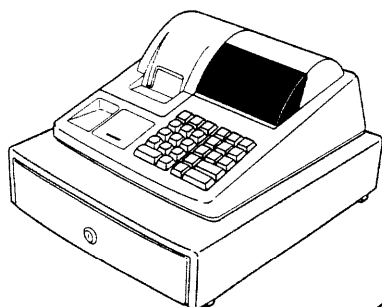
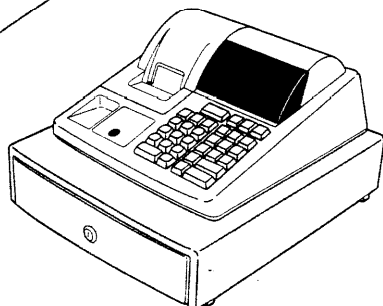


SHARP SERVICE MANUAL

CODE: 00ZXEA110VSME



XE-A110



XE-A130

ELECTRONIC CASH REGISTER

XE-A110 MODEL XE-A130

SRV KEY: Not necessary
 PRINTER: M-31
 (For "V" version)

CONTENTS

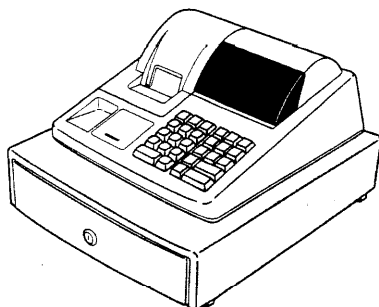
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Parts marked with "△" is important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

CHAPTER 1. SPECIFICATIONS

1. Appearance

Front view



XE-A110



XE-A130

2. Rating

	XE-A110			XE-A130		
Version (Country)	SEEG (GERMANY)	SUK (U.K.)	SCA (AUSTRALIA)	SEEG (GERMANY)	SUK (U.K.)	SCA (AUSTRALIA)
Weight	4.0 kg			4.3 kg	10.0 kg	
External dimension (Including the drawer)	330 (W) x 380 (D) x 218 (H) mm			420 (W) x 423 (D) x 234 (H) mm		
Power source	AC 230V (±10%), 60 Hz					
Ambit temperature, humidity	0 ~ 40°C (32 to 104°F) 10 ~ 90°C					

3. Keyboard

1) Keyboard layout

① XE-A110

Type	Normal keyboard
Key position	STD/MAX 27
Key pitch	19 (w) x 19 (h) mm
Key layout	Fixed type

↑	⊗/TM	CL	VAT	PO	⊖
7	8	9	4	RA	%
4	5	6	3	CH	CR
1	2	3	2	#/ST	
0	00		1	TL/AT/NS	

② XE-A130

Type	Normal keyboard
Key position	STD/MAX 31
Key pitch	19 (w) x 19 (h) mm
Key layout	Fixed type

VAT	TM	RF	⊖
-----	----	----	---

↑	⊗	CL	5	PO	⊖
7	8	9	4	RA	%
4	5	6	3	CH	CR
1	2	3	2	#/ST	
0	00		1	TL/AT/NS	

2) Key List

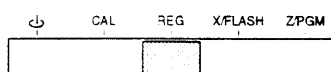
KEY TOP	DESCRIPTION	XE-A110	XE-A130
0 to 9, 00	Numeric keys	○	○
CL	Clear key	○	○
⊗/TM	Multiplication/ Time display key	○	×
⊖	Discount key	×	○
DEPT. 1 ~ 4	Department 1 ~ 4 keys	○	×
DEPT. 1 ~ 5	Department 1 ~ 10 keys	×	○
↑	Paper feed key	○	○
RA	Received on account key	○	○
PO	Paid out key	○	○
%	% key	○	○
⊞	Void key	○	○
#/ST	Non add code/ Tax included subtotal key	○	○
CH	Check key	○	○
CR	Credit key	○	○
TL/AT/NS	Total/Amount tender/ No sale key	○	○
VAT	VAT key	○	○
⊗	Multiplication key	×	○
TM	Time display key	×	○
RF	Refund key	×	○

4. Mode Switch

1) Layout

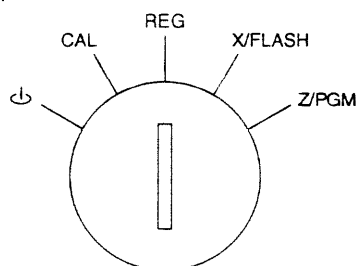
① XE-A110

- Slide type



② XE-A115

- Rotary type



OP key: "POWER OFF" mode to "REG" mode.

MA key: "POWER OFF" mode to "Z/PGM" mode.

* The keys can be inserted or drawn out in "REG" and "POWER OFF" position.

⏻ (POWER OFF): Switching off the display to prevent keyboard entries.

CAL: Calculator mode.

REG: Various registrations.

X/FLASH: Reading of any daily totals/Display reading of some daily totals and limit overriding.

Z/PGM: Resetting of any daily totals/PGM programming.

5. Display

1) Operator display

Display device: LED numeric display

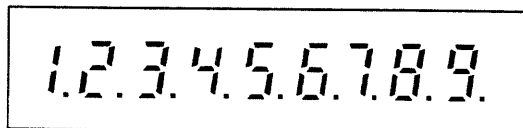
Number of line: 1 line

Number of positions: 9 positions numeric display

Color of display: Red

Character size: Numeric 14.2 (H) x 7.8 (W) mm

(Layout)



2) Customer display (Only XE-A130)

Display device: LED numeric display

Number of line: 1 line

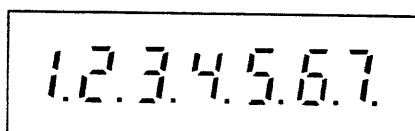
Number of positions: 7 positions numeric display

Color of display: Red

Style: Rear

Character size: Numeric 14.2 (H) x 7.8 (W) mm

(Layout)



3) Display contents

	Display position	Description
Amount	8 – 1	
Minus sign	9 – 2	–: Floating
Error	9	E
PGM Mode	9	P
CA/AT/NS CHARGE CHECK	9	F: Lights up when a registration is finalized by depressing TL/AT/NS, CH or CR Key.
Subtotal or short tender	9	O
Change	9	C: Lights up whenever the change due amount appears in the display.
Department	9 – 8	No zero-suppressed.
Repeat	8	Endless count, starting from 2
Decimal point	3 – 1	TAB
Low battery	9	L: Lights up when the voltage of the battery for memory retention is lower than the regulated voltage.

6. Printer

1) Printer

① M-31 (For XE-A110)

- Model name: M-31
- No. of stations: 1
- Printing system: Print wheel selective type
- Printing capacity: Journal – 13 characters
- Character size: 1.6mm (W) x 2.8mm (H)
- Print pitch: Column distance 2.1mm (numeric to numeric), 2.6mm (numeric to symbol)
Row distance 4.6mm
- Print speed: Approximate 1.4 lines/s
- Paper feed speed: Approximate 4.3 lines/s
- Reliability: MCBF 0.3 million lines

② M-42V (For XE-A130)

- Model name: M-42V
- No. of stations: 1
- Printing system: Print wheel selective type
- Printing capacity: Journal – 19 characters
- Character size: 1.6mm (W) x 2.8mm (H)
- Print pitch: Column distance 2.1mm (numeric to numeric), 2.6mm (numeric to symbol)
Row distance 4.6mm
- Print speed: Approximate 2.2 lines/s
- Paper feed speed: Approximate 8.0 lines/s
- Reliability: MCBF 0.7 million lines

