114	1-130-475-00	s	MYLAR 0.0022uF 5% 50V
C115	1-130-475-00	s	MYLAR 0.0022uF 5% 50V
C116	1-130-475-00	s	MYLAR 0.0022uF 5% 50V
C117	1-102-973-00	s	CERAMIC 100PF 5% 50V
C118	1-126-947-11	s	ELECT 47uF 20% 35V
C119	1-126-924-11	s	ELECT 330uF 20% 10V
C120	1-102-973-00	s	CERAMIC 100PF 5% 50V
C121	1-102-959-00	s	CERAMIC 22PF 5% 50V
C122	1-130-491-00	s	MYLAR 0.047uF 5% 50V
C123	1-130-491-00	s	MYLAR 0.047uF 5% 50V
C124	1-126-947-11	s	ELECT 47uF 20% 35V
C125	1-102-959-00	s	CERAMIC 22PF 5% 50V
C126	1-102-959-00	s	CERAMIC 22PF 5% 50V
C127	1-130-493-00	s	MYLAR 0.068uF 5% 50V
C128	1-130-487-00	s	MYLAR 0.022uF 5% 50V
C129	1-130-495-00	s	MYLAR 0.1uF 5% 50V
C130	1-136-502-11	s	MYLAR 0.33uF 5% 50V
C131	1-102-959-00	s	CERAMIC 22PF 5% 50V
C132	1-130-487-00	s	MYLAR 0.022uF 5% 50V
C133	1-130-487-00	s	MYLAR 0.022uF 5% 50V
C135	1-126-947-11	s	ELECT 47uF 20% 35V
C136	1-130-471-00	s	MYLAR 0.001uF 5% 50V
C138	1-102-959-00	s	CERAMIC 22PF 5% 50V
C139	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C140	1-126-947-11	s	ELECT 47uF 20% 35V
C141	1-126-947-11	s	ELECT 47uF 20% 35V
C142	1-126-960-11	s	ELECT 1uF 20% 50V
C143	1-126-934-11	s	ELECT 220uF 20% 16V
C144	1-128-551-11	s	ELECT 22uF 20% 63V
C145	1-126-947-11	s	ELECT 47uF 20% 35V
C146	1-126-947-11	s	ELECT 47uF 20% 35V
C147	1-126-947-11	s	ELECT 47uF 20% 35V
C148	1-126-947-11	s	ELECT 47uF 20% 35V
C151	1-124-463-00	s	ELECT 0.1uF 20% 50V
C152	1-126-963-11	s	ELECT 4.7uF 20% 50V
C153	1-130-483-00	s	MYLAR 0.01uF 5% 50V

(IPM-31A BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C155	1-130-477-00	s	MYLAR 0.0033uF 5% 50V
C156	1-126-947-11	s	ELECT 47uF 20% 35V
C157	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C201-218	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C219	1-126-947-11	s	ELECT 47uF 20% 35V
C220	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C221	1-126-947-11	s	ELECT 47uF 20% 35V
C222	1-126-947-11	s	ELECT 47uF 20% 35V
C223	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C224	1-126-947-11	s	ELECT 47uF 20% 35V
CN101	1-569-375-11	s	CONNECTOR NRD 16P, MALE
CN102	1-569-375-11	s	CONNECTOR NRD 16P, MALE
CN103	1-506-484-11	s	CONNECTOR 5P, MALE
CN104	1-564-002-11	s	CONNECTOR 3P, MALE
CN105	1-566-853-11	o	CONNECTOR XLR, 3P, FEMALE
CN106	1-566-853-11	o	CONNECTOR XLR, 3P, FEMALE
D101	8-719-911-19	s	DIODE 1SS119
D102	8-719-911-19	s	DIODE 1SS119
D103	8-719-911-19	s	DIODE 1SS119
D104	8-719-911-19	s	DIODE 1SS119
D105	8-719-812-41	s	LED TLR124, RED
D106-110	8-719-911-19	s	DIODE 1SS119
D111	8-719-812-41	s	LED TLR124, RED
D113	8-719-911-19	s	DIODE 1SS119
D114	8-719-110-03	s	DIODE RD7.5ES-B2
IC100	8-759-981-96	s	IC RC4560D
-105			
IC108	8-759-988-97	s	IC DBX2155
IC109	8-759-912-77	s	IC LM324N
IC110	8-759-912-77	s	IC LM324N
J100	1-565-406-61	s	JACK, PIN 1P, FEMALE
Q101	8-729-908-62	s	TRANSISTOR 2SD786-R
Q102	8-729-908-62	s	TRANSISTOR 2SD786-R
Q103	8-729-119-78	s	TRANSISTOR 2SC2785-HFE
R1	1-249-430-11	s	CARBON 12K 5% 1/4W
R2	1-247-883-00	s	CARBON 150K 5% 1/4W
R3	1-247-883-00	s	CARBON 150K 5% 1/4W
R4	1-249-438-11	s	CARBON 56K 5% 1/4W
R5	1-247-807-31	s	CARBON 100 5% 1/4W
R6	1-247-863-91	s	CARBON 22K 5% 1/4W
R7	1-215-445-00	s	METAL 10K 1% 1/6W
R8	1-215-452-00	s	METAL 20K 1% 1/6W
R9	1-215-452-00	s	METAL 20K 1% 1/6W
R10	1-247-863-91	s	CARBON 22K 5% 1/4W
R11	1-215-452-00	s	METAL 20K 1% 1/6W
R12	1-215-452-00	s	METAL 20K 1% 1/6W
R13	1-249-417-11	s	CARBON 1K 5% 1/4W
R14	1-215-428-00	s	METAL 2K 1% 1/6W
R15	1-215-428-00	s	METAL 2K 1% 1/6W
R16	1-215-421-00	s	METAL 1K 1% 1/6W
R17	1-249-429-11	s	CARBON 10K 5% 1/4W
R18	1-247-863-91	s	CARBON 22K 5% 1/4W
R19	1-249-441-11	s	CARBON 100K 5% 1/4W
R20	1-247-863-91	s	CARBON 22K 5% 1/4W

(IPM-31A BOARD)

Ref. No. or Q'ty	Part No.	SP Description
R21	1-215-442-00	s METAL 7.5K 1% 1/6W
R22	1-249-411-11	s CARBON 330 5% 1/4W
R23	1-247-863-91	s CARBON 22K 5% 1/4W
R24	1-215-466-00	s METAL 75K 1% 1/6W
R28	1-249-418-11	s CARBON 1.2K 5% 1/4W
R29	1-249-441-11	s CARBON 100K 5% 1/4W
R30	1-247-863-91	s CARBON 22K 5% 1/4W
R31	1-215-438-00	s METAL 5.1K 1% 1/6W
R34	1-215-438-00	s METAL 5.1K 1% 1/6W
R100	1-249-441-11	s CARBON 100K 5% 1/4W
R101	1-249-441-11	s CARBON 100K 5% 1/4W
R102	1-249-417-11	s CARBON 1K 5% 1/4W
R103	1-249-428-11	s CARBON 8.2K 5% 1/4W
R104	1-215-442-00	s METAL 7.5K 1% 1/6W
R105	1-247-863-91	s CARBON 22K 5% 1/4W
R106	1-249-441-11	s CARBON 100K 5% 1/4W
R107	1-249-441-11	s CARBON 100K 5% 1/4W
R108	1-215-455-00	s METAL 27K 1% 1/6W
R109	1-215-455-00	s METAL 27K 1% 1/6W
R110	1-215-445-00	s METAL 10K 1% 1/6W
R111	1-215-445-00	s METAL 10K 1% 1/6W
R112	1-247-863-91	s CARBON 22K 5% 1/4W
R113	1-249-422-11	s CARBON 2.7K 5% 1/4W
R114	1-215-433-00	s METAL 3.3K 1% 1/6W
R115	1-215-400-00	s METAL 130 1% 1/6W
R116	1-215-438-00	s METAL 5.1K 1% 1/6W
R117	1-247-863-91	s CARBON 22K 5% 1/4W
R118	1-215-441-00	s METAL 6.8K 1% 1/6W
R119	1-215-441-00	s METAL 6.8K 1% 1/6W
R120	1-249-413-11	s CARBON 470 5% 1/4W
R121	1-247-791-91	s CARBON 22 5% 1/4W
R122	1-247-791-91	s CARBON 22 5% 1/4W
R123	1-249-441-11	s CARBON 100K 5% 1/4W
R124	1-249-441-11	s CARBON 100K 5% 1/4W
R125	1-249-441-11	s CARBON 100K 5% 1/4W
R126	1-249-441-11	s CARBON 100K 5% 1/4W
R127	1-249-429-11	s CARBON 10K 5% 1/4W
R128	1-215-398-00	s METAL 110 1% 1/6W
R129	1-247-807-31	s CARBON 100 5% 1/4W
R130	1-215-429-00	s METAL 2.2K 1% 1/6W
R131	1-215-450-00	s METAL 16K 1% 1/6W
R132	1-215-429-00	s METAL 2.2K 1% 1/6W
R133	1-247-815-91	s CARBON 220 5% 1/4W
R134	1-215-448-00	s METAL 13K 1% 1/6W
R135	1-215-448-00	s METAL 13K 1% 1/6W
R136	1-249-437-11	s CARBON 47K 5% 1/4W
R137	1-247-863-91	s CARBON 22K 5% 1/4W
R138	1-249-441-11	s CARBON 100K 5% 1/4W
R139	1-247-863-91	s CARBON 22K 5% 1/4W
R140	1-249-437-11	s CARBON 47K 5% 1/4W
R141	1-249-417-11	s CARBON 1K 5% 1/4W
R142	1-247-863-91	s CARBON 22K 5% 1/4W
R143	1-249-429-11	s CARBON 10K 5% 1/4W
R144	1-249-429-11	s CARBON 10K 5% 1/4W
R145	1-249-401-11	s CARBON 47 5% 1/4W
R146	1-249-401-11	s CARBON 47 5% 1/4W
R147	1-249-441-11	s CARBON 100K 5% 1/4W
R148	1-249-429-11	s CARBON 10K 5% 1/4W
R149	1-249-429-11	s CARBON 10K 5% 1/4W

(IPM-31A BOARD)

Ref. No. or Q'ty	Part No.	SP Description
R150	1-215-414-00	s METAL 510 1% 1/6W
R151	1-215-414-00	s METAL 510 1% 1/6W
R152	1-247-843-11	s CARBON 3.3K 5% 1/4W
R153	1-247-843-11	s CARBON 3.3K 5% 1/4W
R154	1-249-437-11	s CARBON 47K 5% 1/4W
R155	1-249-401-11	s CARBON 47 5% 1/4W
R156	1-249-401-11	s CARBON 47 5% 1/4W
R157	1-247-843-11	s CARBON 3.3K 5% 1/4W
R158	1-247-843-11	s CARBON 3.3K 5% 1/4W
R159	1-249-437-11	s CARBON 47K 5% 1/4W
R160	1-215-408-00	s METAL 300 1% 1/6W
R161	1-249-441-11	s CARBON 100K 5% 1/4W
R162	1-249-429-11	s CARBON 10K 5% 1/4W
R163	1-249-429-11	s CARBON 10K 5% 1/4W
R164	1-215-408-00	s METAL 300 1% 1/6W
R165	1-249-429-11	s CARBON 10K 5% 1/4W
R166	1-247-863-91	s CARBON 22K 5% 1/4W
R167	1-249-424-11	s CARBON 3.9K 5% 1/4W
R168	1-249-424-11	s CARBON 3.9K 5% 1/4W
R169	1-249-429-11	s CARBON 10K 5% 1/4W
R170	1-247-863-91	s CARBON 22K 5% 1/4W
R171	1-247-863-91	s CARBON 22K 5% 1/4W
R172	1-249-429-11	s CARBON 10K 5% 1/4W
R173	1-249-401-11	s CARBON 47 5% 1/4W
R174	1-247-895-91	s CARBON 470K 5% 1/4W
R175	1-249-401-11	s CARBON 47 5% 1/4W
R176	1-215-436-00	s METAL 4.3K 1% 1/6W
R177	1-249-401-11	s CARBON 47 5% 1/4W
R178	1-247-863-91	s CARBON 22K 5% 1/4W
R180	1-247-863-91	s CARBON 22K 5% 1/4W
R181	1-249-417-11	s CARBON 1K 5% 1/4W
R182	1-249-417-11	s CARBON 1K 5% 1/4W
R183	1-215-438-00	s METAL 5.1K 1% 1/6W
R184	1-215-438-00	s METAL 5.1K 1% 1/6W
R187	1-249-421-11	s CARBON 2.2K 5% 1/4W
R188	1-249-421-11	s CARBON 2.2K 5% 1/4W
R189	1-247-863-91	s CARBON 22K 5% 1/4W
R191	1-249-430-11	s CARBON 12K 5% 1/4W
R192	1-247-863-91	s CARBON 22K 5% 1/4W
R193	1-249-420-11	s CARBON 1.8K 5% 1/4W
R194	1-249-421-11	s CARBON 2.2K 5% 1/4W
R195	1-249-421-11	s CARBON 2.2K 5% 1/4W
R196	△ 1-212-863-61	s RES, FUSIBLE 18 5% 1/4W
R197	△ 1-212-863-61	s RES, FUSIBLE 18 5% 1/4W
R201	1-249-420-11	s CARBON 1.8K 5% 1/4W
R202	1-247-815-91	s CARBON 220 5% 1/4W
R252	1-249-417-11	s CARBON 1K 5% 1/4W
RV100	1-241-955-11	s RES, VAR CARBON 20K/5K
RV101	1-241-952-11	s RES, VAR CARBON 5Kx2/10Kx2
RV102	1-241-952-11	s RES, VAR CARBON 5Kx2/10Kx2
RV105	1-238-923-11	s RES, VAR CARBON 100K
RV106	1-238-923-11	s RES, VAR CARBON 100K
RV107	1-241-961-11	s RES, VAR CARBON 5Kx2
RV108	1-241-962-11	s RES, VAR CARBON 20K
RV109	1-241-962-11	s RES, VAR CARBON 20K
RV111	1-238-787-11	s RES, ADJ METAL 10K
RV112	1-238-789-11	s RES, ADJ METAL 50K
S101	1-572-260-11	s SWITCH, ROTARY

(IPM-31A BOARD)

Ref. No. or Q'ty	Part No.	SP Description
S102-106	1-554-472-00	s SWITCH, PUSH
S110	1-554-115-11	s SWITCH, PUSH
S111	1-692-194-11	s SWITCH, PUSH
S113	1-554-472-00	s SWITCH, PUSH

IPM-32A BOARD

Ref. No. or Q'ty	Part No.	SP Description
6pcs	A-8315-828-A	o MOUNTED CIRCUIT BOARD, IPM-32A (This assembly includes the following parts.)
1pc	3-176-782-02	o PANEL (1), REAR SUB
1pc	3-176-795-01	o PANEL (2), SUB
3pcs	3-847-356-02	o CLAMP
4pcs	7-682-548-04	s SCREW +B 3X8
5pcs	7-682-947-01	s SCREW +PSW 3X6
1pc	7-685-647-79	s SCREW +BVTP 3X10
C200	1-126-947-11	s ELECT 47uF 20% 35V
C201	1-102-959-00	s CERAMIC 22PF 5% 50V
C202	1-126-947-11	s ELECT 47uF 20% 35V
C203	1-102-959-00	s CERAMIC 22PF 5% 50V
C204	1-126-947-11	s ELECT 47uF 20% 35V
C205	1-126-947-11	s ELECT 47uF 20% 35V
C206	1-126-947-11	s ELECT 47uF 20% 35V
C207	1-102-959-00	s CERAMIC 22PF 5% 50V
C208	1-102-959-00	s CERAMIC 22PF 5% 50V
C209	1-126-947-11	s ELECT 47uF 20% 35V
C210	1-126-947-11	s ELECT 47uF 20% 35V
C211	1-102-959-00	s CERAMIC 22PF 5% 50V
C212	1-126-947-11	s ELECT 47uF 20% 35V
C213	1-102-959-00	s CERAMIC 22PF 5% 50V
C214	1-126-947-11	s ELECT 47uF 20% 35V
C216	1-126-947-11	s ELECT 47uF 20% 35V
C217	1-102-959-00	s CERAMIC 22PF 5% 50V
C218	1-126-947-11	s ELECT 47uF 20% 35V
C219	1-102-959-00	s CERAMIC 22PF 5% 50V
C220	1-126-934-11	s ELECT 220uF 20% 16V
C221	1-126-947-11	s ELECT 47uF 20% 35V
C222	1-102-959-00	s CERAMIC 22PF 5% 50V
C223	1-126-934-11	s ELECT 220uF 20% 16V
C224	1-126-947-11	s ELECT 47uF 20% 35V
C225	1-102-959-00	s CERAMIC 22PF 5% 50V
C226	1-126-934-11	s ELECT 220uF 20% 16V
C227	1-102-959-00	s CERAMIC 22PF 5% 50V
C228	1-126-934-11	s ELECT 220uF 20% 16V
C229	1-130-491-00	s MYLAR 0.047uF 5% 50V
C230	1-130-491-00	s MYLAR 0.047uF 5% 50V
C231	1-130-491-00	s MYLAR 0.047uF 5% 50V
C232	1-130-491-00	s MYLAR 0.047uF 5% 50V
C233	1-136-502-11	s MYLAR 0.33uF 5% 50V
C234	1-130-495-00	s MYLAR 0.1uF 5% 50V
C236	1-130-477-00	s MYLAR 0.0033uF 5% 50V
C237	1-130-487-00	s MYLAR 0.022uF 5% 50V
C238	1-130-487-00	s MYLAR 0.022uF 5% 50V
C239	1-126-947-11	s ELECT 47uF 20% 35V
C240	1-136-502-11	s MYLAR 0.33uF 5% 50V
C241	1-130-495-00	s MYLAR 0.1uF 5% 50V
C242	1-102-959-00	s CERAMIC 22PF 5% 50V
C243	1-130-477-00	s MYLAR 0.0033uF 5% 50V
C245	1-130-487-00	s MYLAR 0.022uF 5% 50V
C246	1-130-487-00	s MYLAR 0.022uF 5% 50V
C247	1-126-947-11	s ELECT 47uF 20% 35V
C248	1-130-471-00	s MYLAR 0.001uF 5% 50V
C250	1-130-483-00	s MYLAR 0.01uF 5% 50V
C251	1-126-947-11	s ELECT 47uF 20% 35V
C252	1-102-959-00	s CERAMIC 22PF 5% 50V
C253	1-126-947-11	s ELECT 47uF 20% 35V

(IPM-32A BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C254	1-126-947-11	s	ELECT 47uF 20% 35V
C255	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C256	1-126-947-11	s	ELECT 47uF 20% 35V
C257	1-130-471-00	s	MYLAR 0.001uF 5% 50V
C258	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C259	1-126-947-11	s	ELECT 47uF 20% 35V
C260	1-126-947-11	s	ELECT 47uF 20% 35V
C261	1-102-959-00	s	CERAMIC 22PF 5% 50V
C262	1-126-947-11	s	ELECT 47uF 20% 35V
C263	1-126-947-11	s	ELECT 47uF 20% 35V
C264	1-126-947-11	s	ELECT 47uF 20% 35V
C265	1-126-960-11	s	ELECT 1uF 20% 50V
C266	1-126-947-11	s	ELECT 47uF 20% 35V
C267	1-126-947-11	s	ELECT 47uF 20% 35V
C268	1-126-947-11	s	ELECT 47uF 20% 35V
C269	1-126-947-11	s	ELECT 47uF 20% 35V
C270	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C271	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C275	1-102-959-00	s	CERAMIC 22PF 5% 50V
C276	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C277	1-126-947-11	s	ELECT 47uF 20% 35V
C278	1-102-959-00	s	CERAMIC 22PF 5% 50V
C279	1-126-947-11	s	ELECT 47uF 20% 35V
C281	1-102-959-00	s	CERAMIC 22PF 5% 50V
C282	1-124-463-00	s	ELECT 0.1uF 20% 50V
C283	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C284	1-126-963-11	s	ELECT 4.7uF 20% 50V
C301	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C302	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C313	1-126-947-11	s	ELECT 47uF 20% 35V
C314	1-126-934-11	s	ELECT 220uF 20% 16V
C317	1-126-947-11	s	ELECT 47uF 20% 35V
C318	1-126-947-11	s	ELECT 47uF 20% 35V
C319	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C400	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C401	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C406	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C407	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C410	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C411	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C412	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C413	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C420	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C421	1-130-483-00	s	MYLAR 0.01uF 5% 50V
CN201	1-569-375-11	s	CONNECTOR NRD 16P, MALE
CN202	1-569-375-11	s	CONNECTOR NRD 16P, MALE
CN203	1-506-484-11	s	CONNECTOR 5P, MALE
CN204	1-564-002-11	s	CONNECTOR 3P, MALE
CN205	1-566-853-11	o	CONNECTOR XLR, 3P, FEMALE
CN206	1-566-853-11	o	CONNECTOR XLR, 3P, FEMALE
D201	8-719-911-19	s	DIODE 1SS119
D202	8-719-110-03	s	DIODE RD7.5ES-B2
D209	8-719-911-19	s	DIODE 1SS119
D210	8-719-812-41	s	LED TLR124, RED
D211	8-719-812-41	s	LED TLR124, RED
D212-216	8-719-911-19	s	DIODE 1SS119

