SERVICE MANUAL

(without price)

ELECTRONIC CASH REGISTER

TE-2200/2400

(EX-443/544)

AUG. 2005

TE-2400

TE-2200

CASIO®

Ver.2 : Aug. 2009

CONTENTS

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

			120 V	220 V	230 V	240 V
•Power consumption	In operation	Max.	0.5 A	0.25 A	0.25 A	0.25 A
	stand-by	Max.	0.1 A	0.05 A	0.05 A	0.05 A
•Memory protection Except. USA, CANADA	Back-up battery Back-up period Battery life Recharge time		Vanadium lithium battery 90 days (25 °C) Replace the battery every 5 years. 48 hours (full charge)			
•Memory protection USA, CANADA	Back-up battery Back-up period Battery life		Mangan battery (UM-3 $\times$ 3) 1 years (25 °C) Replace the battery every 1 years.			
•Clock & Calendar	Accuracy Auto calendar		Within $\pm$ 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	uPD784215AGC279 16 bit
• RAM (US)	Name Capacity	M68AF128BM70 $\times$ 2 1 Mbit
• RAM (EURO)	Name Capacity	M68AF511AM70 4 Mbit
• Flash ROM	Name Capacity	MBM29F160BE90TN 16 Mbit
• I/O controller	Name	uPD784215AGC280
• Themal printer	Name	FTP-628MCL518 (receipt) FTP-628MCL518 (journal)
	Print method	Thermal dot line printing
	Head specification	Total dot number : 384 dots/dot line Dot pitch : Length 8 dots/mm Wide 8 dots/mm
	Paper cut	Manual-paper cut
• Roll paper	Type Size Roll diam Thickness	Heat-sensitive paper 57.5 $\pm$ 0.5 mm ϕ 80 or less 0.06 ~ 0.085 mm

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1-4. Duration of Life

• Printer head	50 Km (anti-abrasion), 1400 Million lines
• LCD	20,000 hours
• Backlight	20,000 hours

1-5. Drawer List

Type	Drawer Name	Specification	B	D	C	BU	L
M	DL-2429	D-24H2C-B55SRM-9*			◯		
M	DL-2797	D-24H2C-B84RM-9*				◯	
M	DL-2798	D-24H2C-B84SRM-9*	◯				
M	DL-2799	D-24H2C-A84SRM-9*		◯			◯

Note: Country code
  B: Europe
  D: England
  C: U.S.A.
 BU: Other countries
  L: Canada

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1-6. Option List

DEVICE NAME	MODEL	NOTE	Applicable
• Multi drawer kit	MDL-12		Common
• PC cable	PRL-CB-2		Common
• Waterproof cover	WT-82		TE-2200 only
• Waterproof cover	WT-87		TE-2400 only
• Slip printer	SP-1300	Connect to Com2	Common
• Slip printer cable	PRT-CB-8C	Length 1.5m	Common
• Remote printer	UP-360	Connect to Com2	Common
• Printer cable	PRT-CB-8A	Length 3m	Common
• Printer cable	PRT-CB-8B	Length 5m	Common
• Slip printer/ AC adaptor	31AD-U or E	U: 120V/ E: 230V	Local purchase
• Handy scnner	HHS-15	Com2 port only	Local purchase
• Handy scnner	HS1250	Com2 port only	Local purchase
• Handy scanner	Quic Scan 6000	Com2 port only	Common
• 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		Common
• Roll paper	P-5880T		Common

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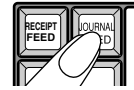# DISPOSE OF USED BATTERIES ACCORDING
TO THE INSTRUCTIONS

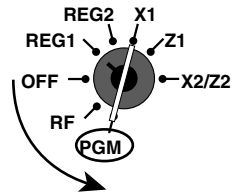## 2. MACHINE INTIALIZATION

Machine initialization procedure

1. Plug the power cord into an AC outlet.
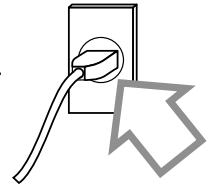
2. Hold down <JOURNAL FEED>.

3. Turn the mode switch to PGM position.

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.)

7. Press <SUBTOTAL> to register the program code.

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

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Worksheet (Initialize)

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)　　　= 2, Other area (🔲.🔲🔲, Date order: day/month/year)　= 1, Other area (🔲, Date order: day/month/year)　　　= 3		Significant number	☐ D_5
Fixed value: TE-2200: 25 TE-2400: 04		Significant numbers	☐ ☐ D_4 D_3
Use ① clerk switch (clerk push switch)/ ② Clerk secret number key *	a	① = 0 ② = 1	☐ (a+b) D_2
Initialization pattern: ① For scanning/② For check tracking	b	① = 0 ② = 2	
Use Euro only.		No = 0 Yes = 1	☐ D_1

* When you select this option "Use clerk secret code key", and your register doesn't have this key on the default keyboard, be sure to allocate <CLERK-#> (clerk secret number key) just after the initialization.
(Do NOT turn to OFF before allocating this key.)

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
       COMPUTER CO.,LTD.            ─┤ Copyright
       All rights reserved.

TE-2200/2400 STD                    ─┤ Model name

VER.       :nnnn                    ─┤ ROM version
LABEL      :nnnnnn                  ─┤ ROM label

