

SONY®

AUX BUS REMOTE PANEL

MKS-8080

MKS-8082

MAINTENANCE MANUAL

1st Edition (Revised 1)

Serial No. 10001 and Higher: MKS-8080

Serial No. 10001 and Higher: MKS-8082

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、修理などを行うと感電や火災、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.

Attention-when the product is installed in Rack:

1. Prevention against overloading of branch circuit

When this product is installed in a rack and is supplied power from an outlet on the rack, please make sure that the rack does not overload the supply circuit.

2. Providing protective earth

When this product is installed in a rack and is supplied power from an outlet on the rack, please confirm that the outlet is provided with a suitable protective earth connection.

3. Internal air ambient temperature of the rack

When this product is installed in a rack, please make sure that the internal air ambient temperature of the rack is within the specified limit of this product.

4. Prevention against achieving hazardous condition due to uneven mechanical loading

When this product is installed in a rack, please make sure that the rack does not achieve hazardous condition due to uneven mechanical loading.

5. Install the equipment while taking the operating temperature of the equipment into consideration

For the operating temperature of the equipment, refer to the specifications of the Operation Manual.

6. When performing the installation, keep the rear of the unit 10 cm (4 inches) or more away from walls in order to obtain proper exhaust and radiation of heat.

WARNING

This unit has no power switch.

When installing the unit, incorporate a readily accessible disconnect device in the fixed wiring, or connect the power cord to a socket-outlet which must be provided near the unit and easily accessible, so that the user can turn off the power in case a fault should occur.

WARNUNG

Dieses Gerät hat keinen Netzschalter.

Beim Einbau des Geräts ist daher im Festkabel ein leicht zugänglicher Unterbrecher einzufügen, oder das Netzkabel muß mit einer in der Nähe des Geräts befindlichen, leicht zugänglichen Wandsteckdose verbunden werden, damit sich bei einer Funktionsstörung die Stromversorgung zum Gerät jederzeit unterbrechen läßt.

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Manual Structure

Purpose of this manual

This manual is the maintenance manual of AUX Bus Remote Panel MKS-8080 and MKS-8082.

This manual is intended for use by trained system and service engineers, and describes the information for maintenance and detailed service.

Related manuals

The following manuals are prepared for this unit.

- **Operation Guide (Supplied with the unit)**

This manual describes the cautions on the operation of this unit and the setting of station numbers.

- **Operation Manual (Available on request)**

This manual describes the detailed information on how to operate this unit.

If you want to acquire this manual, access the Instruction Manual Database (<http://imdb.dd.sony.co.jp/index.htm>).

- **“Semiconductor Pin Assignments” CD-ROM (Available on request)**

This “Semiconductor Pin Assignments” CD-ROM allows you to search for semiconductors used in B&P Company equipment.

Semiconductors that cannot be searched for on this CD-ROM are listed in the service manual for the corresponding unit. The service manual contains a complete list of all semiconductors and their ID Nos., and thus should be used together with the CD-ROM.

Part number: 9-968-546-XX

Contents

This manual is organized by following sections.

Section 1 Service Overview

This section explains the cabinet removal/installation, main parts location, switching regulator replacement, fuse/IC link replacement, software update.

Section 2 Spare Parts

This section describes the spare parts.

Section 3 Semiconductor Pin Assignments

This section contains information on semiconductors used for unit.

It includes a complete list of the semiconductors and their ID Nos. for retrieving information on “Semiconductor Pin Assignments” CD-ROM, which is available separately.

Please refer to this section together with the “Semiconductor Pin Assignments” CD-ROM.

Information on the semiconductors not contained in the CD-ROM at the time of issue of this manual, if any, is given in this section as well.

Section 4 Overall Block Diagrams (Including Frame Wiring)

This section describes the overall block diagrams.

Section 5 Schematic Diagrams

This section describes the schematic diagrams of the boards.

Section 6 Board Layouts

This section describes the board layouts and locations of components.

Trademarks

Trademarks and registered trademarks used in this manual are follows.

- Windows and MS-DOS are registered trademarks of Microsoft Corporation.
- IBM and AT are registered trademarks of International Business Corporation.

Section 1

Service Overview

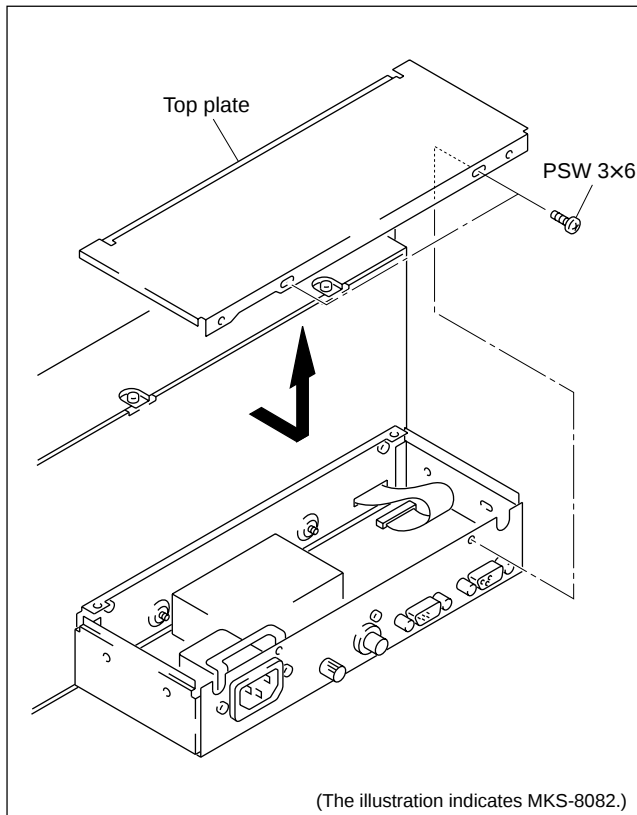
1-1. Cabinet Removal/Installation

Note

Install them in the reverse order of the removal procedure.

1-1-1. Removal of Top Plate

Remove the two screws, then remove the top plate in the direction indicated by the arrow.

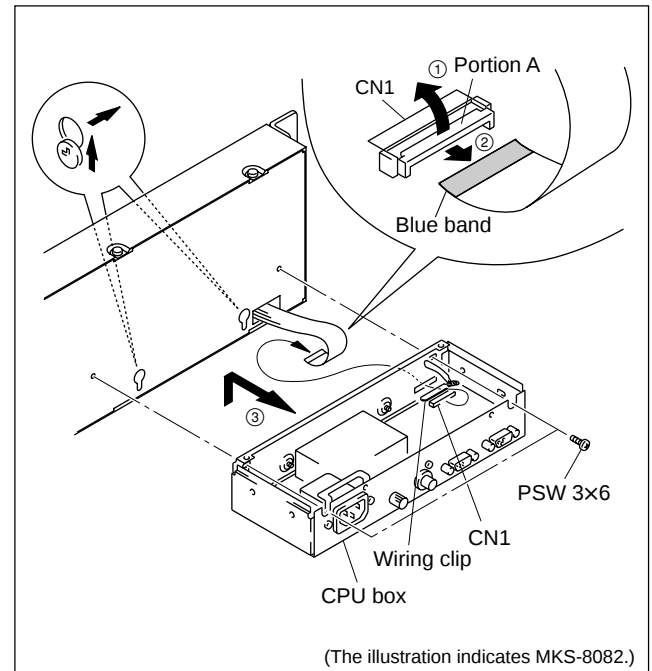


1-1-2. Removal of CPU Box

1. Remove the top plate. (Refer to Section 1-1-1.)
2. Remove the two screws.
3. Raise the wiring clip holding the flexible card wire.
4. Pull portion A of the connector (CN1) in the direction indicated by arrow ① and unlock it. Pull the flexible card wire in the direction indicated by arrow ②.
5. Remove the CPU box in the direction indicated by arrow ③.

Note

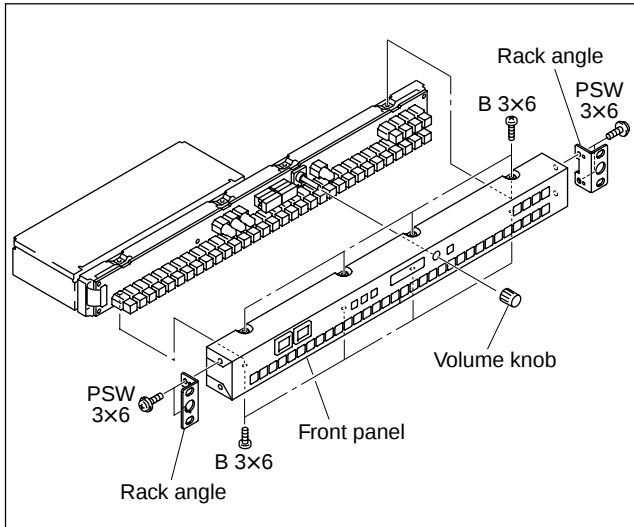
When installing the flexible card wire, put it with the blue band up.



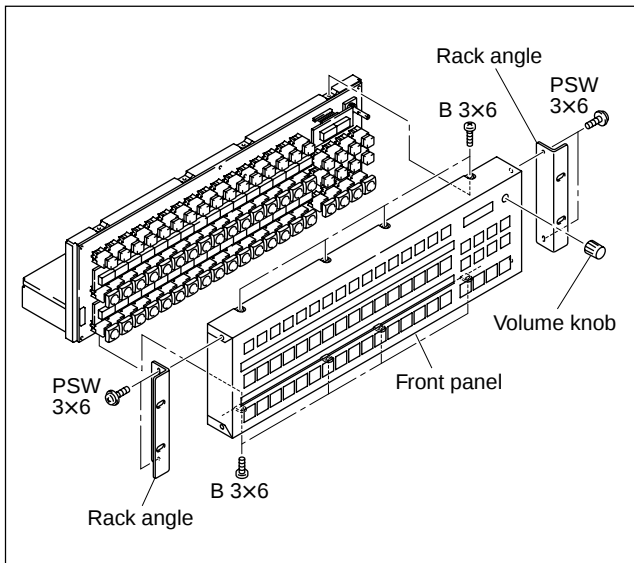
1-1-3. Removal of Front Panel

1. Remove the eight screws (B3 × 6).
2. Remove the four screws (PSW3 × 6), then remove the rack angles.
3. Remove the volume knob, then remove the front panel.

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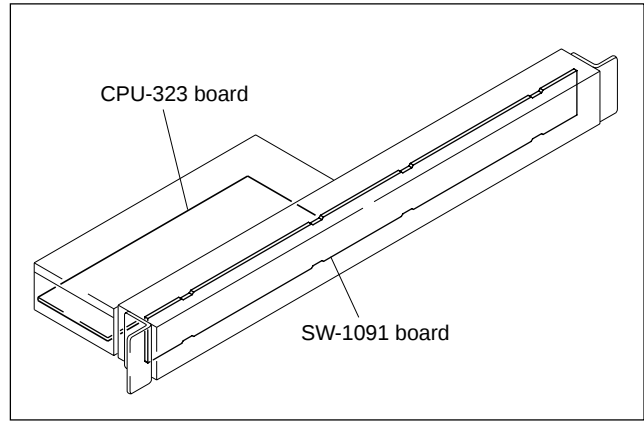


MKS-8082

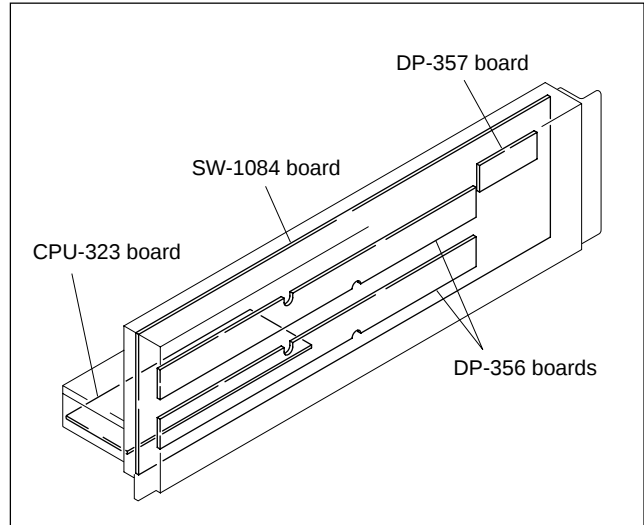


1-2. Main Parts Location

MKS-8080



MKS-8082



1-3. Switching Regulator Replacement

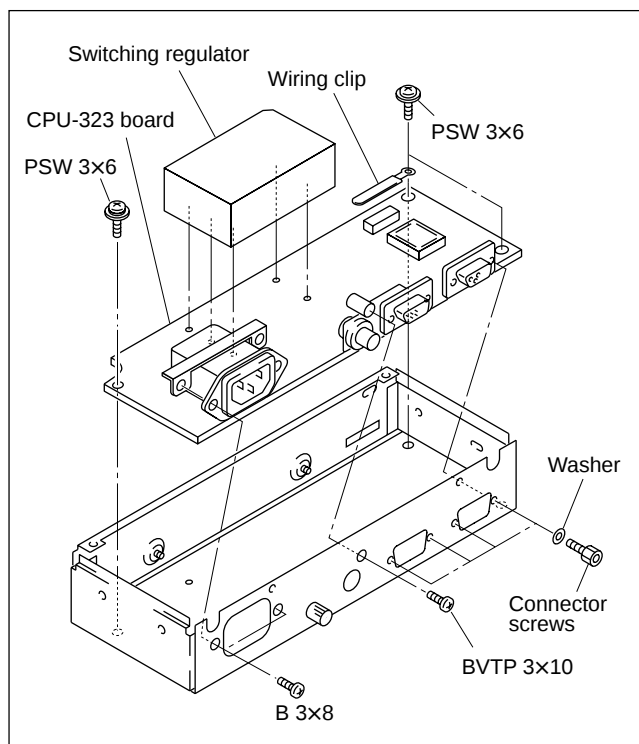
WARNING

Unplug the power supply cord before replacing the switching regulator.

Note

Do not disassemble the switching regulator.

1. Remove the top plate. (Refer to Section 1-1-1.)
2. Raise the wiring clip.
3. Remove the flexible card wire from the connector (CN1). (Refer to Section 1-1-2.)
4. Remove the two screws (B3 × 8).
5. Remove the screw (BVTP3 × 10).
6. Remove the four screws fixing the connectors.
7. Remove the three screws (PSW3 × 6), then remove the CPU-323 board.
8. Remove the five solders fixing the switching regulator.
9. Remove the switching regulator from the CPU-323 board.



Note

On installing the switching regulator, install it in the reverse order of the removal steps 1 to 9.

1-4. Fuse/IC Link Replacement

WARNING

A fuse and an IC link is critical parts to safe operation. Replace this component with SONY parts whose part numbers appear in this manual published by SONY. If not, this may cause a fire or electric shock. Be sure to use specified component in this manual.

The MKS-8080/8082 has a fuse and an IC link for circuit protection.

A fuse and an IC link will blow when abnormality occurs and an overcurrent flows in this equipment.

Be sure to replace an old fuse and an IC link with the specified fuse or IC link as shown below after removing the foreign substances that may cause the shorts.

Board	Ref. No.	Part name	Part No.
CPU-323	F1 (A-2)	H.B.C fuse 2A, 250V	△1-576-228-11
	PS1 (C-2)	IC link, Chip 2A	△1-533-282-21

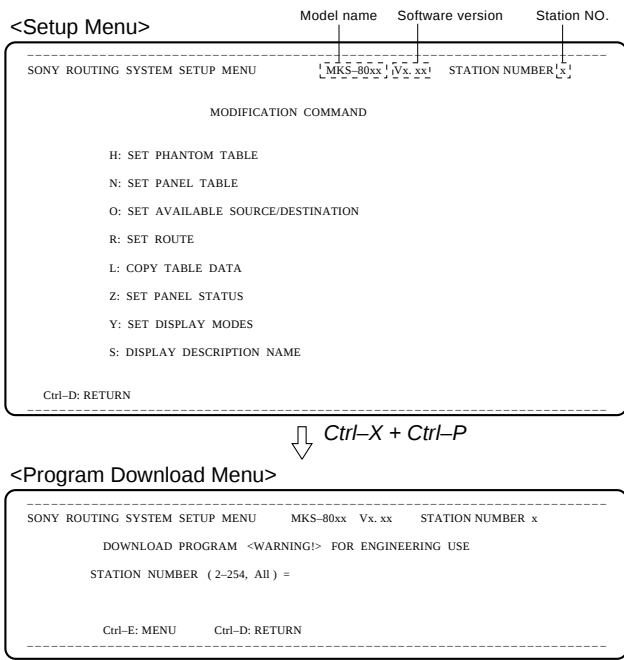
NOTE: The character in parentheses () indicate the address on board.

1-5-2. Download via S-BUS Data Link

The updated software can be copied to another station via a terminal which is connected to the primary station of S-BUS data link.
(Regarding to details of terminal operating, refer to the software installation manual or the system set up manual supplied with routing switcher.)

Download procedure

- 1. Invoke the setup menu of the updated software station on the terminal.
- 2. Press Ctrl-X and Ctrl-P to invoke the program download menu.

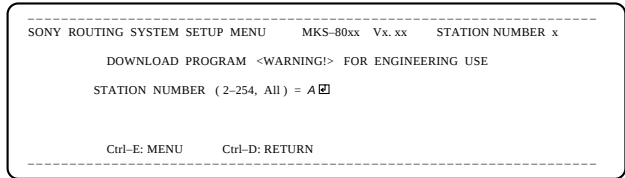


Note

The setup menu varies depending on the model used.

- 3. Enter “A” or the station number to be downloaded software, and press **Enter** key.
To select all stations ; Enter “A”.
To select one station ; Enter station number.
The buttons of the front panel will blink while downloading.
When the download is completed, the buttons change the lights from the blinking state to illuminating state.

An example of selecting all station:



Note

Only the same model receives the program when the downloading of a program is specified for all stations. The program is not incorrectly copied to other models. When you want to download a program to other models, input the station number of the model to which the program is downloaded.

1-5-3. Flash Memory Replacement

Note

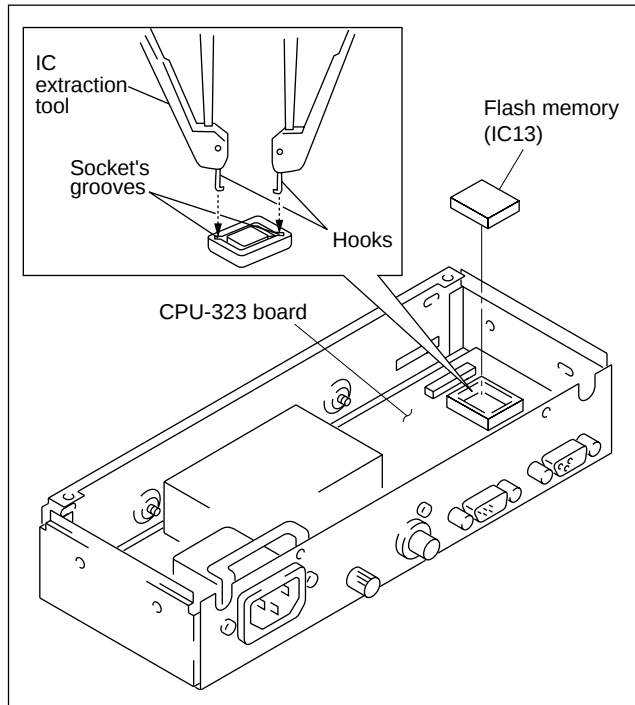
Replacing the flash memory changes the setting to the factory setting due to the initialization. The set panel data is also erased at that time. Make a note of the set value as required.

1. Remove the top plate. (Refer to Section 1-1-1.)
2. Remove and replace the flash memory (IC13) on the CPU-323 board using an IC extraction tool.

Sony part number of IC extraction tool:
J-6035-070-A

Note

If it is difficult to remove the flash memory by the IC extraction tool, use the tweezers or equivalent.



3. While pressing the buttons 1 and 2 on the front panel at the same time, turn the power switch ON to initialize the unit.
4. Reset the setting or copy the data from another control unit.
(For the details of setting, refer to "Making the Setting with the Buttons (Setup Function)" in each model's operation manual which is optionally available in the Instruction Manual Database.)

Section 2

Spare Parts

2-1. Notes on Repair Parts

1. Safety Related Components Warning

WARNING

Components marked △ 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. Harness

Harnesses with no part number are not registered as spare parts.

In need of repair, get components shown in the list and repair using them.

