

SERVICE MANUAL

(without price)

ELECTRONIC CASH REGISTER

TK-3200

(EX-585)

SEP. 2005



Printer Model: M-U420-061

CASIO®

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To prevent malfunctions caused by the weak batteries, charge the memory protection batteries for over 12-hours before installation or after a long-time vacation (over 30 days).

- Before installation, initialize the terminal and leave it turn on over 12-hours.
- After a long-time vacation, initialize the terminal and restore the program data if the terminal is in malfunction, and leave it turn on over 12-hours.
- Over 48-hours charging makes the batteries fully charged.

1. SPECIFICATIONS

1-1. Electrical specifications

•Power consumption	In operation stand-by	Max. Max.	120 V	220 V	230 V	240 V
			0.6 A 0.01 A	0.3 A 0.06 A	0.3 A 0.06 A	0.3 A 0.06 A
•Memory protection	Back-up battery Back-up period Battery life Recharge time	VL3032/1F2 90 days (25 °C) Replace the battery every 5 years. 48 hours (full charge)				
•Clock & Calendar	Accuracy Auto calendar	Within ± 30 sec. per month (25 °C) Effective until 2099 A.D.				

1-2. Environmental specifications

• Operating temperature	0 °C ~ 40 °C
• Operating humidity	10 % ~ 95 %
• Storage temperature	-25 °C ~ 65 °C
• Storage humidity	10 % ~ 95 %
• Vibration strength	1.5 G (The machine must be in the carton box)

1-3. Main components

• CPU	Name Number of control bit	uPD784215AGC 16 bit
• RAM	Name Capacity	CY62148BLL-70SXC 4 Mbit
• Flash ROM	Name Capacity	MBM29F160BE90TN 16 Mbit
• I/O controller	Name	uPD784215AGC
• Printer	Name Print method Paper cut MCBF	M-U420-061 Impact dot matrix printer Manual-paper cut 4 Million lines
• Roll paper	Type Size Roll diam Thickness	Fine-quality paper Width 44.5 ± 0.5 mm 83 mm or less 75 ± 15 µm

1-4. Drawer List

Type	Drawer Name	Specification	B	D	BU
M	DL-2101	D-24H2C-B84M-9*			○
M	DL-2102	D-24H2C-B84SM-9*	○		
M	DL-2103	D-24H2C-A84SM-9*		○	

Note: Country code

B: Europe

D: England

BU: Other countries

1-5. Option List

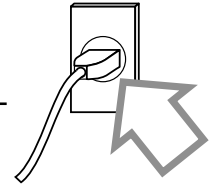
Device Name	Model	Note	Applicable
• Multi drawer kit	MDL-10		
• PC cable	PRL-CB-2		
• Waterproof cover	WT-78	For stroke key	
• Sheet cover	WT-79	For touch key	
• Slip printer	SP-1300		
• Slip printer cable	PRT-CB-8C	Length 1.5m	
• Remote printer	UP-360		
• Printer cable	PRT-CB-8A	Length 3m	
• Printer cable	PRT-CB-8B	Length 5m	
• Slip printer/ AC adaptor	31AD-U or E	U: 120V/ E: 230V	Local purchase
• Handy scanner	HHS-15	Com2 port only	
• Handy scanner	HS1250	Com2 port only	Local purchase
• Handy scanner	Quic Scan 6000	Com2 port only	Local purchase
• CF Memory Card	SDCFB-xx-505		Local purchase
• Modem		56k V92 External Faxmodem	Local purchase
• Modem		56k Faxmodem	Local purchase
• Conversion Kit	CVK-S3-M/CVK-L3-M		
• In line Kit	I/O-PB-18	For ArcNet board	
• Roll paper	P-4575		

CAUTION
RISK OF EXPLOSION IF BATTERY IS REPLACED
BY AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES ACCORDING
TO THE INSTRUCTIONS

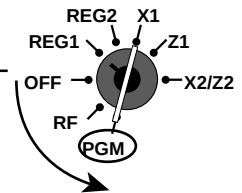
2. MACHINE INITIALIZATIO

Machine initialization procedure

1. Plug the power cord into an AC outlet. - - - - -



2. Set the mode switch to PGM position and turn off the power switch. - - - - -



3. While holding down <JOURNAL FEED>, turn on the register. - - - - -



4. Release <JOURNAL FEED>. - - - - -

You should see "0000000000" on the display.
If 10 zeros are not shown or another character are shown,
immediately set the mode switch to OFF and restart from
the beginning of this procedure.



5. Enter 11-digit program code from the worksheet. - - - - -

6. Press <SUBTOTAL> to register the program code. - - - - -
(Wait until beep twice.)

$D_{11}D_{10}D_9D_8 \sim D_3D_2D_1$ SUB TOTAL
refer to Worksheet (Initialize 1)

7. In case of installing inline system,
enter 3-digit program code from the worksheet. - - - - -

8. Press <SUBTOTAL> to register the program code. - - - - -

$D_3D_2D_1$ SUB TOTAL
refer to Worksheet (Initialize 2)

After completion of initialization and program
loading, initialization receipt is issued.

Please turn on and initialize the register in order, if your registers are connected with inline.
The ID number of registers are defined automatically.
(Do NOT turn off the register(s) until all register has been initialized.)

Worksheet (Initialize 1)

Description	Choice	Program code
Print password of PGM mode, when flag clear operation is performed.	Yes = 0 No = 4	☐ D ₁₁
Password in PGM3 ~ 7 mode	Significant numbers	☐ ☐ ☐ ☐ D ₁₀ D ₉ D ₈ D ₇
Messages and descriptors are written in English = 0, French = 1, Spanish = 2, German = 4	Significant number	☐ D ₆
Model for U.S. or Canada (Date order: month/day/year) = 4, Other area (0.00, Date order: day/month/year) = 1, Other area (0, Date order: day/month/year) = 3	Significant number	☐ D ₅
Fixed value: 08		☐ 0 ☐ 8 D ₄ D ₃
Initialization pattern: ① For scanning/ ② For check tracking	① = 0 ② = 2	☐ D ₂
Use Euro only.	No = 0 Yes = 1	☐ D ₁

Worksheet (Initialize 2)

Description	Choice	Program code
Inline baud rate	156 kbps = 1 312 kbps = 0	☐ D ₃
Inline physical I.D. (01 ~ 32)	Significant numbers	☐ ☐ D ₂ D ₁

Note:

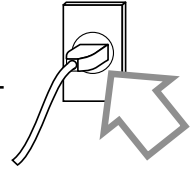
Please check the receipt after initialization operation (machine initialization, flag clear operation and init2) that the machine number is printed properly.

If error codes are printed on it, check the hardware and retry the operation.

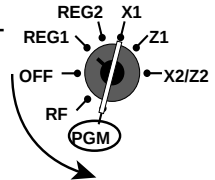
P01	03-04-2004	11:58	Mode symbol/date/time
C01	MC#01	000001	Clerk descriptor/Mc-No./consecutive No.
INIT			INIT symbol
(C) 2005 by CASIO			Copyright
COMPUTER CO.,LTD.			
All rights reserved.			
TK-3200 STD			Model name
VER. :nnnn			ROM version
LABEL :nnnnnn			ROM label
VER. :nnnn	00		ROM version
LABEL :nnnnnn			ROM label
INIT. :nnnnnnnnnnnnnnnn			Initialization code
0004-98	2000		I/O parameter table record No./error code
:			

Flag clear operation

1. Plug the power cord into an AC outlet. - - - - -



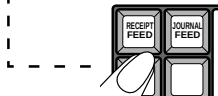
2. Set the mode switch to PGM position and turn off the power switch. - - - - -



3. While holding down <RECEIPT FEED>, turn on the register. - - - - -



4. Release <RECEIPT FEED>. - - - - -
You should see "FFFFFFFF" on the display.
If 10 Fs are not shown or another character are shown,
immediately set the mode switch to OFF and restart from
the beginning of this procedure.



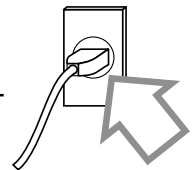
5. Press <SUBTOTAL> to complete.

After completion of flag clear, receipt is issued.

Note: After flag clear, clerk 1 is assigned automatically. So do not program clerk 1 as not assignable or not operable in PGM mode.

Init 2 operation

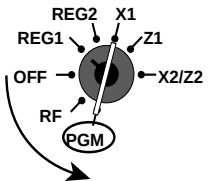
1. Plug the power cord into an AC outlet. - - - - -



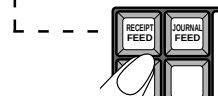
2. Set the mode switch to PGM position and turn off the power switch. - - - - -



3. Turn the mode switch to PGM position. - - - - -



4. Release <RECEIPT FEED>. - - - - -
You should see "FFFFFFFF" on the display.
If 10 Fs are not shown or another character are shown, immediately
set the mode switch to OFF and restart from the beginning of this
procedure.



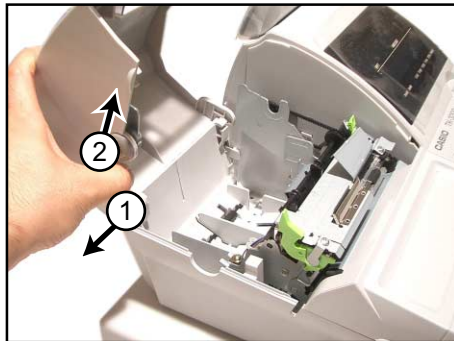
5. Enter "8888888888" and press <CHECK TEND> to complete.

After completion, receipt is issued.

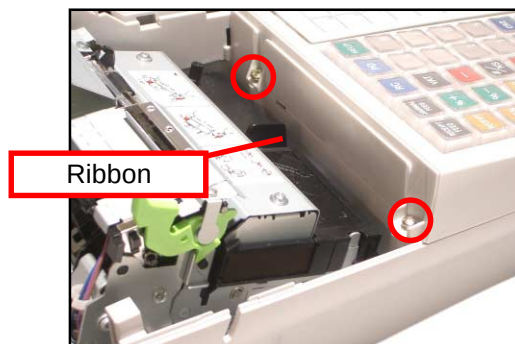
3. DISASSEMBLY

■ UPPER CASE

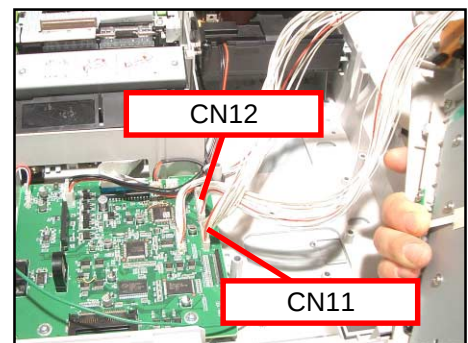
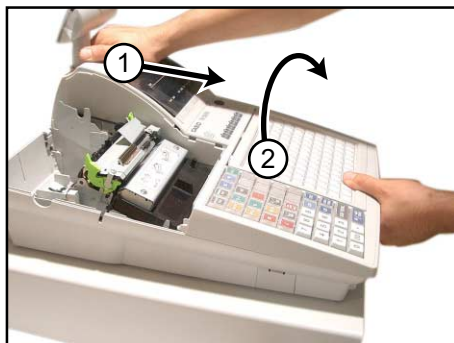
1. Remove the Printer cover.
2. Remove the Ribbon cover.



3. Remove the Ribbon and then 2 screws.

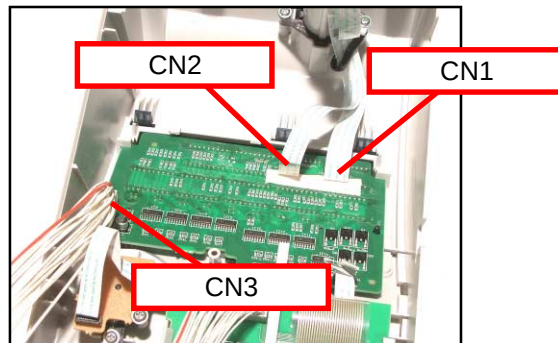


4. Lift the upper case and then remove 2 connectors (CN11, CN12).

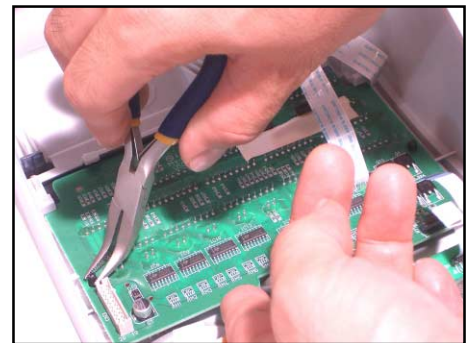
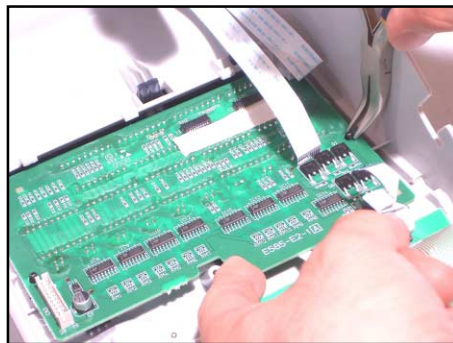


■ PCB (E585-E2-1, E585-E6-1)

5. Remove 3 connectors. (CN1, CN2, CN3)

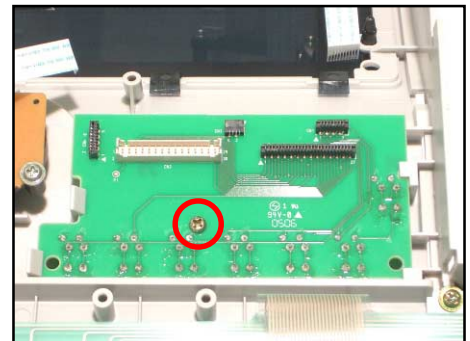
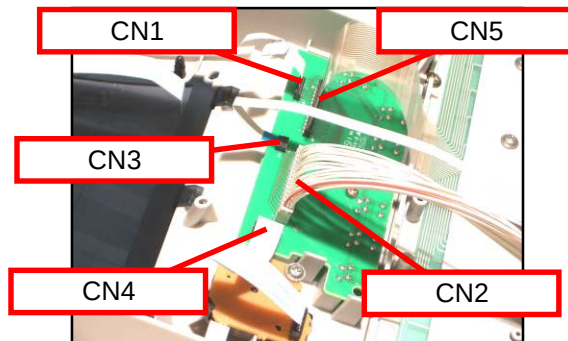


6. Remove the E585-E2-1 PCB.



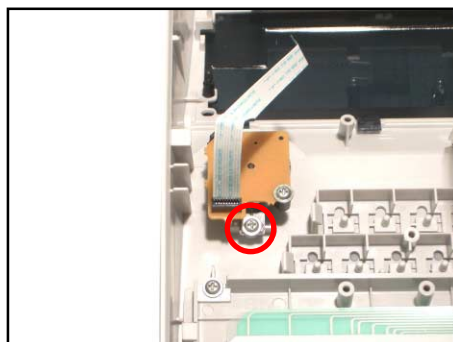
7. Remove 5 connectors. (CN1, CN2, CN3, CN4, CN5)

8. Remove the screw and then the E585-E6-1 PCB.



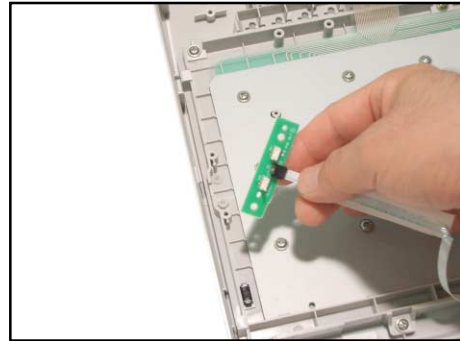
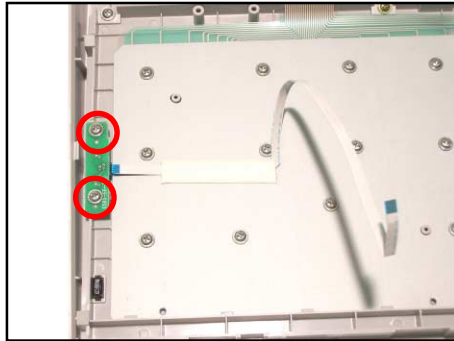
■ MODE SW ASS'Y

9. Remove the screw and then the MODE SW ASS'Y.

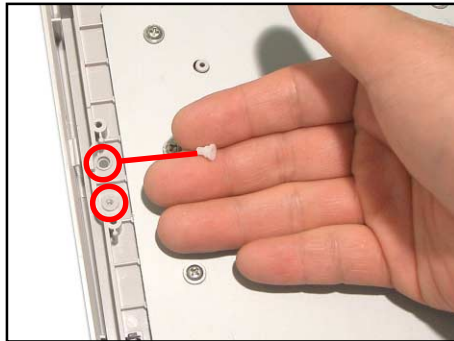


■ PCB (E585-E6-2)

10. Remove 2 screws and then the E585-E6-2 PCB.

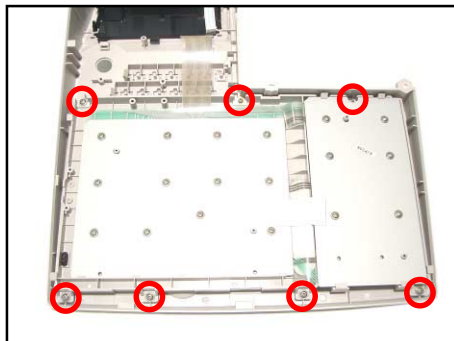


NOTE: Be fully careful not to miss the Defect button when removing the E585-E6-2 PCB.

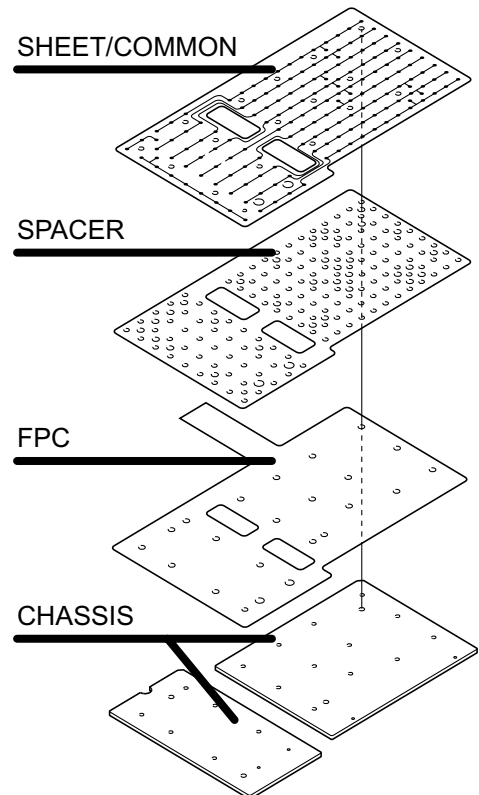
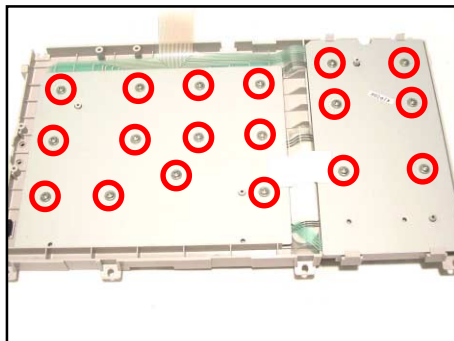


■ KEY BOARD ASS'Y

11. Remove 7 screws and then the KEY BOARD ASS'Y



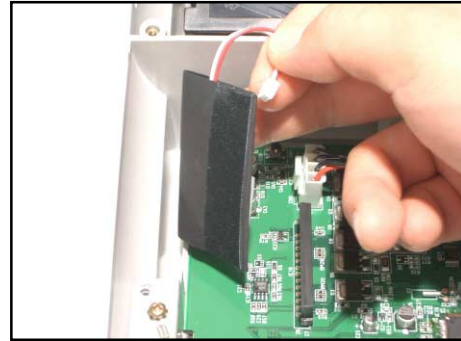
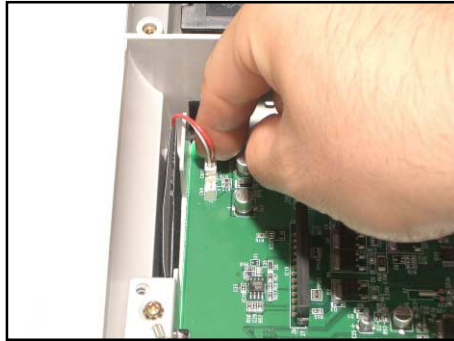
12. Remove 18 screws and then disassemble the keyboard ass'y.



■ MAIN PCB (E585-1)

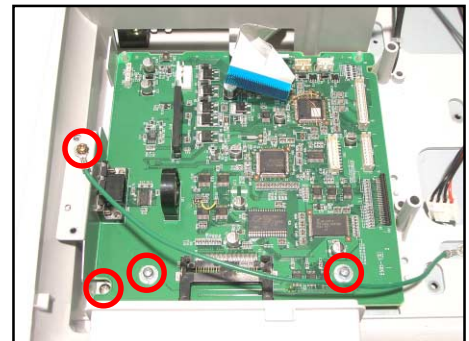
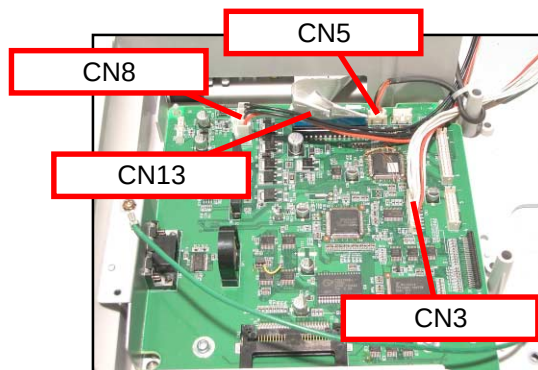
13. Remove the connector (CN10).

14. Remove the backup battery.

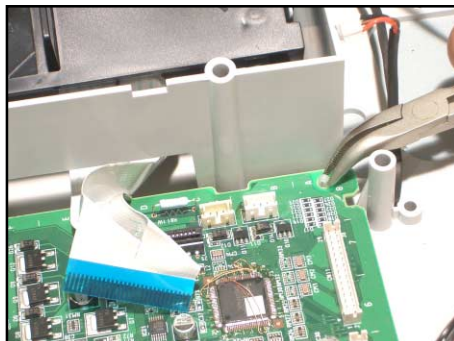


15. Remove 4 connectors (CN3, CN5, CN8, CN13).

16. Remove 4 screws.

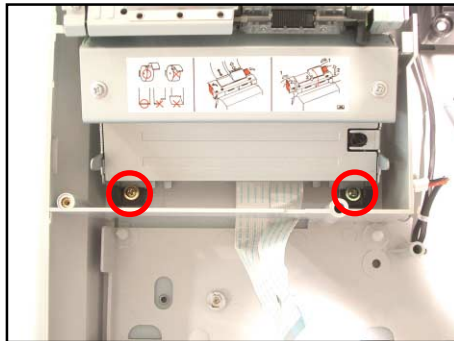
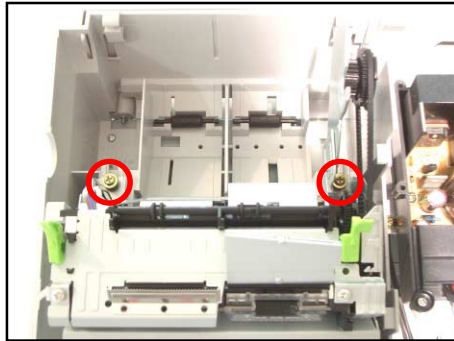


17. Remove the MAIN PCB (E585-1).

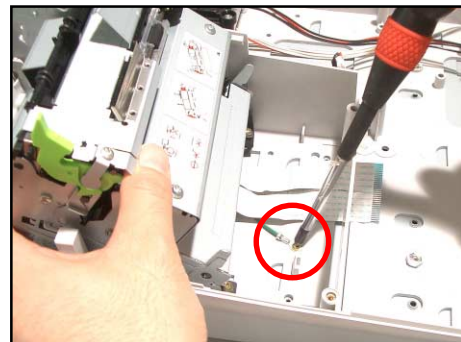
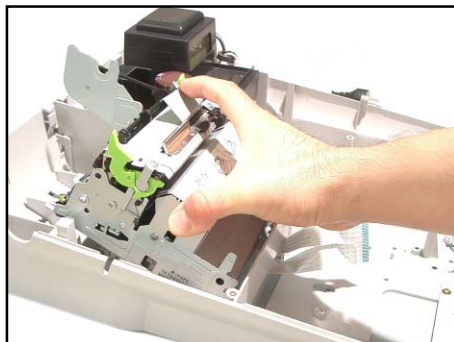


■ PRINTER UNIT

18. Loosen 4 screws.



19. Lift the printer unit and then remove the screw.

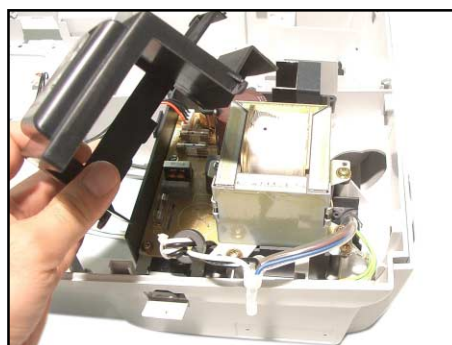
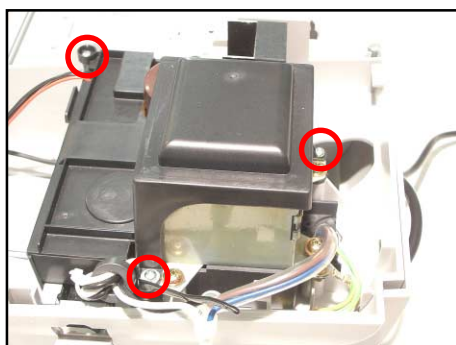


■ POWER SUPPLY

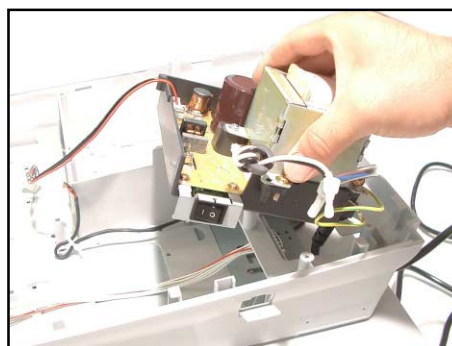
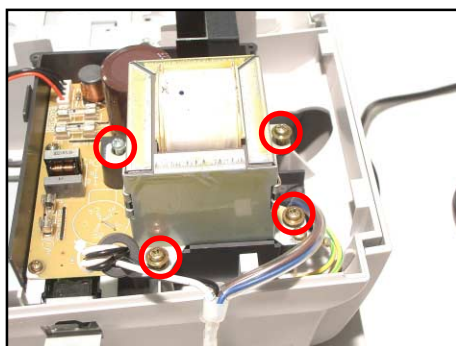
20. Remove 2 screws and then Rear connector cover.



21. Remove 3 screws and then Power supply cover.

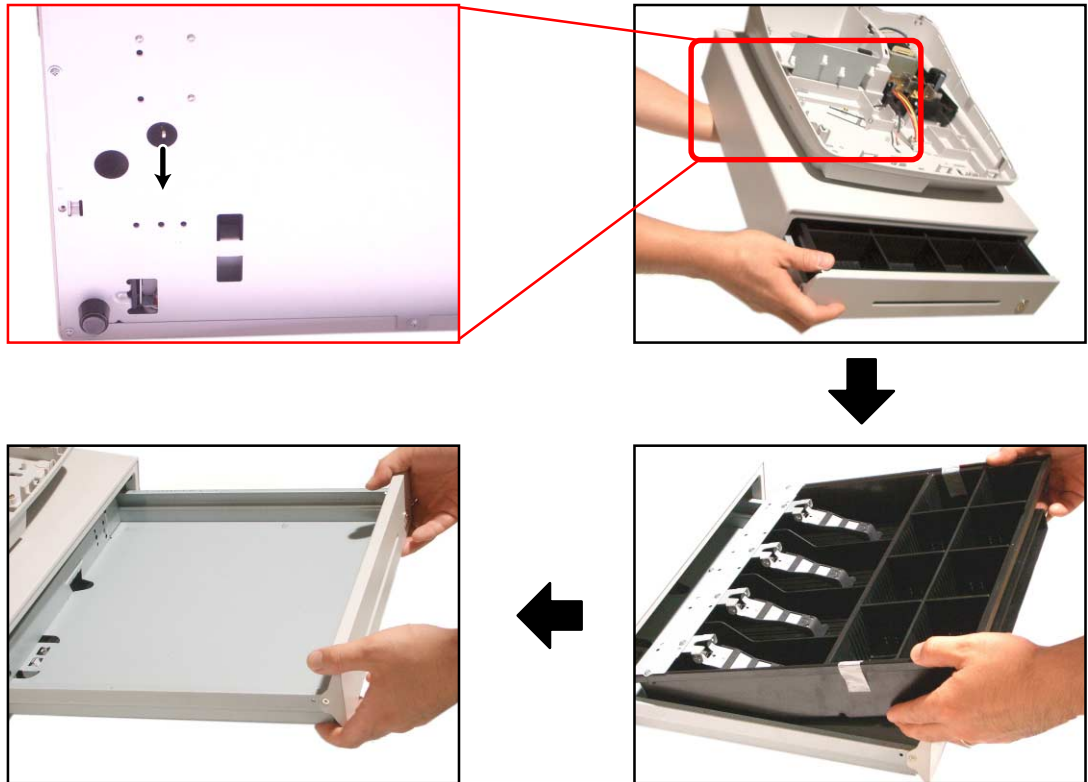


22. Remove 4 screws and then Power supply cover.

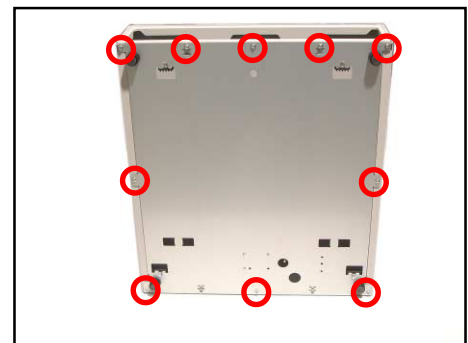


■ DRAWER

23. Remove the case.



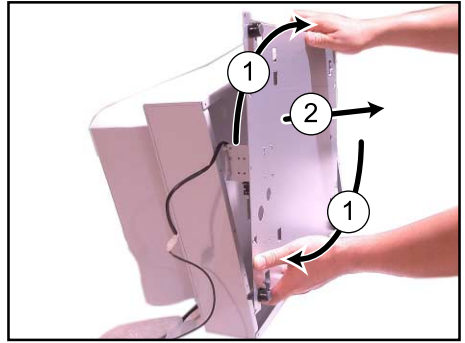
24. Remove 10 screws.



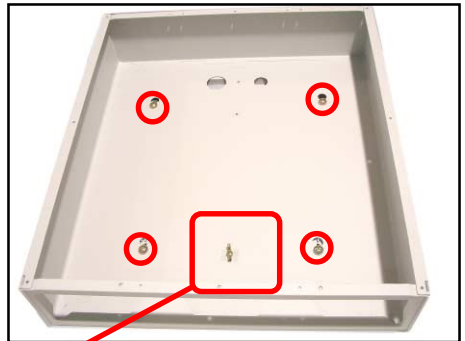
25. Remove the DARWER cable.