VER.       :nnnn              00     ─┤ ROM version
LABEL      :nnnnnn                  ─┤ ROM label
INIT.      :nnnnnnnnnnnnnn          ─┤ Initialization code
0002-98                    2000     ─┤ I/O parameter table record No./error code
                  :
```
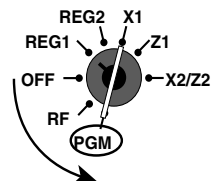
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Flag clear operation

1. Plug the power cord into an AC outlet. -
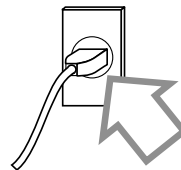
2. Hold down <RECEIPT FEED>. -

3. Turn the mode switch to PGM position. -

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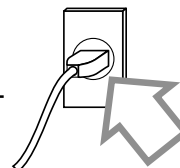   the beginning of this procedure.

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. Hold down <RECEIPT FEED>. -

3. Turn the mode switch to PGM position. -
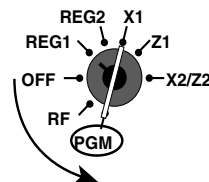
4. Release <RECEIPT FEED>. -
   You should see "FFFFFFFFFF" on the display.
   If 10 Fs are not shown or another character are shown, immedi-
   ately set the mode switch to OFF and restart from the beginning
   of this procedure.
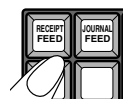
5. Enter "8888888888" and press <CHECK TEND> to complete.

After completion, receipt is issued.

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3. DISASSEMBLY

■ UPPER COVER

   1. Remove the printer cover.

   2. Remove two screws.

   3. Remove the printer cover.

   4. Remove two FPCs.

Hooks

FPC (10pin)

FPC (12pin)

— 7 —
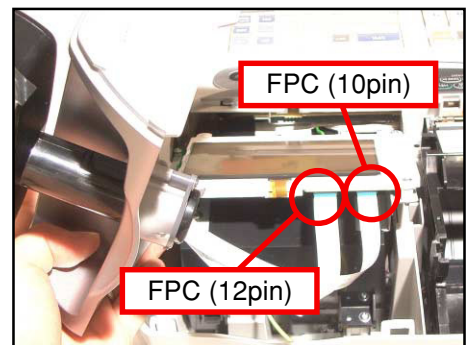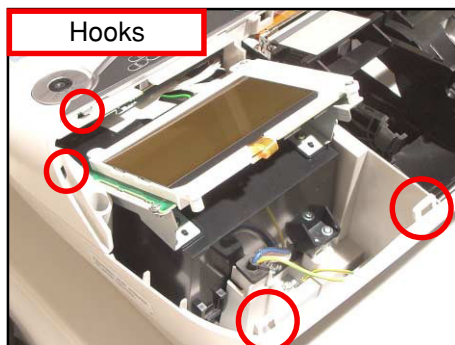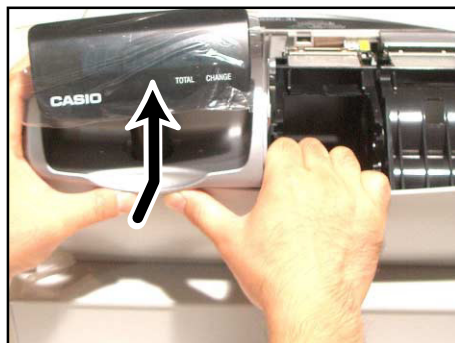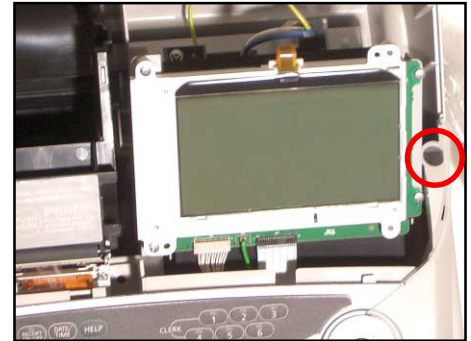
5. Remove the screw.

6. Remove the upper case by sliding it forward.

7. Remove two connectors. (CN13, CN15)

CN15   CN13
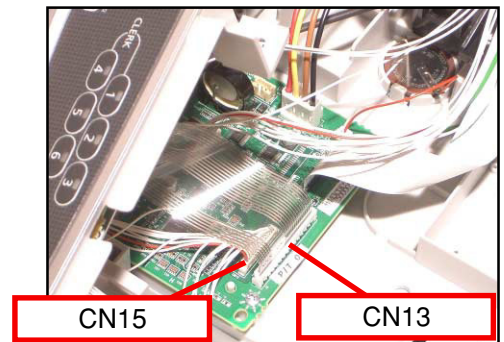
8. Remove the UPPER COVER.

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■ KEY BOARD ASS'Y

9. TE-2200: Remove 10 screws.

   TE-2400: Remove eight screws.

10. Remove the FPC.

| TE-2200 | TE-2400 |
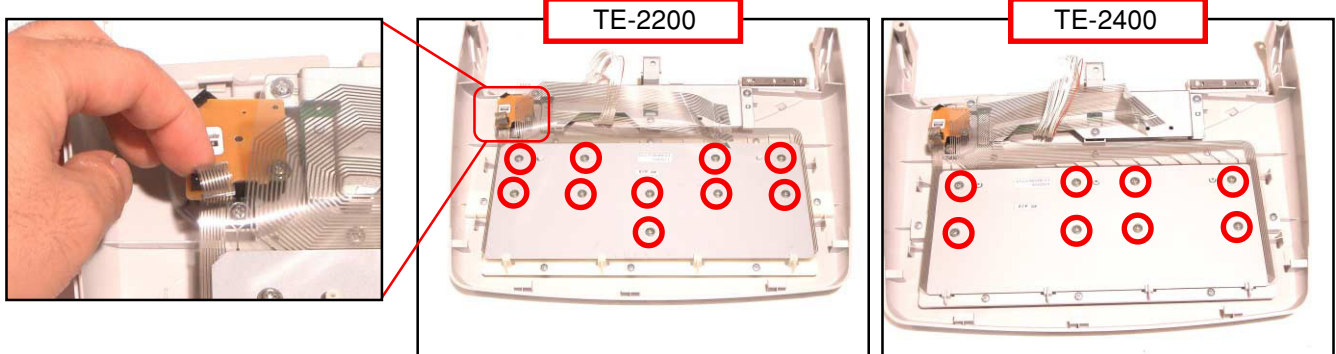
11. Remove the chassis.
12. Remove the FPC sheet.
13. Remove the spacer.
14. Remove the sheet.

Sheet

Spacer

FPC sheet

Chassis
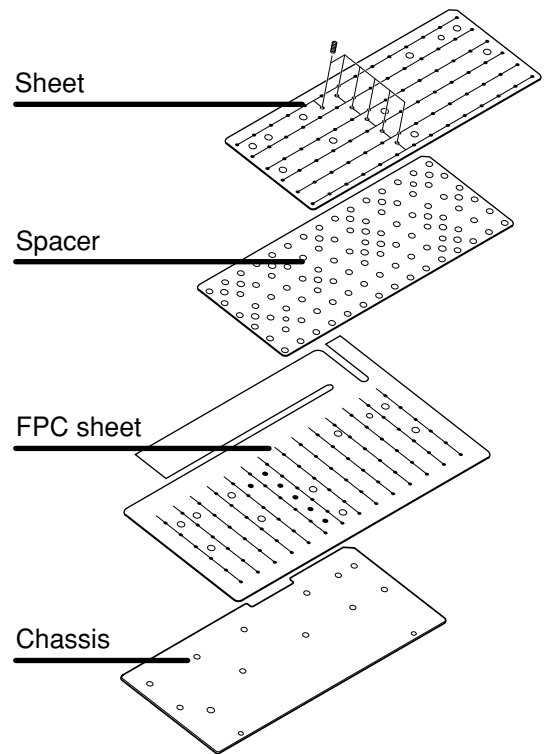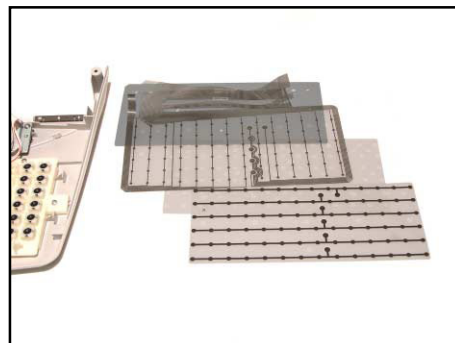
15. Remove eight screws.
16. Remove the KEY frame.

| TE-2200 | TE-2400 |

— 9 —
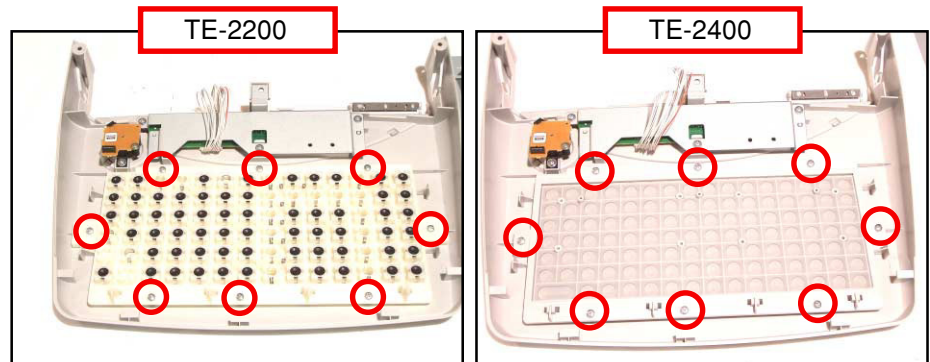
■ TACT SW PCB, MODE KEY

17. Remove three screws.
18. Remove the TACT SW PCB (E443-E6 PCB).

E443-E6 PCB
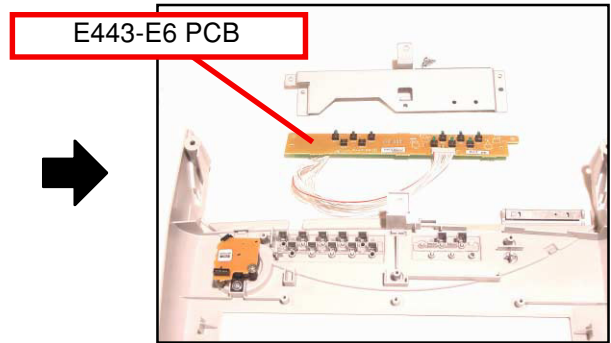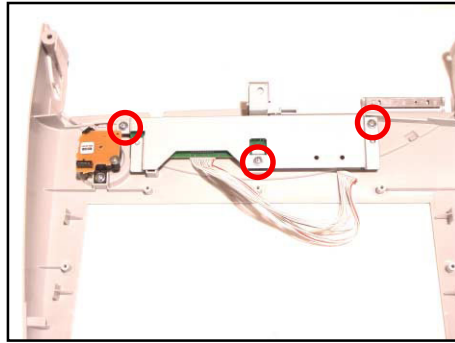
19. Remove the screw.
20. Remove the MODE KEY.

MODE KEY
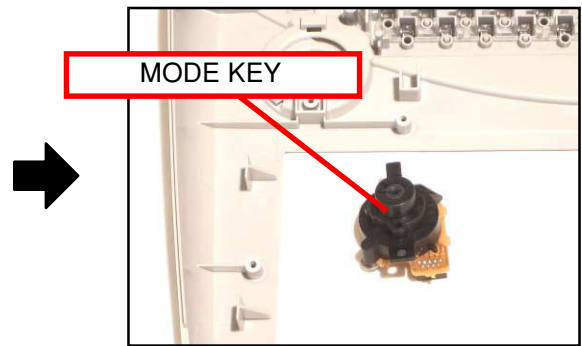
■ BACKUP BATTERY

21. Remove the connector.
22. Remove the backup battery.

CN14

— 10 —
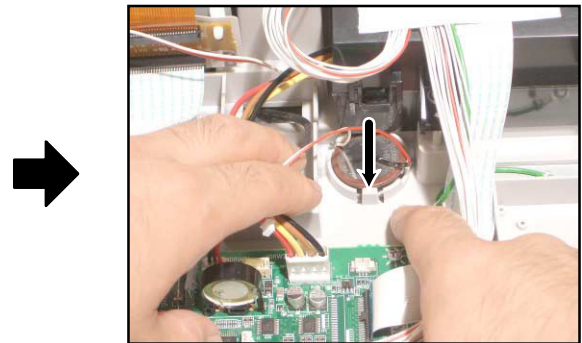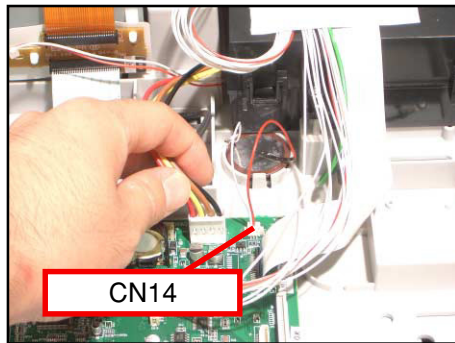
■ MIAN PCB

23. Remove four connectors.

Connector (CN7)

Connector (CN1)

Connector (CN5)
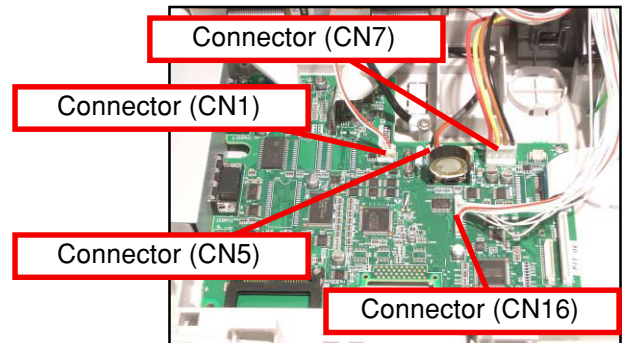
Connector (CN16)

24. Remove three FPCs.

FPC (CN8)   FPC (CN9)

FPC (CN12)
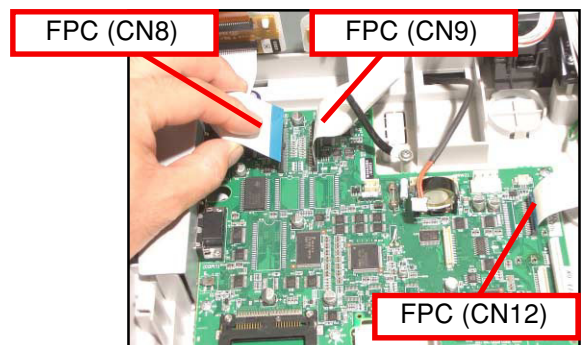
NOTE; While fixing, be fully care to the direction of the FPC.

Pattern

Pattern
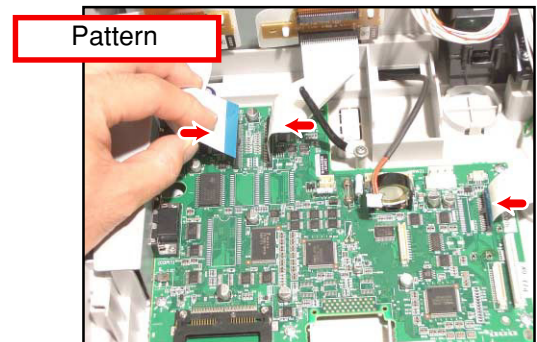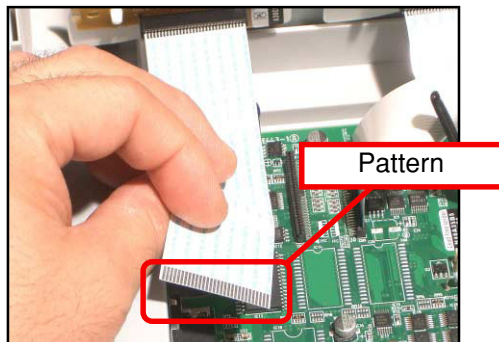
25. Remove eight screws.

— 11 —
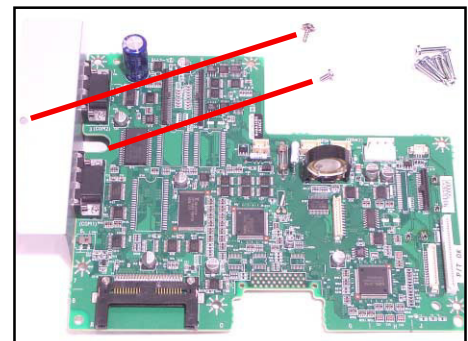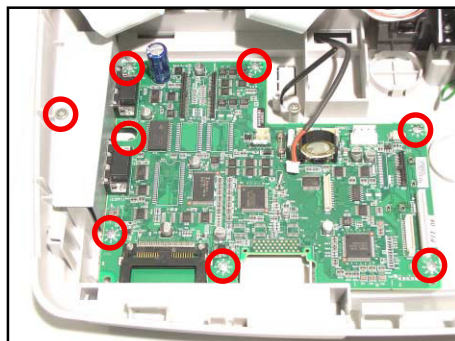
■ LCD ASS'Y

26. Remove five screws and then the LCD ASS'Y.
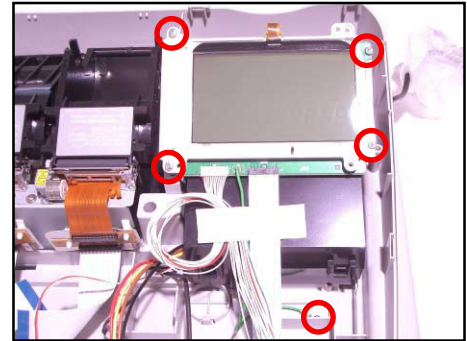
27. Remove three screws and one connector.
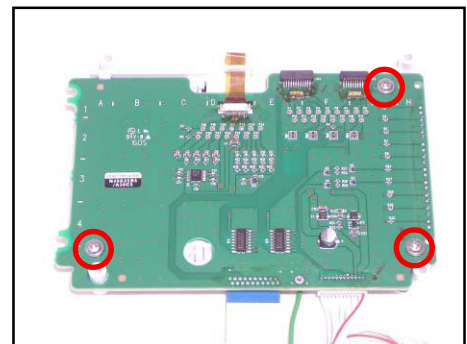
■ PRINTER

28. Remove two E272-PR PCBs.

E272-PR PCB
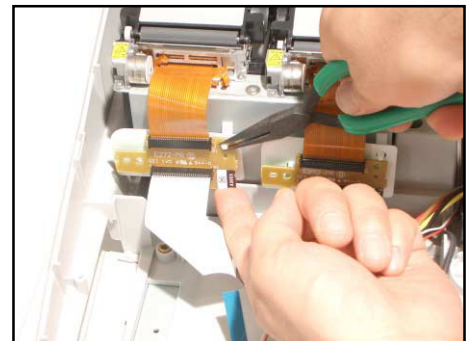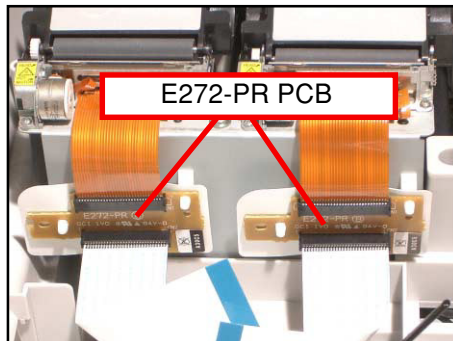
29. Remove four FPCs.

— 12 —
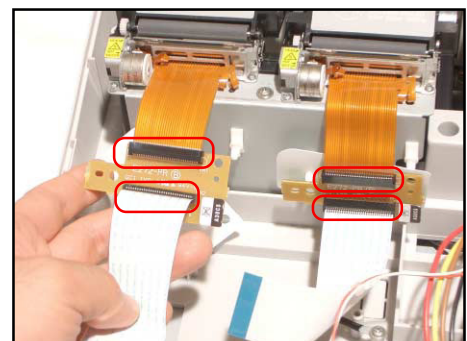
30. Remove four screws.
31. Remove two printer units.
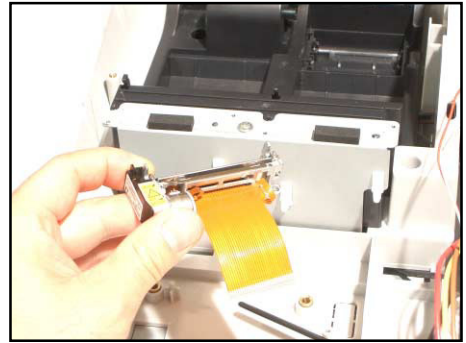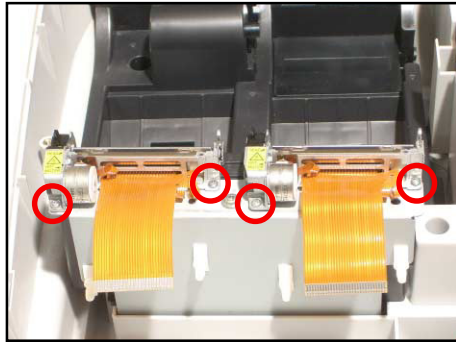
32. Remove the battery cover.
33. Remove four screws.
34. Remove the lower case.

— 13 —
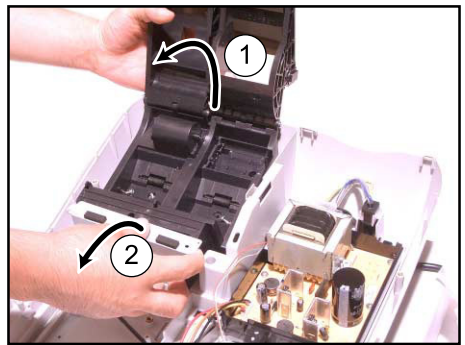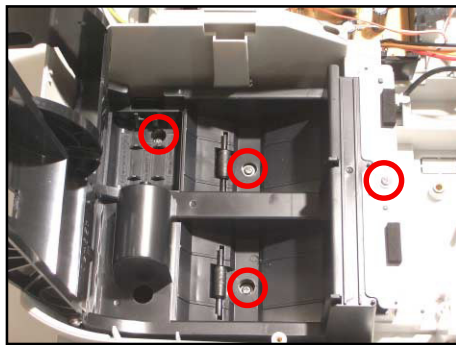
■ DRAWER

35. Remove the case.
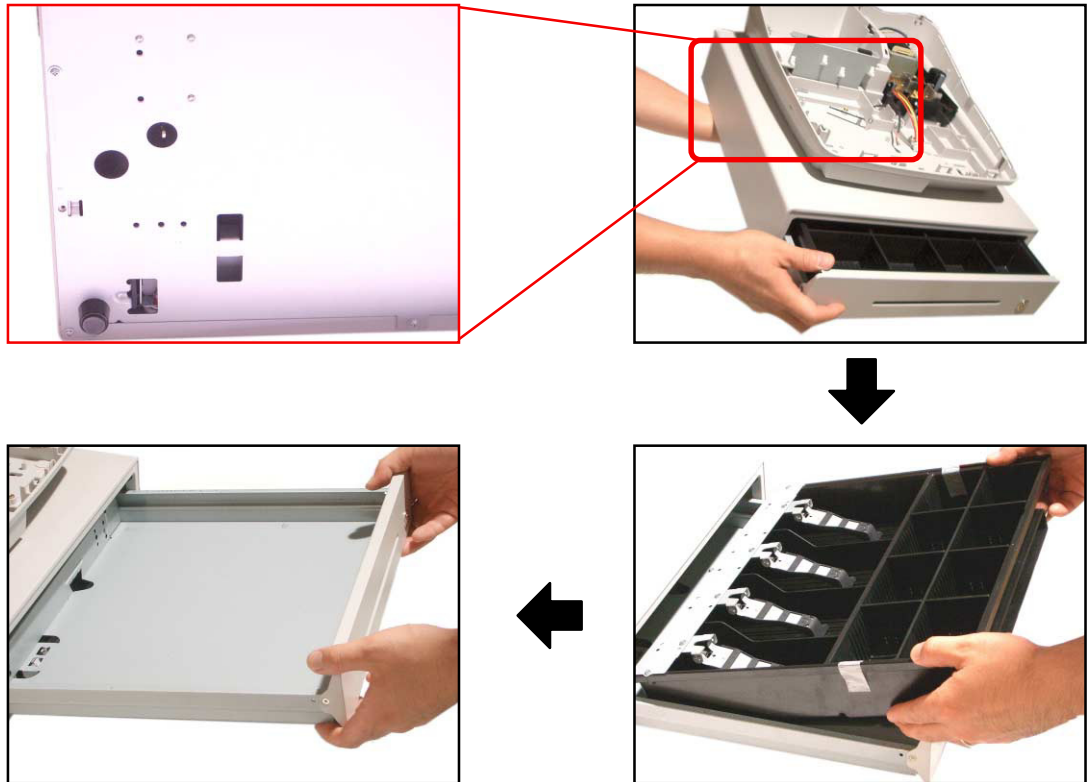
36. Remove 10 screws.

37. Remove the DARWER cable.

— 14 —
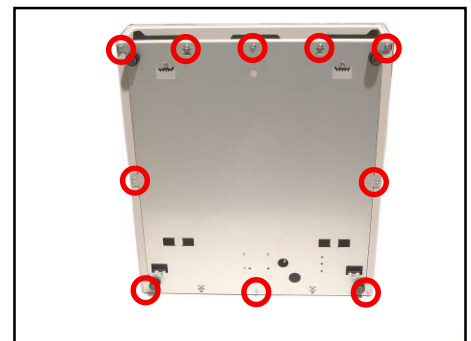
38. Remove the Bottom plate.
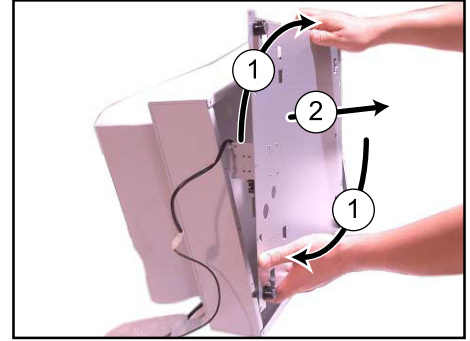
39. Loosen 4 screws.
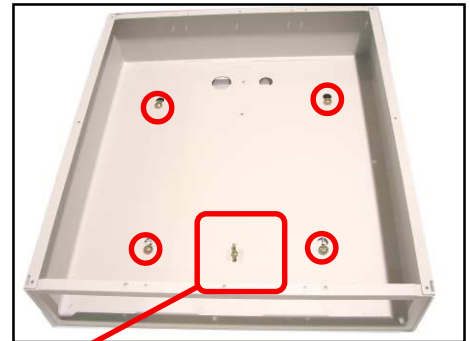
40. Remove the screw and then fix the drawer case.
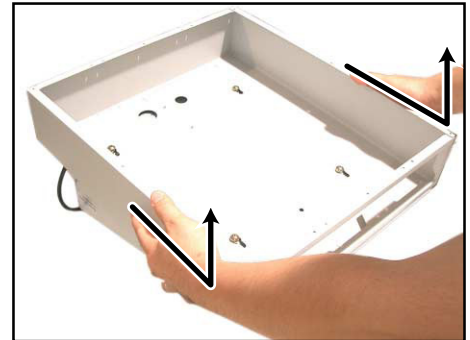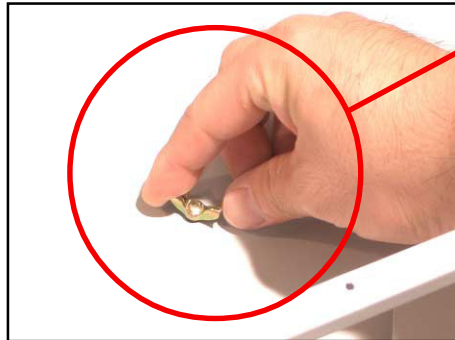
■ POWER SUPPLY

28. Remove the two screws.
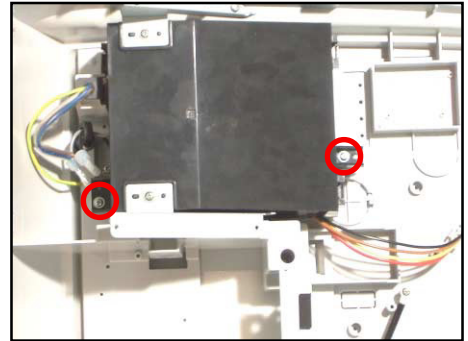
29. Remove the POWER UPPER CASE.
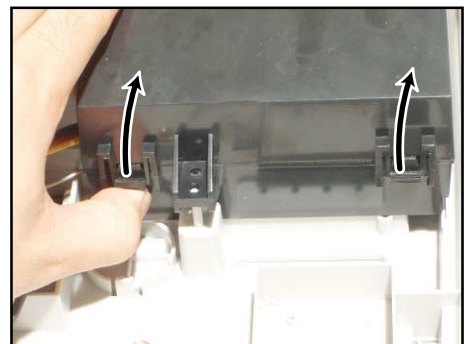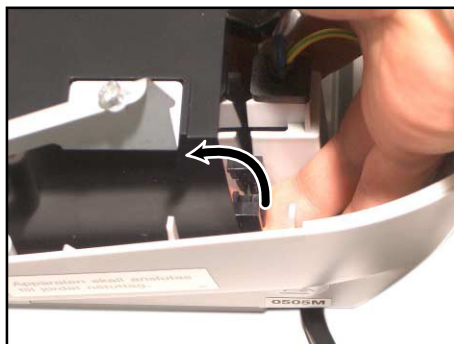
30. Remove three screws.
31. Remove the POWER UNIT.

— 16 —
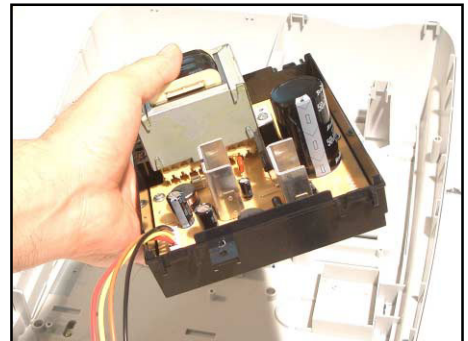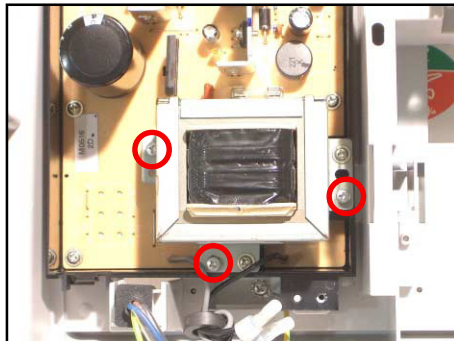
4. CIRCUIT EXPLANATION

4-1. HARDWARE DIAGRAM

Main Display

Popup display

Journal printer

Receipt printer

Power supply

CPU

Flash Memory

RAM

Keyboard

Popup disp. i/f

Drawer 1 i/f

Drawer 2 i/f

RS-232C COM1

RS-232C COM2

CF card

Multi drawer kit MDL-12

PRL-CB-2

PRT-CB-8C

PRT-CB-8A/-8B

Drawer

Drawer

MODEM or PC

Scanner HHS-15

Slip printer

SP-1300

Power supply 31AD-U/E

External printer

UP-360
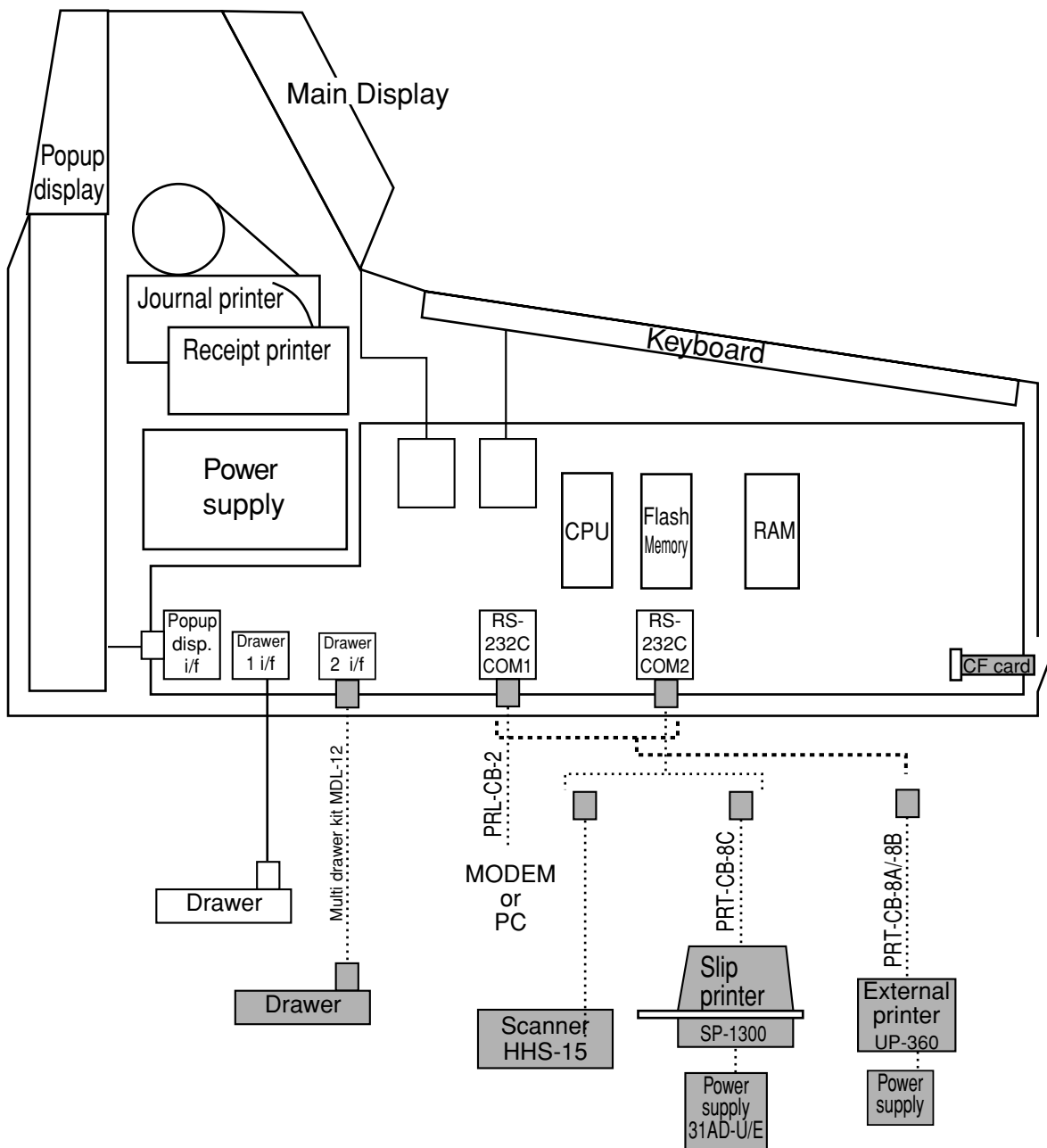
Power supply

Note: Shadowed device and dot line indicate option devices.

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4-2. BLOCK DIAGRAM

— 18 —
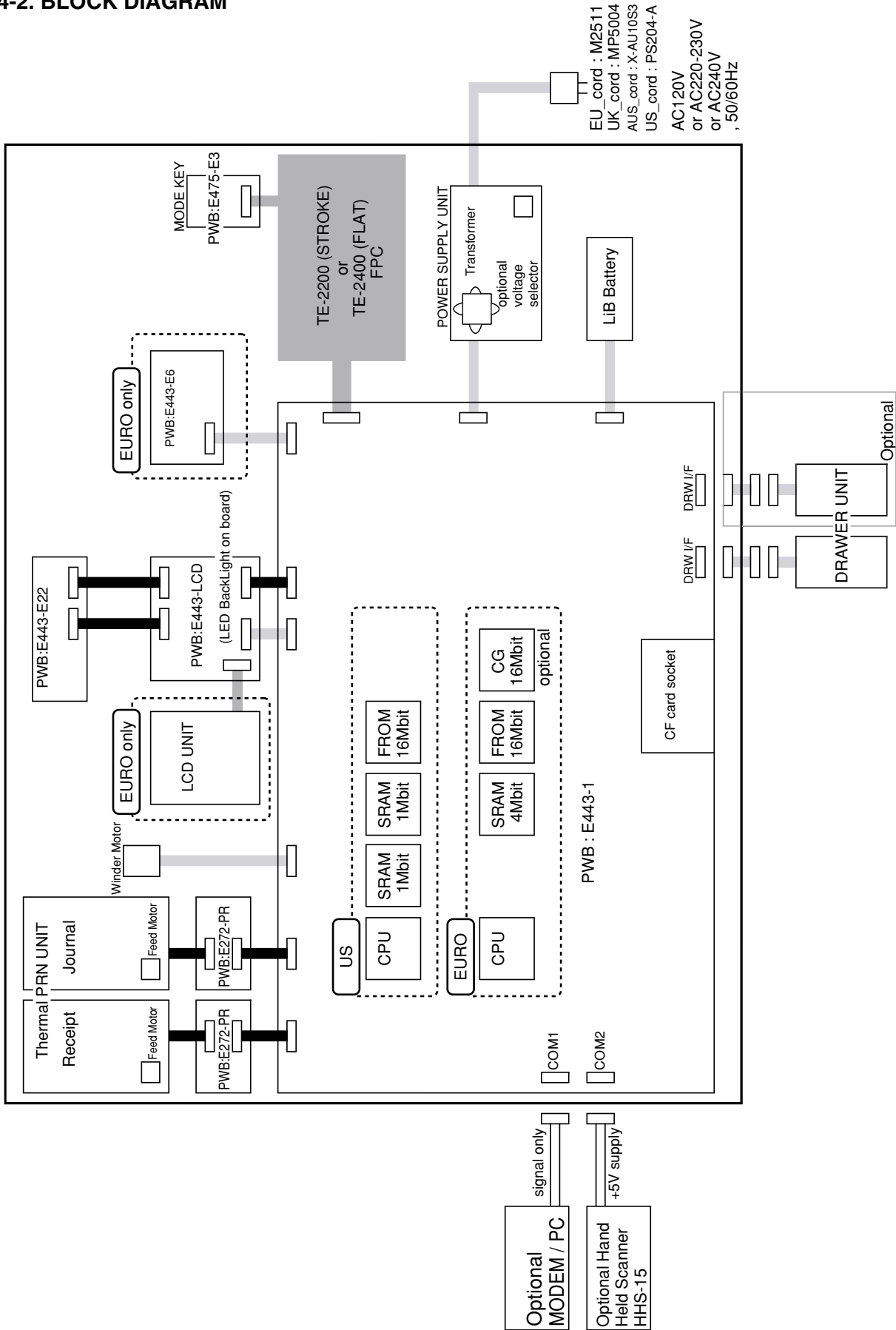
4-3. RESET CIRCUIT

The reset circuit is as follows.
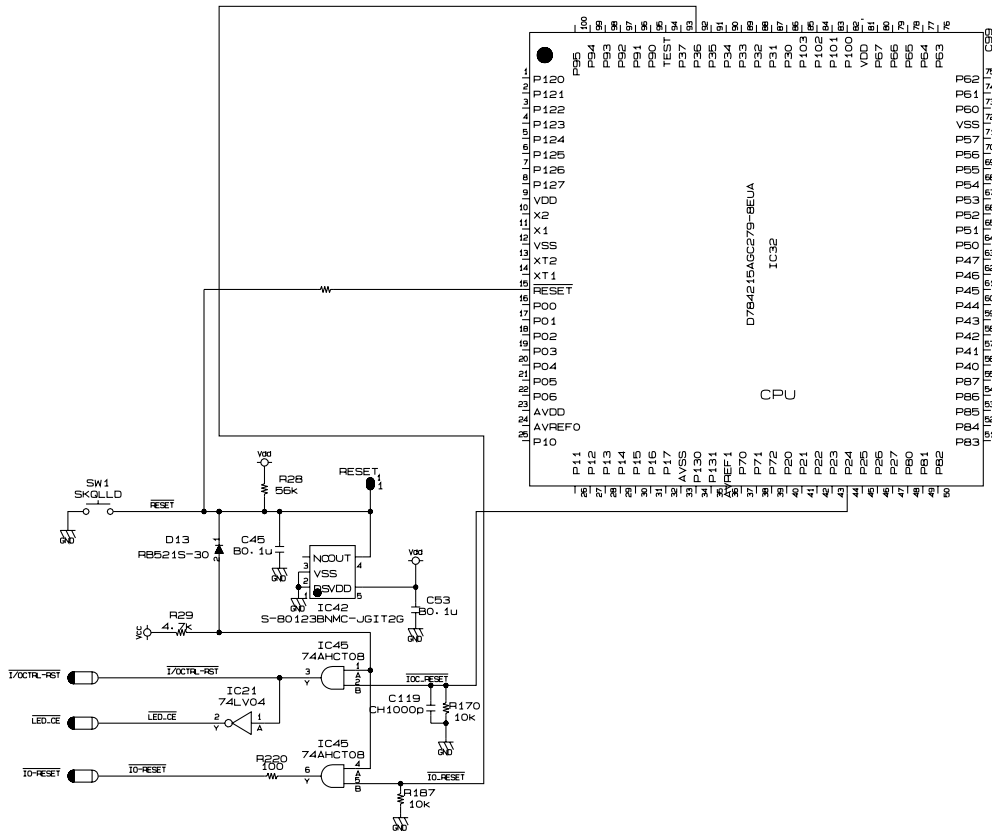
4-4. POWER SUPPLY CIRCUIT

The power supply circuit is as follows.

— 19 —
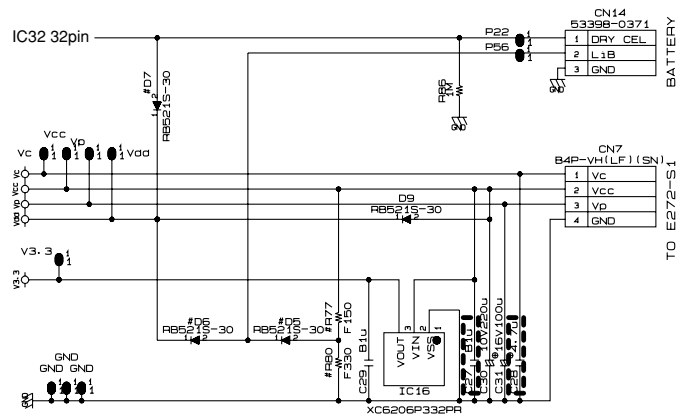
4-5. DRAWER I/F CIRCUIT

The drawer open circuit is as follows.
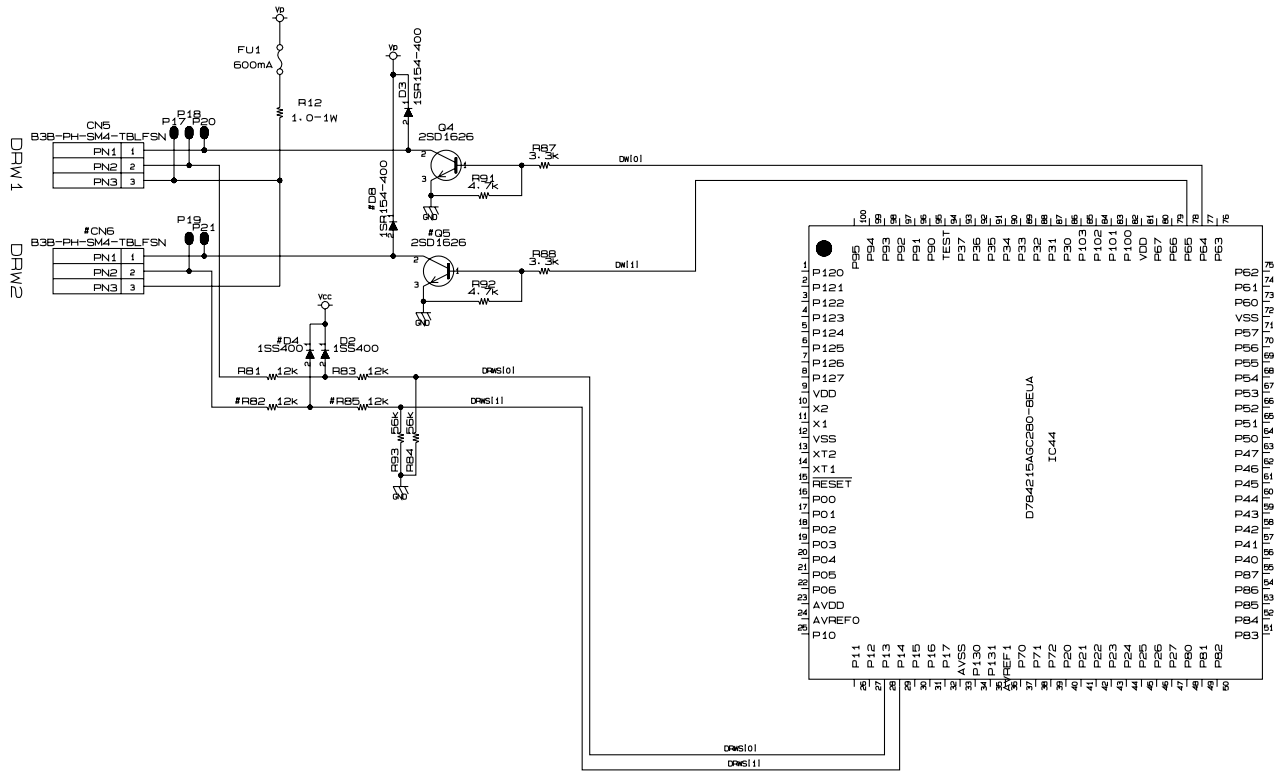
4-6. PRINTER CONTROL CIRCUIT

The printer control circuit is as follows.
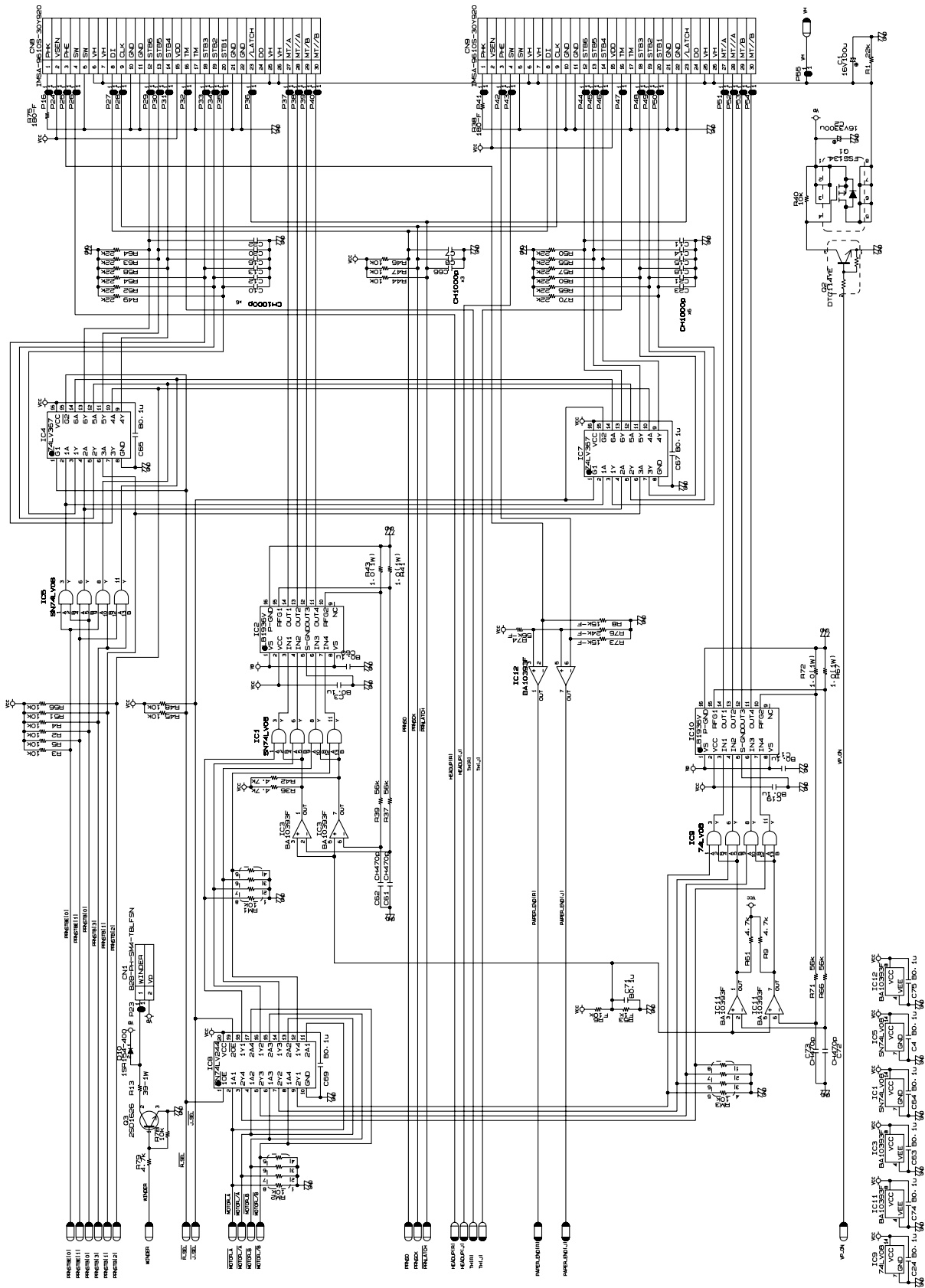
4-7. CPU (IC32: uPD784215AGC279-8EUA) / I/O CONTROLLER (IC44: uPD784215AGC280EUA)

4-7-1. Pin Assignment

Top pins (left to right, pins 100–76):
P95, P94, P93, P92, P91, P90, TEST/V$_{PP}$, P37/EXA, P36/TI01, P35/TI00, P34/TI2, P33/TI1, P32/TO2, P31/TO1, P30/TO0, P103/TI8/TO8, P102/TI7/TO7, P101/TI6/TO6, P100/TI5/TO5, V$_{DD}$, P67/ASTB, P66/$\overline{WAIT}$, P65/$\overline{WR}$, P64/$\overline{RD}$, P63/A19

Left pins (top to bottom, pins 1–25):

Pin	Signal
1	P120/RTP0
2	P121/RTP1
3	P122/RTP2
4	P123/RTP3
5	P124/RTP4
6	P125/RTP5
7	P126/RTP6
8	P127/RTP7
9	V$_{DD}$
10	X2
11	X1
12	V$_{SS}$
13	XT2
14	XT1
15	$\overline{RESET}$
16	P00/INTP0
17	P01/INTP1
18	P02/INTP2/NMI
19	P03/INTP3
20	P04/INTP4
21	P05/INTP5
22	P06/INTP6
23	AV$_{DD}$
24	AV$_{REF0}$
25	P10/ANI0

Right pins (top to bottom, pins 75–51):

Pin	Signal
75	P62/A18
74	P61/A17
73	P60/A16
72	V$_{SS}$
71	P57/A15
70	P56/A14
69	P55/A13
68	P54/A12
67	P53/A11
66	P52/A10
65	P51/A9
64	P50/A8
63	P47/AD7
62	P46/AD6
61	P45/AD5
60	P44/AD4
59	P43/AD3
58	P42/AD2
57	P41/AD1
56	P40/AD0
55	P87/A7
54	P86/A6
53	P85/A5
52	P84/A4
51	P83/A3

Bottom pins (left to right, pins 26–50):
P11/ANI1, P12/ANI2, P13/ANI3, P14/ANI4, P15/ANI5, P16/ANI6, P17/ANI7, AV$_{SS}$, P130/ANO0, P131/ANO1, AV$_{REF1}$, P70/RxD2/SI2, P71/TxD2/SO2, P72/ASCK2/SCK2, P20/RxD1/SI1, P21/TxD1/SO1, P22/ASCK1/$\overline{SCK1}$, P23/PCL, P24/BUZ, P25/SI0/SDA0, P26/SO0, P27/$\overline{SCK0}$/SCL0, P80/A0, P81/A1, P82/A2

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4-7-2. Block Diagram

4-7-3. 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		

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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		

4-8. SRAM (EURO only, IC13: M68AF511AM70MC6U)

4-8-1. Pin Assignment
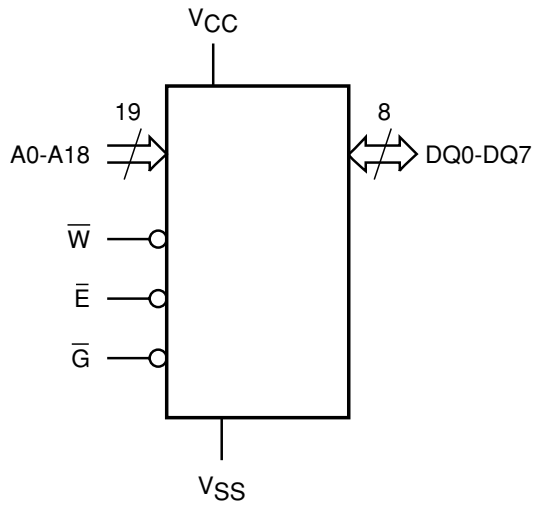
4-8-2. Pin Function

A0-A18	Address Inputs
DQ0-DQ7	Data Input/Output
$\overline{E}$	Chip Enable
$\overline{G}$	Output Enable
$\overline{W}$	Write Enable
V_{CC}	Supply Voltage
V_{SS}	Ground

4-8-3. Block Diagram

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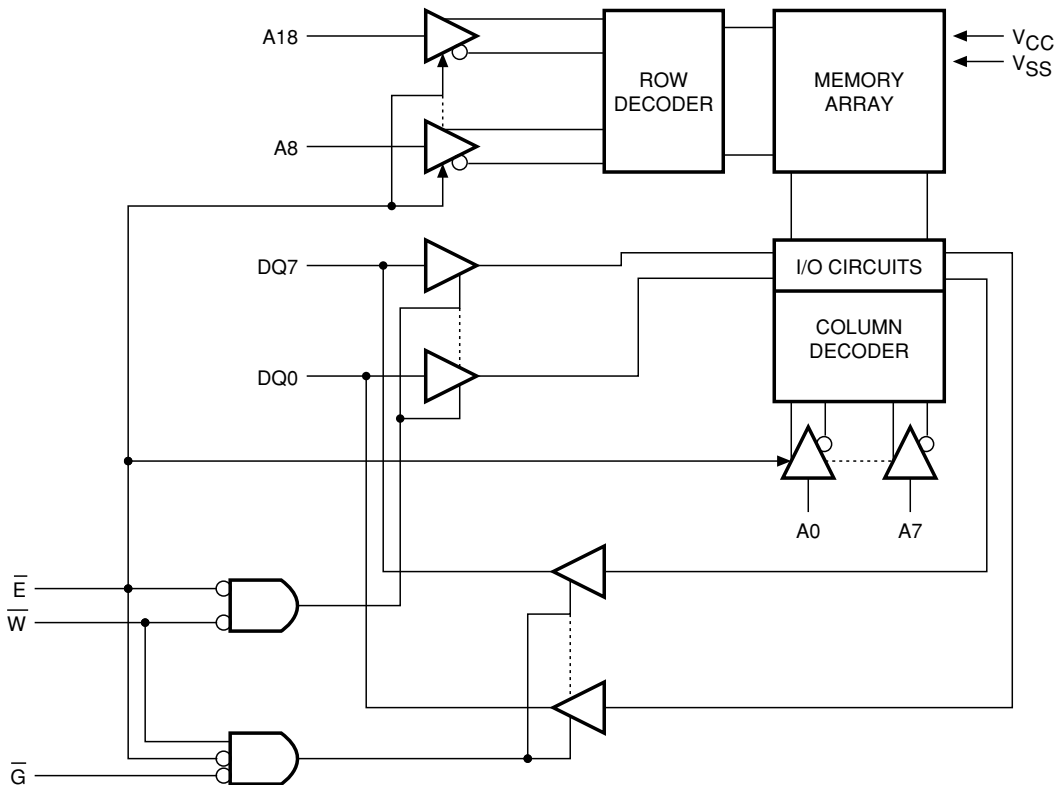
4-9. SRAM (US only, IC14, 15: M68AF128BM70MC6U)

4-9-1. Pin Assignment
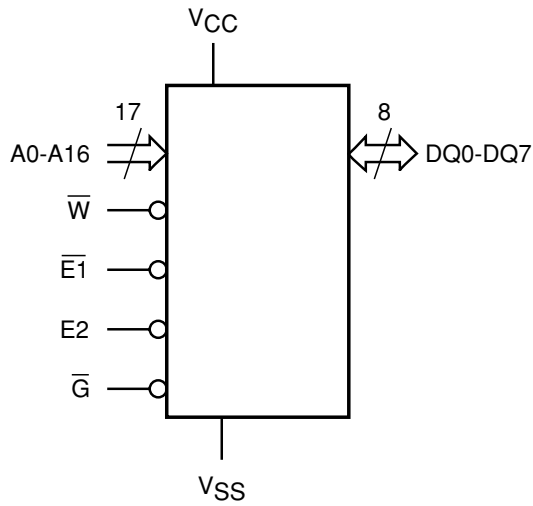
4-9-2. Pin Function

A0-A16	Address Inputs
DQ0-DQ7	Data Input/Output
$\overline{E1}$, E2	Chip Enable
$\overline{G}$	Output Enable
$\overline{W}$	Write Enable
V_{CC}	Supply Voltage
V_{SS}	Ground

4-9-3. Block Diagram

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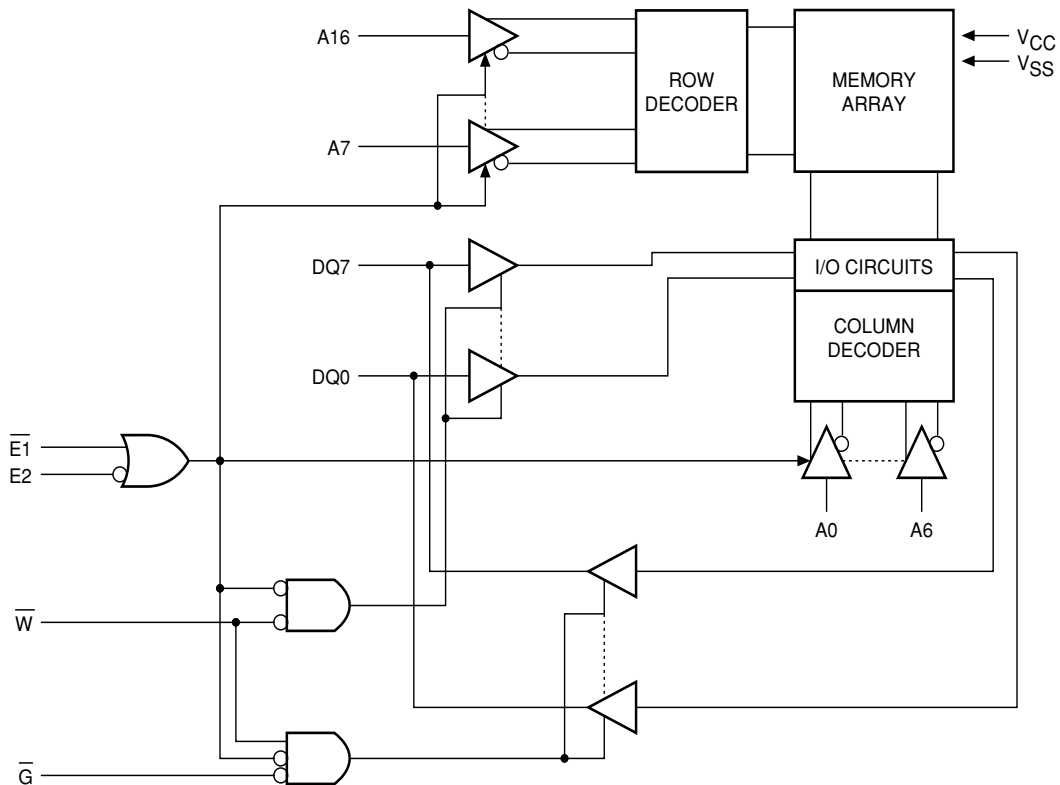
4-10. FROM (IC24: MBM29F160BE90TN)

4-10-1. Pin Assignment