2-1. 補修部品注意事項

1. 安全重要部品

△ 警告

△印のついた部品は安全性を維持するために重要な部品です。したがって、交換する時は必ず指定の部品を使ってください。

2. 部品の共通化

ソニーから供給する補修用部品は、セットに使われているものと異なることがあります。

これは部品の共通化、改良等によるものです。

部品表には現時点での共通化された補修用部品が記載されています。

3. 部品の在庫

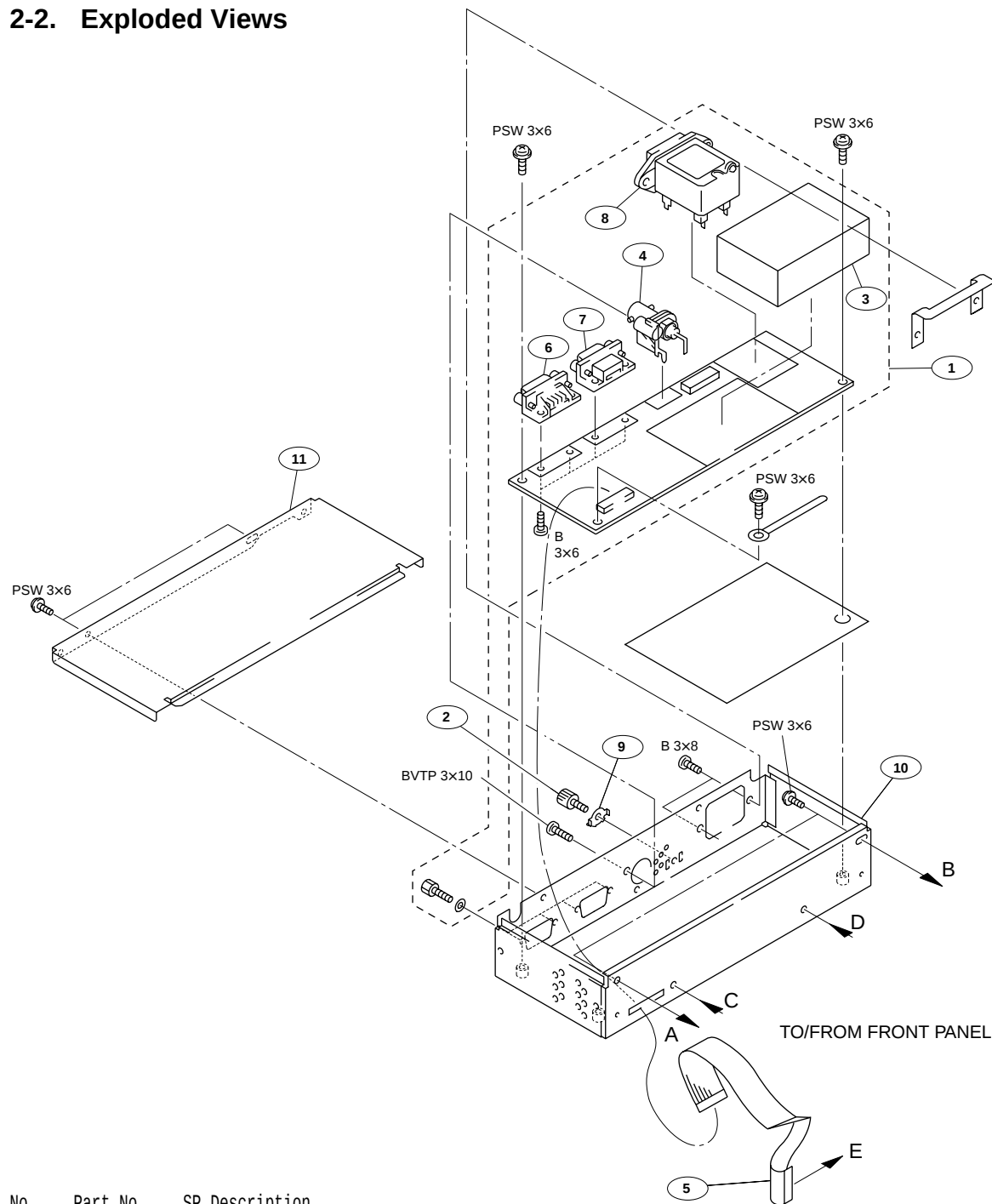
部品表のSP (Supply code) 欄に “o” で示される部品は在庫していないことがあり、納期が長くなることがあります。

4. ハーネス

部品番号が記載されていないハーネスは、サービス部品として登録されていません。

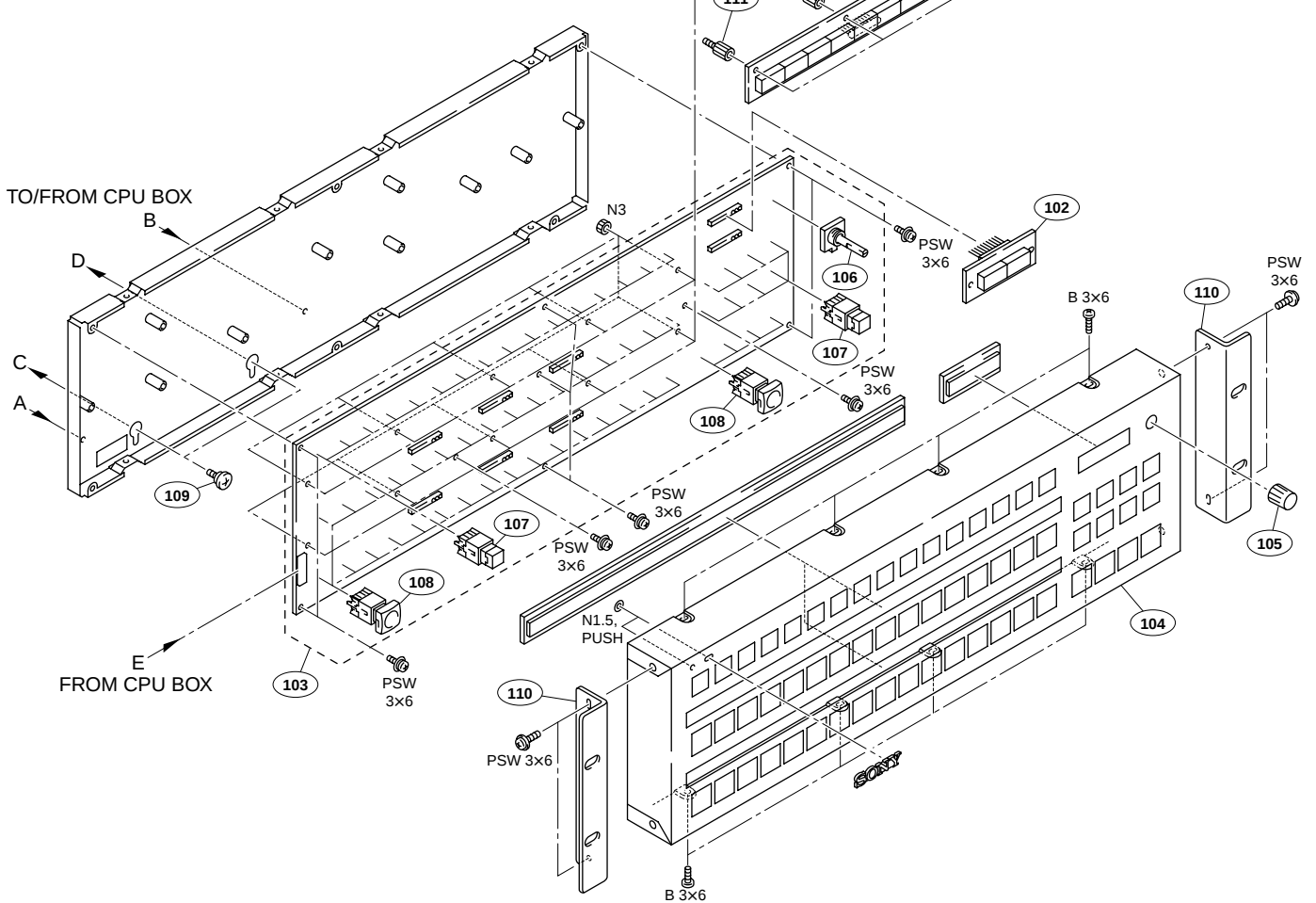
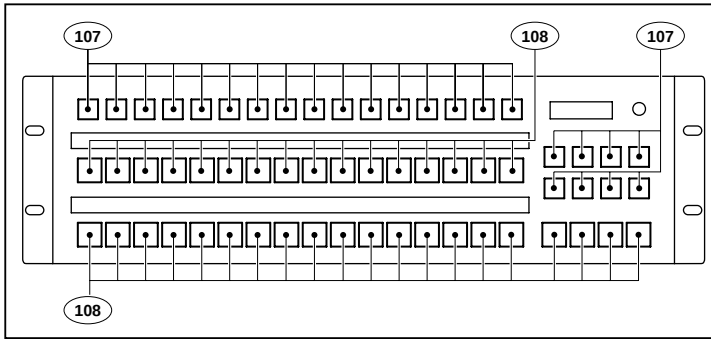
これらは、リストに展開されているコンポーネント部品で補修してください。

2-2. Exploded Views



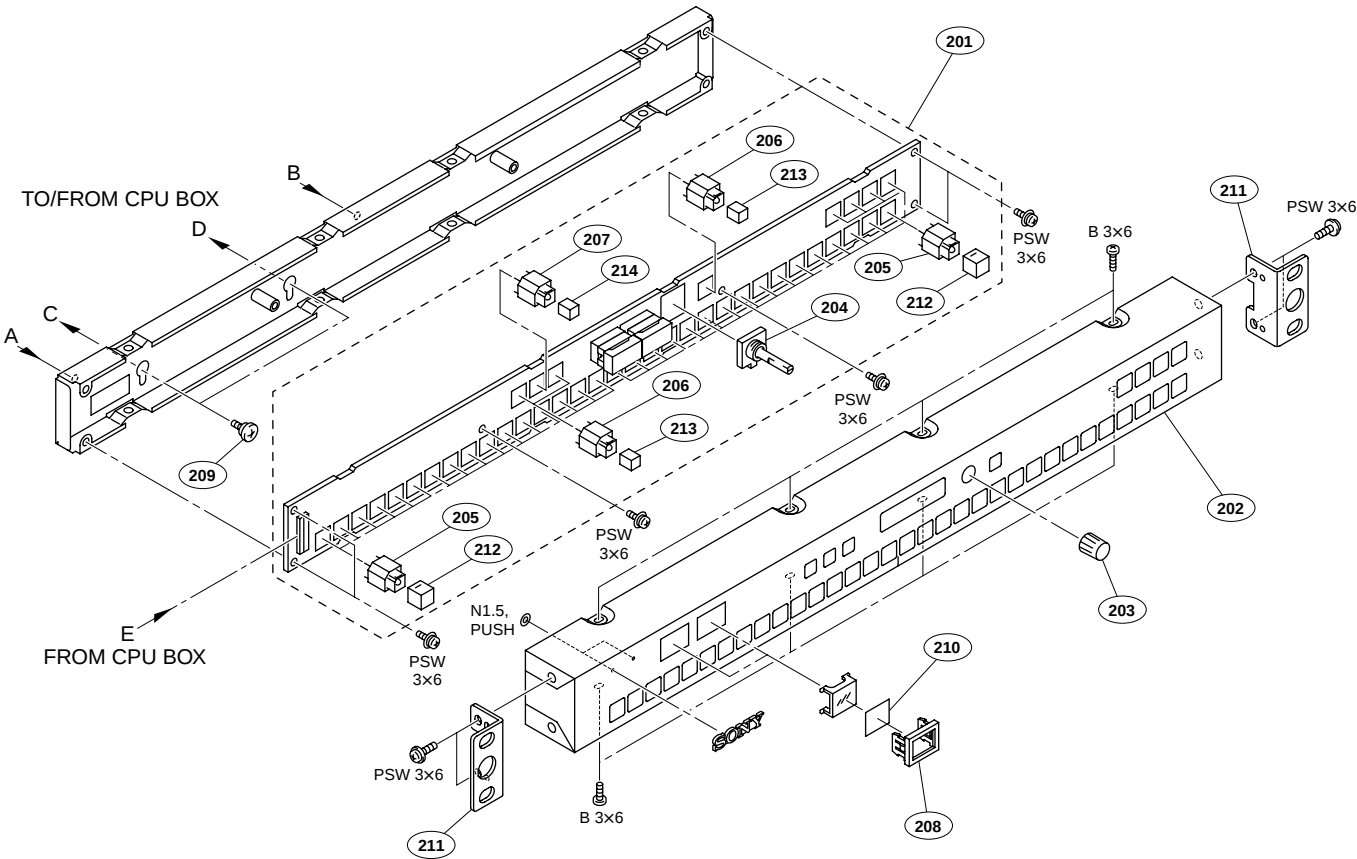
No.	Part No.	SP Description
1	A-8344-014-A	s MOUNTED CIRCUIT BOARD, CPU-323C
2	X-2068-004-0	s TERMINAL ASSY
3	△ 1-468-486-11	s REGULATOR, SWITCHING (KWS15-5)
4	1-695-038-11	s CONNECTOR ASSY,BNC 1P
5	1-757-119-11	o CABLE, FLEXIBLE FLAT (36 CORE)
6	1-766-174-11	o CONNECTOR, SQUARE TYPE (D-SUB)
7	1-779-059-11	o PIN, CONNECTOR (PC BOARD) 9P
8	△ 1-794-141-11	s INLET (WITH NOISE FILTER)
9	2-068-008-00	s WASHER
10	3-204-398-02	o CHASSIS (2ND)
11	3-204-404-02	o PLATE (2ND), TOP
	7-682-548-04	s SCREW +B3X8
	7-682-947-01	s SCREW +PSW 3X6
	7-685-647-79	s SCREW +BVTP3X10

Switch Location (Front View)



No.	Part No.	SP Description
101	A-8329-880-A	s MOUNTED CIRCUIT BOARD, DP-356
102	A-8329-881-A	s MOUNTED CIRCUIT BOARD, DP-357
103	A-8329-882-A	s MOUNTED CIRCUIT BOARD, SW-1084
104	A-8344-207-A	o PANEL SUB ASSY, FRONT
105	X-3167-051-1	s KNOB ASSY,VOLUME
106	1-475-218-11	s ENCODER, ROTARY (SWITCH)
107	1-786-251-11	s SWITCH, TACTILE
108	1-786-252-11	s SWITCH, TACTILE
109	2-236-956-00	s SCREW,STEP
110	3-206-389-01	o BRACKET (3U), RACK MOUNT
111	3-565-714-00	o SHAFT,CHASSIS
	7-624-200-01	s NUT, PUSH 1.5
	7-682-547-04	s SCREW +B3X6
	7-682-947-01	s SCREW +PSW 3X6
	7-684-023-04	s NUT M3 TYPE2

Front Panel (MKS-8080)



No.	Part No.	SP	Description
201	A-8344-328-A	s	MOUNTED CIRCUIT BOARD, SW-1091
202	A-8344-393-A	s	PANEL SUB ASSY, FRONT
203	X-3167-051-1	s	KNOB ASSY, VOLUME
204	1-473-469-11	s	ENCODER, ROTARY (SWITCH)
205	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
206	1-762-042-11	s	SWITCH, TACTILE (ILLUMINATED)
207	1-762-137-11	s	SWITCH, TACTILE (ILLUMINATED)
208	2-139-192-01	s	FRAME, INDICATOR WINDOW
209	2-236-956-00	s	SCREW, STEP
210	2-249-353-00	s	COVER, LAMP
211	3-203-661-11	o	BRACKET (1U), RACK MOUNT
212	3-708-877-01	s	CAP (PC)
213	3-708-895-01	s	CAP (PC)
214	3-708-938-01	s	CAP (PC)
	7-624-200-01	s	NUT, PUSH 1.5
	7-682-547-04	s	SCREW +B3X6
	7-682-947-01	s	SCREW +PSW 3X6

2-3. Electrical Parts List

CPU-323 BOARD ;MKS-8080/8082

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8344-014-A	s	MOUNTED CIRCUIT BOARD, CPU-323C
2pcs	1-533-189-11	s	HOLDER, FUSE
4pcs	7-682-547-04	s	SCREW +B3X6
C1	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C4	1-126-405-11	s	CAPACITOR, ELECT 10MF/50V(CHIP
C8	1-163-037-11	s	CAPACITOR, CHIP CERAMIC 0.022MF
C9	1-163-133-00	s	CAPACITOR, CHIP CERAMIC 470PF
C10	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C12	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C13	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C14	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C15	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C17	1-163-227-11	s	CAPACITOR CERAMIC 10PF/50V(CH)
C18	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C19	1-163-227-11	s	CAPACITOR CERAMIC 10PF/50V(CH)
C20	1-126-394-11	s	CAPACITOR, ELECT 10MF/16V(CHIP)
C21	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C22	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C23	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C24	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C25	1-126-396-11	s	CAPACITOR, ELECT 47MF/16V(CHIP)
C26	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C27	1-126-396-11	s	CAPACITOR, ELECT 47MF/16V(CHIP)
C28	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C32	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C40	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C48	1-126-395-11	s	CAPACITOR, ELECT 22MF/16V(CHIP)
C49	1-163-251-11	s	CAPACITOR CERAMIC 100PF/50V
C50	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C51	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C52	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C53	1-126-394-11	s	CAPACITOR, ELECT 10MF/16V(CHIP)
C54	1-126-394-11	s	CAPACITOR, ELECT 10MF/16V(CHIP)
C55	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C56	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C57	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C58	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C59	1-163-251-11	s	CAPACITOR CERAMIC 100PF/50V
C60	1-163-251-11	s	CAPACITOR CERAMIC 100PF/50V
C200	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C201	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C202	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C205	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C206	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C207	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C208	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C210	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C211	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C212	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C301	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C302	1-126-396-11	s	CAPACITOR, ELECT 47MF/16V(CHIP)
C303	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C304	1-126-396-11	s	CAPACITOR, ELECT 47MF/16V(CHIP)
C305	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C306	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C307	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C308	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C309	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V

(CPU-323 BOARD ;MKS-8080/8082)

Ref. No. or Q'ty	Part No.	SP	Description
C310	1-126-392-11	s	CAPACITOR, CHIP ELECT 100MF/6.3V
C311	1-128-414-11	s	CAPACITOR ERECT 220MF/6.3V
C312	1-127-518-11	s	CAPACITOR, ELECT 100MF/16V
C313	1-126-398-11	s	CAPACITOR ELECT 4.7MF/35V(CHIP
C314	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
CN1	1-794-142-11	o	CONNECTOR, FFC (ZIF) 36P
CN3	1-766-174-11	o	CONNECTOR, SQUARE TYPE (D-SUB)
CN5	1-779-059-11	o	PIN, CONNECTOR (PC BOARD) 9P
CN7	1-695-038-11	s	CONNECTOR ASSY, BNC 1P
CN301	△ 1-794-141-11	s	INLET (WITH NOISE FILTER)
CP301	△ 1-468-486-11	s	REGULATOR, SWITCHING (KWS15-5)
D1	8-719-800-76	s	DIODE 1SS226
D301	8-719-066-33	s	DIODE RB081L-20TE25
D302	8-719-066-33	s	DIODE RB081L-20TE25
D303	8-719-027-84	s	LED CL-155UR/G-D
F1	△ 1-576-228-11	s	FUSE (H.B.C)
FB1	1-469-094-11	s	FERRITE, EMI (SMD)
FB2	1-469-094-11	s	FERRITE, EMI (SMD)
FB201	1-414-230-11	s	INDUCTOR, FERRITE BEAD
FB202	1-414-230-11	s	INDUCTOR, FERRITE BEAD
FB203	1-414-230-11	s	INDUCTOR, FERRITE BEAD
FB204	1-414-230-11	s	INDUCTOR, FERRITE BEAD
FB205	1-414-230-11	s	INDUCTOR, FERRITE BEAD
FB206	1-414-230-11	s	INDUCTOR, FERRITE BEAD
FB207	1-414-230-11	s	INDUCTOR, FERRITE BEAD
FB208	1-414-230-11	s	INDUCTOR, FERRITE BEAD
FB209	1-414-230-11	s	INDUCTOR, FERRITE BEAD
FB210	1-414-230-11	s	INDUCTOR, FERRITE BEAD
FB211	1-414-230-11	s	INDUCTOR, FERRITE BEAD
FB212	1-414-230-11	s	INDUCTOR, FERRITE BEAD
FB213	1-414-230-11	s	INDUCTOR, FERRITE BEAD
FB214	1-414-230-11	s	INDUCTOR, FERRITE BEAD
FB215	1-414-230-11	s	INDUCTOR, FERRITE BEAD
FB216	1-414-230-11	s	INDUCTOR, FERRITE BEAD
FB217	1-414-230-11	s	INDUCTOR, FERRITE BEAD
FB218	1-414-230-11	s	INDUCTOR, FERRITE BEAD
FB219	1-414-230-11	s	INDUCTOR, FERRITE BEAD
FB220	1-414-230-11	s	INDUCTOR, FERRITE BEAD
FB221	1-414-230-11	s	INDUCTOR, FERRITE BEAD
FB222	1-414-230-11	s	INDUCTOR, FERRITE BEAD
FL1	1-239-899-21	s	FILTER, CHIP EMI
FL2	1-239-899-21	s	FILTER, CHIP EMI
IC1	8-759-980-44	s	IC TL712CPS
IC2	8-759-185-75	s	IC TC74VHC123AF (EL)
IC5	8-759-458-38	s	IC KL5C80A20CFP
IC6	8-759-973-71	s	IC TL7705CPS-B
IC9	8-759-186-77	s	IC TC74VHC541F
IC10	8-759-186-77	s	IC TC74VHC541F
IC11	8-759-186-63	s	IC TC74VHC245F
IC13	6-801-534-01	s	IC 28SF040CPU323CV1.01
IC14	8-759-081-48	s	IC TC74VHC08F
IC16	8-759-272-27	s	IC 74VHC04SJ
IC17	8-759-186-24	s	IC TC74VHC4040F (EL)
IC18	8-759-578-50	s	IC HM628511HLJP-15

(CPU-323 BOARD ;MKS-8080/8082)

Ref. No. or Q'ty	Part No.	SP Description
IC36	8-759-252-59	s IC MAX202CSE
IC37	8-759-396-99	s IC MAX489CSD-TE2
IC38	8-759-396-99	s IC MAX489CSD-TE2
IC301	8-759-521-35	s IC TL5001CD
IS13	1-540-151-21	s SOCKET, IC
L301	1-412-525-31	s MICRO INDUCTOR 10UH
L302	1-414-617-11	s INDUCTOR (POWER) 10UH
L303	1-414-441-11	s INDUCTOR (POWER) 15UH
PS1	△ 1-533-282-21	s CIRCUIT PROTECTOR 2A (3225)
Q1	8-729-216-22	s TRANSISTOR 2SA1162-G
Q2	8-729-122-63	s TRANSISTOR 2SA1226-E4
Q4	8-729-120-28	s TRANSISTOR 2SC1623-L5L6
Q5	8-729-120-28	s TRANSISTOR 2S C1623-L5L6
Q6	8-729-120-28	s TRANSISTOR 2SC1623-L5L6
Q7	8-729-120-28	s TRANSISTOR 2SC1623-L5L6
Q301	8-729-117-32	s TRANSISTOR 2SC4177
Q302	8-729-117-32	s TRANSISTOR 2SC4177
Q303	8-729-140-63	s TRANSISTOR 2SA1611-M5M6
Q304	8-729-045-16	s TRANSISTOR SI4410DY-T1-REVA
R1	1-216-025-00	s RESISTOR,CHIP 100 1/10W(2012)
R2	1-216-097-00	s RESISTOR CHIP 100K 1/10W(2012)
R3	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R4	1-216-049-11	s RESISTOR, CHIP 1K 1/10W(2012)
R5	1-216-051-00	s RESISTOR,CHIP 1.2K 1/10W(2012)
R6	1-216-049-11	s RESISTOR, CHIP 1K 1/10W(2012)
R7	1-216-097-00	s RESISTOR CHIP 100K 1/10W(2012)
R8	1-216-049-11	s RESISTOR, CHIP 1K 1/10W(2012)
R11	1-216-067-00	s RESISTOR,CHIP 5.6K 1/10W(2012)
R12	1-216-081-00	s RESISTOR,CHIP 22K 1/10W(2012)
R13	1-216-101-00	s RESISTOR CHIP 150K 1/10W(2012)
R14	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R17	1-216-025-00	s RESISTOR,CHIP 100 1/10W(2012)
R18	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R19	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R36	1-216-025-00	s RESISTOR,CHIP 100 1/10W(2012)
R37	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R39	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R44	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R45	1-216-025-00	s RESISTOR,CHIP 100 1/10W(2012)
R46	1-216-121-00	s RESISTOR CHIP 1M 1/10W(2012)
R52	1-216-097-00	s RESISTOR CHIP 100K 1/10W(2012)
R53	1-216-051-00	s RESISTOR,CHIP 1.2K 1/10W(2012)
R81	1-216-025-00	s RESISTOR,CHIP 100 1/10W(2012)
R82	1-216-025-00	s RESISTOR,CHIP 100 1/10W(2012)
R91	1-216-673-11	s RESISTOR,CHIP 8.2K 1/10W(2012)
R92	1-216-049-11	s RESISTOR, CHIP 1K 1/10W(2012)
R93	1-216-049-11	s RESISTOR, CHIP 1K 1/10W(2012)
R223	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R224	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R225	1-216-065-91	s RESISTOR,CHIP 4.7K 1/10W(2012)
R226	1-216-097-00	s RESISTOR CHIP 100K 1/10W(2012)
R227	1-216-097-00	s RESISTOR CHIP 100K 1/10W(2012)
R228	1-216-065-91	s RESISTOR,CHIP 4.7K 1/10W(2012)
R229	1-216-097-00	s RESISTOR CHIP 100K 1/10W(2012)
R230	1-216-097-00	s RESISTOR CHIP 100K 1/10W(2012)
R231	1-216-037-00	s RESISTOR,CHIP 330 1/10W(2012)
R232	1-216-037-00	s RESISTOR,CHIP 330 1/10W(2012)

(CPU-323 BOARD ;MKS-8080/8082)