2) Paper

- Paper roll dimension: 57.5±0.5mm
max. 80 mm in diameter
- Paper quality: Journal
Bond paper (paper thickness: 0.06 to 0.085mm paper weight: 47 to 64g/m²)

3) Inking

- Ink supply system: Ink rill
- Form: Roller
- Specification: Material – rubber
- Ribbon life: 1 million characters
- Print color: purple

4) Logo stamp (No)**5) Cutter (No)****6) Printing wheel layout**

① M-31

	1	2	3	4	5	6	7	8	9	10	11	12	13
0	0	0	0	0	0	0	0	0	0	0	0	0	X
1	1	1	1	1	1	1	1	1	1	1	1	1	Z
2	2	2	2	2	2	2	2	2	2	2	2	2	RA
3	3	3	3	3	3	3	3	3	3	3	3	3	PO
4	4	4	4	4	4	4	4	4	4	4	4	4	VD
5	5	5	5	5	5	5	5	5	5	5	5	5	%
6	6	6	6	6	6	6	6	6	6	6	6	6	@
7	7	7	7	7	7	7	7	7	7	7	7	7	ST
8	8	8	8	8	8	8	8	8	8	8	8	8	TX
9	9	9	9	9	9	9	9	9	9	9	9	9	CA
10													
11	-	-	-	-	-	-	-	-	-	-	-	-	CH
12	.	.	.	.	.	.	.	.	.	.	.	.	CK
13	#	#	#	#	#	#	#	#	#	#	#	#	CG

② M-42V

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	CA	Z
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	CH	1
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	RA	2
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	PO	3
4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	NT	4
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	ST	CK
6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	AT	+
7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	CG	-
8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	TX	×
9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	RF	@
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	*	#
12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	%	NS
13	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	VD	TA

7. Drawer**[Outline]**

- Standard equipment: Yes (1)
- Max. number of connectable drawers: None
- The drawer consists of:
 - Drawer box (outer case) and drawer
 - Lock (attached to the drawer)

[Specification]**1) Drawer box and drawer**

① Except for XE-A130 SCA (Australia) and SUK (U.K.) version

Model name of the drawer box	SK-380
Size	330 (W) × 380 (D) × 94 (H)
Color	Gray 6
Material	Plastic
Bell	—
Release lever	Standard equipment; situated at the bottom
Drawer open sensor	—

② For XE-A130 SCA (Australia) and SUK (U.K.) version

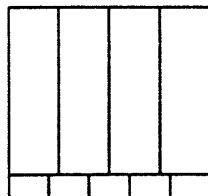
Model name of the drawer box	SK-423
Size	420 (W) × 423 (D) × 114 (H)
Color	Gray 6
Material	Metal
Bell	—
Release lever	Standard equipment; situated at the bottom
Drawer open sensor	—
Separation from the main unit	Disallowed

2) Money case

① Except for XE-A130 SCA (Australia) and SUK (U.K.) version

Separation from the drawer	Disallowed
Coin case	Fixed type
Number of compartments	4B/5C

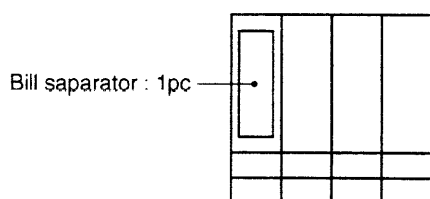
Layout:



4B/5C

② For XE-A130 SCA (Australia) and SUK (U.K.) version

Separation from the drawer	Allowed
Separation of the bill components from the coin compartments	Disallowed
Bill separator	Standard
Number of compartments	4B/8C



4B/8C

3) Lock (LOCK KEY: LKGIM7331BHZZ)

- Location of the lock: Front
- Method of locking and unlocking
 - To lock, insert the drawer lock key into the lock and turn it 90 degrees counter clockwise.
 - To unlock, insert the drawer lock key and turn it 90 degrees clockwise.
- Key No.: SK1-1

8. Battery

1) Memory back up battery

For memory back up, the dry battery ULM-3 (3 pieces) are needed.

1. Memory holding time:
Approx. 1 year after NEW dry batteries are inserted.
2. Battery exchange method:
When the low battery symbol "L" lights up, replace the batteries (3 AA) replaced by the following method, within 2 days.
 - 1) Power on the ECR.
 - 2) Mode switch turn to "REG" mode.
 - 3) Remove the OLD dry batteries (3 pieces).
 - 4) Insert the NEW dry batteries (3 pieces).
 - 5) Confirm the low battery symbol "L" is off.

2) Low battery

Low battery indication will appear on left side of display when the battery voltage is low.

CASE 1: When sitting idle or after completion of transaction.

The machine can indicate the low battery condition. (Always)

CASE 2: Low battery indication will not appear during key operations, but will appear after power up of the cash register.

[Display sample]

" 0.00 " : Battery is OK.

"L 0.00 " : Low battery (You have to change the batteries.)

After finalization

"F 12.34 " : Battery is OK.

"L 12.34 " : Low battery. ("L" indicate instead of "F".)

3) No battery

If the user forgets to replace the battery and the battery voltage falls below a certain level, or if a power failure occurs with no battery installed, memory contents cannot be retained. The CPU judges it as no battery and perform the master reset. In this case, all the settings and registrations are cleared. If, however, the power is supplied to the AC cord, even though no battery is installed, memory contents are retained.

CHAPTER 2. OPTIONS

1. Options (No)

2. Service options (No)

3. Supplies

NO.	NAME	PARTS CODE	PRICE RANK	DESCRIPTION
1.	ROLL PAPER	DPAPR1025CSZZ	AS	5 ROLLS/PACK
2.	INK ROLLER	NRÖLR1022CC05	AF	

4. Special service tools (No)

CHAPTER 3. MASTER RESET

Master reset: Clears all the memory and initializes each preset parameter.

Master reset should be performed by using the following procedure.

1. Turn off the power (Power OFF). (See Note 1.)
2. Let the ECR be without the memory back up battery.
3. Turn the mode switch to the others of Power-off position.
4. Turn on the power (Power ON). (See Note 2.)

When the master reset is completed, the buzzer sounds intermittently three times.

5. Attach the memory back up battery to the ECR.

The master reset can also be accomplished in the following case.
(See Note3.)

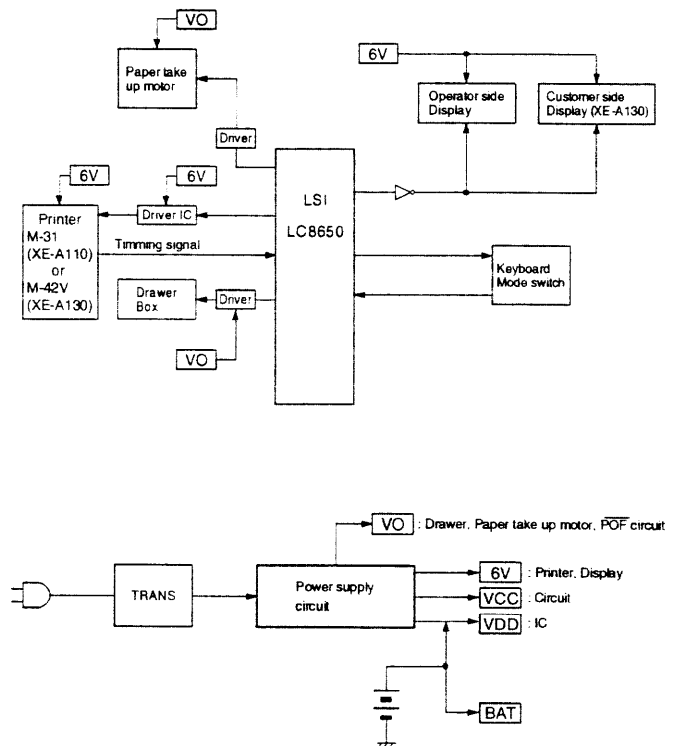
Note 1) Power OFF: Means stopping the AC power supply to the machine.
(Specifically, unplugging the machine.)