```
A15   [ 1          48 ]   A16
A14   [ 2          47 ]   BYTE̅
A13   [ 3          46 ]   VSS
A12   [ 4          45 ]   DQ15/A-1
A11   [ 5          44 ]   DQ7
A10   [ 6          43 ]   DQ14
A9    [ 7          42 ]   DQ6
A8    [ 8          41 ]   DQ13
A19   [ 9          40 ]   DQ5
N.C.  [ 10         39 ]   DQ12
W̅E̅   [ 11         38 ]   DQ4
R̅E̅S̅E̅T̅ [ 12       37 ]   VCC
N.C.  [ 13         36 ]   DQ11
W̅P̅   [ 14         35 ]   DQ3
RY/B̅Y̅ [ 15        34 ]   DQ10
A18   [ 16         33 ]   DQ2
A17   [ 17         32 ]   DQ9
A7    [ 18         31 ]   DQ1
A6    [ 19         30 ]   DQ8
A5    [ 20         29 ]   DQ0
A4    [ 21         28 ]   O̅E̅
A3    [ 22         27 ]   VSS
A2    [ 23         26 ]   C̅E̅
A1    [ 24         25 ]   A0
```
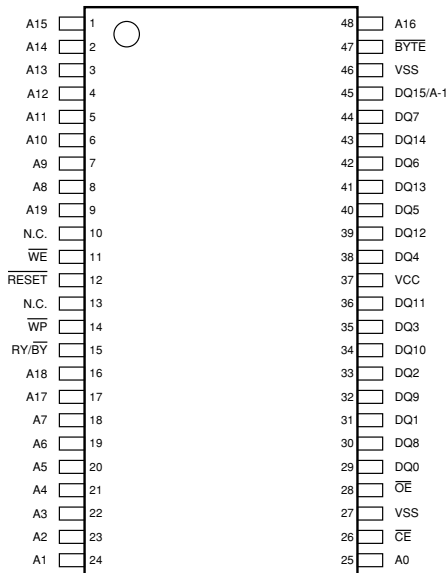
4-10-2. Pin Function

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
$\overline{BYTE}$	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

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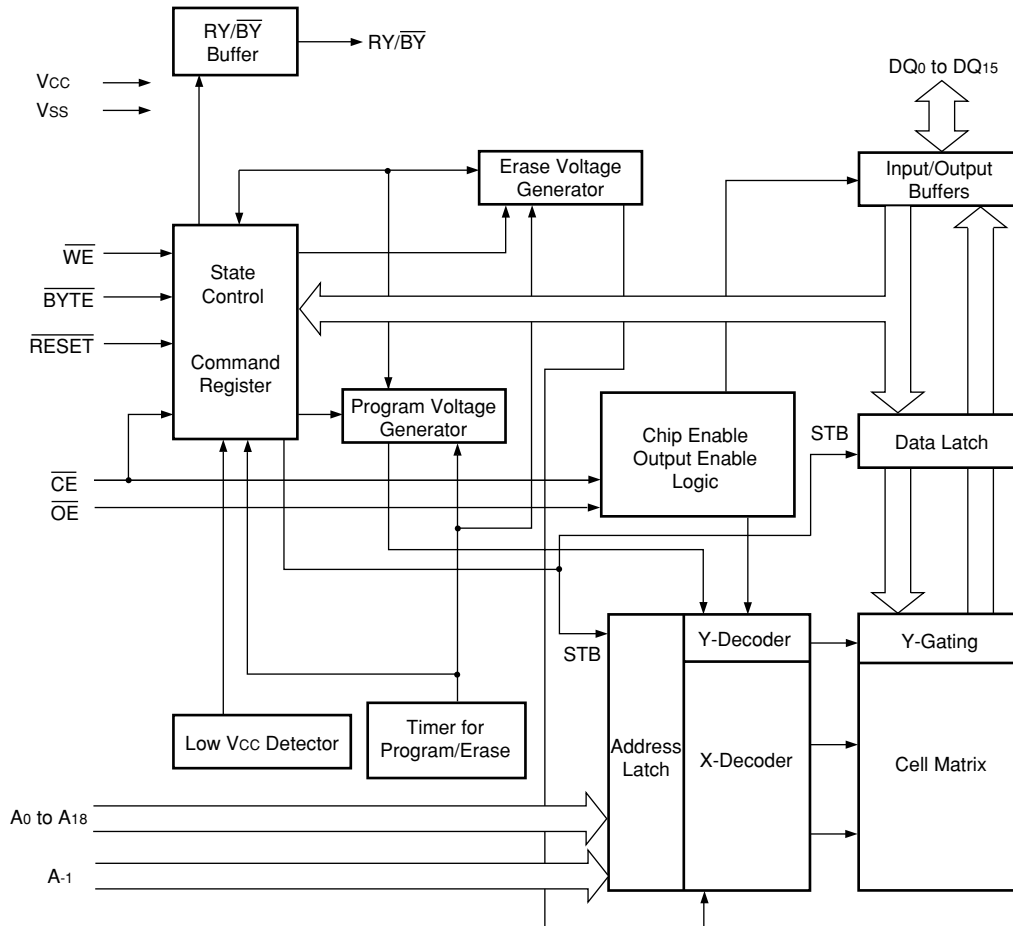
5. DIAGNOSTIC OPERATION

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.

```
Ioc  Ver :  4233 AANZAC        ◄── IOC
Mask Ver :  4207 AAOAAA        ◄── MASK ROM
Diag Ver :                      ◄── DIAG
May 25 2005    09:54
```

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]

Mode display
1:PGM, 2:RF, 3:REG1, 4:REG2, 5:X 6:Z, 7:XZ2, 8:OFF

Receipt head
 Off : Head down On : Head up

Journal head
 Off : Head down On : Head up

No receipt paper
 Off : Paper available   On : No paper

No journal paper
 Off : Paper available   On : No paper

CF CARD sensor
 Off : Not yet inserted On : Inserted

Drawer 1 sensor
 Off : CLOSE   On : OPEN

Drawer 2 sensor
 Off : CLOSE   On : OPEN

E-STAMP sensor
 Off : Not yet inserted On : Inserted

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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	CG READ test	n017		37
11	FLASH USER AREA clear test	212		37
12	Display test	n021		38
13	Backlight test	c0121		39
14	Pop-up 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 dipsplay	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
```

$n = 0 \rightarrow 1 \rightarrow 2 \rightarrow 3 \rightarrow 2 \rightarrow 3$

[Main display]

```
D I AG              1


0 0 n
```

$n = 0 \rightarrow 1 \rightarrow 2 \rightarrow 3 \rightarrow 2 \rightarrow 3$

[Print]
* Normal print

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

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

[2] Batch test 2

[Function]
 Display test and backlight test are 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.(Same in the backlight test also)
 Press any key to go on to the next test. (Same in the backlight test also)
(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
```

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[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 (-400H) 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]

| D I A G   0 0 1 1 |
| |
| 0 0 n |

n=0 → 1 → 2 → 3→ 2 → 3

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

```
RAM              1 1
RAM WR           OK
END              1 1
```

* The result is printed as follows if the test ended with an error.
  If an error occurs while checking the BANKO address 0x60400 for normal RAM

```
STD 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 BANKO	NG if the BANKO address for RAM is ******** to 1Kbyte.
RAM WR NG BANK1	NG if the BANK1 address for AM is ******* to 1Kbyte.

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[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]

```
DIAG            0111

00n
```

n=0 → 1 → 2 → 3

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

```
RAM              111
RAM RD           OK
END              111
```

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          13
CF WR            OK
END              13
```

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

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[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]

```
CF-CARD        113
CF  RD         OK
END            113
```

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

[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]

```
CF-CARD        213
CF  CLR        OK
END            213
```

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

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[8] CF-CARD CLEAR WRITE/READ test

[Function]
This test will check the clear Åïwrite/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]

```
CF-CARD          313
CF  CLR&WR       OK
END              313
```

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

[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 R Europe, 20 R US, 30 R UK, 40 R Germany,
              50 R Canada, 60 R Direct, 61 R Direct (Hebrew)

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

```
LOCALE           x1x20016
LOCALE           OK
END              x1x20016
```

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 |

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[10] CG READ test

[Function]
   Perform the READ ONLY test for OG.

[Operation]

Operation : | n | 0 | 1 | 7 | SUBTOTAL

n : 0   =   One time check (can be omitted)
     not 0 =   Continuous check (Press "C" key or turn off the power by rotating the key to stop
                this test.)

[PRINT]
The address is not printed when the error occurs.

```
C G                 1 7
C G   R D           O K
E N D               1 7
```

NG is printed if CHECK SUM value is not normal.

[11] FLASH USER AREA clear test

[Function]
   Clear the area of LOCALE/CONTRAST setting.

[Operation]

Operation : | 2 | 1 | 2 | SUBTOTAL

[PRINT]

```
R O M               2 1 2
R O M   C L R       O K
E N D               2 1 2
```

NG is printed if the test is not done correctly.

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[12] Display test

[Function]
   LCD, Pop-up display and transaction display tests are performed (as follows).

	[Pop-up display]	[Main display]
Input command		
↓		
Pattern 1	8.8.8.8.8.8.8.8.	8,8,8,8,8,8,8,8,8,8,
↓ Press any key		
Pattern 2	3 4 5 6 7 8 9 0	A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f 1 2 3 4 5 6 7 8 9 0
↓ Press any key		
End		
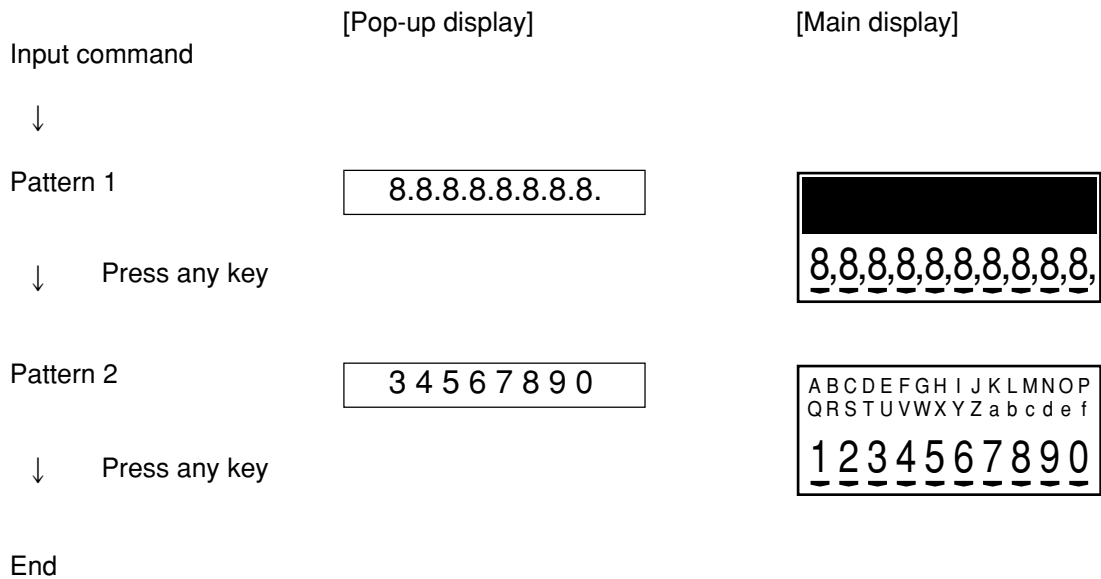
[Operation]

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            21
DISP            OK
END             21
```

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[13] Backlight test

[Function]
    This is a test for the LCD backlight.

[Operation]

Operation : | c | 0 | 1 | 2 | 1 | SUBTOTAL |

    C : Designating the backlight color
        0   =   Batch test
                  The color changes as follows upon the press of keys.
                  White → Green → Red
        1   =   OFF
        2   =   White
        3   =   Green
        4   =   White + Green

[PRINT]
When inputting 0 or without inputting in "C", 121 is printed.

```
BACK  LIGHT        121
BACK  LIGHT        OK
END                121
```

When inputting numbers 1 to 4 in "C", the number input on C and 0120 are printed as the figure shown.

```
BACK  LIGHT        c 0 1 2 1
BACK  LIGHT        OK
END                c 0 1 2 1
```

[14] 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 |

[Main display]

```
DIAG              221

1234567890
```

[PRINT]

```
DISP  7SEG        221
DISP  7SEG        OK
END               221
```

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[15] LCD test

[Function]
    Perform LCD display pattern test.
    Display 4 patterns as follows.
    Press "C" key or turn off the power to stop the test while performing one time check.
    Turn off the power to stop the test while performing continuous check.

	[Pop-up display]	[Main display]
Input command		
↓		
Pattern 1	3 4 5 6 7 8 9 0	A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f 1 2 3 4 5 6 7 8 9 0
↓ Press any key		
Pattern 2	7.6.5.4.3.2.1.0.	A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f 9,8,7,6,5,4,3,2,1,0,
↓ Press any key		
Pattern 3		
↓ Press any key		
Pattern 4	8.8.8.8.8.8.8.8.	8,8,8,8,8,8,8,8,8,8,
↓ Press any key		

    End
     One time check→Press the optional key or turn off the power.
     Continuous check→turn off the power.

[Operation]

    Operation : | n | 3 | 2 | 1 | | SUBTOTAL |

    n : 0   =   One time check (can be omitted)
          not 0   =   Continuous check (To stop the test, press "C" key)
   * After the test, pattern 4 is displayed until any key is depressed.

[PRINT]

```
DISP            321
DISP MAIN       OK
END             321
```

[16] LCD CONTRAST ADJUSTMENT

[Function]

Adjust the contrast for LCD and then write the value into the FLASH.

FLASH can be written 16 times. Error occurs if it's written more than 16 times. Clear the FLASH for MASK DIAG and then set the IPL and LOCALE again to write after 16 times.

Contrast value is selected as same as the previous setting ("32" is selected for no setting).

Press "CA/AMT TEND" button to correct writing after adjustment.

[Operation]

Operation : | 4 | 2 | 1 | | SUBTOTAL |

Press buttons as follows to operate.

"DARK►" button	:	contrast +1
"◄LIGHT" button	:	contrast -1
"CA/AMT TEND" button	:	Contrast determination (Write into Flash) Contrast adjustment is completed.
"C" button	:	Stop adjusting
Turn off the power	:	Stop adjusting

[Pop-up display]

| 3 4 5   X X |

XX is the setting value.

[Main display]

```
A B C D E F G H I J K L M N O P
Q R S T U V W X Y Z a b c d e f
1 2 3 4 5 _ _ _ X X
```

XX is the setting value.

[PRINT]

```
D I S P          4 2 1
L C D   C O N T R A S T     X X
E N D            4 2 1
```

XX is the setting value.

```
L C D   C O N T R A S T     N G
```

It is printed if the error occurs.

```
L C D   C O N T R A S T     O V E R
```

It is printed if the flash is written more than 16 times.

```
L C D   C O N T R A S T     E S C
```

It is printed if "C" key is depressed.

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[17] Display test (repeat)

[Function]
LCD, Pop-up display and transaction display tests are performed as follows.