(IPM-32A BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC200	8-759-981-96	s	IC RC4560D
-210			
IC214	8-759-912-77	s	IC LM324N
IC215	8-759-912-77	s	IC LM324N
IC216	8-759-988-97	s	IC DBX2155
IC217	8-759-988-97	s	IC DBX2155
J200	1-569-377-11	s	JACK, PIN 2P, FEMALE
Q1	8-729-119-78	s	TRANSISTOR 2SC2785-HFE
R1	1-249-401-11	s	CARBON 47 5% 1/4W
R2	1-247-895-91	s	CARBON 470K 5% 1/4W
R3	1-249-401-11	s	CARBON 47 5% 1/4W
R5	1-215-453-00	s	METAL 22K 1% 1/6W
R7	1-249-401-11	s	CARBON 47 5% 1/4W
R8	1-215-436-00	s	METAL 4.3K 1% 1/6W
R9	1-247-863-91	s	CARBON 22K 5% 1/4W
R10	1-249-429-11	s	CARBON 10K 5% 1/4W
R11	1-215-445-00	s	METAL 10K 1% 1/6W
R12	1-247-863-91	s	CARBON 22K 5% 1/4W
R13	1-249-429-11	s	CARBON 10K 5% 1/4W
R14	1-247-863-91	s	CARBON 22K 5% 1/4W
R15	1-215-445-00	s	METAL 10K 1% 1/6W
R16	1-249-417-11	s	CARBON 1K 5% 1/4W
R17	1-215-438-00	s	METAL 5.1K 1% 1/6W
R18	1-215-438-00	s	METAL 5.1K 1% 1/6W
R21	1-249-413-11	s	CARBON 470 5% 1/4W
R22	1-249-413-11	s	CARBON 470 5% 1/4W
R23	1-249-419-11	s	CARBON 1.5K 5% 1/4W
R24	1-249-419-11	s	CARBON 1.5K 5% 1/4W
R25	1-247-863-91	s	CARBON 22K 5% 1/4W
R26	1-247-863-91	s	CARBON 22K 5% 1/4W
R31	1-247-863-91	s	CARBON 22K 5% 1/4W
R32	1-247-863-91	s	CARBON 22K 5% 1/4W
R33	1-249-430-11	s	CARBON 12K 5% 1/4W
R34	1-249-430-11	s	CARBON 12K 5% 1/4W
R35	1-249-420-11	s	CARBON 1.8K 5% 1/4W
R36	1-249-381-11	s	CARBON 1 5% 1/4W
R38	1-247-863-91	s	CARBON 22K 5% 1/4W
R39	1-247-863-91	s	CARBON 22K 5% 1/4W
R40	1-247-863-91	s	CARBON 22K 5% 1/4W
R41	1-249-420-11	s	CARBON 1.8K 5% 1/4W
R42	1-249-417-11	s	CARBON 1K 5% 1/4W
R44	△ 1-212-863-61	s	RES, FUSIBLE 18 5% 1/4W
R45	△ 1-212-863-61	s	RES, FUSIBLE 18 5% 1/4W
R46	△ 1-212-863-61	s	RES, FUSIBLE 18 5% 1/4W
R47	△ 1-212-863-61	s	RES, FUSIBLE 18 5% 1/4W
R54	1-247-883-00	s	CARBON 150K 5% 1/4W
R55	1-247-883-00	s	CARBON 150K 5% 1/4W
R58	1-249-441-11	s	CARBON 100K 5% 1/4W
R59	1-247-807-31	s	CARBON 100 5% 1/4W
R60	1-215-428-00	s	METAL 2K 1% 1/6W
R61	1-215-452-00	s	METAL 20K 1% 1/6W
R63	1-215-445-00	s	METAL 10K 1% 1/6W
R64	1-215-452-00	s	METAL 20K 1% 1/6W
R65	1-215-452-00	s	METAL 20K 1% 1/6W
R66	1-215-452-00	s	METAL 20K 1% 1/6W
R67	1-215-421-00	s	METAL 1K 1% 1/6W
R68	1-215-428-00	s	METAL 2K 1% 1/6W
R69	1-249-417-11	s	CARBON 1K 5% 1/4W

(IPM-32A BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R70	1-249-429-11	s	CARBON 10K 5% 1/4W
R71	1-247-863-91	s	CARBON 22K 5% 1/4W
R72	1-249-441-11	s	CARBON 100K 5% 1/4W
R73	1-247-863-91	s	CARBON 22K 5% 1/4W
R74	1-215-442-00	s	METAL 7.5K 1% 1/6W
R75	1-249-411-11	s	CARBON 330 5% 1/4W
R76	1-215-466-00	s	METAL 75K 1% 1/6W
R77	1-247-863-91	s	CARBON 22K 5% 1/4W
R78	1-247-863-91	s	CARBON 22K 5% 1/4W
R79	1-247-863-91	s	CARBON 22K 5% 1/4W
R83	1-249-418-11	s	CARBON 1.2K 5% 1/4W
R84	1-249-430-11	s	CARBON 12K 5% 1/4W
R85	1-247-863-91	s	CARBON 22K 5% 1/4W
R87	1-247-863-91	s	CARBON 22K 5% 1/4W
R89	1-249-441-11	s	CARBON 100K 5% 1/4W
R200	1-249-441-11	s	CARBON 100K 5% 1/4W
R201	1-249-441-11	s	CARBON 100K 5% 1/4W
R202	1-249-417-11	s	CARBON 1K 5% 1/4W
R203	1-249-429-11	s	CARBON 10K 5% 1/4W
R204	1-215-444-00	s	METAL 9.1K 1% 1/6W
R205	1-249-426-11	s	CARBON 5.6K 5% 1/4W
R206	1-249-426-11	s	CARBON 5.6K 5% 1/4W
R207	1-247-863-91	s	CARBON 22K 5% 1/4W
R208	1-249-441-11	s	CARBON 100K 5% 1/4W
R209	1-249-441-11	s	CARBON 100K 5% 1/4W
R210	1-215-455-00	s	METAL 27K 1% 1/6W
R211	1-215-455-00	s	METAL 27K 1% 1/6W
R212	1-215-445-00	s	METAL 10K 1% 1/6W
R213	1-247-863-91	s	CARBON 22K 5% 1/4W
R214	1-249-441-11	s	CARBON 100K 5% 1/4W
R215	1-249-441-11	s	CARBON 100K 5% 1/4W
R216	1-249-417-11	s	CARBON 1K 5% 1/4W
R217	1-249-429-11	s	CARBON 10K 5% 1/4W
R218	1-215-444-00	s	METAL 9.1K 1% 1/6W
R219	1-247-863-91	s	CARBON 22K 5% 1/4W
R220	1-249-441-11	s	CARBON 100K 5% 1/4W
R221	1-249-441-11	s	CARBON 100K 5% 1/4W
R222	1-215-455-00	s	METAL 27K 1% 1/6W
R223	1-215-455-00	s	METAL 27K 1% 1/6W
R224	1-215-445-00	s	METAL 10K 1% 1/6W
R225	1-215-445-00	s	METAL 10K 1% 1/6W
R226	1-247-863-91	s	CARBON 22K 5% 1/4W
R227	1-249-422-11	s	CARBON 2.7K 5% 1/4W
R228	1-215-432-00	s	METAL 3K 1% 1/6W
R229	1-249-406-11	s	CARBON 120 5% 1/4W
R230	1-215-438-00	s	METAL 5.1K 1% 1/6W
R231	1-249-422-11	s	CARBON 2.7K 5% 1/4W
R232	1-215-432-00	s	METAL 3K 1% 1/6W
R233	1-249-406-11	s	CARBON 120 5% 1/4W
R234	1-215-438-00	s	METAL 5.1K 1% 1/6W
R235	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R236	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R237	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R239	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R240	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R241	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R243	1-249-419-11	s	CARBON 1.5K 5% 1/4W
R244	1-249-419-11	s	CARBON 1.5K 5% 1/4W
R245	1-215-436-00	s	METAL 4.3K 1% 1/6W

(IPM-32A BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R246	1-215-436-00	s	METAL 4.3K 1% 1/6W
R247	1-249-441-11	s	CARBON 100K 5% 1/4W
R248	1-247-863-91	s	CARBON 22K 5% 1/4W
R249	1-249-437-11	s	CARBON 47K 5% 1/4W
R250	1-249-417-11	s	CARBON 1K 5% 1/4W
R251	1-247-863-91	s	CARBON 22K 5% 1/4W
R252	1-249-441-11	s	CARBON 100K 5% 1/4W
R253	1-247-863-91	s	CARBON 22K 5% 1/4W
R254	1-249-437-11	s	CARBON 47K 5% 1/4W
R255	1-249-417-11	s	CARBON 1K 5% 1/4W
R256	1-247-863-91	s	CARBON 22K 5% 1/4W
R257	1-249-401-11	s	CARBON 47 5% 1/4W
R258	1-249-401-11	s	CARBON 47 5% 1/4W
R259	1-249-429-11	s	CARBON 10K 5% 1/4W
R260	1-249-441-11	s	CARBON 100K 5% 1/4W
R261	1-249-429-11	s	CARBON 10K 5% 1/4W
R262	1-215-402-00	s	METAL 160 1% 1/6W
R263	1-215-402-00	s	METAL 160 1% 1/6W
R264	1-247-843-11	s	CARBON 3.3K 5% 1/4W
R265	1-247-843-11	s	CARBON 3.3K 5% 1/4W
R266	1-249-437-11	s	CARBON 47K 5% 1/4W
R267	1-249-420-11	s	CARBON 1.8K 5% 1/4W
R268	1-249-420-11	s	CARBON 1.8K 5% 1/4W
R269	1-249-429-11	s	CARBON 10K 5% 1/4W
R270	1-249-429-11	s	CARBON 10K 5% 1/4W
R271	1-247-863-91	s	CARBON 22K 5% 1/4W
R272	1-249-401-11	s	CARBON 47 5% 1/4W
R273	1-249-401-11	s	CARBON 47 5% 1/4W
R274	1-247-843-11	s	CARBON 3.3K 5% 1/4W
R275	1-247-843-11	s	CARBON 3.3K 5% 1/4W
R276	1-249-429-11	s	CARBON 10K 5% 1/4W
R277	1-249-429-11	s	CARBON 10K 5% 1/4W
R278	1-249-441-11	s	CARBON 100K 5% 1/4W
R279	1-215-402-00	s	METAL 160 1% 1/6W
R280	1-249-437-11	s	CARBON 47K 5% 1/4W
R281	1-215-402-00	s	METAL 160 1% 1/6W
R282	1-249-420-11	s	CARBON 1.8K 5% 1/4W
R283	1-249-420-11	s	CARBON 1.8K 5% 1/4W
R284	1-249-429-11	s	CARBON 10K 5% 1/4W
R285	1-249-429-11	s	CARBON 10K 5% 1/4W
R286	1-247-863-91	s	CARBON 22K 5% 1/4W
R287	1-247-863-91	s	CARBON 22K 5% 1/4W
R288	1-249-429-11	s	CARBON 10K 5% 1/4W
R289	1-249-401-11	s	CARBON 47 5% 1/4W
R290	1-247-895-91	s	CARBON 470K 5% 1/4W
R291	1-249-401-11	s	CARBON 47 5% 1/4W
R292	1-215-436-00	s	METAL 4.3K 1% 1/6W
R293	1-249-401-11	s	CARBON 47 5% 1/4W
R294	1-215-453-00	s	METAL 22K 1% 1/6W
R297	1-247-863-91	s	CARBON 22K 5% 1/4W
R298	1-247-863-91	s	CARBON 22K 5% 1/4W
R299	1-249-429-11	s	CARBON 10K 5% 1/4W
R300	1-215-445-00	s	METAL 10K 1% 1/6W
R301	1-249-417-11	s	CARBON 1K 5% 1/4W
RV200	1-241-957-11	s	RES, VAR CARBON 20Kx2
RV201	1-241-950-12	s	RES, VAR, CARBON 5Kx4
RV202	1-241-958-11	s	RES, VAR CARBON 10Kx2
RV203	1-241-960-11	s	RES, VAR CARBON 20Kx2
RV204	1-241-959-11	s	RES, VAR CARBON 100Kx2

(IPM-32A BOARD)

Ref. No. or Q'ty	Part No.	SP Description
RV209	1-241-961-11	s RES, VAR CARBON 5Kx2
RV210	1-241-961-11	s RES, VAR CARBON 5Kx2
RV211	1-241-956-11	s RES, VAR CARBON 20Kx2
RV213	1-238-787-11	s RES, ADJ METAL 10K
RV214	1-238-789-11	s RES, ADJ METAL 50K
RV215	1-238-789-11	s RES, ADJ METAL 50K
S200	1-692-189-11	s SWITCH, ROTARY
S201	1-554-472-00	s SWITCH, PUSH
S202	1-554-472-00	s SWITCH, PUSH
S203	1-554-472-00	s SWITCH, PUSH
S204	1-554-472-00	s SWITCH, PUSH
S206	1-692-188-11	s SWITCH, PUSH
S207	1-692-194-11	s SWITCH, PUSH
S208	1-554-472-00	s SWITCH, PUSH
S209	1-554-472-00	s SWITCH, PUSH
S210	1-554-472-00	s SWITCH, PUSH

LED-114A BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8315-832-A	o MOUNTED CIRCUIT BOARD, LED-114A (This assembly is included in the AA-60A board.)
1pc	T-9416-416-2	o IC GAL, IC1
1pc	T-9416-418-2	o IC GAL IC3
1pc	T-9416-419-2	o IC GAL, IC2
C1	1-126-947-11	s ELECT 47uF 20% 35V
C2	1-101-004-00	s CERAMIC 0.01uF 50V
C3	1-101-004-00	s CERAMIC 0.01uF 50V
C4	1-101-004-00	s CERAMIC 0.01uF 50V
C5	1-126-947-11	s ELECT 47uF 20% 35V
C6	1-101-004-00	s CERAMIC 0.01uF 50V
C7	1-101-004-00	s CERAMIC 0.01uF 50V
CB1	1-232-390-11	s CAPACITOR BLOCK 0.022x8
CB2	1-232-650-11	s CAPACITOR BLOCK 0.022x4
CN510	1-506-474-11	s CONNECTOR 9P, MALE
CN511	1-506-491-11	s CONNECTOR 12P, MALE
CNI1	1-526-656-00	s SOCKET, IC (DP) 20P
CNI2	1-526-656-00	s SOCKET, IC (DP) 20P
CNI3	1-526-656-00	s SOCKET, IC (DP) 20P
D1	8-719-812-42	s DIODE TLY124
D3	8-719-812-42	s DIODE TLY124
D5-10	8-719-812-42	s DIODE TLY124
D12	8-719-911-19	s DIODE 1SS119
R1	1-249-415-11	s CARBON 680 5% 1/4W
R3	1-249-415-11	s CARBON 680 5% 1/4W
R5-10	1-249-415-11	s CARBON 680 5% 1/4W
R12-23	1-249-429-11	s CARBON 10K 5% 1/4W
R24	1-247-863-91	s CARBON 22K 5% 1/4W
R25	1-249-429-11	s CARBON 10K 5% 1/4W
R26	1-249-429-11	s CARBON 10K 5% 1/4W
RB1	1-231-410-00	s RESISTOR BLOCK 10Kx8
RB2	1-231-533-00	s RESISTOR BLOCK 10Kx4

MT-69A BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8315-835-A	o	MOUNTED CIRCUIT BOARD, MT-69A (This assembly includes the following parts.)
C901	1-126-096-11	s	ELECT 10uF 20% 35V
C902	1-126-096-11	s	ELECT 10uF 20% 35V
C903	1-124-584-00	s	ELECT 100uF 20% 10V
C904	1-130-495-00	s	MYLAR 0.1uF 5% 50V
C905	1-124-584-00	s	ELECT 100uF 20% 10V
C906	1-126-096-11	s	ELECT 10uF 20% 35V
C907	1-126-096-11	s	ELECT 10uF 20% 35V
C921	1-126-096-11	s	ELECT 10uF 20% 35V
C922	1-126-096-11	s	ELECT 10uF 20% 35V
C923	1-124-584-00	s	ELECT 100uF 20% 10V
C924	1-130-495-00	s	MYLAR 0.1uF 5% 50V
C925	1-124-584-00	s	ELECT 100uF 20% 10V
C926	1-126-096-11	s	ELECT 10uF 20% 35V
C927	1-126-096-11	s	ELECT 10uF 20% 35V
C941	1-126-096-11	s	ELECT 10uF 20% 35V
C942	1-126-096-11	s	ELECT 10uF 20% 35V
C943	1-124-584-00	s	ELECT 100uF 20% 10V
C944	1-130-495-00	s	MYLAR 0.1uF 5% 50V
C945	1-124-584-00	s	ELECT 100uF 20% 10V
C946	1-126-096-11	s	ELECT 10uF 20% 35V
C947	1-126-096-11	s	ELECT 10uF 20% 35V
C961	1-126-096-11	s	ELECT 10uF 20% 35V
C962	1-126-096-11	s	ELECT 10uF 20% 35V
C963	1-124-584-00	s	ELECT 100uF 20% 10V
C964	1-130-495-00	s	MYLAR 0.1uF 5% 50V
C965	1-124-584-00	s	ELECT 100uF 20% 10V
C966	1-126-096-11	s	ELECT 10uF 20% 35V
C967	1-126-096-11	s	ELECT 10uF 20% 35V
C981	1-101-004-00	s	CERAMIC 0.01uF 50V
C982	1-101-004-00	s	CERAMIC 0.01uF 50V
C983	1-124-589-11	s	ELECT 47uF 20% 16V
C984	1-126-157-11	s	ELECT 10uF 20% 16V
CN901	1-564-014-11	s	CONNECTOR 4P, MALE
CN902	1-506-489-11	s	CONNECTOR 10P, MALE
CN903	1-506-484-11	s	CONNECTOR 5P, MALE
CN904	1-564-013-11	o	CONNECTOR 3P, MALE
D901	8-719-911-19	s	DIODE 1SS119
D902	8-719-911-19	s	DIODE 1SS119
D903-207	8-719-812-41	s	LED TLR124, RED
D908-918	8-719-812-43	s	LED TLG124A, GRN
D921	8-719-911-19	s	DIODE 1SS119
D922	8-719-911-19	s	DIODE 1SS119
D923-927	8-719-812-41	s	LED TLR124, RED
D928-938	8-719-812-43	s	LED TLG124A, GRN
D941	8-719-911-19	s	DIODE 1SS119
D942	8-719-911-19	s	DIODE 1SS119
D943-947	8-719-812-41	s	LED TLR124, RED
D948-958	8-719-812-43	s	LED TLG124A, GRN
D961	8-719-911-19	s	DIODE 1SS119
D962	8-719-911-19	s	DIODE 1SS119
D963-967	8-719-812-41	s	LED TLR124, RED

(MT-69A BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
D968-978	8-719-812-43	s	LED TLG124A, GRN
D981	8-719-812-43	s	LED TLG124A, GRN
IC901	8-759-145-58	s	IC UPC4558C
IC902	8-759-989-87	s	IC IR2E03
IC903	8-759-145-58	s	IC UPC4558C
IC922	8-759-989-87	s	IC IR2E03
IC941	8-759-145-58	s	IC UPC4558C
IC942	8-759-989-87	s	IC IR2E03
IC943	8-759-145-58	s	IC UPC4558C
IC962	8-759-989-87	s	IC IR2E03
R901	1-249-441-11	s	CARBON 100K 5% 1/4W
R902	1-249-416-11	s	CARBON 820 5% 1/4W
R903	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R904	1-249-429-11	s	CARBON 10K 5% 1/4W
R905	1-247-843-11	s	CARBON 3.3K 5% 1/4W
R906	1-249-417-11	s	CARBON 1K 5% 1/4W
R907	1-249-435-11	s	CARBON 33K 5% 1/4W
R908	1-249-411-11	s	CARBON 330 5% 1/4W
R909	1-249-411-11	s	CARBON 330 5% 1/4W
R910	1-249-411-11	s	CARBON 330 5% 1/4W
R911	1-249-411-11	s	CARBON 330 5% 1/4W
R912	1-249-432-11	s	CARBON 18K 5% 1/4W
R913	1-249-441-11	s	CARBON 100K 5% 1/4W
R914	1-249-417-11	s	CARBON 1K 5% 1/4W
R915	1-249-418-11	s	CARBON 1.2K 5% 1/4W
R921	1-249-441-11	s	CARBON 100K 5% 1/4W
R922	1-249-416-11	s	CARBON 820 5% 1/4W
R923	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R924	1-249-429-11	s	CARBON 10K 5% 1/4W
R925	1-247-843-11	s	CARBON 3.3K 5% 1/4W
R926	1-249-417-11	s	CARBON 1K 5% 1/4W
R927	1-249-435-11	s	CARBON 33K 5% 1/4W
R928	1-249-411-11	s	CARBON 330 5% 1/4W
R929	1-249-411-11	s	CARBON 330 5% 1/4W
R930	1-249-411-11	s	CARBON 330 5% 1/4W
R931	1-249-411-11	s	CARBON 330 5% 1/4W
R932	1-249-432-11	s	CARBON 18K 5% 1/4W
R933	1-249-441-11	s	CARBON 100K 5% 1/4W
R934	1-249-417-11	s	CARBON 1K 5% 1/4W
R935	1-249-418-11	s	CARBON 1.2K 5% 1/4W
R941	1-249-441-11	s	CARBON 100K 5% 1/4W
R942	1-249-416-11	s	CARBON 820 5% 1/4W
R943	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R944	1-249-429-11	s	CARBON 10K 5% 1/4W
R945	1-247-843-11	s	CARBON 3.3K 5% 1/4W
R946	1-249-417-11	s	CARBON 1K 5% 1/4W
R947	1-249-435-11	s	CARBON 33K 5% 1/4W
R948	1-249-411-11	s	CARBON 330 5% 1/4W
R949	1-249-411-11	s	CARBON 330 5% 1/4W
R950	1-249-411-11	s	CARBON 330 5% 1/4W
R951	1-249-411-11	s	CARBON 330 5% 1/4W
R952	1-249-432-11	s	CARBON 18K 5% 1/4W
R953	1-249-441-11	s	CARBON 100K 5% 1/4W
R954	1-249-417-11	s	CARBON 1K 5% 1/4W
R955	1-249-418-11	s	CARBON 1.2K 5% 1/4W
R961	1-249-441-11	s	CARBON 100K 5% 1/4W
R962	1-249-416-11	s	CARBON 820 5% 1/4W

(MT-69A BOARD)