Ref. No. or Q'ty	Part No.	SP Description
R233	1-216-065-91	s RESISTOR,CHIP 4.7K 1/10W(2012)
R234	1-216-065-91	s RESISTOR,CHIP 4.7K 1/10W(2012)
R235	1-216-037-00	s RESISTOR,CHIP 330 1/10W(2012)
R236	1-216-037-00	s RESISTOR,CHIP 330 1/10W(2012)
R237	1-216-037-00	s RESISTOR,CHIP 330 1/10W(2012)
R238	1-216-037-00	s RESISTOR,CHIP 330 1/10W(2012)
R239	1-216-657-11	s RESISTOR,CHIP 1.8K 1/10W(2012)
R240	1-216-657-11	s RESISTOR,CHIP 1.8K 1/10W(2012)
R241	1-216-657-11	s RESISTOR,CHIP 1.8K 1/10W(2012)
R242	1-216-657-11	s RESISTOR,CHIP 1.8K 1/10W(2012)
R243	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R301	1-216-065-91	s RESISTOR,CHIP 4.7K 1/10W(2012)
R302	1-216-065-91	s RESISTOR,CHIP 4.7K 1/10W(2012)
R303	1-216-065-91	s RESISTOR,CHIP 4.7K 1/10W(2012)
R304	1-216-657-11	s RESISTOR,CHIP 1.8K 1/10W(2012)
R305	1-216-659-11	s RESISTOR,CHIP 2.2K 1/10W(2012)
R306	1-216-603-11	s RESISTOR,CHIP 10 1/10W(2012)
R307	1-216-073-00	s RESISTOR,CHIP 10K 1/10W(2012)
R308	1-216-676-11	s RESISTOR,CHIP 11K 1/10W(2012)
R309	1-216-105-91	s RESISTOR,CHIP 220K 1/10W(2125)
R310	1-216-659-11	s RESISTOR,CHIP 2.2K 1/10W(2012)
R311	1-216-097-00	s RESISTOR CHIP 100K 1/10W(2012)
R312	1-216-663-11	s RESISTOR,CHIP 3.3K 1/10W(2012)
R313	1-216-651-11	s RESISTOR,CHIP 1K 1/10W(2012)
RB1	1-236-908-11	s RESISTOR,NETWORK 10K (3216)
RB2	1-236-908-11	s RESISTOR,NETWORK 10K (3216)
RB3	1-236-908-11	s RESISTOR,NETWORK 10K (3216)
RB4	1-236-908-11	s RESISTOR,NETWORK 10K (3216)
RB5	1-236-908-11	s RESISTOR,NETWORK 10K (3216)
RB205	1-236-904-11	s RESISTOR NETWORK 1K (1608)
RB206	1-236-904-11	s RESISTOR NETWORK 1K (1608)
S3	1-762-400-11	s SWITCH
S201	1-570-602-11	s SWITCH,DIP (2P)
X1	1-567-928-11	s VIBRATOR,CERAMIC

DP-356 BOARD ;MKS-8082

Ref. No. or Q'ty	Part No.	SP	Description
2pcs	A-8329-880-A	s	MOUNTED CIRCUIT BOARD, DP-356
C100	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C101	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C102	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C103	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C104	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C105	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C106	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C107	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C108	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C109	1-119-869-91	s	CAPACITOR, CERAMIC CHIP 10MF
C110	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C111	1-119-869-91	s	CAPACITOR, CERAMIC CHIP 10MF
C112	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C113	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C114	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C115	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C116	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C117	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C118	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C119	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C120	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C121	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C122	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C123	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C124	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C125	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C126	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
CN101	1-794-143-11	o	PIN, SOCKET 10P
CN102	1-794-143-11	o	PIN, SOCKET 10P
CN103	1-794-143-11	o	PIN, SOCKET 10P
IC100	8-759-524-07	s	IC TC74VHC138FT(EL)
IC101	8-759-524-07	s	IC TC74VHC138FT(EL)
IC102	8-759-524-52	s	IC TC74VHC574FT(EL)
IC103	8-719-062-49	s	LED SLY2016
IC104	8-719-062-50	s	LED SLG2016
IC105	8-719-062-49	s	LED SLY2016
IC106	8-719-062-50	s	LED SLG2016
IC107	8-719-062-49	s	LED SLY2016
IC108	8-719-062-50	s	LED SLG2016
IC109	8-719-062-49	s	LED SLY2016
IC110	8-719-062-50	s	LED SLG2016
IC111	8-719-062-49	s	LED SLY2016
IC112	8-719-062-50	s	LED SLG2016
IC113	8-719-062-49	s	LED SLY2016
IC114	8-719-062-50	s	LED SLG2016
IC115	8-719-062-49	s	LED SLY2016
IC116	8-719-062-50	s	LED SLG2016
IC117	8-719-062-49	s	LED SLY2016
IC118	8-719-062-50	s	LED SLG2016
IC119	8-759-524-52	s	IC TC74VHC574FT(EL)
IC120	8-759-523-94	s	IC TC74VHC32FT(EL)
IC121	8-759-523-94	s	IC TC74VHC32FT(EL)
IC122	8-759-523-94	s	IC TC74VHC32FT(EL)
IC123	8-759-523-94	s	IC TC74VHC32FT(EL)

DP-357 BOARD ;MKS-8082

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8329-881-A	s	MOUNTED CIRCUIT BOARD, DP-357
C101	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C102	1-119-869-91	s	CAPACITOR, CERAMIC CHIP 10MF
C103	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C104	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
CN101	1-794-143-11	o	PIN, SOCKET 10P
CN102	1-794-143-11	o	PIN, SOCKET 10P
IC101	8-719-062-50	s	LED SLG2016
IC102	8-719-062-50	s	LED SLG2016

 SW-1084 BOARD ;MKS-8082

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8329-882-A	s	MOUNTED CIRCUIT BOARD, SW-1084
C100	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C101	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C102	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C103	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C104	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C105	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C106	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C107	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C108	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C109	1-126-396-11	s	CAPACITOR, ELECT 47MF/16V(CHIP)
C110	1-126-396-11	s	CAPACITOR, ELECT 47MF/16V(CHIP)
C111	1-126-392-11	s	CAPACITOR, CHIP ELECT100MF/6.3V
C112	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C113	1-163-003-11	s	CAPACITOR, CHIP CERAMIC 330PF
C114	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C115	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C116	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C117	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C118	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C119	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C120	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C121	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C122	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C123	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C124	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C125	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C126	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C201	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C202	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C203	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C204	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C205	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C206	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C207	1-126-396-11	s	CAPACITOR, ELECT 47MF/16V(CHIP)
C208	1-126-396-11	s	CAPACITOR, ELECT 47MF/16V(CHIP)
C301	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C302	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C303	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C304	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C305	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C306	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C307	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C308	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C309	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C401	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C402	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C403	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C404	1-126-396-11	s	CAPACITOR, ELECT 47MF/16V(CHIP)
C405	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C406	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C407	1-126-396-11	s	CAPACITOR, ELECT 47MF/16V(CHIP)
C408	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C501	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C502	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C503	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C504	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C505	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V

(SW-1084 BOARD ;MKS-8082)

Ref. No. or Q'ty	Part No.	SP	Description
C506	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C507	1-126-396-11	s	CAPACITOR, ELECT 47MF/16V(CHIP)
C508	1-126-396-11	s	CAPACITOR, ELECT 47MF/16V(CHIP)
C601	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C602	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C603	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C604	1-126-396-11	s	CAPACITOR, ELECT 47MF/16V(CHIP)
CN101	1-794-142-11	o	CONNECTOR, FFC (ZIF) 36P
CN102	1-565-430-11	s	SOCKET, SIL 10P
CN103	1-565-430-11	s	SOCKET, SIL 10P
CN104	1-565-430-11	s	SOCKET, SIL 10P
CN105	1-565-430-11	s	SOCKET, SIL 10P
CN106	1-565-430-11	s	SOCKET, SIL 10P
CN107	1-565-430-11	s	SOCKET, SIL 10P
CN108	1-565-430-11	s	SOCKET, SIL 10P
CN109	1-565-430-11	s	SOCKET, SIL 10P
D100	8-719-801-78	s	DIODE 1SS184
D101	8-719-801-78	s	DIODE 1SS184
D201	8-719-801-78	s	DIODE 1SS184
D202	8-719-801-78	s	DIODE 1SS184
D203	8-719-801-78	s	DIODE 1SS184
D204	8-719-801-78	s	DIODE 1SS184
D205	8-719-801-78	s	DIODE 1SS184
D206	8-719-801-78	s	DIODE 1SS184
D207	8-719-801-78	s	DIODE 1SS184
D208	8-719-801-78	s	DIODE 1SS184
D301	8-719-801-78	s	DIODE 1SS184
D302	8-719-801-78	s	DIODE 1SS184
D303	8-719-801-78	s	DIODE 1SS184
D304	8-719-801-78	s	DIODE 1SS184
D305	8-719-801-78	s	DIODE 1SS184
D306	8-719-801-78	s	DIODE 1SS184
D401	8-719-801-78	s	DIODE 1SS184
D402	8-719-801-78	s	DIODE 1SS184
D403	8-719-801-78	s	DIODE 1SS184
D404	8-719-801-78	s	DIODE 1SS184
D405	8-719-801-78	s	DIODE 1SS184
D406	8-719-801-78	s	DIODE 1SS184
D407	8-719-801-78	s	DIODE 1SS184
D408	8-719-801-78	s	DIODE 1SS184
D501	8-719-801-78	s	DIODE 1SS184
D502	8-719-801-78	s	DIODE 1SS184
D503	8-719-801-78	s	DIODE 1SS184
D504	8-719-801-78	s	DIODE 1SS184
D505	8-719-801-78	s	DIODE 1SS184
D506	8-719-801-78	s	DIODE 1SS184
D507	8-719-801-78	s	DIODE 1SS184
D508	8-719-801-78	s	DIODE 1SS184
D601	8-719-801-78	s	DIODE 1SS184
D602	8-719-801-78	s	DIODE 1SS184
EN301	1-475-218-11	s	ENCODER, ROTARY (SWITCH)
IC101	8-759-524-08	s	IC TC74VHC139FT(EL)
IC102	8-759-524-07	s	IC TC74VHC138FT(EL)
IC103	8-759-524-07	s	IC TC74VHC138FT(EL)
IC104	8-759-661-33	o	IC ISPLSI2032E-DP319
IC105	8-759-277-63	s	IC TC7W14FU (TE12R)
IC106	8-759-524-07	s	IC TC74VHC138FT(EL)

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Ref. No. or Q'ty	Part No.	SP	Description
Q220	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q221	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q222	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q223	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q224	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q225	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q226	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q227	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q228	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q229	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q230	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q231	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q232	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q233	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q234	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q235	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q236	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q237	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q238	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q239	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q240	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q241	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q242	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q243	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q244	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q245	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q246	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q247	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q248	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q249	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q250	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q251	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q252	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q253	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q254	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q255	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q256	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q257	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q258	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q259	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q260	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q261	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q262	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q263	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q301	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q302	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q303	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q304	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q305	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q306	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q307	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q308	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q309	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q310	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q311	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q312	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q313	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q314	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q315	8-729-048-50	S	TRANSISTOR 2SK3018-T106

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Ref. No. or Q'ty	Part No.	SP	Description
Q443	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q444	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q445	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q446	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q447	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q448	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q449	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q450	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q451	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q452	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q453	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q454	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q455	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q456	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q457	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q458	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q459	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q460	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q461	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q462	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q463	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q464	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q500	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q501	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q502	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q503	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q504	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q505	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q506	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q507	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q508	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q509	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q510	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q511	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q512	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q513	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q514	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q515	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q516	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q517	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q518	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q519	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q520	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q521	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q522	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q523	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q524	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q525	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q526	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q527	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q528	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q529	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q530	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q531	8-729-048-50	S	TRANSISTOR 2SK3018-T106
Q532	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q533	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q534	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q535	8-729-029-10	S	TRANSISTOR DTC143TUA-T106
Q536	8-729-029-10	S	TRANSISTOR DTC143TUA-T106

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Ref. No. or Q'ty	Part No.	SP	Description
R215	1-216-609-11	s	RESISTOR,CHIP 18 1/10W (2012)
R216	1-216-609-11	s	RESISTOR,CHIP 18 1/10W (2012)
R217	1-216-620-11	s	RESISTOR CHIP 51 1/10W (2012)
R218	1-216-620-11	s	RESISTOR CHIP 51 1/10W (2012)
R219	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R220	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R221	1-216-620-11	s	RESISTOR CHIP 51 1/10W (2012)
R222	1-216-620-11	s	RESISTOR CHIP 51 1/10W (2012)
R223	1-216-620-11	s	RESISTOR CHIP 51 1/10W (2012)
R224	1-216-620-11	s	RESISTOR CHIP 51 1/10W (2012)
R225	1-216-620-11	s	RESISTOR CHIP 51 1/10W (2012)
R226	1-216-620-11	s	RESISTOR CHIP 51 1/10W (2012)
R227	1-216-620-11	s	RESISTOR CHIP 51 1/10W (2012)
R228	1-216-609-11	s	RESISTOR,CHIP 18 1/10W (2012)
R229	1-216-620-11	s	RESISTOR CHIP 51 1/10W (2012)
R230	1-216-620-11	s	RESISTOR CHIP 51 1/10W (2012)
R231	1-216-620-11	s	RESISTOR CHIP 51 1/10W (2012)
R232	1-216-620-11	s	RESISTOR CHIP 51 1/10W (2012)
R233	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
R234	1-216-645-11	s	RESISTOR,CHIP 560 1/10W(2012)
R235	1-216-645-11	s	RESISTOR,CHIP 560 1/10W(2012)
R236	1-216-645-11	s	RESISTOR,CHIP 560 1/10W(2012)
R237	1-216-645-11	s	RESISTOR,CHIP 560 1/10W(2012)
R238	1-216-645-11	s	RESISTOR,CHIP 560 1/10W(2012)
R239	1-216-645-11	s	RESISTOR,CHIP 560 1/10W(2012)
R240	1-216-645-11	s	RESISTOR,CHIP 560 1/10W(2012)
R241	1-216-645-11	s	RESISTOR,CHIP 560 1/10W(2012)
R242	1-216-645-11	s	RESISTOR,CHIP 560 1/10W(2012)
R243	1-216-645-11	s	RESISTOR,CHIP 560 1/10W(2012)
R244	1-216-645-11	s	RESISTOR,CHIP 560 1/10W(2012)
R245	1-216-645-11	s	RESISTOR,CHIP 560 1/10W(2012)
R246	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
R247	1-216-645-11	s	RESISTOR,CHIP 560 1/10W(2012)
R248	1-216-620-11	s	RESISTOR CHIP 51 1/10W (2012)
R249	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R250	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R251	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R252	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
R253	1-216-620-11	s	RESISTOR CHIP 51 1/10W (2012)
R254	1-216-620-11	s	RESISTOR CHIP 51 1/10W (2012)
R255	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R256	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R257	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R258	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R259	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R260	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R261	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R262	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R263	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R264	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R265	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
R266	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
R267	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
R268	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
R269	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
R270	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
R271	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
R272	1-216-645-11	s	RESISTOR,CHIP 560 1/10W(2012)
R273	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)

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[illegible]

(SW-1084 BOARD ;MKS-8082)

Ref. No. or Q'ty	Part No.	SP	Description
R549	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R550	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R551	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R552	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
R553	1-216-620-11	s	RESISTOR CHIP 51 1/10W (2012)
R554	1-216-620-11	s	RESISTOR CHIP 51 1/10W (2012)
R555	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R556	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R557	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R558	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R559	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R560	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R561	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R562	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R563	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R564	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R565	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
R566	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
R567	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
R568	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
R569	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
R570	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
R571	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
R572	1-216-645-11	s	RESISTOR,CHIP 560 1/10W(2012)
R573	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
R574	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
R575	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
R576	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
R577	1-216-645-11	s	RESISTOR,CHIP 560 1/10W(2012)
R578	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
R579	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R580	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
R601	1-216-609-11	s	RESISTOR,CHIP 18 1/10W (2012)
R602	1-216-609-11	s	RESISTOR,CHIP 18 1/10W (2012)
R603	1-216-609-11	s	RESISTOR,CHIP 18 1/10W (2012)
R604	1-216-609-11	s	RESISTOR,CHIP 18 1/10W (2012)
R605	1-216-620-11	s	RESISTOR CHIP 51 1/10W (2012)
R606	1-216-620-11	s	RESISTOR CHIP 51 1/10W (2012)
R607	1-216-620-11	s	RESISTOR CHIP 51 1/10W (2012)
R608	1-216-620-11	s	RESISTOR CHIP 51 1/10W (2012)
R609	1-216-645-11	s	RESISTOR,CHIP 560 1/10W(2012)
R610	1-216-645-11	s	RESISTOR,CHIP 560 1/10W(2012)
R611	1-216-645-11	s	RESISTOR,CHIP 560 1/10W(2012)
R612	1-216-645-11	s	RESISTOR,CHIP 560 1/10W(2012)
R613	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R614	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R615	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R616	1-216-627-11	s	RESISTOR,CHIP 100 1/10W (2012)
R617	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
R618	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
R619	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
R620	1-216-644-11	s	RESISTOR,CHIP 510 1/10W (2012)
RB101	1-236-908-11	s	RESISTOR,NETWORK 10K (3216)
RB102	1-239-428-11	s	NETWORK RESISTOR 3.3K (1608)
RB103	1-239-428-11	s	NETWORK RESISTOR 3.3K (1608)
RB104	1-236-908-11	s	RESISTOR,NETWORK 10K (3216)
RB105	1-236-908-11	s	RESISTOR,NETWORK 10K (3216)
RB106	1-236-908-11	s	RESISTOR,NETWORK 10K (3216)

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Ref. No. or Q'ty	Part No.	SP Description
RB107	1-236-908-11	s RESISTOR,NETWORK 10K (3216)
RB108	1-236-908-11	s RESISTOR,NETWORK 10K (3216)
S201	1-786-252-11	s SWITCH, TACTILE
S202	1-786-252-11	s SWITCH, TACTILE
S203	1-786-252-11	s SWITCH, TACTILE
S204	1-786-252-11	s SWITCH, TACTILE
S205	1-786-252-11	s SWITCH, TACTILE
S206	1-786-252-11	s SWITCH, TACTILE
S207	1-786-252-11	s SWITCH, TACTILE
S208	1-786-252-11	s SWITCH, TACTILE
S209	1-786-252-11	s SWITCH, TACTILE
S210	1-786-252-11	s SWITCH, TACTILE
S211	1-786-252-11	s SWITCH, TACTILE
S212	1-786-252-11	s SWITCH, TACTILE
S213	1-786-252-11	s SWITCH, TACTILE
S214	1-786-252-11	s SWITCH, TACTILE
S215	1-786-252-11	s SWITCH, TACTILE
S216	1-786-252-11	s SWITCH, TACTILE
S301	1-786-251-11	s SWITCH, TACTILE
S302	1-786-251-11	s SWITCH, TACTILE
S303	1-786-251-11	s SWITCH, TACTILE
S304	1-786-251-11	s SWITCH, TACTILE
S305	1-786-251-11	s SWITCH, TACTILE
S306	1-786-251-11	s SWITCH, TACTILE
S307	1-786-251-11	s SWITCH, TACTILE
S308	1-786-251-11	s SWITCH, TACTILE
S401	1-786-252-11	s SWITCH, TACTILE
S402	1-786-252-11	s SWITCH, TACTILE
S403	1-786-252-11	s SWITCH, TACTILE
S404	1-786-252-11	s SWITCH, TACTILE
S405	1-786-252-11	s SWITCH, TACTILE
S406	1-786-252-11	s SWITCH, TACTILE
S407	1-786-252-11	s SWITCH, TACTILE
S408	1-786-252-11	s SWITCH, TACTILE
S409	1-786-252-11	s SWITCH, TACTILE
S410	1-786-252-11	s SWITCH, TACTILE
S411	1-786-252-11	s SWITCH, TACTILE
S412	1-786-252-11	s SWITCH, TACTILE
S413	1-786-252-11	s SWITCH, TACTILE
S414	1-786-252-11	s SWITCH, TACTILE
S415	1-786-252-11	s SWITCH, TACTILE
S416	1-786-252-11	s SWITCH, TACTILE
S501	1-786-251-11	s SWITCH, TACTILE
S502	1-786-251-11	s SWITCH, TACTILE
S503	1-786-251-11	s SWITCH, TACTILE
S504	1-786-251-11	s SWITCH, TACTILE
S505	1-786-251-11	s SWITCH, TACTILE
S506	1-786-251-11	s SWITCH, TACTILE
S507	1-786-251-11	s SWITCH, TACTILE
S508	1-786-251-11	s SWITCH, TACTILE
S509	1-786-251-11	s SWITCH, TACTILE
S510	1-786-251-11	s SWITCH, TACTILE
S511	1-786-251-11	s SWITCH, TACTILE
S512	1-786-251-11	s SWITCH, TACTILE
S513	1-786-251-11	s SWITCH, TACTILE
S514	1-786-251-11	s SWITCH, TACTILE
S515	1-786-251-11	s SWITCH, TACTILE
S516	1-786-251-11	s SWITCH, TACTILE

(SW-1084 BOARD ;MKS-8082)

Ref. No. or Q'ty	Part No.	SP Description
S601	1-786-252-11	s SWITCH, TACTILE
S602	1-786-252-11	s SWITCH, TACTILE
S603	1-786-252-11	s SWITCH, TACTILE
S604	1-786-252-11	s SWITCH, TACTILE

SW-1091 BOARD ;MKS-8080

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8344-328-A	s	MOUNTED CIRCUIT BOARD, SW-1091
C101	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C102	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C103	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C104	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C105	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C106	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C107	1-126-396-11	s	CAPACITOR,ELECT 47MF/16V(CHIP)
C108	1-126-396-11	s	CAPACITOR,ELECT 47MF/16V(CHIP)
C109	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C110	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C111	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C112	1-126-396-11	s	CAPACITOR,ELECT 47MF/16V(CHIP)
C202	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C206	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C208	1-126-396-11	s	CAPACITOR,ELECT 47MF/16V(CHIP)
C301	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C302	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C303	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C304	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C305	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C306	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C307	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C401	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C402	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C403	1-126-396-11	s	CAPACITOR,ELECT 47MF/16V(CHIP)
C501	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
C503	1-126-396-11	s	CAPACITOR,ELECT 47MF/16V(CHIP)
C601	1-163-038-00	s	CAPACITOR, CERAMIC 0.1MF/25V
CN101	1-794-142-11	o	CONNECTOR, FFC (ZIF) 36P
D100	8-719-801-78	s	DIODE 1SS184
D101	8-719-801-78	s	DIODE 1SS184
D201	8-719-801-78	s	DIODE 1SS184
D202	8-719-801-78	s	DIODE 1SS184
D203	8-719-801-78	s	DIODE 1SS184
D204	8-719-801-78	s	DIODE 1SS184
D205	8-719-801-78	s	DIODE 1SS184
D206	8-719-801-78	s	DIODE 1SS184
D207	8-719-801-78	s	DIODE 1SS184
D208	8-719-801-78	s	DIODE 1SS184
D301	8-719-801-78	s	DIODE 1SS184
D302	8-719-801-78	s	DIODE 1SS184
D303	8-719-801-78	s	DIODE 1SS184
D304	8-719-801-78	s	DIODE 1SS184
D401	8-719-801-78	s	DIODE 1SS184
D402	8-719-801-78	s	DIODE 1SS184
D403	8-719-801-78	s	DIODE 1SS184
D404	8-719-801-78	s	DIODE 1SS184
D405	8-719-801-78	s	DIODE 1SS184
D406	8-719-801-78	s	DIODE 1SS184
D407	8-719-801-78	s	DIODE 1SS184
D408	8-719-801-78	s	DIODE 1SS184
D501	8-719-801-78	s	DIODE 1SS184
D502	8-719-801-78	s	DIODE 1SS184
D603	8-719-036-60	s	LED L501B-SRG-P