	[Pop-up display]	[Main display]
Input command		
↓		
Pattern 1	8.8.8.8.8.8.8.8.	8.8.8.8.8.8.8.8.8.8.
↓ Press any key		
Pattern 2	3 4 5 6 7 8 9 0	A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f 1 2 3 4 5 6 7 8 9 0
↓ Press any key		
End		
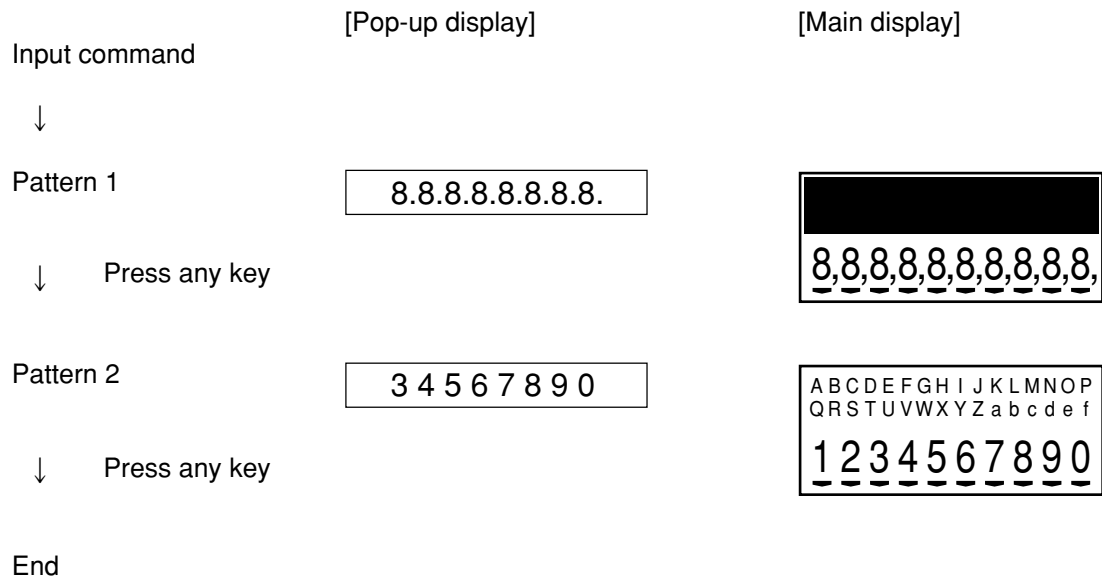
[Operation]

Operation :   5   2   1   SUBTOTAL

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

[PRINT]

```
D I S P          5 2 1
D I S P          O K
E N D            5 2 1
```

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[18] 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'

```
B B B B B B B B B B B B B B B B B B B B B B B
```

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.

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[19] Internal printer graphic print test

[Function]
　　This test will check the graphic patterns in the receipt/journal of the internal printer.

[Operation]

Operation : | P1 | P1 | P1 | P2 | P2 | P2 | n | 1 | 3 | d | SUBTOTAL

P1 : 0　　= Graphic patter 1 (change 8 bit into a decimal number and input it)
P2 : 0　　= Graphic patter 2 (change 8 bit into a decimal number and input it)
n　: 0　　= One time check (can be omitted)
　　　not 0 = Continuous check (To stop the test, press "C" key)
d　: 3　　= prints only receipt
　　　4　　= prints only journal
　　　5　　= prints both receipt/journal (prints alternately)

The graphic patterns and the print images are as follows;

| Graphic pattern 1 |
| Graphic pattern 2 |
| Graphic pattern 1 |
| Graphic pattern 2 |

　　　　　　:
　　　　: repeat (for 28 Dot line)

* Print patterns and commands
① Receipt, 25% pattern, continuous

Print pattern image

| 0 | 8 | 5 | 0 | 0 | 0 | 1 | 1 | 3 | 3 | SUBTOTAL

The display unit of the print pattern image in the right is as follows;
Horizontal: dot
Vertical: do line

② Receipt, 50% pattern, continuous

Print pattern image

| 0 | 8 | 5 | 1 | 7 | 0 | 1 | 1 | 3 | 3 | SUBTOTAL

The display unit of the print pattern image in the right is as follows;
Horizontal: dot
Vertical: do line

③ Receipt, 100% pattern, continuous

Print pattern image

| 2 | 5 | 5 | 2 | 5 | 5 | 1 | 1 | 3 | 3 | SUBTOTAL

The display unit of the print pattern image in the right is as follows;
Horizontal : dot
Vertical : do line

[Print] Refer to "Print patterns and commands".

— 44 —
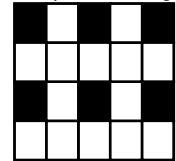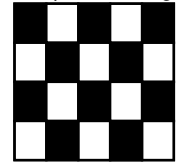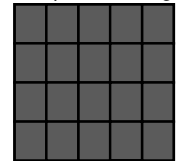
[20] Internal printer dot rate test

[Function]

This test will check the printing of the receipt/journal according to the following specifications.
The printing specification is reflected in 1/2 line and the only specified number of dot lines are printed in all dots from the 1 dot line.
Note that 1/2 line is printed two times because the printing unit is one line.

[Operation]

Operation :　| p | n | 3 | 3 | d | SUBTOTAL |

p : 0　=　3 dot line
　　1　=　5 dot line
　　2　=　7 dot line
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 3 dot lines

The first 3 dot lines in the 1/2 line (14 dot lines) out of one line are printed in all dots.

3 dot lines (printed in all dots)
11 dot lines (no printing)
3 dot lines (printed in all dots)
11 dot lines (no printing)

Printing image of 1/2 line (14 dot lines)
Printing image of 1/2 line (14 dot lines)

printing image of 1 line (28 dot lines)

② 5 dot lines

The first 3 dot lines in the 1/2 line (14 dot lines) out of one line are printed in all dots.

5 dot lines (printed in all dots)
9 dot lines (no printing)
5 dot lines (printed in all dots)
9 dot lines (no printing)

Printing image of 1/2 line (14 dot lines)
Printing image of 1/2 line (14 dot lines)

printing image of 1 line (28 dot lines)

③ 7 dot lines

The first 3 dot lines in the 1/2 line (14 dot lines) out of one line are printed in all dots.

7 dot lines (printed in all dots)
7 dot lines (no printing)
7 dot lines (printed in all dots)
7 dot lines (no printing)

Printing image of 1/2 line (14 dot lines)
Printing image of 1/2 line (14 dot lines)

printing image of 1 line (28 dot lines)

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[21] Internal printer print value test

[Function]
Printing is performed to the internal printer receipt/ journal according to the following print format.
This test is performed only once.

[Operation]

Operation : | 4 | 3 | 5 | SUBTOTAL |

[Print]

```
_____

0 1 2 3 4 5 6 7 8 9 : ; < = > ? @ A B C D E F G
H I J K L M N O P Q R S T U V W X Y Z [ \ ] ^ _
' a b c d e f g h i j k l m n o p q r s t u v w
```

7 dot line black printing
one line feed

Character codes from 0x30 to 0x7c are printed for 3 lines.

Receipt side: cut
Journal side : Feeds to the cut position of the receipt.

[22] Internal printer print density test

[Function]
This will set the print density of the internal printer.
This setting is kept until the power is off. The setting will return to the default once the power is turned off.

[Operation]

Operation : | x | 0 | 2 | 3 | 5 | SUBTOTAL |

x: 0 = 1.0 time (default)
1 = 1.1 time
2 = 0.9 time

[LCD]
No display

[Print]
No print

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[23] 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

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

[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              xn041
 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               xn041
```

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              xn042
 RTS2=1  -->  CTS2=0       OK
 DTR2=1  -->  DSR2=0       OK
 RTS2=0  -->  CTS2=0       OK
 DTR2=0  -->  DSR2=0       OK
 TxD       -->   RxD       OK
 END               xn042
```

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[24] 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 : | 4 | | 0 | | SUBTOTAL |

    Baud rate: COM1: 19.2kbps, COM 2 : 9600 bps
    Check time: one time (stable)

[Print]

```
COM BATCH       40
RTS1=1 --> CTS1=0      OK  ⎫
DTR1=1 --> DSR1=0      OK  ⎪
DTR1=1 -->  CD1=0      OK  ⎪
DTR1=1 -->  CI1=0      OK  ⎬ COM 1 test result
RTS1=0 --> CTS1=0      OK  ⎪
DTR1=0 --> DSR1=0      OK  ⎪
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  ⎬ COM 2 test result
DTR2=0 --> DSR2=0      OK  ⎪
TxD     -->  RxD       OK  ⎭
END             40
```


Figure : RS232C port connection

※ outputs "1" → "0" from the output terminal and checks the input terminal.
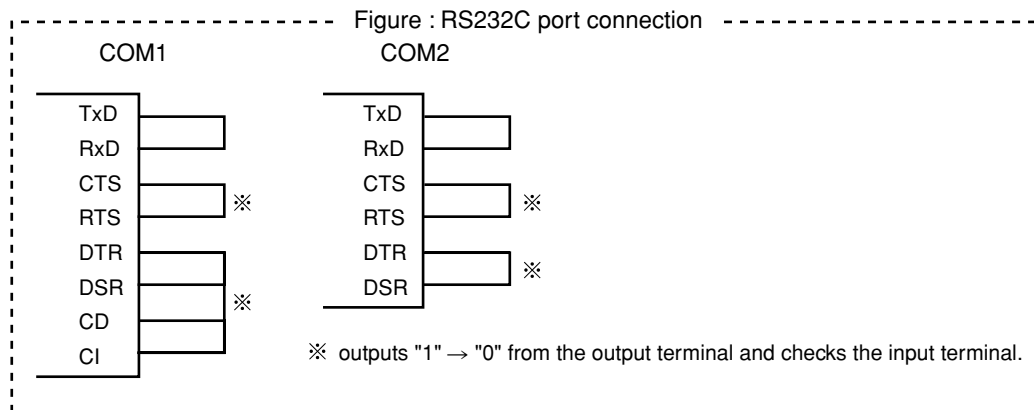
[25] Time setting

[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          70
ESC
END                70
```

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[26] 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
    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
```

[27] 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
```

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[28] Consumption current

[Function]
    Connect LCD, REAR, DISP, OBR, and DRW then perform the test as follows.
    All Pop-up display and Main display turn on. Repeat printing in the internal printer.

[Operation]

    Operation : | 1 | 9 | 3 | SUBTOTAL |

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

[Pop-up display]

    | 8.8.8.8.8.8.8.8. |

[Main display]

    | D I A G   1 9 3 |
    | |
    | 8.8.8.8.8.8.8.8.8.8, |

[Print]
Prints only in the receipt of the internal printer
with 50% dot rate.

Print pattern image
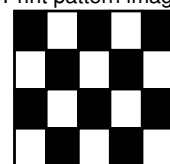
[29] KEY dipsplay

[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]

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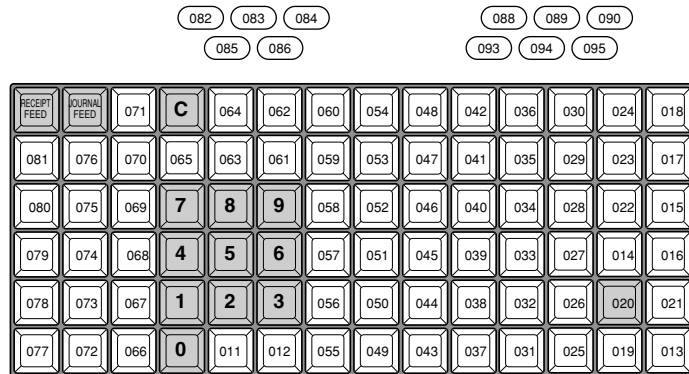
TE-2400 for Eu

038	045	052	059	066	073	080	087	094	101	108	031	029	026	RECEIPT FEED	JOURNAL FEED
037	044	051	058	065	072	079	086	093	100	107	030	028	025	023	019
036	043	050	057	064	071	078	085	092	099	106	**C**	027	024	022	018
035	042	049	056	063	070	077	084	091	098	105	**7**	**8**	**9**	021	017
034	041	048	055	062	069	076	083	090	097	104	**4**	**5**	**6**	020	015
033	040	047	054	061	068	075	082	089	096	103	**1**	**2**	**3**	014	016
032	039	046	053	060	067	074	081	088	095	102	**0**	011	012	013	

TE-2400 for US

045	052	059	066	073	080	087	094	101	108	038	036	033	030	RECEIPT FEED	JOURNAL FEED
044	051	058	065	072	079	086	093	100	107	037	035	032	029	023	019
043	050	057	064	071	078	085	092	099	106	**C**	027	031	028	022	018
042	049	056	063	070	077	084	091	098	105	**7**	**8**	**9**	027	021	017
041	048	055	062	069	076	083	090	097	104	**4**	**5**	**6**	026	020	015
040	047	054	061	068	075	082	089	096	103	**1**	**2**	**3**	025	014	016
039	046	053	060	067	074	081	088	095	102	**0**	011	012	024	013	

[30] 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 or HHS-17) to COM 2.

* The fixed barcode is as follows.

```
4940 0250
```

[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              O K          ◄── Normal printing
OBR  ERR         *********    ◄── Prints if the test ended with an error.
ESC
END              9 5
```

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[31] Displaying the battery voltage

[Function]
Display the battery voltage. Display with three digits.
Example : "300" indicates "3.00" v.

[Operation]

Operation : | 9 | 6 | | SUBTOTAL |

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

[Pop-up display]

| X X X |

xxx : battery voltage

[Main display]

| D I A G 9 6 |
| |
| X X X |

xxx : battery voltage

[Print]
No printing in this test.

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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>.
E032	Press FSST key	Finalization of a transaction attempted without confirming of the food stamp subtotal.	Press <FS/ST>.
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.

Error code	Message	Meaning	Action
E044	Print Cheque	Attempt to register a new transaction without printing check.	Perform check print.
E045	Print Check Endorsement	Attempt to register a new transaction without printing check endorsement.	Perform check endorsement.
E046	REG buffer full	Registration buffer full.	Finalize the transaction.
E047	Print bill	Separate check buffer full.	Allocate sufficient separate check buffer.
E048	Insert slip paper and retry	Attempt to register a new transaction without printing slip. No paper is inserted or paper is out in the slip printer.	Perform slip printing operation. 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.

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Error code	Message	Meaning	Action
E114	Close the receipt platen arm	The receipt platen arm is opened.	Close the receipt platen arm.
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 (IC3, IC11, IC12, IC38)

Pin	Signal
1	OUT1
2	−IN1
3	+IN1
4	V_{EE}
8	V_{CC}
7	OUT2
6	−IN2
5	+IN2

1ch, 2ch

2. LB1936V (IC2, IC10)

LB1936V

Pin	Signal
1	VS
2	V_{CC}
3	IN1
4	IN2
5	S-GND
6	IN3
7	IN4
8	VS
16	P-GND
15	RFG1
14	OUT1
13	OUT2
12	OUT3
11	OUT4
10	RFG2
9	(NC)

LB1936V

Control and logic circuit

Output drive circuit

10 uF

V_{CC}

IN1   30K   30K
IN2   30K   30K
IN3   30K   30K
IN4   30K   30K

S-GND

VS
OUT1
OUT2
RFG1
VS
OUT3
OUT4
RFG2
P-GND

Stepping Motor

10 uF

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3. MAX3243CPW (IC22)

```
        C2+ | 1      28 | C1+
        C2± | 2      27 | V+
         V± | 3      26 | V_CC
       RIN1 | 4      25 | GND
       RIN2 | 5      24 | C1±
       RIN3 | 6      23 | FORCEON
       RIN4 | 7      22 | FORCEOFF
       RIN5 | 8      21 | INVALID
      DOUT1 | 9      20 | ROUT2B
      DOUT2 | 10     19 | ROUT1
      DOUT3 | 11     18 | ROUT2
       DIN3 | 12     17 | ROUT3
       DIN2 | 13     16 | ROUT4
       DIN1 | 14     15 | ROUT5
```

DIN1 **14** → **9** DOUT1
DIN2 **13** → **10** DOUT2
DIN3 **12** → **11** DOUT3

FORCEOFF **22** → **Auto-powerdown** → **21** INVALID
FORCEON **23** →

ROUT1 **19** ← **4** RIN1
ROUT2B **20** ← **20**
ROUT2 **18** ← **5** RIN2
ROUT3 **17** ← **6** RIN3
ROUT4 **16** ← **7** RIN4
ROUT5 **15** ← **8** RIN5

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	Normal operation with auto-powerdown disabled/enabled

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

4. MX23C1610MC10GSA01 (IC18)

```
        ┌──────────────┐
NC  ──│○ 1        44 │── NC
A18 ──│  2        43 │── A19
A17 ──│  3        42 │── A8
A7  ──│  4        41 │── A9
A6  ──│  5        40 │── A10
A5  ──│  6        39 │── A11
A4  ──│  7        38 │── A12
A3  ──│  8        37 │── A13
A2  ──│  9   M    36 │── A14
A1  ──│ 10   X    35 │── A15
A0  ──│ 11   2    34 │── A16
CE  ──│ 12   3    33 │── BYTE
VSS ──│ 13   C    32 │── VSS
OE  ──│ 14   1    31 │── D15/A-1
D0  ──│ 15   6    30 │── D7
D8  ──│ 16   1    29 │── D14
D1  ──│ 17   0    28 │── D6
D9  ──│ 18        27 │── D13
D2  ──│ 19        26 │── D5
D10 ──│ 20        25 │── D12
D3  ──│ 21        24 │── D4
D11 ──│ 22        23 │── VCC
        └──────────────┘
```
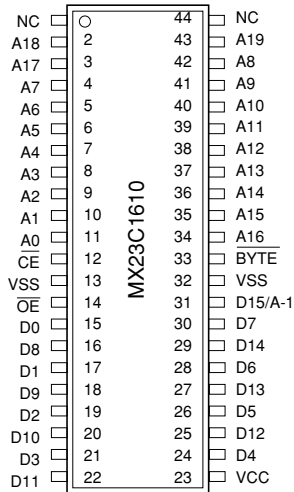
MODE SELECTION

$\overline{CE}$	$\overline{OE}$	$\overline{Byte}$	D15/A-1	D0~D7	D8~D15	Mode	Power
H	X	X	X	High Z	High Z	-	Stand-by
L	H	X	X	High Z	High Z	-	Active
L	L	H	Output	D0~D7	D8~D15	Word	Active
L	L	L	Input	D0~D7	High Z	Byte	Active

BLOCK DIAGRAM
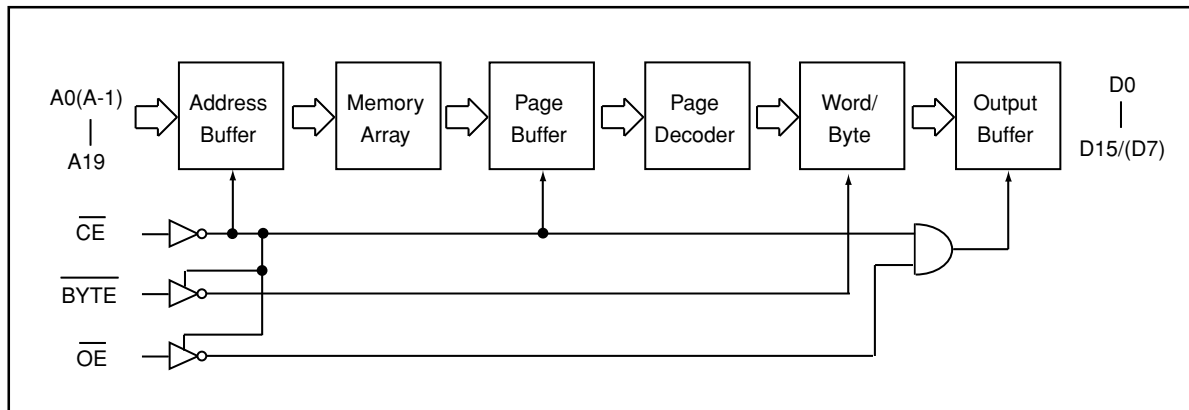
5. S-80123BNMC-JGIT2G (IC42)
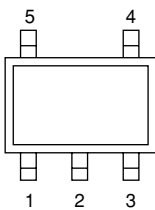
PIN NO.	PIN NAME	Function
1	DS	Delay time ON/OFF switch PIN
2	VSS	GND
3	NC	Not used
4	OUT	OUTPUT POWER SUPPLY DETECTOR
5	VDD	INPUT POWER SUPPLY
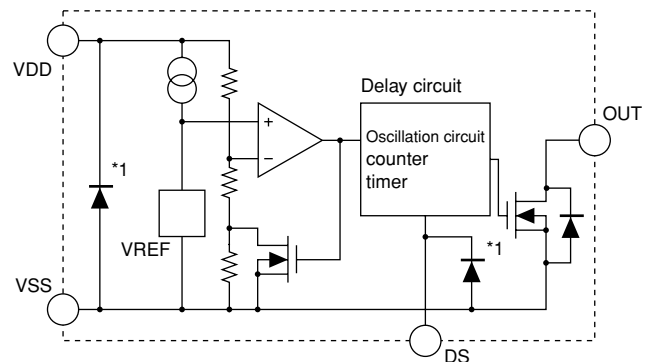
*1; Parasitic diode

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6. SN74AHCT244 (IC31)
SN74LV244 (IC8, IC35, IC39, IC40, IC41)
SN74LVC244 (IC36, IC37)

Pin	Signal		Pin	Signal
1	$1\overline{G}$		20	V_{CC}
2	1A1		19	$2\overline{G}$
3	2Y4		18	1Y1
4	1A2		17	2A4
5	2Y3		16	1Y2
6	1A3		15	2A3
7	2Y2		14	1Y3
8	1A4		13	2A2
9	2Y1		12	1Y4
10	GND		11	2A1
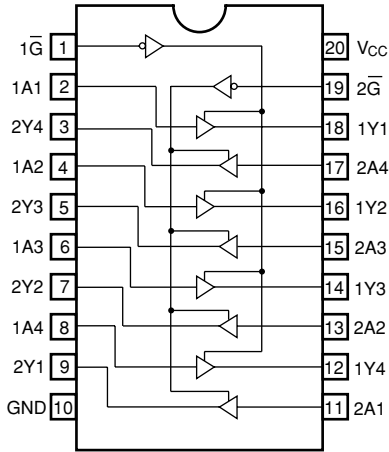
7. SN74AHCT08 (IC45)
SN74LV08 (IC1, IC5, IC9, IC17)

Pin	Signal		Pin	Signal
1	1A		14	VCC
2	1B		13	4B
3	1Y		12	4A
4	2A		11	4Y
5	2B		10	3B
6	2Y		9	3A
7	GND		8	3Y

8. SN74LV04 (IC19, IC21)

Pin	Signal		Pin	Signal
1	1A		14	VCC
2	1Y		13	6A
3	2A		12	6Y
4	2Y		11	5A
5	3A		10	5Y
6	3Y		9	4A
7	GND		8	4Y

9. SN74LV11 (IC25)

Pin	Signal		Pin	Signal
1	1A		14	VCC
2	1B		13	1C
3	2A		12	1Y
4	2B		11	3C
5	2C		10	3B
6	2Y		9	3A
7	GND		8	3Y

10. SN74LV139 (IC24)

Pin	Signal		Pin	Signal
1	$1\overline{G}$		16	V_{CC}
2	1A		15	$2\overline{G}$
3	1B		14	2A
4	1Y0		13	2B
5	1Y1		12	2Y0
6	1Y2		11	2Y1
7	1Y3		10	2Y2
8	GND		9	2Y3
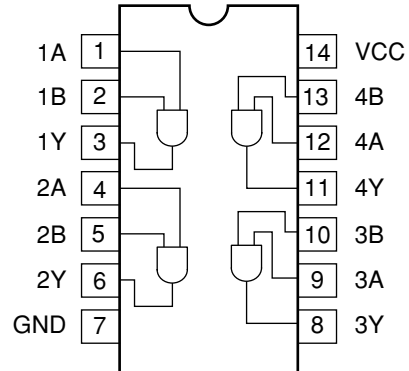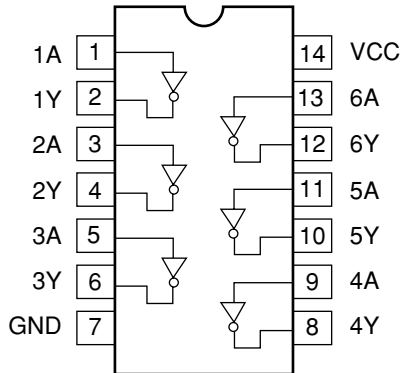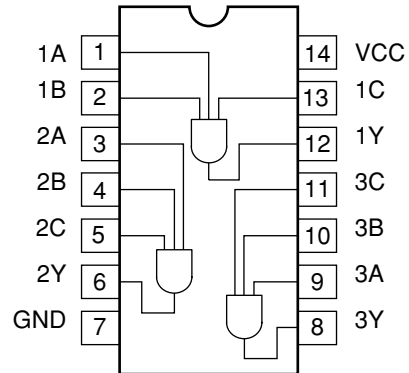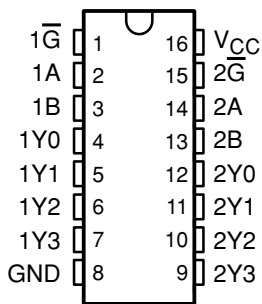
INPUTS			OUTPUTS			
$\overline{G}$	SELECT		Y0	Y1	Y2	Y3
	B	A				
H	X	X	H	H	H	H
L	L	L	L	H	H	H
L	L	H	H	L	H	H
L	H	L	H	H	L	H
L	H	H	H	H	H	L

11. SN74LV32 (IC20, IC23)

Pin	Signal		Pin	Signal
1	1A		14	VCC
2	1B		13	4B
3	1Y		12	4A
4	2A		11	4Y
5	2B		10	3B
6	2Y		9	3A
7	GND		8	3Y

12. SN74LV367 (IC4, IC7)

Pin	Signal		Pin	Signal
1	1$\overline{OE}$		16	V$_{CC}$
2	1A1		15	2$\overline{OE}$
3	1Y1		14	2A2
4	1A2		13	2Y2
5	1Y2		12	2A1
6	1A3		11	2Y1
7	1Y3		10	1A4
8	GND		9	1Y4
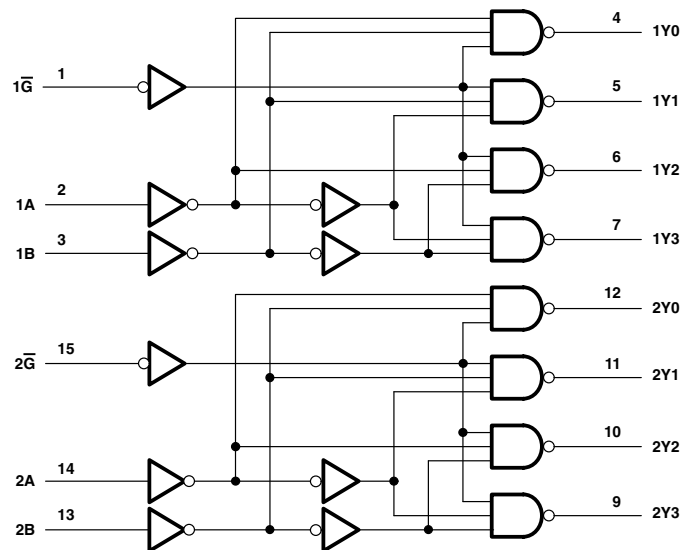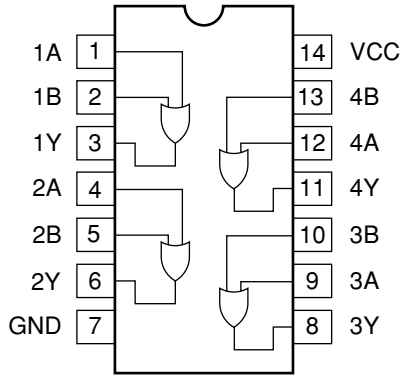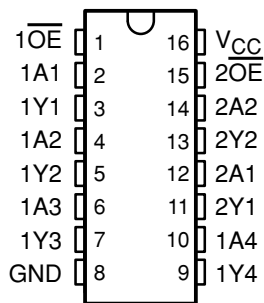
INPUTS		OUTPUT Y
$\overline{OE}$	A	
L	H	H
L	L	L
H	X	Z
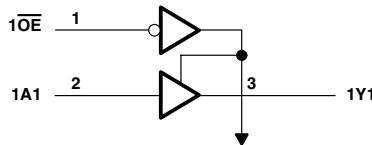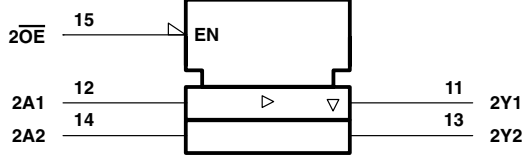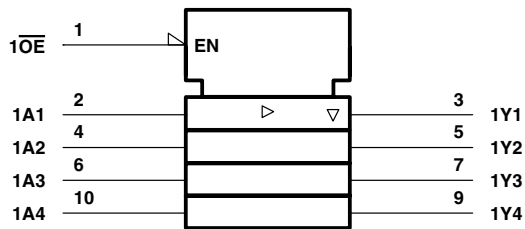
To Three Other Channels
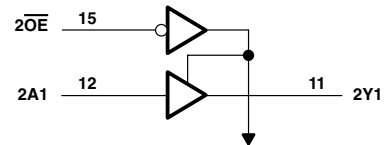
To One Other Channel