Ref. No. or Q'ty	Part No.	SP Description
R963	1-249-421-11	s CARBON 2.2K 5% 1/4W
R964	1-249-429-11	s CARBON 10K 5% 1/4W
R965	1-247-843-11	s CARBON 3.3K 5% 1/4W
R966	1-249-417-11	s CARBON 1K 5% 1/4W
R967	1-249-435-11	s CARBON 33K 5% 1/4W
R968	1-249-411-11	s CARBON 330 5% 1/4W
R969	1-249-411-11	s CARBON 330 5% 1/4W
R970	1-249-411-11	s CARBON 330 5% 1/4W
R971	1-249-411-11	s CARBON 330 5% 1/4W
R972	1-249-432-11	s CARBON 18K 5% 1/4W
R973	1-249-441-11	s CARBON 100K 5% 1/4W
R974	1-249-417-11	s CARBON 1K 5% 1/4W
R975	1-249-418-11	s CARBON 1.2K 5% 1/4W
R981	1-249-421-11	s CARBON 2.2K 5% 1/4W
R982	1-249-381-11	s CARBON 1 5% 1/4W
R983	1-249-381-11	s CARBON 1 5% 1/4W
R984	1-249-381-11	s CARBON 1 5% 1/4W
R985	1-249-381-11	s CARBON 1 5% 1/4W
R986	1-247-807-31	s CARBON 100 5% 1/4W
R987	1-247-807-31	s CARBON 100 5% 1/4W
R988	1-247-807-31	s CARBON 100 5% 1/4W
R989	1-247-807-31	s CARBON 100 5% 1/4W
R990	1-247-843-11	s CARBON 3.3K 5% 1/4W
R991	1-249-435-11	s CARBON 33K 5% 1/4W
R992	1-249-435-11	s CARBON 33K 5% 1/4W
RV901	1-228-993-00	s RES, ADJ METAL 4.7K
RV921	1-228-993-00	s RES, ADJ METAL 4.7K
RV941	1-228-993-00	s RES, ADJ METAL 4.7K
RV971	1-228-993-00	s RES, ADJ METAL 4.7K

PS-246 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8271-494-A	o MOUNTED CIRCUIT BOARD, PS-246 (For J,UC)
1pc	A-8271-503-A	o MOUNTED CIRCUIT BOARD, PS-246 (For CE)
(These assemblies include the following parts and PS-279 board. For details for PS-279 board see page 3-21.)		
1pc	△ 1-532-078-11	s FUSE, TIME-LAG 1.0A (For CE)
1pc	△ 1-532-743-11	s FUSE, 2A 125V (For J,UC)
2pcs	1-533-189-11	s HOLDER, FUSE
2pcs	4-875-726-00	s SHEET, INSULATING
3pcs	7-628-254-40	s SCREW +PS 2.6X12
2pcs	7-682-947-01	s SCREW +PSW 3X6
C1	1-107-900-51	s ELECT 4700uF 20% 35V
C2	1-107-889-11	s ELECT 220uF 20% 25V
C3	1-107-889-11	s ELECT 220uF 20% 25V
C4	1-107-900-51	s ELECT 4700uF 20% 35V
C5	1-107-889-11	s ELECT 220uF 20% 25V
C6	1-107-889-11	s ELECT 220uF 20% 25V
C7	1-107-887-11	s ELECT 10000uF 20% 16V
C8	1-107-936-11	s ELECT 470uF 20% 100V
C9	1-106-383-00	s MYLAR 0.047uF 5% 200V
C11	1-137-150-11	s MYLAR 0.01uF 5% 100V
C12	1-137-150-11	s MYLAR 0.01uF 5% 100V
C13	1-137-150-11	s MYLAR 0.01uF 5% 100V
C14	1-137-150-11	s MYLAR 0.01uF 5% 100V
CN1	1-691-960-11	s CONNECTOR (PC BOARD) 3P, MALE
CN2	1-779-658-11	o CONNECTOR (PC BOARD) 4P, MALE
CN3	1-779-658-11	o CONNECTOR (PC BOARD) 4P, MALE
CN4	1-770-291-11	o CONNECTOR (PC BOARD) 7P, MALE
CN5	1-564-910-11	s CONNECTOR, ILG 14P, MALE
D2	T-9416-505-1	s DIODE BR82D (For CE)
	8-719-511-40	s DIODE S1VB40 (For J,UC)
D3	8-719-511-40	s DIODE S1VB40
D4	8-719-110-43	s DIODE RD16ES-B
D5	8-719-110-43	s DIODE RD16ES-B
D6	8-719-911-19	s DIODE 1SS119
Q1	8-729-305-15	s TRANSISTOR 2SA1294-Y
Q2	8-729-180-93	s TRANSISTOR 2SD809-F
Q3	8-729-304-27	s TRANSISTOR 2SC3263-Y
Q4	8-729-173-13	s TRANSISTOR 2SB731-F
PS1	△ 1-532-845-21	s LINK, IC (For CE)
PS2	△ 1-532-845-21	s LINK, IC (For CE)
PS3	△ 1-532-686-00	s LINK, IC (For CE)
PS4	△ 1-532-637-00	s LINK, IC (For CE)
R1	1-249-411-11	s CARBON 330 5% 1/4W
R2	1-249-421-11	s CARBON 2.2K 5% 1/4W
R3	1-249-421-11	s CARBON 2.2K 5% 1/4W
R4	1-249-411-11	s CARBON 330 5% 1/4W

PS-279 BOARD

Ref. No.
or Q'ty Part No. SP Description

(This assembly is included in PS-246 board.)

1pc 1-644-195-11 o PRINTED CIRCUIT BOARD, PS-279
C1 1-137-150-11 s MYLAR 0.01uF 5% 100V
C2 1-137-150-11 s MYLAR 0.01uF 5% 100V
D1 8-719-504-60 s DIODE S4VB60

FRAME

Ref. No.
or Q'ty Part No. SP Description

1pc Δ 1-450-981-11 s TRANSFORMER, POWER (For J,UC)
1pc Δ 1-450-980-11 s TRANSFORMER, POWER (For CE)

[HARNESS(AA-60/CN-567)]

CN508 (to AA-60A board)
1-569-193-11 o CONTACT, FEMALE
1-569-204-11 o HOUSING, 11P
CN509 (to AA-60A board)
1-569-193-11 o CONTACT, FEMALE
1-569-205-11 o HOUSING, 12P
CN1 (to CN-567A board)
1-569-193-11 o CONTACT, FEMALE
1-569-204-11 o HOUSING, 11P
CN2 (to CN-567A board)
1-569-193-11 o CONTACT, FEMALE
1-569-205-11 o HOUSING, 12P

[HARNESS(AA-61/CN-567)]

CN609 (to AA-61A board)
1-569-193-11 o CONTACT, FEMALE
1-569-204-11 o HOUSING, 11P
CN610 (to AA-61A board)
1-569-193-11 o CONTACT, FEMALE
1-569-205-11 o HOUSING, 12P
CN1 (to CN-567A board)
1-569-193-11 o CONTACT, FEMALE
1-569-204-11 o HOUSING, 11P
CN2 (to CN-567A board)
1-569-193-11 o CONTACT, FEMALE
1-569-205-11 o HOUSING, 12P

[HARNESS(CN5/705)]

CN5 (to PS-246 board)
1-560-372-00 o HOUSING ILG, 14P
CN705 (to AA-62A board)
1-560-372-00 o HOUSING ILG, 14P

[HARNESS(CN404/304)]

CN404 (to AA-59A board)
1-569-191-11 o CONTACT, FEMALE AWG22-26
1-569-199-11 o HOUSING, 6P
CN304 (to AA-58A board)
1-569-191-11 o CONTACT, FEMALE AWG22-26
1-569-199-11 o HOUSING, 6P

[HARNESS(CN504/305)]

CN504 (to AA-60A board)
1-569-191-11 o CONTACT, FEMALE AWG22-26
1-569-203-11 o HOUSING, CONNECTOR 10P
CN305 (to AA-58A board)
1-569-191-11 o CONTACT, FEMALE AWG22-26
1-569-203-11 o HOUSING, CONNECTOR 10P

[HARNESS(CN505/405)]

CN505 (to AA-60A board)
1-569-191-11 o CONTACT, FEMALE AWG22-26
1-569-202-11 o HOUSING 9P
CN405 (to AA-59A board)
1-569-191-11 o CONTACT, FEMALE AWG22-26
1-569-202-11 o HOUSING 9P

[HARNESS(CN604/306)]

CN604 (to AA-61A board)
1-569-191-11 o CONTACT, FEMALE AWG22-26
1-569-197-11 o HOUSING 4P
CN304 (to AA-58A board)
1-569-191-11 o CONTACT, FEMALE AWG22-26
1-569-197-11 o HOUSING 4P

(FRAME)

Ref. No. or Q'ty	Part No.	SP Description
[HARNESS(CN605/406)]		
CN605	(to AA-61A board)	
	1-569-191-11	o CONTACT, FEMALE AWG22-26
	1-569-198-11	o HOUSING, CONNECTOR 5P
CN406	(to AA-59A board)	
	1-569-191-11	o CONTACT, FEMALE AWG22-26
	1-569-198-11	o HOUSING, CONNECTOR 5P
[HARNESS(CN606/506)]		
CN606	(to AA-61A board)	
	1-569-191-11	o CONTACT, FEMALE AWG22-26
	1-569-204-11	o HOUSING, 11P
CN506	(to AA-60A board)	
	1-569-191-11	o CONTACT, FEMALE AWG22-26
	1-569-204-11	o HOUSING, 11P
[HARNESS(CN704/607)]		
CN704	(to AA-62A board)	
	1-569-191-11	o CONTACT, FEMALE AWG22-26
	1-569-201-11	o HOUSING, CONNECTOR 8P
CN607	(to AA-61A board)	
	1-569-191-11	o CONTACT, FEMALE AWG22-26
	1-569-201-11	o HOUSING, CONNECTOR 8P
[HARNESS(CN901/507)]		
CN901	(to MT-69A board)	
	1-569-191-11	o CONTACT, FEMALE AWG22-26
	1-569-197-11	o HOUSING 4P
CN507	(to AA-60A board)	
	1-569-191-11	o CONTACT, FEMALE AWG22-26
	1-569-197-11	o HOUSING 4P
[HARNESS(CN902/608)]		
CN902	(to MT-69A board)	
	1-569-191-11	o CONTACT, FEMALE AWG22-26
	1-569-203-11	o HOUSING, CONNECTOR 10P
CN608	(to AA-61A board)	
	1-569-191-11	o CONTACT, FEMALE AWG22-26
	1-569-203-11	o HOUSING, CONNECTOR 10P
[HARNESS(MT-69/CN-1406)]		
CN903	(to MT-69A board)	
	1-569-193-11	o CONTACT, FEMALE
	1-569-198-11	o HOUSING, CONNECTOR 5P
CN904	(to MT-69A board)	
	1-569-193-11	o CONTACT, FEMALE
	1-569-196-11	o HOUSING 3P
CN1	(to CN-1406 board)	
	1-569-193-11	o CONTACT, FEMALE
	1-569-201-11	o HOUSING, CONNECTOR 8P
[HARNESS(BUS)]		
CN101,102	(to IPM-31A board)	
	1-569-372-11	s HOUSING, NRD 16P
CN201,202	(to IPM-32A board)	
	1-569-372-11	s HOUSING, NRD 16P
CN301,302	(to AA-58A board)	
	1-569-372-11	s HOUSING, NRD 16P
CN401,402	(to AA-59A board)	
	1-569-372-11	s HOUSING, NRD 16P
CN501,502	(to AA-60A board)	
	1-569-372-11	s HOUSING, NRD 16P
CN601,602	(to AA-61A board)	
	1-569-372-11	s HOUSING, NRD 16P
CN701,702	(to AA-62A board)	
	1-569-372-11	s HOUSING, NRD 16P

(FRAME)

Ref. No. or Q'ty	Part No.	SP Description
[HARNESS(POWER)]		
1pc	△ 1-580-375-11	s INLET, AC 3P
1pc	△ 1-762-954-11	s SWITCH, POWER
CN1	(to PS-246 board)	
	△ 1-562-210-11	o CONTACT, FEMALE AWG18-22
	△ 1-562-211-11	o HOUSING 3P
[HARNESS(VCA/FADER START)]		
CN1	(to SW-880 board)	
	1-569-195-11	o HOUSING 2P
CN103	(to IPM-31A board)	
	1-569-193-11	o CONTACT, FEMALE AWG24-30
	1-569-198-11	o HOUSING, CONNECTOR 5P
CN203	(to IPM-32A board)	
	1-569-193-11	o CONTACT, FEMALE AWG24-30
	1-569-198-11	o HOUSING, CONNECTOR 5P
-	(D-SUB,25P VCA)	
	1-564-775-11	o CONTACT, FEMALE AWG24-28
	1-566-356-11	o CONNECTOR, D-SUB 25P, MALE
-	(D-SUB,25P FADER START)	
	1-562-580-21	s CONTACT, FEMALE AWG24-28
	1-563-817-11	s CONNECTOR, D-SUB 25P, FEMALE

3-3-2. MXBK-M310

CN-1407 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc (This assembly includes the following parts.)	A-8315-836-A	o	MOUNTED CIRCUIT BOARD, CN-1407
C1	1-128-551-11	s	ELECT 22uF 20% 63V
C2	1-104-664-11	s	ELECT 47uF 20% 25V
C3	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C4	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C5	1-128-551-11	s	ELECT 22uF 20% 63V
C6	1-104-664-11	s	ELECT 47uF 20% 25V
C7	1-128-551-11	s	ELECT 22uF 20% 63V
C8	1-104-664-11	s	ELECT 47uF 20% 25V
C9	1-128-551-11	s	ELECT 22uF 20% 63V
C10	1-104-664-11	s	ELECT 47uF 20% 25V
C11	1-130-483-00	s	MYLAR 0.01uF 5% 50V
C12	1-130-483-00	s	MYLAR 0.01uF 5% 50V
CN1	1-506-487-11	s	CONNECTOR 8P, MALE
CN2	1-506-487-11	s	CONNECTOR 8P, MALE
CN3	1-563-508-11	s	CONNECTOR, DIN 8P
IC1	8-759-981-96	s	IC RC4560D
IC2	8-759-981-96	s	IC RC4560D
R1	1-249-429-11	s	CARBON 10K 5% 1/4W
R2	1-249-441-11	s	CARBON 100K 5% 1/4W
R3	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R4	1-249-426-11	s	CARBON 5.6K 5% 1/4W
R5	1-249-424-11	s	CARBON 3.9K 5% 1/4W
R6	1-249-429-11	s	CARBON 10K 5% 1/4W
R7	1-249-441-11	s	CARBON 100K 5% 1/4W
R8	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R9	1-249-426-11	s	CARBON 5.6K 5% 1/4W
R10	1-249-424-11	s	CARBON 3.9K 5% 1/4W
R11	1-249-429-11	s	CARBON 10K 5% 1/4W
R12	1-249-441-11	s	CARBON 100K 5% 1/4W
R13	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R14	1-249-426-11	s	CARBON 5.6K 5% 1/4W
R15	1-249-424-11	s	CARBON 3.9K 5% 1/4W
R16	1-249-429-11	s	CARBON 10K 5% 1/4W
R17	1-249-441-11	s	CARBON 100K 5% 1/4W
R18	1-249-421-11	s	CARBON 2.2K 5% 1/4W
R19	1-249-426-11	s	CARBON 5.6K 5% 1/4W
R20	1-249-424-11	s	CARBON 3.9K 5% 1/4W
R21	1-249-398-11	s	CARBON 27 5% 1/4W
R22	1-249-398-11	s	CARBON 27 5% 1/4W
R23	1-249-398-11	s	CARBON 27 5% 1/4W
R24	1-249-398-11	s	CARBON 27 5% 1/4W
RV1	1-241-784-11	s	RES, ADJ METAL 4.7k
RV2	1-241-784-11	s	RES, ADJ METAL 4.7k
RV3	1-241-784-11	s	RES, ADJ METAL 4.7k
RV4	1-241-784-11	s	RES, ADJ METAL 4.7k

3-4. Accessories Supplied

MXP-310

Ref. No. or Q'ty	Part No.	SP	Description
2pcs	X-3166-982-1	o	ANGLE ASSY, L
1pc	△ 1-534-827-14	s	CORD, POWER (For UC)
1pc	△ 1-575-181-11	s	CORD SET, POWER (For J)
1pc	△ 1-590-910-11	s	CORD SET, POWER (For CE)
1pc	△ 1-750-686-11	s	CONNECTOR, CONVERSION(3P-2P)(For J)
1pc	2-990-242-01	s	HOLDER (B), PLUG (For J,UC)
1pc	3-170-078-01	s	HOLDER (B), PLUG (For CE)
4pcs	7-682-563-09	s	SCREW +B 4X12

MXBK-M310

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-782-799-11	s	CABLE, CONNECTION
4pcs	7-682-560-09	s	SCREW +B 4X6

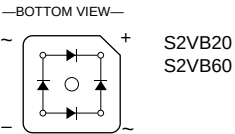
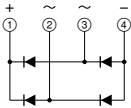
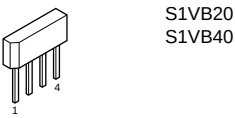
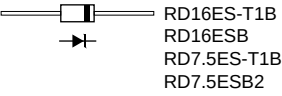
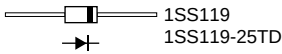
Section 4

Semiconductor Pin Assignments

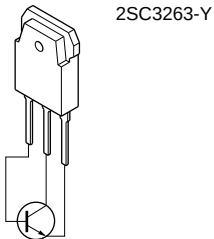
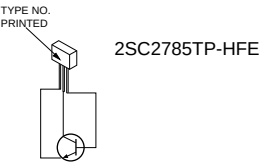
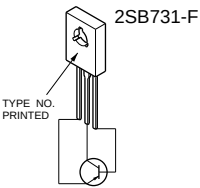
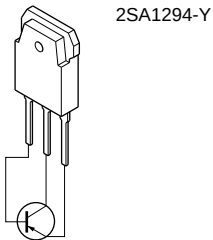
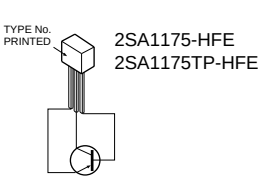
Semiconductors of which functions are equivalent are described here. For parts replacement, refer to the section of Spare Parts in this manual. The circuit diagram of each IC is obtained from the IC data book published by the manufacturer.

DIODE	Page	TRANSISTOR	Page	LED	Page	IC	Page
1SS119	4-2	2SA1175-HFE	4-2	TLG124A	4-2	DBX2155	4-3
1SS119-25TD	4-2	2SA1175TP-HFE	4-2	TLR124	4-2	IR2E03	4-3
		2SA1294-Y	4-2	TLY124	4-2		
RD16ES-T1B	4-2	2SB731-F	4-2			LM324N	4-3
RD16ESB	4-2	2SC2785TP-HFE	4-2				
RD7.5ES-T1B	4-2	2SC3263-Y	4-2			MC14051BCP	4-3
RD7.5ESB2	4-2	2SD786-R	4-2			MC14053BCP	4-4
		2SD809-F	4-2			MC74HC00AN	4-3
S1VB20	4-2					MC7905CT	4-4
S1VB40	4-2						
S2VB20	4-2					NJM4556AD	4-4
S2VB60	4-2					NJM4560D	4-4
						NJM7805FA	4-4
						PEEL18CV8P-25	4-4
						RC4558P	4-4
						TL783CKC	4-4
						UPC4558C	4-4
						UPD4053BC	4-4

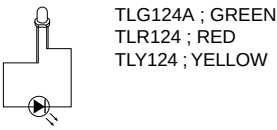
DIODE



TRANSISTOR



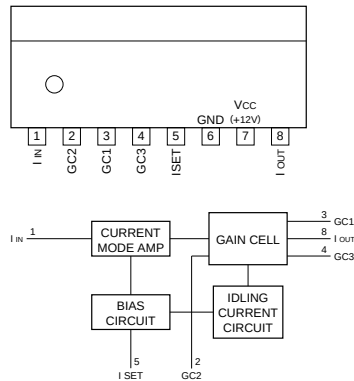
LED



IC

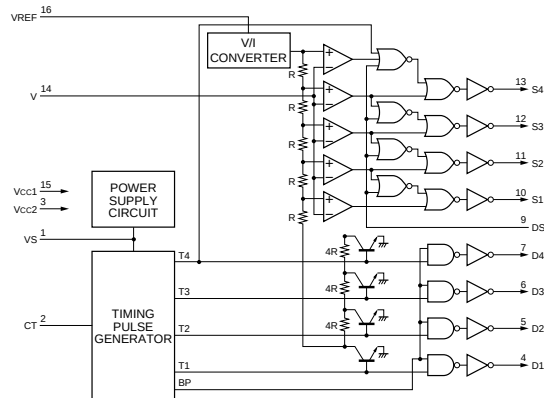
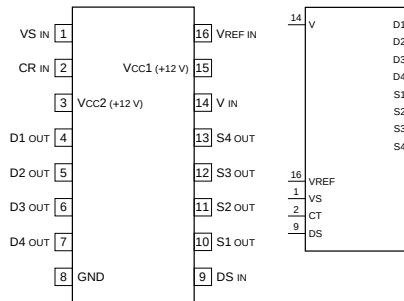
DBX2155 (DBX INC.)