(SW-1091 BOARD ;MKS-8080)

Ref. No. or Q'ty	Part No.	SP	Description
D604	8-719-036-60	s	LED L501B-SRG-P
EN301	1-473-469-11	s	ENCODER, ROTARY (SWITCH)
IC101	8-759-524-07	s	IC TC74VHC138FT(EL)
IC102	8-759-277-63	s	IC TC74VHC14FU (TE12R)
IC103	8-719-062-50	s	LED SLG2016
IC104	8-719-062-50	s	LED SLG2016
IC105	6-801-407-01	s	IC ISPLSI2032E-SW1091
IC203	8-759-524-52	s	IC TC74VHC574FT(EL)
IC206	8-759-524-52	s	IC TC74VHC574FT(EL)
IC301	8-759-277-63	s	IC TC74VHC14FU (TE12R)
IC302	8-759-523-95	s	IC TC74VHC74FT(EL)
IC303	8-759-524-52	s	IC TC74VHC574FT(EL)
IC401	8-759-524-52	s	IC TC74VHC574FT(EL)
IC402	8-759-524-52	s	IC TC74VHC574FT(EL)
IC501	8-759-524-52	s	IC TC74VHC574FT(EL)
IC601	8-759-524-52	s	IC TC74VHC574FT(EL)
Q201	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q202	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q203	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q204	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q205	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q206	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q207	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q208	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q209	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q210	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q211	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q212	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q213	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q214	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q215	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q264	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q300	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q301	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q302	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q303	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q401	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q402	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q403	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q404	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q405	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q406	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q407	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q408	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q409	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q410	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q411	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q412	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q413	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q414	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q415	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q416	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q501	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q502	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q503	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q504	8-729-027-50	s	TRANSISTOR DTC123JKA-T146
Q601	8-729-027-50	s	TRANSISTOR DTC123JKA-T146

(SW-1091 BOARD ;MKS-8080)

Ref. No. or Q'ty	Part No.	SP	Description
RB109	1-236-908-11	s	RESISTOR, NETWORK 10K (3216)
S201	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S202	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S203	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S204	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S205	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S206	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S207	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S208	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S209	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S210	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S211	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S212	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S213	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S214	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S215	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S216	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S301	1-762-042-11	s	SWITCH, TACTILE (ILLUMINATED)
S302	1-762-137-11	s	SWITCH, TACTILE (ILLUMINATED)
S303	1-762-042-11	s	SWITCH, TACTILE (ILLUMINATED)
S304	1-762-042-11	s	SWITCH, TACTILE (ILLUMINATED)
S401	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S402	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S403	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S404	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S405	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S406	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S407	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S408	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S409	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S410	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S411	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S412	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S413	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S414	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S415	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S416	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S501	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S502	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S503	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)
S504	1-692-994-11	s	SWITCH, TACTILE (ILLUMINATED)

FRAME

Ref. No. or Q'ty	Part No.	SP	Description
CN3	1-766-174-11	o	CONNECTOR, SQUARE TYPE (D-SUB) "REMOTE 2"
CN5	1-779-059-11	o	PIN, CONNECTOR (PC BOARD) 9P "RS232C"
CN7	1-695-038-11	s	CONNECTOR ASSY, BNC 1P "REMOTE 1"
CN301	△ 1-794-141-11	s	INLET (WITH NOISE FILTER)
CP301	△ 1-468-486-11	s	REGULATOR, SWITCHING (KWS15-5)
EN301	1-475-218-11	s	ENCODER, ROTARY (SWITCH)
HN101	1-757-119-11	o	CABLE, FLEXIBLE FLAT (36 CORE)

2-4. Supplied Accessories List

PACKING MATERIALS & SUPPLIED ACCESSORIES

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-779-713-11	o	CONNECTOR, COAXIAL
1pc	3-206-506-01	o	OPERATION GUIDE

2-5. Power Cords List

Q'ty	Part No.	SP	Description
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<For customers in Japan>

1pc	- - -		DK-2401(J)
1pc	△ 1-793-461-11	s	CONNECTOR, CONVERSION (3P-2P) Conversion connector is included in DK-2401(J).

<For customers in the U.S.A. and Canada>

1pc	△ 1-557-377-11	s	CORD, AC POWER
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<For customers in the United Kingdom>

1pc	△ 1-782-165-11	s	CORD, AC POWER
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<For customers in the Europe except the United Kingdom>

1pc	△ 1-551-631-00	s	POWER-SUPPLY CORD (IEC)
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2-6. Optional Fixtures List

Part No.	SP	Description
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J-6035-070-A	o	EXTRACTION TOOL, IC (CT-2101)
3-179-054-01	o	TOOL, CAP PULL

Section 3

Semiconductor Pin Assignments

The following describes the semiconductor types used in this unit.

For semiconductors marked with page numbers in the index, refer to the corresponding pages in this section.

However, in some cases incompatible types are also listed, therefore, when a part is to be replaced, also refer to the Spare Parts section.

In addition, for semiconductors with ID Nos., refer to the separate CD-ROM titled “Semiconductor Pin Assignments” (Sony Part No. 9-968-546-xx) that allows searching for parts by semiconductor type or ID No.

The semiconductors in the manual or on the CD-ROM are listed by equivalent types. Thus the external view or the index mark indication may differ from the actual type.

Pin assignments and block diagrams are based on the IC manufacturer’s data book.

本機に使用されている半導体型名の一覧を下記に示します。索引中、ページが記載されている半導体は、本章の該当ページを参照してください。ただし、互換性のない型名を併記している場合がありますので、部品を交換するときは、Spare Partsの章を参照してください。

また、ID番号が記載されている半導体は、別途発行の“Semiconductor Pin Assignments” CD-ROM版 (ソニー部品番号：9-968-546-xx)を参照してください。

半導体型名またはID番号から検索ができます。

マニュアルまたはCD-ROMに掲載されている半導体は、それぞれの機能を等価的に表わしたものです。

外観やインデックスマークの表示方法が実物と異なる場合があります。

ピン配置およびブロック図はICメーカーのデータブックに従いました。

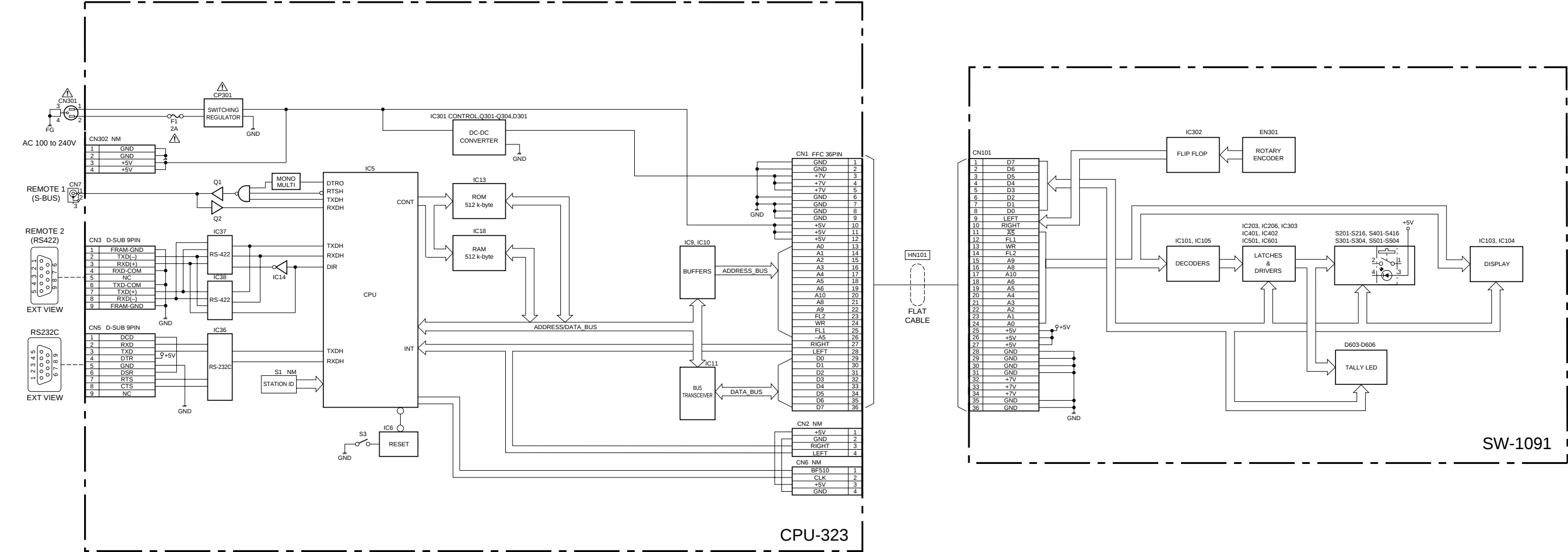
DIODE	Page or ID No.
1S2837-T1	DC001-03
1SS123-T1	DC001-01
1SS184	DC001-03
1SS226	DC001-01
RB081L-20TE25	DC008-02
LED	Page or ID No.
CL-155UR/G-D	LC009-03
CL-155UR/G-DT	LC009-03
L501B-SRG-P	LR095-01
SLG2016	LR104-02
SLY2016	LR104-02

TRANSISTOR	Page or ID No.
2SA1162G	TC001-01
2SA1226-E4	TC001-01
2SA1226-T1E3E4	TC001-01
2SA1611-M5M6	TC001-01
2SA1611T1-M5M6	TC001-01
2SA812-T1-M5M6	TC001-01
2SC1623	TC001-02
2SC2412K-T-146-QR	TC001-02
2SC4177	TC001-02
2SC4177-T1L5L6	TC001-02
2SK3018-T106	TC001-07
DTC123JKA-T146	TC001-03
DTC143TUA-T106	TC001-03
SI4410DY-T1-REVA	TC012-06

IC	Page or ID No.
HM628511HLJP-15	UPD434008LE-20
ISPLSI2032E-110LT48	ISPLSI2032E-110LT48
KL5C80A20CFP	KL5C80A20CFP
MAX202CSE	MAX202CSE
MAX202CSE-T	MAX202CSE
MAX489CSD-TE2	LTC491CS
SLG2016	LR104-02
SLY2016	LR104-02
SST28SF040A-90-4C-NH	SST28SF040-150-4C-NH
TC74VHC04F	TC74HC04P
TC74VHC04F(EL)	TC74HC04P
TC74VHC08F(EL)	TC74HC08P
TC74VHC123AF(EL)	TC74HC123P
TC74VHC138FT(EL)	TC74HC138P
TC74VHC139FT(EL)	TC74HC139P
TC74VHC245F(EL)	TC74HC245P
TC74VHC32FT(EL)	TC74HC32P
TC74VHC4040F(EL)	MC74HC4040N
TC74VHC541F	MC74HC541N
TC74VHC541F(EL)	MC74HC541N
TC74VHC541FT(EL)	MC74HC541N
TC74VHC574FT(EL)	TC74HC574P
TC74VHC74FT(EL)	TC74HC74P
TC7W14FU(Te12R)	TC7W14FU
TL5001CD	TL5001
TL5001CDR	TL5001
TL712CPS	TL712CP
TL712CPSR	TL712CP
TL7705CPS-B	TL7705CP

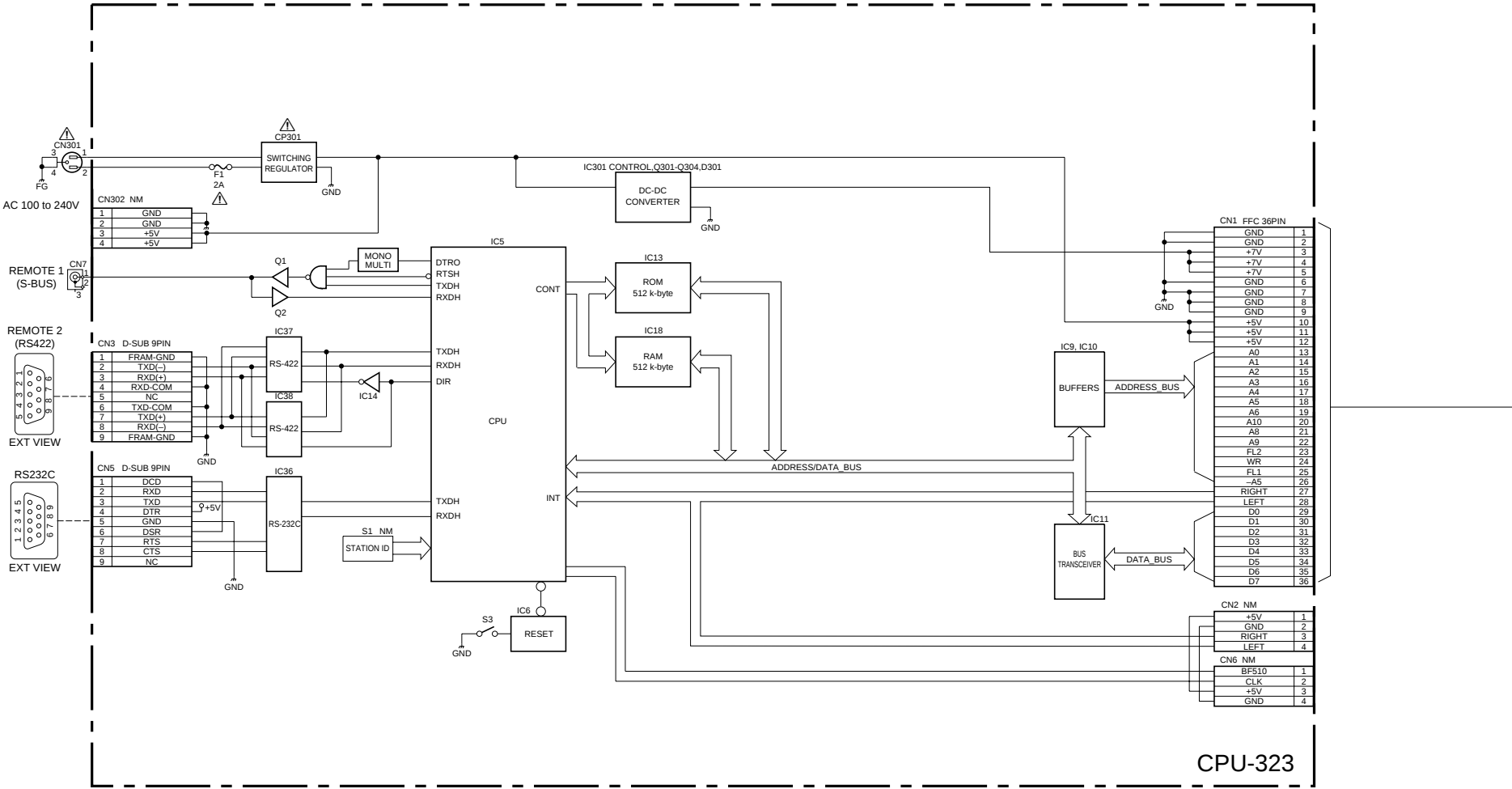
Section 4
Overall Block Diagrams
(including Frame Wiring)