13. SN74LV373 (IC34)

Pin	Signal		Pin	Signal
1	Output Control		20	Vcc
2	1Q		19	8D
3	1D		18	8Q
4	2Q		17	7D
5	2D		16	7Q
6	3Q		15	6D
7	3D		14	6Q
8	4Q		13	5D
9	4D		12	5Q
10	GND		11	Enable G

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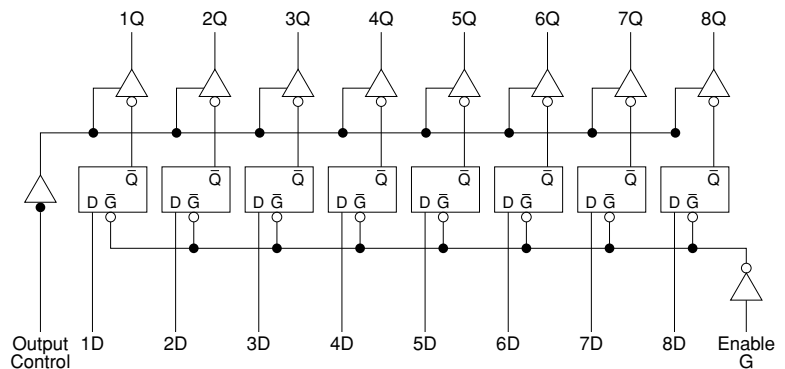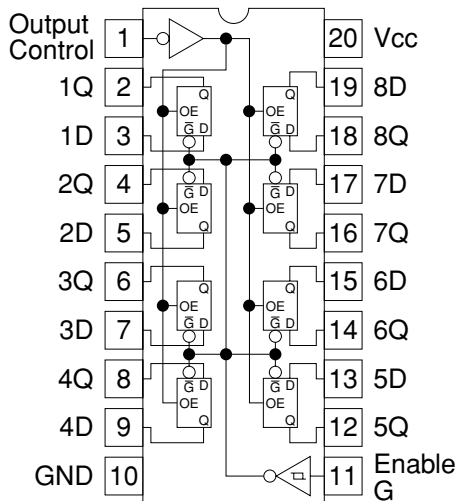
14. SN74LV374 (IC26, IC27, IC33)

OE	1		20	Vcc
1Q	2		19	8D
1D	3		18	8Q
2Q	4		17	7D
2D	5		16	7Q
3Q	6		15	6D
3D	7		14	6Q
4Q	8		13	5D
4D	9		12	5Q
GND	10		11	CLK
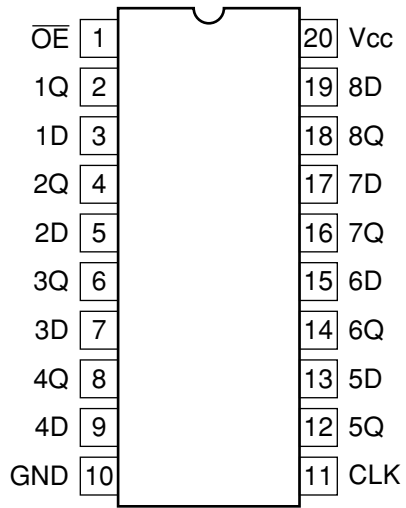
FUNCTION TABLE

INPUTS			OUTPUT
$\overline{OE}$	CLK	D	Q
L		H	H
L		L	L
L	L	X	Q_0
H	X	X	Z

15. SN74LVC1G08 (IC43)

1A	1		14	VCC
1B	2		13	4B
1Y	3		12	4A
2A	4		11	4Y
2B	5		10	3B
2Y	6		9	3A
GND	7		8	3Y

16. ULN2003ADR (IC29)

1B	1		16	1C
2B	2		15	2C
3B	3		14	3C
4B	4		13	4C
5B	5		12	5C
6B	6		11	6C
7B	7		10	7C
E	8		9	COM

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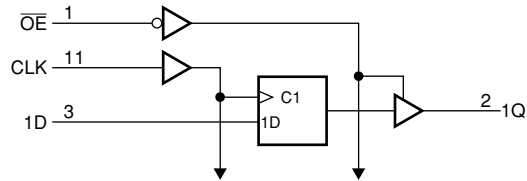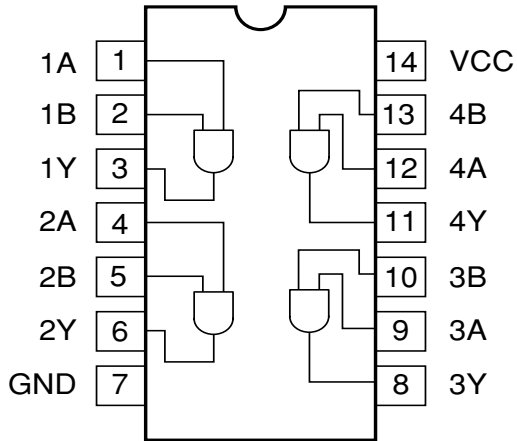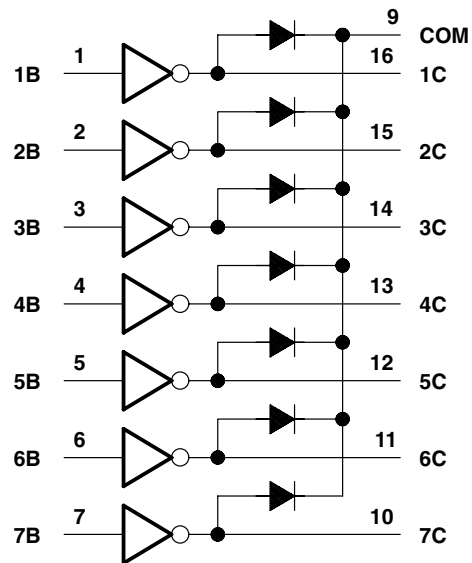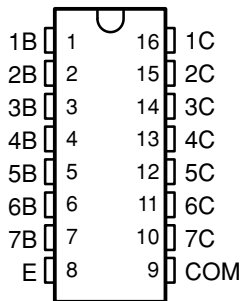
17. UPD65881MC1065A4 (IC28)

$\overline{WR}$	1	30	VCC
D0	2	29	C/D
D1	3	28	$\overline{CS1}$
D2	4	27	$\overline{RESET}$
D3	5	26	$\overline{INT}$
D4	6	25	$\overline{LCD\_CS}$
D5	7	24	A0
D6	8	23	S0
D7	9	22	SCLK
CS2	10	21	CLK
AMC	11	20	SMC
ANDI0	12	19	ORO0
ANDI1	13	18	ORI1
ANDO0	14	17	ORI0
GND	15	16	TEB
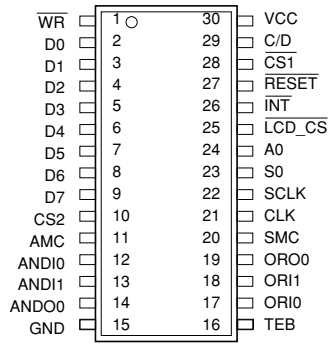
18. XC6206P332PR (IC16)

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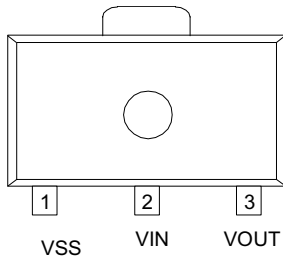
PIN NUMBER	PIN NAME	FUNCTION
1	VSS	Ground
2	VIN	Power Input
3	VOUT	Output

VIN

VOUT

Current Limit

Voltage Reference

VSS

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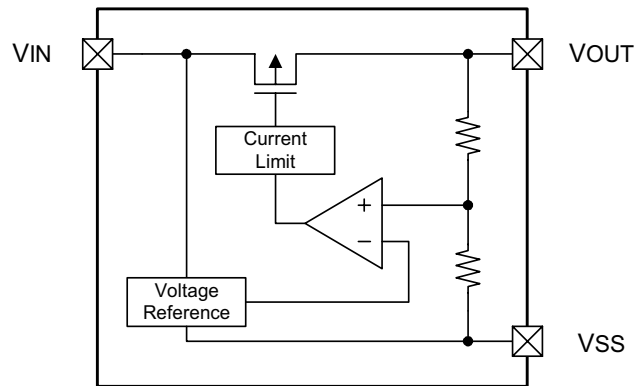
8. PCB LAYOUT

MAIN PCB (E466-1 PCB)

(TOP VIEW)
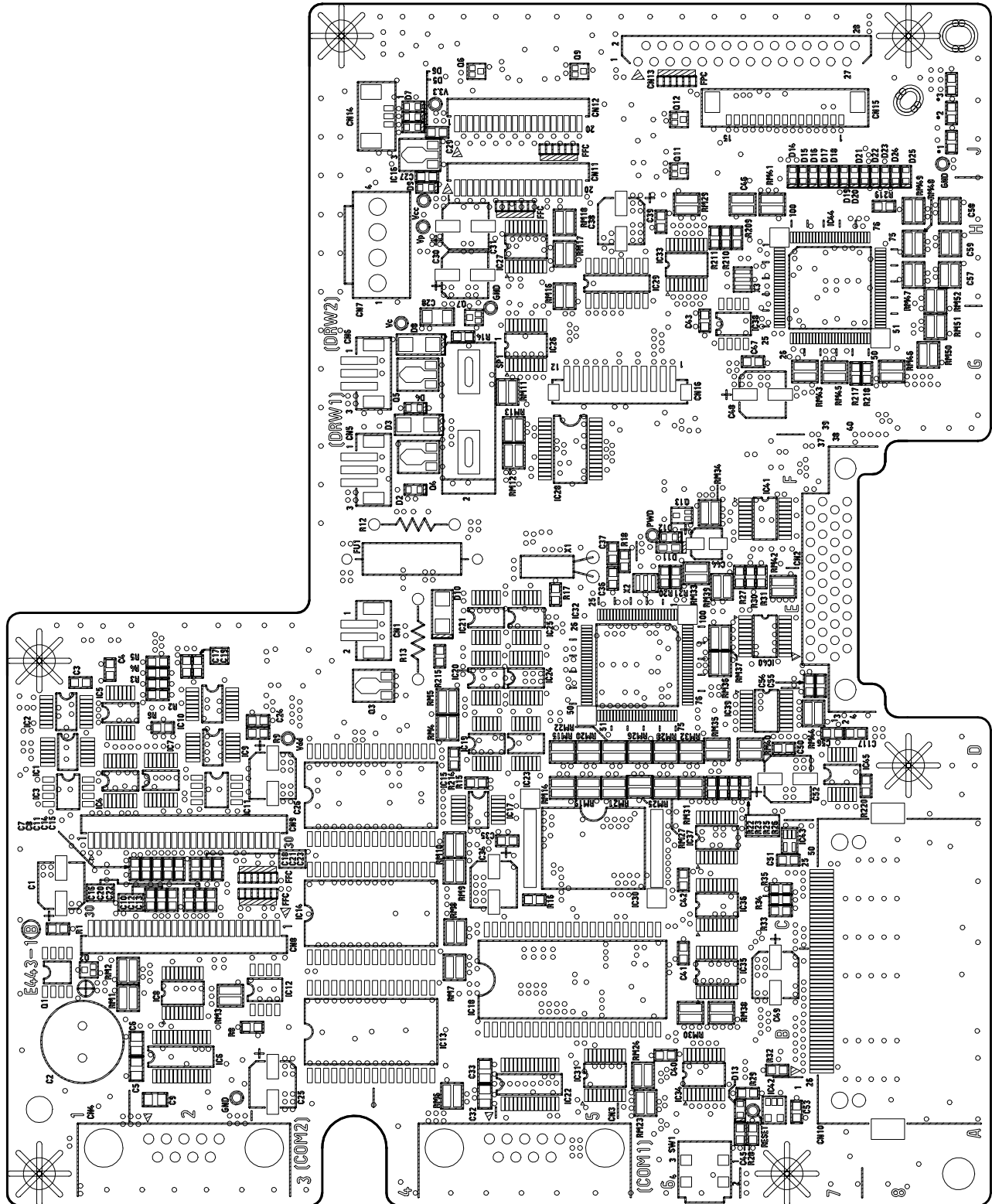
MAIN PCB (E466-1 PCB)

(BOTTOM VIEW)

— 67 —
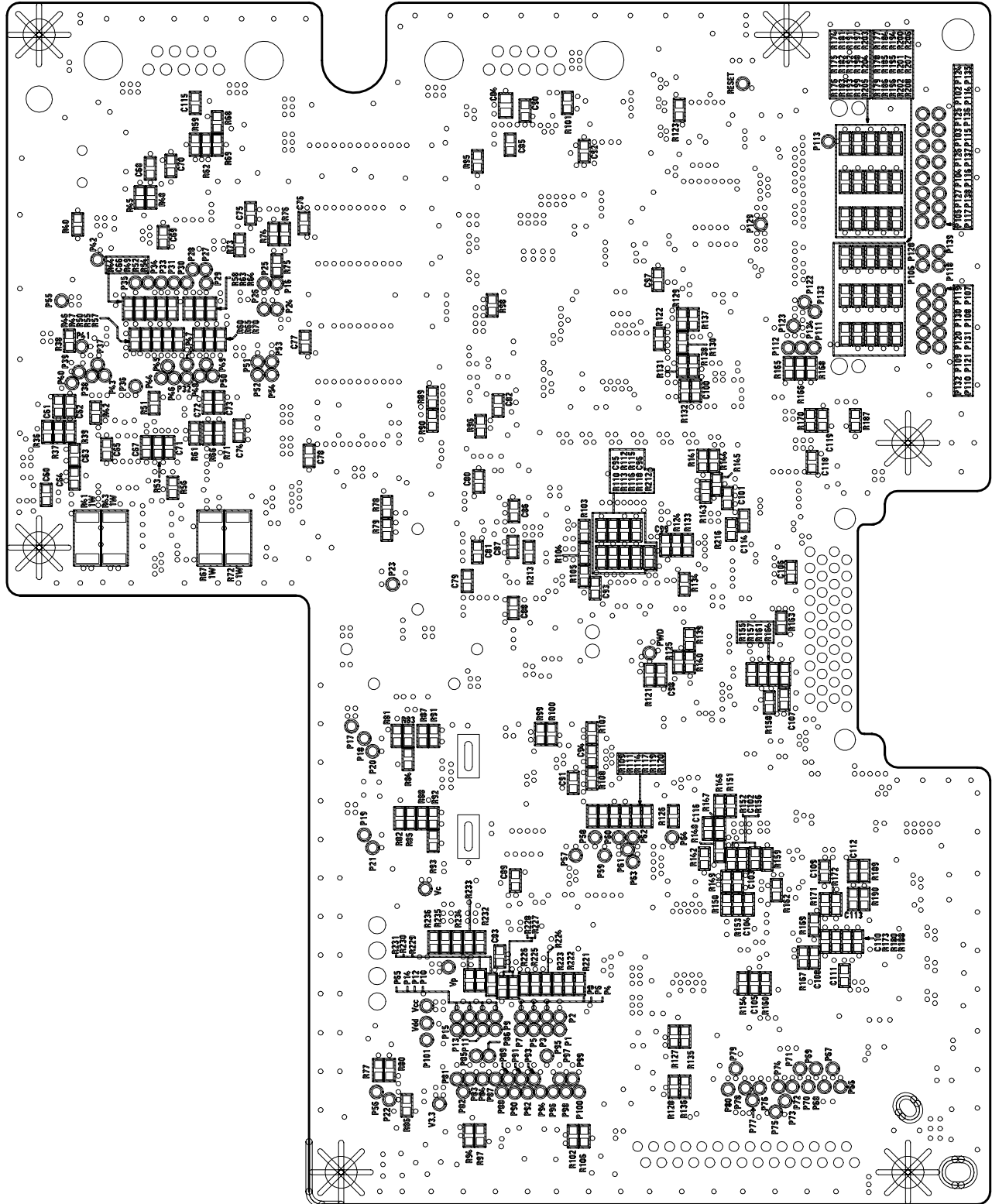
9. CIRCUIT DIAGRAM

MODEL : TE-2200/2400
(EX-443/544)

CONTENTS

Main Board [1/7] — TE-2200/2400 (EX-443/544), Board No. E443-1, Drawing No. RJE501624D302, CASIO COMPUTER CO.,LTD.

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	Model		Board No.	Name		Drawing No.
CASIO COMPUTER CO.,LTD.	TE-2200/2400 (EX-443/544)		E443-1	MAIN BOARD [3 / 7]		RJE501624D302

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	Model	TE-2200/2400 (EX-443/544)	Board No.	Name		Drawing No.
CASIO COMPUTER CO.,LTD.			E443-1	MAIN BOARD [4 / 7]		RJE501624D302

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| CASIO COMPUTER CO.,LTD. | Model | TE-2200/2400 (EX-443/544) | Board No. | E443-1 | Name | MAIN BOARD [5 / 7] | Drawing No. | RJE501624D302 |

	Model		Board No.	Name		Drawing No.
CASIO COMPUTER CO.,LTD.	TE-2200/2400 (EX-443/544)		E443-1	MAIN BOARD [6 / 7]		RJE501624D302

Model	TE-2200/2400 (EX-443/544)	Board No. E443-1	Name MAIN BOARD [7 / 7]	Drawing No. RJE501624D302

CASIO COMPUTER CO.,LTD.

TACT SW BOARD

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CASIO COMPUTER CO.,LTD.

Model	Board No.	Name	Drawing No.
TE-2200/2400 (EX-443/544)	E443-LED	LED DISPLAY BOARD [1 / 2]	RJE501624D304