VOLTAGE CONTROLLED AMP
—SIDE VIEW—



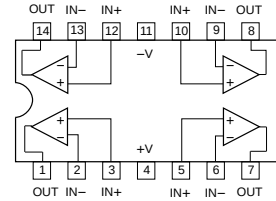
IR2E03 (SHARP)

16-DOT LED DISPLAY DRIVER
—TOP VIEW—



LM324N (TI)

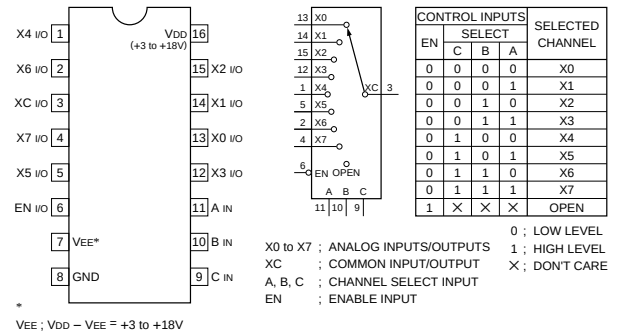
QUAD OPERATIONAL AMPLIFIERS
—TOP VIEW—



	+V	-V
SINGLE SUPPLY	+3 to +32V	GND
DUAL SUPPLIES	+1.5 to +16V	-1.5 to -16V

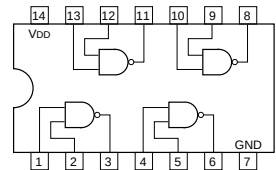
MC14051BCP (MOTOROLA)

C-MOS 8-CHANNEL ANALOG MULTIPLEXER/DEMULPLEXER
—TOP VIEW—



MC74HC00AN (MOTOROLA)

C-MOS QUAD 2-INPUT NAND GATES
—TOP VIEW—



$$A \text{ --- } B \text{ --- } Y = A \cdot B$$

$$Y = \overline{A \cdot B} = \overline{A} + \overline{B}$$

A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

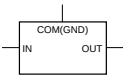
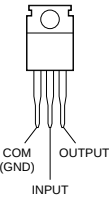
0 ; LOW LEVEL
1 ; HIGH LEVEL

TYPE	VDD
74AC/74VHC	+2 to +5.5V
74ACT/74HCT/74VHCT	+4.5 to +5.5V
LCX	+2 to +3.6V
OTHER TYPES	+2 to +6V

MC7905CT (MOTOROLA)–5 V

NEGATIVE VOLTAGE REGULATOR (1A)

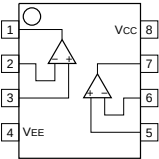
—SIDE VIEW—



NJM4556AD (JRC)
NJM4560D (JRC)
RC4558P
UPC4558C (NEC)

DUAL OPERATIONAL AMPLIFIERS
(DUAL-SUPPLY TYPE)

—TOP VIEW—

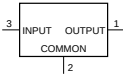
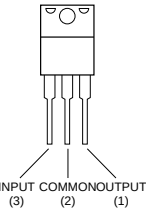


TYPE	Vcc	VEE
062/072/082/4556A/ M5218/BA15218/ 33178/34182 TYPES	+2 to +16V	–2 to –16V
4580 TYPE	+2 to +18V	–2 to –18V
5532 TYPE	+3 to +20V	–3 to –20V
CXA1297 TYPE	+5 to +12V	–5 to –12V
M5219/M5220 TYPES	+5 to +22.5V	–5 to –22.5V
MC33077DR2	+2.5 to +18V	–2.5 to –18V
NJM2100 TYPE	+1 to +3.5V	–1 to –3.5V
OP-297 TYPE	+2 to +20V	–2 to –20V
OTHERS	+5 to +16V	–5 to –16V

NJM7805FA (JRC)+5 V(1 A)

POSITIVE VOLTAGE REGULATOR

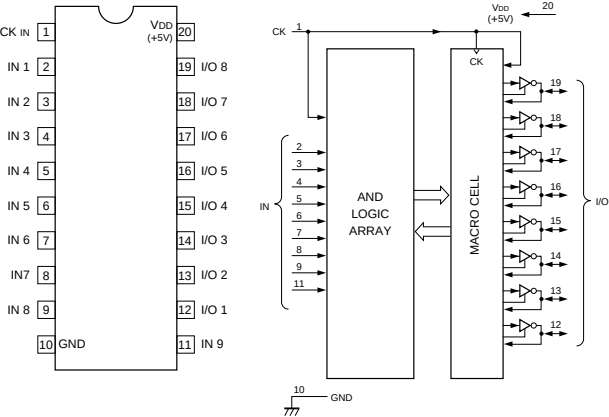
—FRONT VIEW—



PEEL18CV8P-25 (ICT)

C-MOS ELECTRICALLY ERASABLE PROGRAMMABLE LOGIC DEVICE

—TOP VIEW—

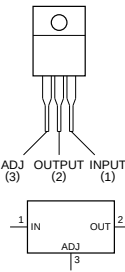


*ABOVE DIAGRAM SHOWS CONDITIONS BEFORE PROGRAMMING.

TL783CKC

ADJUSTABLE VOLTAGE REGULATOR

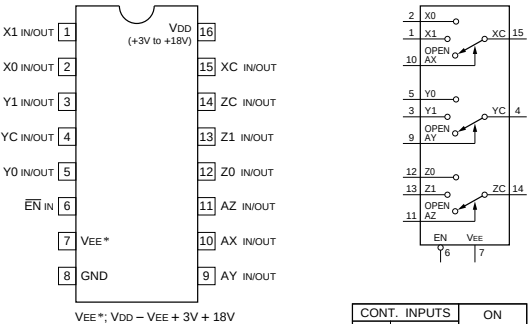
—TOP VIEW—



MC14053BCP
UPD4053BC (NEC)

C-MOS TRIPLE 2-CHANNEL ANALOG MULTIPLEXERS/DEMULTIPLEXERS

—TOP VIEW—

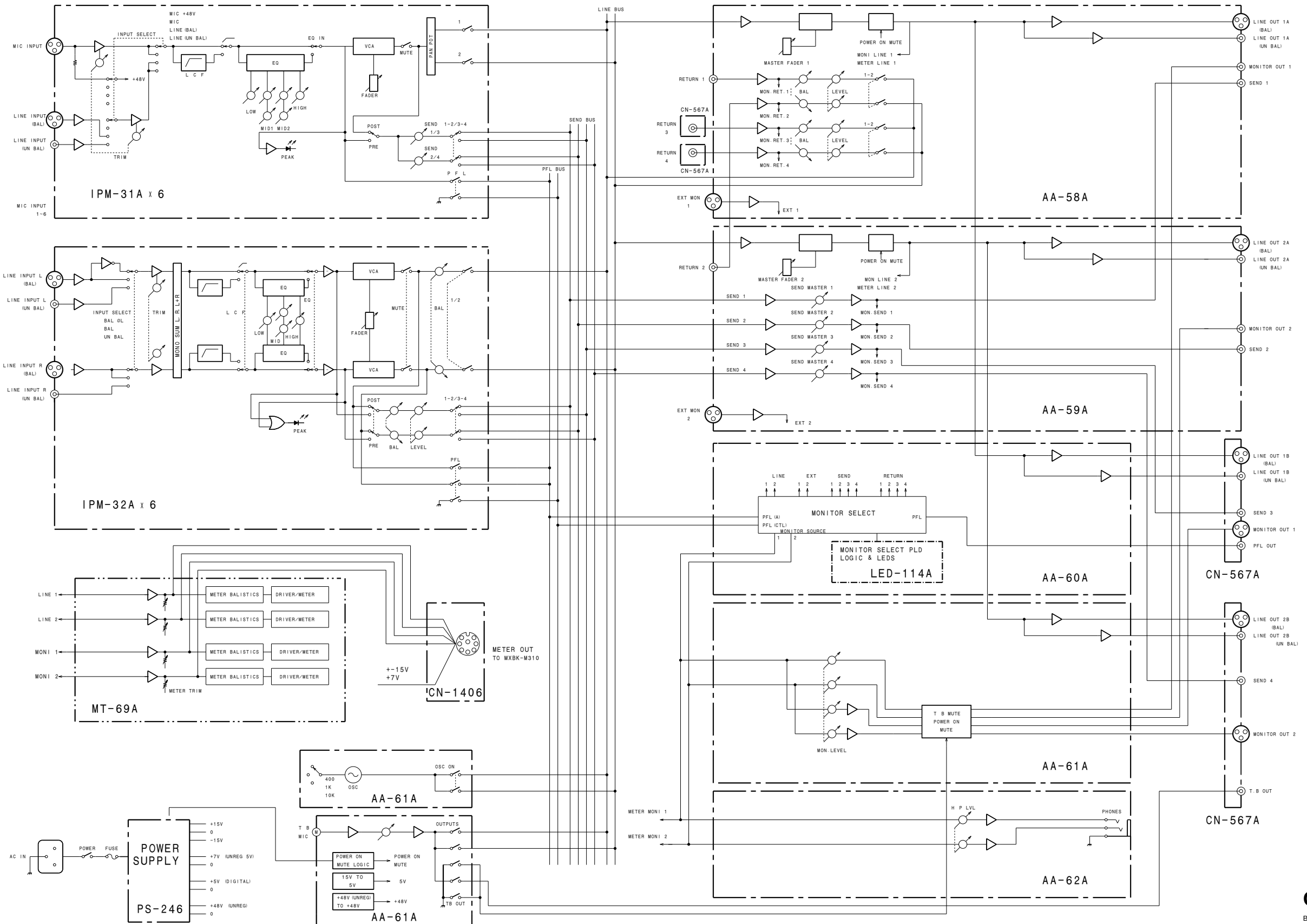


0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

CONT. INPUTS		ON CHANNEL
EN	A (X, Y, Z)	
0	0	0
0	1	1
1	X	OPEN

Section 5 Block Diagram

MXP-310 (J) : S/N 10001 and Higher
MXP-310 (UC) : S/N 20001 and Higher
MXP-310 (CE) : S/N 50001 and Higher



Overall
B-MXP310-OVERALL-S/M

Section 6
Board Layouts

Index

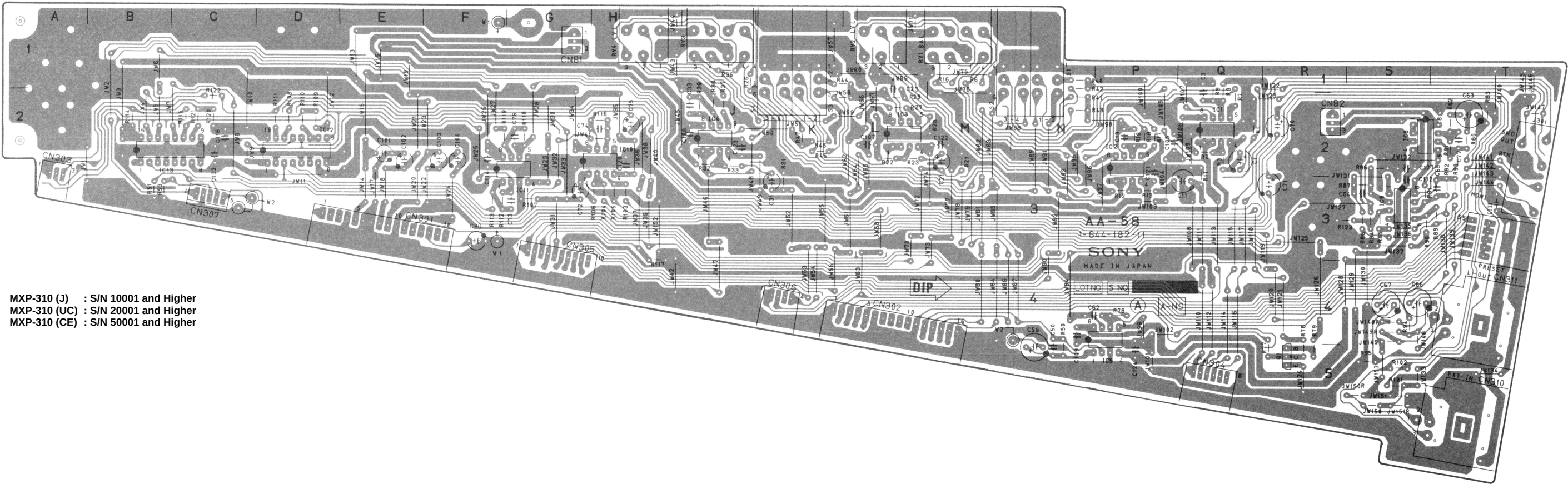
6-1. MXP-310

Board name	Function	Page
AA-58A	Line 1 Output	6-2
AA-59A	Line 2 Output	6-3
AA-60A	Line 1B Output	6-4
AA-61A	Line 2B Output	6-5
AA-62A	Head Phone/Talk Back	6-6
CN-1406	Connector	6-9
CN-567A	Connector	6-4
IPM-31A	Monaural Input	6-7
IPM-32A	Stereo Input	6-8
LED-114A	LED	6-4
MIC	Mic	6-6
MT-69A	Meter	6-9
PS-246	Power Supply	6-10
PS-279	Power Supply	6-10

6-2. MXBK-M310

Board name	Function	Page
CN-1407	Connector	6-10

6-1. MXP-310



MXP-310 (J) : S/N 10001 and Higher
MXP-310 (UC) : S/N 20001 and Higher
MXP-310 (CE) : S/N 50001 and Higher

AA-58A -A SIDE-
1-644-182-11

AA-58A (1-644-182-11)

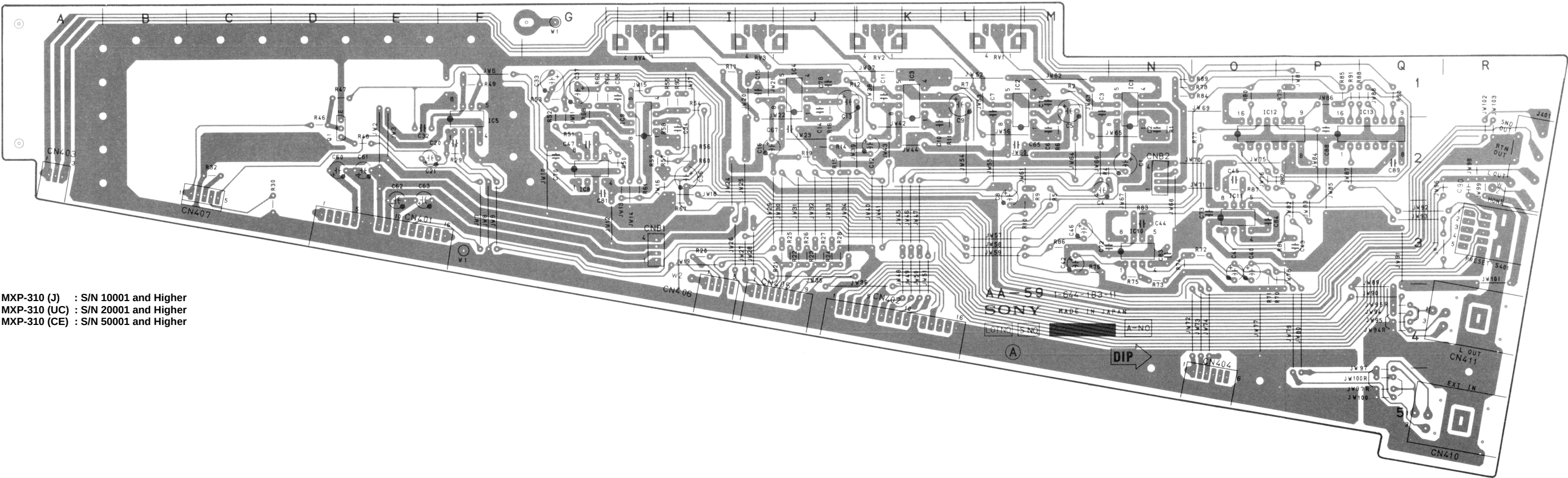
CN301	E3
CN302	L4
CN304	Q5
CN305	G3
CN306	K4
CN307	C3
CN310	T5
CN311	T4

IC1	Q2
IC2	P2
IC3	L2
IC4	J2
IC5	P5
IC8	S2
IC9	S3
IC10	H2

Q1	R5
----	----

RV1	L1
RV2	L1
RV3	J1
RV4	H1
RV5	A1

S1	N1
S3	K2



MXP-310 (J) : S/N 10001 and Higher
MXP-310 (UC) : S/N 20001 and Higher
MXP-310 (CE) : S/N 50001 and Higher

AA-59A -A SIDE-
1-644-183-11

AA-59A (1-644-183-11)

CN401	E3
CN402	K4
CN404	O5
CN405	I4
CN406	H4
CN407	C3
CN410	R5
CN411	R4

IC1	N1
IC2	L1
IC3	K1
IC4	J1
IC5	F2
IC8	G2
IC9	H2
IC10	N3

Q1	D2
RV1	L1
RV2	K1
RV3	I1
RV4	H1
RV5	A1

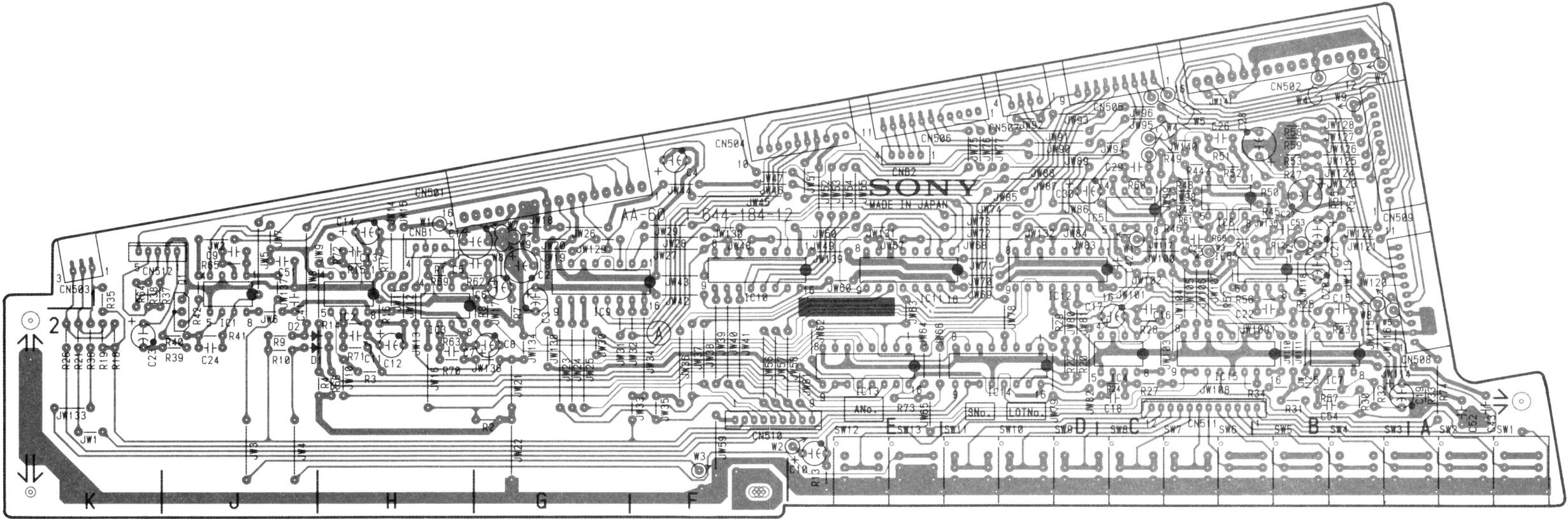
AA-60A (1-644-184-12)

CN501 H1
CN502 B1
CN504 F1
CN505 C1
CN506 E1
CN507 D1
CN508 A2
CN509 B1
CN510 F2
CN511 C2

D1 J2
D2 J2

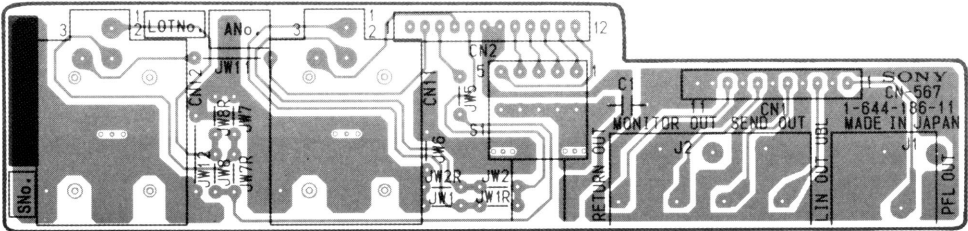
IC1 J2
IC2 H2
IC6 C1
IC7 B2
IC8 C1
IC9 G2
IC10 F2
IC11 E2
IC12 D2
IC13 E2
IC14 D2

SW1 A2
SW2 A2
SW3 B2
SW4 B2
SW5 B2
SW6 C2
SW7 C2
SW8 C2
SW9 D2
SW10 D2
SW11 D2
SW12 E2
SW13 E2



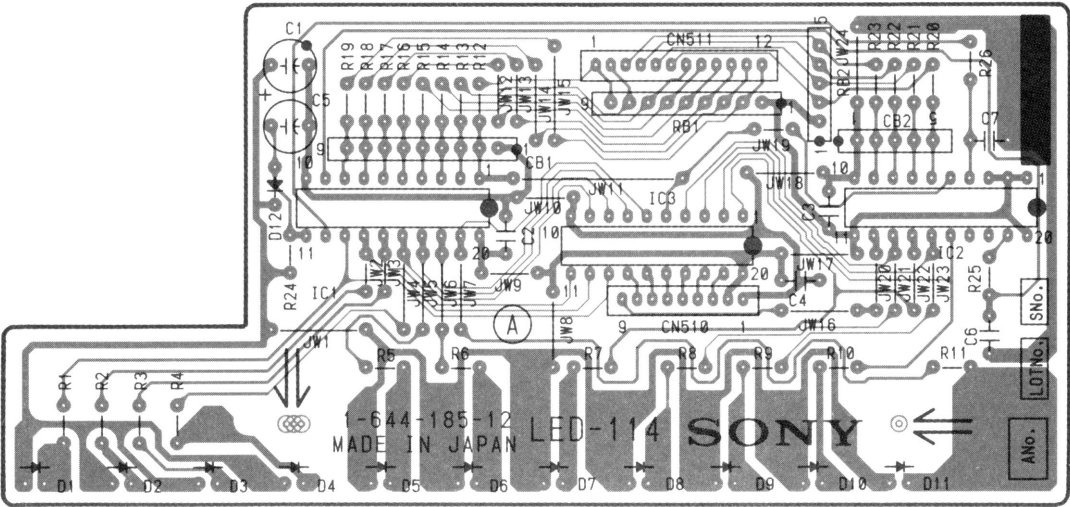
MXP-310 (J) : S/N 10001 and Higher
MXP-310 (UC) : S/N 20001 and Higher
MXP-310 (CE) : S/N 50001 and Higher