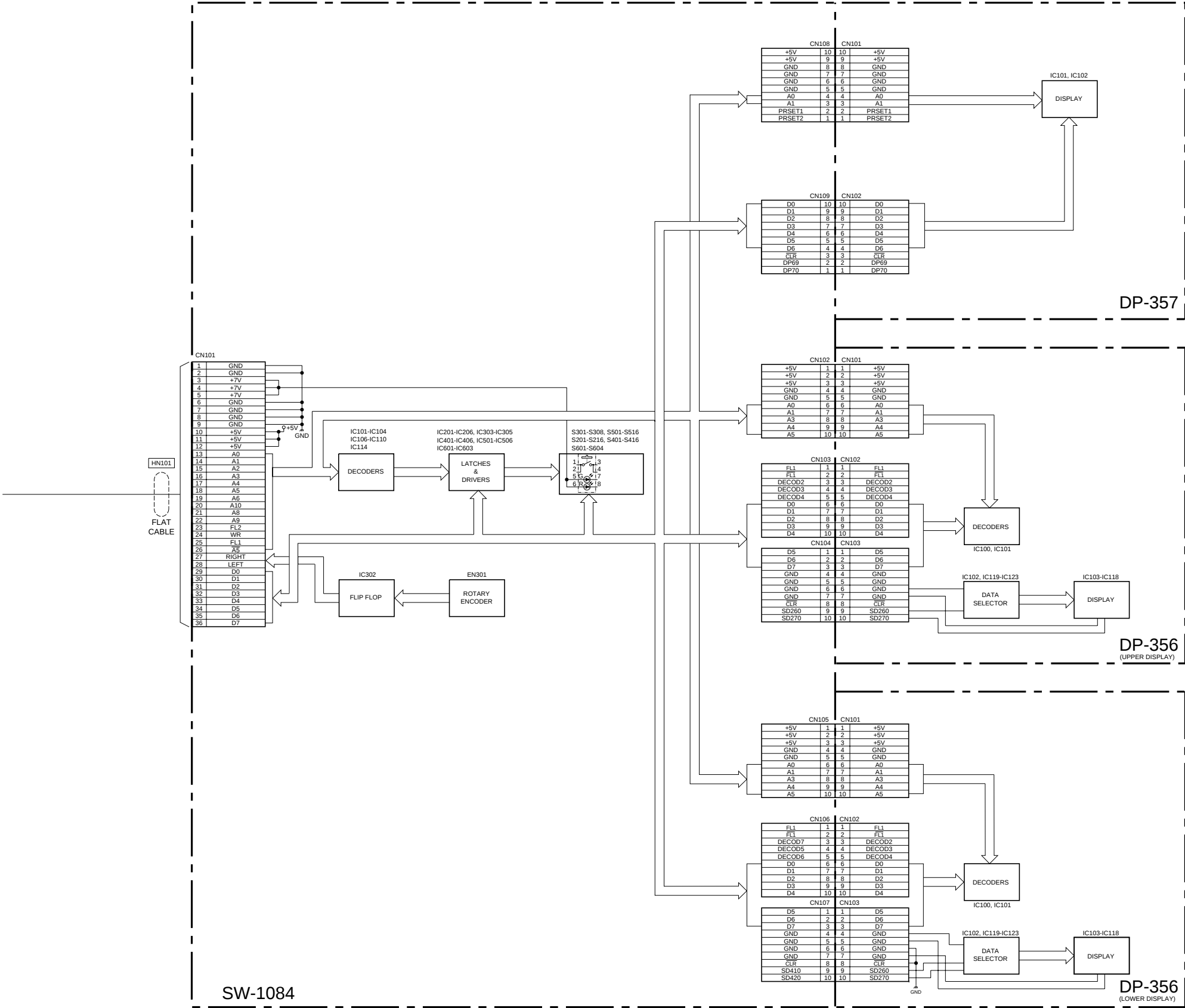
MKS-8080 (SY): S/N 10001 and Higher



Overall
MKS-8080

MKS-8082 (SY): S/N 10001 and Higher





Overall
MKS-8082

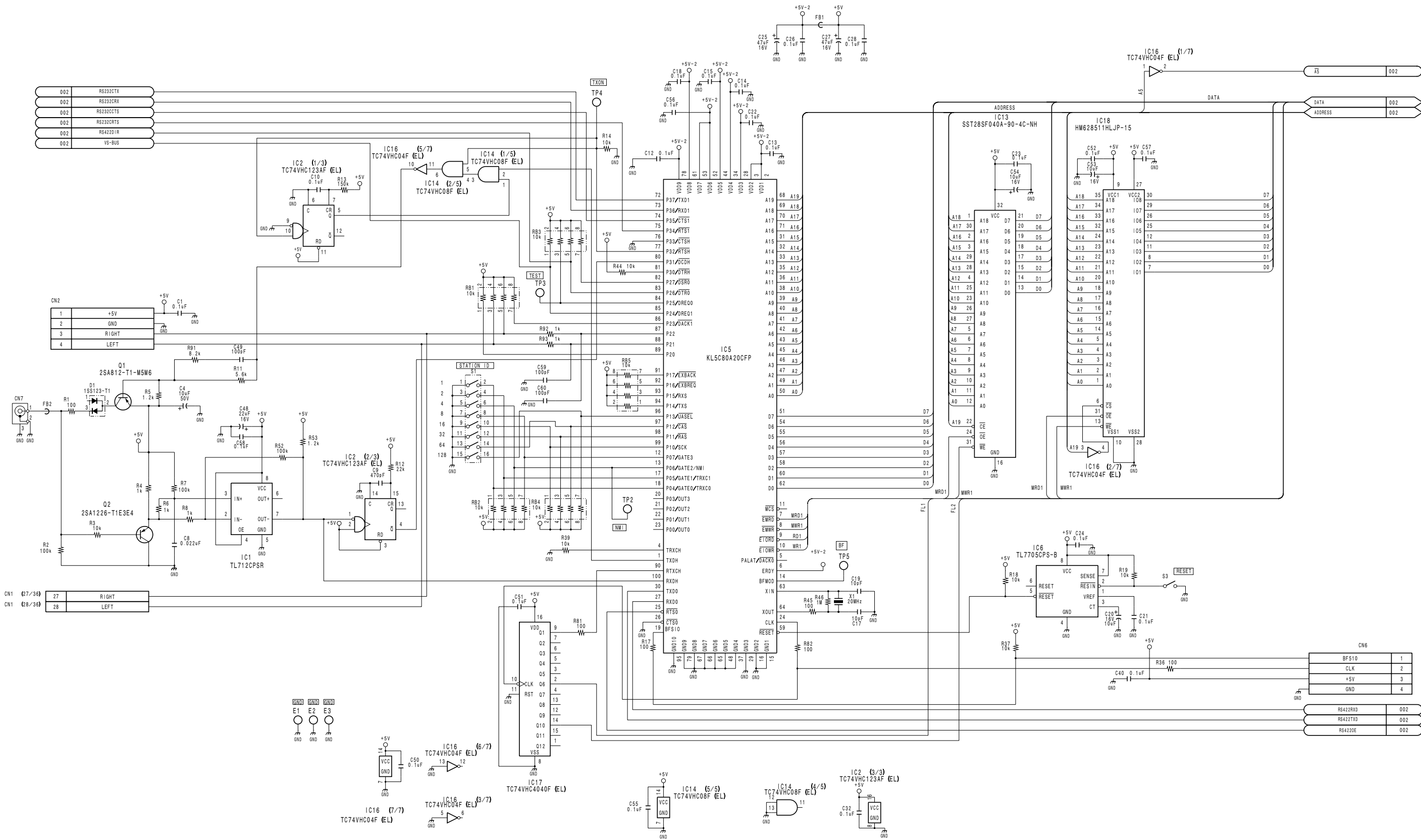
Section 5

Schematic Diagrams

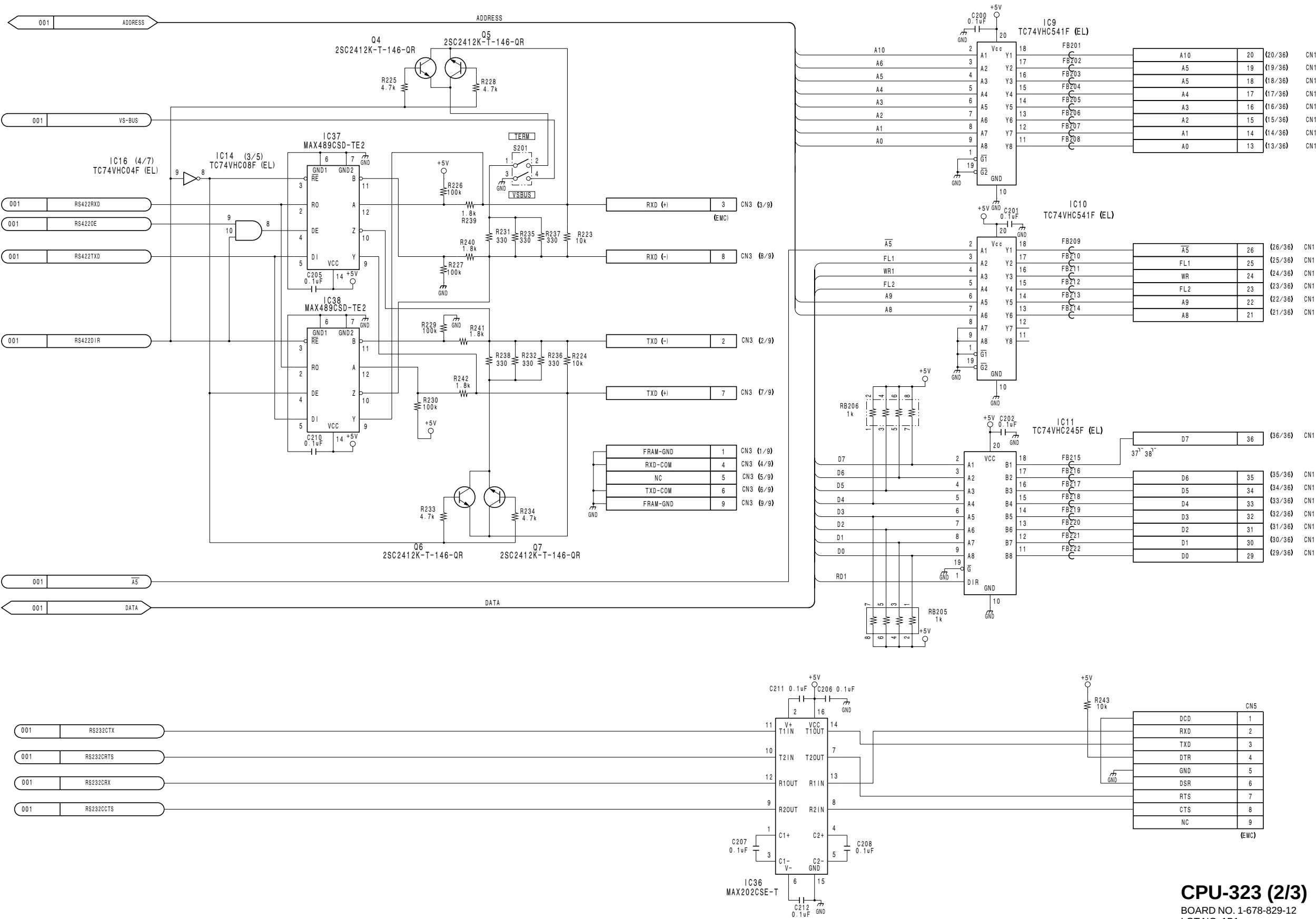
Index

Board	Function	Model	Page
CPU-323	System Control Board	MKS-8080 MKS-8082	5-2
DP-356	Display Board	MKS-8082	5-5
DP-357	Display Board	MKS-8082	5-6
SW-1084	Switch Board	MKS-8082	5-7
SW-1091	Switch Board	MKS-8080	5-13

MKS-8080 (SY): S/N 10001 and Higher
MKS-8082 (SY): S/N 10001 and Higher

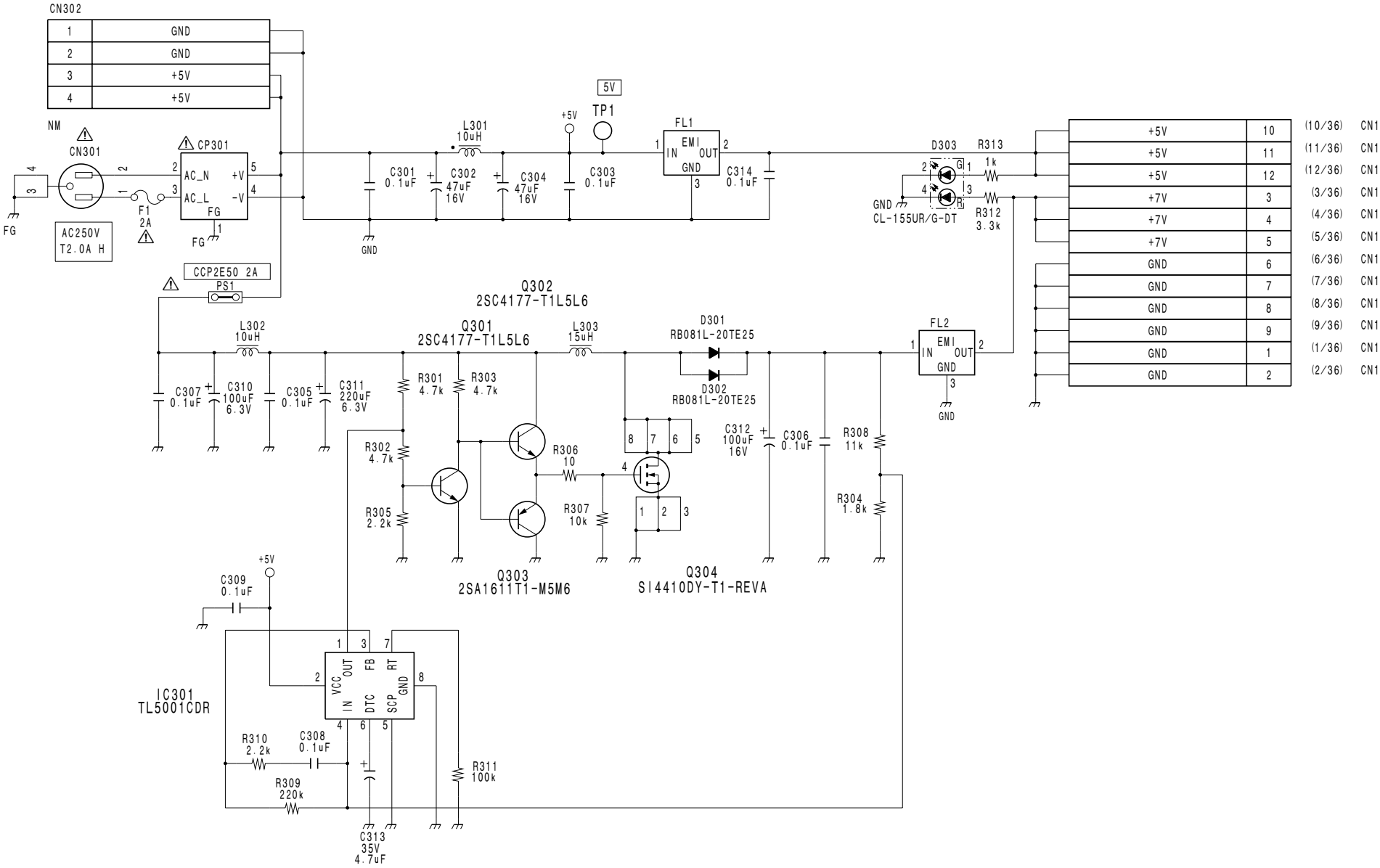


MKS-8080 (SY): S/N 10001 and Higher
MKS-8082 (SY): S/N 10001 and Higher



CPU-323 (2/3)
BOARD NO. 1-678-829-12
LOT NO. 1B1-

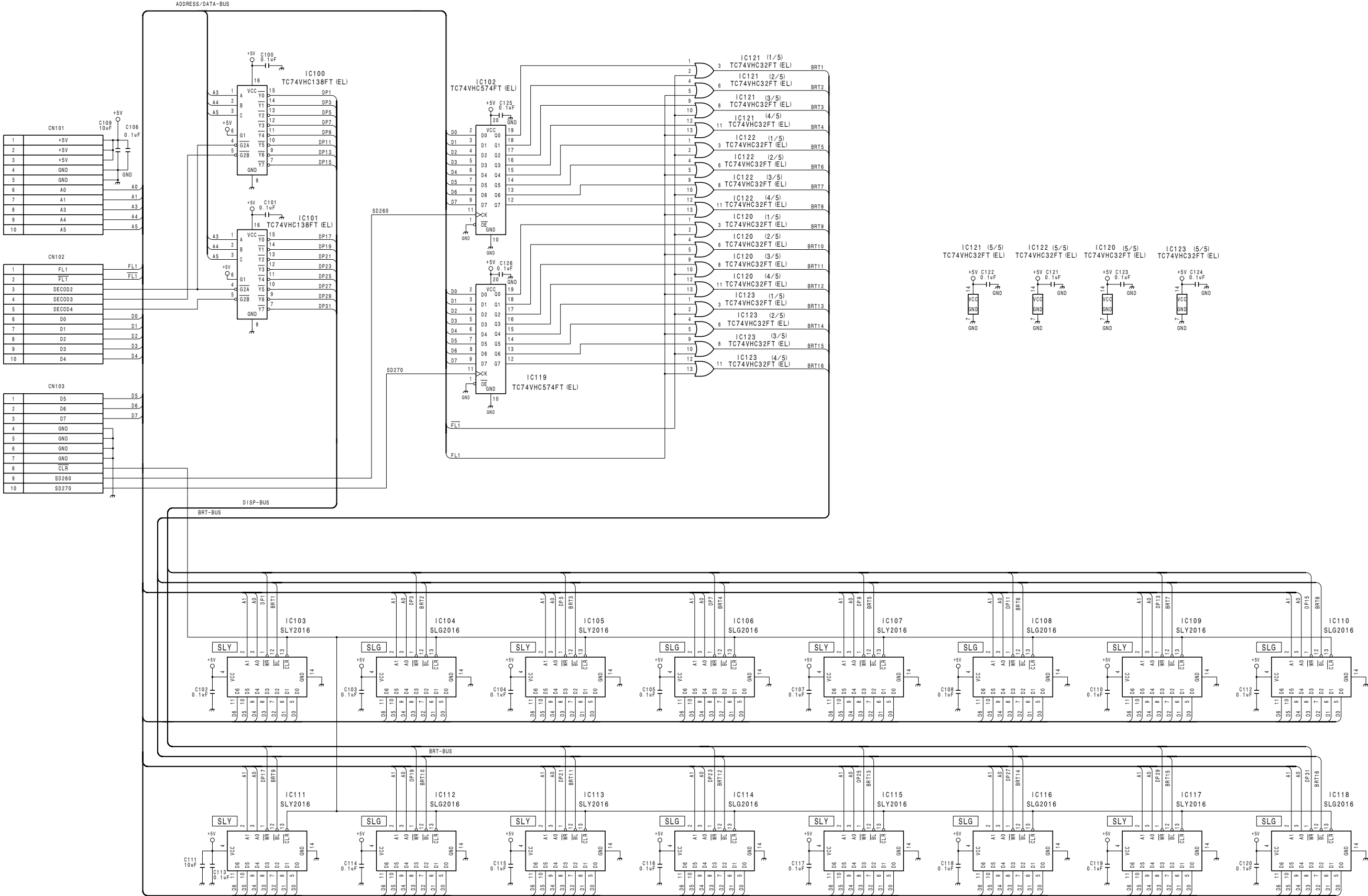
MKS-8080 (SY): S/N 10001 and Higher
MKS-8082 (SY): S/N 10001 and Higher



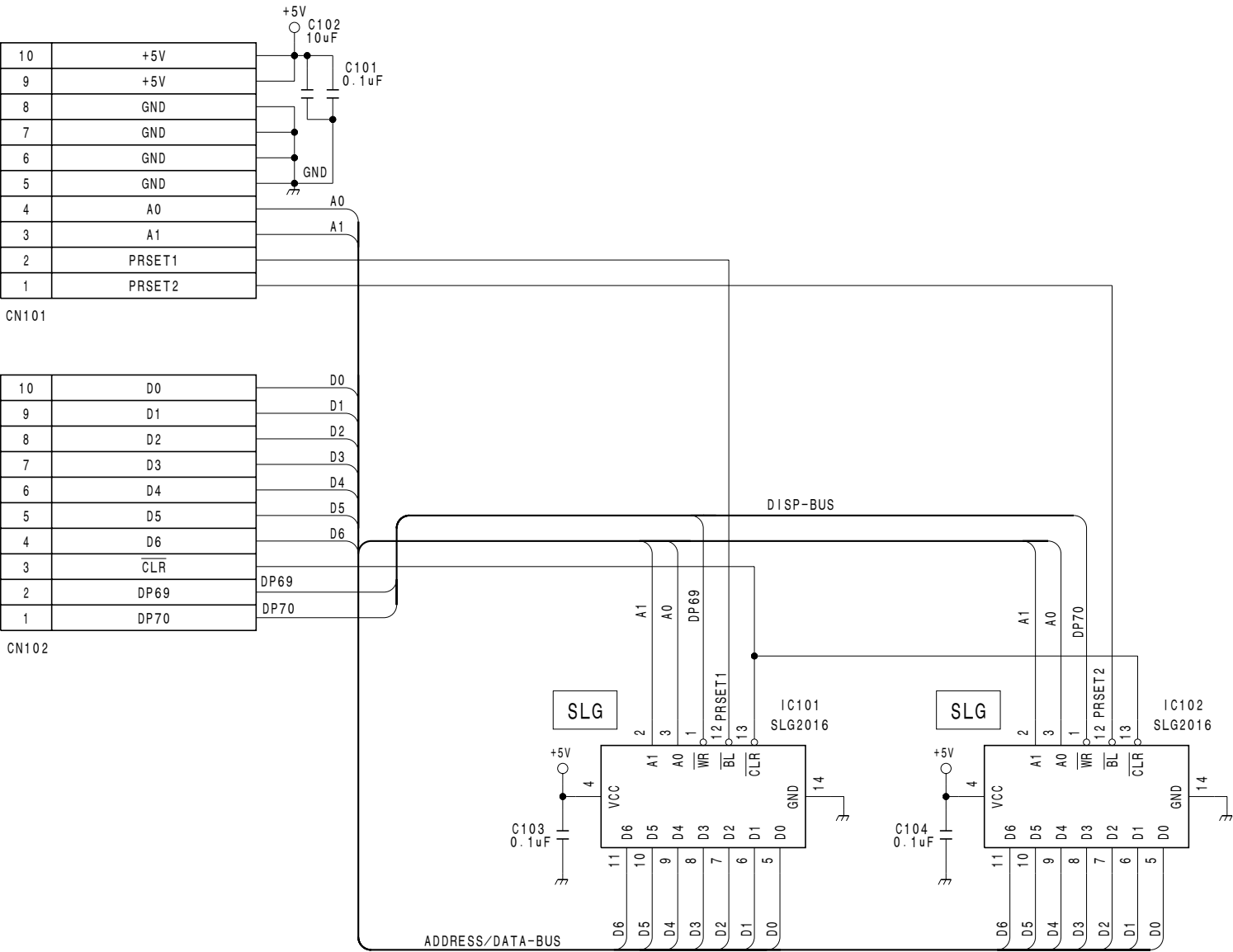
CPU-323 (3/3)