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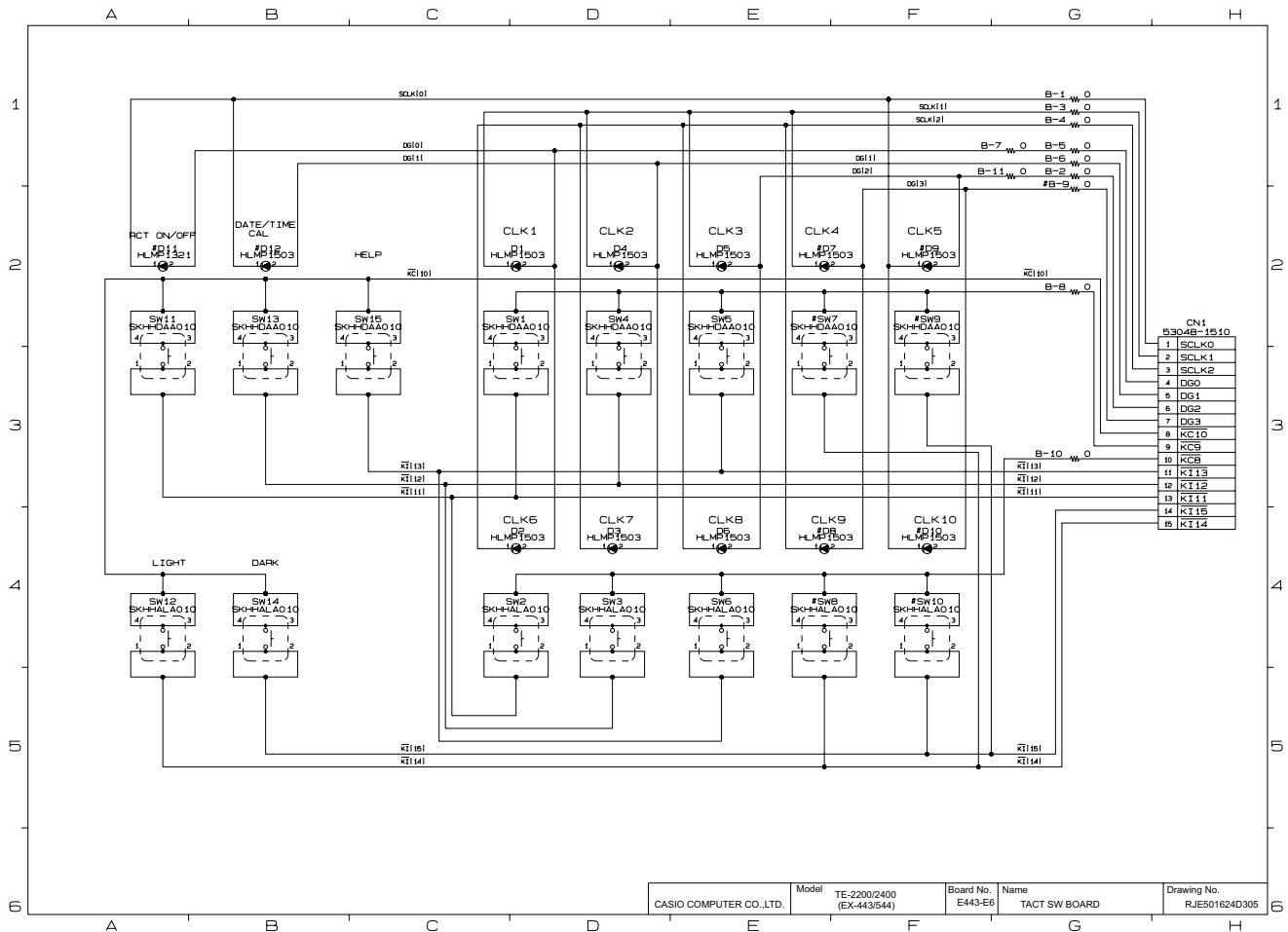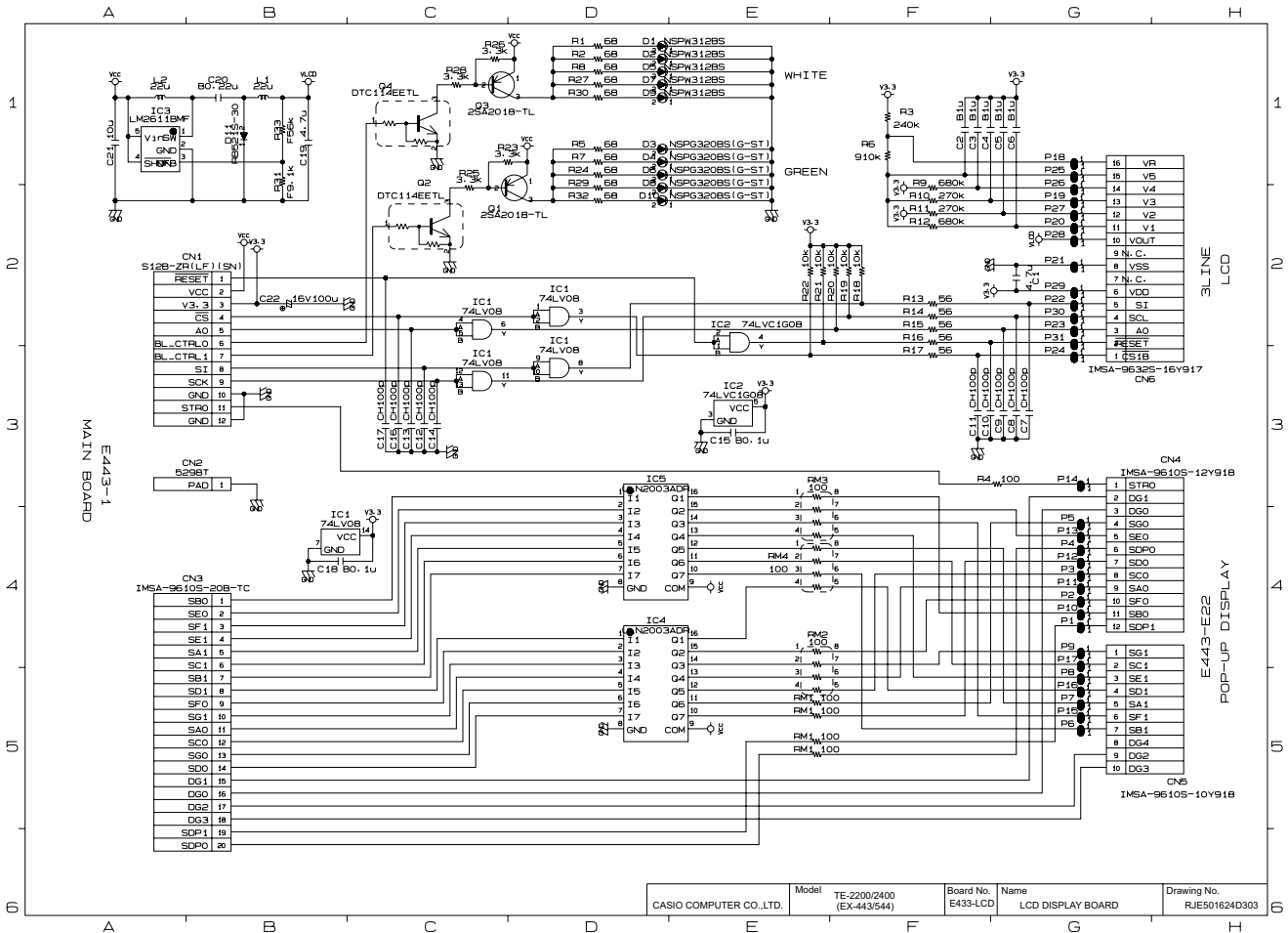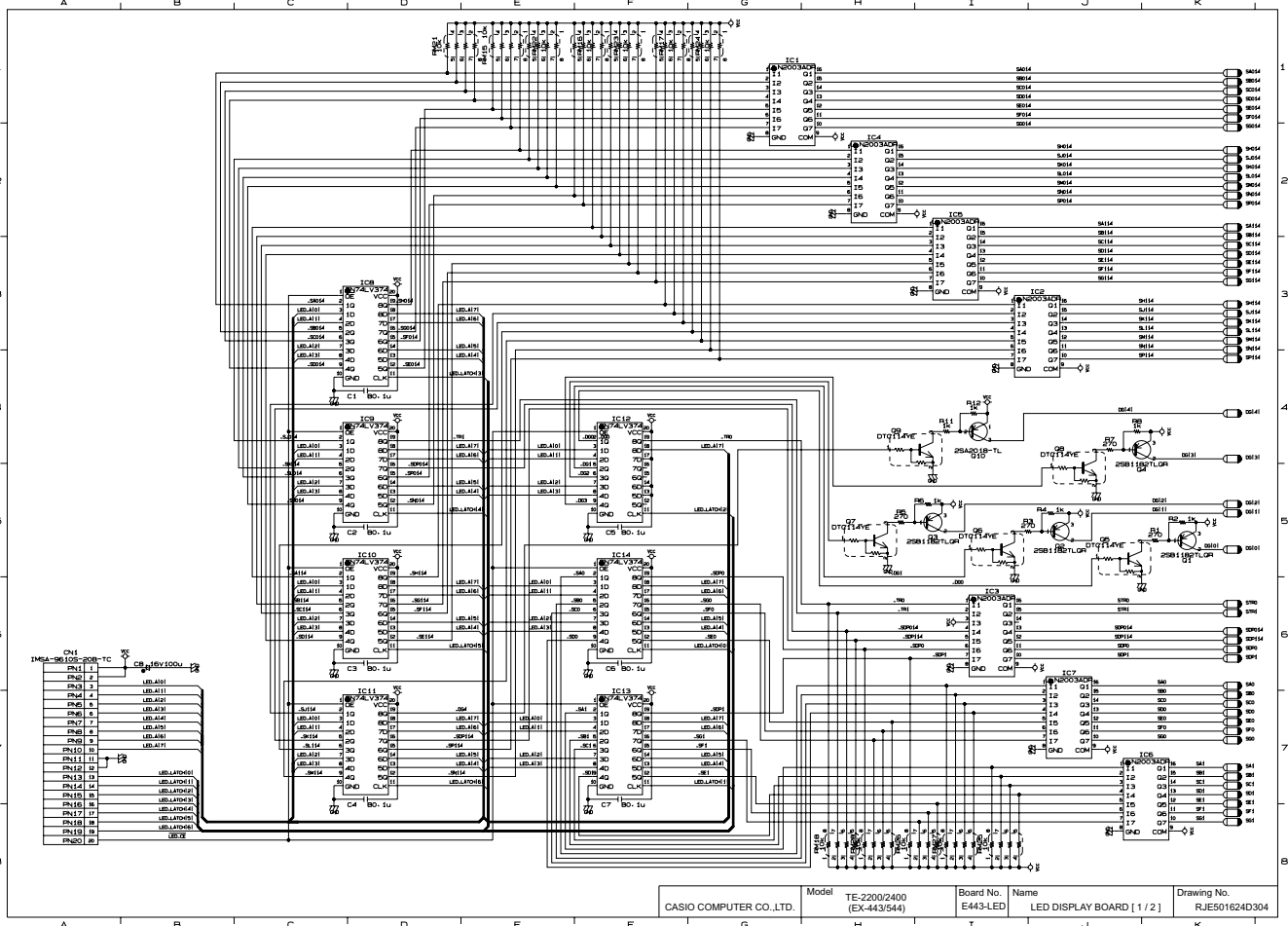
| CASIO COMPUTER CO.,LTD. | Model | TE-2200/2400 (EX-443/544) | Board No. E443-LED | Name LED DISPLAY BOARD [2 / 2] | Drawing No. RJE501624D304 |
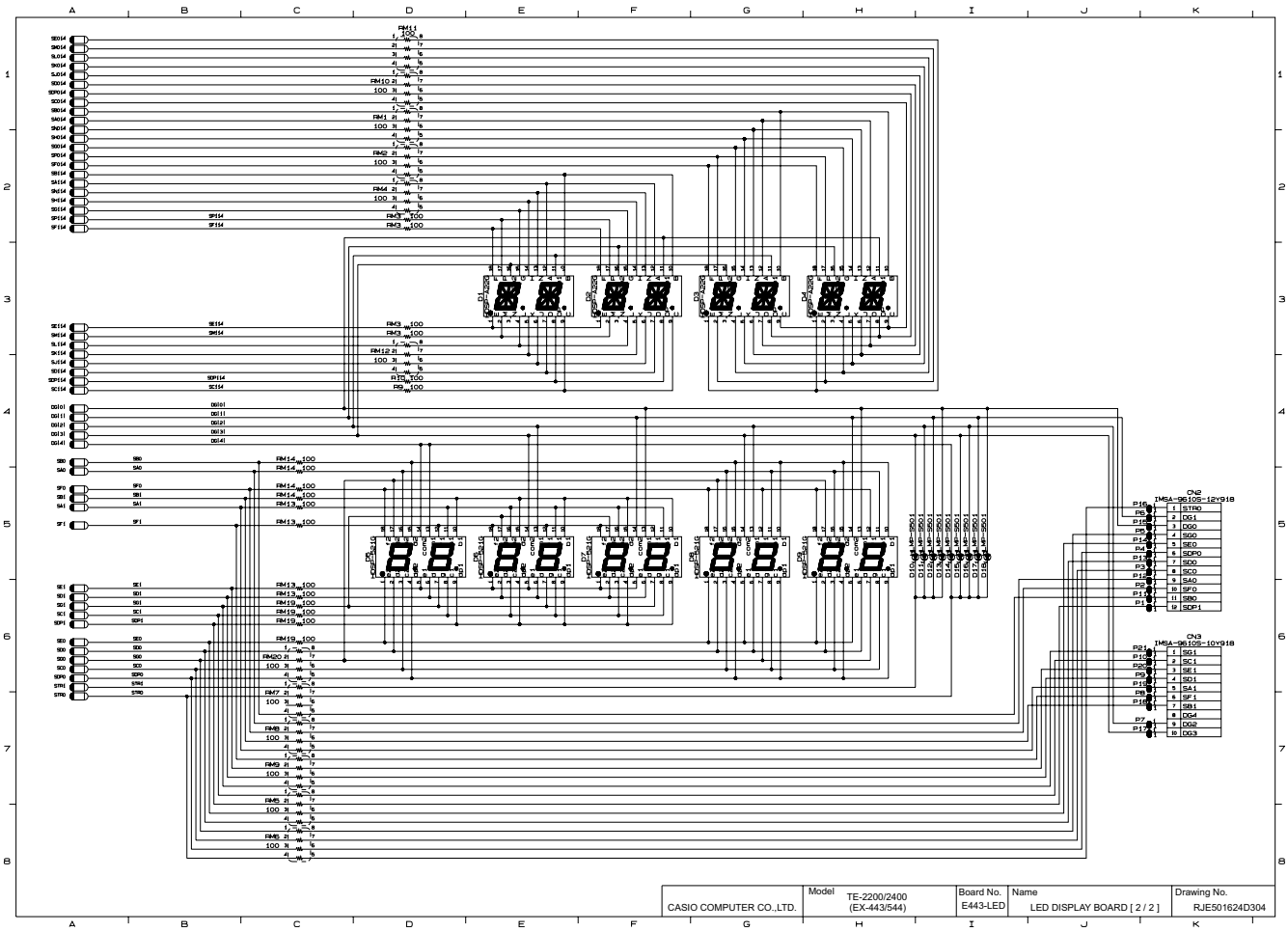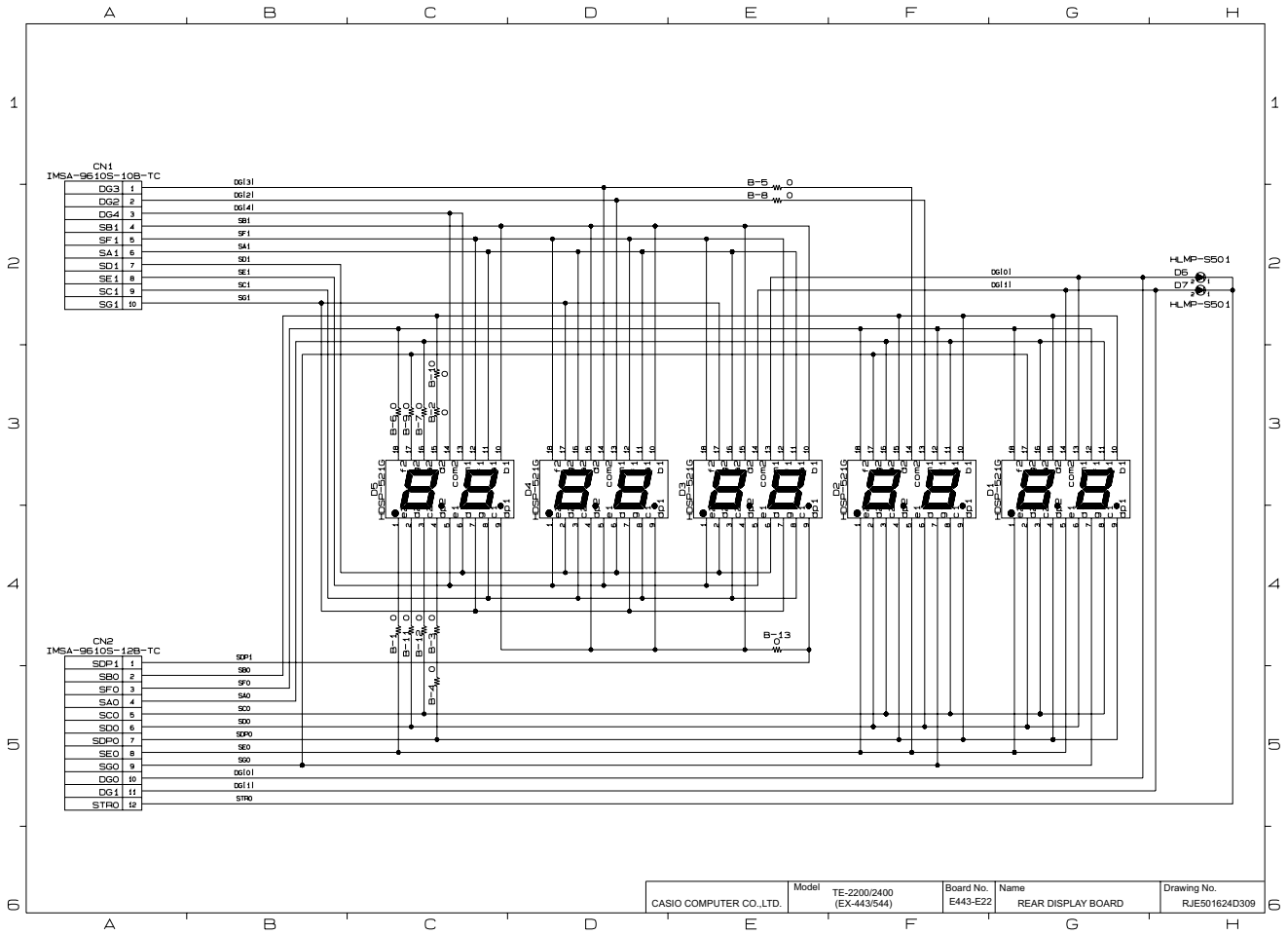
REAR DISPLAY BOARD

CASIO COMPUTER CO.,LTD.

| Model | TE-2200/2400 (EX-443/544) | Board No. E443-E22 | Name REAR DISPLAY BOARD | Drawing No. RJE501624D309 |

to MAIN-PWB(E443-1)

to MODE-KEY(E445/475-E3)

1PIN-SIDE

Model	TE-2200 (EX-443)	Board No. E443-E4	Name KEY SEET [STROKE]	Drawing No. RJE501624D307
CASIO COMPUTER CO.,LTD.				

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to MAIN-PWB(E443-1)

to MODE-KEY(E445/475-E3)

1PIN_SIDE

| CASIO COMPUTER CO.,LTD. | Model | TE-2400 (EX-544) | Board No. E544-E4 | Name KEY SEET [FLAT] | Drawing No. RJE501624D315 |

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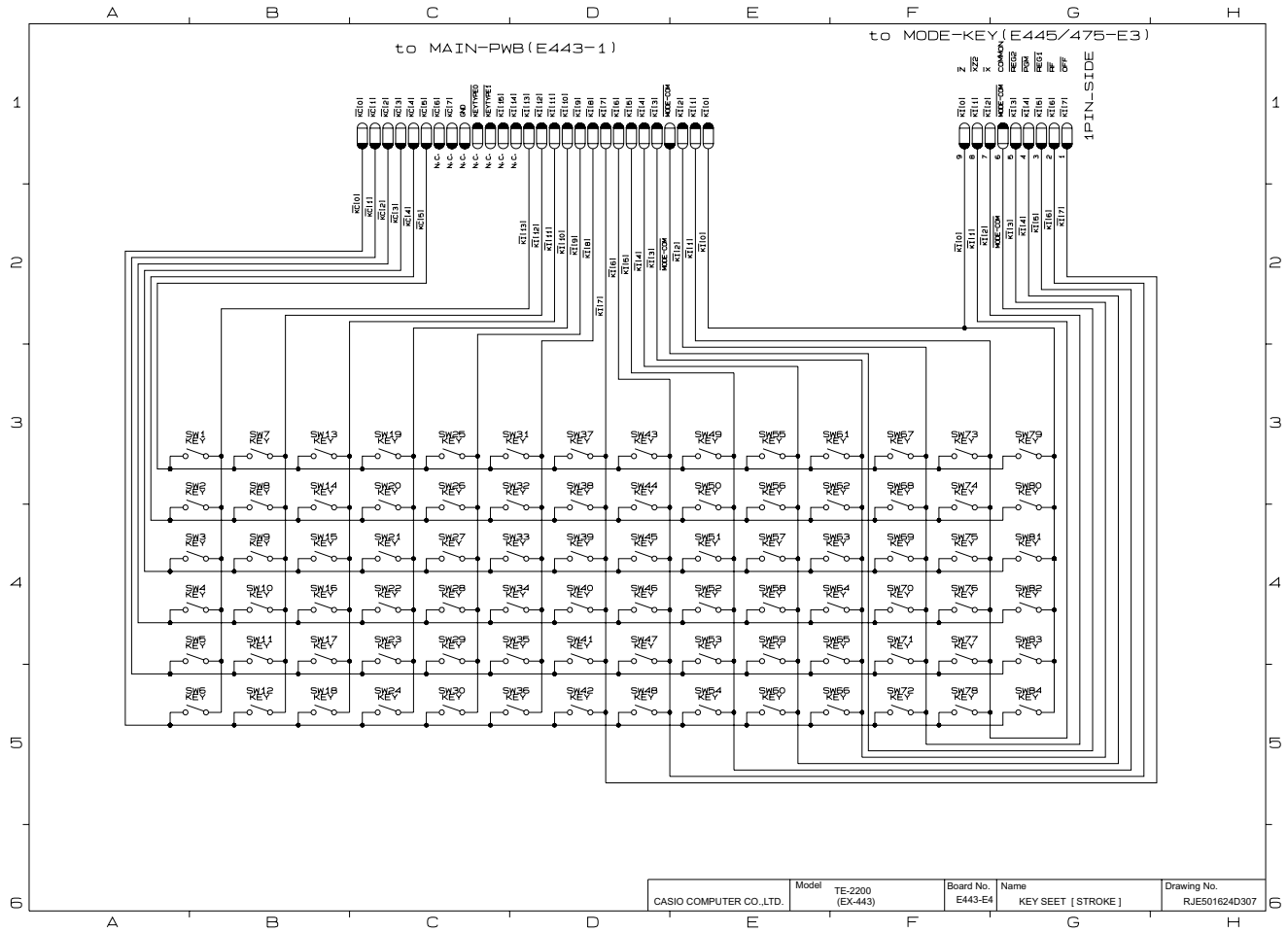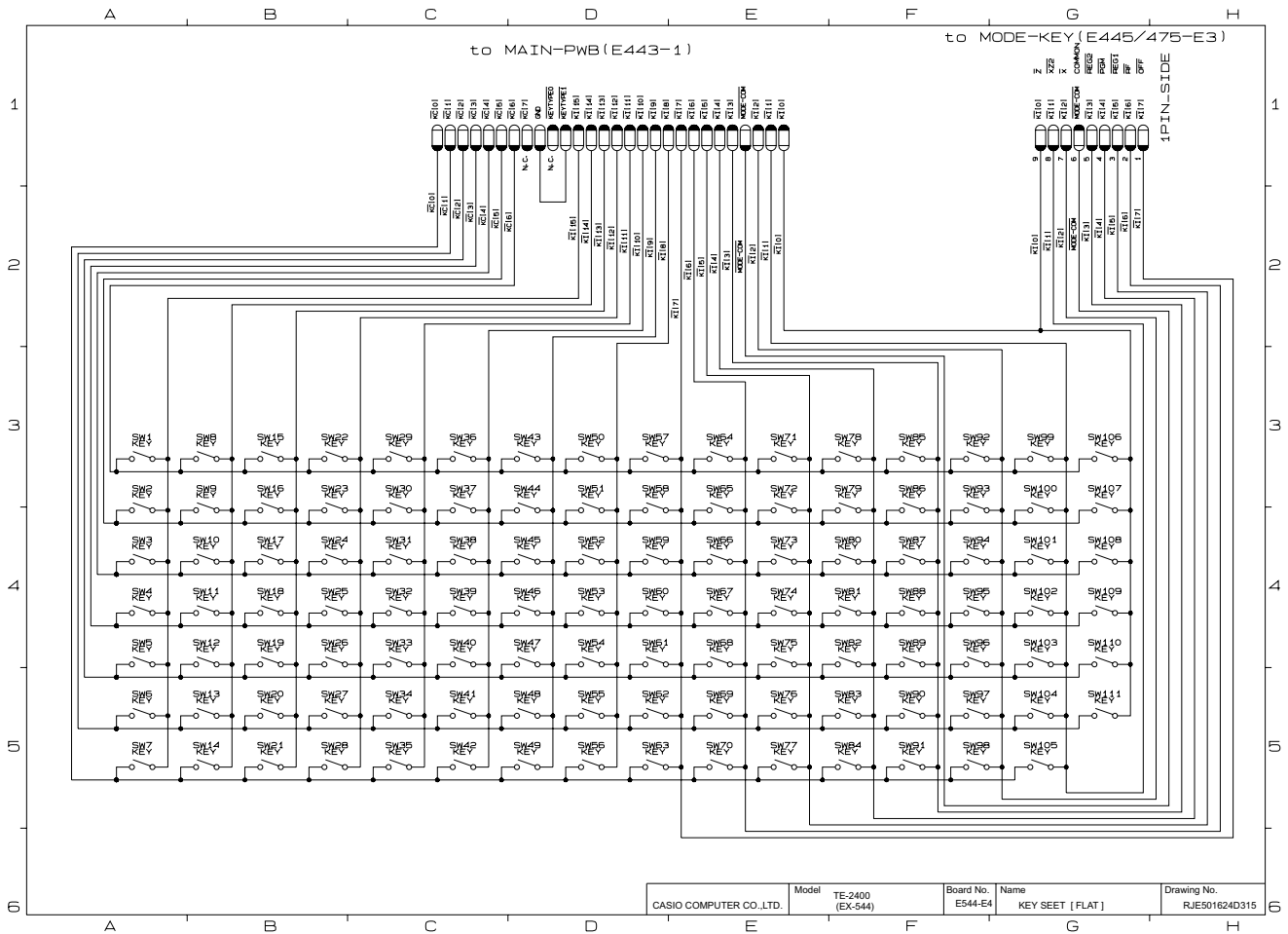
10. PARTS LIST

MODEL : TE-2200/2400 (EX-442/544)

NOTES :

1. Price and specifications are subject to change withput 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 corespond 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

TE-2200 EXPLODED VIEW

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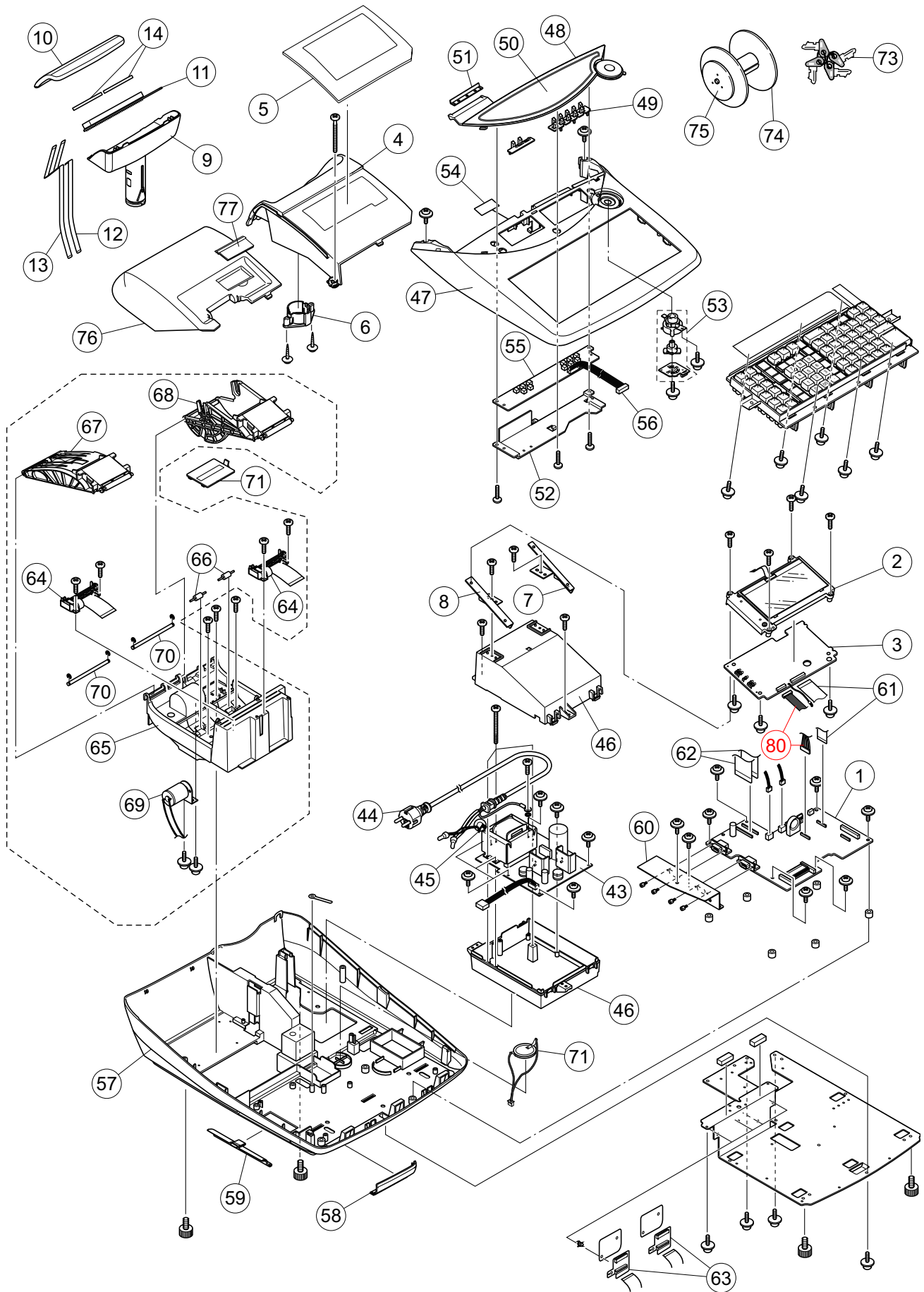
TE-2200 KEYBOARD BLOCK

TE-2200

N	Item	Code No.	Parts Name	Specification	Europe	UK	USA	Canada	Other Countries	Price Code	R
1. MAIN PCB Block											
	1	10204425	PCB ass'y / E443-1	RJE501482*002V01	1	1				DV	A
	1	10204427	PCB ass'y / E443-1	RJE501482*003V01					1	DU	A
	1	10204428	PCB ass'y / E443-1	RJE501482*004V01			1	1		DU	A
			Crystal oscillator	C-002RX-8.3/10-LF	1	1	1	1	1		
		35802371	Connector	B4P-VH	1	1	1	1	1	AB	X
		30007917	D-SUB connector	ID9P33E4GX28	2	2	2	2	2	AK	X
		10204414	Connector	IMSA-9604S-28C	1	1	1	1	1		X
		32402089	BUZZER	PKM22EPTH2001-B0	1	1	1	1	1	AE	X
		30007777	FUSE	230.600MXW	1	1	1	1	1	AE	A
		10196293	LSI	D784215AGC279-8EUA	1	1	1	1	1	BK	B
		10214954	LSI	D784215AGC290-8EUA	1	1	1	1	1	BK	B
		10197486	LSI	MBM29F160BE90TNKE1	1	1	1	1	1	BC	B
		10127164	LSI	M68AF511AM70MC6U	1	1			1	BN	B
		10204546	LSI	M68AF127BM70MC6U			2	2		AX	B
		10196925	LSI	MX23C1610MC10GSA02					1	AU	B
		10196316	LSI	UPD65881MC1065A4-A	1	1			1	AT	B
		10204547	Monolithic IC	LB1936V-TLM-E	2	2	2	2	2	AK	B
		10204548	IC	XC6206P332PR	1	1	1	1	1	AD	B
		10127165	IC/Reset	S-80123BNMC-JGIT2G	1	1	1	1	1	AI	B
		10146550	IC	MAX3243CPWR	2	2	2	2	2	AW	B
		21120821	Monolithic IC	BA10393F-E2	4	4	4	4	4	AB	B
		21120823	Monolithic IC	BA12003BF-E2	1	1			1	AF	B
		10105416	IC/MOS	SN74AHCT08PWR	1	1	1	1	1	AC	B
		10120128	IC/CMOS	SN74AHCT244PWR	1	1	1	1	1	AC	B
		10120129	IC/CMOS	SN74LV04APWR	2	2	2	2	2	AC	B
		10005659	IC/CMOS	SN74LV08APWR	4	4	4	4	4	AB	B
		10120130	IC/CMOS	SN74LV11APWR	1	1			1	AC	B
		10005669	IC/CMOS	SN74LV139APWR	1	1	1	1	1	AD	B
		10207634	IC	SN74LVC1G08DCKR	1	1	1	1	1	AB	B
		10005721	IC/CMOS	SN74LV244APWR	1	1	1	1	1	AF	B
		10004413	IC/MOS	SN74LV32APWR	2	2	1	1	2	AB	B
		10089475	IC	SN74LV367APWR	2	2	2	2	2	AE	B
		10050431	IC/CMOS	SN74LV373APWR	1	1	1	1	1	AI	B
		10005662	IC	SN74LV374APWR	3	3			3	AF	B
		10105407	IC/CMOS	SN74LVC244APWR	2	2	2	2	2	AA	B
		10210709	Switch	SKQLLDE012	1	1	1	1	1	AF	C
		10146565	Ceramic Oscillator	CSTCE12M5G52-R0	2	2	2	2	2	AK	C
		10204573	Connector	53398-0371	1	1	1	1	1	AD	X
		10204574	Connector	53398-1571	1	1			1	AH	X
		10204575	Connector	B12B-ZR-SM4-TBLFSN	1	1			1	AF	X
			Connector	B2B-ZR-SM4-TBLFSN	1	1	1	1	1		X
		10204576	Connector	B3B-PH-SM4-TBLFSN	2	2	2	2	2	AC	X
		10204578	Connector	IMSA-9610S-20Y920	1	1	1	1	1	AG	X
		10204580	Connector	IMSA-9610S-30Y920	2	2	2	2	2	AL	X
		10120086	Connector	FCN-568H050-G/A3	1	1	1	1	1	BN	X
2. Main Display Block											
				for except USA,Canada							
	2	10216505	LCD unit	JIC-MSGF8857-07	1	1			1	CL	A
	3	10204335	E443-LCD assy	RJE501486*001V01	1	1			1	CX	A
		10127161	LED	NSPW312BS(B1B2-SR)	3	3			3	BD	B
		10120089	LED	NSPG320BS(G-ST)	2	2			2	BI	B
		35012765	Connector	S12B-ZR	1	1			1	AF	X
		10204339	Connector	IMSA-9610S-20B-TC	1	1			1	AE	X
		10223031	IC	LM2611BMF NOPB	1	1			1	AY	B
		10005659	CMOS IC	SN74LV08APWR	1	1			1	AB	B
		21120823	Monolithic IC	BA12003BF-E2	2	2			2	AF	B