AA-60A -A SIDE-
1-644-184-12



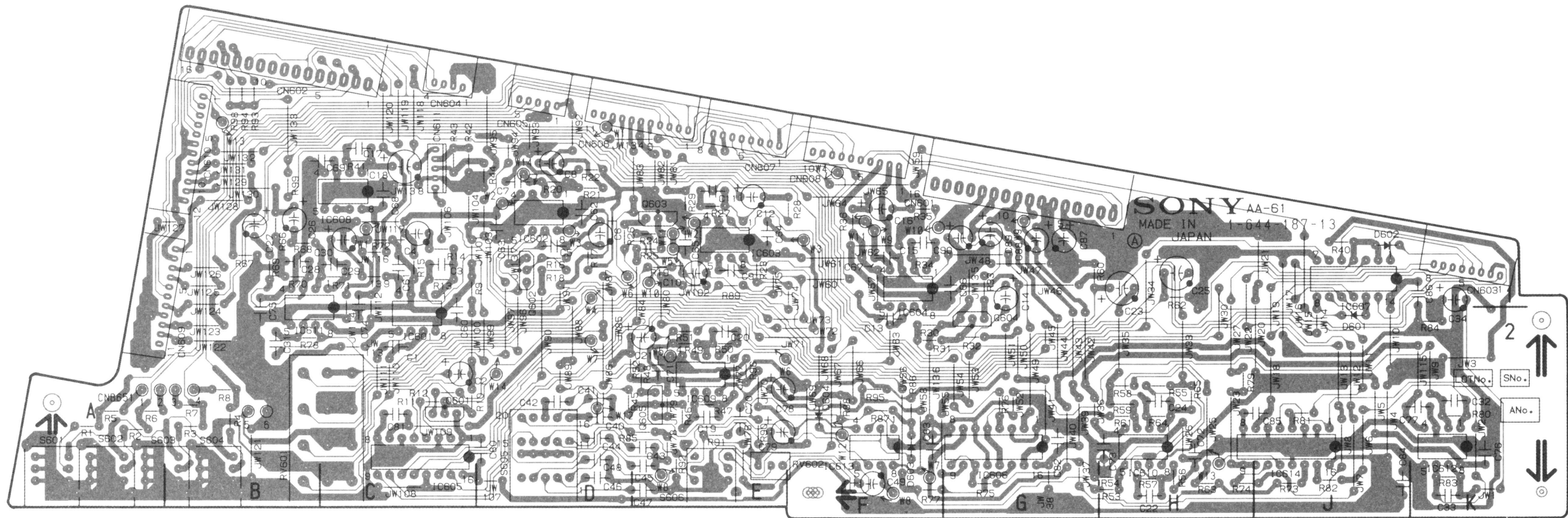
MXP-310 (J) : S/N 10001 and Higher
MXP-310 (UC) : S/N 20001 and Higher
MXP-310 (CE) : S/N 50001 and Higher

CN-567A -COMPONENT SIDE-
1-644-186-11



MXP-310 (J) : S/N 10001 and Higher
MXP-310 (UC) : S/N 20001 and Higher
MXP-310 (CE) : S/N 50001 and Higher

LED-114A -A SIDE-
1-644-185-12

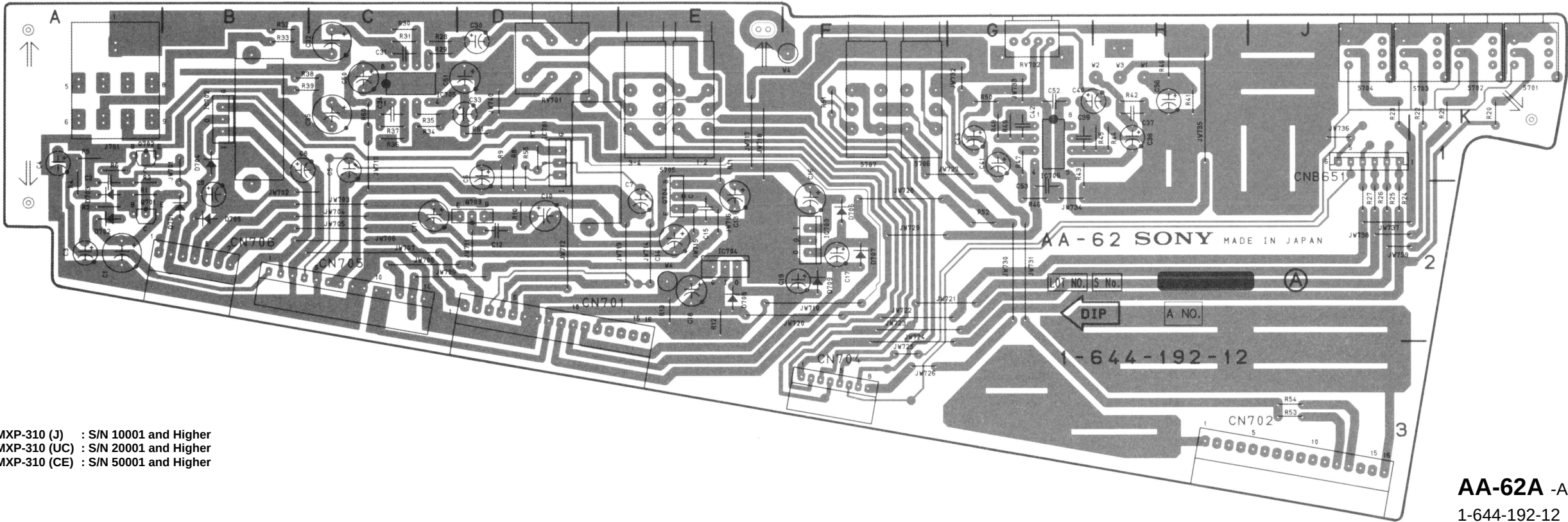


MXP-310 (J) : S/N 10001 and Higher
MXP-310 (UC) : S/N 20001 and Higher
MXP-310 (CE) : S/N 50001 and Higher

AA-61A -A SIDE-
1-644-187-13

AA-61A (1-644-187-13)

CN601	F1	Q601	C2
CN602	B1	Q602	D1
CN604	C1	Q603	E1
CN605	D1	Q604	G1
CN606	D1		
CN607	E1	RV601	B2
CN608	F1	RV602	F2
CN609	B2		
CN610	B1	S601	A2
		S605	D2
		S606	E2
D601	J2		
D603	F2		
D604	F2		
IC601	C2		
IC602	D1		
IC603	E1		
IC604	F1		
IC605	C2		
IC606	G2		
IC607	J1		
IC609	E2		
IC610	H2		
IC613	F2		

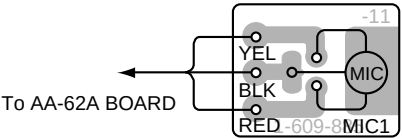


MXP-310 (J) : S/N 10001 and Higher
MXP-310 (UC) : S/N 20001 and Higher
MXP-310 (CE) : S/N 50001 and Higher

AA-62A -A SIDE-
1-644-192-12

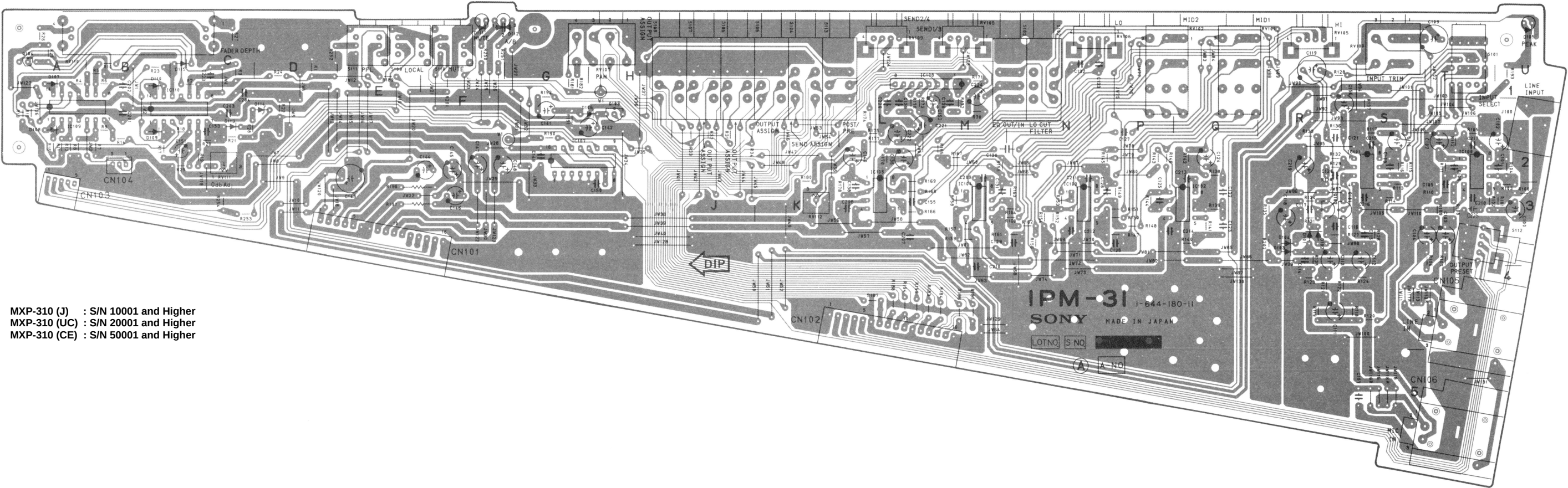
AA-62A (1-644-192-12)

- | | |
|-------|----|
| CN701 | D2 |
| CN702 | H3 |
| CN704 | F3 |
| CN705 | C2 |
| D701 | B2 |
| D702 | A2 |
| D703 | A2 |
| D706 | F2 |
| D707 | F2 |
| D708 | E2 |
| D709 | F2 |
| IC701 | D1 |
| IC703 | F2 |
| IC704 | E2 |
| IC705 | C1 |
| IC706 | G1 |
| M1 | H1 |
| Q701 | A2 |
| RV701 | D1 |
| RV702 | G1 |
| S703 | K1 |
| S706 | F1 |
| S707 | F1 |



MIC -COMPONENT SIDE-
1-609-885-11

MXP-310 (J) : S/N 10001 and Higher
MXP-310 (UC) : S/N 20001 and Higher
MXP-310 (CE) : S/N 50001 and Higher

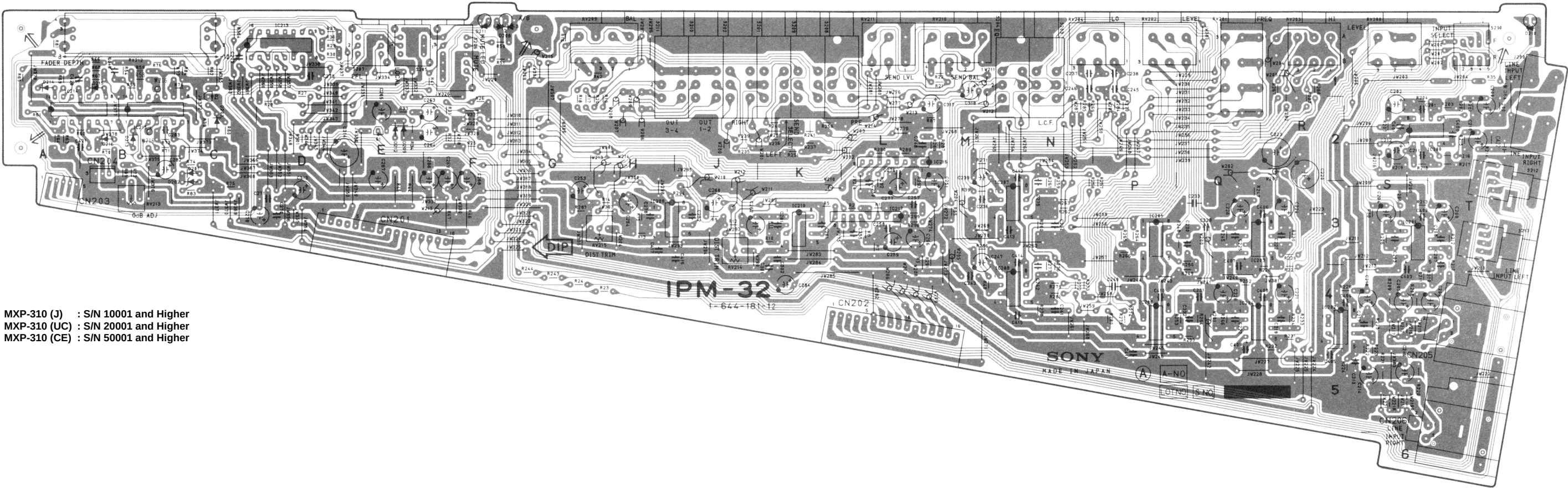


MXP-310 (J) : S/N 10001 and Higher
MXP-310 (UC) : S/N 20001 and Higher
MXP-310 (CE) : S/N 50001 and Higher

IPM-31A -A SIDE-
1-644-180-11

IPM-31A (1-644-180-11)

CN101	F3	Q101	S3
CN102	K4	Q102	R3
CN103	A3	Q103	H2
CN104	B3		
CN105	T4	RV100	S1
CN106	S5	RV101	R1
		RV102	Q1
D101	R3	RV105	R1
D102	R3	RV106	P1
D103	R3	RV107	H1
D104	R3	RV108	M1
D105	U1	RV109	L1
D106	G2	RV111	C3
D107	A1	RV112	K3
D108	A2		
D109	B2	S101	T1
D110	B1	S102	N1
D111	F1	S103	N1
D113	C2	S104	K1
D114	D2	S105	K1
		S106	J1
IC100	T2	S109	E1
IC101	S2	S110	F1
IC102	Q3	S111	E1
IC103	N3	S113	K1
IC104	M3		
IC105	L2		
IC108	M1		
IC109	A2		
IC110	B1		

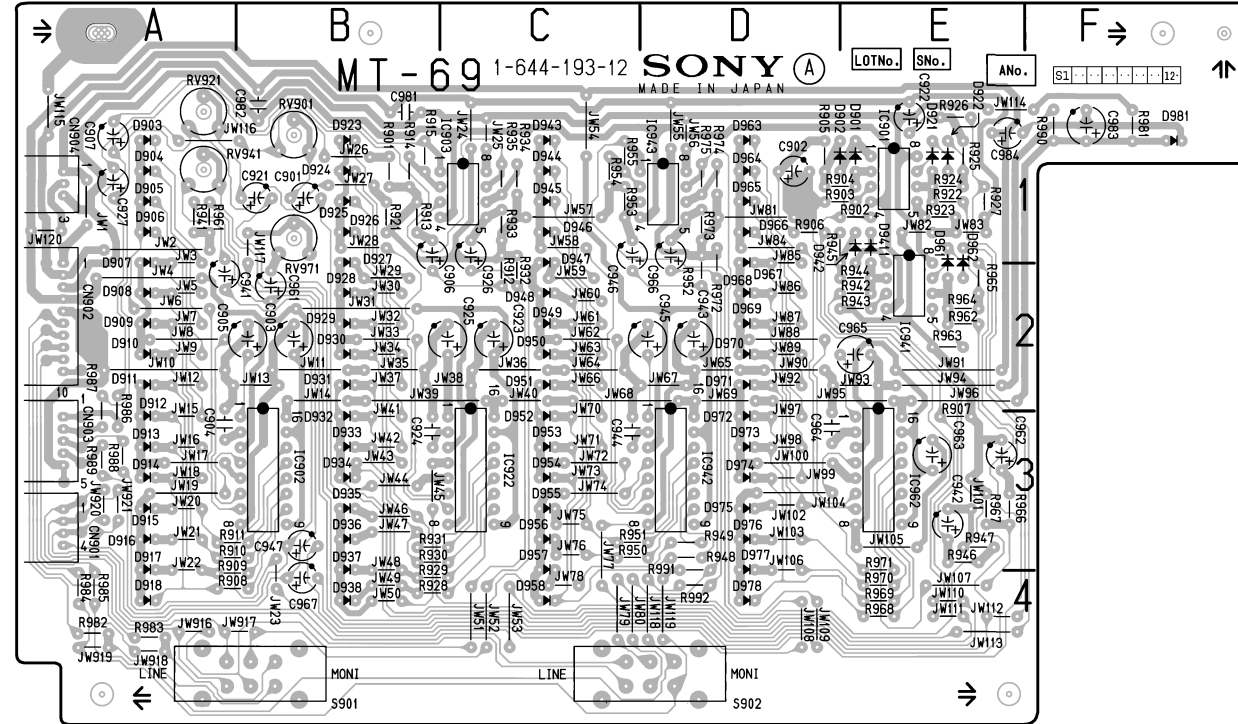


MXP-310 (J) : S/N 10001 and Higher
MXP-310 (UC) : S/N 20001 and Higher
MXP-310 (CE) : S/N 50001 and Higher

IPM-32A -A SIDE-
1-644-181-12

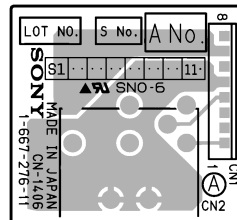
IPM-32A (1-644-181-12)

CN201	E3	IC215	B2
CN202	K4	IC216	M2
CN203	B3	IC217	L3
CN204	B2		
CN205	S5	Q1	E2
CN206	S5		
		RV200	S1
D201	C2	RV201	Q1
D202	B3	RV202	P1
D209	E2	RV203	R1
D210	T1	RV204	N1
D211	F1	RV209	G1
D212	E2	RV210	M1
D213	B2	RV211	L1
D214	A1	RV213	B3
D215	B1	RV214	J4
D216	B2	RV215	H3
IC200	T2	S200	T1
IC201	S3	S201	K1
IC202	R4	S202	J1
IC203	Q3	S203	N1
IC204	Q4	S204	M1
IC205	P3	S205	E1
IC206	P4	S206	F1
IC207	M3	S207	E1
IC208	M4	S208	K1
IC209	H3	S209	K1
IC210	K3	S210	J1
IC214	A1		



MXP-310 (J) : S/N 10001 and Higher
MXP-310 (UC) : S/N 20001 and Higher
MXP-310 (CE) : S/N 50001 and Higher

MT-69A -A SIDE-
1-644-193-12



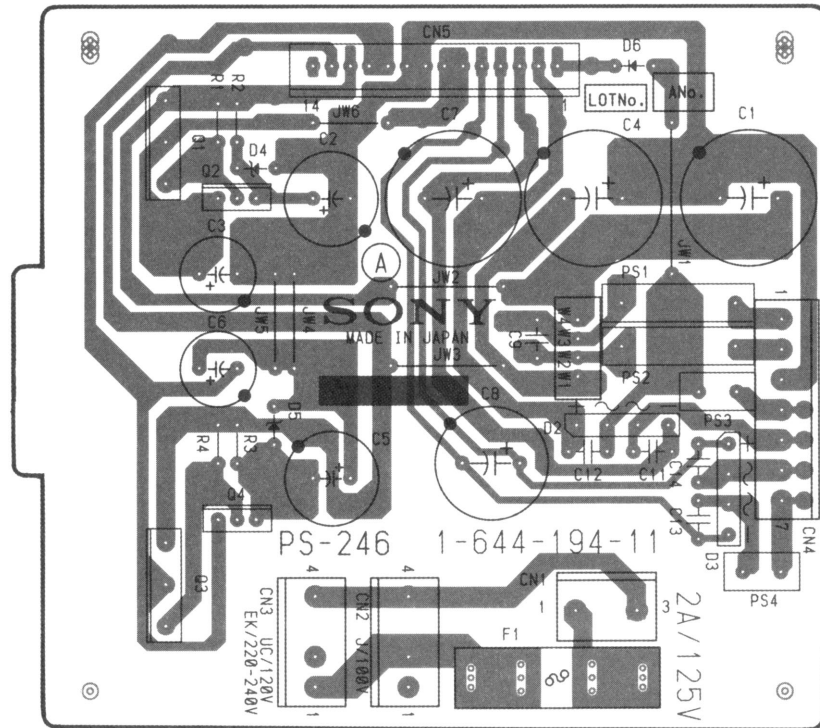
CN-1406 -A SIDE-
1-667-276-11

MXP-310 (J) : S/N 10001 and Higher
MXP-310 (UC) : S/N 20001 and Higher
MXP-310 (CE) : S/N 50001 and Higher

MT-69A (1-644-193-12)

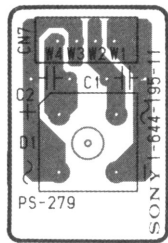
CN901	A3	D947	C1
CN902	A2	D948	C2
CN903	A2	D949	C2
CN904	A1	D950	C2
		D951	C2
D901	E1	D952	C3
D902	E1	D953	C3
D903	A1	D954	C3
D904	A1	D955	C3
D905	A1	D956	C3
D906	A1	D957	C3
D907	A2	D958	C4
D908	A2	D961	E1
D909	A2	D962	E1
D910	A2	D963	D1
D911	A2	D964	D1
D912	A2	D965	D1
D913	A3	D966	D1
D914	A3	D967	D2
D915	A3	D968	D2
D916	A3	D969	D2
D917	A3	D970	D2
D918	A4	D971	D2
D921	E1	D972	D3
D922	E1	D973	D3
D923	B1	D974	D3
D924	B1	D975	D3
D925	B1	D976	D3
D926	B1	D977	D3
D927	B1	D978	D4
D928	B2	D981	F1
D929	B2		
D930	B2	IC901	E1
D931	B2	IC902	B3
D932	B3	IC903	C1
D933	B3	IC922	C3
D934	B3	IC941	E2
D935	B3	IC942	D3
D936	B3	IC943	D3
D937	B3	IC962	E1
D938	B4		
D941	E1	RV901	B1
D942	D1	RV921	A1
D943	C1	RV941	A1
D944	C1	RV971	B2
D945	C1		
D946	C1		

6-2. MXBK-M310



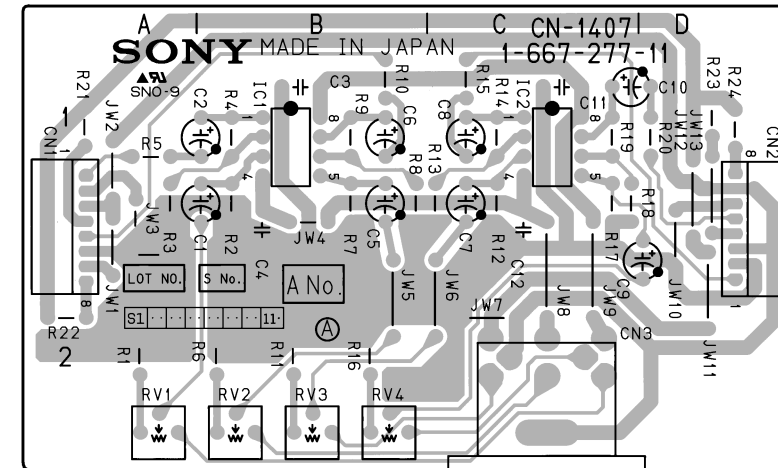
PS-246 -A SIDE-
1-644-194-11

MXP-310 (J) : S/N 10001 and Higher
MXP-310 (UC) : S/N 20001 and Higher
MXP-310 (CE) : S/N 50001 and Higher