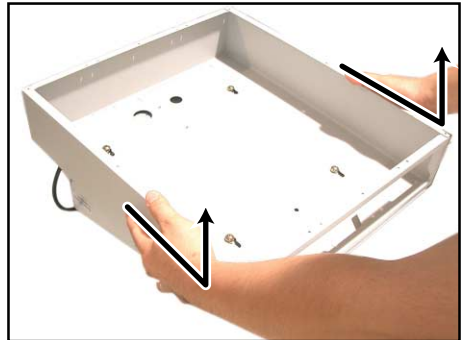
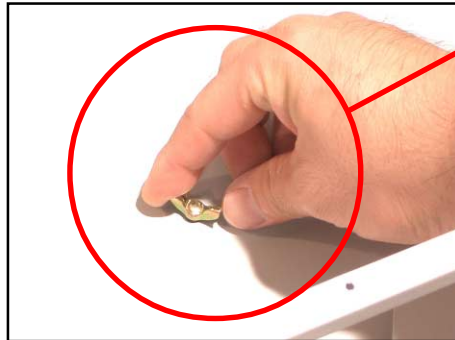
26. Remove the Bottom plate.



27. Loosen 4 screws.

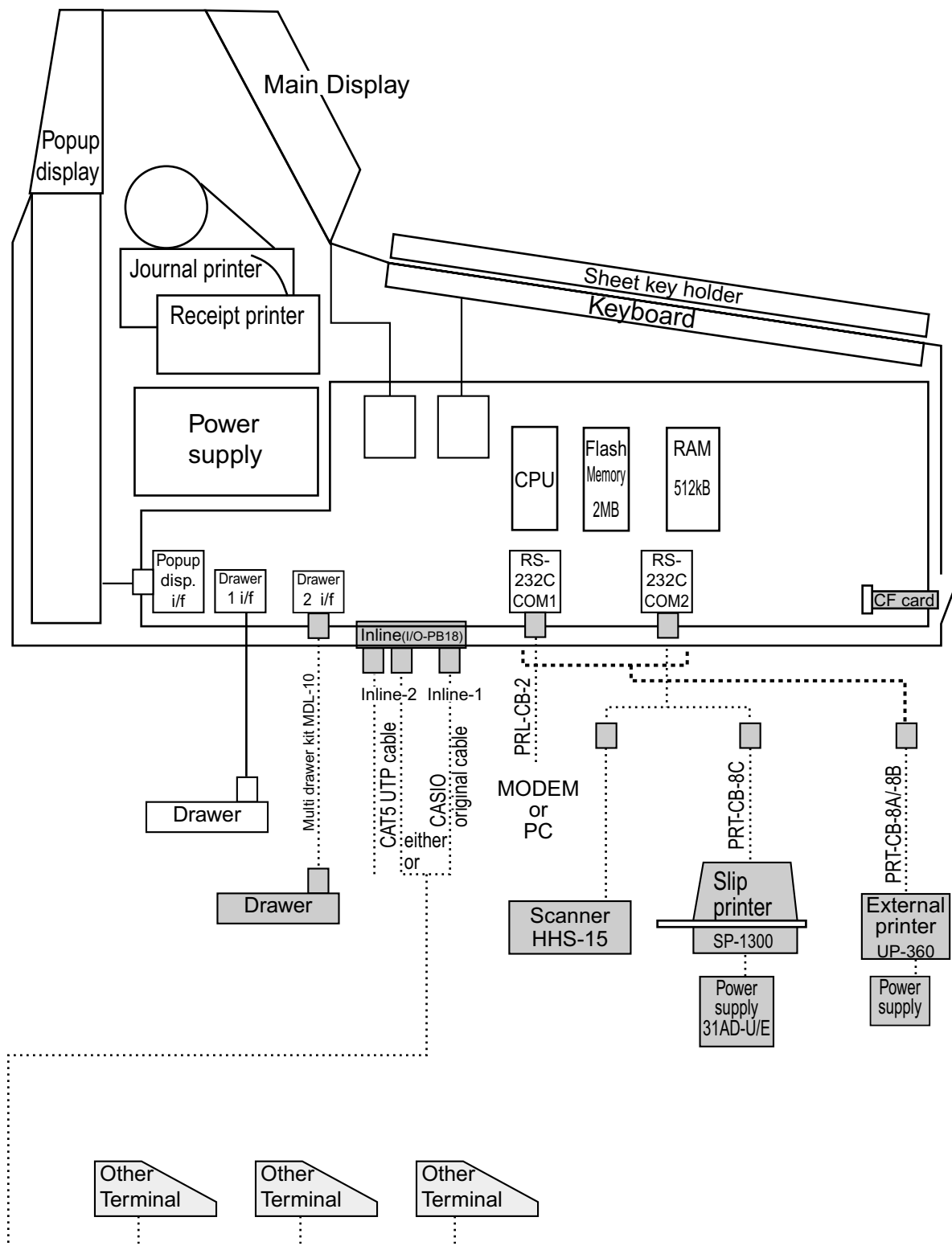


28. Remove the screw and then fix the drawer case.



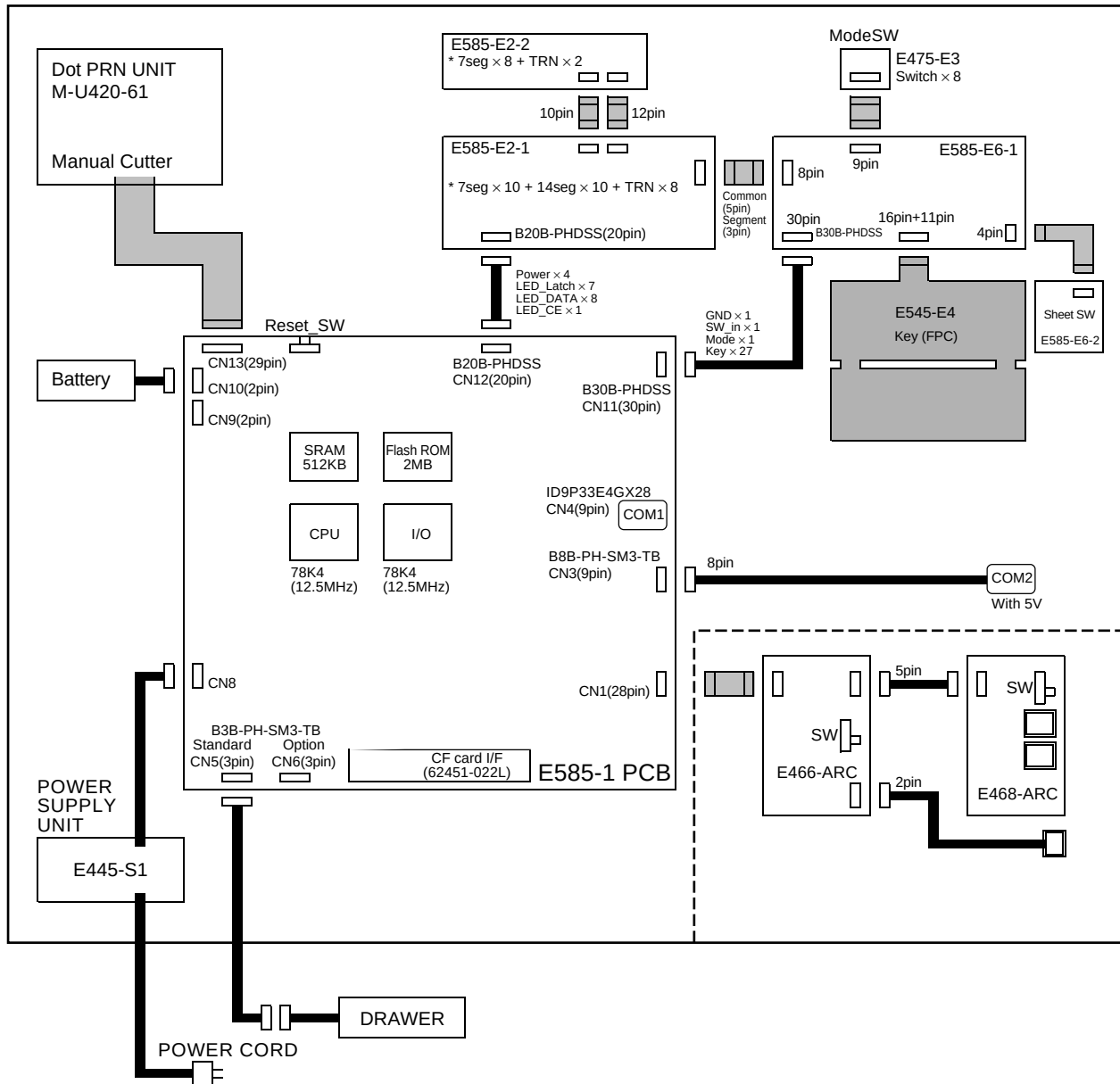
4. CIRCUIT EXPLANATION

4-1. HARDWARE DIAGRAM

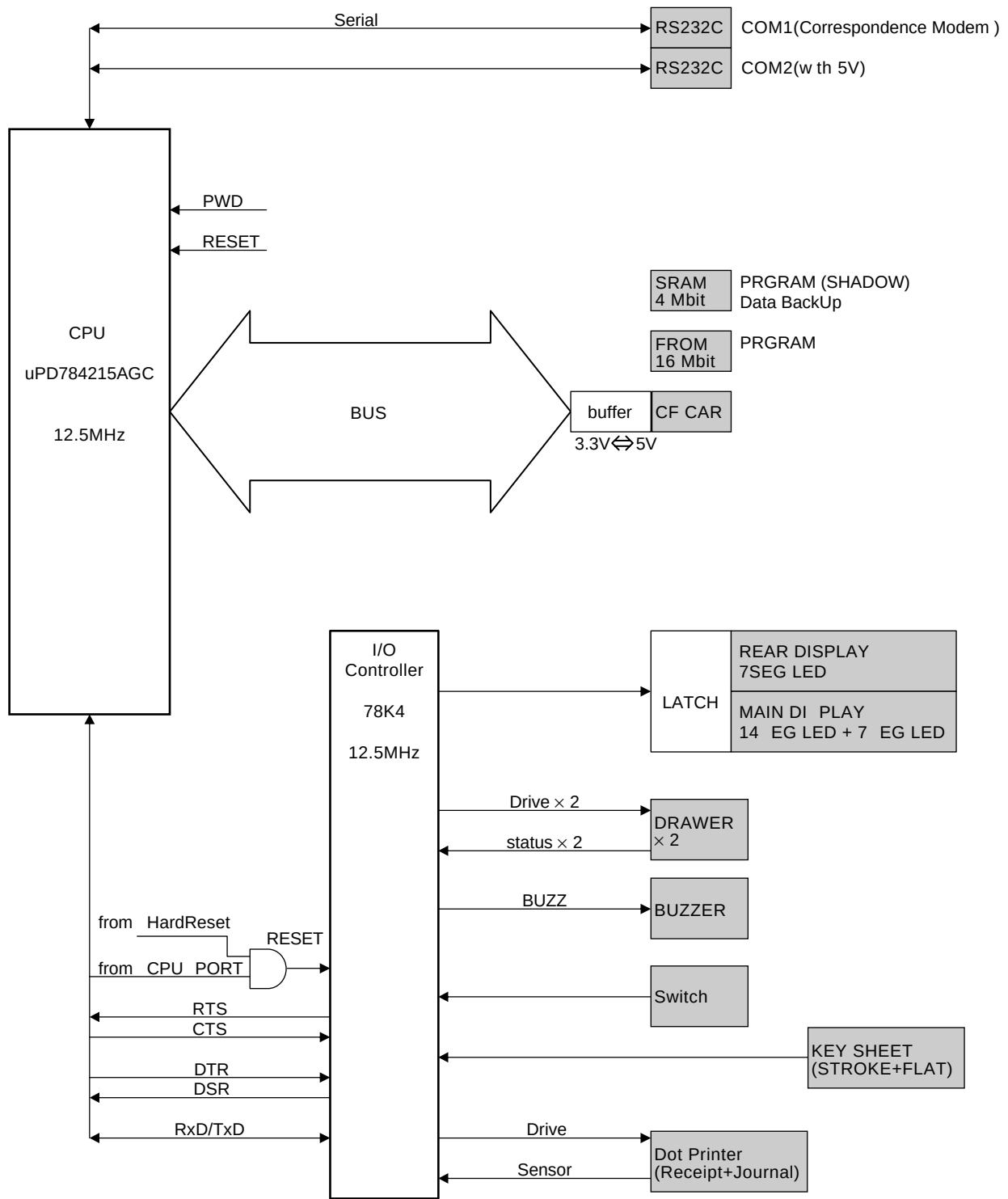


Note: Shaded device and dot line indicate option devices.

4-2. BLOCK DIAGRAM

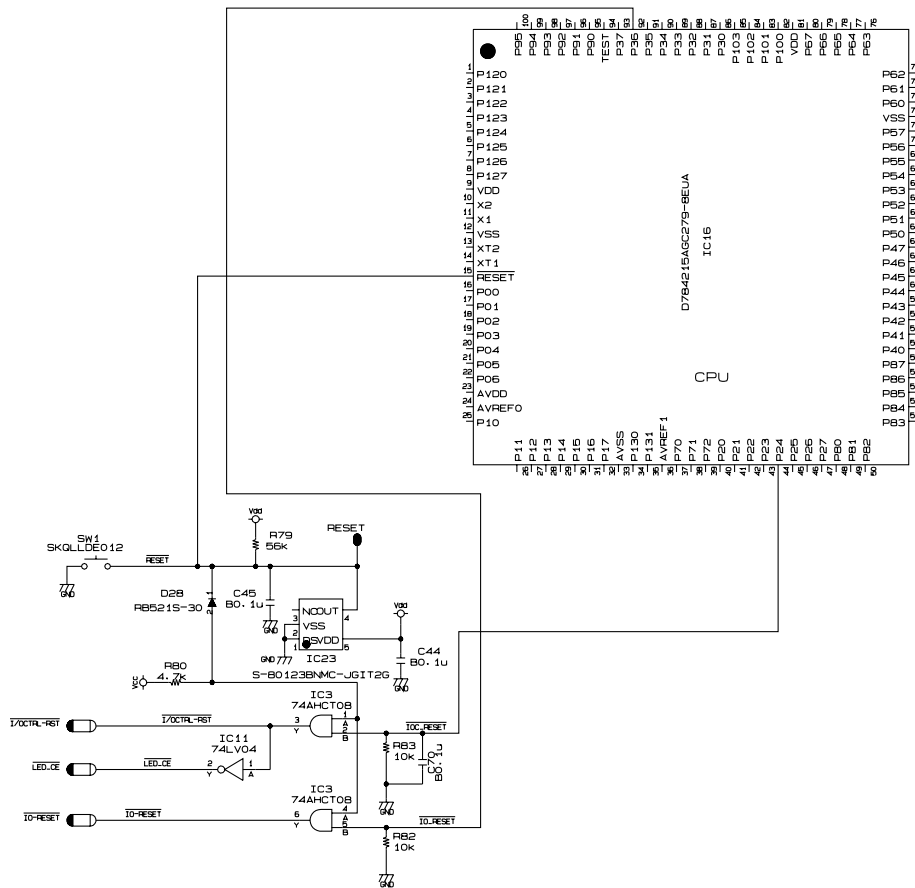


4-3. LSI BLOCK DIAGRAM



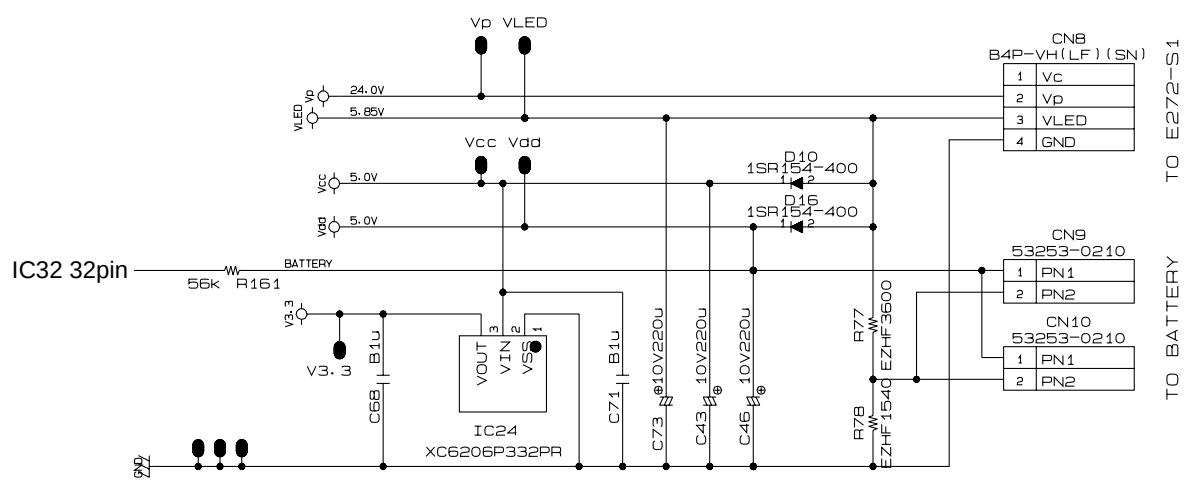
4-4. RESET CIRCUIT

The reset circuit is as follows.



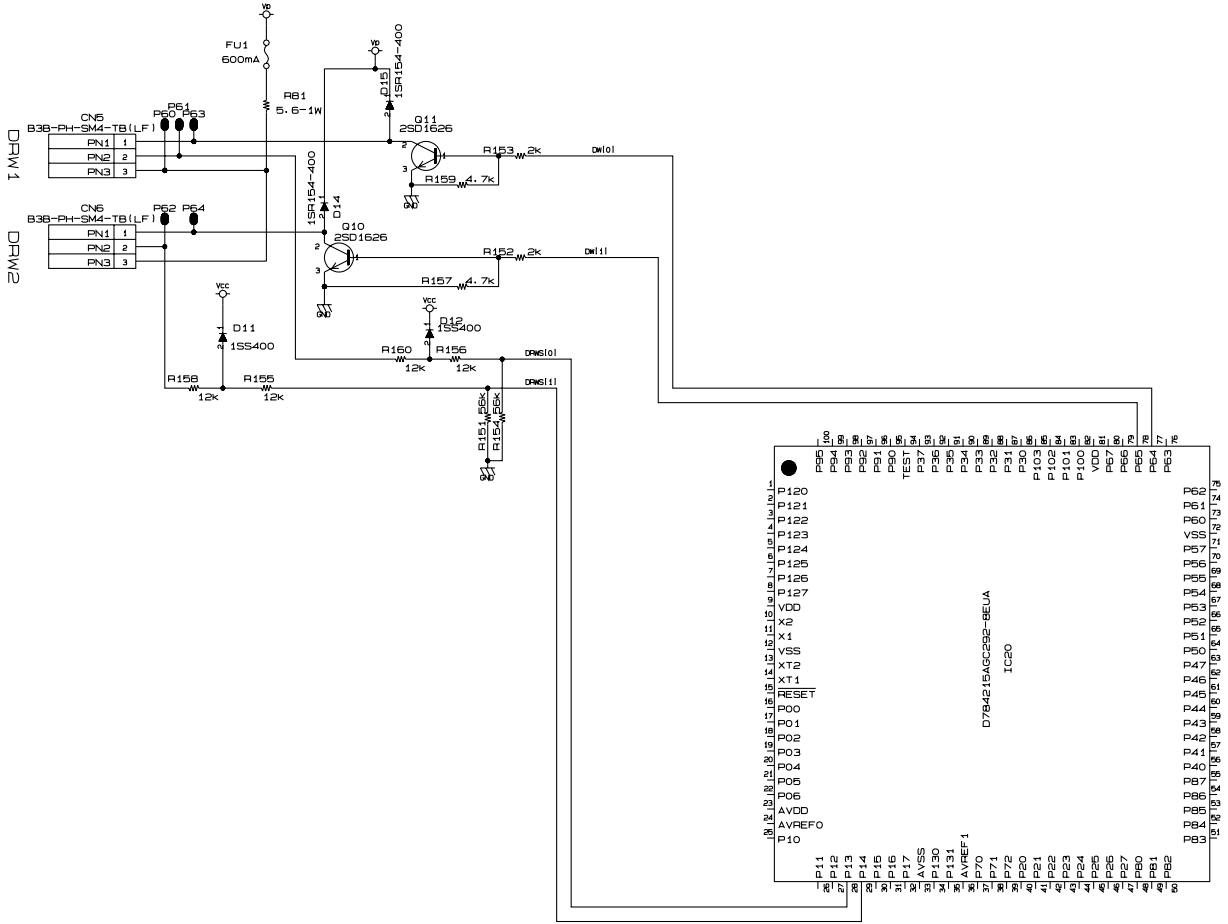
4-5. POWER SUPPLY CIRCUIT

The power supply circuit is as follows.



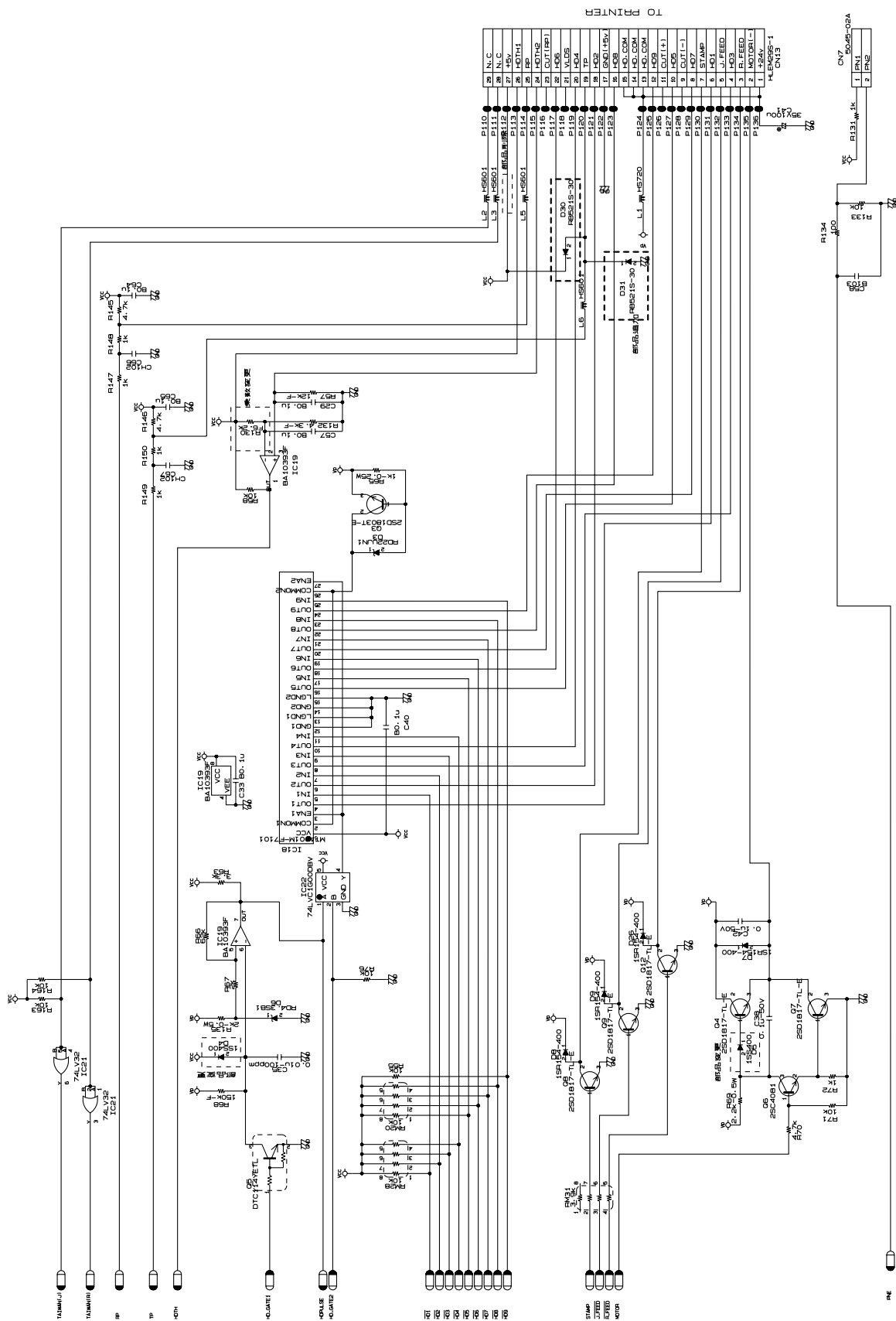
4-6. DRAWER I/F CIRCUIT

The drawer open circuit is as follows.



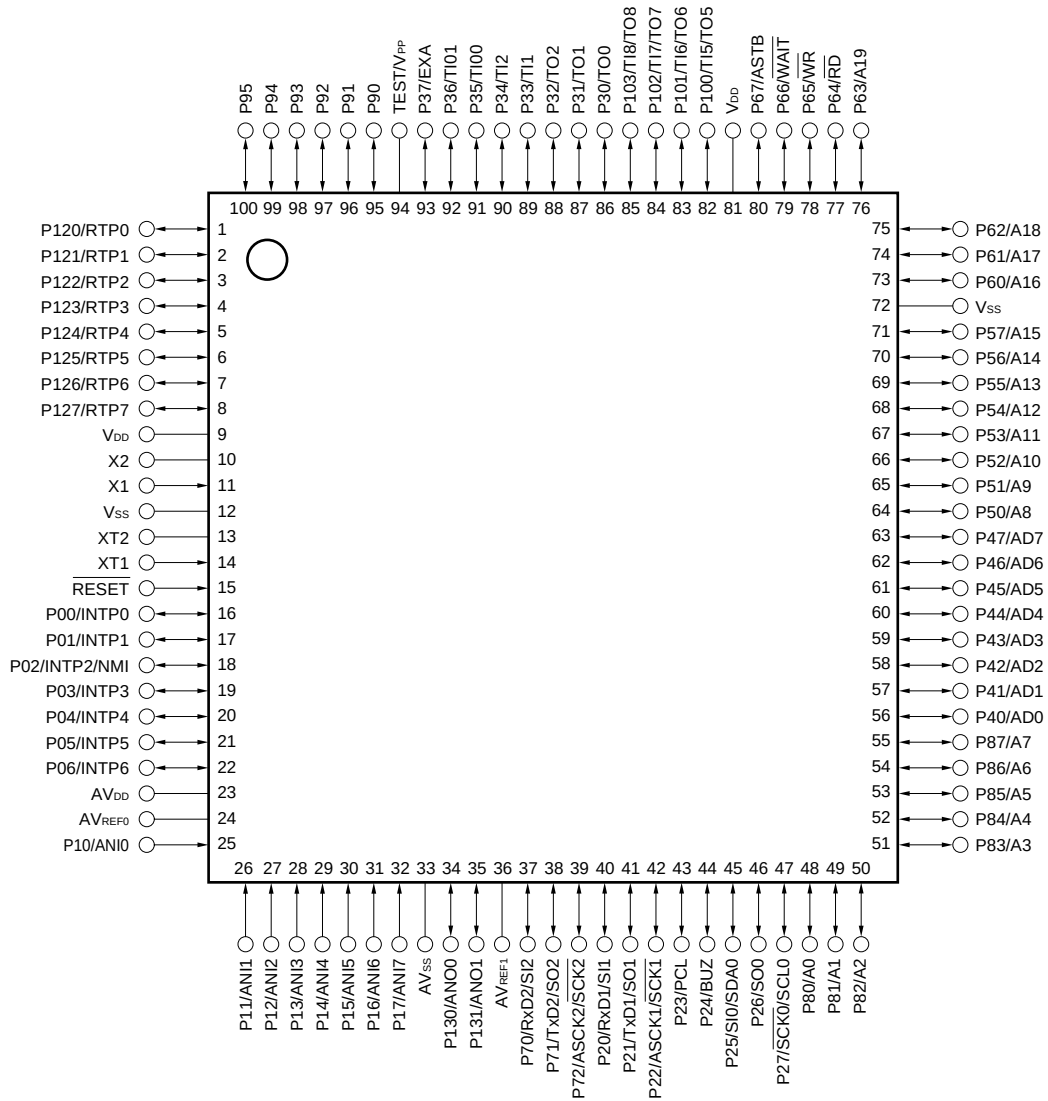
4-7. PRINTER CONTROL CIRCUIT

The printer control circuit is as follows.