BOARD NO. 1-678-829-12
LOT NO. 1B1-

MKS-8082 (SY): S/N 10001 and Higher

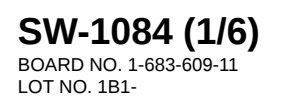


MKS-8082 (SY): S/N 10001 and Higher

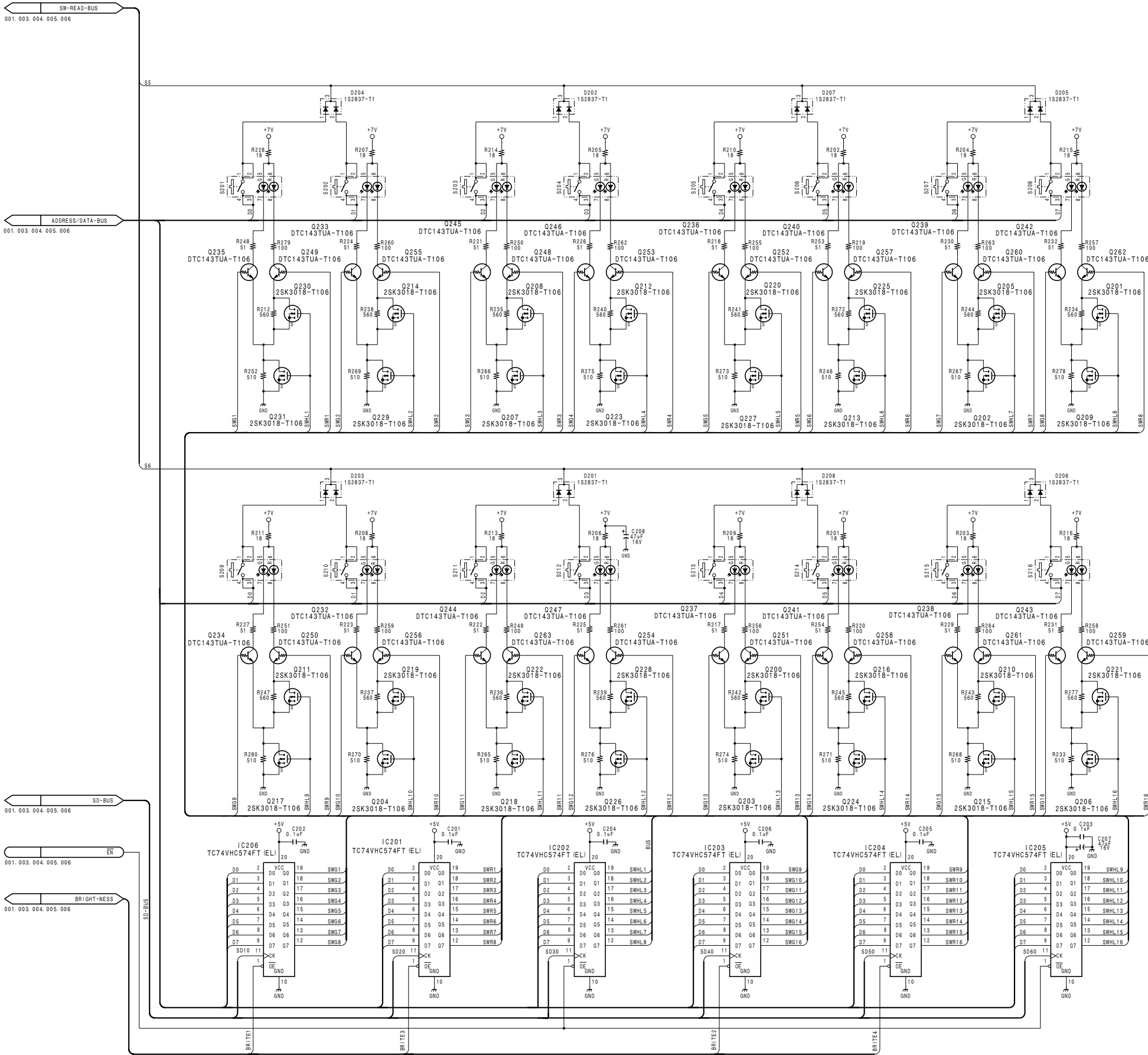


DP-357
BOARD NO. 1-683-608-11
LOT NO. 1B1-

5

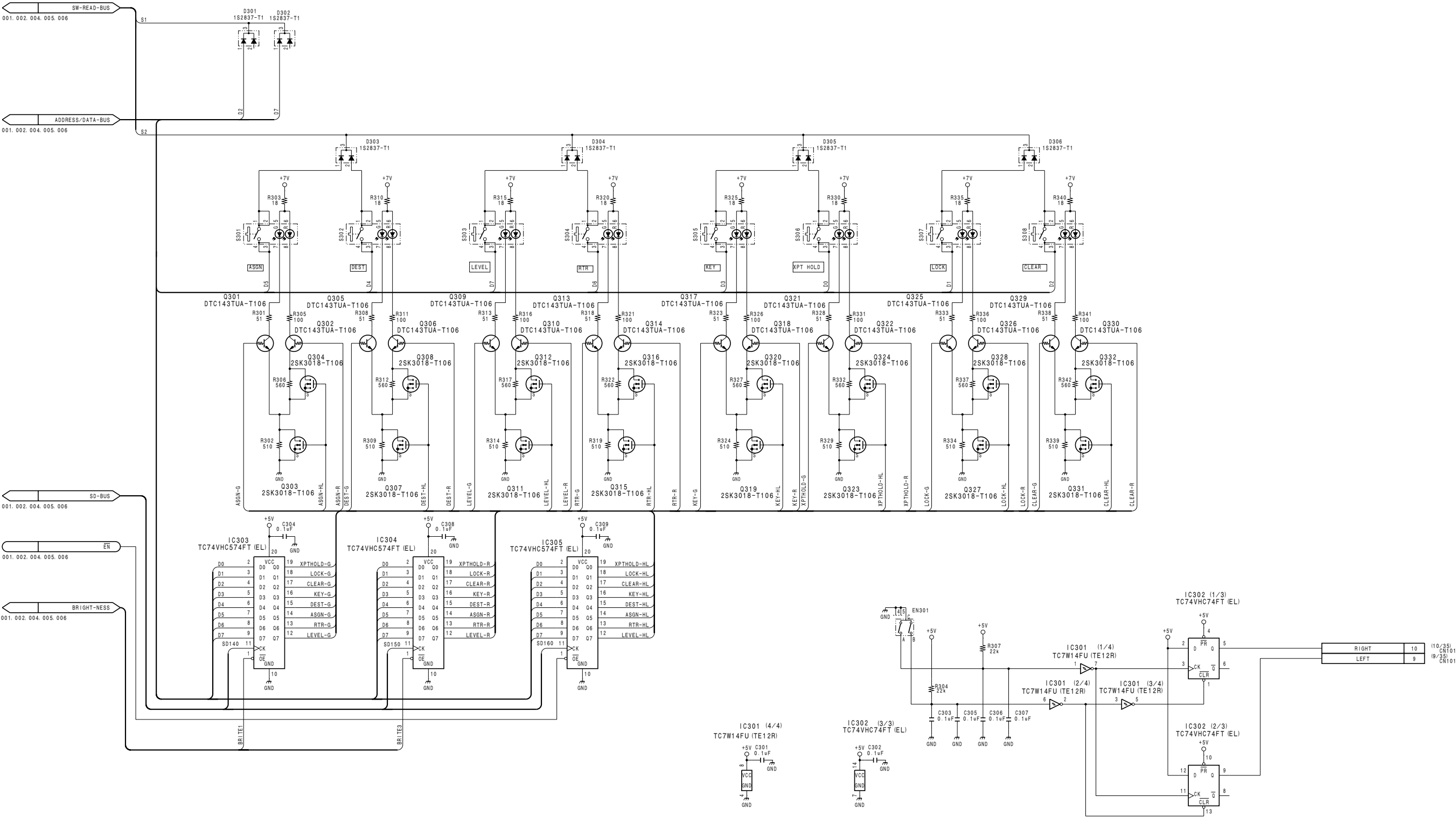


MKS-8082 (SY): S/N 10001 and Higher

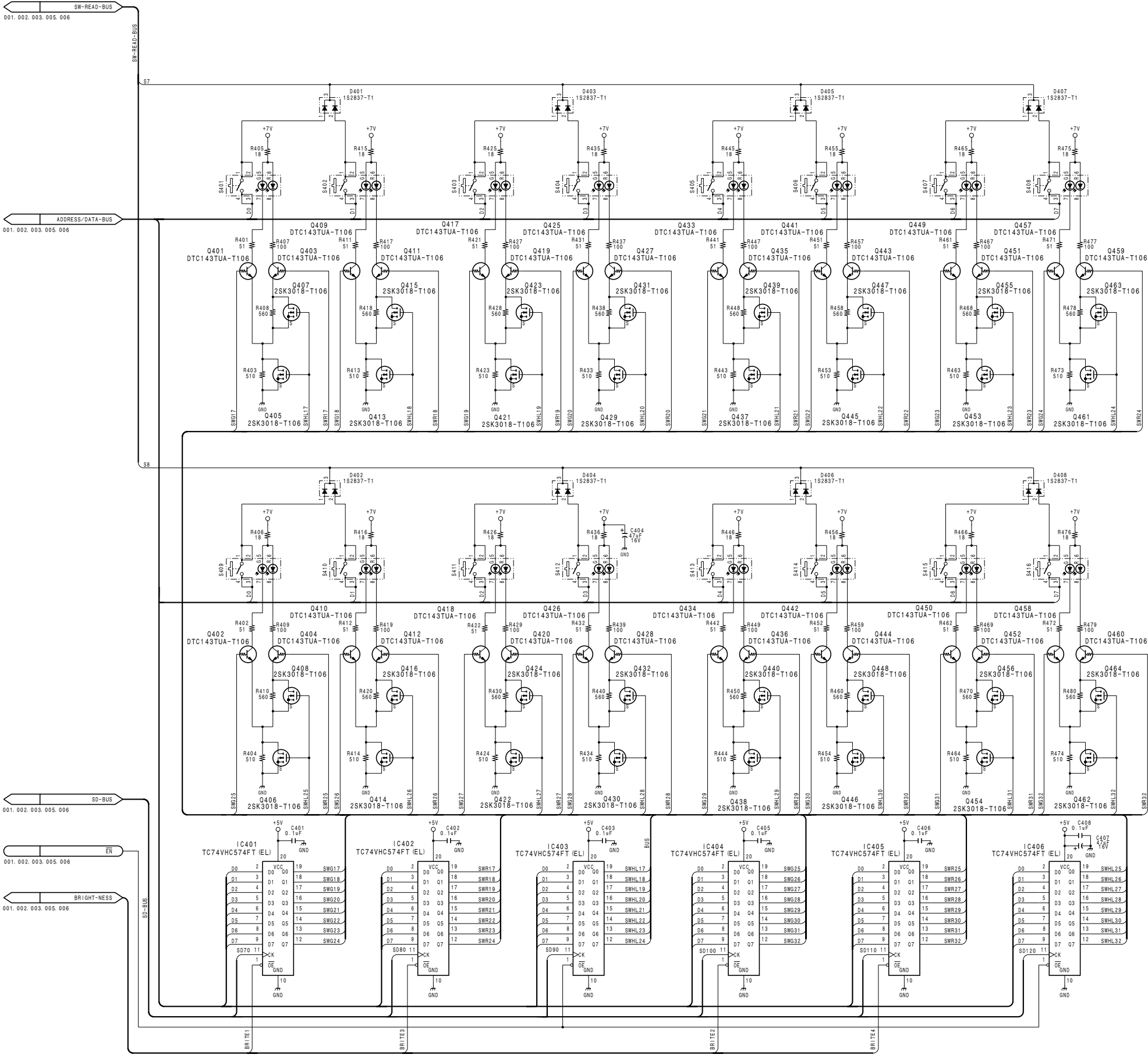


SW-1084 (2/6)
BOARD NO. 1-683-609-11
LOT NO. 1B1-

MKS-8082 (SY): S/N 10001 and Higher

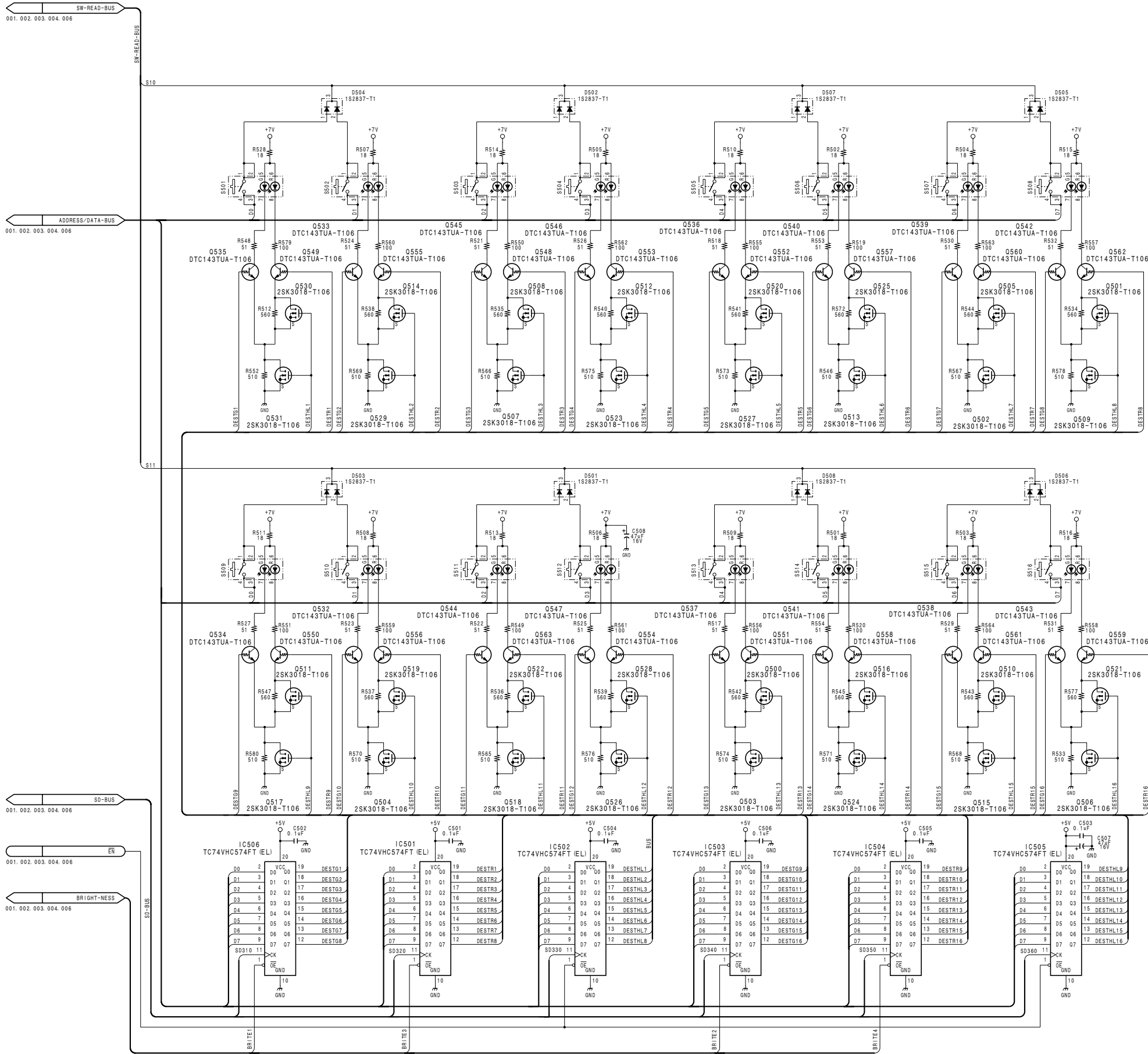


MKS-8082 (SY): S/N 10001 and Higher



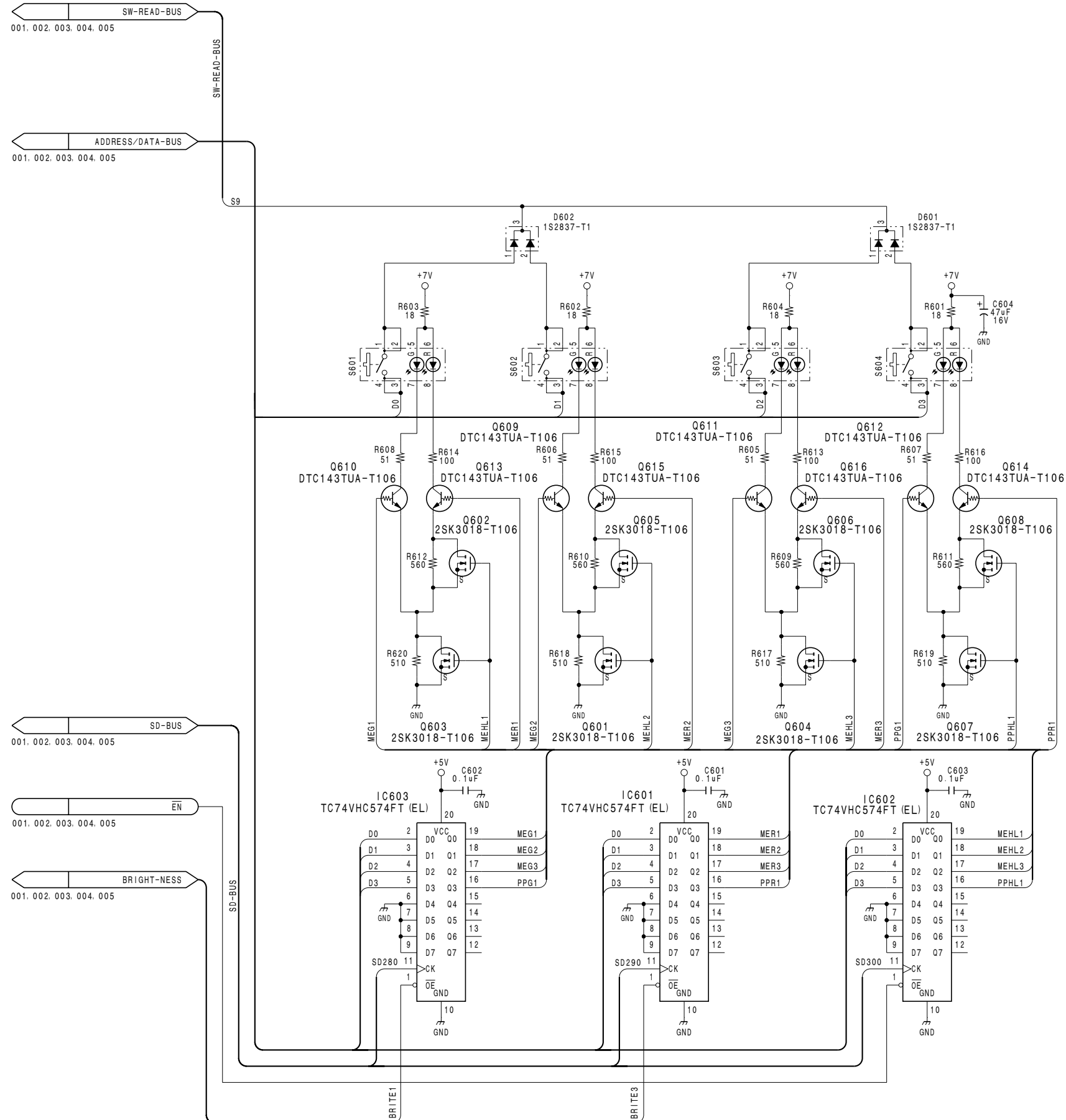
SW-1084 (4/6)
BOARD NO. 1-683-609-11
LOT NO. 1B1-

MKS-8082 (SY): S/N 10001 and Higher



SW-1084 (5/6)
BOARD NO. 1-683-609-11
LOT NO. 1B1-

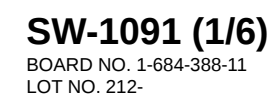
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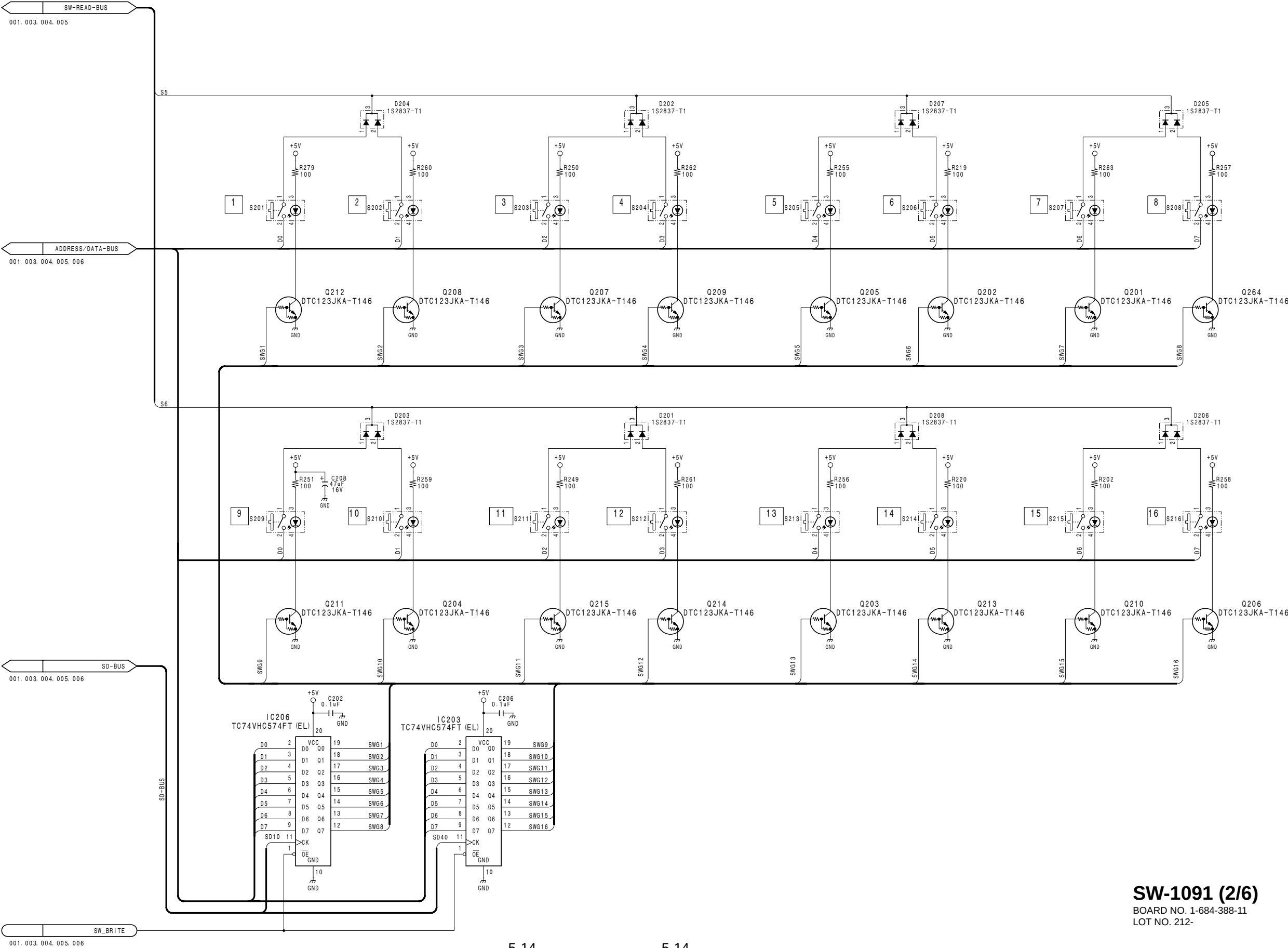
SW-1084 (6/6)

BOARD NO. 1-683-609-11
LOT NO. 1B1-

MKS-8080/8082

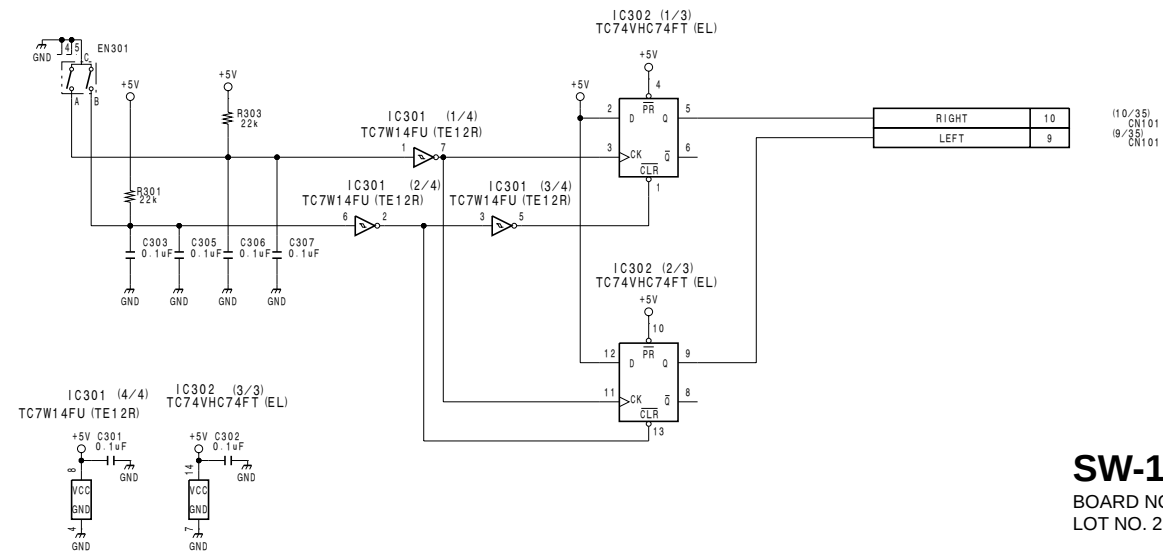
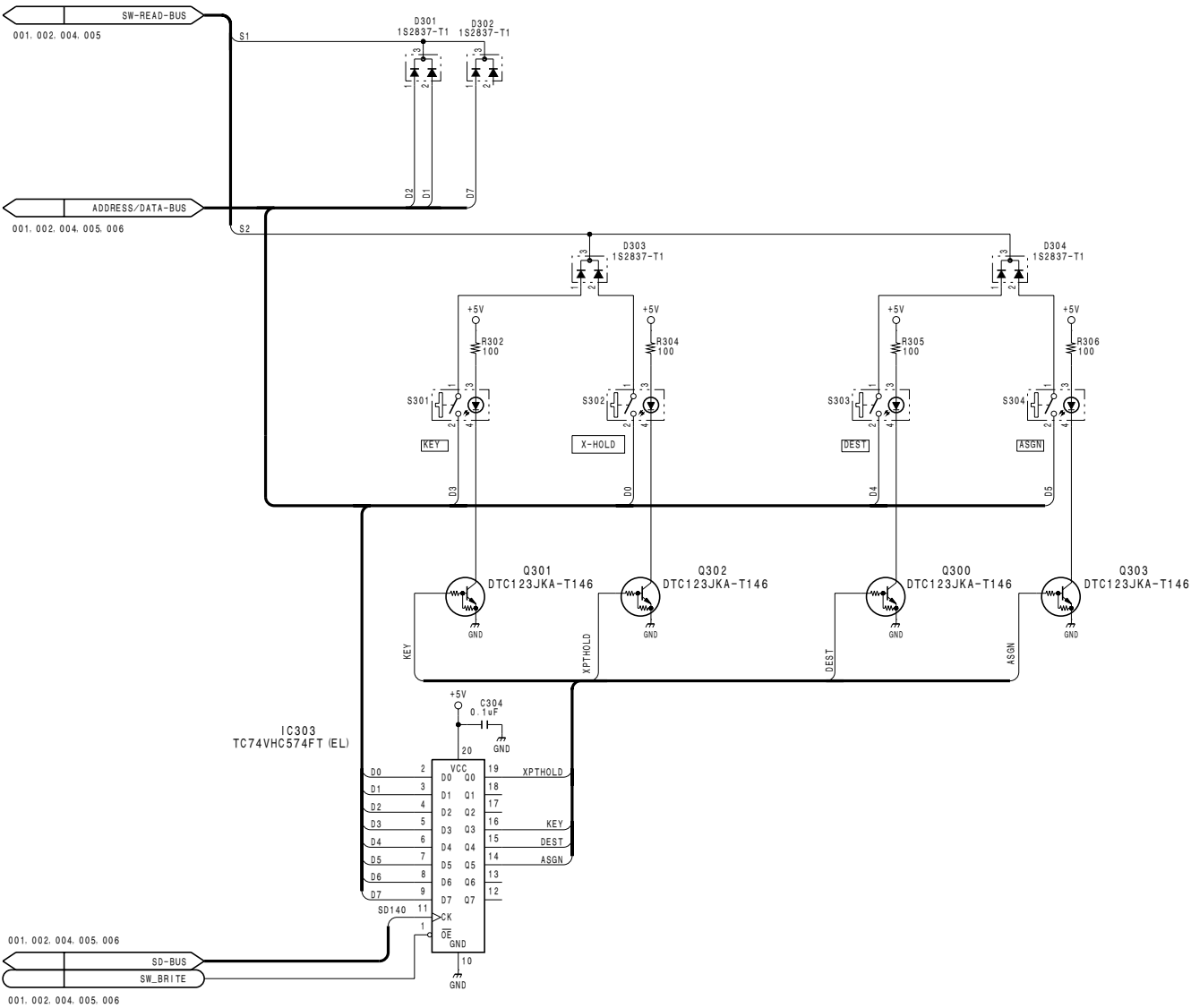