PS-279 -COMPONENT SIDE-
1-644-195-11

MXP-310 (J) : S/N 10001 and Higher
MXP-310 (UC) : S/N 20001 and Higher
MXP-310 (CE) : S/N 50001 and Higher



CN-1407 -A SIDE-
1-667-277-11

Section 7
Schematic Diagrams

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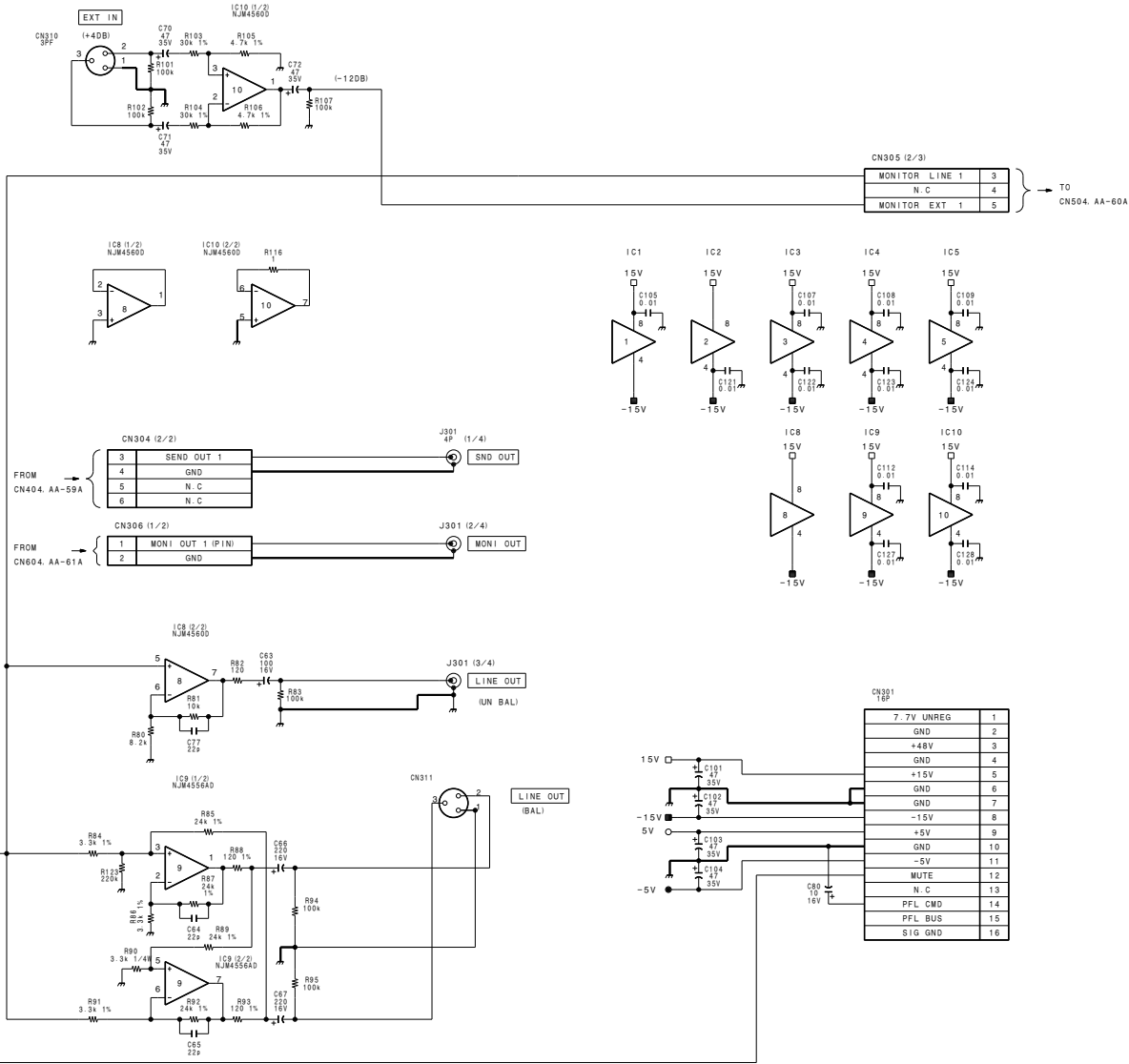
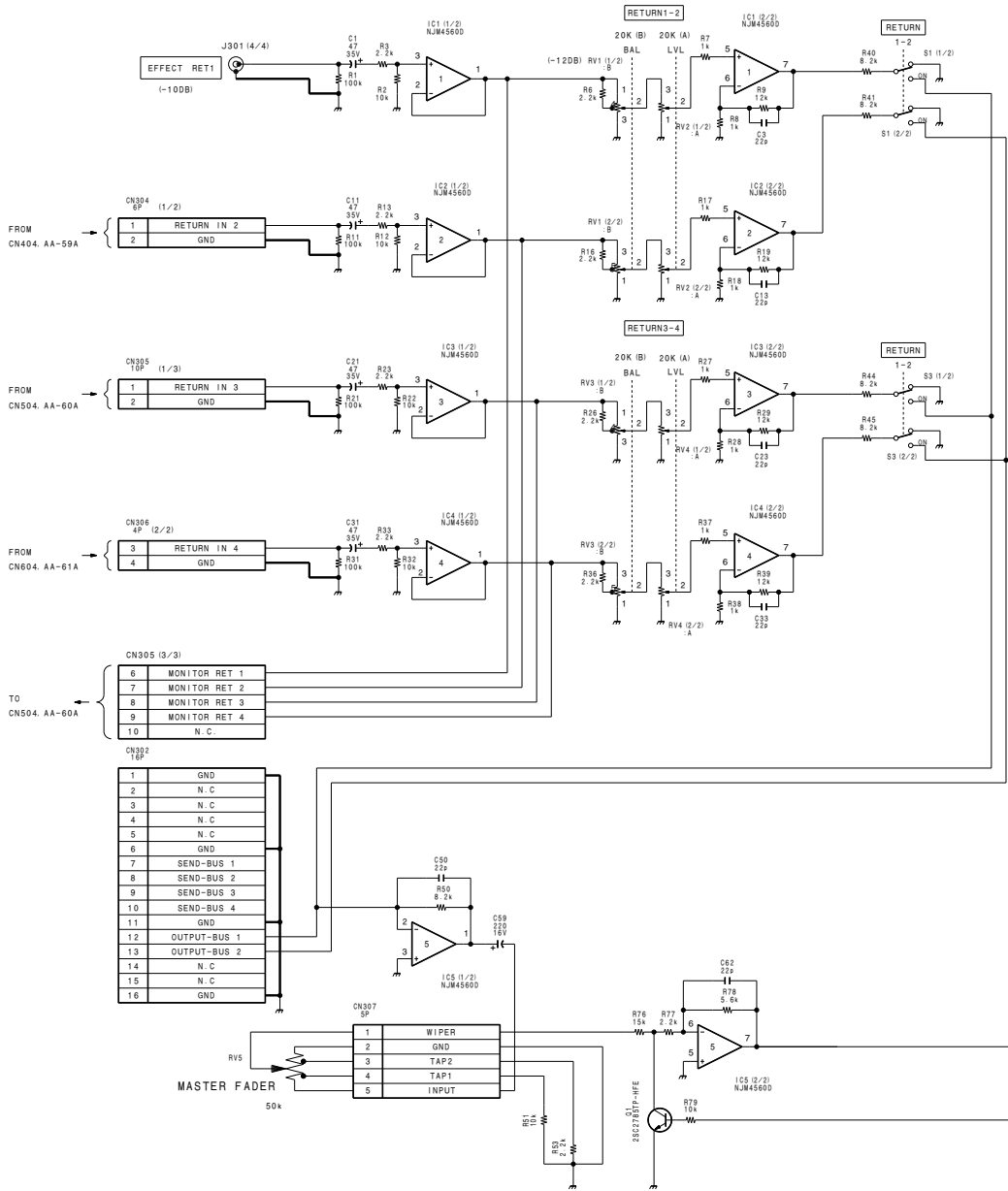
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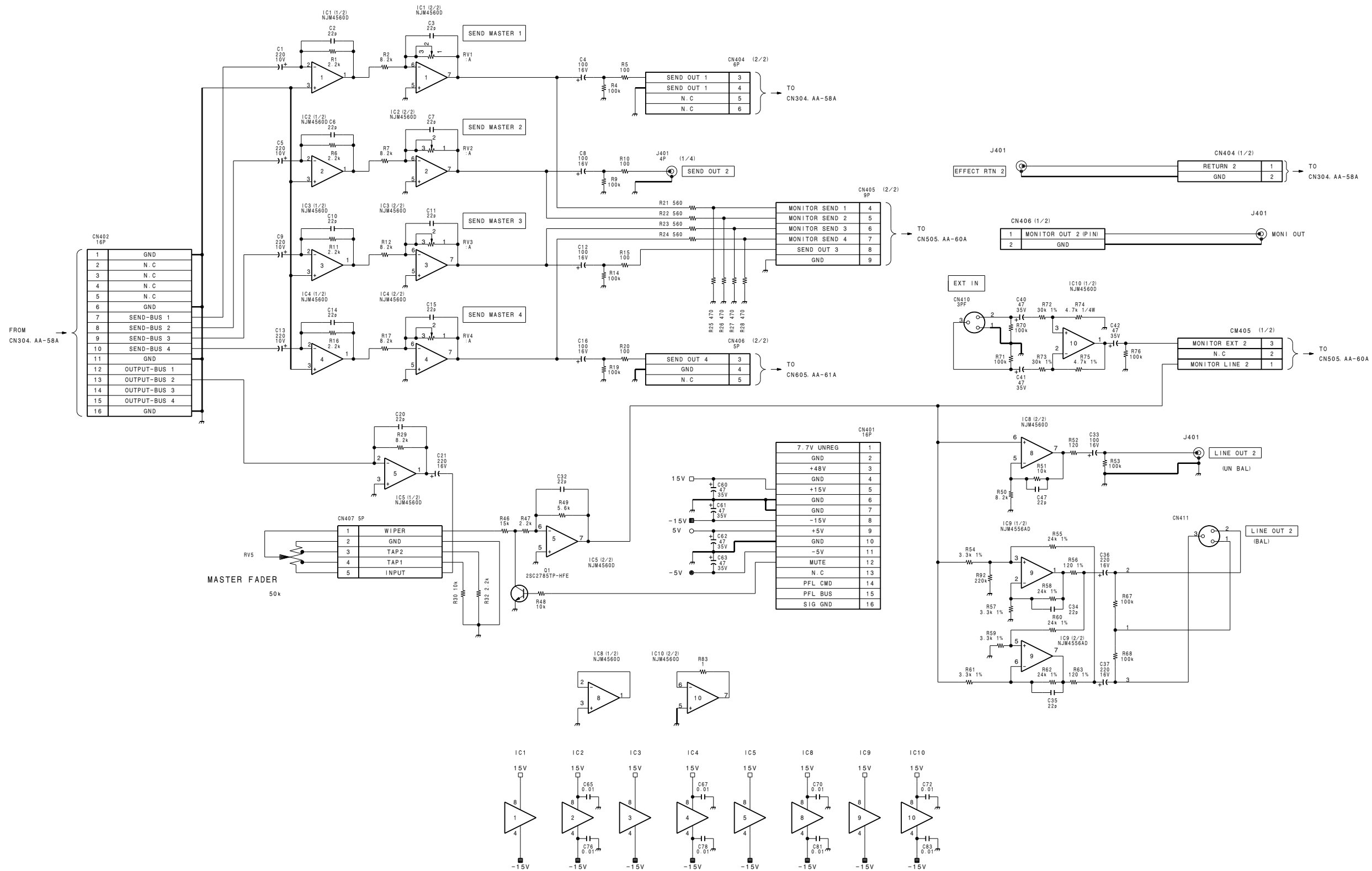
7-1. MXP-310

MXP-310 (J) : S/N 10001 and Higher
MXP-310 (UC) : S/N 20001 and Higher
MXP-310 (CE) : S/N 50001 and Higher



LINE 1 OUTPUT
AA-58A
BOARD NO. 1-644-182-11
B-WMP310-AA58A-S/M

MXP-310 (J) : S/N 10001 and Higher
MXP-310 (UC) : S/N 20001 and Higher
MXP-310 (CE) : S/N 50001 and Higher



LINE 2 OUTPUT

AA-59A

BOARD NO. 1-644-183-11

B-YMXP310-AA59A-S/M

MXP-310 (J) : S/N 10001 and Higher
MXP-310 (UC) : S/N 20001 and Higher
MXP-310 (CE) : S/N 50001 and Higher

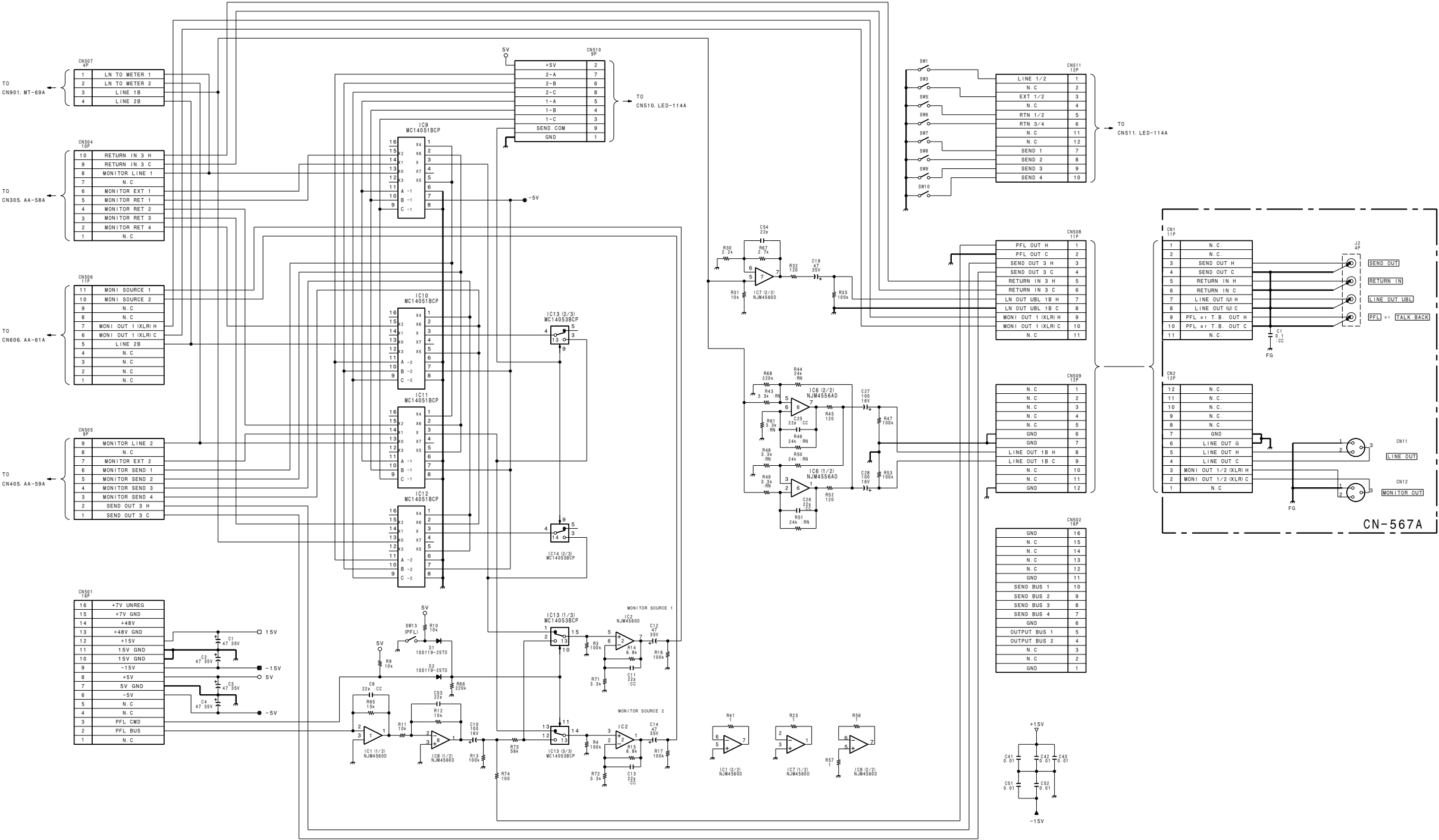
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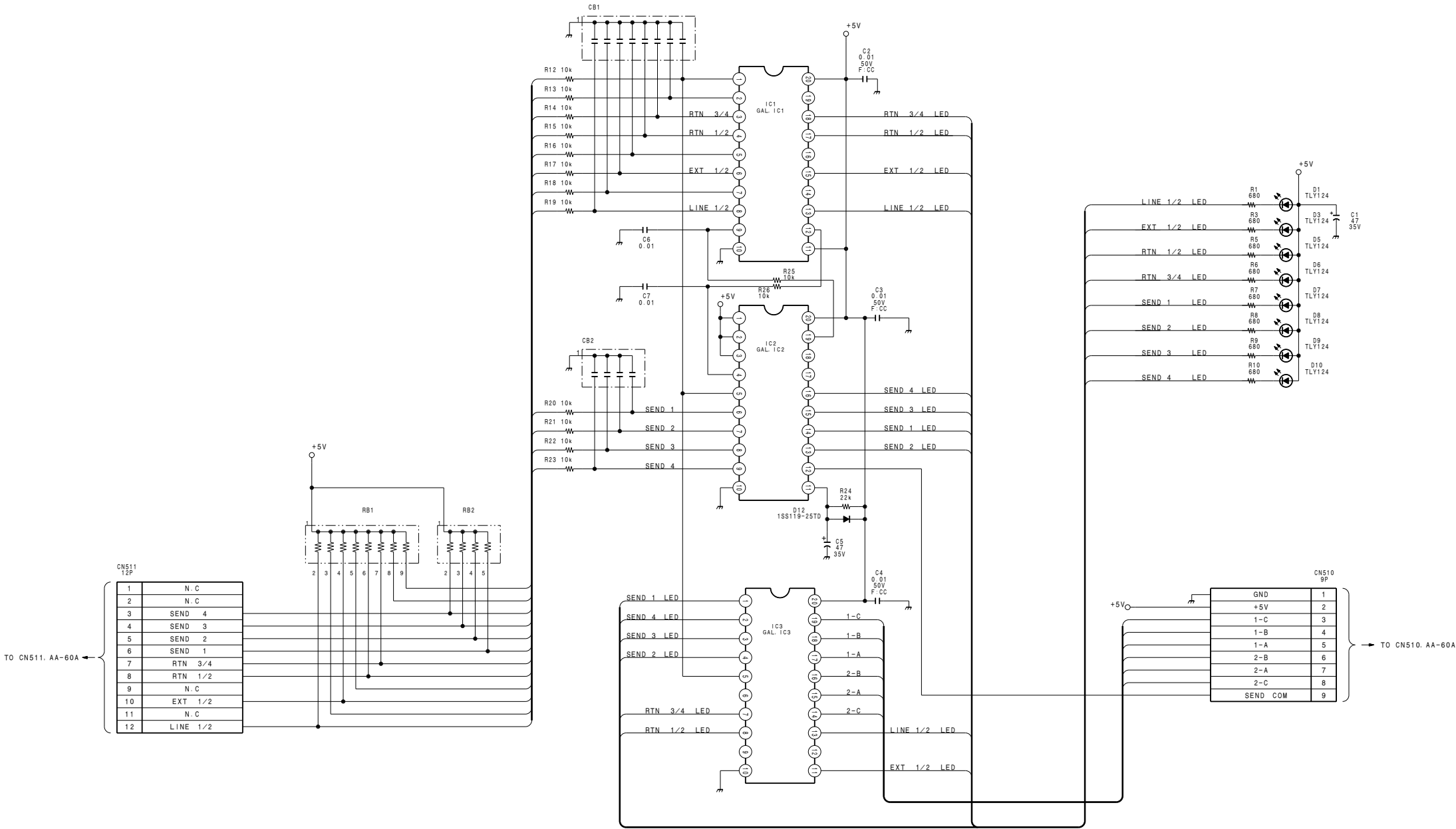
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LINE 1B OUTPUT
AA-60A
BOARD NO. 1-644-184-12

CONNECTOR
CN-567A
BOARD NO. 1-644-186-11
B-YMXP310-AA60A-S/M

MXP-310 (J) : S/N 10001 and Higher
MXP-310 (UC) : S/N 20001 and Higher
MXP-310 (CE) : S/N 50001 and Higher



LED
LED-114A
BOARD NO. 1-644-185-12
B-WMXP310-LED114A-S/M

MXP-310 (J) : S/N 10001 and Higher
MXP-310 (UC) : S/N 20001 and Higher
MXP-310 (CE) : S/N 50001 and Higher