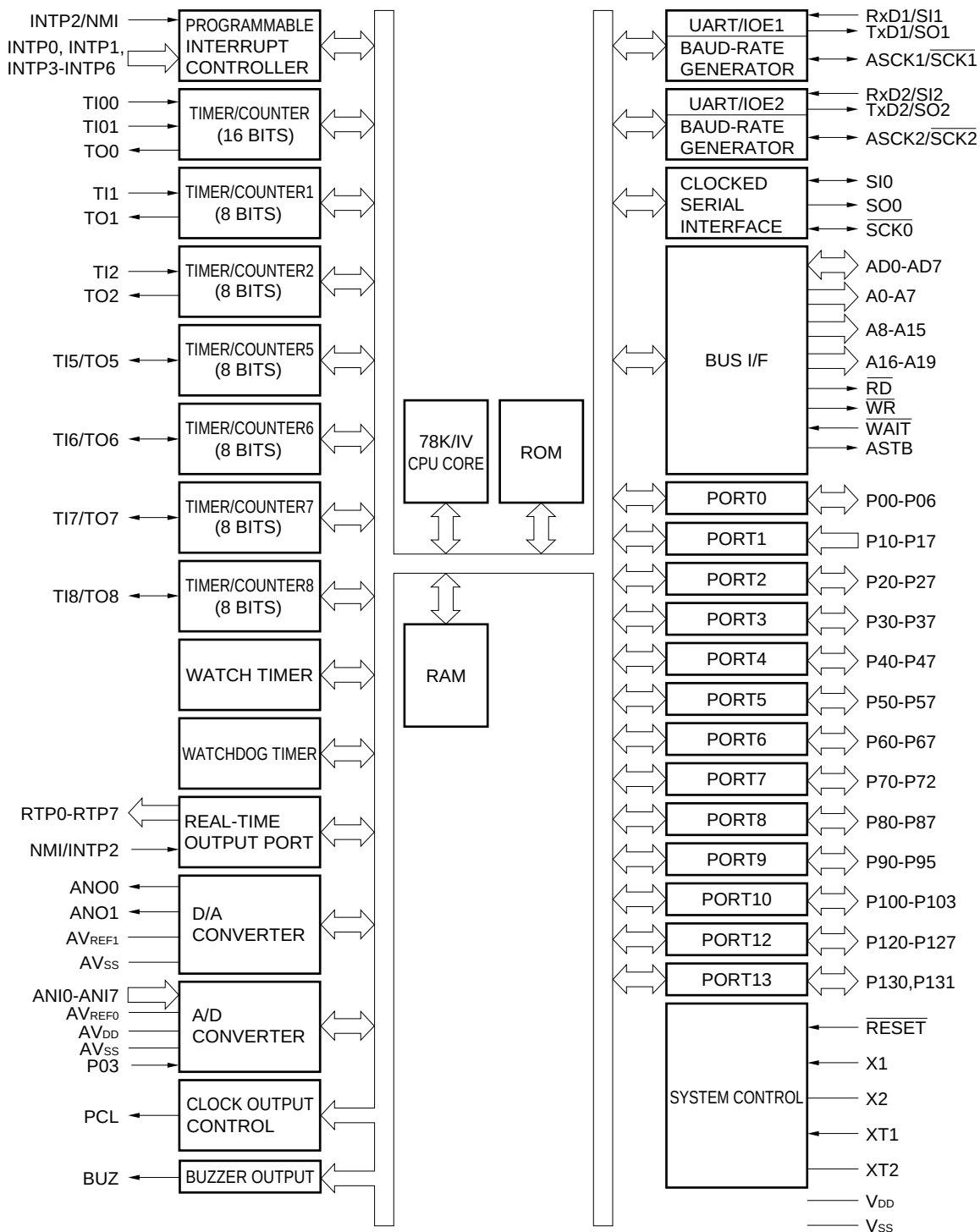


4-8. CPU (IC32: uPD784215AGC279-8EUA) / I/O CONTROLLER (IC44: uPD784215AGC280EUA)

4-8-1. Pin Assignment



4-8-2. Block Diagram



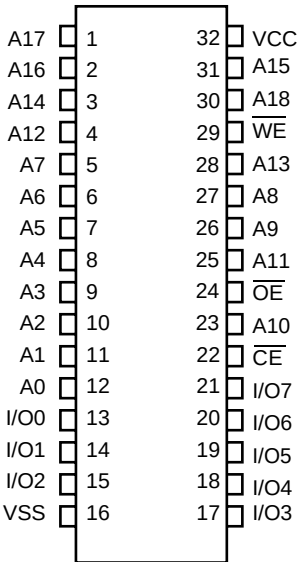
4-8-3. Pin Function

PIN NO.	PIN NAME	I/O	DESCRIPTION
1	P120/RTP0	IO	8 bit input/output PORT
2	P121/RTP1		
3	P122/RTP2		
4	P123/RTP3		
5	P124/RTP4		
6	P125/RTP5		
7	P126/RTP6		
8	P127/RTP7		
9	VDD	-	Power Supply
10	X2	-	Main system Clock
11	X1	I	
12	VSS	-	GND
13	XT2	-	Sub system Clock
14	XT1	I	
15	RESET	I	Reset
16	P00/INTP0	IO	7 bit input/output PORT
17	P01/INTP1		
18	P02/INTP2/NMI		
19	P03/INTP3		
20	P04/INTP4		
21	P05/INTP5		
22	P06/INTP6		
23	AVDD	-	A/D CONVERTER POWER SUPPLY
24	AVREF0	-	Application of Standard Voltage for A/D CONVERTER
25	P10/ANI0	I	8 bit input PORT
26	P11/ANI1		
27	P12/ANI2		
28	P13/ANI3		
29	P14/ANI4		
30	P15/ANI5		
31	P16/ANI6		
32	P17/ANI7		
33	AVSS		A/D CONVERTER & D/A CONVERTER GND
34	P130/ANO0	IO	2 bit input/output PORT
35	P131/ANO1		
36	AVREF1		Application of Standard Voltage for D/A CONVERTER
37	P70/RxD2/SI2	IO	3 bit input/output PORT
38	P71/TxD2/SO2		
39	P72/ASCK2/SCK2		
40	P20/RxD1/SI1	IO	8 bit input/output PORT
41	P21/TxD1/SO1		
42	P22/ASCK1/SCK1		
43	P23/PCL		
44	P24/BUZ		
45	P25/SI0/SDA0		
46	P26/SO0		
47	P27/SCK0/SCL0		
48	P80/A0	IO	8 bit input/output PORT
49	P81/A1		
50	P82/A2		

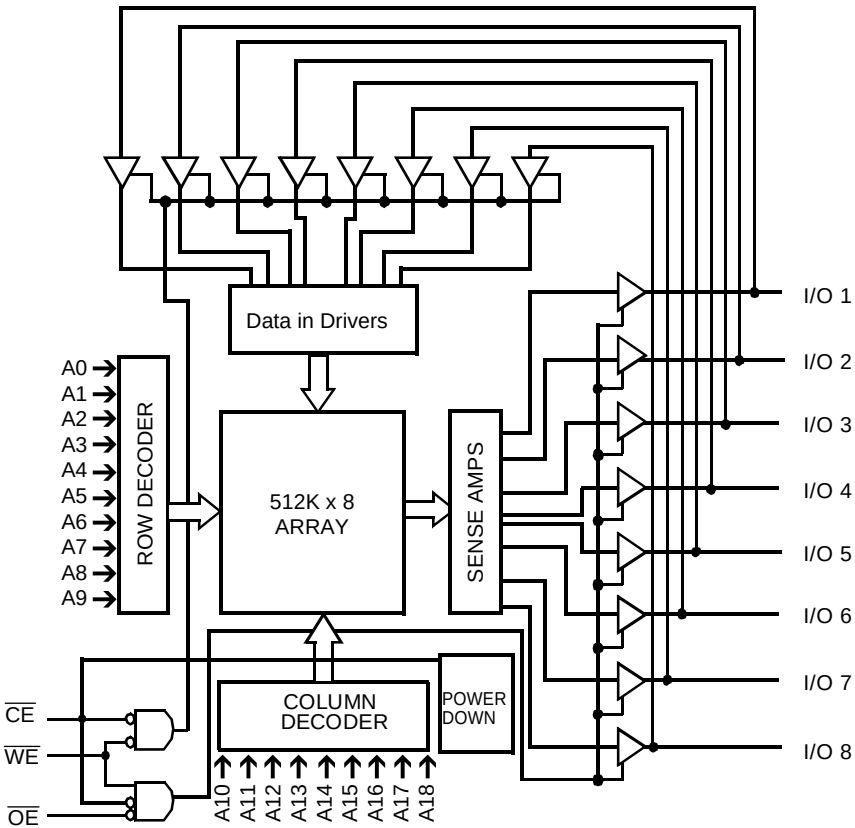
PIN NO.	PIN NAME	I/O	DESCRIPTION
51	P83/A3	IO	8 bit input/output PORT
52	P84/A4		
53	P85/A5		
54	P86/A6		
55	P87/A7		
56	P40/AD0	IO	8 bit input/output PORT
57	P41/AD1		
58	P42/AD2		
59	P43/AD3		
60	P44/AD4		
61	P45/AD5		
62	P46/AD6		
63	P47/AD7		
64	P50/A8	IO	8 bit input/output PORT
65	P51/A9		
66	P52/A10		
67	P53/A11		
68	P54/A12		
69	P55/A13		
70	P56/A14		
71	P57/A15		
72	VSS	-	GND
73	P60/A16	IO	8 bit input/output PORT
74	P61/A17		
75	P62/A18		
76	P63/A19		
77	P64/RD		
78	P65/WR		
79	P66/WAIT		
80	P67/ASTB		
81	VDD	-	Power Supply
82	P100/TI5/TO5	IO	4 bit input/output PORT
83	P101/TI6/TO6		
84	P102/TI7/TO7		
85	P103/TI8/TO8		
86	P30/TO0	IO	8 bit input/output PORT
87	P31/TO1		
88	P32/TO2		
89	P33/TI1		
90	P34/TI2		
91	P35/TI00		
92	P36/TI01		
93	P37/EXA		
94	TEST/VPP	-	TEST pin
95	P90	IO	6 bit input/output PORT
96	P91		
97	P92		
98	P93		
99	P94		
100	P95		

4-9. SRAM (IC6: CY62148BLL-70SXC)

4-9-1. Pin Assignment

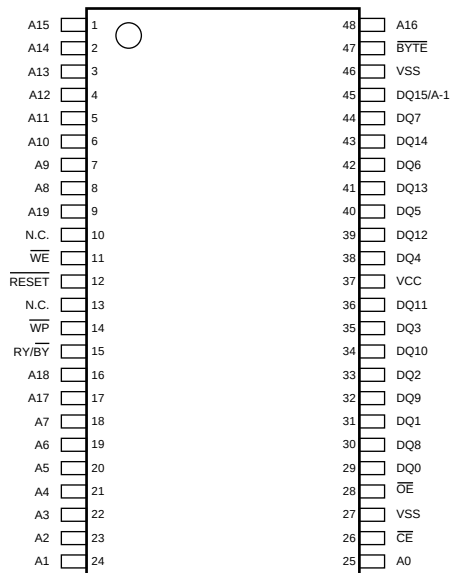


4-9-2. Block Diagram



4-10. FROM (IC4: MBM29F160BE90TN)

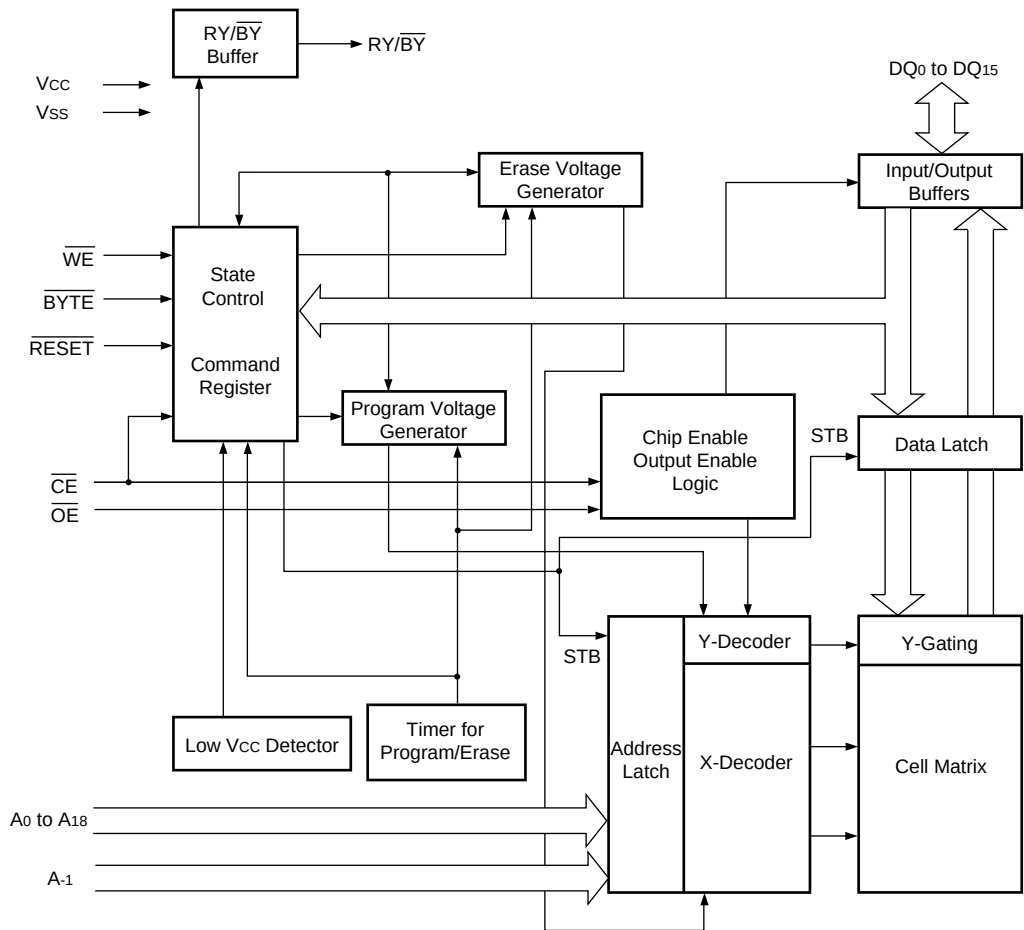
4-10-1. Pin Assignment



4-10-2. Pin Function

Pin	Function
A ₋₁ , A ₀ to A ₁₉	Address Inputs
DQ ₀ to DQ ₁₅	Data Inputs/Outputs
$\overline{CE}$	Chip Enable
$\overline{OE}$	Output Enable
$\overline{WE}$	Write Enable
RY/ $\overline{BY}$	Ready/Busy Output
$\overline{RESET}$	Hardware Reset Pin/Temporary Sector Unprotection
BYTE	Selects 8-bit or 16-bit mode
N.C.	No Internal Connection
V _{ss}	Device Ground
V _{cc}	Device Power Supply

4-10-3. Block Diagram



5. DIAGNOSTIC OPERATION

5-1. To start the diagnostic program

To enter the diagnostic program, press "99990000<ST>" right after reset-and-start, IPL boot or INT operation. In QA DIAG (factory module also) module, the mode transfers to the diagnostic mode after INT operation.

* Reset-and-start

- ① Press the reset switch while pressing JFEED button.
- ② When "INT" appears in the first line of the LCD dot line, press<SUBTOTAL>.
- ③ When "INT" appears in the second line of the LCD dot line, press"99990000<SUBTOTAL>".
- ④ Enter the diagnostic mode.

* INT operation

- ① While holding down the JFEED button, align the mode key with "PGM" using the OW key.
- ② When "INT" appears in the second line of the LCD dot line, press "99990000<SUBTOTAL>".
- ③ Enter the diagnostic mode.

* In the case if "MASK DIAG" is displayed and the counter is activated

A false operation has led to the MASK diagnostic mode. Perform IPL operation again.

5-2. Displaying and printing the version

The version of DIAG and MADK ROM/IOC are printed immediately after entering the DIAG mode. However, DIAG/IOC version printing function is available only in QA DIA module.

- All test results are printed by the built-in printer receipt.

	loc Ver : 4216 AAOCAA		← IOC
	Mask Ver : 4207 AAOAAA		← MASK ROM
	Diag Ver :		← DIAG
	May 17 2005 10:08		

5-3. Notes for the DIAG

- All test result are printed by the built-in receipt printer.
- Make sure to test HHS-15 by connecting to COM2.
- To perform the continuous check, follow the direction for each test, and input numbers except 0. Input numbers 1-9 as the command how many times to perform the test for the operation in each page to perform continuous check. Note that you can only choose one time check or continuous check.
- When turn off by rotating the key, the display is unlit, and DAIG command is not accepted.

[Others]

- ESC value is printed as follows if the test ended by force. Press the "C" key or turn off the power to end the test while performing continuous check. The result of ending by force is not printed in each test.

| ESC |

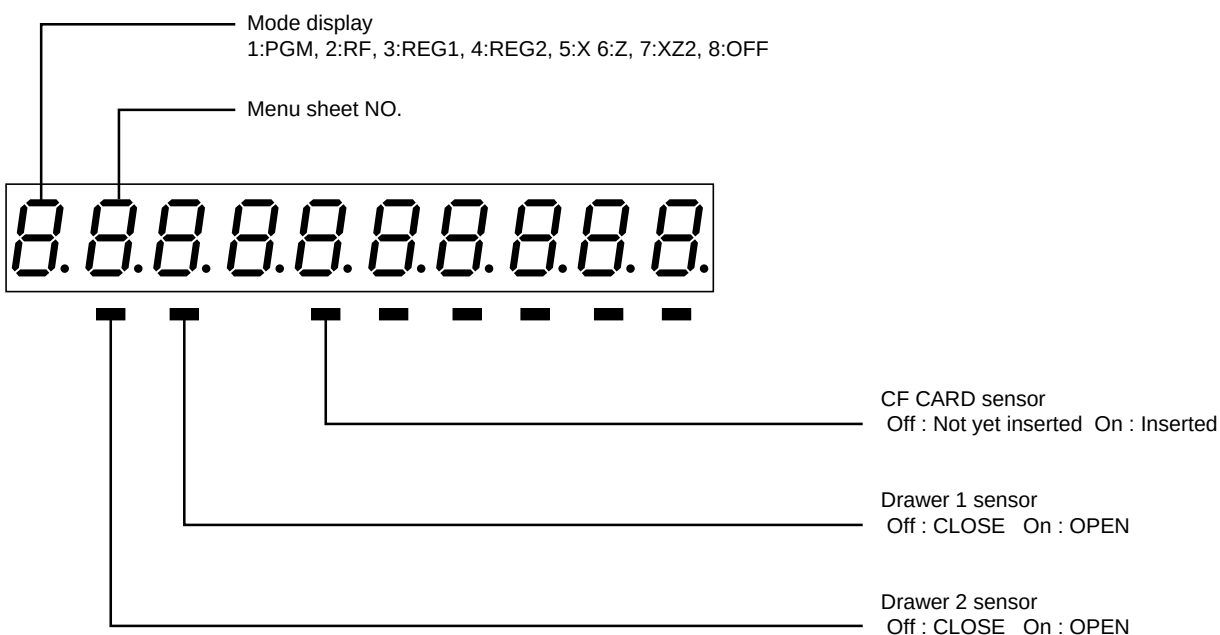
5-4. Displaying the status of the device

[Function]

The status of the device which has the status information is displayed by 7 segments (Pop-up display) as well as lit transaction.

The status information and the displayed position are as follows. As for tact switch, the pressed LED will be lit.

[DISPLAY]



5-5. Check item

The following test can be checked in the diagnostic test.

No	Device to be checked	Operation	Note	Page
1	Batch test 1	1	Test Device : RAM, Printer, Date, Time, Buzzer, Drawer	32
2	Batch test 2	2	Test Device : Display, Back light	32
3	RAM WRITE/READ test	n011		33
4	RAM READ ONLY test	n111		34
5	CF-CARD WRITE/READ test	0n013		34
6	CF-CARD READ ONLY test	0n113		35
7	CF-CARD CLEAR test	0n213		35
8	CF-CARD CLEAR WRITE/READ test	0n313		36
9	Locale information write	x1x20016		36
10	FLASH USER AREA clear test	212		37
12	Display test	n021		38
13	7 Segment display test	221		39
15	LCD test	n321		40
16	LCD CONTRAST ADJUSTMENT	421		41
17	Display test (repeat)	521		42
18	Internal printer print test	cn03d		43
19	Internal printer graphic print test	P1P1P1P2P2P2n13d		44
20	Internal printer dot rate test	pn33d		45
21	Internal printer print value test	435		46
22	Internal printer print density test	x0235		46
23	COM (RS232C) test	xn04d		47
24	COM (RS232C) batch test	40		48
25	Time setting Time display	x1x2x3x4x5x60a70 70		49
26	Drawer open test	xn091		50
27	Buzzer test	n092		50
28	Consumption current	193		51
29	KEY display	94		52
30	OBR test	95		53
31	Displaying the battery voltage	96		54

5-6. Operation of each test

[1] Batch test 1

[Function]

RAM test, test print, time setting, buzzer test and drawer open test are performed continuously.

[Operation]

Operation : 1 SUBTOTAL

The following tests are performed automatically.

- (1) RAM test: WRITE/READ area test.
- (2) Test print
- (3) Time setting: Set the following data.
Arranged data: 2005 December 31,23:59'30
- (4) Buzzer: Ring once the one shot buzzer.
No print or display in this test.
- (5) Drawer open: Drawer 1 opens only.
- (6) Receipt issuance

[Pop-up display]

n

n=0 → 1 → 2 → 3 → 2 → 3

[Main display]

D I A G 1

00n

n=0 → 1 → 2 → 3 → 2 → 3

[Print]

* Normal print

BATCH 1 RAM WR OK BBBBBBBBBBBBBBBBBB DATE 05 / 12 / 31 TIME 23 : 59 - 30 DRW 1 OK END 1	← Print Test
---	--------------

* See "RAM test" if "ERROR" appears while performing the RAM test.

[2] Batch test 2

[Function]

Display test is performed continuously.

[Operation]

Operation : 2 SUBTOTAL

The following tests are performed automatically.

- (1) Display test: Refer to "[12] Display test."
Press any key to go to the next test.
- (2) Main test: Refer to "[15] LCD test."
- (3) Pop-up display test: Perform Pop-up display test. See "[14]" for more information.
- (4) Backlight test: Refer to "[13]" for more information.
Perform the backlight test.
The backlight color changes if any key is depressed.
Refer to the "Backlight test" for details.
- (5) Receipt issuance

[Pop-up display]

Refer to each item.

[Main display]

Refer to each item.

[Print]

* Normal print

BATCH 2 DISP OK DISP MAIN OK DISP 7SEG OK BACK LIGHT OK END 2	
--	--

[3] RAM WRITE/READ test

[Function]

This test will check the WRITE/READ test for RAM.

A counter is displayed for the RAM test.

Write and read test is performed in the sequence as following. Write common (system area) and read → write common(other than the system area) and read → write each bank → read each bank.

Also, the test is not performed for the range to (-4000H) by the handler.

[Operation]

Operation :

n	0	1	1	SUBTOTAL
---	---	---	---	----------

n : 0 = One time check (can be omitted)

not 0 = Continuous check (To stop the test, press "C" key)

[Pop-up display]

A counter is displayed for Pop-up display.

n

n=0 → 1 → 2 → 3 → 2 → 3

[Main display]

DIAG 0011 00n
--

n=0 → 1 → 2 → 3 → 2 → 3

[Print]

The result of all area for RAM test is printed as follows.

RAM	11
RAM WR	OK
END	11

* The result is printed as follows if the test ended with an error.

If an error occurs while checking the BANK0 address 0x60400 for normal RAM

RAM WR NG BANK0-60400

* The result is printed as follows if the test ended with an error.

Print	NG
RAM WR NG-*****	NG if the COMMON address for RAM is ***** to 1Kbyte.
RAM WR NG BANK0-*****	NG if the BANK0 address for RAM is *****to 1Kbyte.
RAM WR NG BANK1-*****	NG if the BANK1 address for AM is *****to 1Kbyte.

[4] RAM READ ONLY test

[Function]

RAM READ ONLY test is performed.

Perform the WRITE test (n011) right before start of this test.

System area test for COMMON is not performed.

[Operation]

Operation :

n

1

1

1

SUBTOTAL

n : 0 = One time check (can be omitted)

not 0 = Continuous check (Press the “C” key or turn off the power by rotating the key to end the test.)

[Pop-up display]

A counter is displayed for Pop-up display.

n

n=0 → 1 → 2 → 3

[Main display]

D I A G	0 1 1 1
00n	

n=0 → 1 → 2 → 3

[Print]

The result for all area test for RAM is printed as follows.

RAM	1 1 1
RAM RD	OK
END	1 1 1

Address of an error is printed if the test ended with an error.

* Refer to RAM WRITE/READ test when NG is printed.

[5] CF-CARD WRITE/READ test

[Function]

This test will check the write/read test (connection test) for CF-CARD.

Perform the CF-CARD clear test, before start of this test.

Note that this test does not ensure the data inside the CF-CARD as well as its performance.

[Operation]

Operation :

0

n

0

1

3

SUBTOTAL

n : 0 = One time check(can be omitted)

not 0 = Continuous check (To stop the test, press “C” key or turn off the power by rotating the key.)

[PRINT]

CF - CARD	1 3
CF WR	OK
END	1 3

NG and the address are printed if WRITE cannot be done normally.

[6] CF-CARD READ ONLY test

[Function]

This test will check the read only test for CF-CARD.

Perform the CF-CARD write test, before start of this test.

Note that this test does not ensure the data inside the CF-CARD as well as its performance.

[Operation]

Operation :

0	n	1	1	3	SUBTOTAL
---	---	---	---	---	----------

n : 0 = One time check(can be omitted)

not 0 = Continuous check(To stop the test, press "C" key or turn off the power by rotating the key.)

[PRINT]

<table border="0" style="border-collapse: collapse;"><tr><td style="padding-right: 20px;">CF - CARD</td><td>1 1 3</td></tr><tr><td>CF RD</td><td>OK</td></tr><tr><td>END</td><td>1 1 3</td></tr></table>	CF - CARD	1 1 3	CF RD	OK	END	1 1 3	NG and the address are printed if READ cannot be done normally.
CF - CARD	1 1 3						
CF RD	OK						
END	1 1 3						

[7] CF-CARD CLEAR test

[Function]

This test will check the clear test for CF-CARD.

Note that this test does not ensure the data inside the CF-CARD as well as its performance.

[Operation]

Operation :

0	n	2	1	3	SUBTOTAL
---	---	---	---	---	----------

n : 0 = One time check (can be omitted)

not 0 = Continuous check (To stop the test, press "C" key or turn off the power by rotating the key.)

[PRINT]

<table border="0" style="border-collapse: collapse;"><tr><td style="padding-right: 20px;">CF - CARD</td><td>2 1 3</td></tr><tr><td>CF CLR</td><td>OK</td></tr><tr><td>END</td><td>2 1 3</td></tr></table>	CF - CARD	2 1 3	CF CLR	OK	END	2 1 3	NG and the address are printed if WRITE cannot be done normally.
CF - CARD	2 1 3						
CF CLR	OK						
END	2 1 3						

[8] CF-CARD CLEAR WRITE/READ test

[Function]

This test will check the clear write/read test for CF-CARD.

Perform the write/read test (connection check) after clearing all memory.

Note that this test does not ensure the data inside the CF-CARD as well as its performance.

[Operation]

Operation :

0	n	3	1	3	SUBTOTAL
---	---	---	---	---	----------

n : 0 = One time check(can be omitted)

not 0 = Continuous check (To stop the test, press "C" key or turn off the power by rotating the key.)

[PRINT]

<table border="0" style="width: 100%;"><tr><td style="width: 60%;">CF - CARD</td><td style="width: 40%;">3 1 3</td></tr><tr><td>CF CLR&WR</td><td>OK</td></tr><tr><td>END</td><td>3 1 3</td></tr></table>	CF - CARD	3 1 3	CF CLR&WR	OK	END	3 1 3	NG and the address are printed if WRITE cannot be done normally.
CF - CARD	3 1 3						
CF CLR&WR	OK						
END	3 1 3						

[9] Locale information write

[Function]

The Locale information is written into FLASH MEMORY.

[Operation]

Operation :

x1	x2	0	0	1	6	SUBTOTAL
----	----	---	---	---	---	----------

x1 : xcountry code, x2: SUB CODE

x1 x2: 10 → Europe, 20 → US, 30 → UK, 40 → Germany,
 50 → Canada, 60 → Direct, 61 → Direct (Hebrew)

[PRINT]

The following receipt is not issued when commands other than x1, x2.

<table border="0" style="width: 100%;"><tr><td style="width: 60%;">LOCALE</td><td style="width: 40%;">x1x20 0 1 6</td></tr><tr><td>LOCALE</td><td>OK</td></tr><tr><td>END</td><td>x1x20 0 1 6</td></tr></table>	LOCALE	x1x20 0 1 6	LOCALE	OK	END	x1x20 0 1 6	
LOCALE	x1x20 0 1 6						
LOCALE	OK						
END	x1x20 0 1 6						

The following is printed when an error occurs during writing LOCALE.

LOCALE	NG	
--------	----	--

The LOCALE can be written 5 times. When no more LOCALE can be written (writing more than 5 times), the following is printed.

LOCALE	OVER	
--------	------	--

[10] FLASH USER AREA clear test

[Function]

Clear the area of LOCALE/CONTRAST setting.

[Operation]

Operation : 2 1 2 SUBTOTAL

[PRINT]

ROM	2 1 2	NG is printed if the test is not done correctly.
ROM CLR	OK	
END	2 1 2	

[11] Display test

[Function]

LCD, Pop-up display and transaction display tests are performed.

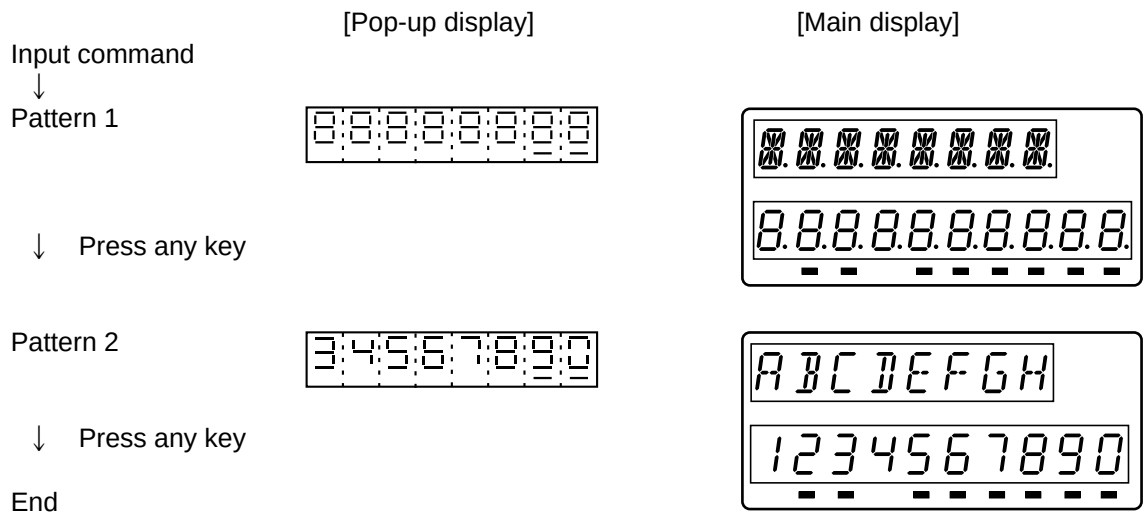
[Operation]

Operation : n 0 2 1 SUBTOTAL

n : 0 = One time check (can be omitted)

not 0 = Continuous check (To stop the test, press "C" key)

* Any key must be pressed to end the test when performing one time check.



[PRINT]

DISP	2 1
DISP	OK
END	2 1

[12] Pop-up display test

[Function]

Pop-up display test is performed.
Press any key to end the test.

[Operation]

Operation : 2 2 1 SUBTOTAL

[Pop-up display]

The following is displayed and cleared after the test.

3 4 5 6 7 8 9 0

[PRINT]

DISP	7SEG	221
DISP	7SEG	OK
END		221

[Main display]

DIAG 221
1234567890

[13] Display test (repeat)

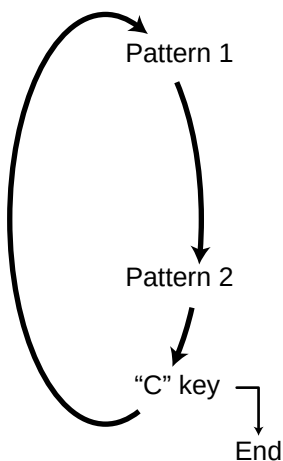
[Function]

LCD, Pop-up display and transaction display tests are performed.

[Operation]

Operation : 5 2 1 SUBTOTAL

* Press "C" key or turn off the power to stop the test.



[Pop-up display]

8 8 8 8 8 8 8 8

[Main display]

8.8.8.8.8.8.8.8.
8.8.8.8.8.8.8.8.

3 4 5 6 7 8 9 0

A B C D E F G H
1 2 3 4 5 6 7 8 9 0

[PRINT]

DISP	521
DISP	OK
END	521

[14] Internal printer print test

[Function]

This test will check the characters in the receipt/journal of the internal printer.

[Operation]

Operation :

c

n

0

3

d

SUBTOTAL

c: 0 = prints character 'B'

1 = prints all characters

n: 0 = One time check

not 0 = Continuous check (To stop the test, press "C" key or turn off the power by rotating the key.)

d: 3 = prints only receipt

4 = prints only journal

5 = prints both receipt/journal (prints alternately)

[Print]

1. prints character 'B'

BBBBBBBBBBBBBBBBBBBBBBBBBBBBBB

2. prints all characters

The printing order is in the order of the character code. The characters from 0x20(SP) to 0xFA(•) are printed.

A space is printed for a code without the printing character.

A character which cannot be printed is a character within the range of the code 0x00 to 0x1F and 0xFB to 0xFF.

[15] External printer print test

[Function]

This test will check the print test for the RS232C I/F printer.
Connect the printer to the COM which is to be tested.