Note 2) Power ON: Means supplying the AC power to the machine.
(Specifically, plugging in the machine.)

Note 3) In case power failure occurs when the machine has no battery attached to it, the master reset operation is automatically performed after the power has been restored.
(This is because if power failure occurs with no battery attached to the machine, all the memory is lost and the machine does not work properly after power recovery; this requires the master reset operation.)

CHAPTER 4. HARDWARE DESCRIPTION

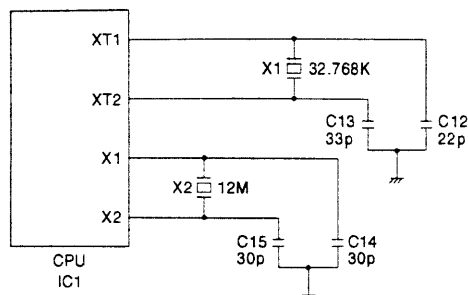
1. Block diagram



2. CPU (LC8650) Pin configuration

NO.	PIN NAME	SIGNAL NAME	DESCRIPTION	IN/OUT	ACTIVE	Power interruption (Used for timer interruption)
1	P10/SQ0	RWND	REWIND MOTOR	OUT	HIGH	LOW
2	P11/SI0/SB0	MTR	MOTOR FOR M42V/M31	OUT	HIGH	LOW
3	P12/SCK0	TRG	PRINT SOLENOID	OUT	HIGH	LOW
4	P13/SO1	DR	DRAWER	OUT	HIGH	LOW
5	P14/SI1/SB1		NOT USED	OUT	LOW	LOW
6	P15/SCK1		NOT USED	OUT	LOW	LOW
7	P16/BUZ	BZ	BUZZER	OUT	HIGH/LOW	LOW
8	P17/PWM		NOT USED	OUT	LOW	LOW
9	TEST1	TEST	NOT USED			
10	/RES	/RES	RESET	IN	LOW	IN
11	XT1	XT1	SUB CLOCK			
12	XT2	XT2	SUB CLOCK			
13	VSS	GND	GND			
14	CF1	X1	MAIN CLOCK			
15	CF2	X2	MAIN CLOCK			
16	VDD	VDD	VDD			
17	P80/AN0	KR1	KEY RETURN 1	IN	HIGH	IN
18	P81/AN1	KR2	KEY RETURN 2	IN	HIGH	IN
19	P82/AN2	KR3	KEY RETURN 3	IN	HIGH	IN
20	P83/AN3	KR4	KEY RETURN 4	IN	HIGH	IN
21	P84/AN4	KR5	KEY RETURN 5	IN	HIGH	IN
22	P85/AN5	KR6	KEY RETURN 6	IN	HIGH	IN
23	P86/AN6		NOT USED	IN		IN
24	P87/AN7	BAT	LOW/NO BATTERY CHECK	IN		IN
25	P70/INT0	/POF	POWER OFF CHECK	IN	LOW	IN
26	P71/INT1	T	TIMMING PULSE FOR M42V/M31	IN	LOW	IN
27	P72/INT2/TOIN	t	SUB TIMMING PULSE FOR M42V/31	IN	LOW	IN
28	P73/INT3/TOIN			IN		IN
29	P30	ST1	DISPAY COMMON 1 (OPEN DRAIN)	OUT	LOW	HIGH
30	P31	ST2	DISPAY COMMON 2 (OPEN DRAIN)	OUT	LOW	HIGH
31	P32	ST3	DISPAY COMMON 3 (OPEN DRAIN)	OUT	LOW	HIGH
32	P33	ST4	DISPAY COMMON 4 (OPEN DRAIN)	OUT	LOW	HIGH
33	P34	ST5	DISPAY COMMON 5 (OPEN DRAIN)	OUT	LOW	HIGH
34	P35		NOT USED	OUT	LOW	LOW
35	P36		NOT USED	OUT	LOW	LOW
36	P37	R	RESET PULSE FOR M42V/M31	IN	LOW	IN
37	P40	SA1	SEGMENT a1	OUT	HIGH	LOW
38	P41	SB1	SEGMENT b1	OUT	HIGH	LOW
39	P42	SC1	SEGMENT c1	OUT	HIGH	LOW
40	P43	SD1	SEGMENT d1	OUT	HIGH	LOW
41	P44	SE1	SEGMENT e1	OUT	HIGH	LOW
42	P45	SF1	SEGMENT f1	OUT	HIGH	LOW
43	P46	SG1	SEGMENT g1	OUT	HIGH	LOW
44	P47	SDP1	SEGMENT Dp1	OUT	HIGH	LOW
45	P50	SEL	MODEL SELECT	IN	HIGH/LOW	IN
46	P51		NOT USED	OUT	LOW	OUT
47	VSS	GND	GND			
48	VDDVPP	VDD	VDD			
49	P20	SA2	SEGMENT a2	OUT	HIGH	LOW
50	P21	SB2	SEGMENT b2	OUT	HIGH	LOW
51	P22	SC2	SEGMENT c2	OUT	HIGH	LOW
52	P23	SD2	SEGMENT d2	OUT	HIGH	LOW
53	P24	SE2	SEGMENT e2	OUT	HIGH	LOW
54	P25	SF2	SEGMENT f2	OUT	HIGH	LOW
55	P26	SG2	SEGMENT g2	OUT	HIGH	LOW
56	P27	SDP2	SEGMENT Dp2	OUT	HIGH	LOW
57	P00	KST1	KEY STROBE 1	OUT	HIGH	LOW
58	P01	KST2	KEY STROBE 2	OUT	HIGH	LOW
59	P02	KST3	KEY STROBE 3	OUT	HIGH	LOW
60	P03	KST4	KEY STROBE 4	OUT	HIGH	LOW
61	P04	KST5	KEY STROBE 5	OUT	HIGH	LOW
62	P05	KST6	KEY STROBE 6	OUT	HIGH	LOW
63	P06	KST7	KEY STROBE 7	OUT	HIGH	LOW
64	P07	KST8	KEY STROBE 8	OUT	HIGH	LOW

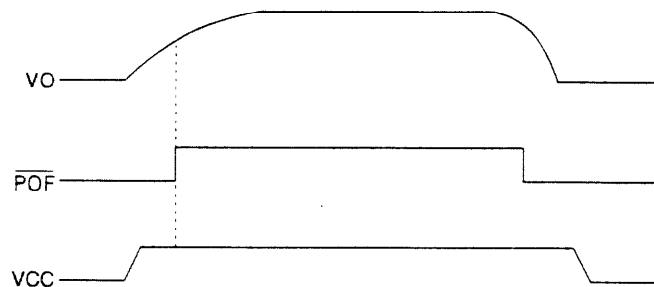
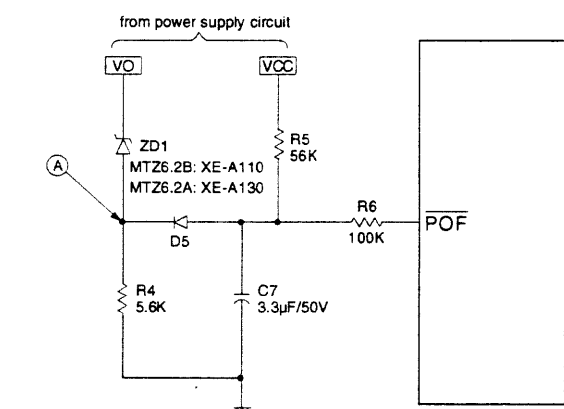
3. Clock generator



The X1 generator 32.768KHz which is primarily used to update the internal RTC (Real Time Clock).