N	Item	Code No.	Parts Name	Specification	Europe	UK	USA	Canada	Other Countries	Price Code	R
		10204342	Connector	IMSA-9632S-16Y917	1	1			1	AC	X
		10204343	Connector	IMSA-9610S-10Y918	1	1			1	AD	X
		10204344	Connector	IMSA-9610S-12Y918	1	1			1	AD	X
	80	10211994	LCD cable sub assy	RJE501494*001V02	1	1			1	AP	C
	4	10203339	DP case	RJE501455-002V01	1	1			1	BC	X
	5	10224742	DP board	RJE501547-002V01	1	1			1	AX	C
	6	10104622	RDP bush	RJE500339-001V01	1	1			1	AC	X
		10126583	LCD cushion V	RJE500659-001V01	2	2			2	AB	C
		10126584	LCD cushion H	RJE500659-002V01	2	2			2	AB	C
	7	10207417	LCD stand R	RJE501418-001V01	1	1			1	AI	X
	8	10207418	LCD stand L	RJE501419-001V01	1	1			1	AI	X
			for USA, Canada								
		10204353	E443-LED assy	RJE501488*001V01			1	1		DB	A
		10072597	LED	HDSP-521G			5	5		AN	A
		10072598	LED	HDSP-A22G			4	4		AX	A
		10136132	LED	HLMP-S501			9	9		AC	A
		10204339	Connector	IMSA-9610S-20B-TC			1	1		AE	X
		10204344	Connector	IMSA-9610S-12Y918			1	1		AD	X
		10204343	Connector	IMSA-9610S-10Y918			1	1		AD	X
		10210576	LED holder	RJE501462-002V01			1	1		AC	X
		10295606	IC	ULN2003ADR			7	7		AF	B
		10005662	IC	SN74LV374APWR			7	7		AF	B
		22501603	Transistor	2SB1182TLQR			4	4		AC	B
		10120138	Transistor	2SA2018-TL			1	1		AC	B
		22592674	Transistor	DTC114YETL			5	5		AA	B
	4,5	10224258	DP board (with DP case)	RJE501524-001V02			1	1		BA	C
		10224257	Blind sheet C	RJE501567-001V01			1	1		AB	X
	7	10207415	DP mount R	RJE501586-001V01			1	1		AG	X
	8	10207416	DP mount L	RJE501587-001V01			1	1		AG	X
3. Rear Display Block											
		10211985	RDP-assy	RJE501542*002V01	1	1			1	BY	
		10211988	RDP-assy	RJE501542*003V01			1	1		BY	
	9	10094111	Rear Display case	E140466-001V02			1	1		AF	X
	9	10211989	Rear Display case	RJE501565-001V01	1	1			1	AM	X
	10	10072602	Rear display plate	E140465-1	1	1	1	1	1	AF	B
	11	10204322	E443-E22 assy	RJE501484*001V01	1	1	1	1	1	BV	A
	12	10211991	FFC joiner A	RJE501553-001V01	1	1	1	1	1	AE	B
	13	10211990	FFC joiner B	RJE501553-002V01	1	1	1	1	1	AF	B
	14	10211992	Cushion R	RJE501554-001V01	2	2	2	2	2	AA	C
4. Keyboard Block											
	15	10207539	S cap	E311103-001V02	47	47	50	50	47	AA	B
	16	10207533	L cap	E210964-001V02	1	1	2	2	1	AB	B
	17	62214346	LLL cap	E211131-1	1	1	1	1	1	AC	B
	18	10207558	S button-1	E311792-001V03	1	1	1	1	1	AH	C
	19	10207544	S button-2	E311792-002V03	1	1	1	1	1	AH	C
	20	10207545	S button-3	E311792-003V03	1	1	1	1	1	AH	C
	21	10207546	S button-4	E311792-004V03	1	1	1	1	1	AH	C
	22	10207547	S button-6	E311792-005V03	1	1	1	1	1	AH	C
	23	10207548	S button-7	E311792-006V03	1	1	1	1	1	AH	C
	24	10207549	S button-8	E311792-007V03	1	1	1	1	1	AH	C
	25	10207550	S button-9	E311792-008V03	1	1	1	1	1	AH	C
	26	10207551	S button-0	E311792-009V03	1	1	1	1	1	AH	C
	27	10207552	S button-.	E311792-010V03	1	1	1	1	1	AH	C
	28	10207553	S button-00	E311792-011V03	1	1	1	1	1	AH	C
	29	10207543	S button-5	E311116-004V03	1	1	1	1	1	AH	C
	30	10207532	L Key top	E210963-004V04	2	2	1	1	2	AB	B
	31	62471471	LLL Key top	E211132B-3	1	1	1	1	1	AB	B

N	Item	Code No.	Parts Name	Specification	Europe	UK	USA	Canada	Other Countries	Price Code	R
	32	10207538	S Key top	E311101-004V03	59	59	62	62	59	AA	B
	33	10207554	Coil spring A	E411104-001V03	3	3	2	2	3	AA	B
	34	10166869	Contact rubber	RJE501209-001V01	62	62	64	64	62	AE	B
	35	10224261	Keyboard frame	E140462-001V03	1	1	1	1	1	AV	X
	36	10207555	Coil spring B	E411104-002V03	6	6	6	6	6	AA	B
	37	10203474	Common sheet	RJE501450-001V01	1	1	1	1	1	AP	A
	38	10203358	Spacer	RJE501532-001V01	1	1	1	1	1	AG	C
	39	10203356	FPC	RJE501449-001V01	1	1	1	1	1	AH	A
	40	10207419	Keyboard chassis	RJE501463-001V01	1	1	1	1	1	AL	X
	41	62461990	Button filler S	E412129-1	2	2	1	1	2	AE	C
	42	62471478	Button filler 3S	E311197-2	5	5	5	5	5	AB	C
5. Power supply Block											
	43	10224256	Power supply unit	PS-272A-2D	1	1				CX	A
	43	10224254	Power supply unit	PS-272A-U					1	DB	A
	43	10224255	Power supply unit	PS-272A-1D			1	1		CW	A
	44	10224253	Power cord	M2511-LF	1				1	AZ	C
	44	10224252	Power cord	MP5004-LF		1				BG	C
	44	10225547	Power cord	PS204-A-LF			1	1		AV	C
	44	10225548	Power cord	X-AU10S3-LF					1	BB	C
	45	30304055	Ferrite core	L5T18X6X10	1	1	1	1	1	AC	X
	46	10210667	PW case sub assy	RJE501596*001V01	1		1	1	1	BL	X
6. Upper Case Block											
	47	10224160	KB cover	RJE501471-001V02	1	1	1	1	1	AU	X
	48	10203373	FK board	RJE501456-002V01	1	1	1	1	1	AV	X
	49	10203345	FK switch	RJE501472-001V01	11	11			11	AA	C
	50	10225053	FK plate	RJE501514-002V02	1	1			1	AV	C
	50	10225059	FK plate	RJE501514-008V02			1	1		AP	C
	51	10223217	Paper cutter	RJE501069-001V01	1	1	1	1	1	AC	C
		10203349	Lens R	RJE501460-001V01	1	1	1	1	1	AB	X
		10203350	Lens L	RJE501461-001V01	1	1	1	1	1	AB	X
	52	10207408	E6 chassis	RJE501453-001V01	1	1	1	1	1	AU	X
	53	10211505	Mode SW assy	E341052*002V01	1	1	1	1	1	AV	B
	54	10210684	Blind J	RJE501566-001V01	1	1	1	1	1	AA	X
			PCB E443-E6	RJE501497D301-1			1	1			C
7. Switch Board Block											
	55	10204331	E443-E6 assy	RJE501485*002V01	1	1			1	AO	A
			PCB E443-E6	RJE501497D301-1	1	1			1		
		10204327	Switch	SKHHALA010	5	5			5	AA	C
		10204328	Switch	SKHHDAA010	6	6			6	AA	C
		10204329	LED	HLMP1503	7	7			7	AA	C
		35022040	Connector	53048-1510	1	1			1	AD	X
	56	10210682	E6 cable sub assy	RJE501493*001V01	1	1			1	AS	C
8. Lower Case Block											
	57	10203375	Lower case	RJE501454-002V01	1	1	1	1	1	BS	X
		10210683	L-Chassis	RJE501452-001V02	1	1	1	1	1	BL	X
		10210658	PCB spacer	RJE501464-001V01	6	6	6	6	6	AA	X
		10210662	DRW cable sub assy	RJE501492*001V01	1	1	1	1	1	AI	C
	58	10203347	CF cover	RJE501458-001V01	1	1	1	1	1	AQ	C
	59	10203348	CN cover	RJE501459-001V01	1	1	1	1	1	AQ	C
	60	10207409	CN chassis	RJE501473-001V01	1	1	1	1	1	AJ	X
	61	10210663	FFC cable C	RJE501553-003V01	1	1	1	1	1	AZ	C
	62	10210666	FFC cable D	RJE501553-004V01	2	2	2	2	2	AF	C
		10211518	PCB spacer	SPD-3U	4	4	4	4	4	AB	X
		10121158	Ferrite core	FRS31x5x12			1	1		AG	X
		10211388	LED FG wire assy	RJE501630*001V01			1	1		AD	X
	63	10204356	E443-PRN assy	RJE501490*001V01	1	1	1	1	1	AP	B
		54300207	NUT	SB-3001	2	2	2	2	2	AA	X

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N	Item	Code No.	Parts Name	Specification	Europe	UK	USA	Canada	Other Countries	Price Code	R
9. Printer Block											
	64	10212617	Thermal printer	FTP-628MCL518#65	2	2	2	2	2	CP	A
		10210645	Caution plate	RJE501570-001V01	2	2	2	2	2	AE	X
	65	10203342	PR mount	RJE501470-001V01	1	1	1	1	1	AV	X
	66	10210042	R/P roller	E411696-001V02	2	2	2	2	2	AA	B
	67	10078724	Platen arm R	E140474-1	1	1	1	1	1	AK	C
	68	10072642	Platen arm J	E140472-1	1	1	1	1	1	AM	C
	69	10211978	Motor assy	RJE501529*001V01	1	1	1	1	1	AZ	B
	70	10211981	Shaft Journal	RJE501568-001V01	2	2	2	2	2	AK	X
	71	10224761	Battery ass'y	RJE501528*001V02	1	1			1	BP	A
	72	10110555	Battery Cover	RJE500211-002V01	1	1			1	AB	B
	72	10110554	Battery cover	RJE500211-001V01			1	1		AC	B
		63224499	Battery spring A-G55	A42606-1			1	1		AA	C
		60006091	Battery spring G67	A43656-1			1	1		AA	C
		60207658	Battery spring B-1G513	P408A-1			1	1		AB	C
		60207666	Battery spring B-2G514	P409A-1			1	1		AA	C
		10211983	Battery cable sub assy	RJE501491*001V01			1	1		AB	C
10. Others											
	73	10204698	Key set sub ass'y	RJE500074*004V02	1	1			1	AO	A
	73	10204699	Key set sub ass'y	RJE500074*005V02			1	1		AT	A
	74	10079266	Paper spool	E341312-1	1	1	1	1	1	AH	A
	75	10072547	Wind Pulley	E240814-1	1	1	1	1	1	AF	A
	76	10210643	PR cover ass'y	RJE501544*001V01	1	1	1	1	1	BJ	C
	77	10080665	Journal cover	E341236-1	1	1	1	1	1	AC	C

TE-2400 EXPLODED VIEW
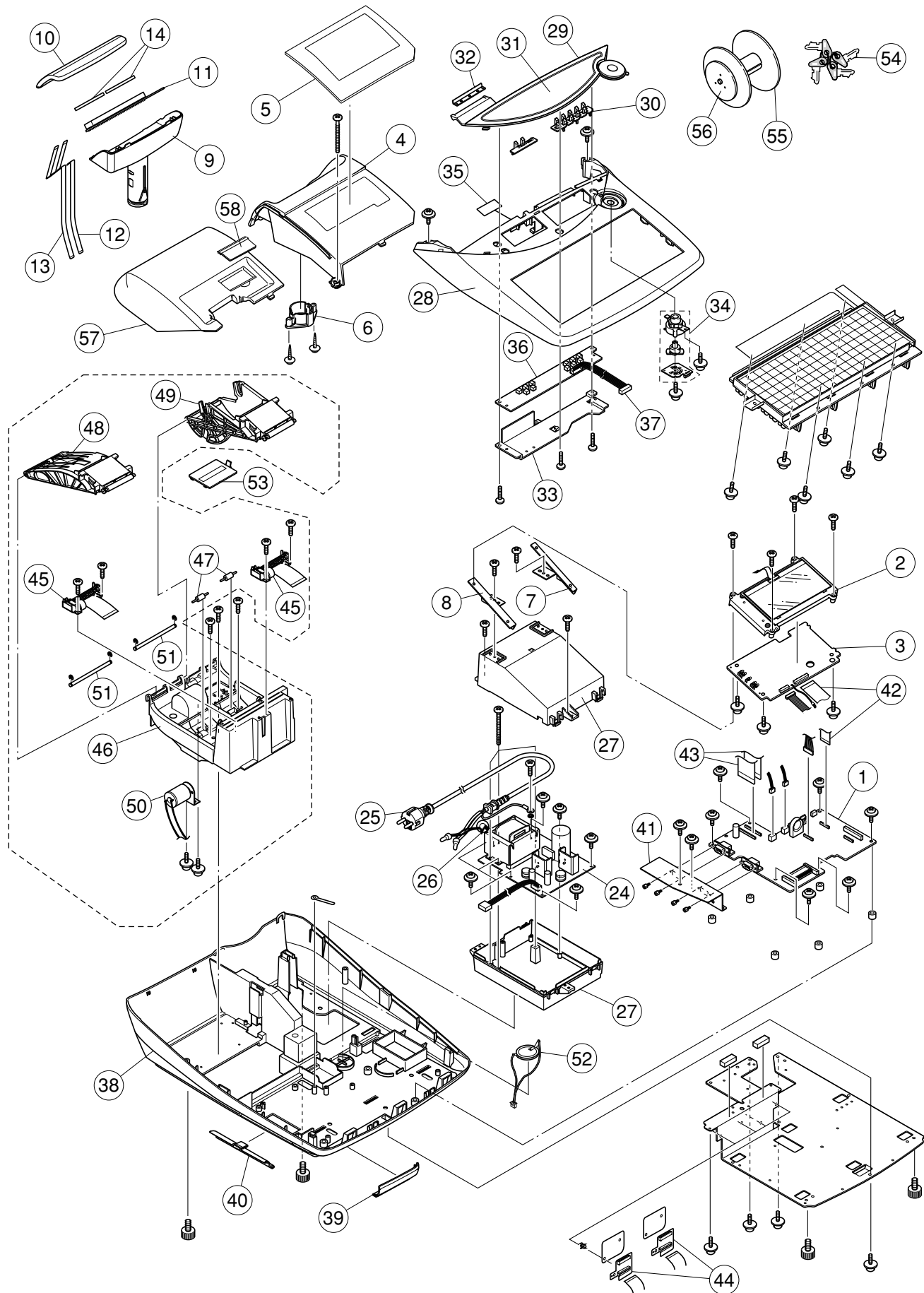
TE-2400 KEYBOARD BLOCK

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TE-2400

N	Item	Code No.	Parts Name	Specification	Europe	UK	USA	Canada	Other Countries	Price Code	R
1. MAIN PCB Block											
	1	10204425	PCB ass'y / E443-1	RJE501482*002V01	1	1				DV	A
	1	10204427	PCB ass'y / E443-1	RJE501482*003V01					1	DU	A
	1	10204428	PCB ass'y / E443-1	RJE501482*004V01			1	1		DU	A
		35802371	Connector	B4P-VH	1	1	1	1	1	AB	X
		30007917	D-SUB connector	ID9P33E4GX28	2	2	2	2	2	AK	X
		10204414	Connector	IMSA-9604S-28C	1	1	1	1	1		X
		32402089	BUZZER	PKM22EPTH2001-B0	1	1	1	1	1	AE	X
		10222619	Crystal oscillator	C-002RX-8.3/10-LF	1	1	1	1	1	AD	X
		30007777	FUSE	230.600MXW	1	1	1	1	1	AE	A
		10196293	LSI	D784215AGC279-8EUA	1	1	1	1	1	BK	B
		10214954	LSI	D784215AGC290-8EUA	1	1	1	1	1	BK	B
		10197486	LSI	MBM29F160BE90TNKE1	1	1	1	1	1	BC	B
		10127164	LSI	M68AF511AM70MC6U	1	1			1	BN	B
		10204546	LSI	M68AF127BM70MC6U			2	2		AX	B
		10196925	LSI	MX23C1610MC10GSA02					1	AU	B
		10196316	LSI	UPD65881MC1065A4-A	1	1			1	AT	B
		10204547	Monolithic IC	LB1936V-TLM-E	2	2	2	2	2	AK	B
		10204548	IC	XC6206P332PR	1	1	1	1	1	AD	B
		10127165	IC/Reset	S-80123BNMC-JGIT2G	1	1	1	1	1	AI	B
		10146550	IC	MAX3243CPWR	2	2	2	2	2	AW	B
		21120821	Monolithic IC	BA10393F-E2	4	4	4	4	4	AB	B
		21120823	Monolithic IC	BA12003BF-E2	1	1			1	AF	B
		10105416	IC/MOS	SN74AHCT08PWR	1	1	1	1	1	AC	B
		10120128	IC/CMOS	SN74AHCT244PWR	1	1	1	1	1	AC	B
		10120129	IC/CMOS	SN74LV04APWR	2	2	2	2	2	AC	B
		10005659	IC/CMOS	SN74LV08APWR	4	4	4	4	4	AB	B
		10120130	IC/CMOS	SN74LV11APWR	1	1			1	AC	B
		10005669	IC/CMOS	SN74LV139APWR	1	1	1	1	1	AD	B
		10207634	IC	SN74LVC1G08DCKR	1	1	1	1	1	AB	B
		10005721	IC/CMOS	SN74LV244APWR	1	1	1	1	1	AF	B
		10004413	IC/MOS	SN74LV32APWR	2	2	1	1	2	AB	B
		10089475	IC	SN74LV367APWR	2	2	2	2	2	AE	B
		10050431	IC/CMOS	SN74LV373APWR	1	1	1	1	1	AI	B
		10005662	IC	SN74LV374APWR	3	3			3	AF	B
		10105407	IC/CMOS	SN74LVC244APWR	2	2	2	2	2	AA	B
		10210709	Switch	SKQLLDE012	1	1	1	1	1	AF	C
		10146565	Ceramic Oscillator	CSTCE12M5G52-R0	2	2	2	2	2	AK	C
		10204573	Connector	53398-0371	1	1	1	1	1	AD	X
		10204574	Connector	53398-1571	1	1			1	AH	X
		10204575	Connector	B12B-ZR-SM4-TBLFSN	1	1			1	AF	X
			Connector	B2B-ZR-SM4-TBLFSN	1	1	1	1	1		X
		10204576	Connector	B3B-PH-SM4-TBLFSN	2	2	2	2	2	AC	X
		10204578	Connector	IMSA-9610S-20Y920	1	1	1	1	1	AG	X
		10204580	Connector	IMSA-9610S-30Y920	2	2	2	2	2	AL	X
		10120086	Connector	FCN-568H050-G/A3	1	1	1	1	1	BN	X
2. Main Display Block											
			for except USA, Canada								
	2	10216505	LCD unit	JIC-MSGF8857-07	1	1			1	CL	A
	3	10204335	E443-LCD assy	RJE501486*001V01	1	1			1	CX	A
		10127161	LED	NSPW312BS(B1B2-SR)	3	3			3	BD	B
		10120089	LED	NSPG320BS(G-ST)	2	2			2	BI	B
		35012765	Connector	S12B-ZR	1	1			1	AF	X
		10204339	Connector	IMSA-9610S-20B-TC	1	1			1	AE	X
		10223031	IC	LM2611BMF NOPB	1	1			1	AY	B
		10005659	CMOS IC	SN74LV08APWR	1	1			1	AB	B
		21120823	Monolithic IC	BA12003BF-E2	2	2			2	AF	B

N	Item	Code No.	Parts Name	Specification	Europe	UK	USA	Canada	Other Countries	Price Code	R
		10204342	Connector	IMSA-9632S-16Y917	1	1			1	AC	X
		10204343	Connector	IMSA-9610S-10Y918	1	1			1	AD	X
		10204344	Connector	IMSA-9610S-12Y918	1	1			1	AD	X
		10211994	LCD cable sub assy	RJE501494*001V02	1	1			1	AP	C
	4	10203339	DP case	RJE501455-002V01	1	1			1	BC	X
	5	10224742	DP board	RJE501547-002V01	1	1			1	AX	C
	6	10104622	RDP bush	RJE500339-001V01	1	1			1	AC	X
		10126583	LCD cushion V	RJE500659-001V01	2	2			2	AB	C
		10126584	LCD cushion H	RJE500659-002V01	2	2			2	AB	C
	7	10207417	LCD stand R	RJE501418-001V01	1	1			1	AI	X
	8	10207418	LCD stand L	RJE501419-001V01	1	1			1	AI	X
			for USA,Canada								
		10204353	E443-LED assy	RJE501488*001V01			1	1		DB	A
		10072597	LED	HDSP-521G			5	5		AN	A
		10072598	LED	HDSP-A22G			4	4		AX	A
		10136132	LED	HLMP-S501			9	9		AC	A
		10204339	Connector	IMSA-9610S-20B-TC			1	1		AE	X
		10204344	Connector	IMSA-9610S-12Y918			1	1		AD	X
		10204343	Connector	IMSA-9610S-10Y918			1	1		AD	X
		10210576	LED holder	RJE501462-002V01			1	1		AC	X
		10295606	IC	ULN2003ADR			7	7		AF	B
		10005662	IC	SN74LV374APWR			7	7		AF	B
		22501603	Transistor	2SB1182TLQR			4	4		AC	B
		10120138	Transistor	2SA2018-TL			1	1		AC	B
		22592674	Transistor	DTC114YETL			5	5		AA	B
	4,5	10224258	DP board (with DP case)	RJE501524-001V02			1	1		BA	C
		10224257	Blind sheet C	RJE501567-001V01			1	1		AB	X
	7	10207415	DP mount R	RJE501586-001V01			1	1		AG	X
	8	10207416	DP mount L	RJE501587-001V01			1	1		AG	X
3. Rear Display Block											
		10211985	RDP-assy	RJE501542*002V01	1	1			1		
		10211988	RDP-assy	RJE501542*003V01			1	1		BY	
	9	10094111	Rear Display case	E140466-001V02			1	1		AF	X
	9	10211989	Rear Display case	RJE501565-001V01	1	1			1	AM	X
	10	10072602	Rear display plate	E140465-1	1	1	1	1	1	AF	B
	11	10204322	E443-E22 assy	RJE501484*001V01	1	1	1	1	1	BV	A
	12	10211991	FFC joiner A	RJE501553-001V01	1	1	1	1	1	AE	B
	13	10211990	FFC joiner B	RJE501553-002V01	1	1	1	1	1	AF	B
	14	10211992	Cushion R	RJE501554-001V01	2	2	2	2	2	AA	C
4. Keyboard Block											
	15	10224262	Sheet cover	RJE501533-001V02	1	1	1	1	1	BF	A
	16	10210649	Menu sheet	RJE501535-003V01	1	1			1	AA	X
	16	10211506	Menu sheet	RJE501535-005V01			1	1		AA	X
	17	10207520	No slip sheet	RJE501534-001V01	1	1	1	1	1	BO	C
	18	10224264	KB Frame	RJE501445-001V03	1	1	1	1	1	AO	X
	19	10207401	Contact rubber	RJE501480-001V01	1	1	1	1	1	BJ	A
	20	10203355	Common sheet	RJE501477-001V01	1	1	1	1	1	AL	A
	21	10203353	Spacer	RJE501478-001V01	1	1	1	1	1	AE	C
	22	10203354	FPC	RJE501476-001V01	1	1	1	1	1	AS	A
	23	10207413	KB chassis	RJE501479-001V01	1	1	1	1	1	AM	X
5. Power supply Block											
	24	10224256	Power supply unit	PS-272A-2D	1	1				CX	A
	24	10224254	Power supply unit	PS-272A-U					1	DB	A
	24	10224255	Power supply unit	PS-272A-1D			1	1		CW	A
	25	10224253	Power cord	M2511-LF	1	1				AZ	C
	25	10224252	Power cord	MP5004-LF					1	BG	C
	25	10225547	Power cord	PS204-A-LF			1	1	1	AV	C