[Operation]

Operation :

X1: Print test pattern

0 = A pattern, 1 = B pattern

X2: Port selection

1 = COM1, 2 = COM2

X3: Baud rate selection

1 = 4800 bps, 2 = 9600 bps, 3 = 19.2 kbps

n: 0 = One time check (can be omitted)

not 0 = Continuous check (To stop the test, press "C" key)

d: Printer type selection

1 = UP360, 2 = SP1300

Note that some printers cannot use certain baud rates. Refer to the list below.

When changing the baud rate, make sure to change the setting for the printer also.

	19.2 Kbps	9600 bps	4800 bps
SLIP PRINTER (SP1300)	X	O	O
RJ PRINTER (UP360)	O	O	O

[Print]

Printing pattern is the following 2types.

The number of lines : 40 lines for RJ and 35 lines for SLIP.

BBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBB	BBBBBBBBBBBBBBBBBBBB * 8,888.88
A pattern	B pattern

[16] COM (RS232C) test

[Function]

This is the RS232C test.

The loop back test for RS232C port is performed by making the connection shown in the figure.

Refer to [24] COM (RS232C) batch test the figure for RS232C port connection.

[Operation]

Operation :

x	n	0	4	d	SUBTOTAL
---	---	---	---	---	----------

x : Baud rate selection
 0 = 2400 bps, 1=4800 bps, 2=9600 bps, 3=19.2 kbps
 n : 0 = One time check (can be omitted)
 not 0 = Continuous check (To stop the test, press "C" key)
 d : Port selection
 1 = COM1
 2 = COM2

[Print]

x=0, d=1

COM1	41	
RTS1=1 -->	CTS1=0	OK
DTR1=1 -->	DSR1=0	OK
DTR1=1 -->	CD1=0	OK
DTR1=1 -->	CI1=0	OK
RTS1=0 -->	CTS1=0	OK
DTR1=0 -->	DSR1=0	OK
DTR1=0 -->	CD1=0	OK
DTR1=0 -->	CI1=0	OK
TxD -->	RxD	OK
END	41	

x=1~3, d=1

COM1	x n 0 4 1	
RTS1=1 -->	CTS1=0	OK
DTR1=1 -->	DSR1=0	OK
DTR1=1 -->	CD1=0	OK
DTR1=1 -->	CI1=0	OK
RTS1=0 -->	CTS1=0	OK
DTR1=0 -->	DSR1=0	OK
DTR1=0 -->	CD1=0	OK
DTR1=0 -->	CI1=0	OK
TxD -->	RxD	OK
END	x n 0 4 1	

x=0, d=2

COM2	42	
RTS2=1 -->	CTS2=0	OK
DTR2=1 -->	DSR2=0	OK
RTS2=0 -->	CTS2=0	OK
DTR2=0 -->	DSR2=0	OK
TxD -->	RxD	OK
END	42	

x=1~3, d=2

COM2	x n 0 4 2	
RTS2=1 -->	CTS2=0	OK
DTR2=1 -->	DSR2=0	OK
RTS2=0 -->	CTS2=0	OK
DTR2=0 -->	DSR2=0	OK
TxD -->	RxD	OK
END	x n 0 4 2	

[17] COM (RS232C) batch test

[Function]

This is the RS232C port batch test.

The loop back test for RS232C port is performed by making the connection shown in the figure.

When performing this test, fix loop back connectors to all COM ports.

[Operation]

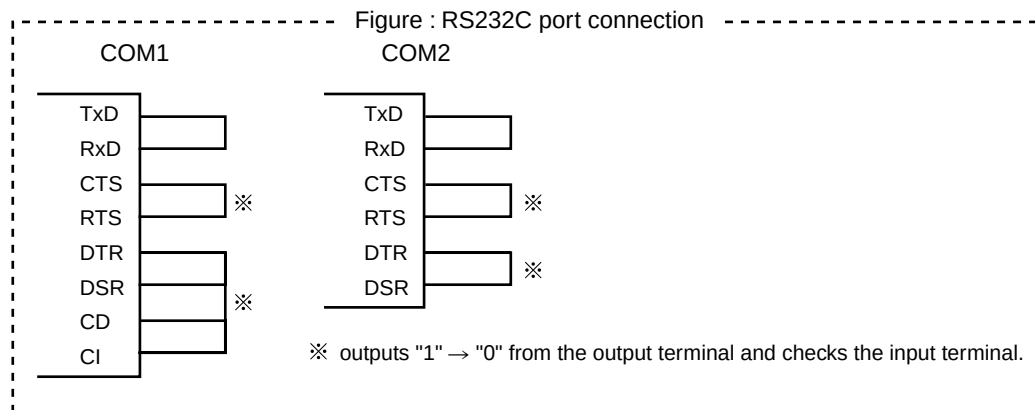
Operation :

Baud rate: COM1: 19.2kbps, COM 2 : 9600 bps

Check time: one time (stable)

[Print]

COM BATCH	4 0		
RTS1=1 --> CTS1=0	OK	}	COM 1 test result
DTR1=1 --> DSR1=0	OK		
DTR1=1 --> CD1=0	OK		
DTR1=1 --> CI1=0	OK		
RTS1=0 --> CTS1=0	OK		
DTR1=0 --> DSR1=0	OK	}	COM 2 test result
DTR1=0 --> CD1=0	OK		
DTR1=0 --> CI1=0	OK		
TxD --> RxD	OK		
RTS2=1 --> CTS2=0	OK		
DTR2=1 --> DSR2=0	OK		
RTS2=0 --> CTS2=0	OK		
DTR2=0 --> DSR2=0	OK		
TxD --> RxD	OK		
END	4 0		



[18] ARCNET test

[Function]

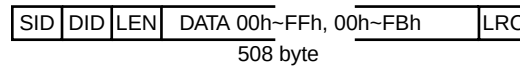
This test will check the counter-communication of ARCNET.

Always make the receive ECR in the wait mode first and then send data from the send ECR.

Continue the test while the communication is done normally.

The counter of the number of receive/send packets to LCD is displayed after the communication normally starts. It is continuously displayed while the communication is done normally.

* send/receive data



1. Normal mode

When the receive ECR (a=2 below) receives the data normally, the test checks the received data, reverse the received data (FBh – 01h, 00h, FFh – 00h), and sends back the data to the send ECR (a= 1). The send ECR checks the reversed data. (The same repeats hereinafter)

* Retry

Receive ECR: Ignores the error until the number of error reaches consecutivel r times. Returns to the wait mode afterwards.

Send ECR: Sends data one second after the receive ECR does not respond, and retries until r times.

Sends an error and ends afterwards.

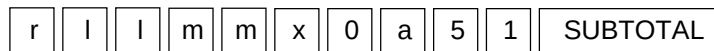
2. Simultaneous mode

Checks only the received data when the receive ECR (a=4) receives the data normally.

The send ECR (a=3) waits for one second and start sending data again. (The same repeats hereinafter)

[Operation]

* Make sure to check the ID upon setting the ID. When changing the ID, turn the power on again.



r: the number of retries (1 – 9 times)

Then number of retries will be 5 when 0 or no input.

Note that the retry will be invalid in the simultaneous mode.

ll: ID number of the other ECR

mm: Own ID number

x: Baud rate selection

0=156 kbps, 1=312 kbps

a: Mode selection

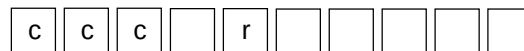
1=Send mode, 2=Reception mode, 3=Send mode (Simultaneous)

4=Reception mode (Simultaneous)

The test continues unless an error occurs.

To stop the test, press "C" key.

[Pop-up display]



c: communication counter

r: Retry counter (always displays 0 at broadcast)

[Print]

ARCNET	rllmmx0a51
END	rllmmx0a51

* Error print

ARCNET RETRY OVER	Selected retry number was exceeded.
ARCNET BLK ERR	Received does not correspond to the sent Block No.
ARCNET DATA ERR	Received data does not correspond to the sent data.
ARCNET LENG ERR	Received data length does not correspond to the sent data length.
ARCNET TIMEOUT	Time out error when starting the ECR or between blocks.
ARCNET OPEN ERR	ARCNET initialization failed.

[19] ARCNET batch test

[Function]

This test will perform the ARCNET counter communication with the fixed set value.
Connect the two ECRs and perform the counter communication test.
The number of retries will be displayed in the upper right corner of the LCD.

[Operation]

* Send ECR

Operation :

1	5	0	SUBTOTAL
---	---	---	----------

Fixed set value

ID of the other ECR: 01, Own ID: 02

Mode selection: send mode

Baud rate: 312 kbps

The number of retries = 5

* Receive ECR

Operation :

2	5	0	SUBTOTAL
---	---	---	----------

Fixed set value

ID of the other ECR: 02, Own ID : 01

Mode selection: receive mode

Baud rate: 312 kbps

The number of retries = 5

[Print]

Refer to [21] ARCNET test for the error print.

[20] Time setting

[Function]

This sets the time and date.

The time and date is displayed without inputting the fixed value.

[Operation]

* Date and time setting

Operation :

x1	x2	x3	x4	x5	x6	0	a	7	0	SUBTOTAL
----	----	----	----	----	----	---	---	---	---	----------

* Date and time display

Operation :

a	7	0	SUBTOTAL
---	---	---	----------

To stop the operation, press "Esc" key or turn off the power by rotating the key. Press any key to enter the next test.

a : 0 : time setting x1/x2: time, x3/x4: minutes, x5/x6: second
1 : time setting x1/x2: year, x3/x4: month, x5/x6: day

The test will be done one time.

[Main display]

YY / MM / DD
HH - MM SS
1

[Print]

Date and time setting

DATE / TIME	YYMMDD0170
DATE	YY / MM / DD
END	YYMMDD0170

Date and time display

DATE / TIME	7 0
ESC	
END	7 0

[21] Drawer open test

[Function]

This test will check the drawer open function.

[Operation]

Operation :

x	n	0	9	1	SUBTOTAL
---	---	---	---	---	----------

- x : 0 = All drawers open (can be omitted)
1 = Drawer 1 open
2 = Drawer 2 open
n : 0 = One time check (can be omitted)
not 0 = Continuous check (To stop the test, press "C" key or turn off the power by rotating the key.)
- * Drawer status data is displayed in the transaction status display unit.
Status condition is displayed after all drawers open while performing continuous check.

[Print]

x=0

DRW	9 1
DRW ALL	OK
END	9 1

x=1

DRW	1 0 0 9 1
DRW 1	OK
END	1 0 0 9 1

[22] Buzzer test

[Function]

This test will check the buzzer function.

Ring the one-shot buzzer.

Ring the 500msec intermittent buzzer while performing continuous check.

Press "C" key or turn off the power to stop the intermittent buzzer.

[Operation]

Operation :

n	0	9	2	SUBTOTAL
---	---	---	---	----------

- n : 0 = One time check (can be omitted)
not 0 = Continuous check (To stop the test, press "C" key or turn off the power by rotating the key.)

[Print]

BUZZ	9 2
END	9 2

[23] KEY display

[Function]

The key codes for all keys except "C" key which are pressed down are displayed.
The hard key codes are located as shown in the following figure.

[Operation]

Operation :

9

4

SUBTOTAL

To stop the test, press "C" key or turn off the power by rotating the key.

[Pop-up display]

X	Z Z
---	-----

x : hard key code (Prints only last number of three in the main display.)
zz : key code type

[Main display]

D I A G	9 4
X X X	Z Z

xxx : hard key code
zz : key code type

[Print]

No printing is done in this test.

[Location of the hard key code]

RECEIPT FEED	JOURNAL FEED	035	030	021
042	039	034	029	020
041	038	033	028	019
040	037	032	027	018
C	036	031	026	017
7	8	9	025	016
4	5	6	024	015
1	2	3	014	023
0	011	012	013	022

051	060	069	078	087	096	105	114	123	132	141	150
050	059	070	077	086	095	104	113	122	131	140	149
049	058	067	076	085	094	103	112	121	130	139	148
048	057	066	075	084	093	102	111	120	129	138	147
047	056	065	074	083	092	101	110	119	128	137	146
046	055	064	073	082	091	100	109	118	127	136	145
045	054	063	072	081	090	099	108	117	126	135	144
044	053	062	071	080	089	098	107	116	125	134	143
043	052	061	070	079	088	097	106	115	124	133	142

[24] OBR test

[Function]

This is a scanner test. The test enters the wait mode for the scanner input, and waits only for scanner. The test determines the result between OK and NG by comparing the fixed data and the read data. Make sure to connect OBR (HHS-15) to COM 2.

* The fixed barcode is as follows.



[Operation]

Operation :

9

5

SUBTOTAL

To stop the test, press “C” key or turn off the power by rotating the key.

[Print]

OBR	9 5	
OBR	OK	← Normal printing
OBR ERR	*****	← Prints if the test ended with an error.
ESC		
END	9 5	

6. ERROR CODE LIST

Error code	Message	Meaning	Action
E001	Wrong mode	Mode switch position changed before finalization.	Return the mode switch to its original setting and finalize the operation.
E003	Wrong operator	Clerk button pressed before finalization of a registration being performed under another clerk button. The signed on clerk differs from the clerk performed the tracking check registration.	Press the original clerk button and finalize the transaction before pressing another clerk button. Input correct check number or assign the proper clerk number.
E004	Error INIT/FC	Initialization or unit lock clear operation in progress.	Complete operation.
E005	Insufficient memory	Memory allocation exceeds total memory capacity.	Reallocate memory or expand memory (if possible).
E008	Please sign on	Registration without entering a clerk number.	Enter a clerk number.
E009	Enter password	Operation without entering the password.	Enter password.
E010	Close the drawer	The drawer is left open longer than the program time (drawer open alarm).	Close the drawer.
E011	Close the drawer	Attempt to register while the cash drawer is open.	Shut the cash drawer.
E016	Change back to REG mode	Two consecutive transactions attempted in the refund mode.	Switch to another mode and then back to the RF mode for the next transaction.
E017	Enter CHK/TBL number	Attempt made to register an item without inputting a check number.	Input a check number.
E018	Enter Table number	Attempt made to register an item without inputting a table number.	Input a table number.
E019	Enter number of customers	Finalize operation attempted without entering the number of customer.	Enter the number of customer.
E021	No DEPT Link	No department linked PLU is registered.	Correct the program.
E023	Stock shortage	Actual stock quantity becomes less than the minimum stock quantity.	Perform stock maintenance.
E024	No stock	Actual stock quantity becomes/is negative.	Perform stock maintenance.
E026	Enter condiment/preparation PLU	No condiment/preparation PLU is registered.	Register condiment/preparation PLU.
E029	In the tender operation	Item registration is prohibited, while partial tender.	Finalize the transaction.
E030	Press RATE TAX key	Finalization of a transaction attempted without registering rate-tax.	Register <RATE TAX>.
E031	Press ST key	Finalization of a transaction attempted without confirming the subtotal.	Press <SUBTOTAL>.
E033	Enter tendered amount	Finalize operation attempted without entering amount tender.	Enter the amount tendered.
E035	Change amount exceeds limit	Change amount exceeds preset limit.	Input amount tendered again.
E036	Remove money from the drawer	Contents of the drawer exceed programmed limit.	Perform pick up operation.
E037	Digit or amount limitation over	High amount lock out/low digit lock out error	Enter correct amount.
E038	Perform money declaration	Read/reset operation without declaring cash in drawer. This error appears only when this function is activated.	Perform money declaration.
E040	Issue guest receipt	Attempt to register a new transaction without issuing a guest receipt.	Issue a guest receipt.
E041	Print validation	Attempt to register a new transaction without validation.	Perform validation operation.
E042	Insert VLD paper and retry	Validation paper (slip printer) has run out.	Insert new validation paper.
E044	Print Cheque	Attempt to register a new transaction without printing check.	Perform check print.

Error code	Message	Meaning	Action
E045	Print Check Endorsement	Attempt to register a new transaction without printing check endorsement.	Perform check endorsement.
E046	REG buffer full	Registration buffer full. Separate check buffer full.	Finalize the transaction. Allocate sufficient separate check buffer.
E047	Print bill	Attempt to register a new transaction without printing slip.	Perform slip printing operation.
E048	Insert slip paper and retry	No paper is inserted or paper is out in the slip printer.	Insert slip paper
E049	CHECK memory full	Check tracking index memory full.	Finalize and close the check number currently used.
E050	DETAIL memory full	Check tracking detail memory full.	Finalize and close the check number currently used.
E051	CHK/TBL No. is occupied	Attempt to made use <New Check> to open a new check using a number that is already used for an existing check in check tracking memory.	Finalize and close the check that is currently under the number that you want to use or use a different check number.
E052	CHK/TBL No. is busy	Attempt to use the same check number whilst the specified number is being used in the other terminal.	Use another check number or close the check at that terminal.
E053	CHK/TBL No. is not opened	Attempt made to use <Old Check> reopen a new check using a number that is not used for an existing check in check tracking memory.	Use the correct check number (if you want to reopen a check that already exists in check tracking memory) or use <New Check> to open a new check.
E054	Out of CHK/TBL No. range	Check number range over.	Enter correct number.
E055	In the SEP CHK operation	Normal registration is prohibited during separate check operation.	Terminate separate check operation.
E056	CHK range full	All check number are occupied in range.	Recall the stored data.
E059	Press EAT-IN or TAKEOUT key	Attempt to finalize a transaction without specifying <EAT-IN> or <TAKE-OUT>.	Press <EAT-IN> or <TAKE-OUT>.
E060	Printer offline	External printer offline	
E061	Printer error	External printer went down.	
E062	Printer paper end	External printer paper end	Replace new paper.
E064	Print buffer full	Printing buffer full	
E066	Print from the beginning of the transaction	Attempt to print the last separated transaction on slip.	Print from the beginning of the transaction
E075	Negative balance cannot be finalized	Attempt to finalize a transaction when balance is less than or equal to zero.	Register item(s) until the balance becomes positive amount.
E085	Data exist in consolidation file	Data exists in the consolidation file.	Clear the data.
E100	Operate at the master terminal	Prohibit master operation.	Perform it at master terminal.
E101	PLU maintenance file full. Press <#2> to exit	Scanning PLU direct maintenance/batch maintenance file becomes full.	Terminate the maintenance.
E103	PLU Code is not exist. Input the PLU Code	PLU code is not existed in the file.	Enter proper PLU code.
E105	PLU file full	Scanning PLU/not found PLU file full	Modify the designated item.
E106	Item exists in the PLU FILE	The designated item has already existed in the scanning PLU file.	
E112	Close the journal platen arm	The journal platen arm is opened.	Close the journal platen arm.
E114	Close the receipt platen arm	The receipt platen arm is opened.	Close the receipt platen arm.

Error code	Message	Meaning	Action
E139	Negative balance is not allowed	Attempt to register <--> or <CPN> when the balance becomes negative.	Enter proper minus/coupon amount.
E146	Arrangement file full	Arrangement file is full.	Set the arrangement properly.
E164	Employee No. is not Found in the Employee File	Attempt to enter a wrong employee number which is not set to the employee file.	Enter proper employee number.
E165	Employee No. is not Clocking-in.	Attempt to clock out the employee who is not clocked in.	Enter proper employee number.
E166	Employee No. is Occupied	Attempt to clock in the employee who has clocked in already.	Enter proper employee number.
E176	Time&Attendance file full	Time and attendance file becomes full.	Delete unused employee number or reallocate the time and attendance file.
E200	Insert CF card	No CF card is set.	Set CF card.
E201	Illegal Format	Illegally formatted CF card	Format the CF card.
E202	File not found	The designated file is not found in the CF card.	Enter proper file name.
E203	Insufficient memory	Insufficient memory in the CF card.	Use a vacant (formatted) CF card.
E205	File already exist.	Can not write, because designated file has already been Insert new slip paper.	Check the operation and retry.

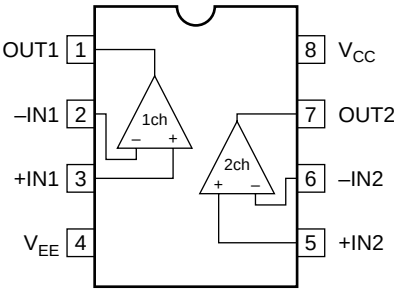
System error code

Error code	Meaning
File I/O errors	
750	File cannot be created.
751	No designated drive
752	FCB area shortage of flash memory
753	No appropriate record number is designated.
754	No partition exists.
755	No vacant record is remained.
756	Changing is not permitted.
757	The designate file cannot be found.
758	The same file has already existed.
759	The same page has already existed.
760	No vacant record is remained.
762	The contents of internal memory and CF card are different.
763	The contents of scanning PLU file among the master/satellite terminals are different.
764	Write error
CF card I/O errors	
781	CF card device error
783	CF card format error
785	No designated file
788	The file is already existed in the CF card.
Communication errors	
2000	Network join error
2001	Inline port open error
2002	Inline synchronize error
2003	Inline command error
2004	Time over
2005	Parameter error
2006	Time out
2007	ID number over error
2008	Packet error
2009	ID
2010	WAK receive error
2011	Packet type error
2012	Sequence error
2013	Packet format error
2014	Time over (5 seconds)
2015	User time out
2016	Other communication error
2017	Not found PLU area error
2018	Online port open error
2019	No response
2020	File not found
2021	File create error
2022	File I/O error

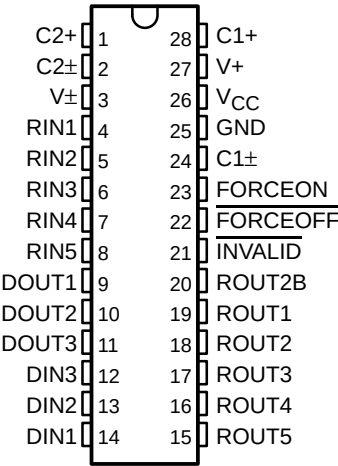
Error code	Meaning
2023	Retry error
2024	Receive SYN error
2025	Receive FIN error
2026	FIN is in sending sequence whole recalling n_write()
2027	Illegal format
2028	Illegal command
2029	Busy with response
2030	Communication abortion
2031	Online receiving hardware error
2032	Inline receiving hardware error
2033	Online receiving overrun
2034	Online sending hardware error
2035	Inline sending hardware error
2036	Token is not detected while sending
2037	Time over while detecting DSR ON
Program data send/receive (auto-program) errors	
2100	Command code error
2101	Index format error
2102	Machine ID number error
2103	Maximum record number error
Mail box function errors	
2300	Mail box full error
2301	Job number error
Other errors	
2900	Break operation
2901	Password error
2902	I/O parameter program error
Logic driver initialize common errors	
5000	Parameter error (Illegal information of I/O parameter)
5001	No connection (Illegal information of I/O parameter)
5010	Logical driver COM open error
5011	Logical driver COM double open
5012	Logical driver COM not open
5013	Logical driver COM device error
5014	Logical driver COM remain data error
MODEM errors	
5300	MODEM initialize error
5301	MODEM open error
5302	Negotiation error
5303	AT command sending error
5304	Control ER error
5305	Receive status error

7. IC DATA

1. BA10393F (IC19)



2. MAX3243CPW (IC10, IC17)



EACH DRIVER

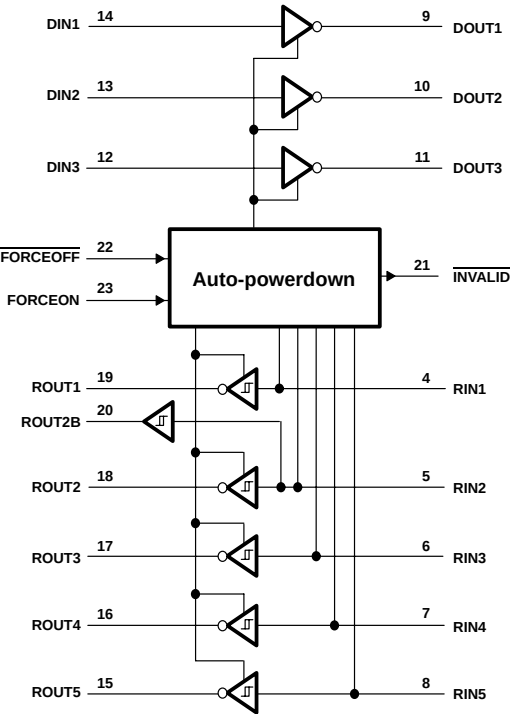
INPUTS				OUTPUT DOUT	DRIVER STATUS
DIN	FORCEON	FORCEOFF	VALID RIN RS-232 LEVEL		
X	X	L	X	Z	Powered off
L	H	H	X	H	Normal operation with auto-powerdown disabled
H	H	H	X	L	Normal operation with auto-powerdown disabled
L	L	H	Yes	H	Normal operation with auto-powerdown enabled
H	L	H	Yes	L	Normal operation with auto-powerdown enabled
L	L	H	No	Z	Powered off by auto-powerdown feature
H	L	H	No	Z	Powered off by auto-powerdown feature

H = high level, L = low level, X = irrelevant, Z = high impedance

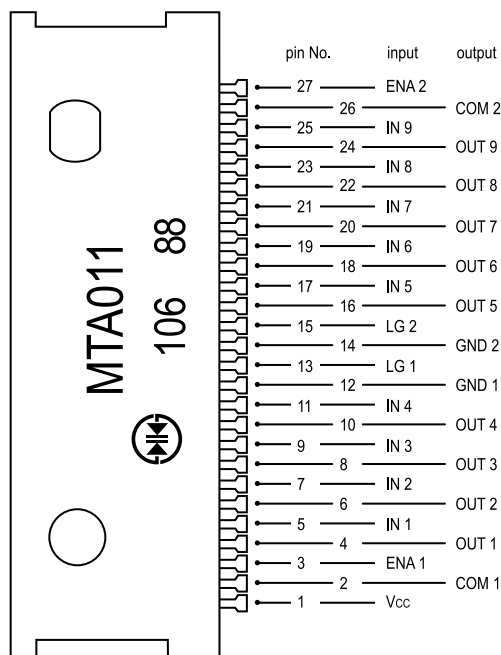
EACH RECEIVER

INPUTS				OUTPUTS		RECEIVER STATUS
RIN2	RIN1, RIN3±RIN5	FORCEOFF	VALID RIN RS-232 LEVEL	ROUT2B	ROUT	
L	X	L	X	L	Z	Powered off while ROUT2B is active
H	X	L	X	H	Z	Powered off while ROUT2B is active
L	L	H	Yes	L	H	Normal operation with auto-powerdown disabled/enabled
L	H	H	Yes	L	L	Normal operation with auto-powerdown disabled/enabled
H	L	H	Yes	H	H	Normal operation with auto-powerdown disabled/enabled
H	H	H	Yes	H	L	Normal operation with auto-powerdown disabled/enabled
Open	Open	H	No	L	H	Powered off by auto-powerdown feature

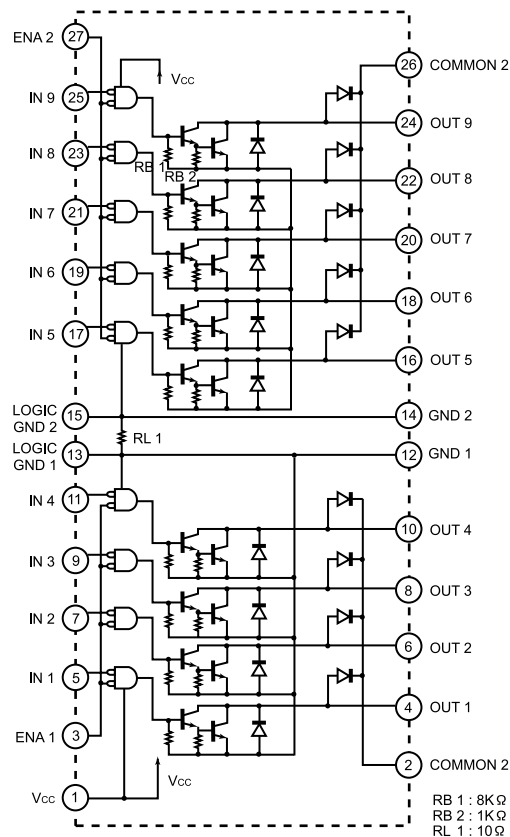
H = high level, L = low level, X = irrelevant, Z = high impedance (off), Open = input disconnected or connected driver off



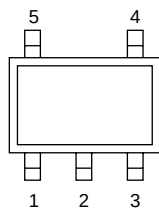
3. MTA01M-F7101 (IC18)



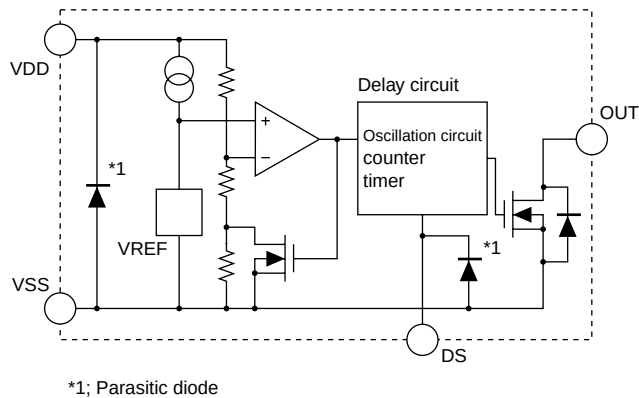
Vcc	Vin	VENA	Output Transistor
L			OFF
H	H	H	ON
H	H	L	OFF
H	L	H	OFF
H	L	L	OFF



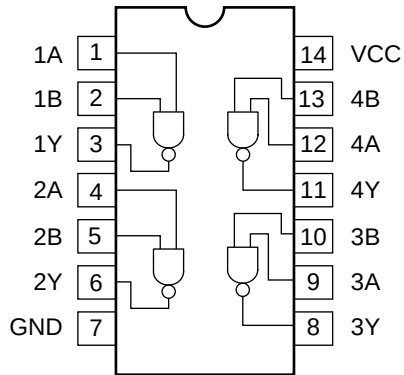
4. S-80123BNMC-JGIT2G (IC23)



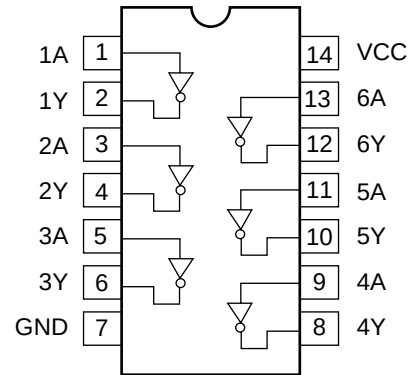
PIN NO.	PIN NAME	Function
1	DS	Delay time ON/OFF switch PIN
2	VSS	GND
3	NC	Not used
4	OUT	OUTPUT POWER SUPPLY DETECTOR
5	VDD	INPUT POWER SUPPLY



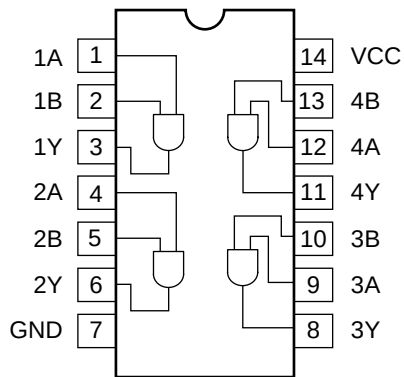
5. SN74LVC1G00 (IC9, IC22)



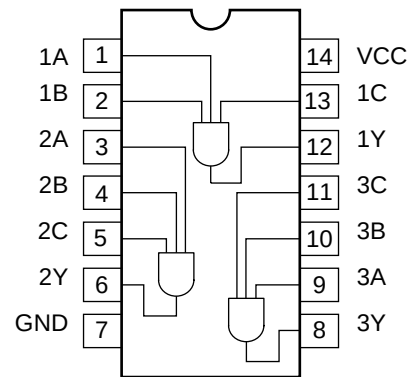
6. SN74LV04 (IC11)