The X2 generator 12MHz which is used as main clock.

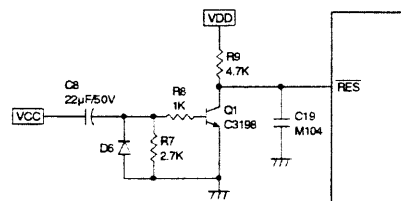
4. P-OFF circuit



When the power is supplied, voltage Vo from the power supply circuit rises. When it reaches about 6.2V, point A is driven to HIGH so that the POF signal of the CPU is fixed to HIGH with Vcc and the CPU performing power ON process.

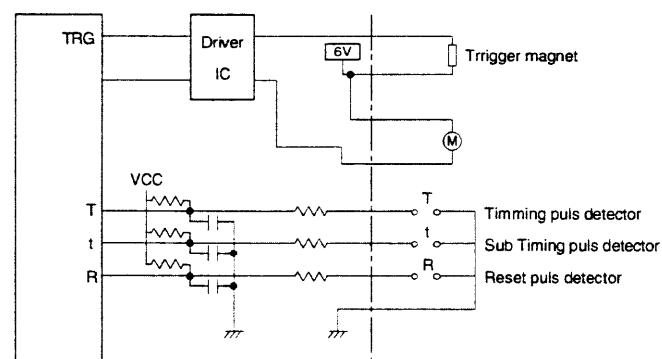
When voltage Vo falls below about 6.2V by turning off the power, point A is driven to LOW to fix the POF signal of the CPU to LOW and the CPU performs power OFF process.

5. RESET circuit

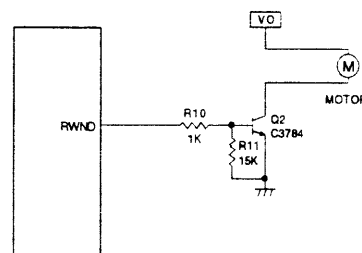


Since Q1 is turned on by Vcc, the RES signal is driven to LOW to reset the CPU. After that, discharging of C8 turns off Q1 to drive the RES signal to HIGH.

6. Printer circuit

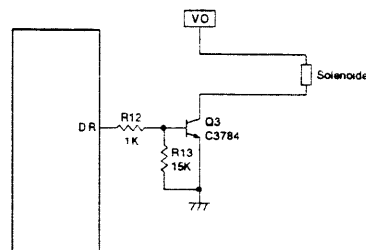


7. REWIND motor drive circuit



When the RWND signal from the CPU is HIGH, Q2 is turned on to operate the motor.

8. DRAWER drive circuit



When the DR signal from the CPU is HIGH, Q3 is turned on to operate the solenoid.

KST2 ~ KST5 of the key strobe signal are used as the Mode switch strobe signals.

One strobe signal drives two-digit LED.

CHAPTER 5. TEST FUNCTION

- 1) To execute the diag test, set the mode switch to Z/PGM, enter a desired JOB code, and press PO (paid out) key.
- 2) The test message is printed by the printer.
- 3) Test contents and key operations

No.	Test contents	Key operations
1	Mode SW test	1 → PO
2	Key test	___02 → PO
3	Display buzzer test	3 → PO
4	Drawer test	4 → PO
5	Printer test	5 → PO
6	CPU version No. print	6 → PO
7	Battery level test	7 → PO

1. Mode switch test

1) Key operation

1 →

2) Test procedure

Change over the mode switch as shown in 3). If the mode switch data in the proper sequence is not read with the above operation, an error print is made.

To cancel this test mode, set the mode switch from a position other than Z/PGM to Z/PGM. In this case, the completion print is made. During the test, the display indicates hard codes which correspond to switch positions.

3) Mode switch operation

Mode: Z/PGM → X/FLASH → REG → CAL → → Z/PGM
 Display: (04) (03) (02) (01) (0.00)

No check when returning the switch to Z/PGM.

Completion print 01
 Error print #####01

2. Key test

1) Key operation

___02 →
 ↑ Sumcheck data

2) Test procedure

Perform the keyboard check with the sum check data of the key code. Enter the sum check data of each model in the four digits preceding the diag number 02, and compare the data with the key position code which is added until TL/AT/NS key is pressed. (TL/AT/NS key is out of calculation.) If the data coincides with the code, the completion print is made. If not, the error print is made. (At that time, a catch sound is generated and the key code is displayed in the lower two digits on the display.)

3) Key check sequence

There is no specified key check sequence. Pressing TL/AT/NS key terminates the key check and starts comparison with the sum check data.

Completion print 02
 Error print #####02

No.	Model	Sum check data	Production start
1	XE-A110	946	Jun. 1995
2	XE-A130	1107	Jun. 1995

The hard codes shown below are added in the hexadecimal system and the lower two digits of the total are converted into the decimal number, which is the sum check data.

Sum check data table (Keys which are shaded as are not used.)

① XE-A110

15	14	33	52	62
-----------------------------------	-----------------------------------	-----------------------------------	-----------------------------------	-----------------------------------

↑	05	04	13	22	42
25	24	03	12	63	72
35	34	23	43	53	64
32	44	02	54	45	73
45	75	55	74	TL/AT/NS	

② XE-A130

15	14	33	52	62
-----------------------------------	-----------------------------------	-----------------------------------	-----------------------------------	-----------------------------------

↑	05	04	13	22	42
25	24	03	12	63	72
35	34	23	43	53	64
32	44	02	54	45	73
45	75	55	74	TL/AT/NS	

All the key position codes of each model are summed up and the total is used for the sum check data.

3. Display buzzer test

1) Key operation

3 →

2) Test procedure

Check the continuous buzzer sound and the display state.

Display state:
 8.7.6.5.4.3.2.1.

The decimal points will shift from the lower digit to the upper, step by step.

To cancel the test mode, press any key, and the buzzer will stop and "0.00" will be displayed.

Completion print 03

4. Drawer test

1) Key operation

4 → PO

2) Test procedure

The drawer opens with the above key operation. Check that the drawer is open. Press any key to terminate the test.

Completion print 04

5. Printer test

1) Key operation

5 → PO

2) Test procedure

With the above key operation, the print test pattern is repeatedly printed. Pressing any key will terminate the test after completion of one cycle print. (The receipt is issued at the end.)

① XE-A110

									0	0	0	X
									1	1	1	Z
									2	2	2	RA
									3	3	3	PO
									4	4	4	VD
									5	5	5	%
									6	6	6	@
									7	7	7	ST
									8	8	8	TX
									9	9	9	CA
									-	-	-	CH
									.	.	.	CK
									#	#	#	CG

② XE-A130

												0	0	CA	Z
												1	1	CH	1
												2	2	RA	2
												3	3	PO	3
												4	4	NT	4
												5	5	ST	CK
												6	6	AT	+
												7	7	CG	-
												8	8	TX	×
												9	9	RF	@
												-	-		
												.	.	*	#
												.	.	%	NS
												#	#	VD	TA

6. CPU version No. print

1) Key operation

6 → PO

2) Description

The CPU version No. are printed with the above key operation.

(Print example)

0100

CPU version No.

This test is terminated when printing is completed.

7. Battery voltage sensor test

1) Key operation

7 → PO

2) Test procedure

Displays A/D conversion port read value.

- 0155 or greater: Normal
- 0154 or smaller: Low battery display

To terminate the test, press any key.