N	Item	Code No.	Parts Name	Specification	Europe	UK	USA	Canada	Other Countries	Price Code	R
	25	10225548	Power cord	X-AU10S3-LF					1	BB	C
	26	30304055	Ferrite core	L5T18X6X10	1	1	1	1	1	AC	X
	27	10210667	PW case sub assy	RJE501596*001V01	1	1	1	1	1	BL	X
6. Upper case Block											
	28	10224160	KB cover	RJE501471-001V02	1	1	1	1	1	AU	X
	29	10203373	FK board	RJE501456-002V01	1	1	1	1	1	AV	X
	30	10203345	FK switch	RJE501472-001V01	11	11			11	AA	C
	31	10225057	FK plate	RJE501514-006V02	1	1			1	AV	C
	31	10225060	FK plate	RJE501514-009V02			1	1		AP	C
	32	10223217	Paper cutter	RJE501069-001V01	1	1	1	1	1	AC	C
		10203349	Lens R	RJE501460-001V01	1	1			1	AB	X
		10203350	Lens L	RJE501461-001V01			1	1		AB	X
	33	10207408	E6 chassis	RJE501453-001V01	1	1	1	1	1	AU	X
	34	10211505	Mode SW assy	E341052*002V01	1	1	1	1	1	AV	B
	35	10210684	Blind J	RJE501566-001V01	1	1	1	1	1	AA	X
			PWB E443-E6	RJE501497D301-1			1	1			C
7. Switch board Block											
	36	10204331	E443-E6 assy	RJE501485*002V01	1	1			1	AO	A
			PCB E443-E6	RJE501497D301-1	1	1			1		
		10204327	Switch	SKHHALA010	5	5			5	AA	C
		10204328	Switch	SKHHDAA010	6	6			6	AA	C
		10204329	LED	HLMP1503	7	7			7	AA	C
		35022040	Connector	53048-1510	1	1			1	AD	X
	37	10210682	E6 cable sub assy	RJE501493*001V01	1	1			1	AS	C
8. Lower case Block											
	38	10203375	Lower case	RJE501454-002V01	1	1	1	1	1	BS	X
		10210683	L-Chassis	RJE501452-001V02	1	1	1	1	1	BL	X
		10210658	PCB spacer	RJE501464-001V01	6	6	6	6	6	AA	X
			DRW cable sub assy	RJE501492*2	1	1	1	1	1		C
	39	10203347	CF cover	RJE501458-001V01	1	1	1	1	1	AQ	C
	40	10203348	CN cover	RJE501459-001V01	1	1	1	1	1	AQ	C
	41	10207409	CN chassis	RJE501473-001V01	1	1	1	1	1	AJ	X
	42	10210663	FFC cable C	RJE501553-003V01	1	1	1	1	1	AZ	C
	43	10210666	FFC cable D	RJE501553-004V01	2	2	2	2	2	AF	C
		10211518	PCB spacer	SPD-3U	4	4	4	4	4	AB	X
		10121158	Ferrite core	FRS31x5x12			1	1		AG	X
		10211388	LED FG wire assy	RJE501630*001V01			1	1		AD	X
	44	10204356	E443-PRN assy	RJE501490*001V01	2	2	2	2	2	AP	B
		54300207	NUT	SB-3001	2	2	2	2	2	AA	X
9. Printer Block											
	45	10212617	Thermal printer	FTP-628MCL518#65	2	2	2	2	2	CP	A
		10210645	Caution plate	RJE501570-001V01	2	2	2	2	2	AE	X
	46	10203342	PR mount	RJE501470-001V01	1	1	1	1	1	AV	X
	47	10210042	R/P roller	E411696-001V02	2	2	2	2	2	AA	B
	48	10078724	Platen arm R	E140474-1	1	1	1	1	1	AK	C
	49	10072642	Platen arm J	E140472-1	1	1	1	1	1	AM	C
	50	10211978	Motor assy	RJE501529*001V01	1	1	1	1	1	AZ	B
	51	10211981	Shaft Journal	RJE501568-001V01	2	2	2	2	2	AK	X
	52	10224761	Battery ass'y	RJE501528*001V02	1	1			1	BP	A
	53	10110555	Battery Cover	RJE500211-002V01	1	1			1	AB	B
	53	10110554	Battery cover	RJE500211-001V01			1	1		AC	B
		63224499	Battery spring A-G55	A42606-1			1	1		AA	C
		60006091	Battery spring G67	A43656-1			1	1		AA	C
		60207658	Battery spring B-1G513	P408A-1			1	1		AB	C
		60207666	Battery spring B-2G514	P409A-1			1	1		AA	C
		10211983	Battery cable sub assy	RJE501491*001V01			1	1		AB	C

N	Item	Code No.	Parts Name	Specification	Europe	UK	USA	Canada	Other Countries	Price Code	R
					Q'ty						
10.Others											
	54	10204698	Key set sub ass'y	RJE500074*004V02	1				1	AO	A
	54	10204699	Key set sub ass'y	RJE500074*005V02		1	1	1		AT	A
	55	10079266	Paper spool	E341312-1	1	1	1	1	1	AH	A
	56	10072547	Wind Pulley	E240814-1	1	1	1	1	1	AF	A
	57	10210643	PR cover ass'y	RJE501544*001V01	1	1	1	1	1	BJ	C
	58	10080665	Journal cover	E341236-1	1	1	1	1	1	AC	C
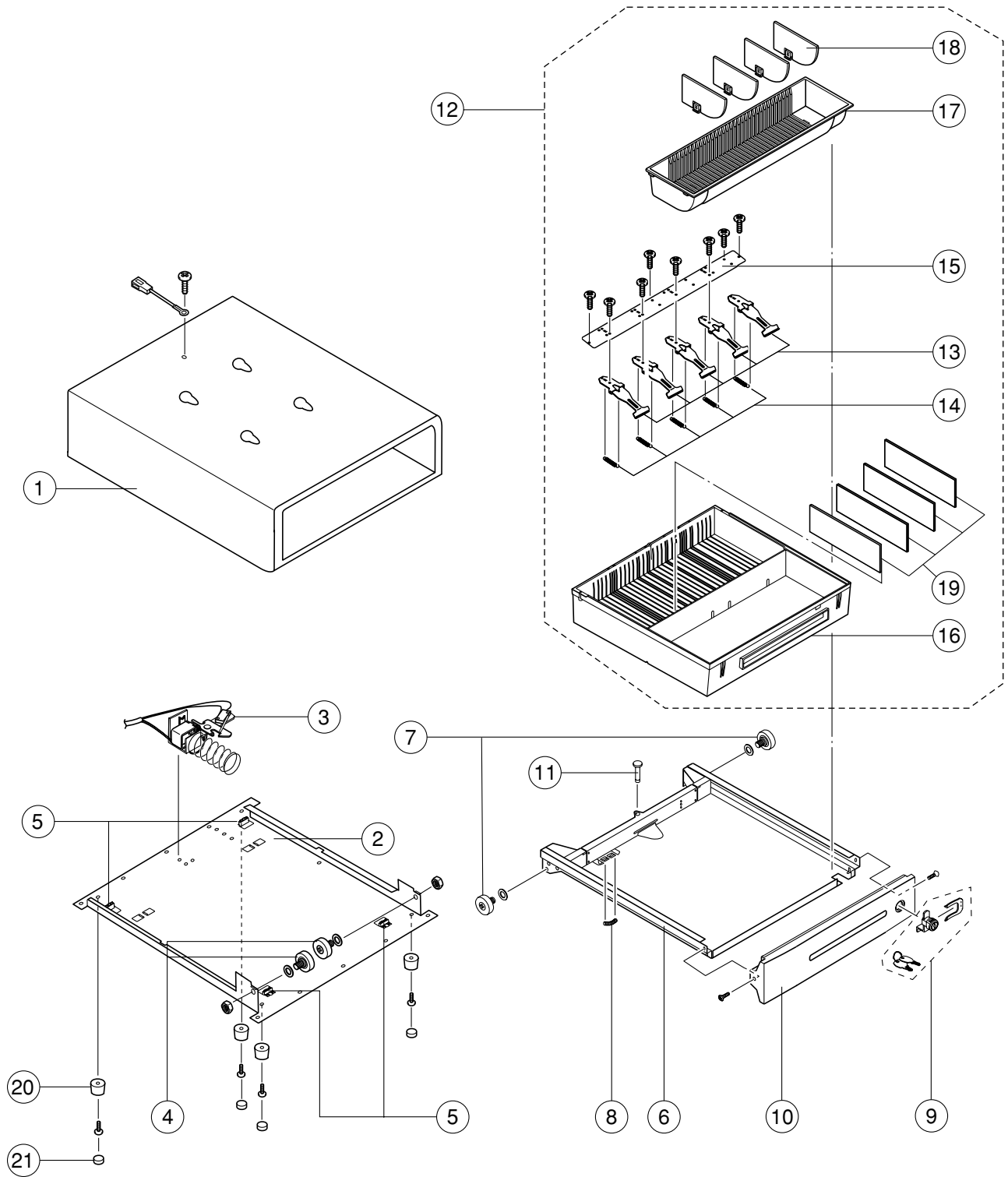
DL-2429 for USA

N	Item	Code No.	Parts Name	Specification	Qty	Price Code	R
	1	10203572	BOX SUB ASSY	RJE501440*001V01	1	CY	X
		10203573	B-CHASSIS ASSY	RJE501442*003V01	1	CA	X
	2	10203587	B-CHASSIS	RJE501384-001V01	1	BM	X
	3	10208224	LOCK ASSY	RJE500567*006V01	1	CF	A
	4	55000619	DELRIN ROLLER	DR-19B1	2	AF	B
	5	10194208	DUMPER RUBBER	RJE500005-001V02	4	AD	X
		10203607	DRAWER ASSY	RJE501441*001V01	1	CQ	X
	6	10223071	DRAWER SUB ASSY	E341274*002V04	1	BQ	C
	7	55000619	DELRIN ROLLER	DR-19B1	2	AF	B
	8	10201065	EARTH SPRING	E412092-001V02	1	AC	C
	9	10203374	CYLINDER LOCK	CL-23	1	AZ	B
	10	10215645	FRONT PANEL	RJE501385-001V02	1	AZ	C
	11	19064150	RIVET	5X30	1	AA	X
	12	10192854	BILL COIN CASE ASSY	RJE501368*003V01	1	CH	C
	13	10200509	BILL HOLER SUB ASSY	E341290*002V03	5	AC	A
	14	10079063	BILL HOLDER SPRING	E441357-1	5	AA	A
	15	10194233	BILL HOLDER PLATE	E240845-001V02	1	AK	X
	16	10078757	BILL CASE	E140505-1	1	BM	X
	17	10106267	COIN CASE	RJE500284-001V01	1	AH	C
	18	10110335	COIN SEPARATER	RJE500285-001V01	4	AA	B
	19	10106268	BILL SEPARATER	RJE500219-001V01	4	AA	B
	20	10203171	RUBBER LEG CASE	RJE500667-001V02	4	AD	X
	21	10167366	RUBBER LEG	RJE501204-001V01	4	AD	X

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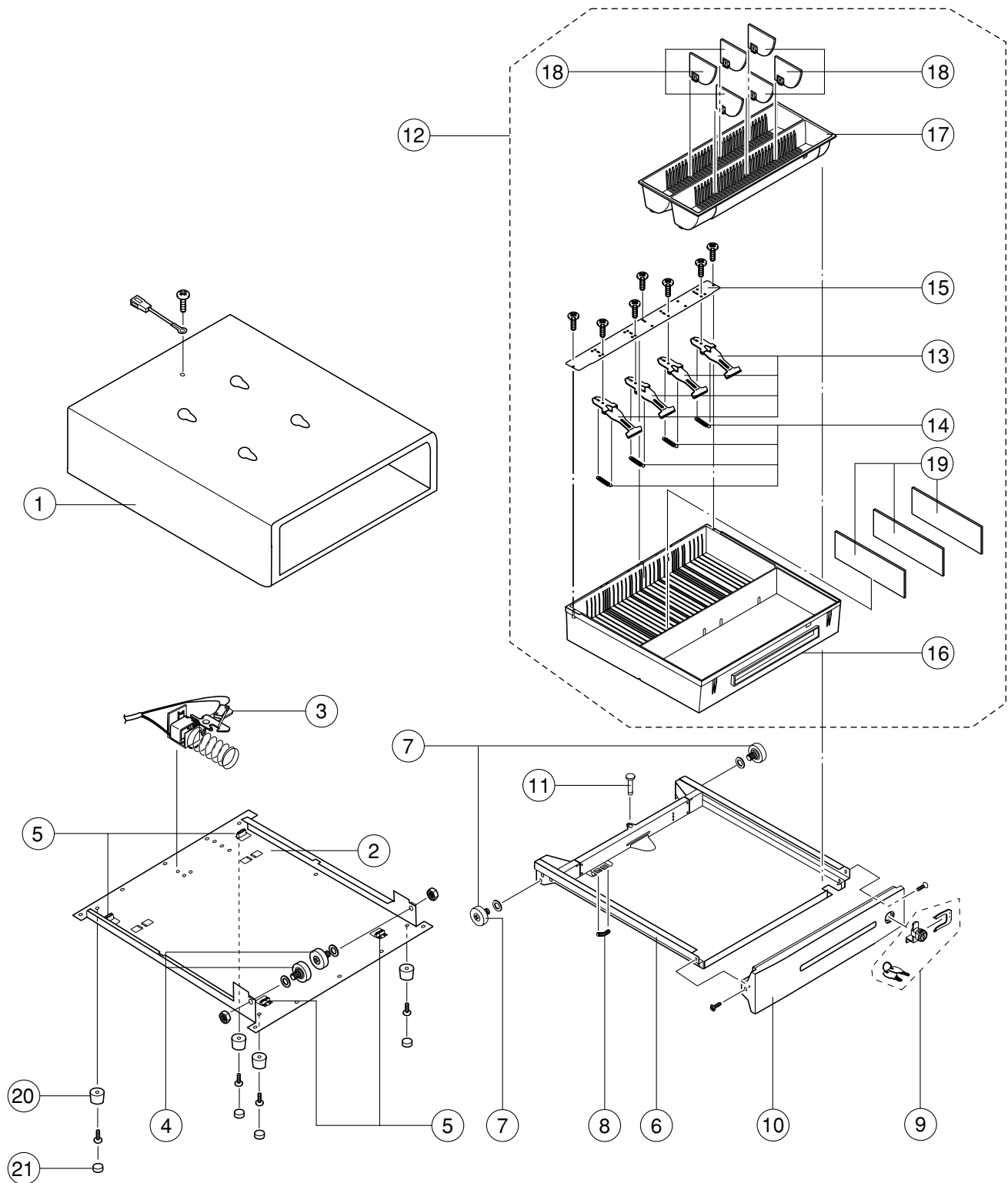
12. DRAWER (DL-2797) for Other country
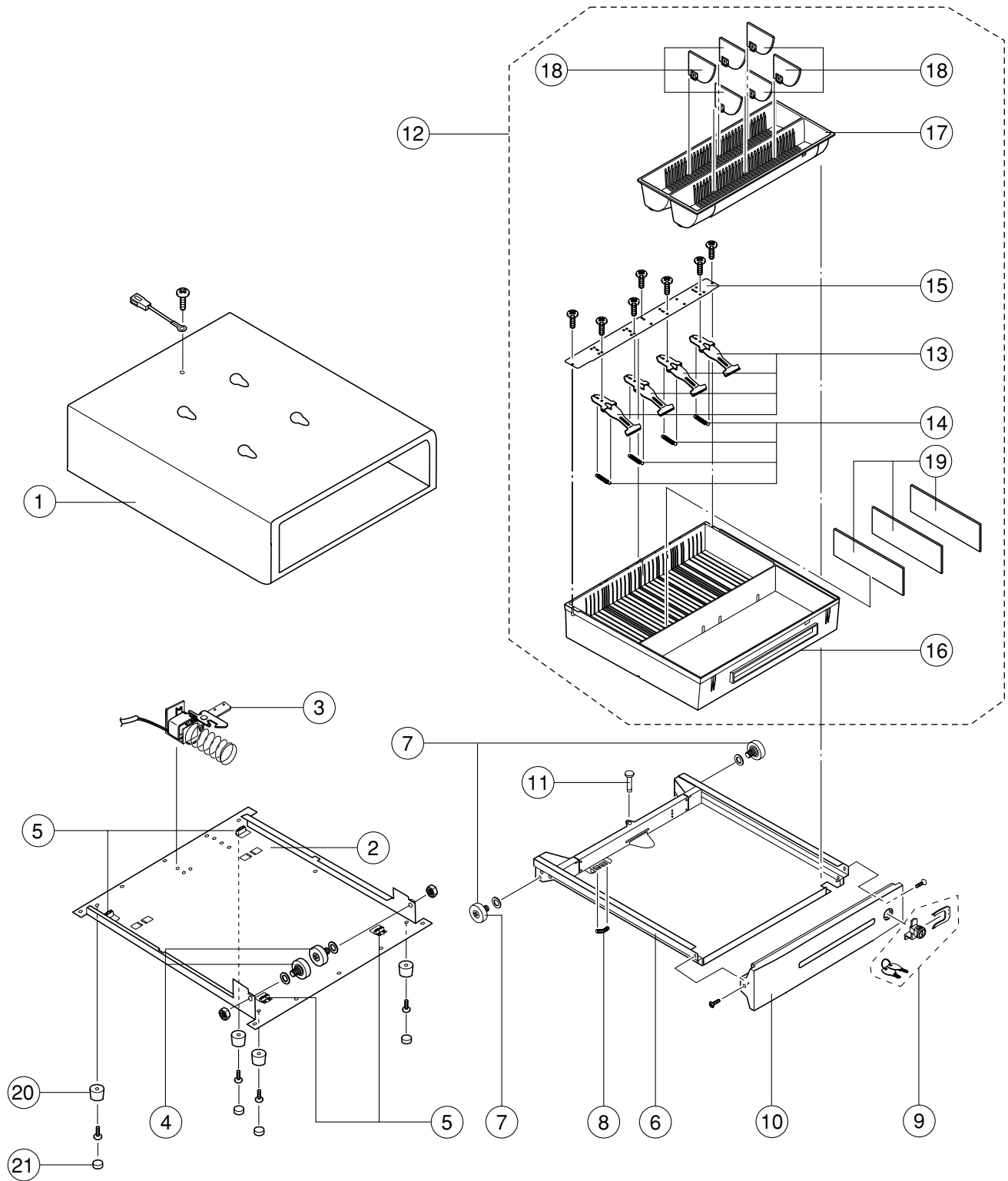
DL-2797 for Other country

N	Item	Code No.	Parts Name	Specification	Qty	Price Code	R
	1	10203572	BOX SUB ASSY	RJE501440*001V01	1	CY	X
		10203574	B-CHASSIS ASSY	RJE501442*004V01	1	CA	X
	2	10203587	B-CHASSIS	RJE501384-001V01	1	BM	X
	3	10208223	LOCK ASSY	RJE500567*005V01	1	CF	A
	4	55000619	DELRIN ROLLER	DR-19B1	2	AF	B
	5	10194208	DUMPER RUBBER	RJE500005-001V02	4	AD	X
		10203607	DRAWER ASSY	RJE501441*001V01	1	CQ	X
	6	10223071	DRAWER SUB ASSY	E341274*002V04	1	BQ	C
	7	55000619	DELRIN ROLLER	DR-19B1	2	AF	B
	8	10201065	EARTH SPRING	E412092-001V02	1	AC	C
	9	10203374	CYLINDER LOCK	CL-23	1	AZ	B
	10	10215645	FRONT PANEL	RJE501385-001V02	1	AZ	C
	11	19064150	RIVET	5X30	1	AA	X
	12	10200516	BILL COIN CASE ASSY	RJE501368*004V01	1	BW	C
	13	10200509	BILL HOLER SUB ASSY	E341290*002V03	4	AC	A
	14	10079063	BILL HOLDER SPRING	E441357-1	4	AA	A
	15	10194233	BILL HOLDER PLATE	E240845-001V02	1	AK	X
	16	10195656	BILL CASE	E140505-2	1	BE	X
	17	10195658	COIN CASE	RJE500217-002V01	1	AY	C
	18	10195657	COIN SEPARATER	RJE500216-002V01	6	AA	B
	19	10195659	BILL SEPARATER	RJE500219-002V01	3	AB	B
	20	10203171	RUBBER LEG CASE	RJE500667-001V02	4	AD	X
	21	10167366	RUBBER LEG	RJE501204-001V01	4	AD	X

13. DRAWER (DL-2798) for Europe

DL-2798 for Europe

N	Item	Code No.	Parts Name	Specification	Qty	Price Code	R
	1	10203572	BOX SUB ASSY	RJE501440*001V01	1	CY	X
		10203573	B-CHASSIS ASSY	RJE501442*003V01	1	CA	X
	2	10203587	B-CHASSIS	RJE501384-001V01	1	BM	X
	3	10208224	LOCK ASSY	RJE500567*006V01	1	CF	A
	4	55000619	DELRIN ROLLER	DR-19B1	2	AF	B
	5	10194208	DUMPER RUBBER	RJE500005-001V02	4	AD	X
		10203607	DRAWER ASSY	RJE501441*001V01	1	CQ	X
	6	10223071	DRAWER SUB ASSY	E341274*002V04	1	BQ	C
	7	55000619	DELRIN ROLLER	DR-19B1	2	AF	B
	8	10201065	EARTH SPRING	E412092-001V02	1	AC	C
	9	10203374	CYLINDER LOCK	CL-23	1	AZ	B
	10	10215645	FRONT PANEL	RJE501385-001V02	1	AZ	C
	11	19064150	RIVET	5X30	1	AA	X
	12	10200516	BILL COIN CASE ASSY	RJE501368*004V01	1	BW	C
	13	10200509	BILL HOLER SUB ASSY	E341290*002V03	4	AC	A
	14	10079063	BILL HOLDER SPRING	E441357-1	4	AA	A
	15	10194233	BILL HOLDER PLATE	E240845-001V02	1	AK	X
	16	10195656	BILL CASE	E140505-2	1	BE	X
	17	10195658	COIN CASE	RJE500217-002V01	1	AY	C
	18	10195657	COIN SEPARATER	RJE500216-002V01	6	AA	B
	19	10195659	BILL SEPARATER	RJE500219-002V01	3	AB	B
	20	10203171	RUBBER LEG CASE	RJE500667-001V02	4	AD	X
	21	10167366	RUBBER LEG	RJE501204-001V01	4	AD	X

14. DRAWER (DL-2799) for UK, Canada
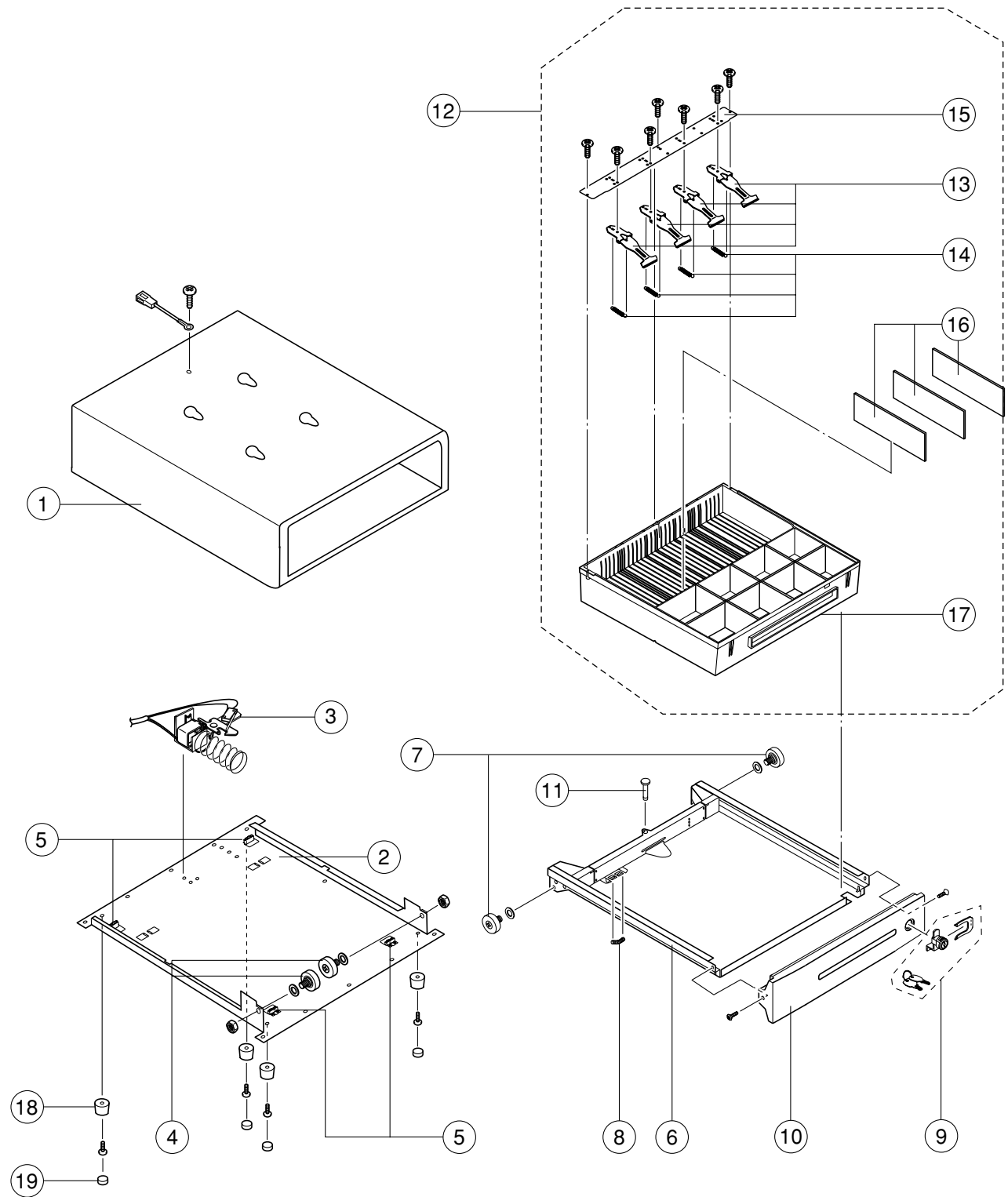
DL-2799 for UK, Canada

N	Item	Code No.	Parts Name	Specification	Qty	Price Code	R
	1	10203572	BOX SUB ASSY	RJE501440*001V01	1	CY	X
		10203573	B-CHASSIS ASSY	RJE501442*003V01	1	CA	X
	2	10203587	B-CHASSIS	RJE501384-001V01	1	BM	X
	3	10208224	LOCK ASSY	RJE500567*006V01	1	CF	A
	4	55000619	DELRIN ROLLER	DR-19B1	2	AF	B
	5	10194208	DUMPER RUBBER	RJE500005-001V02	4	AD	X
		10203607	DRAWER ASSY	RJE501441*001V01	1	CQ	X
	6	10223071	DRAWER SUB ASSY	E341274*002V04	1	BQ	C
	7	55000619	DELRIN ROLLER	DR-19B1	2	AF	B
	8	10201065	EARTH SPRING	E412092-001V02	1	AC	C
	9	10203374	CYLINDER LOCK	CL-23	1	AZ	B
	10	10215645	FRONT PANEL	RJE501385-001V02	1	AZ	C
	11	19064150	RIVET	5X30	1	AA	X
	12	10225530	BILL COIN CASE ASSY	RJE501368*006V01	1	CH	C
	13	10200509	BILL HOLER SUB ASSY	E341290*002V03	4	AC	A
	14	10079063	BILL HOLDER SPRING	E441357-1	4	AA	A
	15	10194233	BILL HOLDER PLATE	E240845-001V02	1	AK	X
	16	10195659	BILL SEPARATER	RJE500219-002V01	3	AB	B
	17	10225579	BILL COIN CASE	RJE500367-002V01	1	BJ	B
	18	10203171	RUBBER LEG CASE	RJE500667-001V02	4	AD	X
	19	10167366	RUBBER LEG	RJE501204-001V01	4	AD	X

Ver.1 :   Aug. 2008
          • Correction of the PARTS LIST (P87 and P93)

Ver.2 :   Aug. 2009
          • Correction of the PARTS LIST (P84 and 87)

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