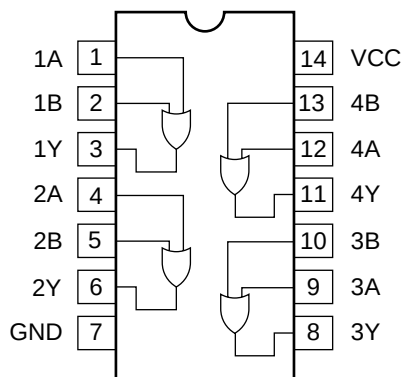
7. SN74AHCT08 (IC3) SN74LV08 (IC12) SN74LV1G08 (IC5)



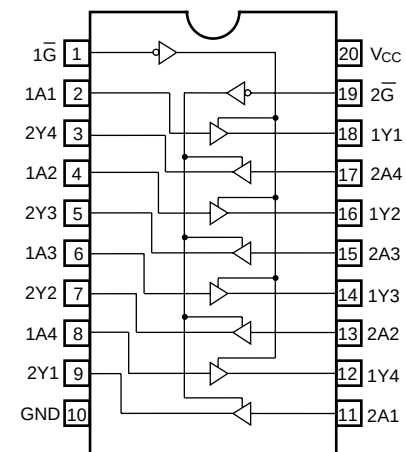
8. SN74LV11 (IC1)



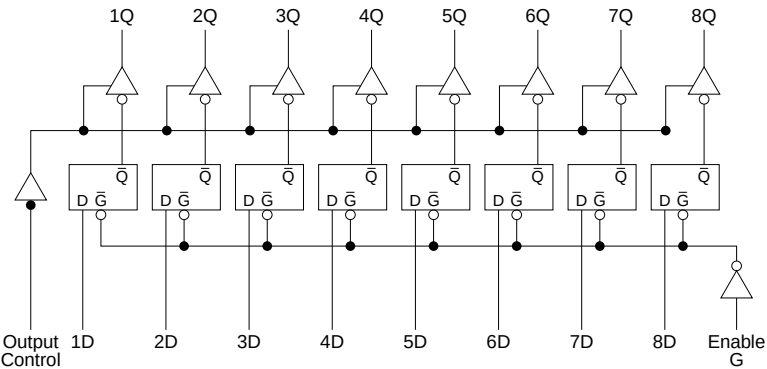
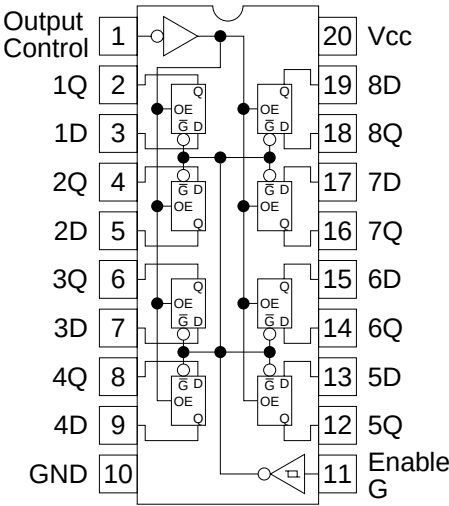
9. SN74LV32 (IC2, IC21)



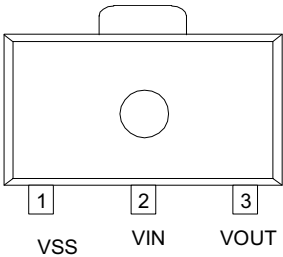
10. SN74AHCT244 (IC8) SN74LVC244 (IC7, IC14)



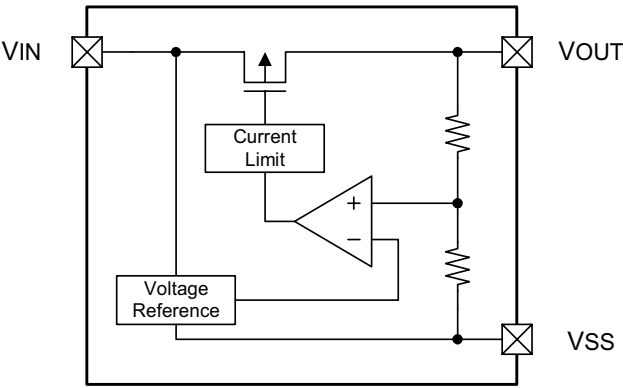
11. SN74LV373 (IC15)



12. XC6206P332PR (IC24)



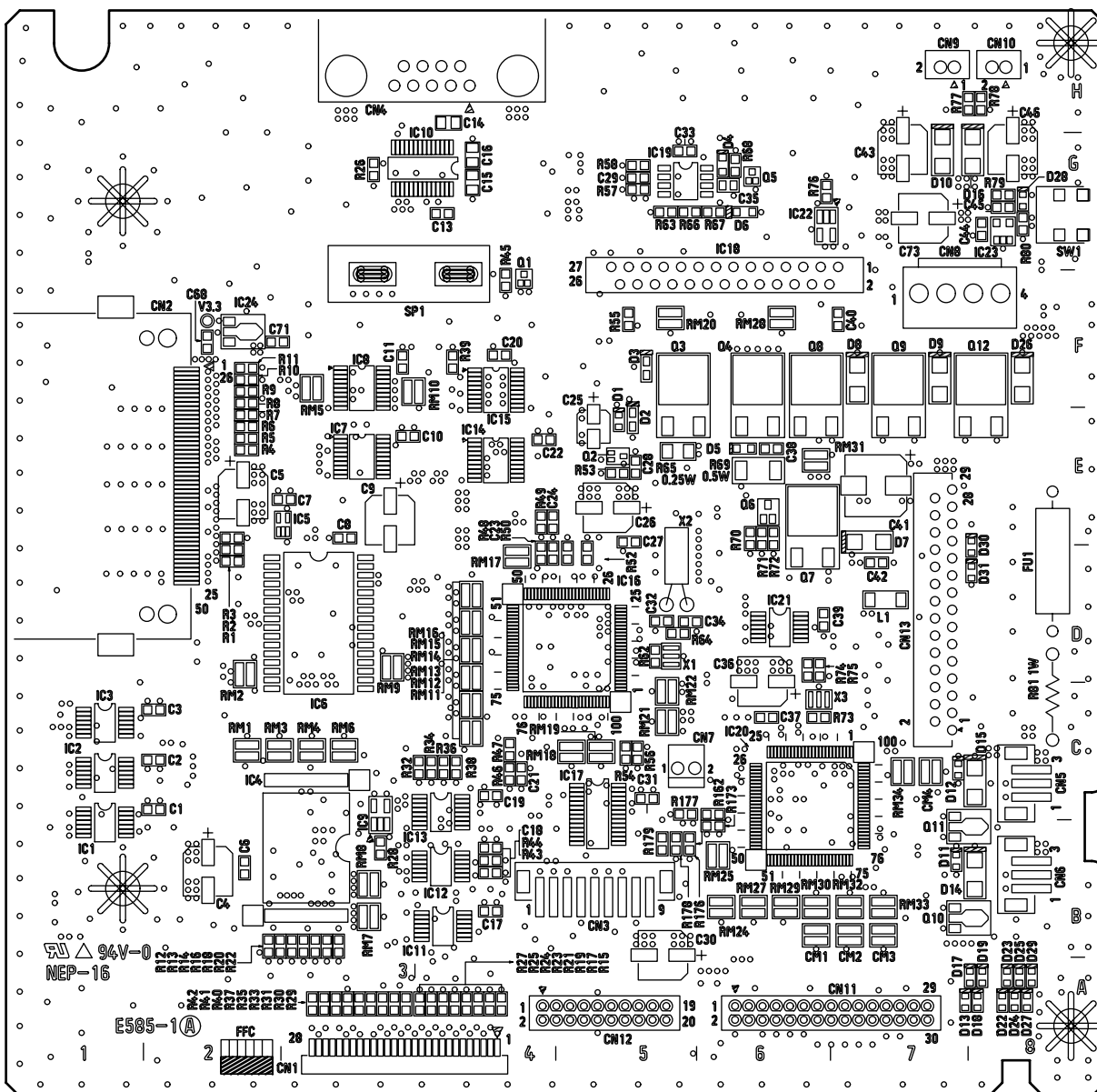
PIN NUMBER	PIN NAME	FUNCTION
1	VSS	Ground
2	VIN	Power Input
3	VOUT	Output



8. PCB LAYOUT

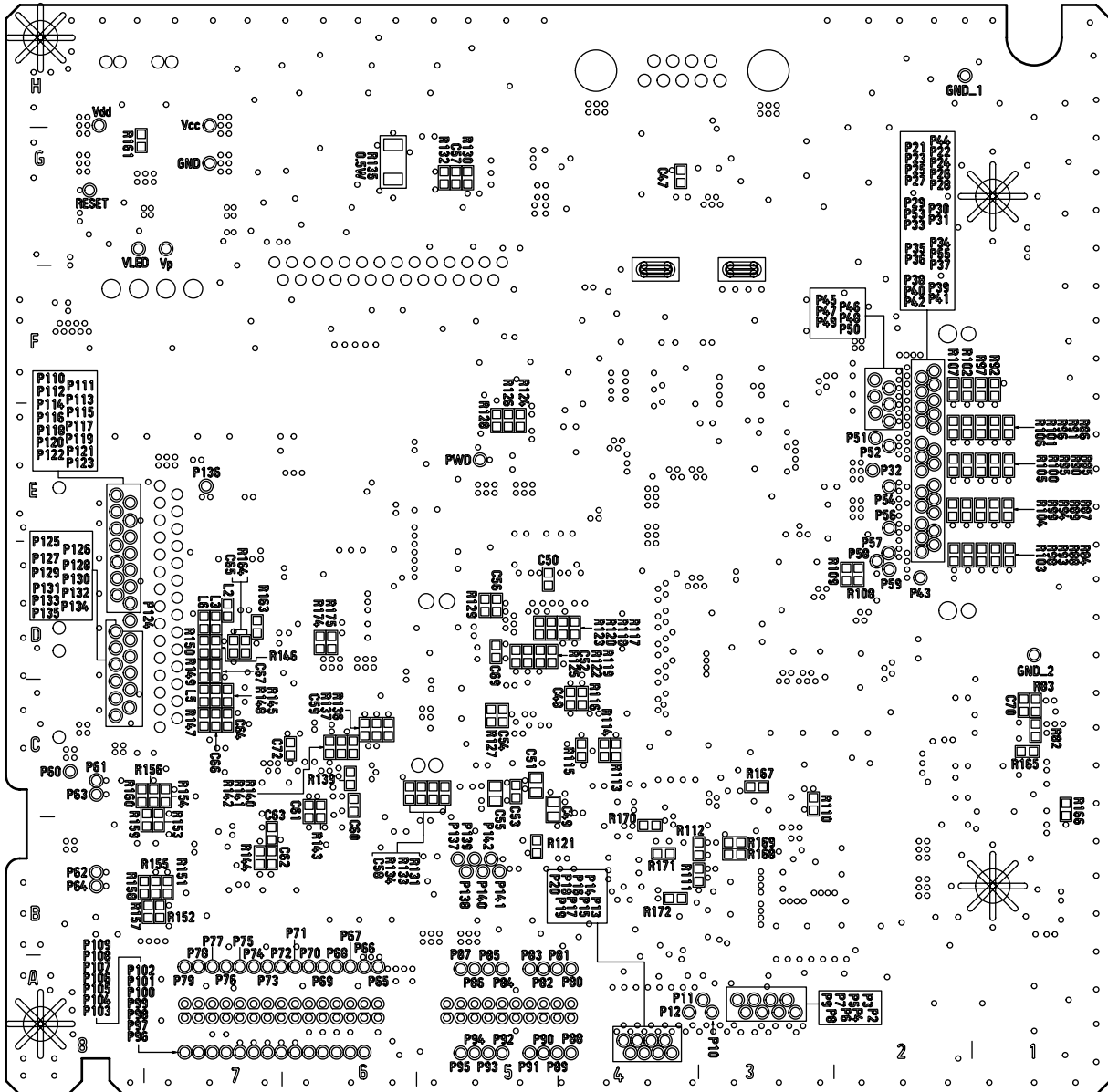
MAIN PCB (E585-1 PCB)

(TOP VIEW)



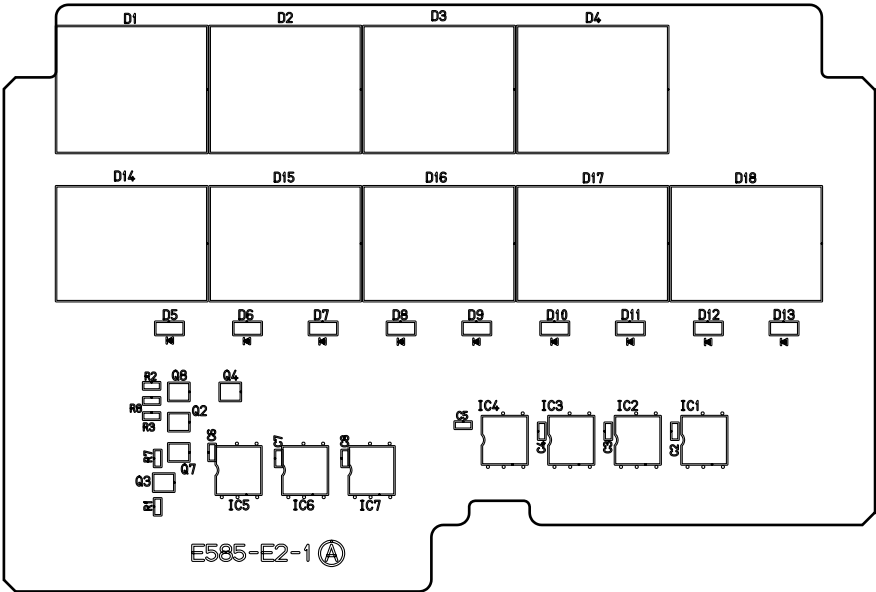
MAIN PCB (E585-1 PCB)

(BOTTOM VIEW)

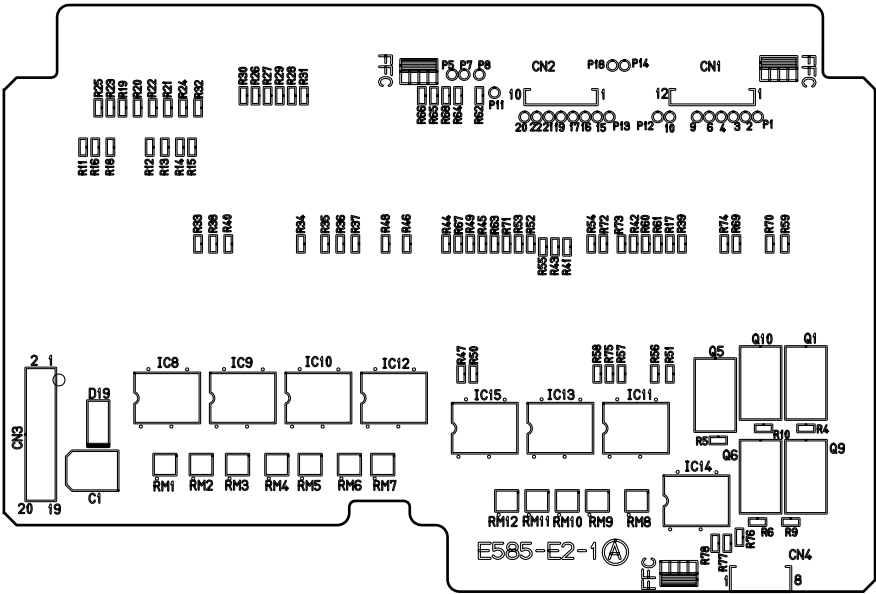


MAIN PCB (E585-E2-1 PCB)

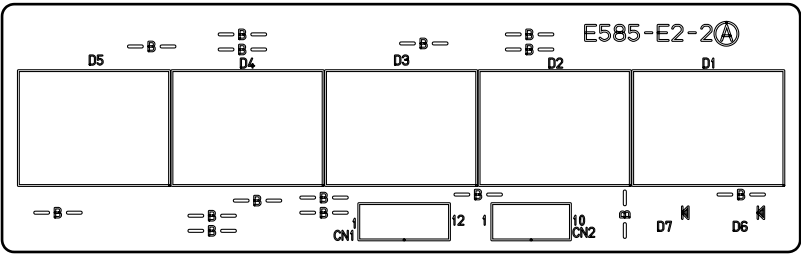
(TOP VIEW)



(BOTTOM VIEW)



MAIN PCB (E585-E2-2 PCB)

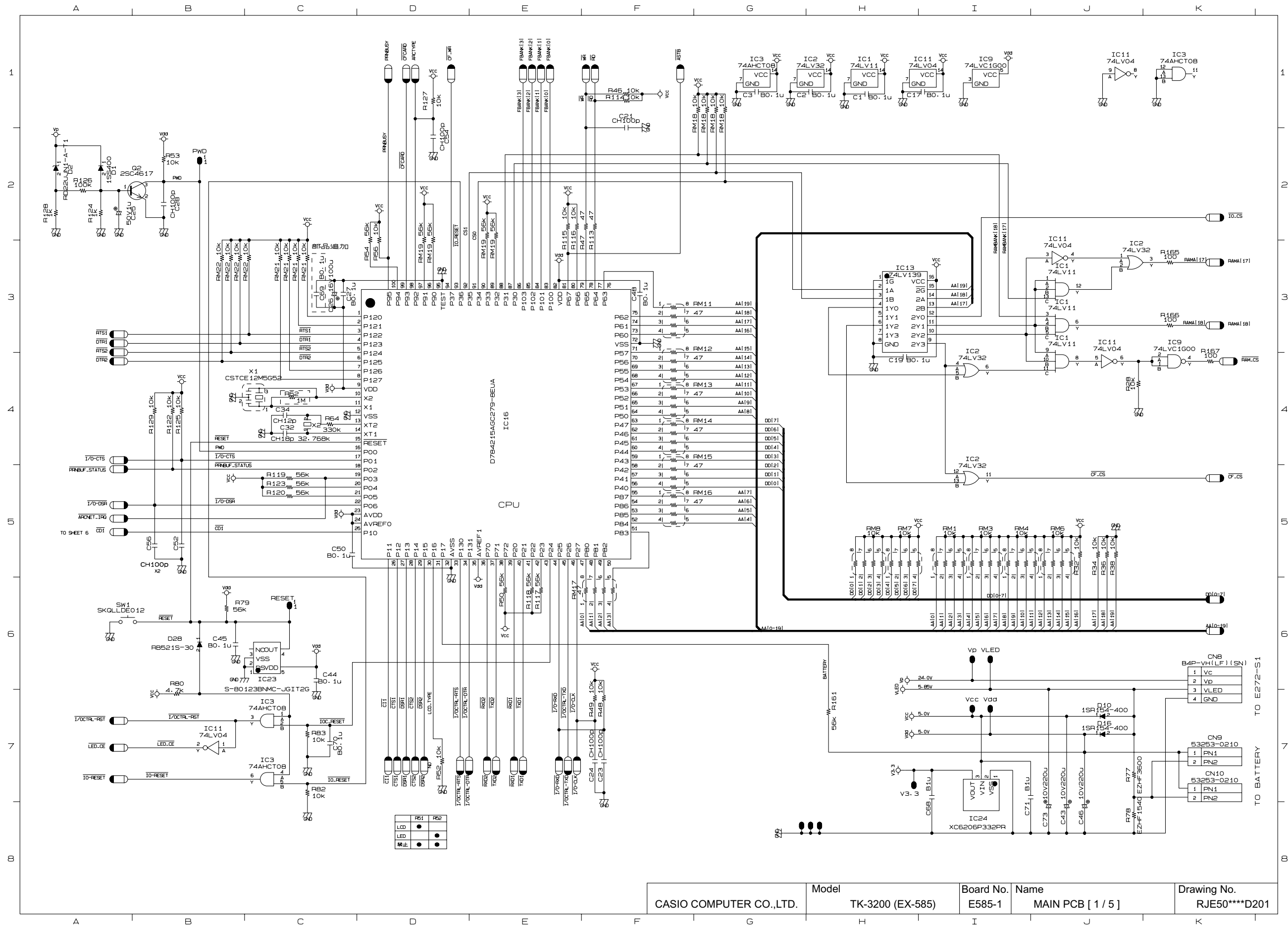


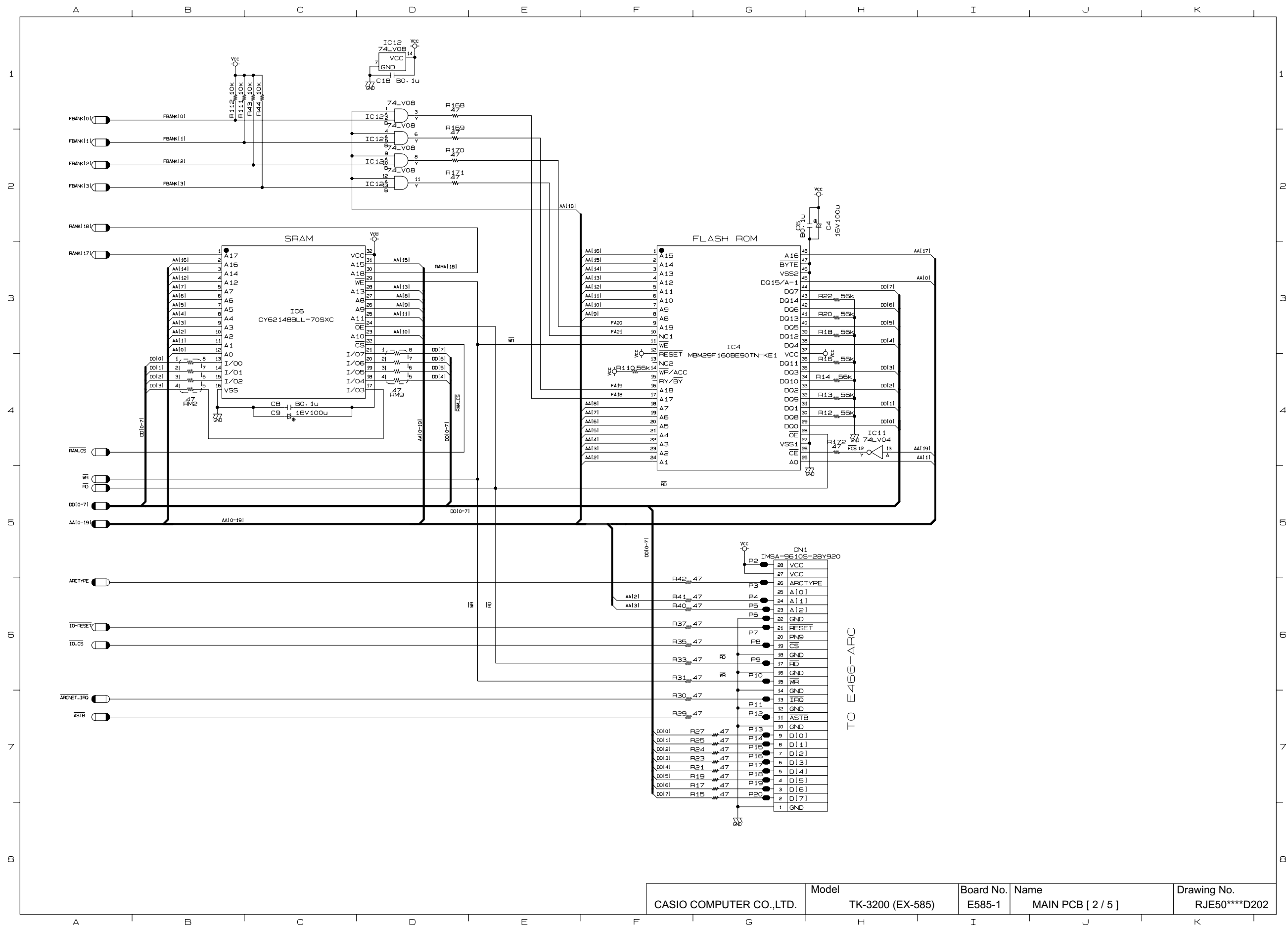
9. CIRCUIT DIAGRAM

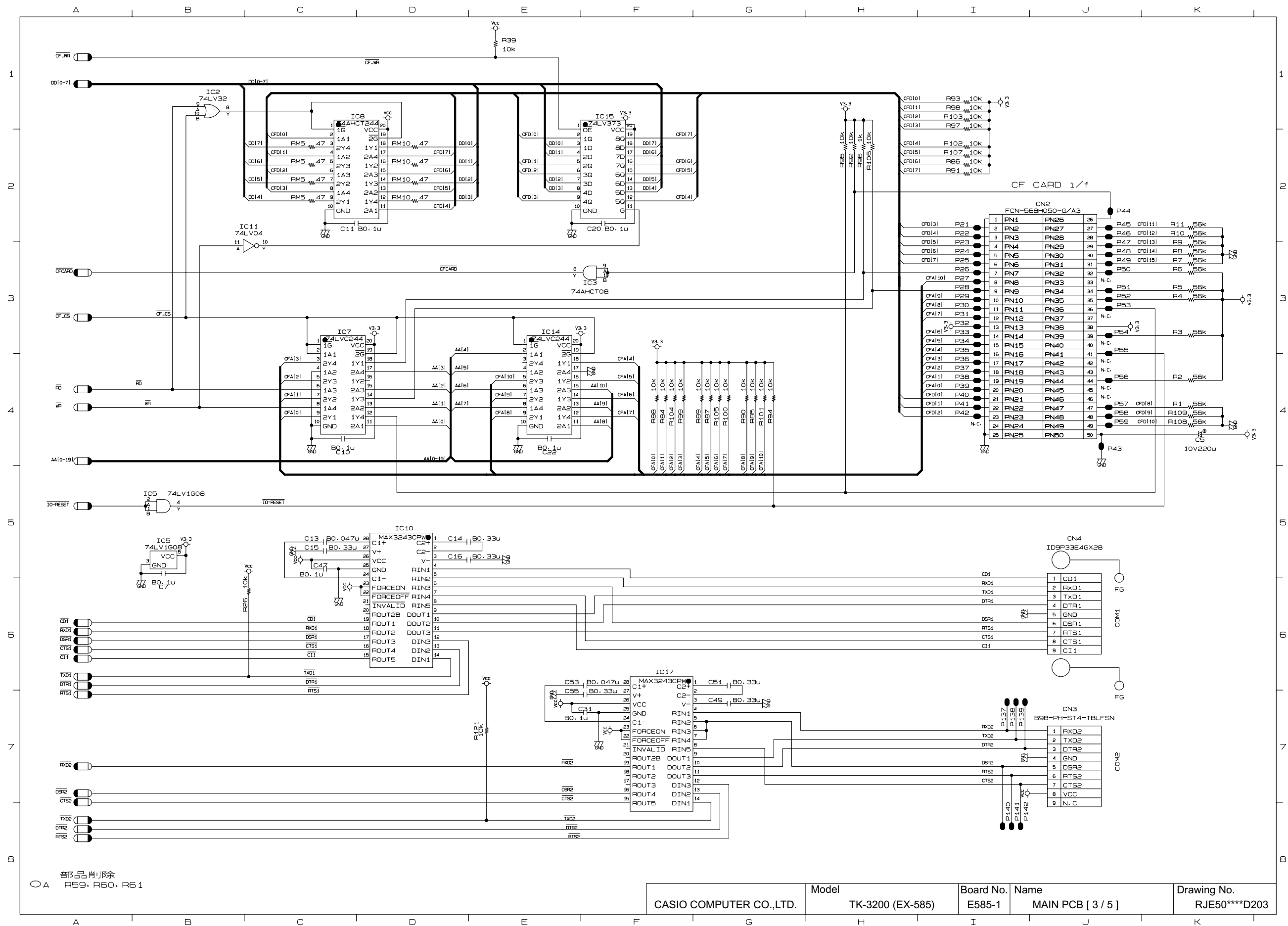
MODEL : TK-3200 (EX-585)