Completion print 07

CHAPTER 6. SERVICE PRECAUTION

1. Printer

Since the service parts of the printer for this model are of low price, only the printer unit is supplied. Therefore, the printer component parts are not supplied and no service document on them is issued.

For troubleshooting of the printer, refer to the table below:

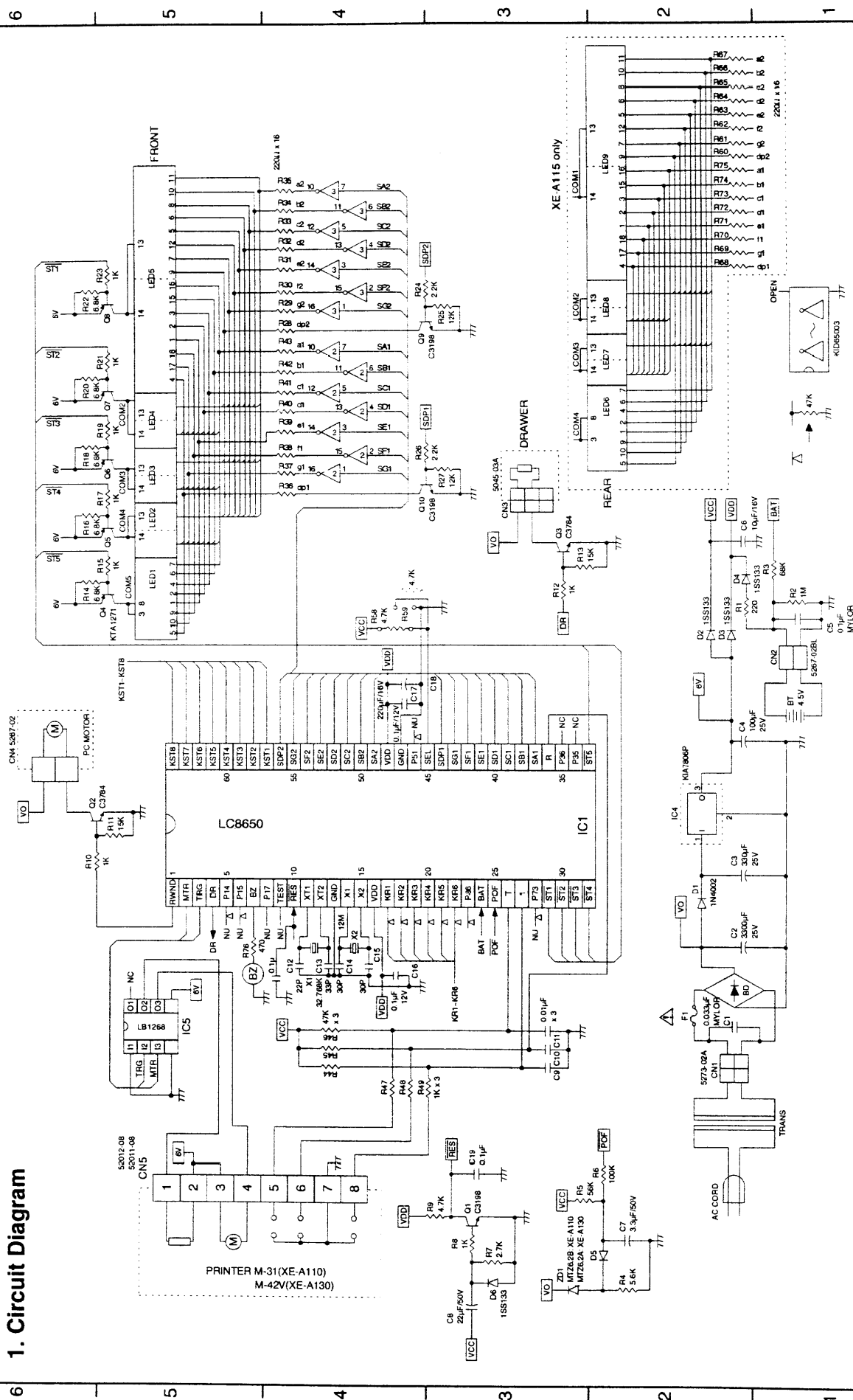
- * Printer life: 300 thousand lines (XE-A110: M-31)
700 thousand lines (XE-A130: M-42V)
- Ink roll life: 1 million characters

Phenomena	Check point/possible cause	Repair
- The printer motor is locked and the buzzer sounds intermittently. - The printer does not work properly.	• Check if the printer cable is disconnected.	• Check and repair the printer cable.
	• Check if the printer life is reached.	• Replace the printer.
	• Check if any foreign material is attached to the printing type wheel or the gear section.	• Remove the foreign material. (After removing the foreign material, set the mode switch to "REG" and press "CL" key.)
Defective print (Lack on the upper/lower or left/right side)	• Check if the printing type is worn down.	• Replace the printer.
	• Check if any foreign material is attached to the printing type wheel.	• Remove the foreign material. (After removing the foreign material, set the mode switch to "REG" and press "CL" key.)
Thin print	• Check if the ink roll life is reached.	• Replace the ink roll.
	• Check if the ink roll is properly attached.	• Attach the ink roll properly.
	• Check if the printing type wheel is worn down because of life.	• Replace the printer.
Uneven pitch of print paper feed	• Check if the roll paper size is proper.	- Use the roll paper of following sizes: - Paper width: 57.5 ±0.5 mm - Outside diameter: φ80 mm or less - Inside diameter of paper tube: φ12 mm or less - Paper thickness: 0.06 ~ 0.085 mm
	• Check if a load is applied to the roll paper during paper feed because of a foreign material attached to the roll paper.	• Remove the cause to remove the load.

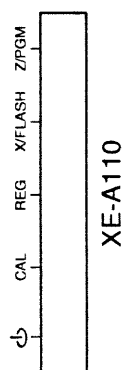
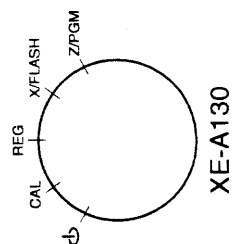
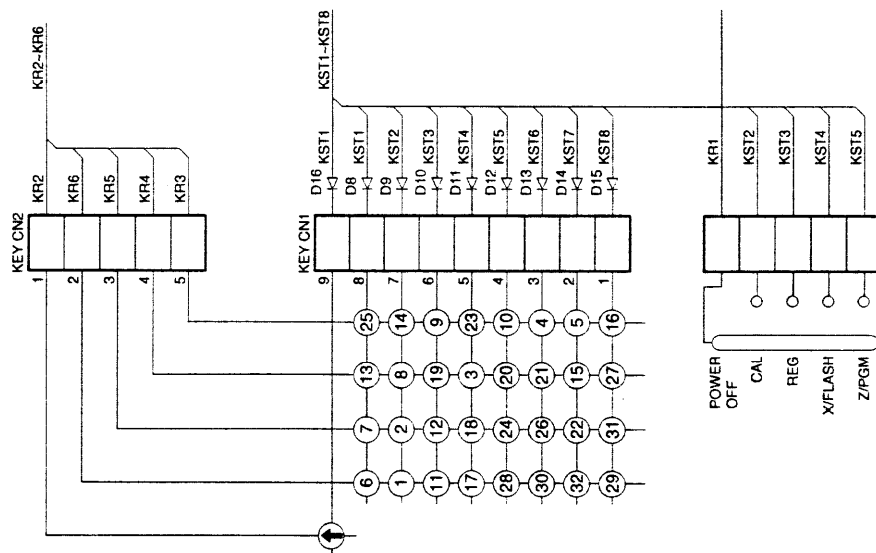
CHAPTER 7. CIRCUIT DIAGRAM AND PWB LAYOUT