MKS-8080 (SY): S/N 10001 and Higher



SW-1091 (2/6)
BOARD NO. 1-684-388-11
LOT NO. 212-

MKS-8080 (SY): S/N 10001 and Higher



SW-1091 (3/6)
BOARD NO. 1-684-388-11
LOT NO. 212-

MKS-8080 (SY): S/N 10001 and Higher

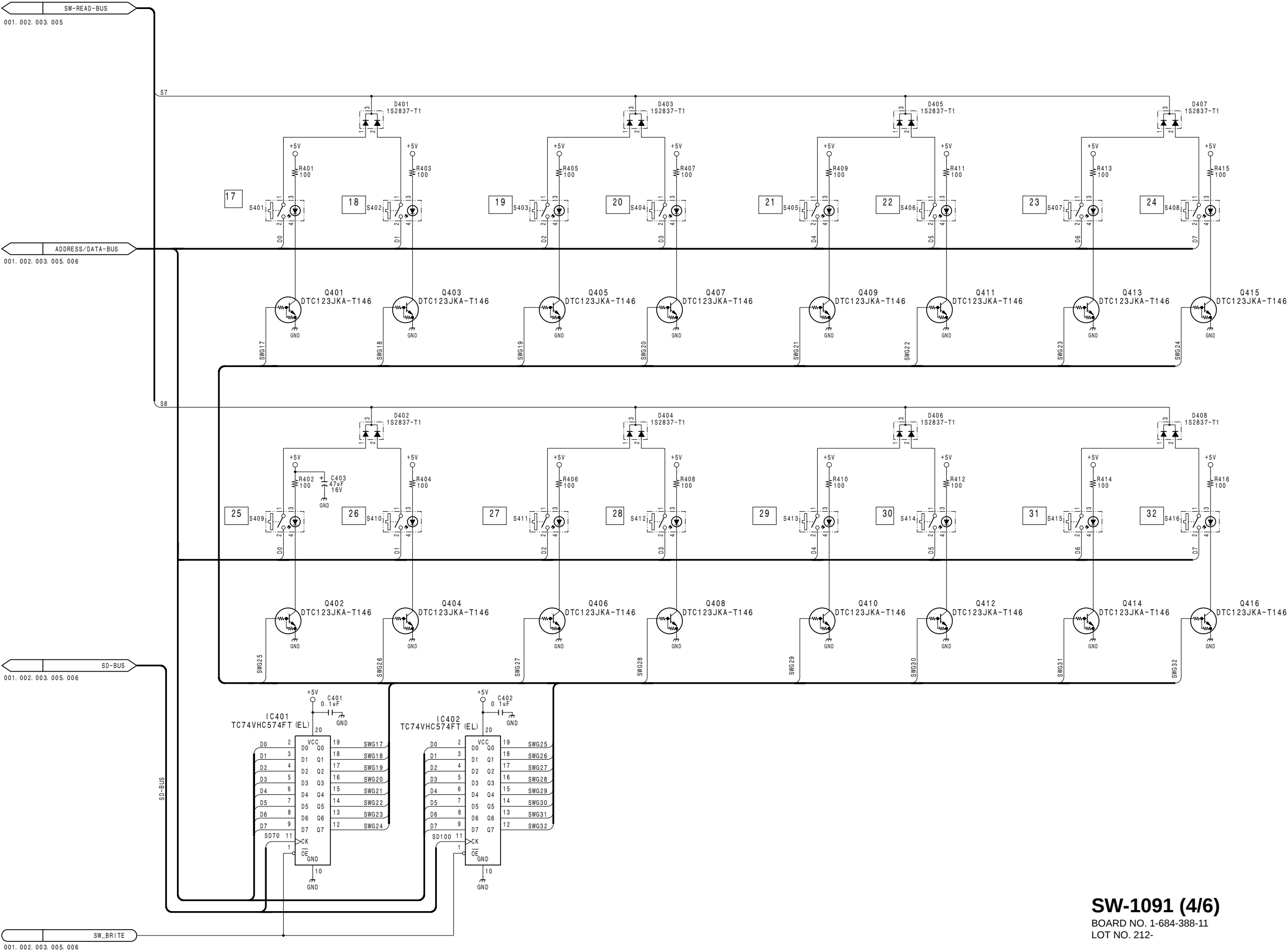
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2

3

4

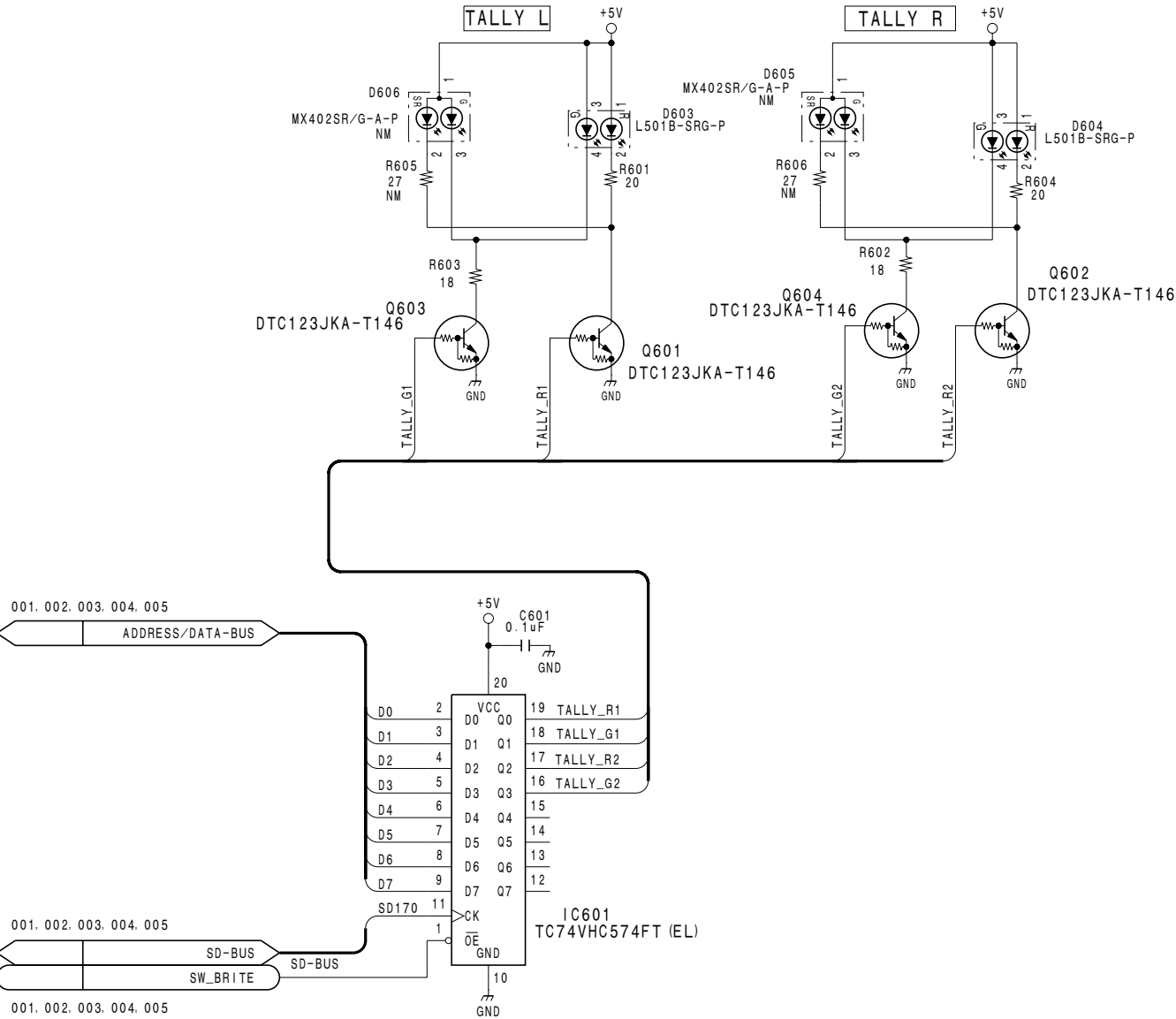
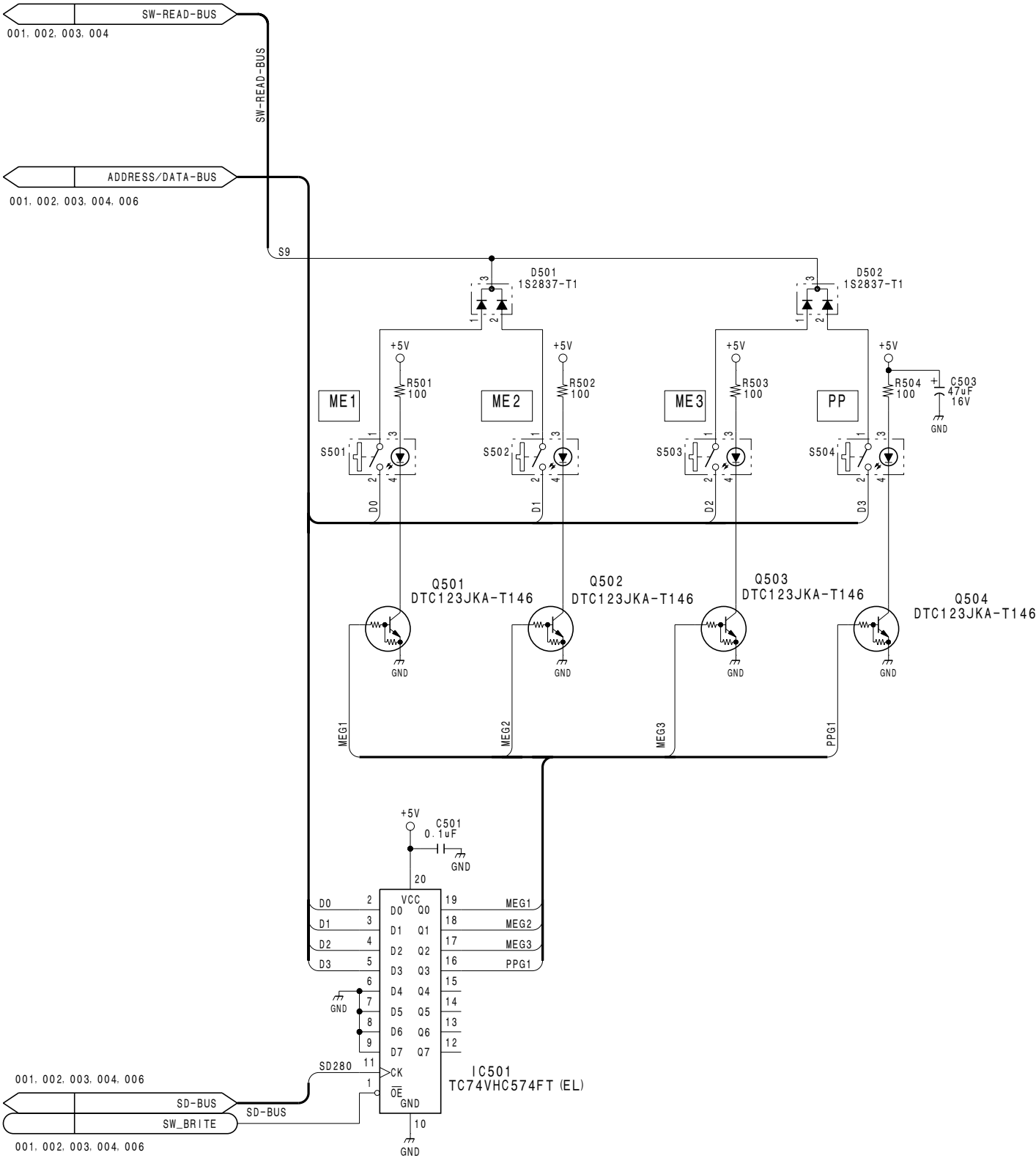
5



SW-1091 (4/6)
BOARD NO. 1-684-388-11
LOT NO. 212-

MKS-8080 (SY): S/N 10001 and Higher

MKS-8080 (SY): S/N 10001 and Higher



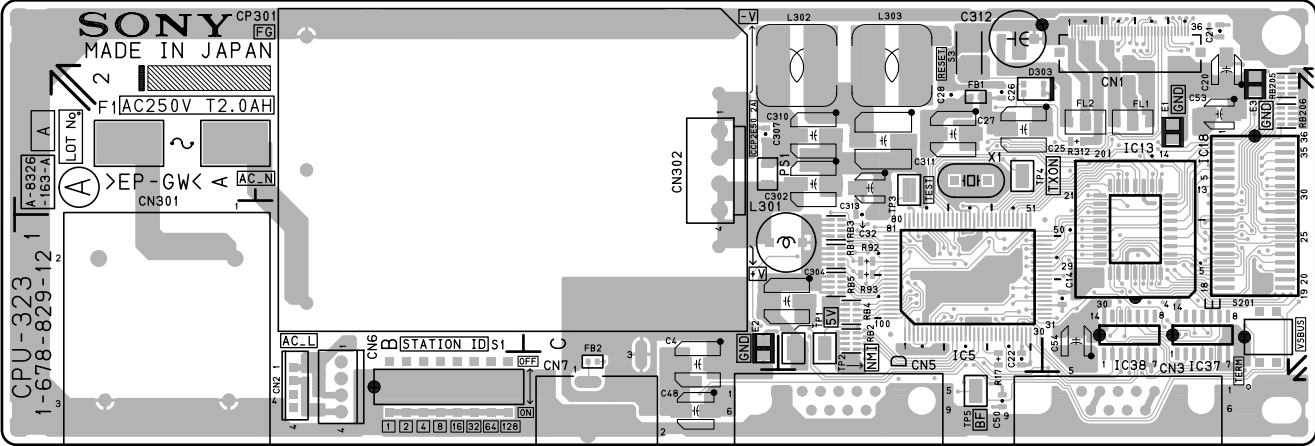
SW-1091 (5/6)
BOARD NO. 1-684-388-11
LOT NO. 212-

SW-1091 (6/6)
BOARD NO. 1-684-388-11
LOT NO. 212-

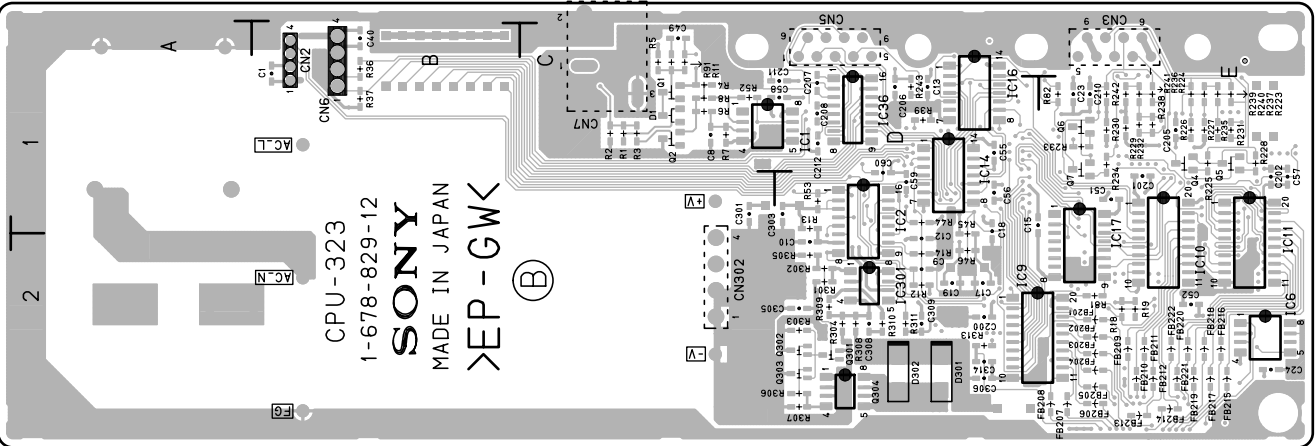
Section 6
Board Layouts

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Board	Function	Model	Page
CPU-323	System Control Board	MKS-8080 MKS-8082	6-2
DP-356	Display Board	MKS-8082	6-3
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SW-1084	Switch Board	MKS-8082	6-4
SW-1091	Switch Board	MKS-8080	6-6



CPU-323 -A SIDE-
SUFFIX: -12



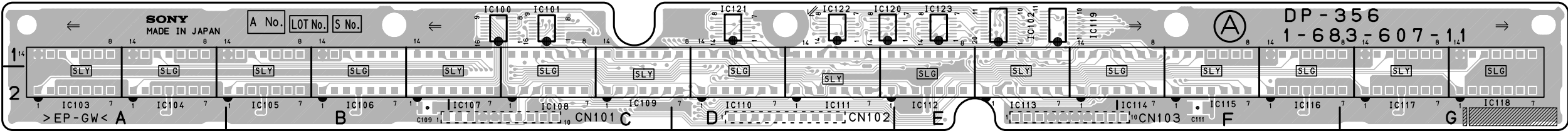
CPU-323 -B SIDE-
SUFFIX: -12

MKS-8080 (SY): S/N 10001 and Higher
MKS-8082 (SY): S/N 10001 and Higher

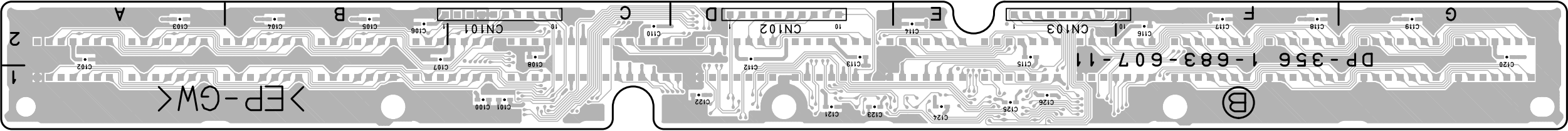
CPU-323 (1-678-829-12)

*:B SIDE

C1	* B1	E1	E2	R8	* C1
C4	C1	E2	C1	R11	* C1
C8	* C1	E3	E2	R12	* D2
C9	* D2			R13	* D1
C10	* D2	F1	A2	R14	* D2
C12	* D2			R17	D1
C13	* D1	FB1	D2	R18	* E2
C14	E1	FB2	C1	R19	* E2
C15	* D1	FB201	* E2	R36	* B1
C17	* D2	FB202	* E2	R37	* B1
C18	* D1	FB203	* E2	R39	* D1
C19	* D2	FB204	* E2	R44	* D1
C20	E2	FB205	* E2	R45	* D2
C21	E2	FB206	* E2	R46	* D2
C22	D1			R52	* C1
C23	* E1	FB207	* E2	R53	* D1
C24	* E2	FB208	* E2	R81	* E2
C25	D2	FB209	* E2	R82	* E1
C26	D2	FB210	* E2	R91	* C1
C27	D2	FB211	* E2	R92	D1
C28	D2	FB212	* E2	R93	D1
C32	D1	FB213	* E2	R223	* E1
C40	* B1	FB214	* E2	R224	* E1
C48	C1	FB215	* E2	R225	* E1
C49	* C1	FB216	* E2	R226	* E1
C50	D1	FB217	* E2	R227	* E1
C51	* E1	FB218	* E2	R228	* E1
C52	* E2	FB219	* E2	R229	* E1
C53	E2	FB220	* E2	R230	* E1
C54	E1	FB221	* E2	R231	* E1
C55	* D1	FB222	* E2		
C56	* D1			R232	* E1
C57	* E1	FL1	E2	R233	* E1
C58	* D1	FL2	E2	R234	* E1
C59	* D1			R235	* E1
C60	* D1	IC1	* C1	R236	* E1
C200	* D2	IC2	* D1	R237	* E1
C201	* E1	IC5	D1	R238	* E1
C202	* E1	IC6	* E2	R239	* E1
C205	* E1	IC9	* D2	R240	* E1
C206	* D1	IC10	* E1	R241	* E1
C207	* D1	IC11	* E1	R242	* E1
C208	* D1	IC13	* E1	R243	* D1
C210	* E1	IC14	* D1	R301	* D2
C211	* D1	IC16	* D1	R302	* D2
C212	* D1	IC17	* E1	R303	* D2
C301	* C1	IC18	E2	R304	* D2
C302	D2	IC36	* D1	R305	* D2
C303	* D1	IC37	E1	R306	* D2
C304	D1	IC38	E1	R307	* D2
C305	* D2	IC301	* D2	R308	* D2
C306	* D2			R309	* D2
C307	C2	L301	D1	R310	* D2
C308	* D2	L302	D2	R311	* D2
C309	* D2	L303	D2	R312	E2
C310	D2			R313	* D2
C311	D2	PS1	C2		
C312	D2			RB1	D1
C313	D2	Q1	* C1	RB2	D1
C314	* D2	Q2	* C1	RB3	D1
		Q4	* E1	RB4	D1
		Q5	* E1	RB5	D1
CN1	E2	Q6	* E1	RB205	E2
CN2	B1	Q7	* E1	RB206	E2
CN3	E1	Q301	* D2		
CN5	D1	Q302	* D2	S1	B1
CN6	B1	Q303	* D2	S3	D2
CN7	C1	Q304	* D2	S201	E1
CN301	A1				
CN302	C2				
		R1	* C1	TP1	D1
CP301	B2	R2	* C1	TP2	D1
		R3	* C1	TP3	D2
		R4	* C1	TP4	D2
D1	* C1	R5	* C1	TP5	D1
D301	* D2	R6	* C1		
D302	* D2	R7	* C1	X1	D2
D303	D2				



DP-356 -A SIDE-
SUFFIX: -11



DP-356 -B SIDE-
SUFFIX: -11

DP-356 (1-683-607-11)

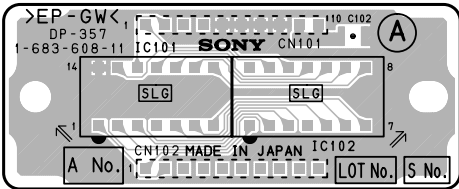
*:B SIDE

- C100 * C1
- C101 * C1
- C102 * A2
- C103 * A2
- C104 * B2
- C105 * B2
- C106 * B2
- C107 * B2
- C108 * C2
- C109 B2
- C110 * C2
- C111 F2
- C112 * D2
- C113 * D2
- C114 * E2
- C115 * E2
- C116 * F2
- C117 * F2
- C118 * F2
- C119 * G2
- C120 * G2
- C121 * D1
- C122 * D1
- C123 * D1
- C124 * E1
- C125 * E1
- C126 * E1

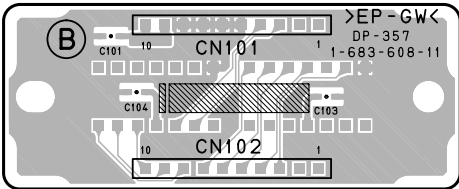
- CN101 * C2
- CN102 * D2
- CN103 * E2

- IC100 C1
- IC101 C1
- IC102 E1
- IC103 A2
- IC104 A2
- IC105 B2
- IC106 B2
- IC107 C2
- IC108 C2
- IC109 C2
- IC110 D2
- IC111 D2
- IC112 E2
- IC113 E2
- IC114 E2
- IC115 F2
- IC116 F2
- IC117 G2
- IC118 G2
- IC119 E1
- IC120 E1
- IC121 D1
- IC122 D1
- IC123 E1

MKS-8082 (SY): S/N 10001 and Higher



DP-357 -A SIDE-
SUFFIX: -11



DP-357 -B SIDE-
SUFFIX: -11

DP-357 (1-683-608-11)