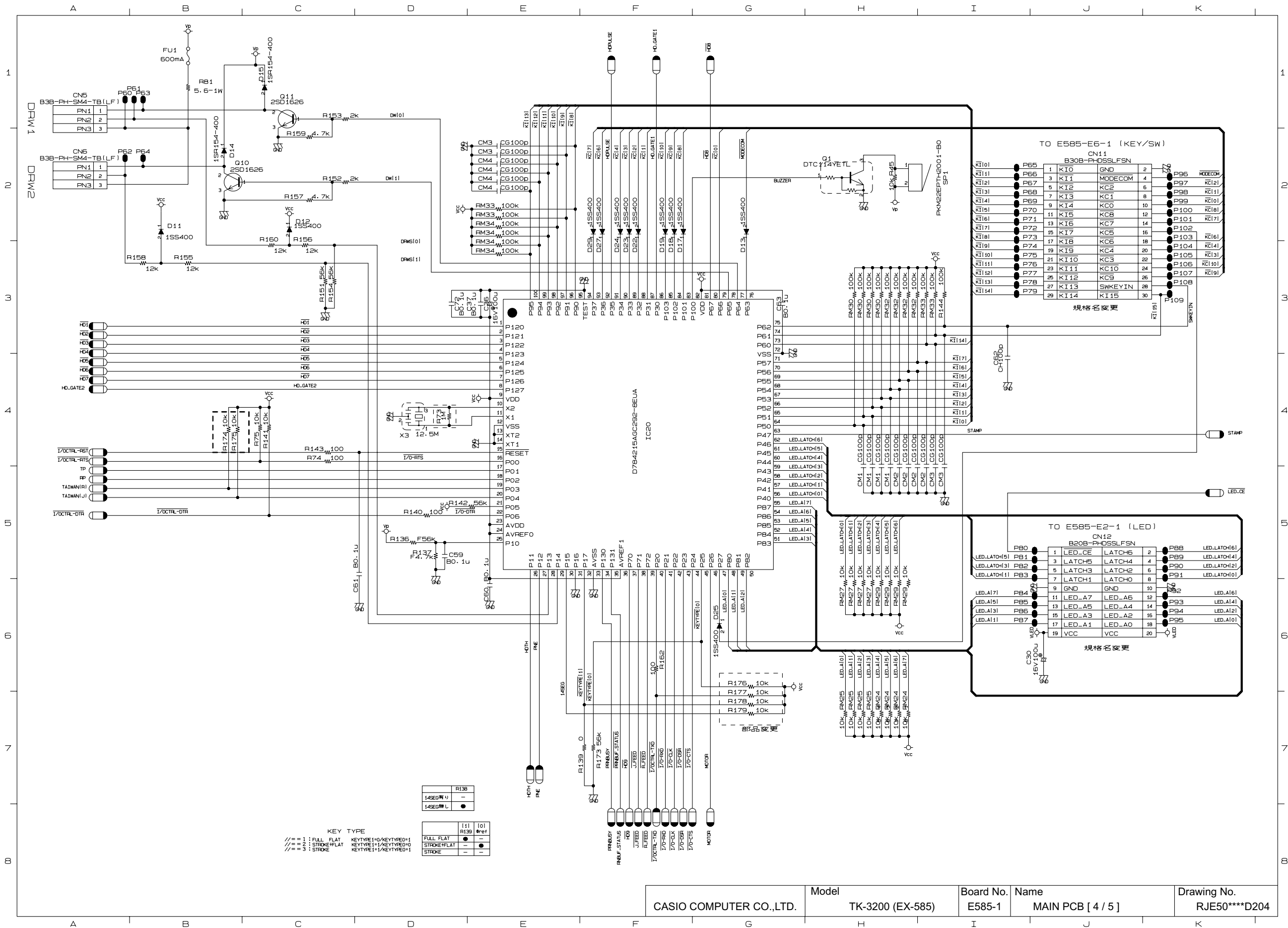
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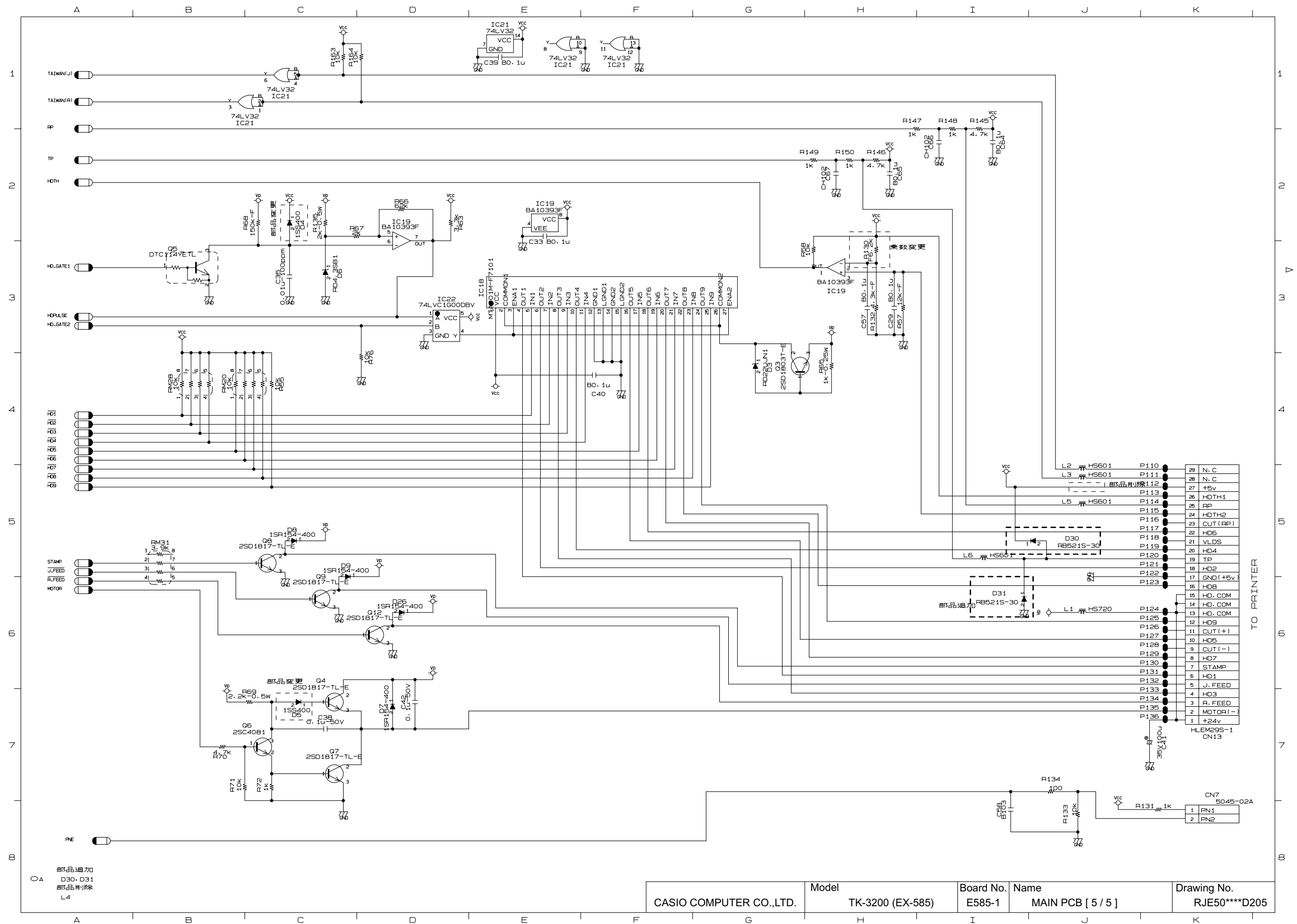
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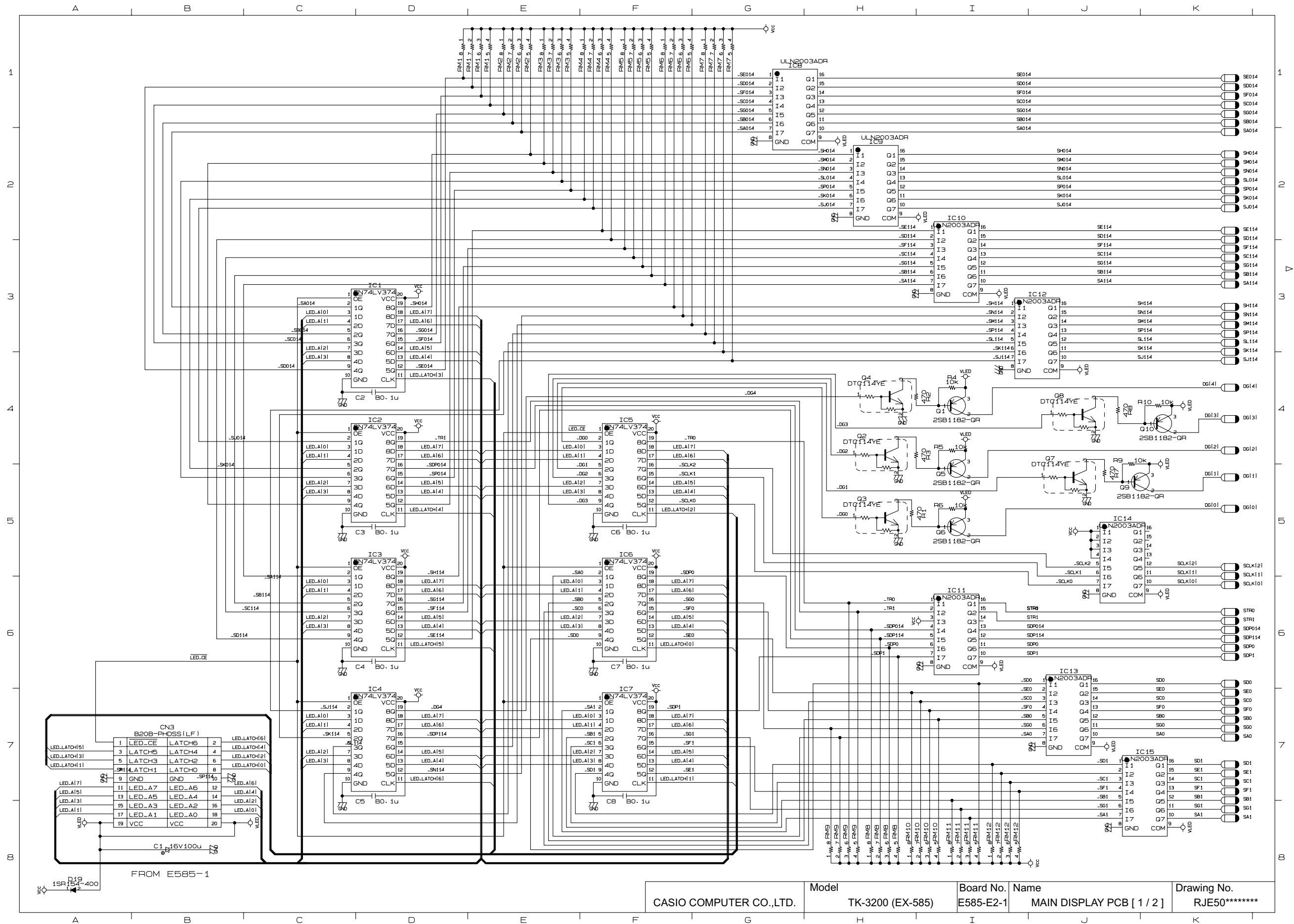


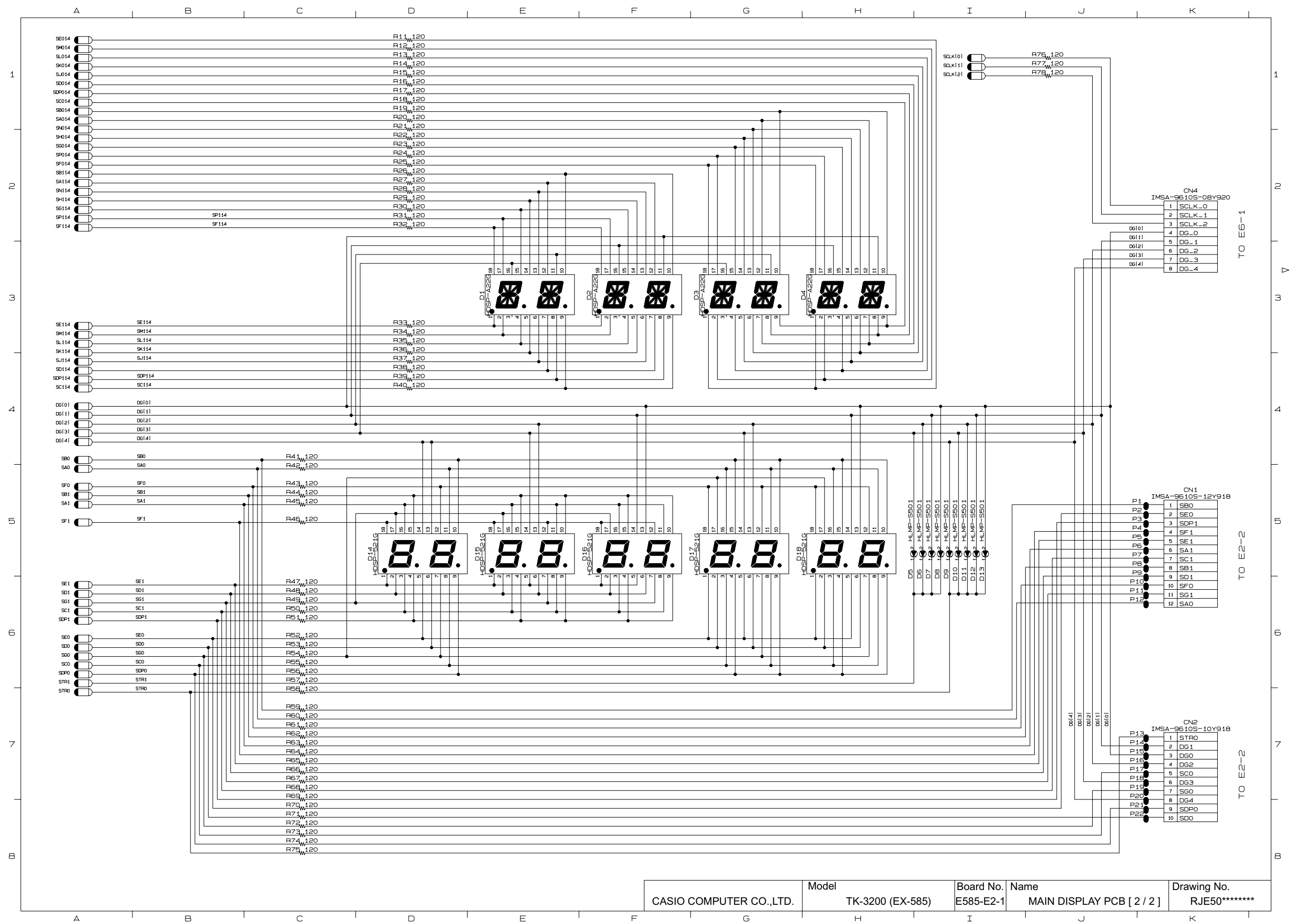




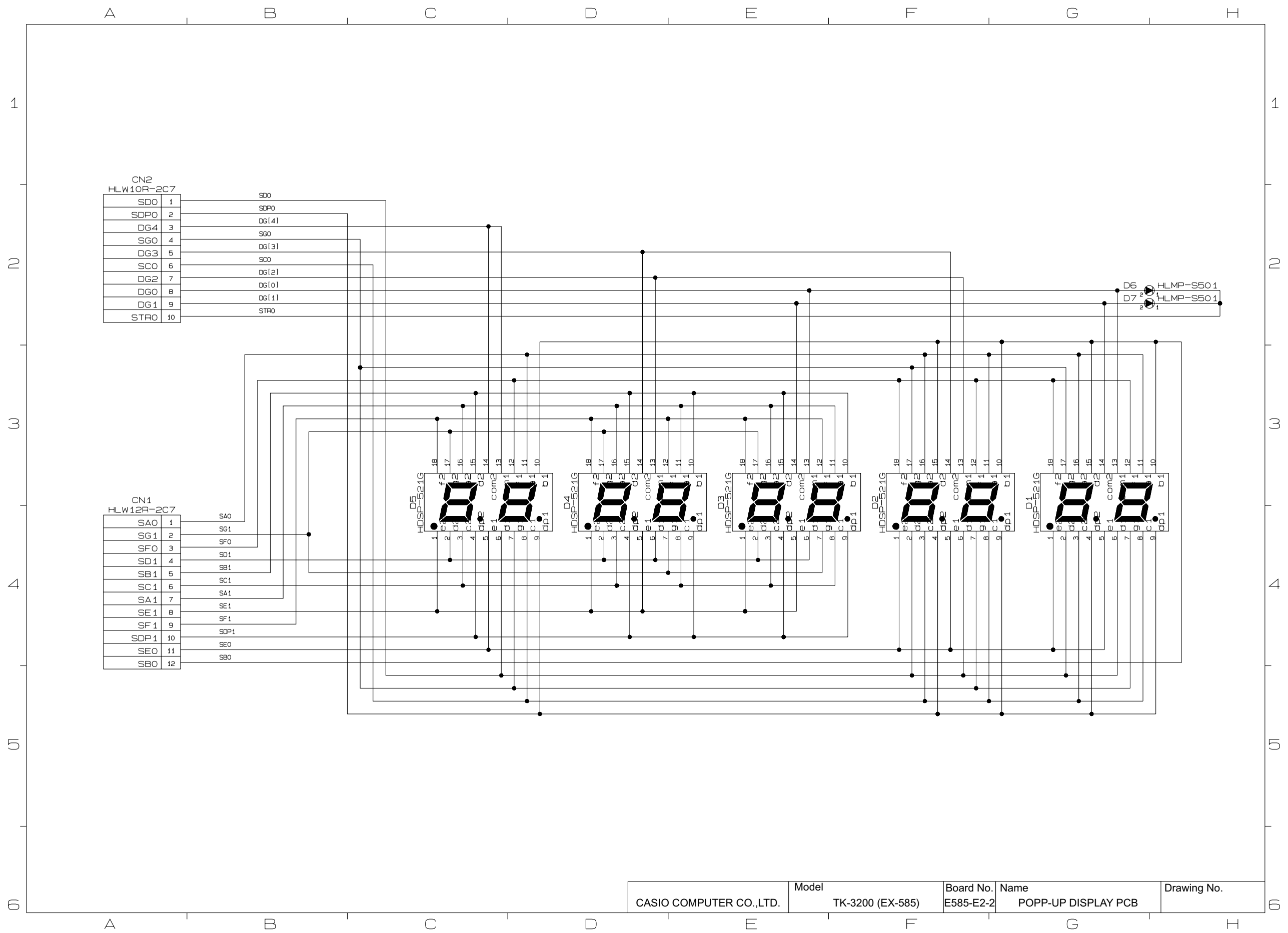




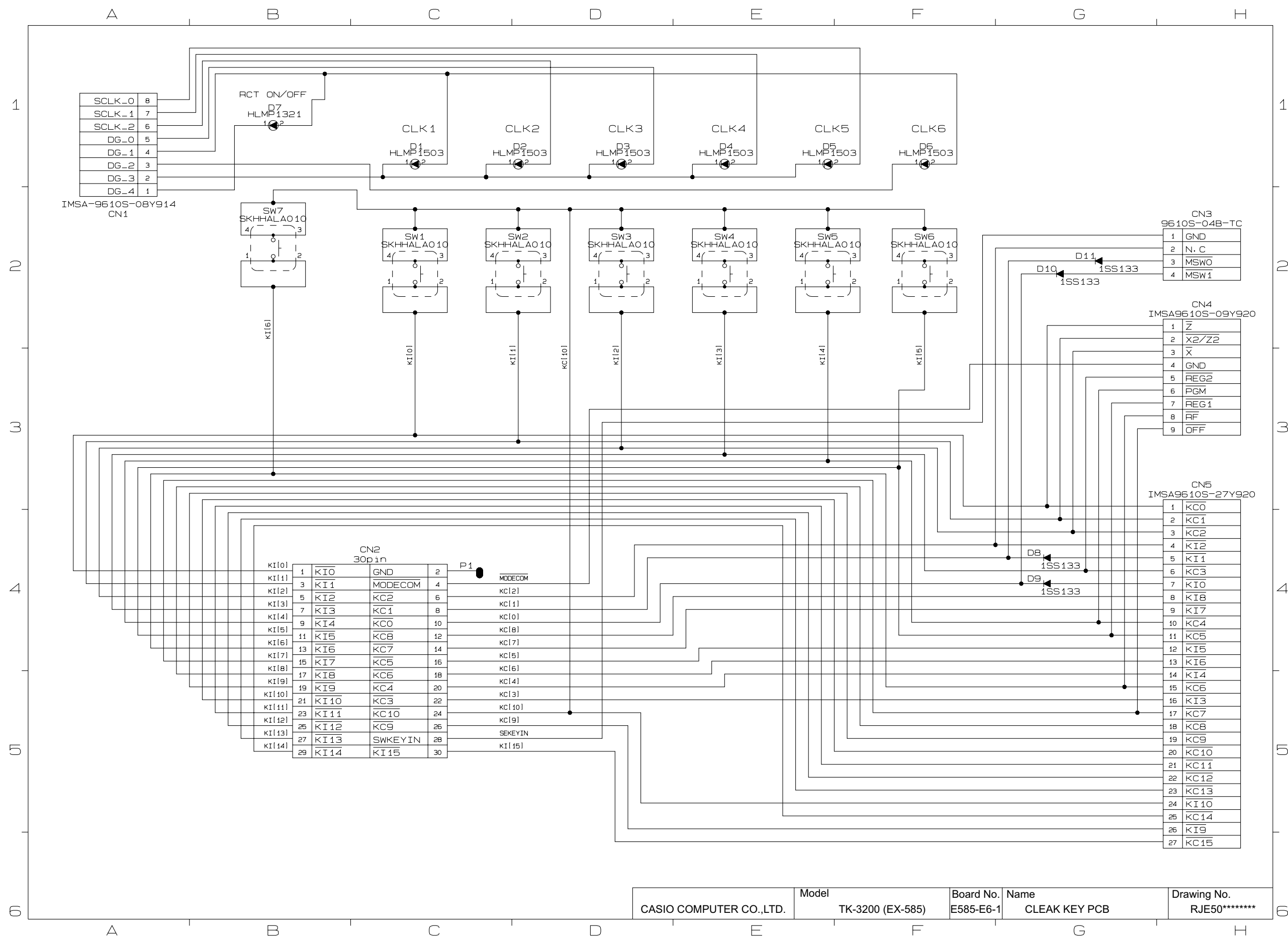




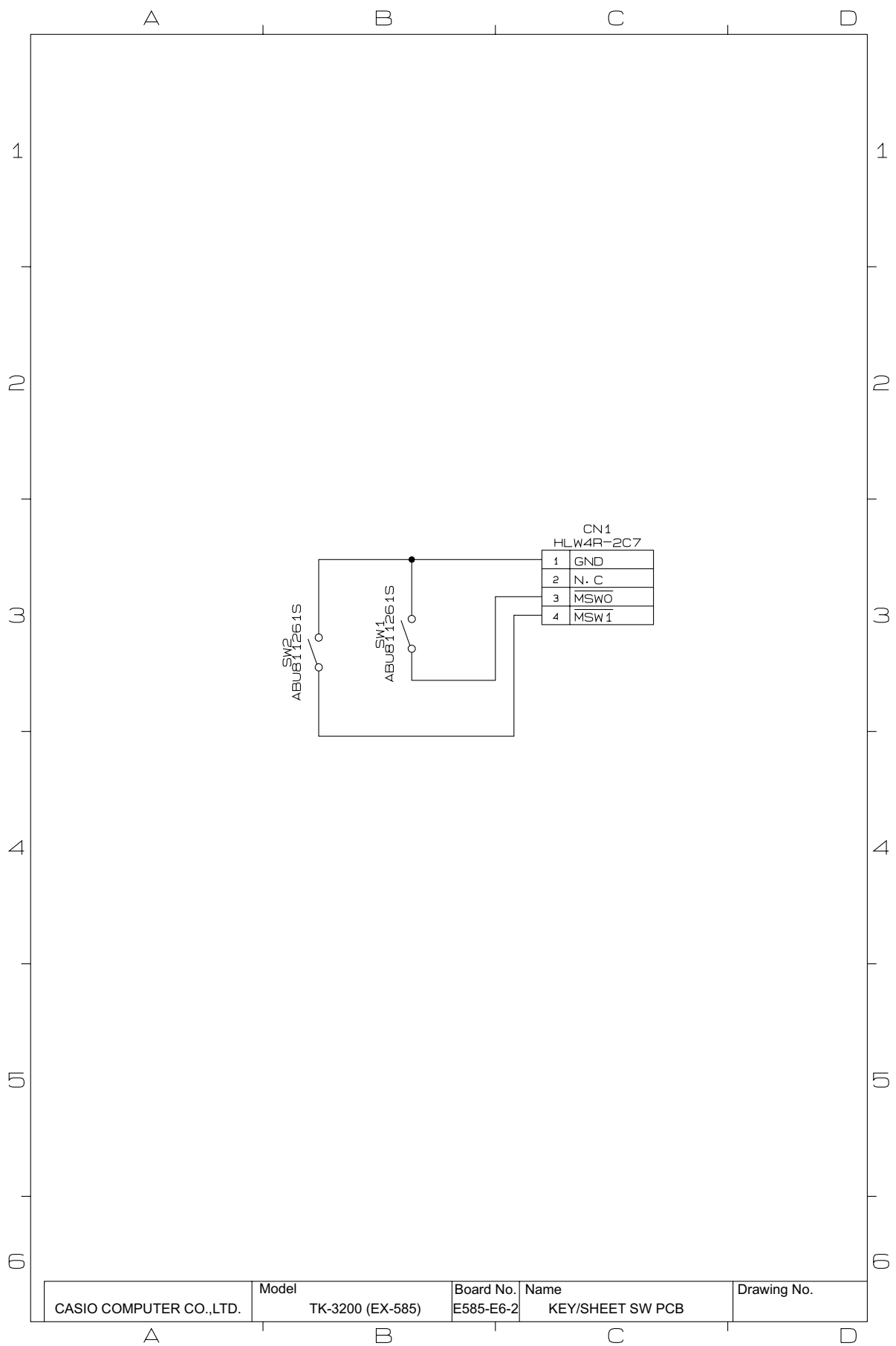
CASIO COMPUTER CO.,LTD.	Model TK-3200 (EX-585)	Board No. E585-E2-1	Name MAIN DISPLAY PCB [2 / 2]	Drawing No. RJE50*****
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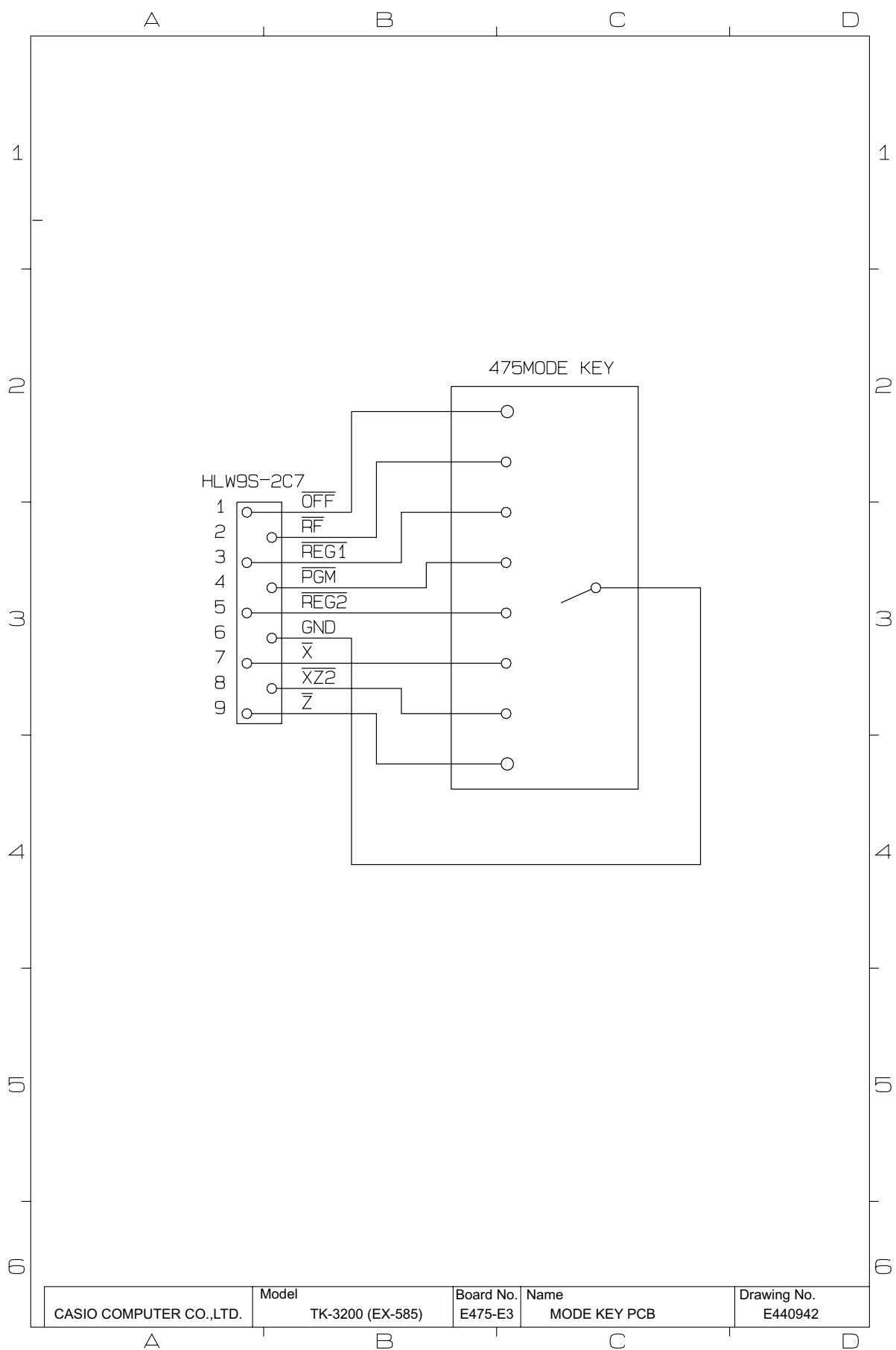


CASIO COMPUTER CO.,LTD.	Model TK-3200 (EX-585)	Board No. E585-E2-2	Name POPP-UP DISPLAY PCB	Drawing No.
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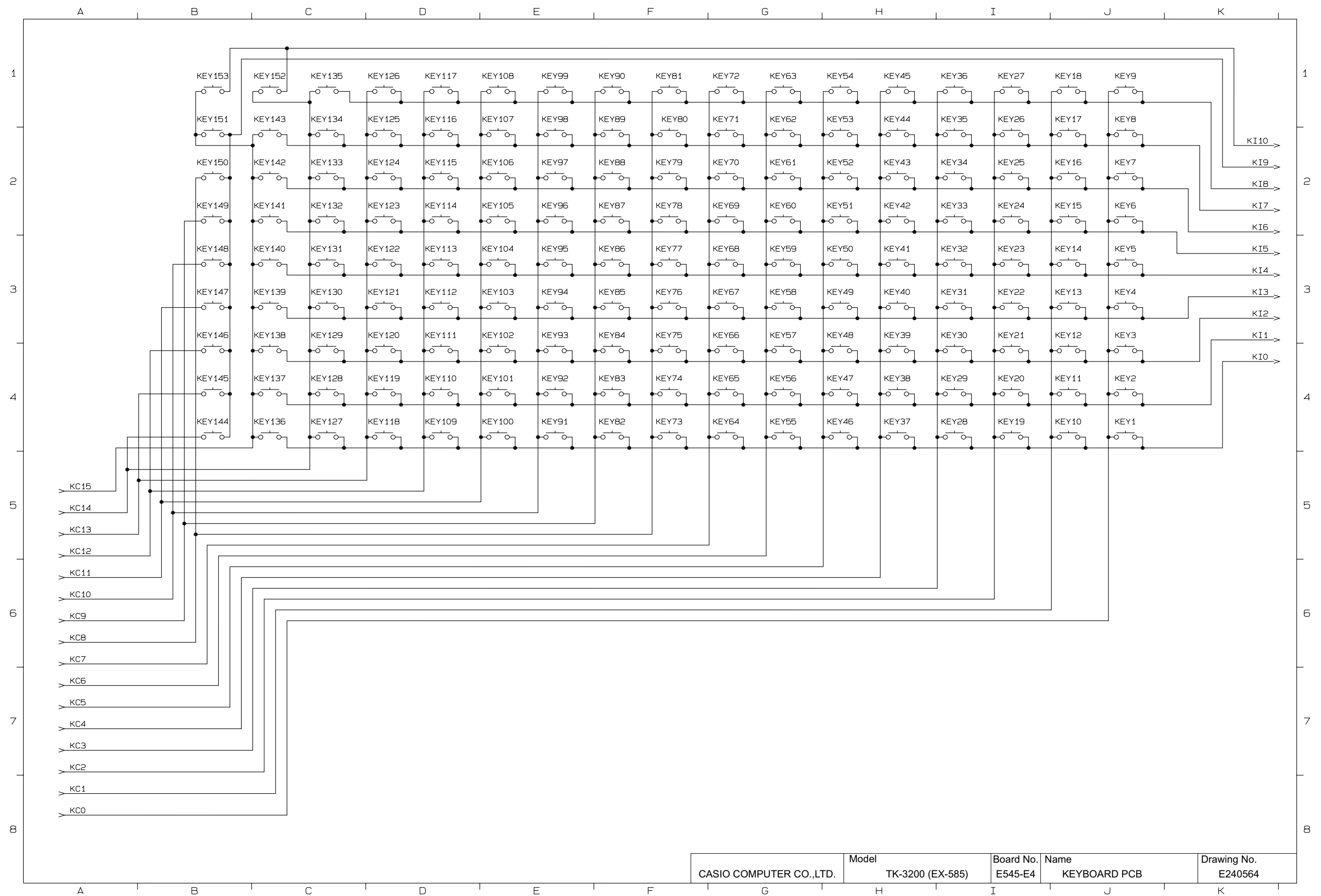