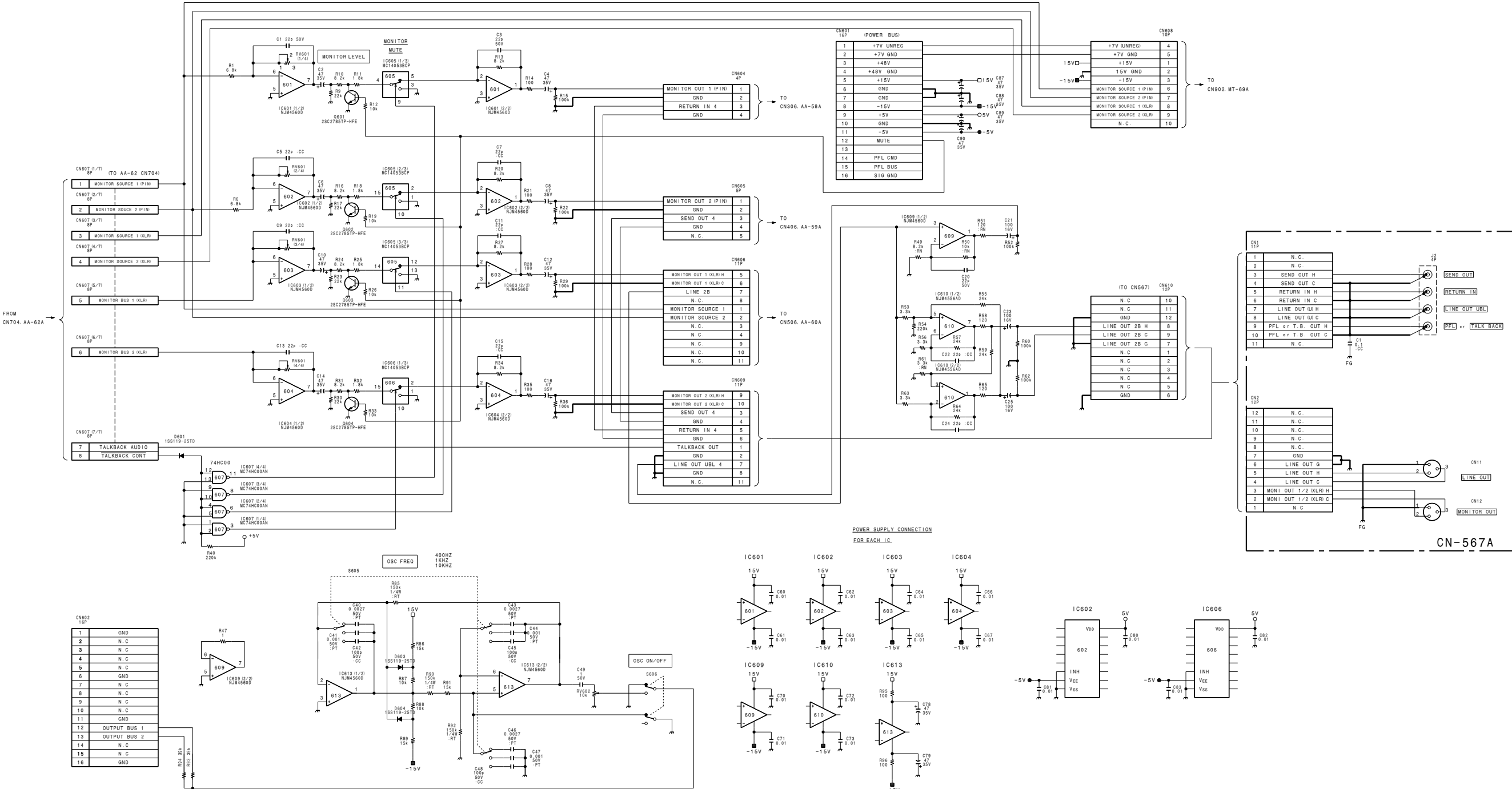
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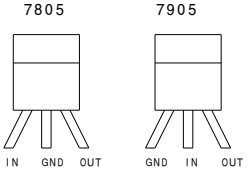
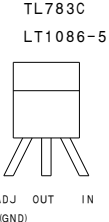
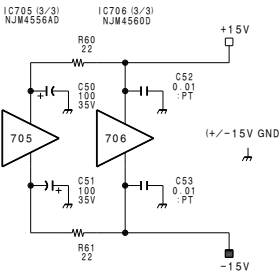
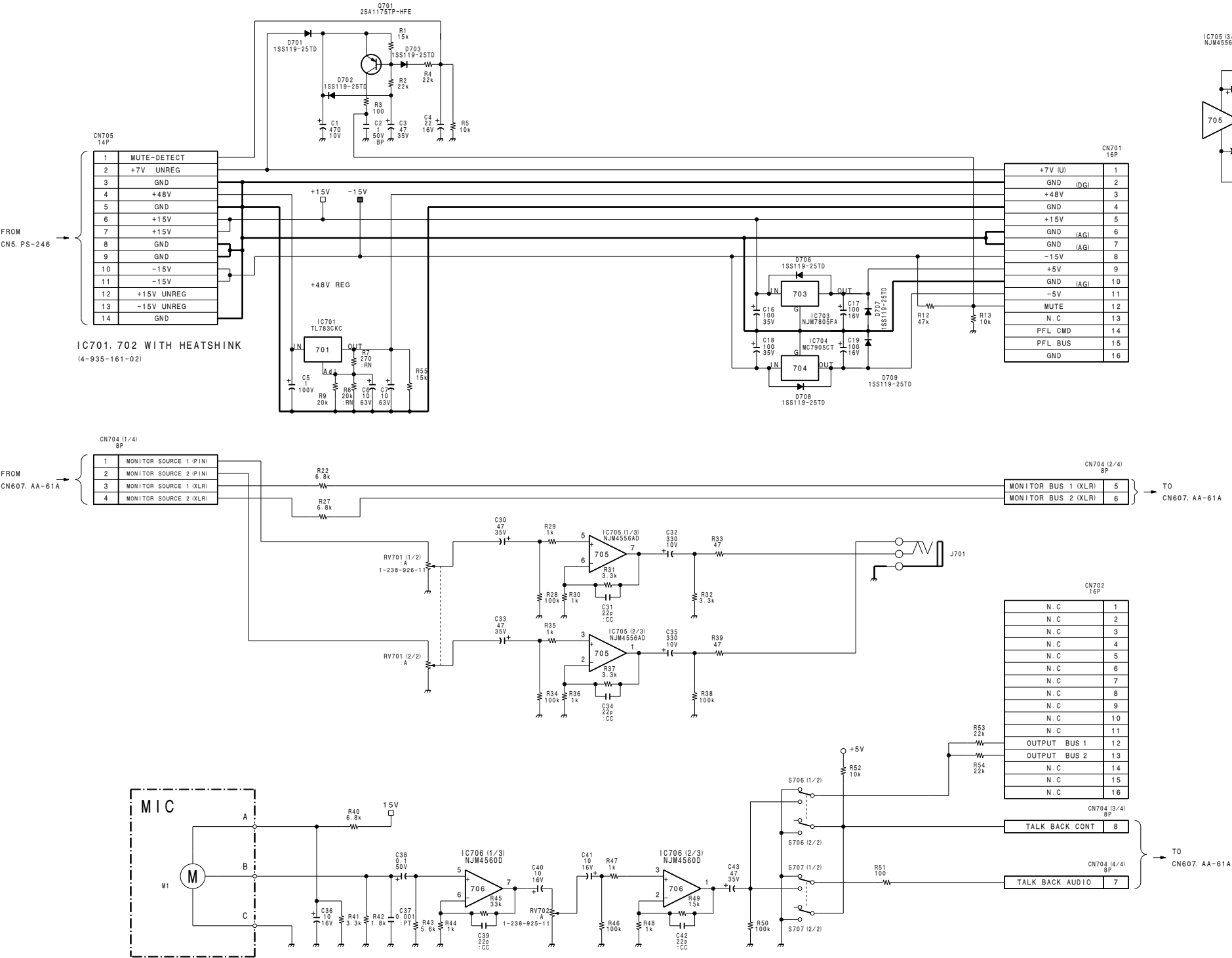
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LINE 2B OUTPUT
AA-61A
BOARD NO. 1-644-187-13

CONNECTOR
CN-567A
BOARD NO. 1-644-186-11
B-MXP310-AA61A-S/M

MXP-310 (J) : S/N 10001 and Higher
MXP-310 (UC) : S/N 20001 and Higher
MXP-310 (CE) : S/N 50001 and Higher

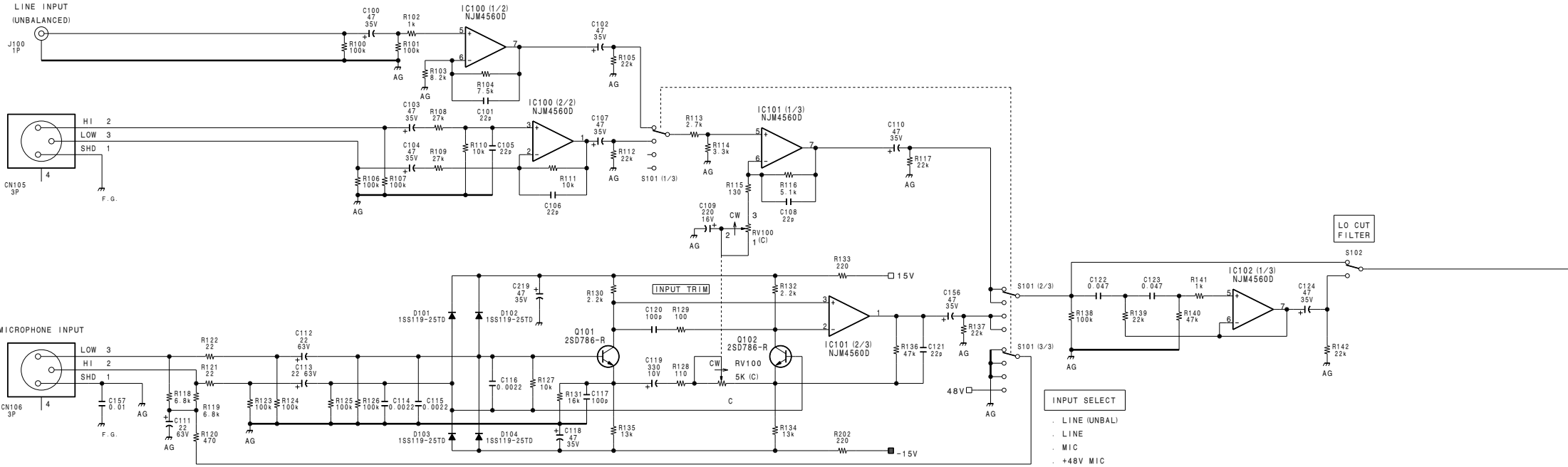
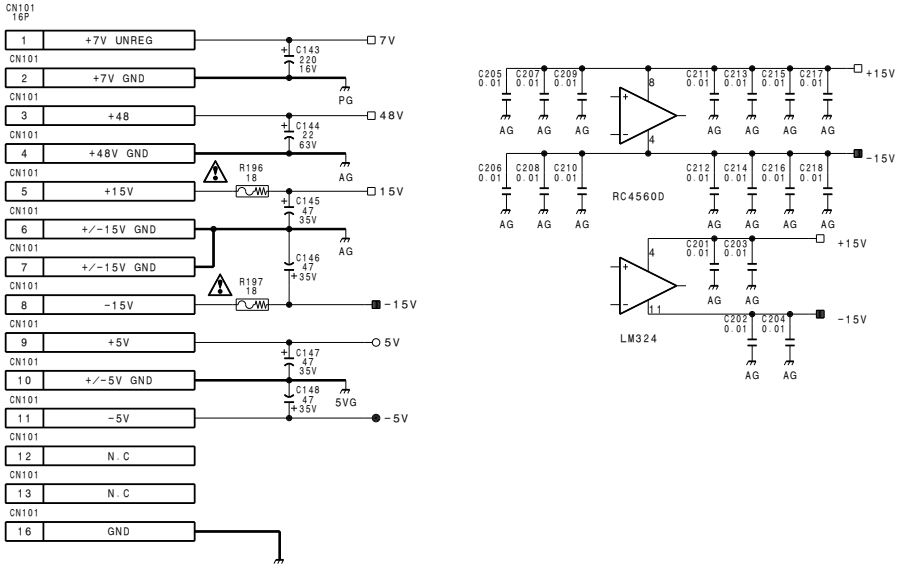


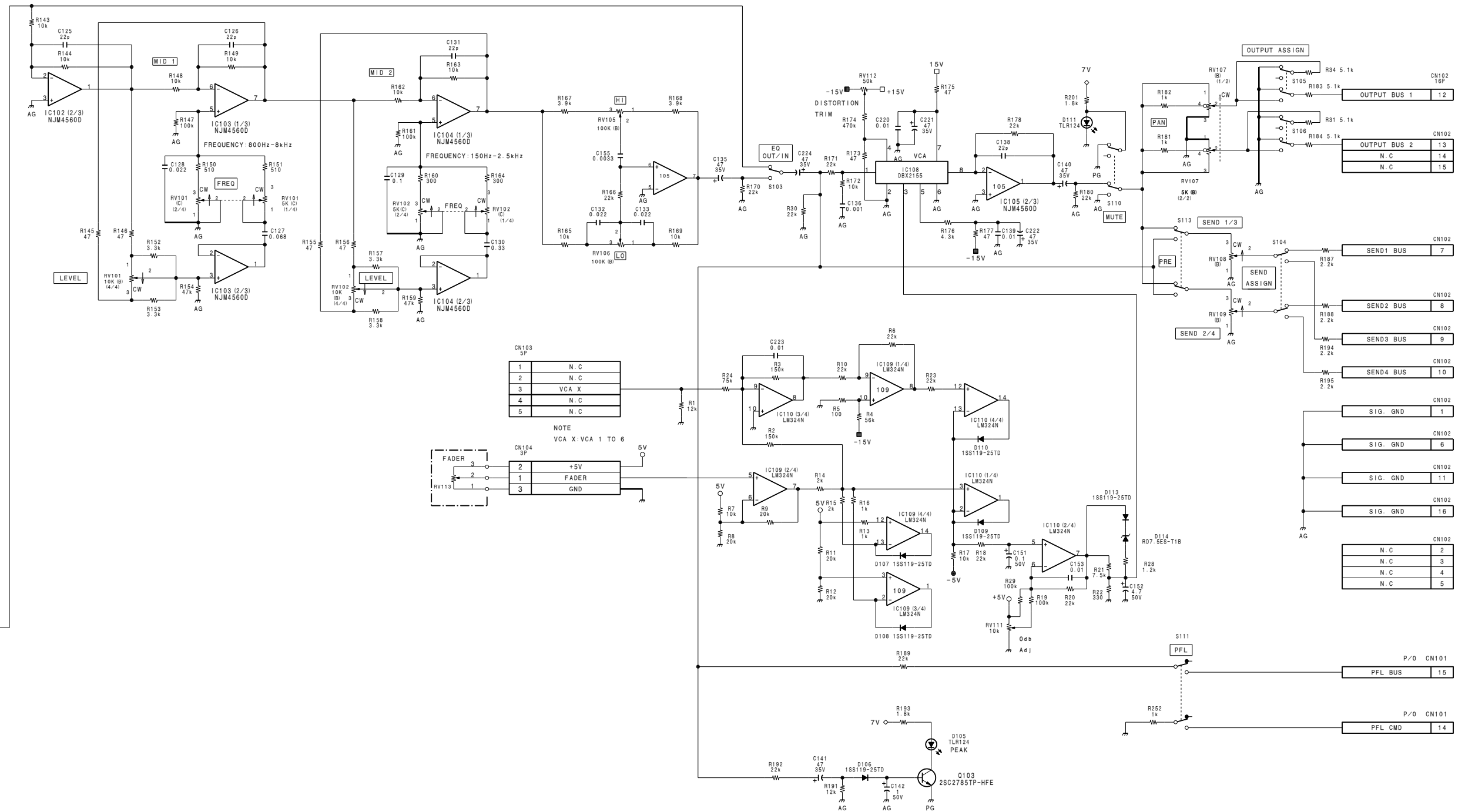
HEAD PHONE/TALK BACK
AA-62A
BOARD NO. 1-644-192-12

MIC
MIC
BOARD NO. 1-609-885-11
B-VMP310-AA62A-S/M

MXP-310 (J) : S/N 10001 and Higher
MXP-310 (UC) : S/N 20001 and Higher
MXP-310 (CE) : S/N 50001 and Higher

POWER CONNECTIONS FOR EACH OP-AMP





MONAURAL INPUT
IPM-31A
BOARD NO. 1-644-180-11
B-¥MXP310-IPM31A-S/M

MXP-310 (J) : S/N 10001 and Higher
MXP-310 (UC) : S/N 20001 and Higher
MXP-310 (CE) : S/N 50001 and Higher