1. Circuit Diagram

1/2



2/2



1	2
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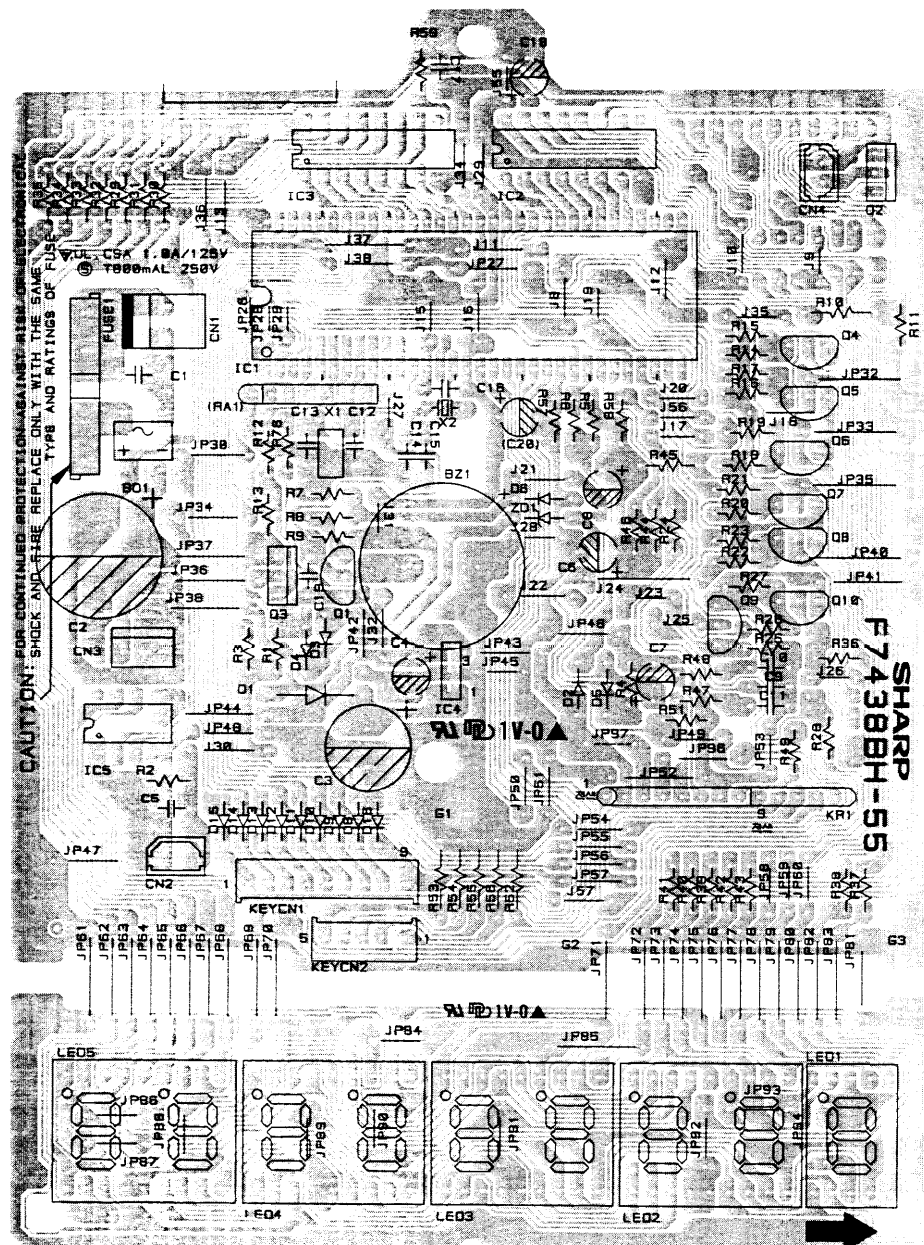
3	4	5
---	---	---

8	9	10
14	15	16
20	21	22
26	28	27
31	32	

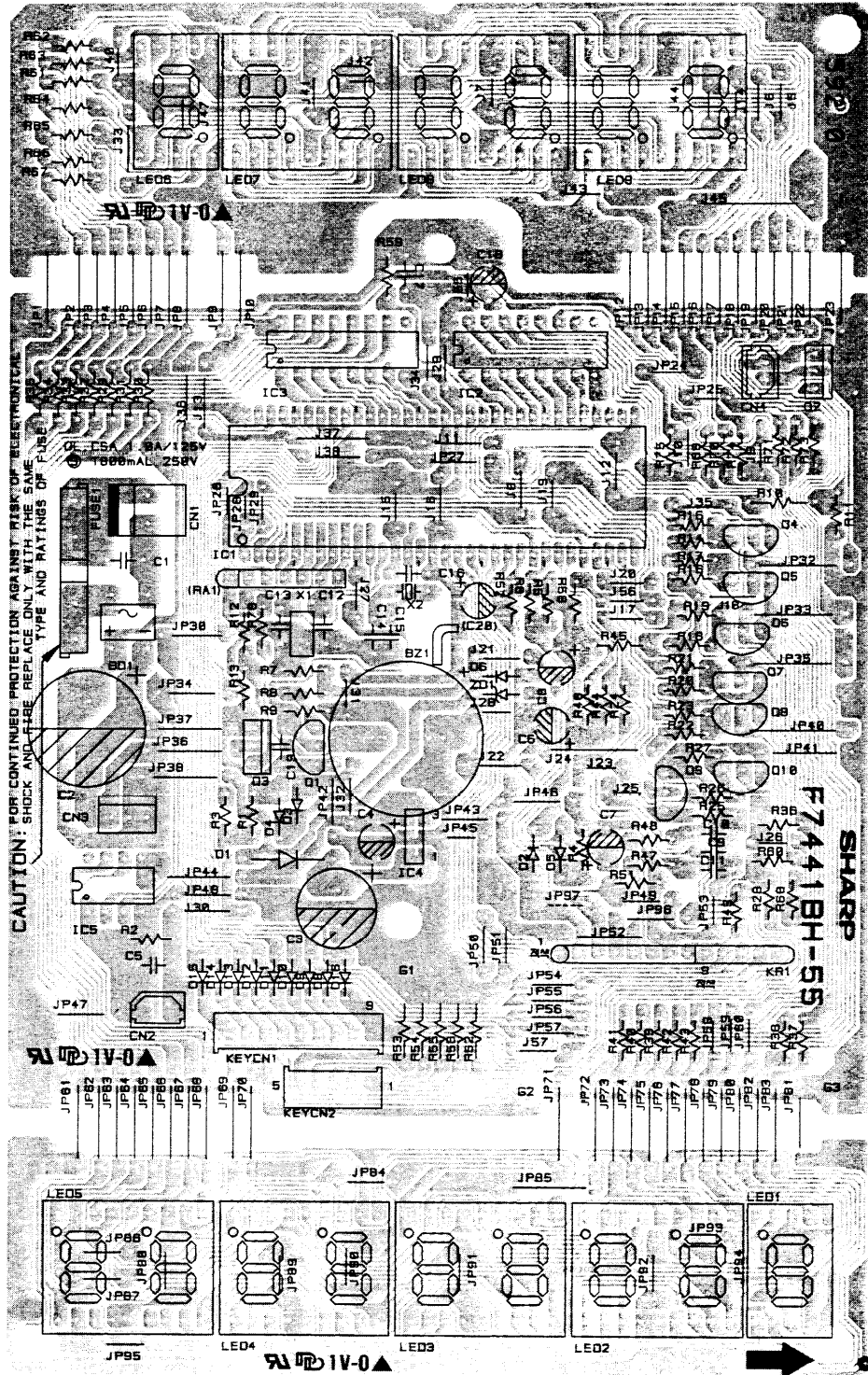
↑	6	7
11	12	13
17	18	19
23	24	25
28	29	30