CASIO COMPUTER CO.,LTD.	Model TK-3200 (EX-585)	Board No. E585-E6-1	Name CLEAK KEY PCB	Drawing No. RJE50*****
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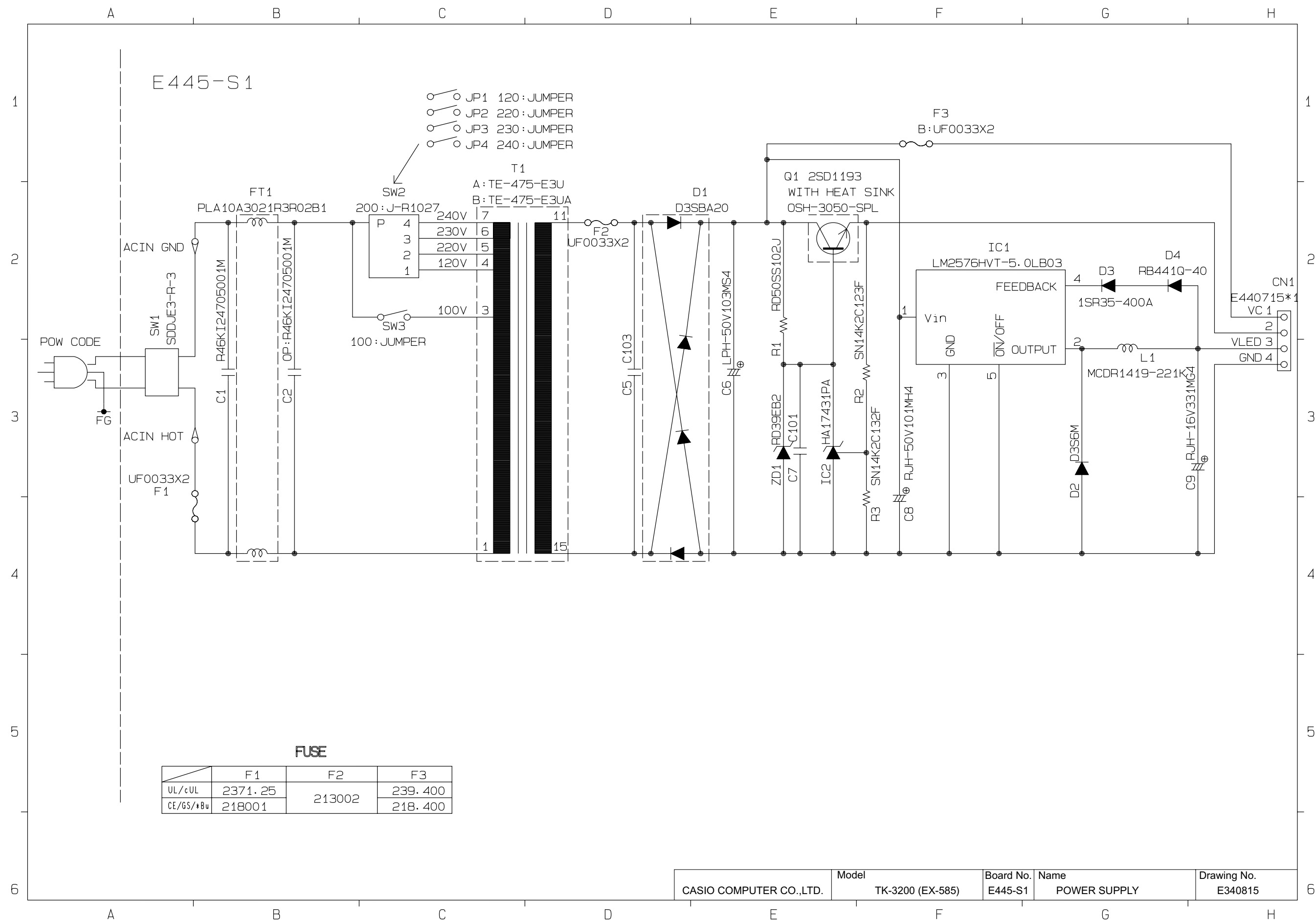




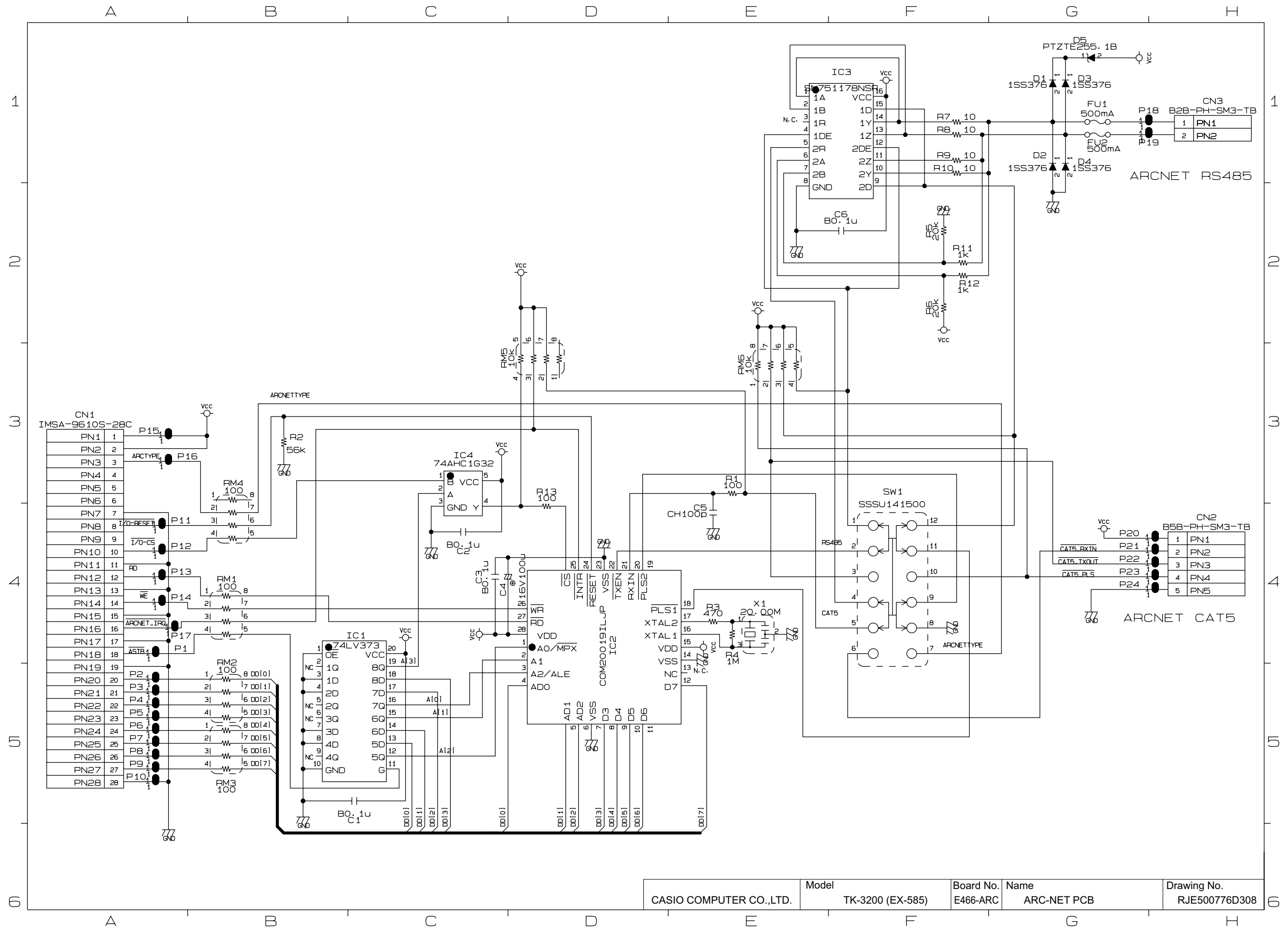
CASIO COMPUTER CO.,LTD.	Model TK-3200 (EX-585)	Board No. E475-E3	Name MODE KEY PCB	Drawing No. E440942
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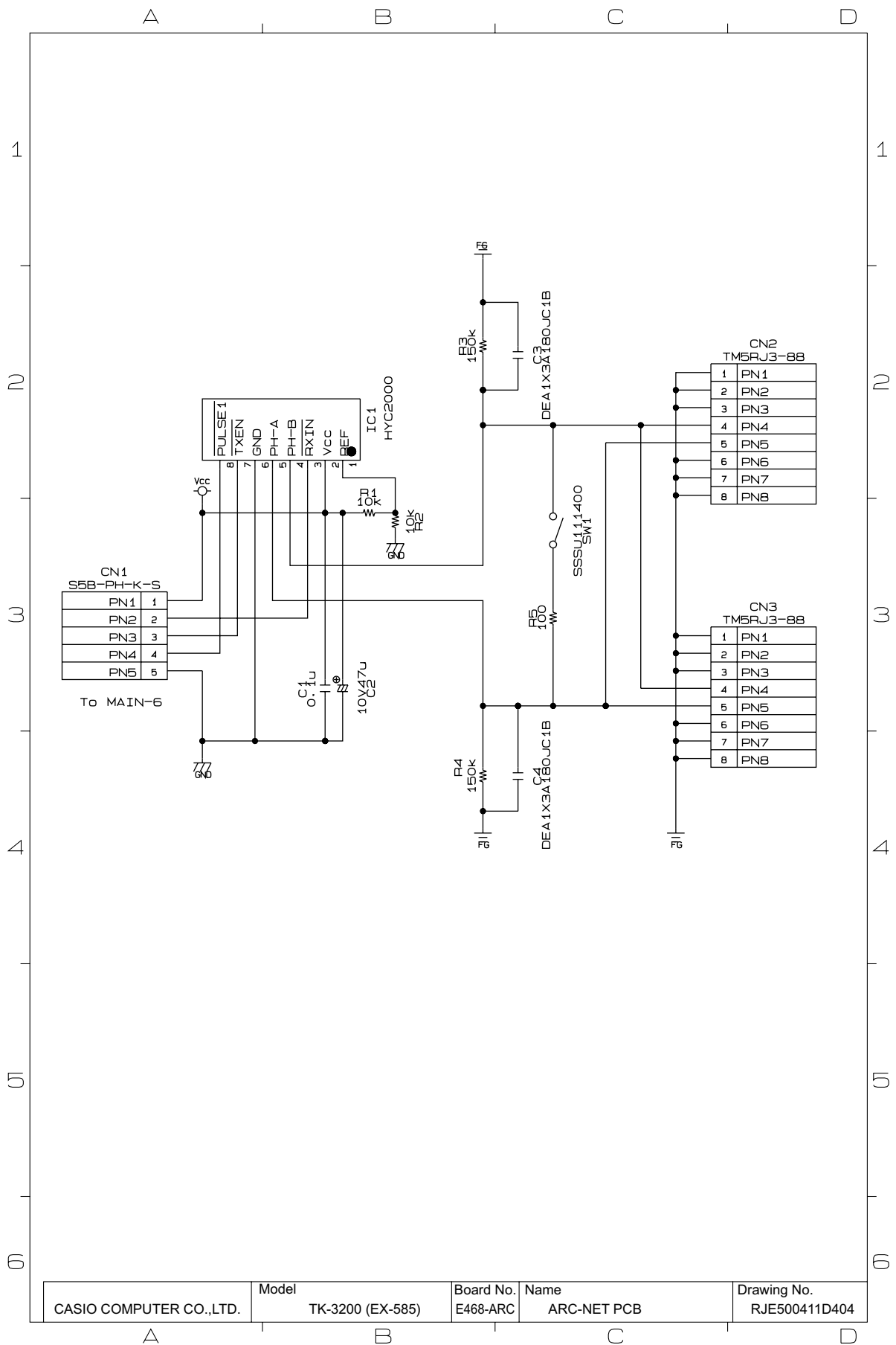


CASIO COMPUTER CO.,LTD.	Model TK-3200 (EX-585)	Board No. E545-E4	Name KEYBOARD PCB	Drawing No. E240564
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CASIO COMPUTER CO.,LTD.	Model TK-3200 (EX-585)	Board No. E445-S1	Name POWER SUPPLY	Drawing No. E340815
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CASIO COMPUTER CO.,LTD.	Model TK-3200 (EX-585)	Board No. E468-ARC	Name ARC-NET PCB	Drawing No. RJE500411D404
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10. PARTS LIST

MODEL : TE-3200 (EX-585)

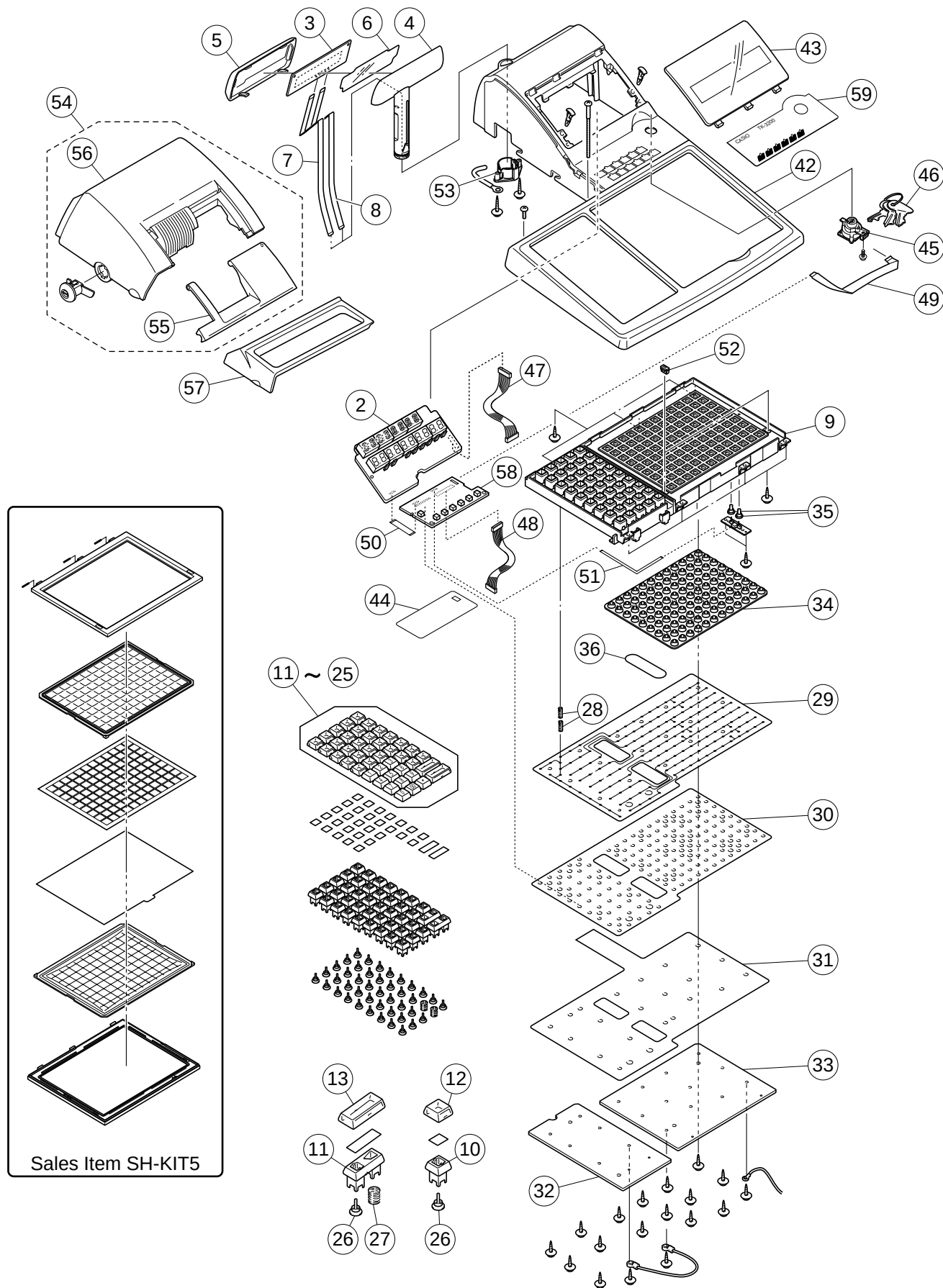
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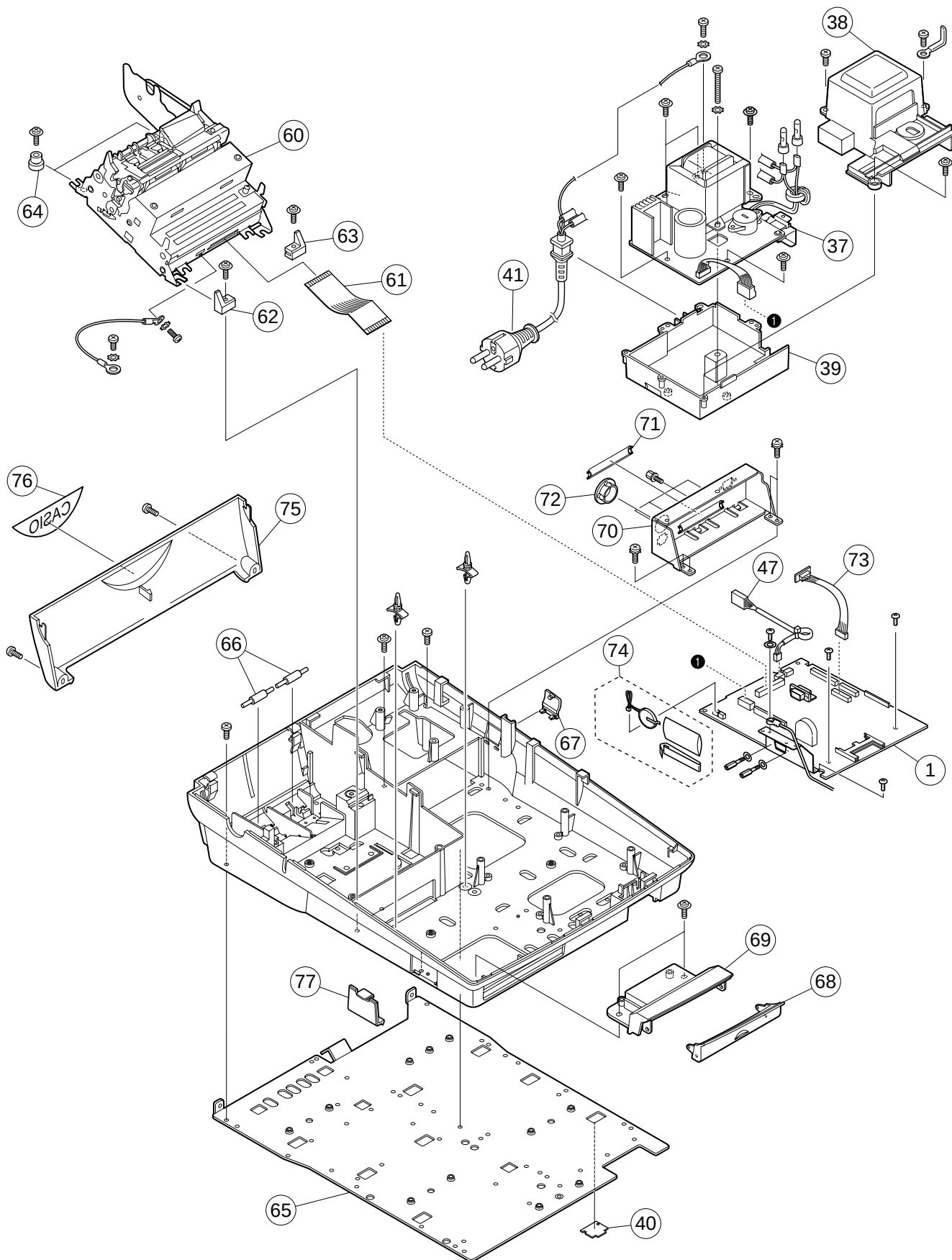
NOTES :

1. Price and specifications are subject to change without prior notice.
2. As for spare parts order and supply, refer to the "GUIDEBOOK for Spare Parts Supply", published separately.
3. The numbers in item column correspond to the same numbers in drawing.
4. CASIO does not supply the spare parts without parts code.
5. Remarks

Q'ty : Quantity used per unit
RANK: A = Essential
B = Stock recommended
C = Less recommended
X = No stock recommended

EXPLODED VIEW





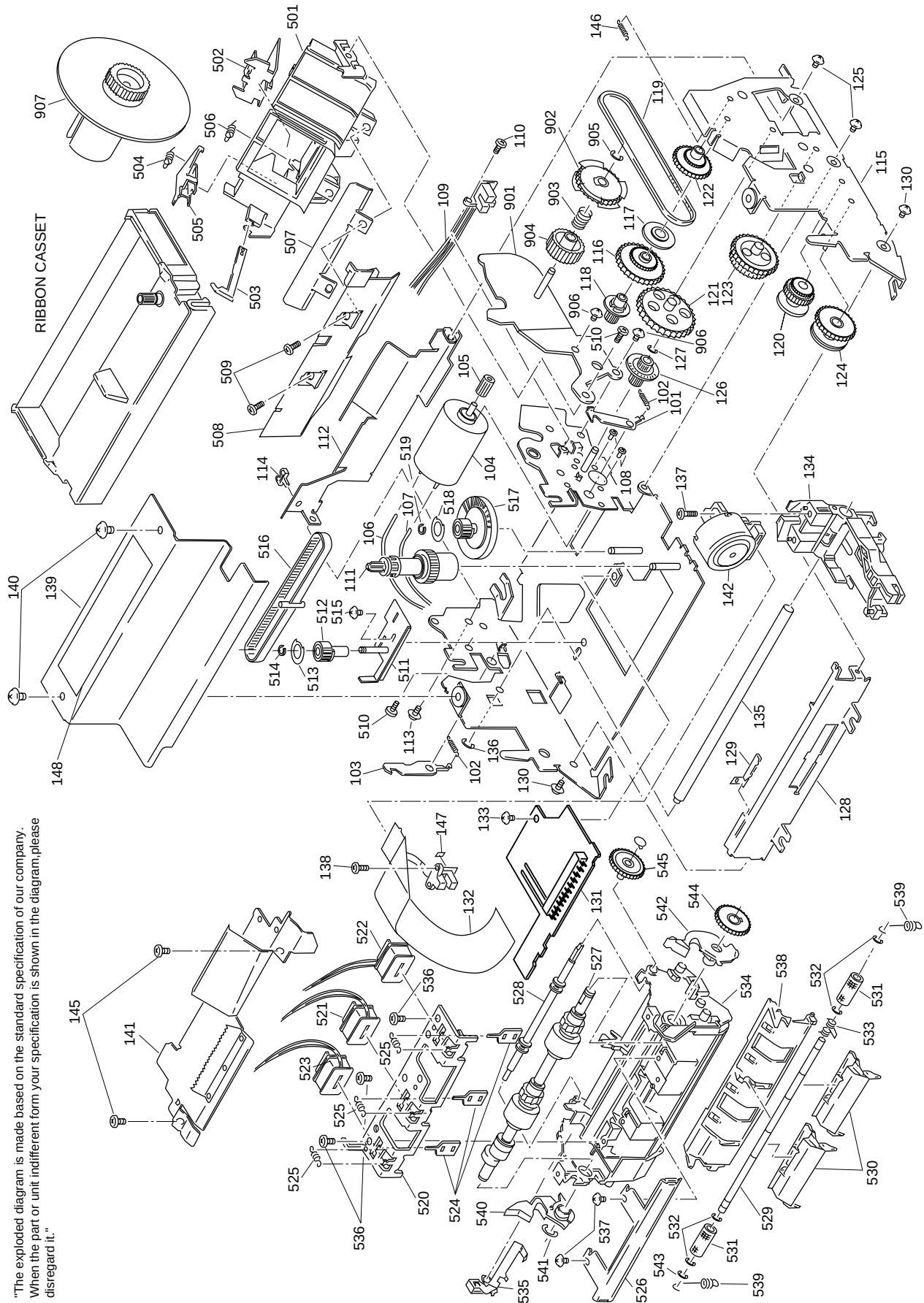
N	Item	Code No.	Parts Name	Specification	Europe	UK	Other countries	Price code	R
1.Main PCB Block									
	1	10209449	E585-1 assy	RJE501602*001V01	1	1	1		A
		10196293	LSI	D784215AGC279-8EUA	1	1	1		A
		10218211	LSI	D784215AGC292-8EUA	1	1	1		A
		10197486	LSI	MBM29F160BE90TNEK1	1	1	1		A
		10127164	LSI	M68AF511AM70MC6U	1	1	1		A
		10223028	Reset IC	S-80123BNMC-JGIT2G	1	1	1		B
		10204548	IC	XC6206P332PR	1	1	1		B
		10146550	IC	MAX3243CPWR	2	2	2		B
		21120821	Monolithic IC	BA10393F-E2	1	1	1		B
			CMOS IC	SN74AHTC08PWR	1	1	1		B
			CMOS IC	SN74AHTC244PWR	1	1	1		B
		10120129	CMOS IC	SN74LV04APWR	1	1	1		B
		10005659	CMOS IC	SN74LV08APWR	1	1	1		B
		10120130	CMOS IC	SN74LV11APWR	1	1	1		B
		10005669	CMOS IC	SN74LV139APWR	1	1	1		B
		10204549	CMOS IC	SN74LV1G08DCKR	1	1	1		B
		10004413	CMOS IC	SN74LV32APWR	1	1	1		B
		10050431	CMOS IC	SN74LV373APWR	1	1	1		B
		10005721	CMOS IC	SN74LVC244APWR	2	2	2		B
			CMOS IC	SN74LV1G00DBV	2	2	2		B
		10146565	Chip ceramic oscillator	CSTCE12M5G52-R0	2	2	2		B
		10210709	Switch	SKQLLDE012	1	1	1		C
		10204577	Connector	B3B-PH-SM4-TBLFSN	2	2	2		X
		10211531	Connector	B9B-PH-SM4-TBLFSN	1	1	1		X
		10216318	Connector	IMSA-9610S-28Y920	1	1	1		X
		10120086	Connector	FCN-568H050-G/A3	1	1	1		X
		10211489	Monolithic IC	MTA001M-F7101	1	1	1		B
		10222619	Crystal oscillator	C-002RX-8.3/10-LF	1	1	1		C
		10118743	Metal Oxide register	ERX1SJ5R6P	1	1	1		X
		10210707	Fuse	230.600MXW	1	1	1		A
		10210708	Buzzer	PKM22EPH2001-B0	1	1	1		X
		35405200	Connector	HLEM29S-1	1	1	1		X
		35005846	Connector	53253-0210	2	2	2		X
		10166844	Connector	B4P-VH(LF)	1	1	1		X
		10225653	Connector	B20B-PHDSS(LF)(SN)	1	1	1		X
		10215714	Connector	B30B-PHDSS(LF)	1	1	1		X
		30007917	D sub connector	ID9P33E4GX28	1	1	1		X
		10204207	D sub fixing plate	E340774-001V03	1	1	1		X
2.Main Display Block									
	2	10210524	E585-E2 assy	RJE501577*001V01	1	1	1		A
		10005662	CMOS IC	SN74LV374APWR	7	7	7		B
		21120823	Transistor array	BA12003BF-E2	8	8	8		B
		22592674	Digital transistor	DTC114YETL	5	5	5		B
		22501603	Chip transistor	2SB1182TLQR	5	5	5		B
		10215719	Connector	IMSA-9610S-10Y920	1	1	1		X
		10215720	Connector	IMSA-9610S-12Y920	1	1	1		X
		10211534	Connector	IMSA-9610S-08Y920	1	1	1		X
		10210576	LED Holder	RJE501462-002V01	1	1	1		X
		10136132	LED	HLMP-S501	8	8	8		B
		10072597	LED	HDSP-521G	5	5	5		B
		10072598	LED	HDSP-A22G	4	4	4		B
		10225653	Connector	B20B-PHDSS(LF)(SN)	1	1	1		X
3.Customer display Block									
	3	10210572	E585-E2-2 assy	RJE501575*001V01	1	1	1		A
		10054254	PCB E445-E2-2	E340800A-1	1	1	1		X
		10072597	LED	HDSP-521G	4	4	4		B
		10136132	LED	HLMP-S501	2	2	2		B

N	Item	Code No.	Parts Name	Specification	Europe	UK	Other countries	Price code	R
		35405193	Connector	HLW10R-2C7	1	1	1		X
		35405194	Connector	HLW12R-2C7	1	1	1		X
		10211069	LED holder	RJE501462-001V01	1	1	1		X
	4	10050008	Rear display case	E240511B-1	1	1	1		C
	5	10050016	Rear display plate	E240512B-3	1	1	1		C
	6	10204192	R-DP Insulation plate	E440781-001V02	1	1	1		X
	7	10210573	FFC D	RJE501553-008V01	1	1	1		C
	8	10210574	FFC E	RJE501553-009V01	1	1	1		C
4.Keyboard Block									
	9	62481283	Keyboard frame	E140258-1	1	1	1		X
	10	10207538	S key top	E311101-004V03	41	41	41		A
	11	10207532	L key top	E210963-004V04	2	2	2		A
	12	10207539	S cap	E311103-001V02	29	29	29		A
	13	10207533	L cap	E210964-001V02	2	2	2		A
	14	10207558	S button-1	E311792-001V03	1	1	1		X
	15	10207544	S button-2	E311792-002V03	1	1	1		X
	16	10207545	S button-3	E311792-003V03	1	1	1		X
	17	10207546	S button-4	E311792-004V03	1	1	1		X
	18	10207547	S button-6	E311792-005V03	1	1	1		X
	19	10207548	S button-7	E311792-006V03	1	1	1		X
	20	10207549	S button-8	E311792-007V03	1	1	1		X
	21	10207550	S button-9	E311792-008V03	1	1	1		X
	22	10207551	S button-0	E311792-009V03	1	1	1		X
	23	10207552	S button-.	E311792-010V03	1	1	1		X
	24	10207553	S button-00	E311792-011V03	1	1	1		X
	25	10207543	S button-5	E311116-004V03	1	1	1		X
	26	10166869	Key contact rubber	RJE501209-001V01	43	43	43		B
	27	10207554	Coil spring A	E411104-001V03	2	2	2		C
	28	10207555	Coil spring B	E411104-002V03	2	2	2		C
	29	62481313	Common sheet	E240509-1	1	1	1		B
	30	62481314	Spacer	E240510-1	1	1	1		C
	31	62481751	FPC	E240508A-1	1	1	1		B
	32	10204294	Keyboard chassis A	E340740-001V02	1	1	1		X
	33	10204293	Keyboard chassis B	E340741-001V02	1	1	1		X
	34	62481749	Contact rubber	E240505A-1	1	1	1		B
	35	62480770	Detect button	E440387A-1	2	2	2		C
	36	10204292	MG Plate	E441153-001V02	1	1	1		X
5.Power supply Block									
	37	10021084	E445-S1 assy	E240679*6			1		
	37	10060415	E445-S1 assy	E240679A*12	1	1			A
		10017368	PCB E445-S1	E340808A-2	1	1	1		A
		10204190	PW SW fixture	E440673-001V02	1	1	1		X
		26523057	Resistor	RD50SS102J	1	1	1		X
		26523059	Resistor	SN14K2C132F	1	1	1		X
		26523060	Resistor	SN14K2C123F	1	1	1		X
		23902828	Diode	RB441Q-40T-77	1	1	1		X
		23153128	Diode	1SR35-400AT-82	1	1	1		X
		23153117	Diode	D3S6M	1	1	1		X
		23153116	Diode bridge	D3SBA20	1	1	1		B
		23153119	Zenner diode	RD39EB2	1	1	1		C
		22303619	Transistor	2SD1193	1	1	1		B
		10017404	Filter	PLA10A3021R3R02B1	1	1	1		X
		21120809	IC	HA17431PA	1	1	1		B
		21120829	IC	LM2576HVT-5.0LB03	1	1	1		B
		30008061	Coil	MCDR1419-221K	1	1	1		X
		30008062	Heat sink	OSH-3050-SPL	1	1	1		X
		28203730	Capacitor	ECQ-B1H-103-JZW	1	1	1		X
		28190743	Capacitor	HE40TJYB101K	1	1	1		X