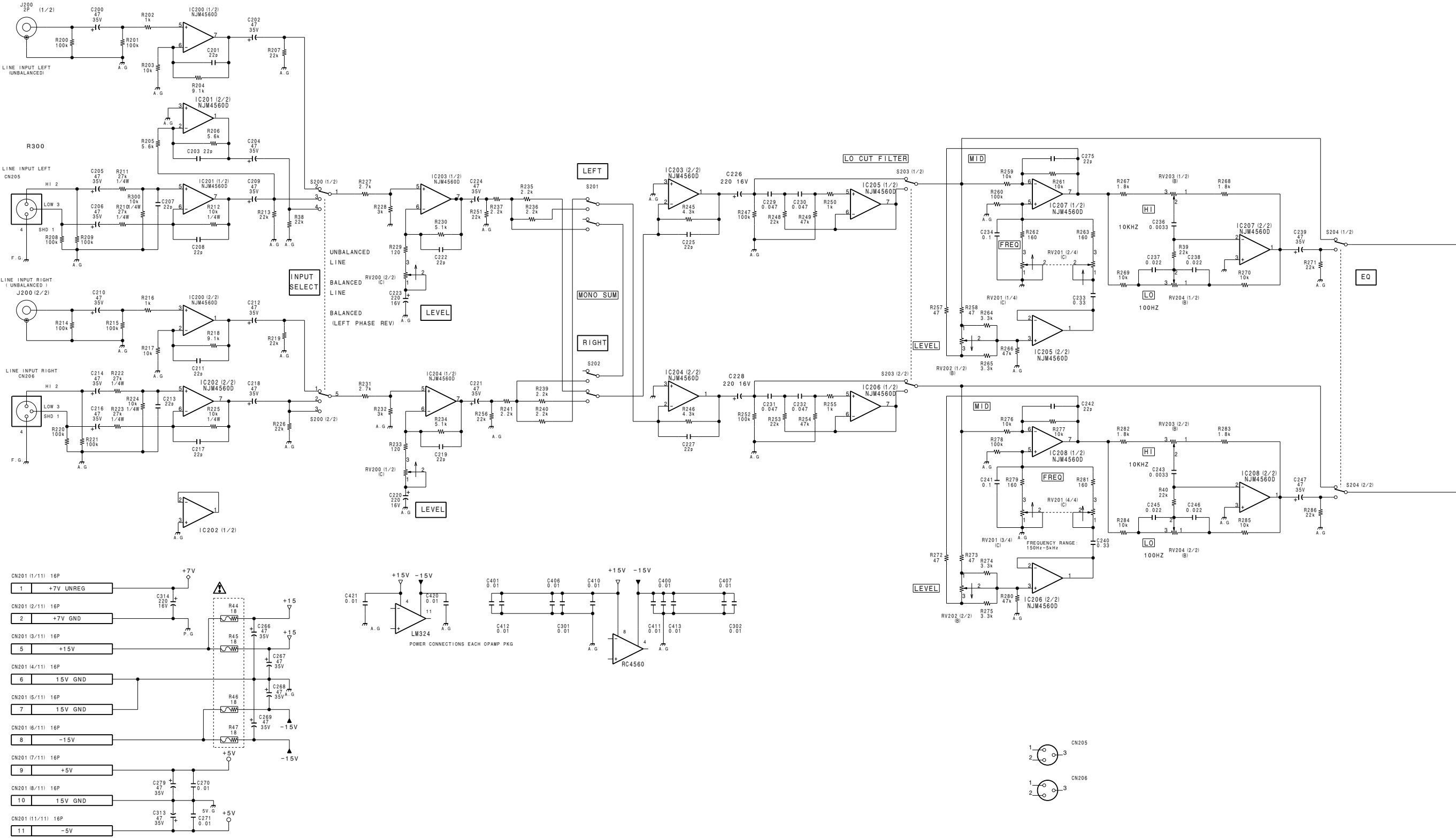
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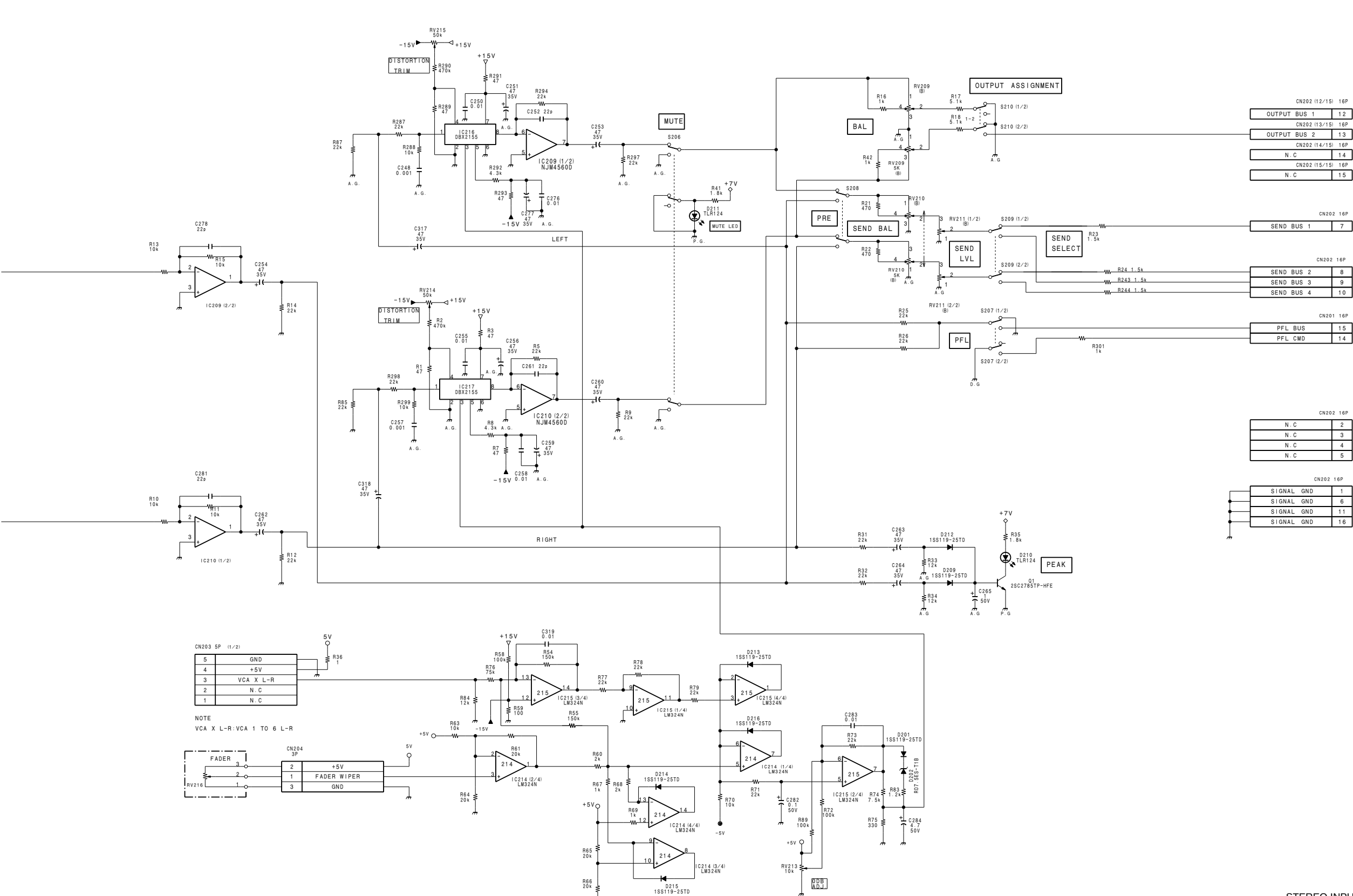
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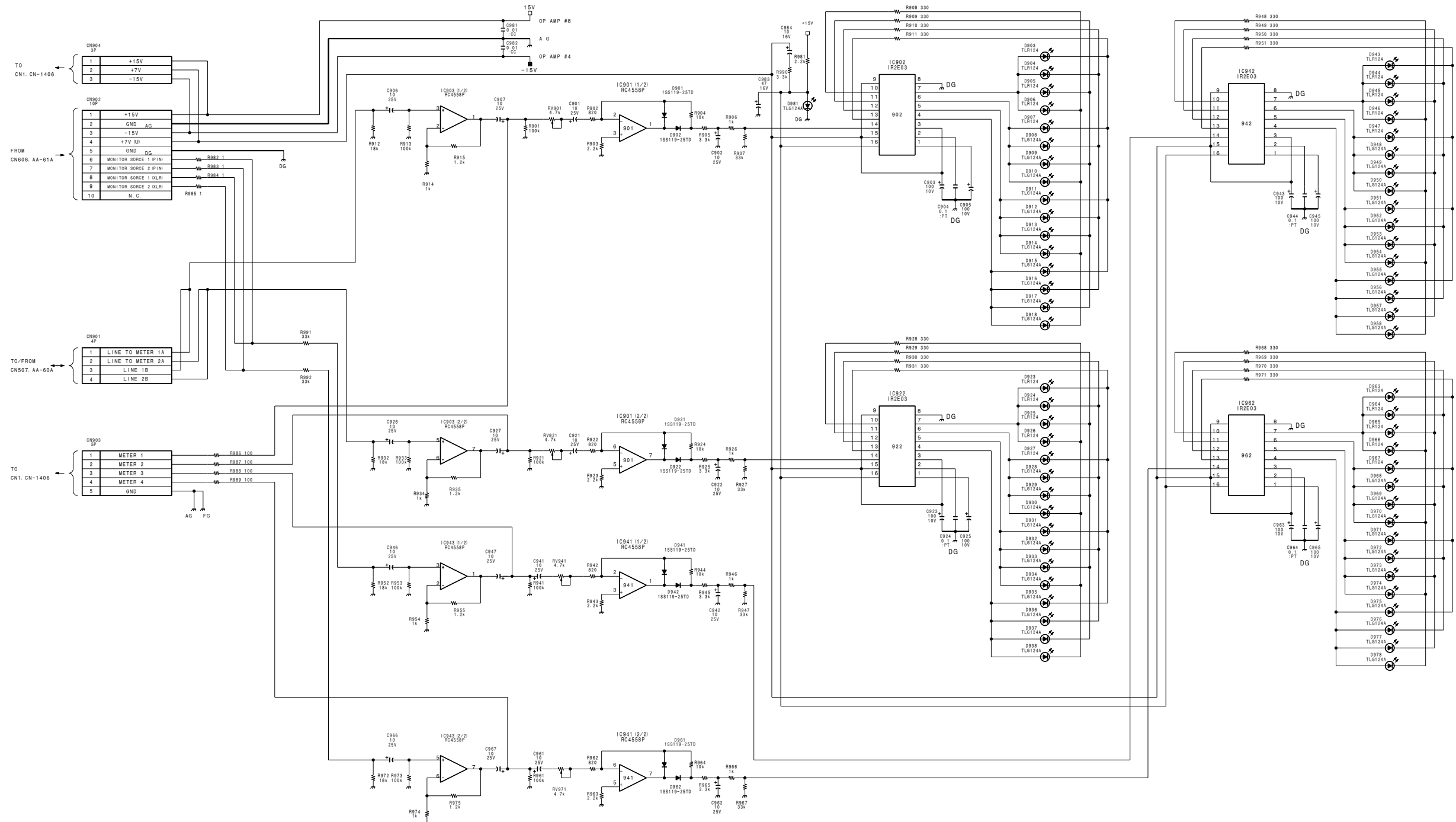
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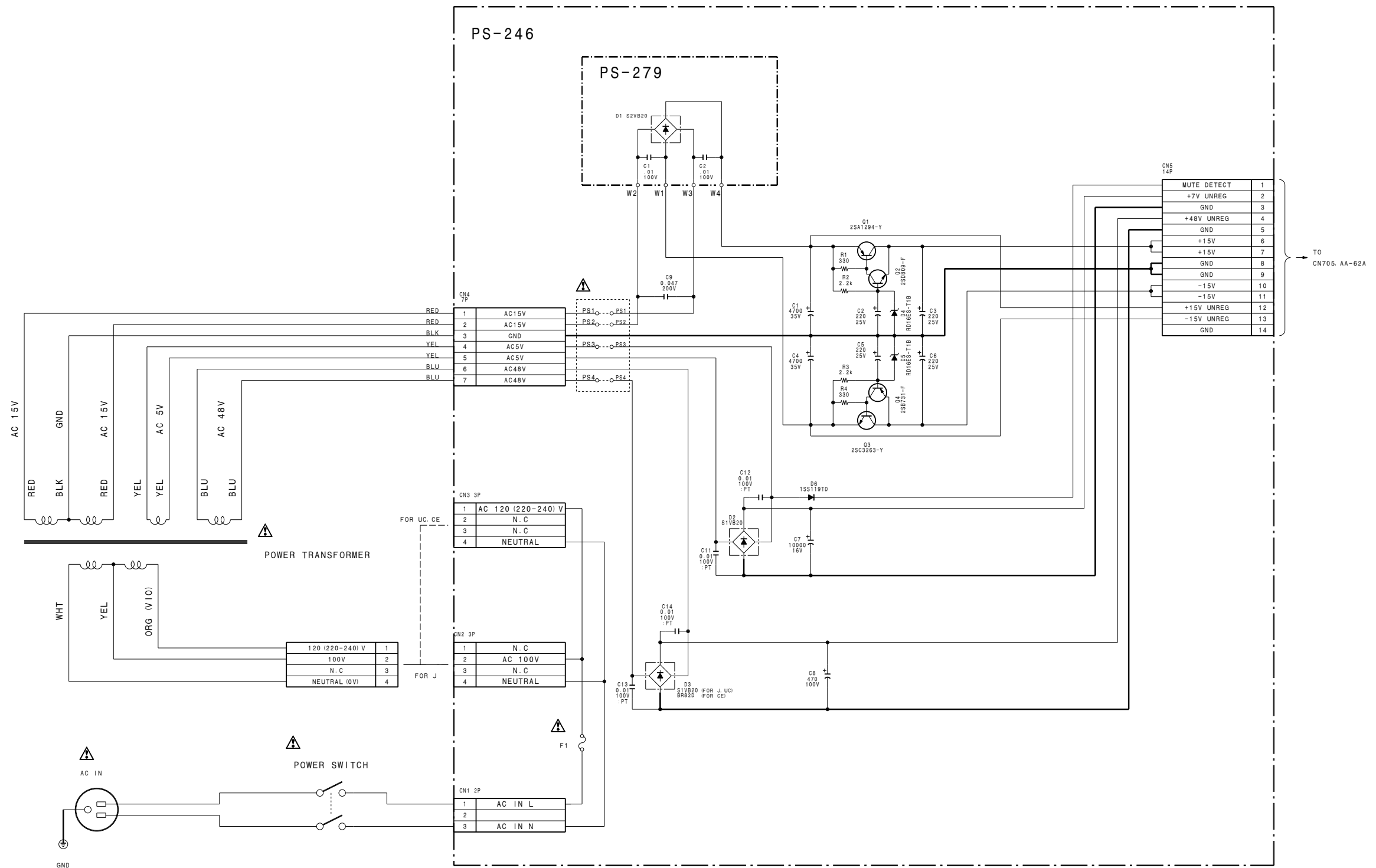
MT-69A

MXP-310 (J) : S/N 10001 and Higher
MXP-310 (UC) : S/N 20001 and Higher
MXP-310 (CE) : S/N 50001 and Higher



METER
MT-69A
BOARD NO. 1-644-193-12
B-YMXP310-MT69A-S/M

MXP-310 (J) : S/N 10001 and Higher
 MXP-310 (UC) : S/N 20001 and Higher
 MXP-310 (CE) : S/N 50001 and Higher



POWER SUPPLY
PS-246
BOARD NO. 1-644-194-11

PS-279
BOARD NO. 1-644-195-11
B-VMXP310-PS246/279-S/M

MXP-310 (J) : S/N 10001 and Higher
MXP-310 (UC) : S/N 20001 and Higher
MXP-310 (CE) : S/N 50001 and Higher

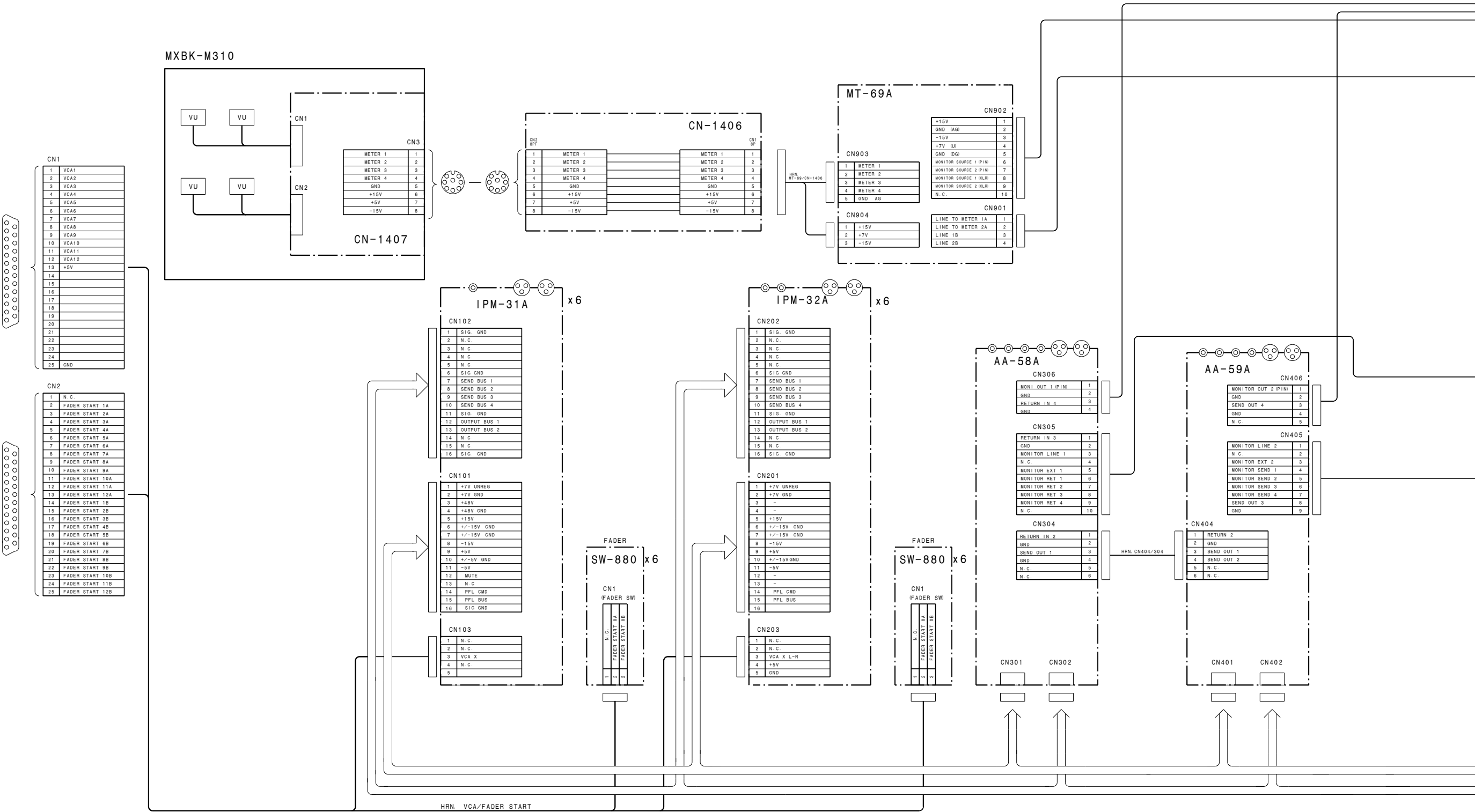
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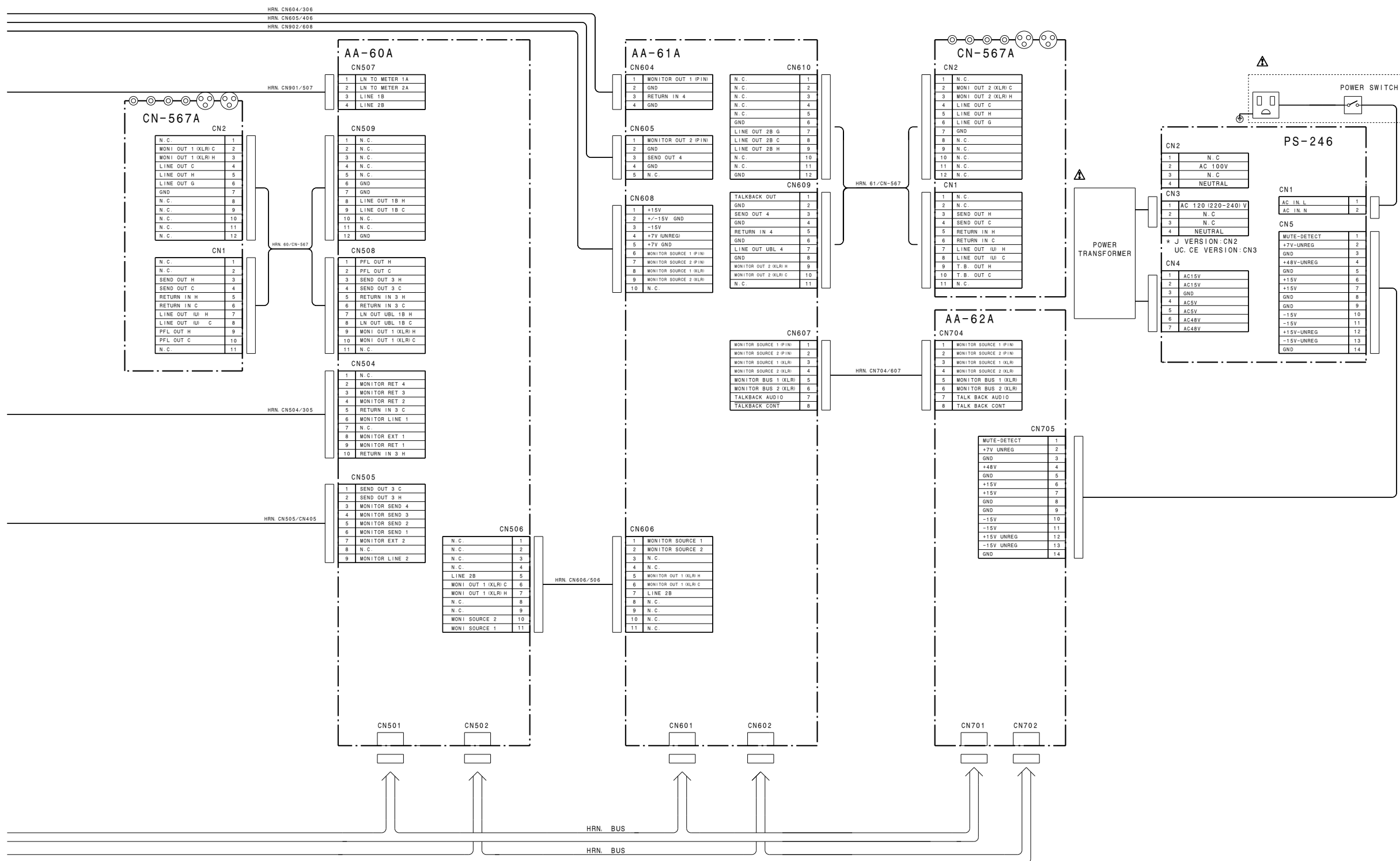
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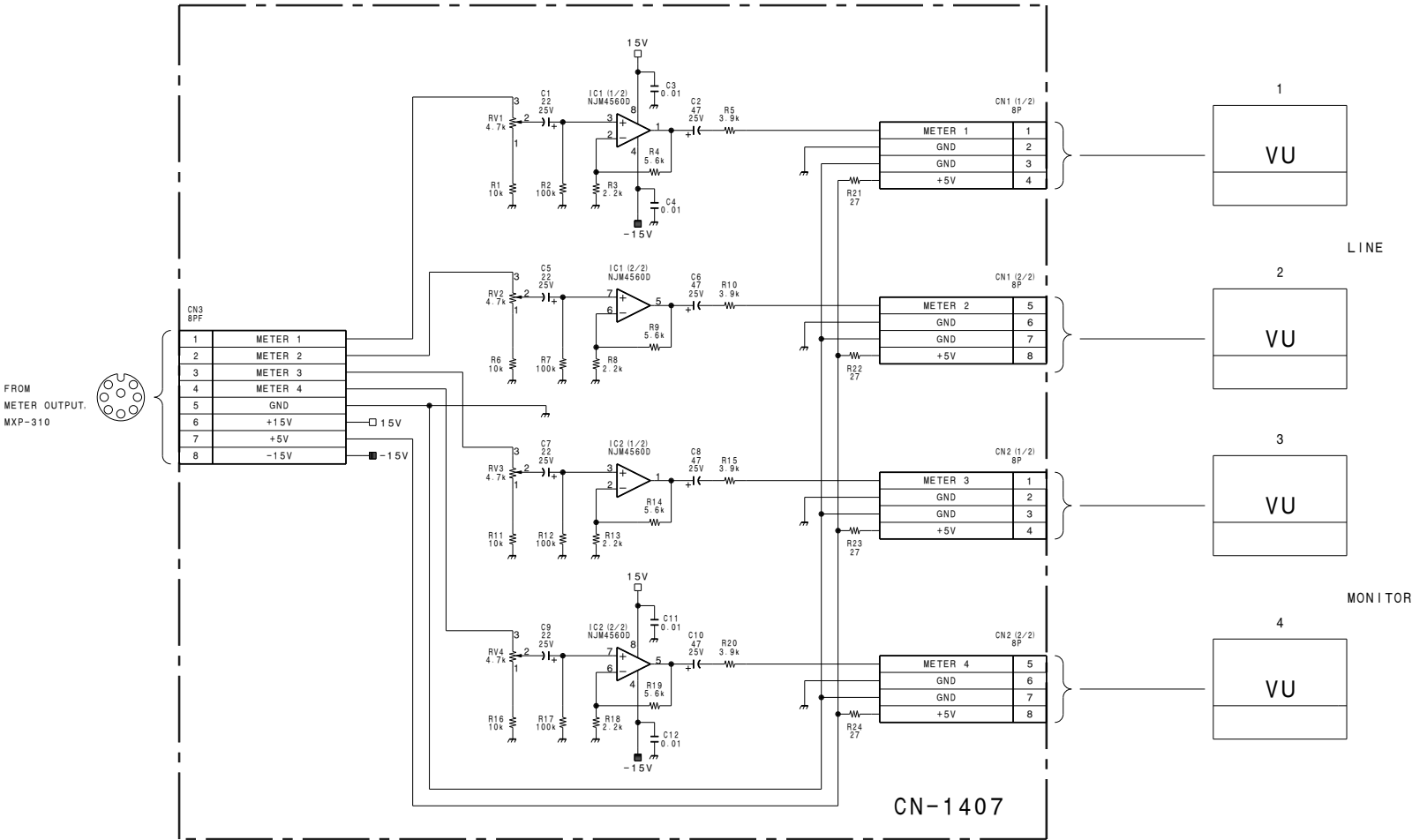




Frame Wiring

CONNECTOR
CN-1406

BOARD NO. 1-667-276-11
B-MXP310-FRAME-S/M



CONNECTOR
CN-1407
BOARD NO. 1-667-277-11
B-WMXBKM310-CN1407-S/M

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SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer :

Check the metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA. Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

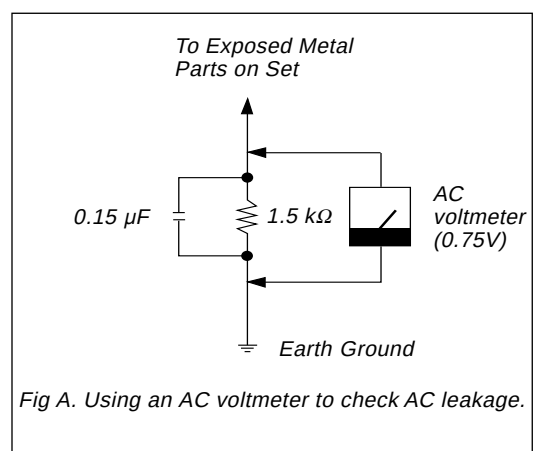


Fig A. Using an AC voltmeter to check AC leakage.

MXP-310 (J,UC,CE) J, E
9-976-845-01

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Image & Sound Communication Company

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