2. PWB LAYOUT

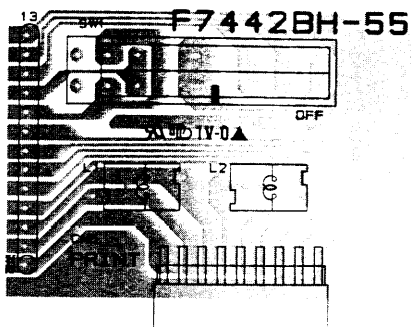
① XE-A110 MAIN PWB



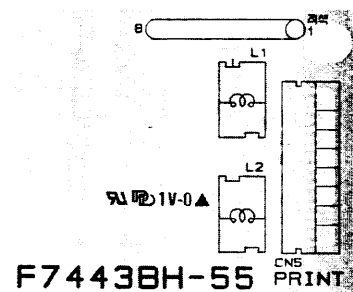
② XE-A130 MAIN PWB



③ XE-A110 SLIDE PWB



④ XE-A130 ROTARY PWB



SHARP PARTS GUIDE

EX-A110 MODEL EX-A130

PRINTER: M-31(XE-A110)
M-42V(XE-A130)

for KA, KB, TQ, TS, TR

CONTENTS

- | | | | |
|---|---|---|---------------------------|
| 1 | Exteriors | 6 | Slide PWB unit [XE-A110] |
| 2 | Drawer box unit(SK380type)
[except XE-A130 : KA, KB] | 7 | Rotary PWB unit [XE-A130] |
| 3 | Drawer box unit(SK423type)
[XE-A130 : KA, KB] | 8 | Atricles for consumption |
| 4 | Packing material & Accessories | 9 | AC CARD |
| 5 | Main PWB unit | ■ | Index |

Because parts marked with “△” is indispensable for the machine safety maintenance and operation, it must be replaced with the parts specific to the product specification.

Table of destinations

SELECTION CODE	COUNTRIES
U	U. S. A., Guam
A	Canada
TS	Germany
TQ	SEEG territory other than Germany (Stamp : English)
TR	SEEG territory other than Germany (Stamp : Spanish)
KB	U. Kingdom
KA	Australia

SELECTION CODE	COUNTRIES
K	Korea

SELECTION CODE	COUNTRIES
SB	Saudi Arabia (127V area)
SBA	Saudi Arabia (220V area)
SC	Taiwan
SD	Venezuela
SE	Hong Kong
SG	Lebanon, Syria, Greece, Pakistan, Iran, Egypt, Thailand, Iraq, Mauritius, Seychelles, Tahiti, Jordan, Sudan, Turkey
SH	South Africa (U. S. A. version)
SHE	South Africa (Europe version)
SJ	Philippines (Europe version)
SJ2	philippines (U. S. A. version)
SM	Kuwait, Qatar, Oman, UAE, Malta,Bahrain
SMT	Nigeria, Yemen, Kenya

SELECTION CODE	COUNTRIES
RA1	Morocco, Algeria, Tunisia, West Africa
RA2	Chile, Uruguay, Peru, Argentina, Paraguay
RA5	Sri Lanka

SELECTION CODE	COUNTRIES
RB3	Indonesia
RB4	
RB5	Cyprus
RB6	Panama
RB7	Barbados
RB8	Malaysia (U. S. A. version)

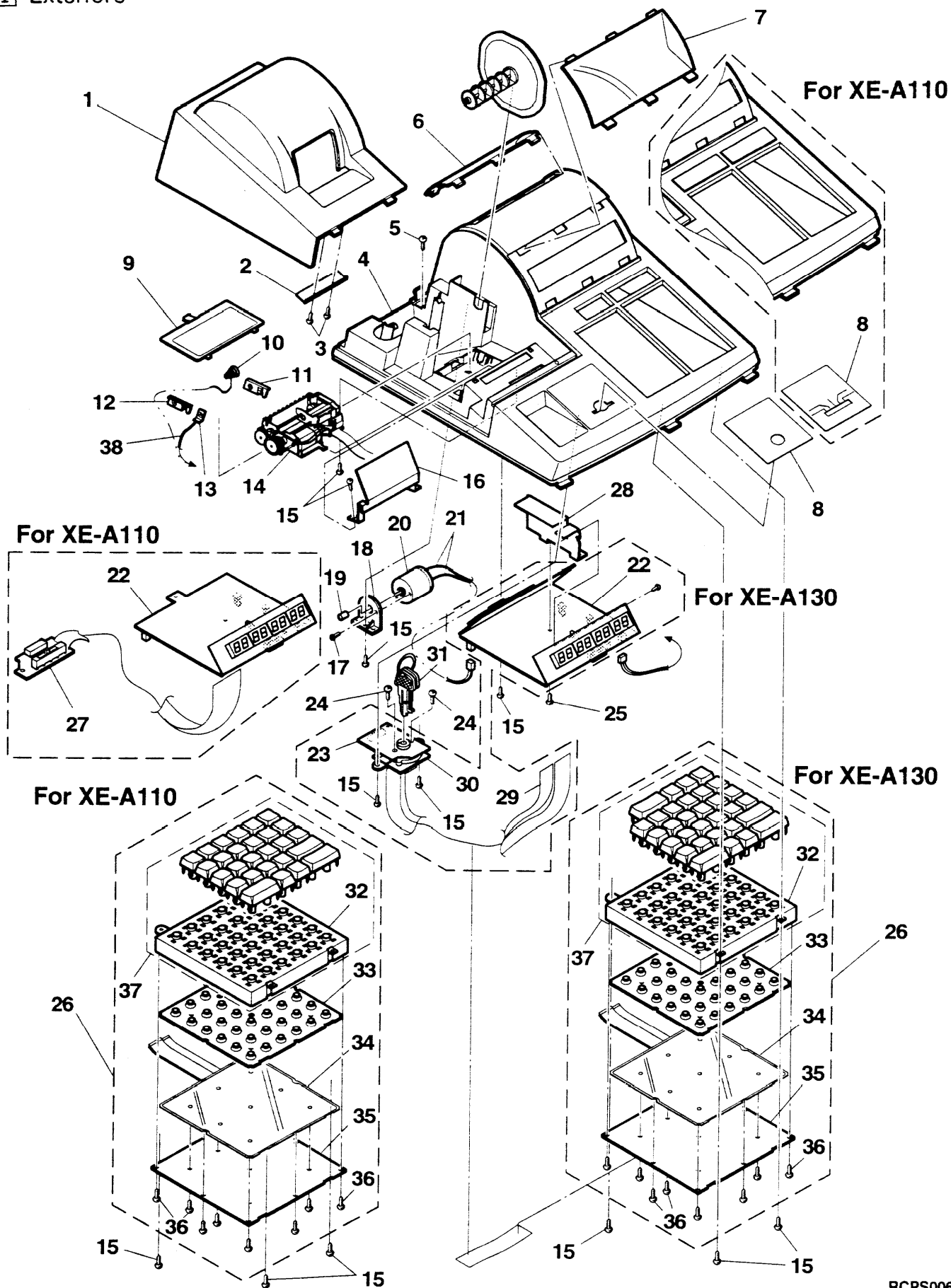
SELECTION CODE	COUNTRIES
RC1	Malaysia (Europe version)
RC2	Singapore
RC5	Dominican Republic, Ecuador