N	Item	Code No.	Parts Name	Specification	Europe	UK	Other countries	Price code	R
		10021055	Capacitor	R46KI24705001M	1	1	1		X
		10017415	Fuse clip	UF0033	6	6	6		X
		30008067	AC switch	SDDJE3-R	1	1	1		C
		30304055	Ferrite core	L5T18X6X10	1	1	1		X
		10017389	Voltage selector	J-R1027#03	0	0	1		X
		36310332	Fuse	218001	1	1	1		A
		10017328	Fuse	213002	1	1	1		A
		10017329	Fuse	218.400	1	1	1		A
		10021059	Electrolytic capacitor	LPH-50V103MS4	1	1	1		X
		10021060	Electrolytic capacitor	RJH-50V101MH4	1	1	1		X
		10021061	Electrolytic capacitor	RJH-16V331MG4	1	1	1		X
		10017414	Transformer	TE-475-E3UA-1	1	1	1		B
	38	62481654	NF-U case	E140265-1	1	1			X
	38	62482143	NF-U case	E140265-2			1		X
	39	62481279	NF-B case	E240517-2	1	1	1		X
	40	10209451	ARC SW cover	RJE501506-001V01	1	1	1		C
	41	10224253	Power cord (Europe)	M2511-LF	1		1		C
	41	10224252	Power cord (UK)	MP5004-LF		1	1		C
	41	10225547	Power cord (US)	PS204-A-LF			1		C
	41	10225548	Power cord (Australia)	X-AU10S3-LF			1		C
6.Upper case Block									
	42	10049725	Upper case	E140250B-4	1	1	1		X
	43	10226155	Display Plate	E140252-022V05	1	1	1		C
	44	10210540	E6 Insulator	RJE501509-001V01	1	1	1		X
	45	10211505	Mode SW assy	E341052*002V01	1	1	1		C
	46	10204698	Key set sub assy	RJE500074*004V02	1		1		B
	46	10204699	Key set sub assy	RJE500074*005V02		1			B
	47	10226451	Display cable sub assy	RJE501607*001V02	1	1	1		C
	48	10226452	Key cable sub assy	RJE501608*001V02	1	1	1		C
	49	10210532	FFC A	RJE501553-005V01	1	1	1		C
	50	10210535	FFC B	RJE501553-006V01	1	1	1		C
	51	10210536	FFC C	RJE501553-007V01	1	1	1		C
	52	55001690	Magnet catch	B-MMC12	2	2	2		X
	53	10207534	Display bush	E310377-001V02	1	1	1		X
		10121161	Ferrite core	T28x13x16	2	2	2		X
	54	10022168	Printer cover assy	E441070*1	1	1	1		C
	55	62481289	COVER/JOURNAL	E340749-1	1	1	1		C
	56	10037876	COVER/PRINTER	E140248A-3	1	1	1		C
	57	62481273	Ribbon cover	E140260-3	1	1	1		C
7.Clerk button Block									
	58	10210527	E585-E6 assy	RJE501576*001V01	1	1	1		B
		10211070	PCB E585-E6	RJE501600-001V01	1	1	1		X
		10204327	Tact swith	SKHHALA010	7	7	7		B
		10204329	LED	HLMP1503	7	7	7		B
		10215714	Connector	B30B-PHDSS(LF)	1	1	1		X
		10211071	Connector	IMSA-9610S-04A-TC	1	1	1		X
		10225069	LED spacer	LH-5-6	7	7	7		X
		10211072	Connector	IMSA-9610S-08A-TC	1	1	1		X
		10211073	Connector	IMSA-9610S-09A-TC	1	1	1		X
		10211075	Connector	IMSA-9610S-27A-TC	1	1	1		X
		24088401	Connector	HLW4R-2C7	1	1	1		X
		10225651	Diode	ISS33T-77	4	4	4		X
	59	10207397	MK plate	RJE501504-001V01	1	1	1		X
8.Printer Block									
	60	10003971	Digital printer	M-U420-061	1	1	1		A
		10017703	FG wire sub assy	E441049*1	1	1	1		X
	61	10210507	FFC P	RJE501559-001V01	1	1	1		C
		10017754	Ferrite core	SSC-50-12	1	1	1		X

N	Item	Code No.	Parts Name	Specification	Europe	UK	Other countries	Price code	R
	62	10204186	Printer cushion FL	E440660-001V02	1	1	1		X
	63	10204185	Printer cushion FR	E440659-001V02	1	1	1		X
	64	10204187	Printer cushion	E440661-001V02	2	2	2		X
9.Lower case Block									
		10213402	Lower case	E140254-006V04	1	1	1		X
	65	10213406	Bottom chassis	E140261-002V05	1	1	1		X
	66	10210042	R/P roller	E411696-001V02	2	2	2		C
	67	10047045	Power SW cover	E340757A-1	1	1	1		C
	68	10209445	CF cover	RJE501502-001V01	1	1	1		C
	69	10209446	CF guide	RJE501503-001V01	1	1	1		C
		54300207	Insert nut	SB-3001	3	3	3		X
		10204184	Drawer position screw	E440656-001V02	4	4	4		X
		10211076	Connector chassis	RJE501501-001V01	1	1	1		X
		10211077	ARC connector cover	RJE501507-001V01	1	1	1		C
		10021924	Snap bushing	No.2103	1	1	1		X
		10211079	COM cable sub assy	RJE501609*001V01	1	1	1		C
		10085156	Drawer cable sub assy	E440737*001V02	1	1	1		C
		10022019	Battery assy	E441073*1	1	1	1		A
		35900195	1625-01R connector assy	E31553-1(#20-300)	1	1	1		X
		10054921	Rear connector cover	E140255A-1	1	1	1		C
		10023184	Name plate	E441086-1	1	1	1		C
		62481561	L connector cover	E340773-1	1	1	1		C
10.Others									
		10035087	Dust cover	E341103-1			1		C
		10207872	Drawer (DL-2101)	RJE501522*006V01			1		C
		10207873	Drawer (DL-2102)	RJE501522*007V01	1				C
		10225982	Drawer (DL-2103)	RJE501522*008V01		1			C

11. PRINTER (M-U420-061)



"The exploded diagram is made based on the standard specification of our company.
When the part or unit indifferent form your specification is shown in the diagram, please
disregard it."

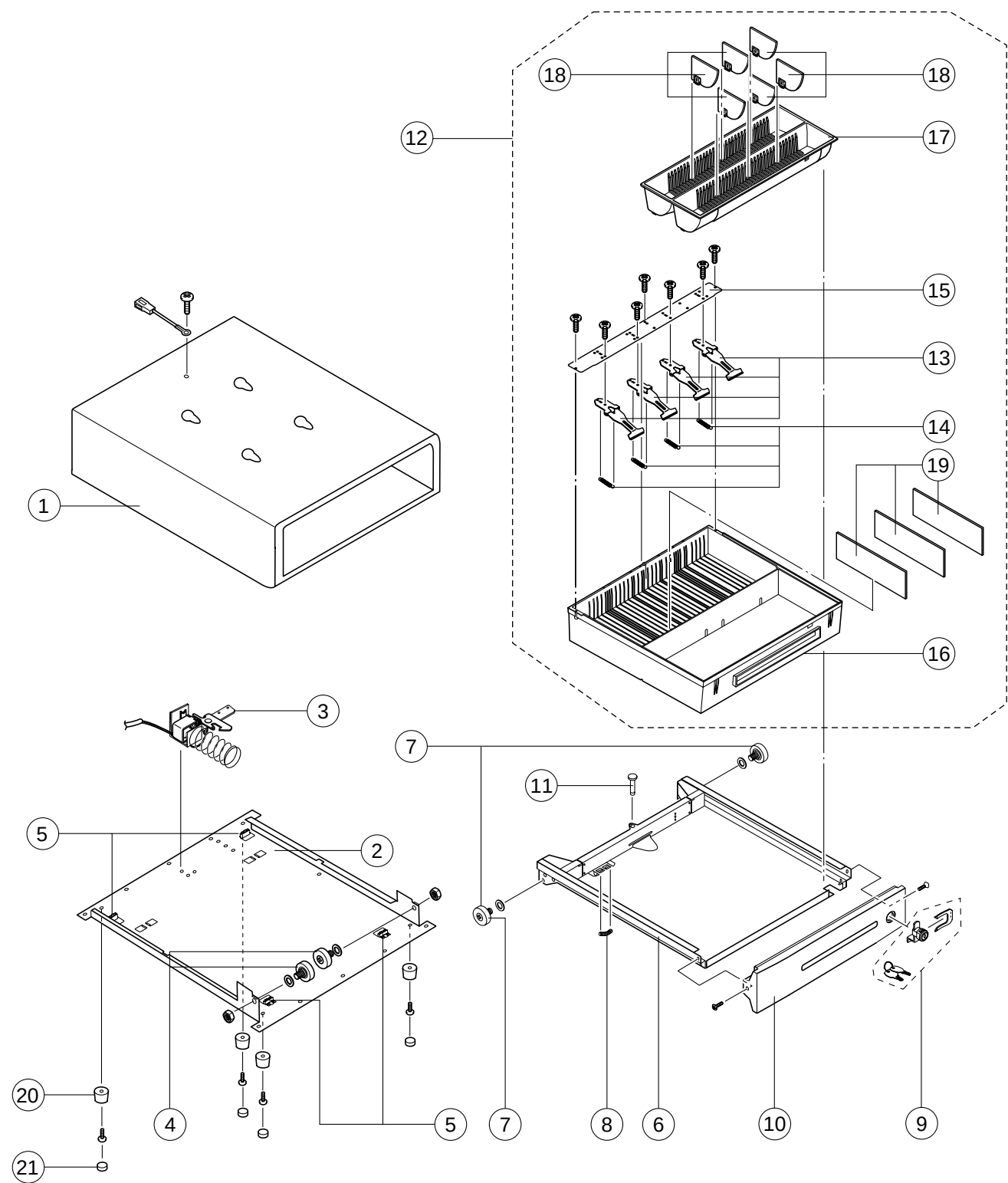
PARTS PRICE LIST

M-U420 (061)

N	Item	Code No.	Parts Name		Specification	Q	Price code	R
1. DRIVING MECHANISM COMPONENTS								
N	101	1909 2776	LEVER/FIXING J		1004032	1	AE	C
	102	1909 2777	SPRING/FIXING LEVER		1004033	2	AC	C
N	103	1909 2775	LEVER/FIXING R		1004031	1	AE	C
	104	9487 0506	MAIN MOTOR ASSY		1049277	1	BV	A
N	105	9487 0505	GEAR/MAIN MOTOR		1049273	1	AB	B
	106	1906 0719	WIRE/LEAD A		2021071	1	AA	X
	107	1906 0720	WIRE/LEAD B		2021072	1	AA	X
	108	1906 0721	SCREW	M2.6X4 F/NI	1006328	2	AA	X
	109	1906 0722	DETECTOR ASSY/TIMING		1028549	1	BI	B
	110	1908 7657	SCREW	M3X5	B300204111	1	AA	X
	111	1906 0723	SHAFT/RIBBON DRIVE ASSY		1028550	1	AZ	X
	112	1906 0724	FRAME/BACK		1027999	1	AO	X
	113	1908 5554	SCREW	M3X5	B300304111	1	AA	X
	114	1906 0725	CLAMP/MINI(UAMS-05-0)		1029197	1	AA	X
	115	1906 0726	FRAME SUB ASSY/GEAR TRAIN		1028553	1	AA	B
	116	1906 0727	GEAR/TRANSMISSION PAPER TAKE-UP		1028012	1	AD	B
	117	1906 0728	FLANGE/TAKE-UP TRANSMISSION		1028015	1	AB	B
	118	1906 0729	GEAR/PAPER FEED TRANSMISSION		1028016	1	AE	B
	119	1903 0118	BELT/PAPER TAKE-UP		F701009020	1	AS	B
	120	1906 0730	GEAR/DECELERATION CARRIAGE		1028031	1	AH	B
	121	1906 0731	GEAR/TRANSMISSION		1028009	1	AB	B
	122	1906 0802	GEAR/DECELERATION		1028011	1	AC	B
	123	1906 0732	GEAR/TRANSMISSION CARRIAGE		1028010	1	AD	B
	124	1906 0733	GEAR/RIBBON DECELERATION		1028056	1	AG	B
N	125	1908 5554	SCREW	M3X5	B300304111	2	AA	X
	126	9487 0504	GEAR/TIMING DETECTION		1049274	1	AB	B
	127	1909 2805	RING/RETAINING	TYPE-E(2.5)	1004399	1	AA	C
	128	1906 0803	FRAME/GUIDE		1028001	1	AI	X
	129	1906 0735	PLATE/RESET SIGNAL ADJUSTMENT		1028032	1	AB	X
	130	1908 5554	SCREW	M3X5	B300304111	2	AA	X
	131	9487 0281	MAIN BOARD ASSY		1043913	1	BP	C
	132	1906 0737	PRINT HEAD ASSY/FPC		1028557	1	BT	A
	133	1908 5554	SCREW	M3X5	B300304111	1	AA	X
	134	1906 0738	CARRIAGE ASSY		1028558	1	BJ	C
	135	1906 0739	SHAFT/CARRIAGE GUIDE		1028022	1	AT	X
	136	1909 2805	RING/RETAINING	TYPE-E(2.5)	1004399	1	AA	C
	137	1906 0740	SCREW		1012350	1	AA	X
	138	1906 0740	SCREW		1012350	1	AA	X
	139	1906 0741	HEAD COVER ASSY		1031212	1	BD	X
	140	1908 5554	SCREW	M3X5	B300304111	2	AA	X
	141	9487 0286	COVER SUB ASSY/PAPER FEED		1028559	1	AQ	C
	142	1906 0742	PRINT HEAD UNIT AB		1028577	1	DA	A
	145	1906 0770	SCREW		1024130	2	AA	X
	146	1907 1217	SPRING/PAPER FEEDING TRIGGER		F701251080	1	AB	B
	147	9487 0283	CAPACITOR/CHIP		2021922	1	AA	X
	148	1909 2847	SEAL/CAUTION		1007667	1	AJ	X
N		9487 0507	GEAR/MOTOR ASSY		1052543	1	AB	B
N		9487 0508	MAIN MOTOR ASSY		1052544	1	BV	A
2. PAPER FEEDING MACHANISM COMPONENTS								
	501	1906 0744	PAPER GUIDE/LOWER ASSY		1028537	1	AY	X
	502	1906 0745	LEVER/STAMP		1028064	1	AF	C
	503	1906 0746	LEVER/STAMP TRANSMISSION		1028059	1	AB	C

N	Item	Code No.	Parts Name		Specification	Q	Price code	R
N	504	1906 0747	SPRING/STAMP FORCE ADJUSTMENT	TYPE-E(2.5) M3X3	1028063	1	AB	C
	505	1906 0748	LEVER/STAMP DRIVE		1028060	1	AD	C
	506	1906 0749	SPRING/STAMP RETURN		1028062	1	AA	C
	507	1906 0750	PLATE/VALIDATION STOPPER		1028036	1	AC	X
	508	1906 0751	GUIDE/VALIDATION		1028044	1	AM	C
	509	1906 0740	SCREW		1012350	2	AA	X
	510	1906 0740	SCREW		1012350	2	AA	X
	511	1906 0752	PLATE SUB ASSY/DRIVEN		1028539	1	AK	C
	512	1906 0753	PULLEY/CARRIAGE DRIVEN		1028025	1	AC	B
	513	1906 0754	FLANGE/PULLEY		1028027	1	AB	B
	514	1909 2805	RING/RETAINING		1004399	1	AA	C
	515	1906 4056	SCREW		B040350511	1	AA	X
	516	1906 0755	BELT ASSY/TIMING CARRIAGE DRIVE		1028540	1	BE	B
	517	1906 0756	PULLEY/CARRIAGE DRIVEN		1028030	1	AD	B
	518	1906 0754	FLANGE/PULLEY		1028027	1	AB	B
	519	1909 2805	RING/RETAINING	1004399	1	AA	C	
	520	9487 0284	YOKE/PAPER FEED TRIGGER	1045794	1	AL	C	
	521	1906 0758	COIL/PAPER FEED TRIGGER PRT	2021086	1	AS	C	
	522	1906 0759	COIL/PAPER FEED TRIGGER JNL	2021087	1	AS	C	
	523	1906 0760	COIL/STAMP DRIVE	2021088	1	AS	C	
	524	1906 0761	PLATE/PAPER FEED TRIGGER	1028043	3	AE	X	
	525	1907 1217	SPRING/PAPER FEED TRIGGER	F701251080	3	AB	C	
	526	1906 0762	PLATEN ASSY	1028543	1	AS	C	
	527	1906 0763	SHAFT/PAPER FEED ASSY	1028544	1	CH	A	
	528	1906 0764	SHAFT/PAPER EXTENSION ASSY	1028546	1	BF	C	
	529	1906 0804	SHAFT/PAPER FEED PRESSURE	1028046	1	AL	X	
	N	530	1906 0765	PLATE/PAPER GUIDE	1028048	2	AM	C
531		9487 0510	ROLLER/PAPER HOLD	1052541	1	AE	B	
532		1909 2805	RING/RETAINING	1004399	4	AA	C	
533		1906 0767	SPRING/PAPER GUIDE PLATE	1028049	1	AE	C	
534		1906 0768	PAPER GUIDE/UPPER	1028033	1	AW	C	
535		1906 0769	PLATE/PAPER FEED GROUND	1028053	1	AF	C	
536		1906 0770	SCREW	1024130	3	AA	X	
537		1906 2203	SCREW	B312104311	2	AA	X	
538		1906 0771	EXIT/PAPER GUIDE	1028035	1	AM	C	
539		1906 0772	SPRING/PAPER FEED PRESSURE	1028047	2	AB	C	
540		1906 0773	LEVER/RELEASE PRT	1028050	1	AD	C	
541		1903 0715	RING/RETAINING	B150300711	1	AA	C	
542		1906 0774	LEVER/RELEASE JNL	1028051	1	AD	C	
543		1909 2805	RING/RETAINING	1004399	1	AA	C	
544		1906 0775	GEAR/PAPER FEED	1028038	1	AC	B	
545	1906 0776	GEAR/PAPER EXTENSION SHAFT	1028054	1	AB	B		
3. PAPER TAKE UP MECHANISM COMPONENTS								
N	901	1906 0799	FRAME SUB ASSY/TAKE-UP	TYPE-E(3) M3X5	1028548	1	AS	X
	902	1906 0800	PULLEY/TAKE-UP DRIVE		1028102	1	AD	B
	903	9487 0285	SPRING/TAKE UP TORQUE		1042651	1	AK	B
	904	1909 1688	GEAR/PAPER TAKE-UP DRIVE		F750302030	1	AD	B
	905	1903 0787	RING/RETAINING		B150300611	1	AA	C
	906	1908 5554	SCREW		B300304111	2	AA	X
	907	1906 0801	SHAFT/PAPER ROLLING		1012719	1	BD	X

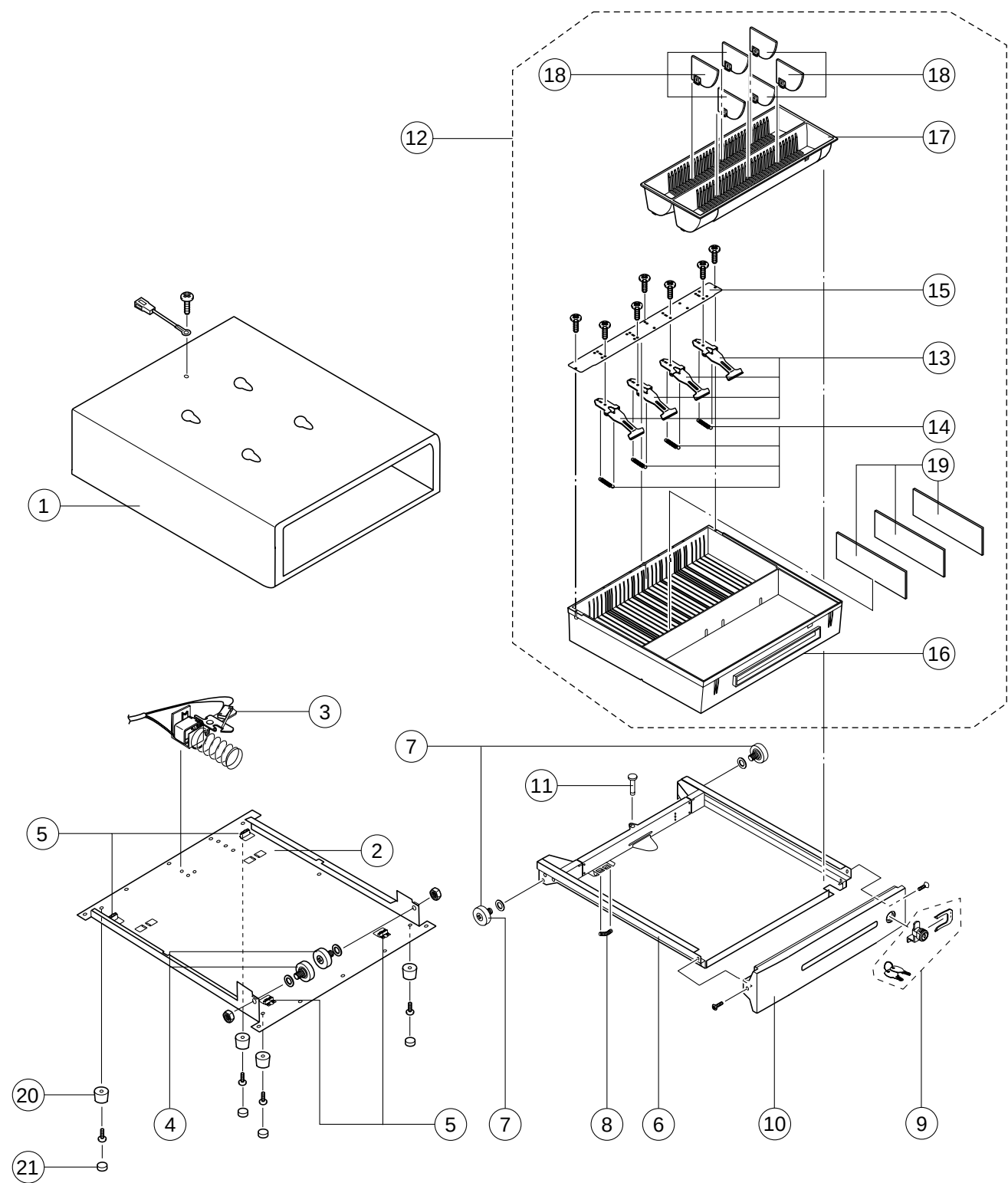
12. DRAWER (DL-2101)



DL-2101

N	Item	Code No.	Parts Name	Specification	Q	Price code	R
	1	10215769	Box sub assy	RJE501548*001V01	1		X
		10203608	Bottom chassis assy	RJE501442*001V01	1		X
	2	10203587	Bottom chassis	RJE501384-001V01	1		X
	3	10120524	Lock assy	RJE500567*001V01	1		A
	4	55000619	Derulin Roller	DR-19B1	2		B
	5	10194208	Dumper rubber	RJE500005-001V02	4		X
		10203607	Drawer assy	RJE501441*001V01	1		X
	6	10223071	Drawer sub assy	E341274*002V04	1		C
	7	55000619	Derulin Roller	DR-19B1	2		B
	8	10201065	Earth spring	E412092-001V02	1		C
	9	10203374	Cylinder lock	CL-23	1		B
	10	10215645	Front panel	RJE501385-001V02	1		C
	11	52000106	Rivet	5X30	1		X
	12	10200516	Bill/Coin case assy	RJE501368*004V01	1		C
	13	10200509	Bill holder sub assy	E341290*002V03	4		A
	14	10201067	Bill holder spring	E441357-001V02	4		A
	15	10194233	Bill holder plate	E240845-001V02	1		X
	16	10195656	Bill case	E140505-2	1		X
	17	10195658	Coin case	RJE500217-002V01	1		C
	18	10195657	Coin separater	RJE500216-002V01	6		B
	19	10195659	Bill separater	RJE500219-002V01	3		B
	20	10203171	Rubber foot case	RJE500667-001V02	4		X
	21	10167366	Rubber foot	RJE501204-001V01	4		X

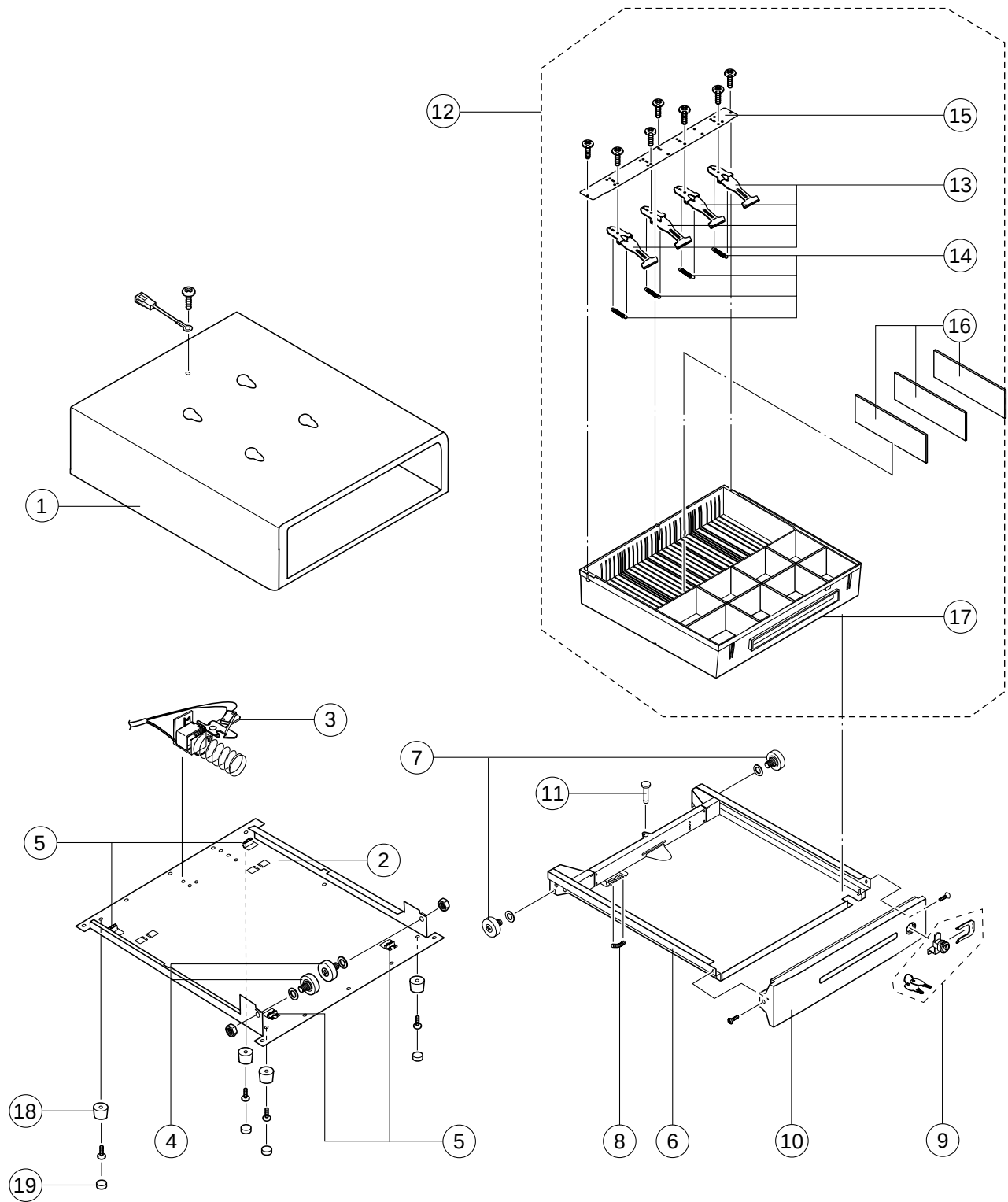
13. DRAWER (DL-2102)



DL-2102

N	Item	Code No.	Parts Name	Specification	Q	Price code	R
	1	10215769	Box sub assy	RJE501548*001V01	1		X
		10203608	Bottom chassis assy	RJE501442*001V01	1		X
	2	10203587	Bottom chassis	RJE501384-001V01	1		X
	3	10120525	Lock assy	RJE500567*002V01	1		A
	4	55000619	Derulin Roller	DR-19B1	2		B
	5	10194208	Dumper rubber	RJE500005-001V02	4		X
		10203607	Drawer assy	RJE501441*001V01	1		X
	6	10223071	Drawer sub assy	E341274*002V04	1		C
	7	55000619	Derulin Roller	DR-19B1	2		B
	8	10201065	Earth spring	E412092-001V02	1		C
	9	10203374	Cylinder lock	CL-23	1		B
	10	10215645	Front panel	RJE501385-001V02	1		C
	11	52000106	Rivet	5X30	1		X
	12	10200516	Bill/Coin case assy	RJE501368*004V01	1		C
	13	10200509	Bill holder sub assy	E341290*002V03	4		A
	14	10201067	Bill holder spring	E441357-001V02	4		A
	15	10194233	Bill holder plate	E240845-001V02	1		X
	16	10195656	Bill case	E140505-2	1		X
	17	10195658	Coin case	RJE500217-002V01	1		C
	18	10195657	Coin separater	RJE500216-002V01	6		B
	19	10195659	Bill separater	RJE500219-002V01	3		B
	20	10203171	Rubber foot case	RJE500667-001V02	4		X
	21	10167366	Rubber foot	RJE501204-001V01	4		X

14. DRAWER (DL-2103)



DL-2103

N	Item	Code No.	Parts Name	Specification	Q	Price code	R
	1	10215769	Box sub assy	RJE501548*001V01	1		X
		10203609	Bottom chassis assy	RJE501442*002V01	1		X
	2	10203587	Bottom chassis	RJE501384-001V01	1		X
	3	10120525	Lock assy	RJE500567*002V01	1		A
	4	55000619	Derulin Roller	DR-19B1	2		B
	5	10194208	Dumper rubber	RJE500005-001V02	4		X
		10203607	Drawer assy	RJE501441*001V01	1		X
	6	10223071	Drawer sub assy	E341274*002V04	1		C
	7	55000619	Derulin Roller	DR-19B1	2		B
	8	10201065	Earth spring	E412092-001V02	1		C
	9	10203374	Cylinder lock	CL-23	1		B
	10	10215645	Front panel	RJE501385-001V02	1		C
	11	52000106	Rivet	5X30	1		X
	12	10225530	Bill/Coin case assy	RJE501368*006V01	1		C
	13	10200509	Bill holder sub assy	E341290*002V03	5		A
	14	10201067	Bill holder spring	E441357-001V02	5		A
	15	10194233	Bill holder plate	E240845-001V02	1		X
	16	10195659	Bill separater	RJE500219-002V01	4		B
	17	10225579	Bill Coin case	RJE500367-002V01	1		B
	18	10203171	Rubber foot case	RJE500667-001V02	4		X
	19	10167366	Rubber foot	RJE501204-001V01	4		X

CASIO COMPUTER CO.,LTD.

Overseas Service Division

6-2, Hon-machi 1-Chome
Shibuya-ku, Tokyo 151-8543, Japan