*:B SIDE

- C101 * A1
- C102 A1
- C103 * A1
- C104 * A1

- CN101 * A1
- CN102 * A1

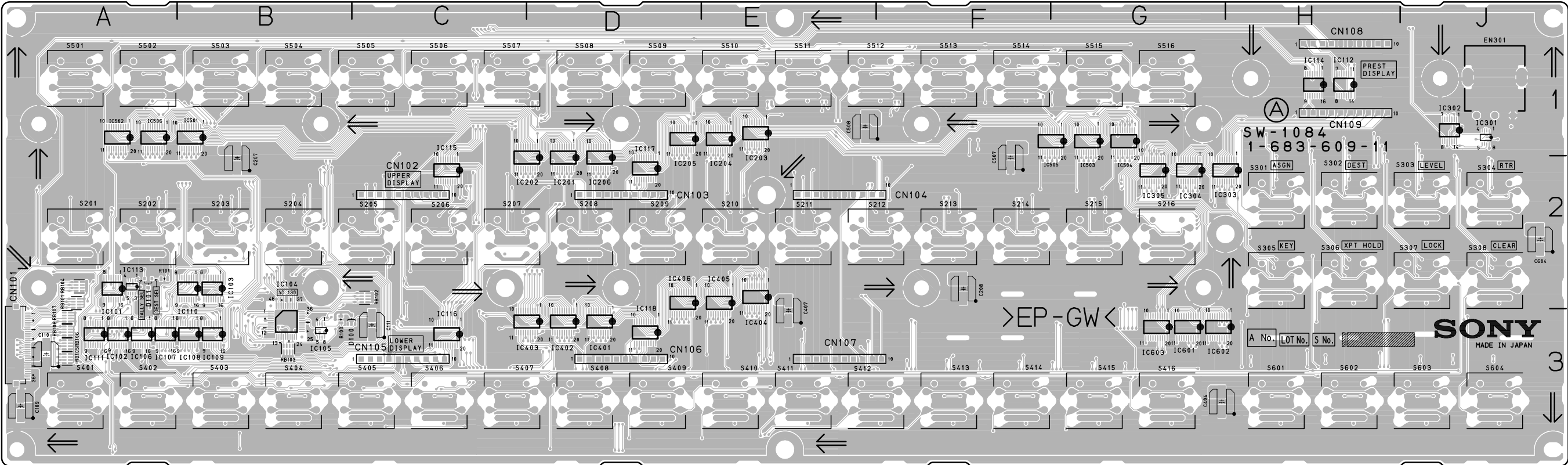
- IC101 A1
- IC102 A1

MKS-8082 (SY): S/N 10001 and Higher

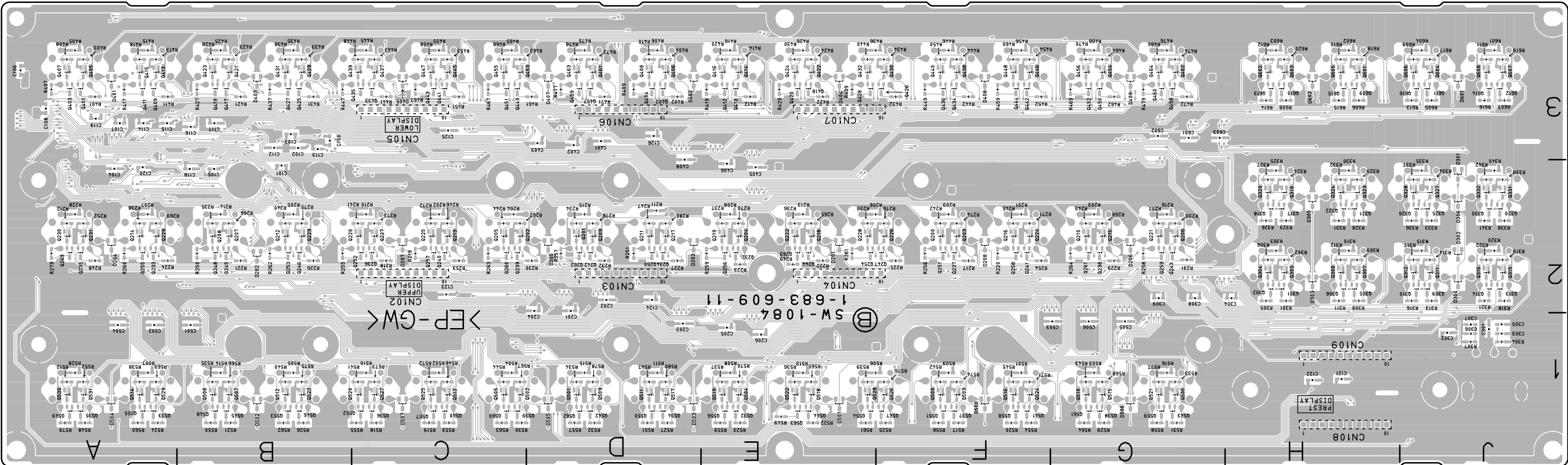
SW-1084 (1-683-609-11)

*:B SIDE

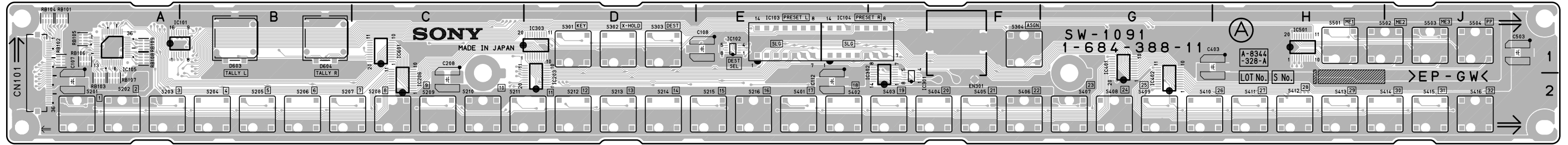
C100	* B3	D401	* A3	Q225	* C2	Q421	* B3	Q547	* F1	R256	* F2	R425	* B3	R536	* E1	S301	H2
C101	* B2	D402	* D3	Q226	* F2	Q422	* E3	Q548	* B1	R257	* D2	R426	* E3	R537	* E1	S302	H2
C102	* B3	D403	* B3	Q227	* C2	Q423	* B3	Q549	* A1	R258	* G2	R427	* B3	R538	* A1	S303	J2
C103	* B3	D404	* E3	Q228	* E2	Q424	* E3	Q550	* D1	R259	* E2	R428	* B3	R539	* E1	S304	J2
C104	* A2	D405	* C3	Q229	* A2	Q425	* B3	Q551	* F1	R260	* A2	R429	* E3	R540	* B1	S305	H2
C105	* B2	D406	* F3	Q230	* A2	Q426	* F3	Q552	* C1	R261	* E2	R430	* E3	R541	* C1	S306	H2
C106	* A3	D407	* D3	Q231	* A2	Q427	* B3	Q553	* B1	R262	* B2	R431	* B3	R542	* F1	S307	J2
C107	* A3	D408	* G3	Q232	* E2	Q428	* E3	Q554	* E1	R263	* C2	R432	* F3	R543	* G1	S308	J2
C108	* A3	D501	* E1	Q233	* A2	Q429	* B3	Q555	* A1	R264	* G2	R433	* B3	R544	* C1	S401	A3
C109	A3	D502	* B1	Q234	* D2	Q430	* F3	Q556	* E1	R265	* E2	R434	* F3	R545	* F1	S402	A3
C110	A3	D503	* D1	Q235	* A2	Q431	* B3	Q557	* C1	R266	* B2	R435	* B3	R546	* C1	S403	B3
C111	C3	D504	* A1	Q236	* C2	Q432	* E3	Q558	* F1	R267	* C2	R436	* E3	R547	* D1	S404	B3
C112	* B3	D505	* D1	Q237	* F2	Q433	* C3	Q559	* G1	R268	* G2	R437	* B3	R548	* A1	S405	C3
C113	* B3	D506	* G1	Q238	* G2	Q434	* F3	Q560	* C1	R269	* A2	R438	* B3	R549	* E1	S406	C3
C114	* A3	D507	* C1	Q239	* C2	Q435	* C3	Q561	* G1	R270	* E2	R439	* E3	R550	* B1	S407	C3
C115	* A3	D508	* F1	Q240	* C2	Q436	* F3	Q562	* D1	R271	* F2	R440	* E3	R551	* D1	S408	D3
C116	* B3	D601	* J3	Q241	* F2	Q437	* C3	Q563	* E1	R272	* C2	R441	* C3	R552	* A1	S409	D3
C117	* B3	D602	* H3	Q242	* D2	Q438	* F3	Q601	* H3	R273	* C2	R442	* F3	R553	* C1	S410	E3
C118	* B2			Q243	* G2	Q439	* C3	Q602	* H3	R274	* F2	R443	* C3	R554	* F1	S411	E3
C119	* A3	EN301	J1	Q244	* E2	Q440	* F3	Q603	* H3	R275	* B2	R444	* F3	R555	* C1	S412	E3
C120	* A2			Q245	* B2	Q441	* C3	Q604	* J3	R276	* F2	R445	* C3	R556	* F1	S413	F3
C121	* H1	IC101	A2	Q246	* B2	Q442	* F3	Q605	* H3	R277	* G2	R446	* F3	R557	* D1	S414	F3
C122	* H1	IC102	A3	Q247	* F2	Q443	* C3	Q606	* J3	R278	* D2	R447	* B3	R558	* G1	S415	G3
C123	* C2	IC103	B2	Q248	* B2	Q444	* F3	Q607	* J3	R279	* A2	R448	* C3	R559	* E1	S416	G3
C124	* D2	IC104	B3	Q249	* A2	Q445	* C3	Q608	* J3	R280	* D2	R449	* F3	R560	* A1	S501	A1
C125	* C3	IC105	B3	Q250	* D2	Q446	* F3	Q609	* H3	R301	* H2	R450	* F3	R561	* E1	S502	A1
C126	* D3	IC106	A3	Q251	* F2	Q447	* C3	Q610	* H3	R302	* H2	R451	* C3	R562	* B1	S503	B1
C201	* D2	IC107	A3	Q252	* C2	Q448	* F3	Q611	* J3	R303	* H2	R452	* F3	R563	* C1	S504	B1
C202	* D2	IC108	B3	Q253	* B2	Q449	* C3	Q612	* J3	R304	* J1	R453	* C3	R564	* G1	S505	C1
C203	* D1	IC109	B3	Q254	* E2	Q450	* G3	Q613	* H3	R305	* H2	R454	* F3	R565	* E1	S506	C1
C204	* D2	IC110	B2	Q255	* A2	Q451	* C3	Q614	* J3	R306	* H2	R455	* C3	R566	* B1	S507	C1
C205	* E1	IC111	A3	Q256	* E2	Q452	* G3	Q615	* H3	R307	* J1	R456	* F3	R567	* C1	S508	D1
C206	* E1	IC112	H1	Q257	* C2	Q453	* C3	Q616	* J3	R308	* H2	R457	* C3	R568	* G1	S509	D1
C207	B2	IC113	A2	Q258	* F2	Q454	* G3			R309	* H2	R458	* C3	R569	* A1	S510	E1
C208	F2	IC114	H1	Q259	* G2	Q455	* C3	R100	B3	R310	* H2	R459	* F3	R570	* E1	S511	E1
C301	* J1	IC115	C2	Q260	* C2	Q456	* G3	R101	A2	R311	* H2	R460	* F3	R571	* F1	S512	E1
C302	* J1	IC116	C3	Q261	* G2	Q457	* D3	R201	* F2	R312	* H2	R461	* D3	R572	* C1	S513	F1
C303	* J1	IC117	D2	Q262	* D2	Q458	* G3	R202	* C2	R313	* J2	R462	* G3	R573	* C1	S514	F1
C304	* H2	IC118	D3	Q263	* E2	Q459	* D3	R203	* G2	R314	* J2	R463	* C3	R574	* F1	S515	G1
C305	* J1	IC201	D1	Q301	* H2	Q460	* G3	R204	* C2	R315	* J2	R464	* G3	R575	* B1	S516	G1
C306	* J1	IC202	D1	Q302	* H2	Q461	* D3	R205	* B2	R316	* J2	R465	* C3	R576	* F1	S601	H3
C307	* J1	IC203	E1	Q303	* H2	Q462	* G3	R206	* E2	R317	* J2	R466	* G3	R577	* G1	S602	H3
C308	* G2	IC204	E1	Q304	* H2	Q463	* D3	R207	* A2	R318	* J2	R467	* C3	R578	* D1	S603	J3
C309	* G2	IC205	D1	Q305	* H2	Q464	* G3	R208	* E2	R319	* J2	R468	* C3	R579	* A1	S604	J3
C401	* D3	IC206	D1	Q306	* H2	Q500	* F1	R209	* F2	R320	* J2	R469	* G3	R580	* D1		
C402	* D3	IC301	J1	Q307	* H2	Q501	* D1	R210	* C2	R321	* J2	R470	* G3	R601	* J3		
C403	* D3	IC302	J1	Q308	* H2	Q502	* C1	R211	* D2	R322	* J2	R471	* D3	R602	* H3		
C404	G3	IC303	H2	Q309	* J2	Q503	* F1	R212	* A2	R323	* H2	R472	* G3	R603	* H3		
C405	* E2	IC304	G2	Q310	* J2	Q504	* E1	R213	* E2	R324	* H2	R473	* D3	R604	* J3		
C406	* E2	IC305	G2	Q311	* J2	Q505	* C1	R214	* B2	R325	* H2	R474	* G3	R605	* J3		
C407	E3	IC401	D3	Q312	* J2	Q506	* G1	R215	* D2	R326	* H2	R475	* D3	R606	* H3		
C408	* D2	IC402	D3	Q313	* J2	Q507	* B1	R216	* G2	R327	* H2	R476	* G3	R607	* J3		
C501	* B1	IC403	D3	Q314	* J2	Q508	* B1	R217	* F2	R328	* H2	R477	* D3	R608	* H3		
C502	* A1	IC404	E2	Q315	* J2	Q509	* D1	R218	* C2	R329	* H2	R478	* D3	R609	* J3		
C503	* G1	IC405	E2	Q316	* J2	Q510	* G1	R219	* C2	R330	* H2	R479	* G3	R610	* H3		
C504	* A1	IC406	D2	Q317	* H2	Q511	* D1	R220	* F2	R331	* H2	R480	* G3	R611	* J3		
C505	* G1	IC501	B1	Q318	* H2	Q512	* B1	R221	* B2	R332	* H2	R501	* F1	R612	* H3		
C506	* G1	IC502	A1	Q319	* H2	Q513	* C1	R222	* E2	R333	* J2	R502	* C1	R613	* J3		
C507	F2	IC503	G1	Q320	* H2	Q514	* A1	R223	* E2	R334	* J2	R503	* G1	R614	* H3		
C508	E1	IC504	G1	Q321	* H2	Q515	* G1	R224	* A2	R335	* J2	R504	* C1	R615	* H3		
C601	* G3	IC505	G1	Q322	* H2	Q516	* F1	R225	* F2	R336	* J2	R505	* B1	R616	* J3		
C602	* G3	IC506	A1	Q323	* H2	Q517	* D1	R226	* B2	R337	* J2	R506	* E1	R617	* J3		
C603	* G3	IC601	G3	Q324	* H2	Q518	* E1	R227	* D2	R338	* J2	R507	* A1	R618	* H3		
C604	J2	IC602	H3	Q325	* J2	Q519	* E1	R228	* A2	R339	* J2	R508	* E1	R619	* J3		
		IC603	G3	Q326	* J2	Q520	* C1	R229	* G2	R340	* J2	R509	* F1	R620	* H3		
CN101	A3			Q327	* J2	Q521	* G1	R230	* D2	R341	* J2	R510	* C1				
CN102	C2	Q200	* F2	Q328	* J2	Q522	* E1	R231	* G2	R342	* J2	R511	* D1	RB101	A2		
CN103	D2	Q201	* D2	Q329	* J2	Q523	* B1	R232	* D2	R401	* A3	R512	* A1	RB102	C2		
CN104	E2	Q202	* C2	Q330	* J2	Q524	* F1	R233	* G2	R402	* D3	R513	* E1	RB103	B3		
CN105	C3	Q203	* F2	Q331	* J2	Q525	* C1	R234	* D2	R403	* A3	R514	* B1	RB104	A2		
CN106	D3	Q204	* E2	Q332	* J2	Q526	* F1	R235	* B2	R404	* D3	R515	* D1	RB105	A3		
CN107	E3	Q205	* C2	Q401	* A3	Q527	* C1	R236	* E2	R405	* A3	R516	* G1	RB106	A3		
CN108	H1	Q206	* G2	Q402	* D3	Q528	* E1	R237	* E2	R406	* D3	R517	* F1	RB107	A3		
CN109	H1	Q207	* B2	Q403	* A3	Q529	* A1	R238	* A2	R407	* A3	R518	* C1	RB108	A3		
		Q208	* B2	Q404	* D3	Q530	* A1	R239	* E2	R408	* A3	R519	* C1				
		Q209	* D2	Q405	* A3	Q531	* A1	R240	* B2	R409	* D3	R520	* F1	S201	A2		
D101	A2	Q210	* G2	Q406	* D3	Q532	* E1	R241	* C2	R410	* D3	R521	* B1	S202	A2		
D201	* E2	Q211	* D2	Q407	* A3	Q533	* A1	R242	* F2	R411	* A3	R522	* E1	S203	B2		
D202	* B2	Q212	* B2	Q408	* D3	Q534	* D1	R243	* G2	R412	* E3	R523	* E1	S204	B2		
D203	* D2	Q213	* C2	Q409	* A3	Q535	* A1	R244	* C2	R413	* A3	R524	* A1	S205	C2		
D204	* A2	Q214	* A2	Q410	* E3	Q536	* C1	R245	* F2	R414	* E3	R525	* F1	S206	C2		
D205	* D2	Q215	* G2	Q411	* A3	Q537	* F1	R246	* C2	R415	* A3	R526	* B1	S207	C2		
D206	* G2	Q216	* F2	Q412	* E3	Q538	* G1	R247	* D2	R416	* E3	R527	* D1	S208	D2		
D207	* C2	Q217	* D2	Q413	* A3	Q539	* C1	R248	* A2	R417	* A3	R528	* A1	S209	D2		
D208	* F2	Q218	* E2	Q414	* E3	Q540	* C1	R249	* E2	R418	* A3	R529	* G1	S210	E2		
D301	* J2	Q219	* E2	Q415	* A3	Q541	* F1	R250	* B2	R419	* E3	R530	* C1	S211	E2		
D302	* J2	Q220	* C2	Q416	* E3	Q542	* D1	R251	* D2	R420	* E3	R531	* G1	S212	E2		
D303	* H2	Q221	* G2	Q417	* B3	Q543	* G1	R252	* A2	R421	* B3	R532	* D1	S213	F2		
D304	* J2	Q222	* E2	Q418	* E3	Q544	* E1	R253	* C2	R422	* E3	R533	* G1	S214	F2		
D305	* H2	Q223	* B2	Q419	* B3	Q545	* B1	R254									



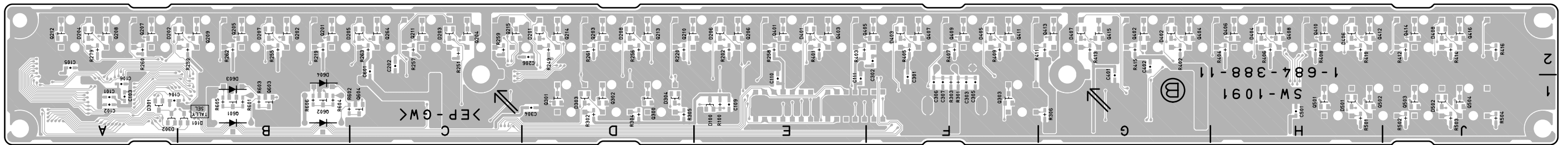
SW-1084 -A SIDE-
SUFFIX: -11



SW-1084 -B SIDE-
SUFFIX: -11



SW-1091 -A SIDE-SUFFIX: -11



MKS-8080 (SY): S/N 10001 and Higher

SW-1091 -B SIDE-
SUFFIX: -11

SW-1091 (1-684-388-11)

* : B SIDE

C101	* A1	D204	* A2	IC401	G2	Q412	* H2	R306	* G1	RB109	A1
C102	* A1	D205	* C2	IC402	G2	Q413	* G2	R401	* E2		
C103	* A1	D206	* E2	IC501	H1	Q414	* J2	R402	* G2	S201	A2
C104	* A1	D207	* B2	IC601	C1	Q415	* G2	R403	* E2	S202	A2
C105	* A2	D208	* D2			Q416	* J2	R404	* H2	S203	A2
C106	* A1	D301	* A1	Q201	* B2	Q501	* H1	R405	* F2	S204	B2
C107	A2	D302	* A1	Q202	* B2	Q502	* H1	R406	* H2	S205	B2
C108	E1	D303	* D1	Q203	* D2	Q503	* J1	R407	* F2	S206	B2
C109	* E1	D304	* D1	Q204	* C2	Q504	* J1	R408	* H2	S207	B2
C110	* E1	D401	* F2	Q205	* B2	Q601	* B1	R409	* F2	S208	C2
C111	* E1	D402	* G2	Q206	* E2	Q602	* B1	R410	* H2	S209	C2
C112	E2	D403	* F2	Q207	* A2	Q603	* B1	R411	* G2	S210	C2
C202	* C2	D404	* H2	Q208	* A2	Q604	* C1	R412	* J2	S211	D2
C206	* D2	D405	* F2	Q209	* B2			R413	* G2	S212	D2
C208	C2	D406	* H2	Q210	* D2	R100	* E1	R414	* J2	S213	D2
C301	* F1	D407	* G2	Q211	* C2	R202	* E2	R415	* G2	S214	D2
C302	* F2	D408	* J2	Q212	* A2	R219	* B2	R416	* J2	S215	E2
C303	* F1	D501	* H1	Q213	* D2	R220	* D2	R501	* H1	S216	E2
C304	* D1	D502	* J1	Q214	* D2	R249	* D2	R502	* J1	S301	D1
C305	* F1	D603	B1	Q215	* C2	R250	* B2	R503	* J1	S302	D1
C306	* F1	D604	B1	Q264	* C2	R251	* C2	R504	* J1	S303	D1
C307	* F1	D605	B1	Q300	* D1	R255	* B2	R601	* B1	S304	F1
C401	* G1	D606	B1	Q301	* D1	R256	* D2	R602	* B1	S401	E2
C402	* G2			Q302	* D1	R257	* C2	R603	* B1	S402	E2
C403	H1	EN301	F1	Q303	* F1	R258	* E2	R604	* B1	S403	F2
C501	* H1			Q401	* E2	R259	* C2	R605	* B1	S404	F2
C503	J1	IC101	A1	Q402	* G2	R260	* A2	R606	* B1	S405	F2
C601	* C2	IC102	E1	Q403	* E2	R261	* D2			S406	F2
		IC103	E1	Q404	* G2	R262	* B2	RB101	A1	S407	G2
CN101	A2	IC104	E1	Q405	* F2	R263	* C2	RB102	A1	S408	G2
		IC105	A1	Q406	* H2	R279	* A2	RB103	A2	S409	G2
D100	* E1	IC203	D2	Q407	* F2	R301	* F1	RB104	A1	S410	G2
D101	* B1	IC206	C2	Q408	* H2	R302	* D1	RB105	A1	S411	H2
D201	* D2	IC301	F2	Q409	* F2	R303	* F1	RB106	A1	S412	H2
D202	* B2	IC302	F2	Q410	* H2	R304	* D1	RB107	A2	S413	H2
D203	* C2	IC303	D1	Q411	* F2	R305	* D1	RB108	A1	S414	J2

SAFETY CHECK-OUT

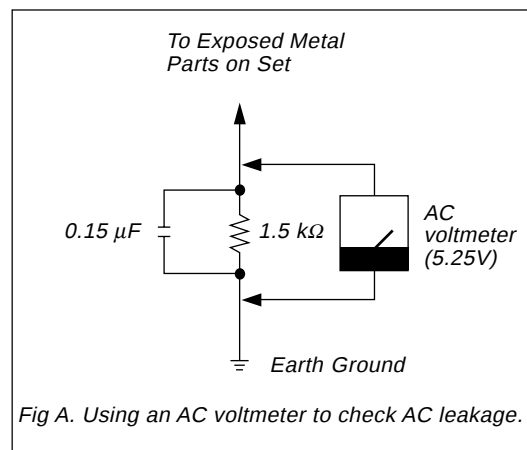
After correcting the original service problem, perform the following safety checks before releasing the set to the customer :

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 3.5 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 5.25 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 20 V AC range are suitable. (See Fig. A)



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MKS-8082 (SY) J, E
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B&P Company

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