XEA130V

1 Exteriors

[illegible]

1 Exteriors

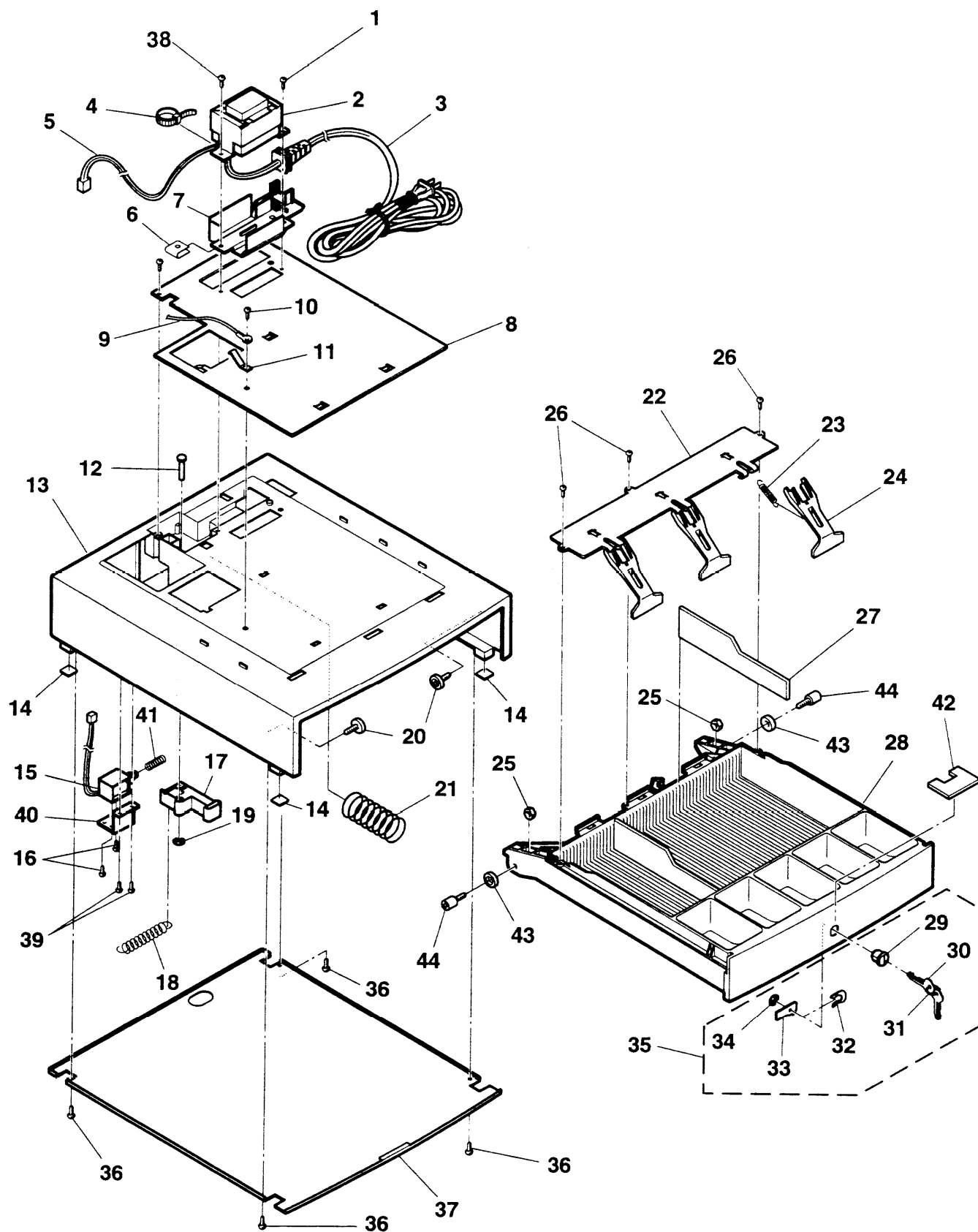


XE130V

2 Drawer box unit(SK380type) [except XE-A130 : KA,KB]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
1	LX-HZ0056BHZZ	AA		C	Screw (3×8KS)
2	RTRNP6876BHZZ	AZ	N	B	Power transformer (220V~230V) [TQ,TS,TR]
	RTRNP6877BHZZ	AZ	N	B	Power transformer (230V~240V) [KA,KB]
	QACCE3120QCN5	AL		B	AC cord (250V 2.5A) [TQ,TS,TR]
3	QACCL1018CCN1	AV		B	AC cord [KA]
	QCNW-1035CCZZ	AL		B	AC cord [KB]
	QPLGA0006QCZZ	AQ		C	Plug (3A 250V) [KB]
4	LBNDJ2003SCZZ	AA		C	Nylon band
5	QCNW-7739BHZZ	AG	N	C	PS cable
6	LANGQ7576BHZZ	AG	N	C	Earth angle
7	GCOVH7094BHZZ	AK	N	D	Trans cover
8	LPLTM6695BHZZ	AU	N	C	Earth plate
9	QCNW-7742BHZZ	AF		C	Earth wire
10	XHPSD30P06000	AA		C	Screw (3×6)
11	LANGQ7565BHZZ	AE		C	Earth spring
12	NSFTA6656BHZZ	AD	N	C	Lever shaft
13	GCABB7206BHZZ	BD	N	D	Cabinet
14	PSHEP6826BHZZ	AE	N	C	Gum sheet
15	RPLU-6644BHZZ	AW	N	B	Solenoid
16	LX-BZ6775BHZZ	AA		C	Screw (3×8)
17	MLEVF6712BHZZ	AF	N	C	Open lever
18	MSPRT6742BHZZ	AD	N	C	Open spring
19	XRESJ40-06000	AA		C	E type ring (4mm)
20	NRÖLP6650BHZZ	AP		C	Roller
21	MSPRC6743BHZZ	AG	N	C	Push out spring
22	LBRC-6668BHZZ	AN		C	Bracket
23	MSPRT6731BHZZ	AD		C	Bill spring
24	MLEVF6699BHZZ	AE		C	Bill lever
25	XNESD60-50000	AA		C	Nut (M6)
26	XUBSD30P06000	AA		C	Screw (3×6)
27	PSKR-6630BHZZ	AH		C	Separator
28	GCAS-6697BHZZ	AZ	N	D	Money case (3B/5C)
29	LKGIW7330BHZZ	AY		B	Lock key (body)
30	LKGIM7331BHZZ	AE		B	Lock key (1pc)
31	PRNGT6637BHZZ	AA		C	Key ring
32	MSPRK6718BHZZ	AF		C	Lock key spring
33	MCAMM6633BHZZ	AG		C	Lock cam
34	XRESJ50-06000	AA		C	E type ring (5mm)
35	DUNT-1306BHZZ	AX		E	Lock key unit
36	XUBSD40P06000	AA		C	Screw (4×6)
37	LPLTM6694BHZZ	AV	N	C	Bottom plate
38	LX-BZ6778BHZZ	AA		C	Screw
39	XUBSD30P10000	AC		C	Screw (3×10)
40	LANGK7584BHZZ	AL		C	Solenoid angle
41	MSPRC6748BHZZ	AD		C	Plunger spring
42	SPAKA8339BHZZ	AC		D	Paper pad
43	NRÖLP6655BHZA	AF	N	C	Roller
44	NSFTA6655BHZZ	AE	N	C	Roller shaft
	(Unit)				
901	GBÖXD7133BHZZ	BQ	N	E	Drawer box unit (except No1~11,38)

2 Drawer box unit(SK380type) [except XE-A130 : KA,KB]

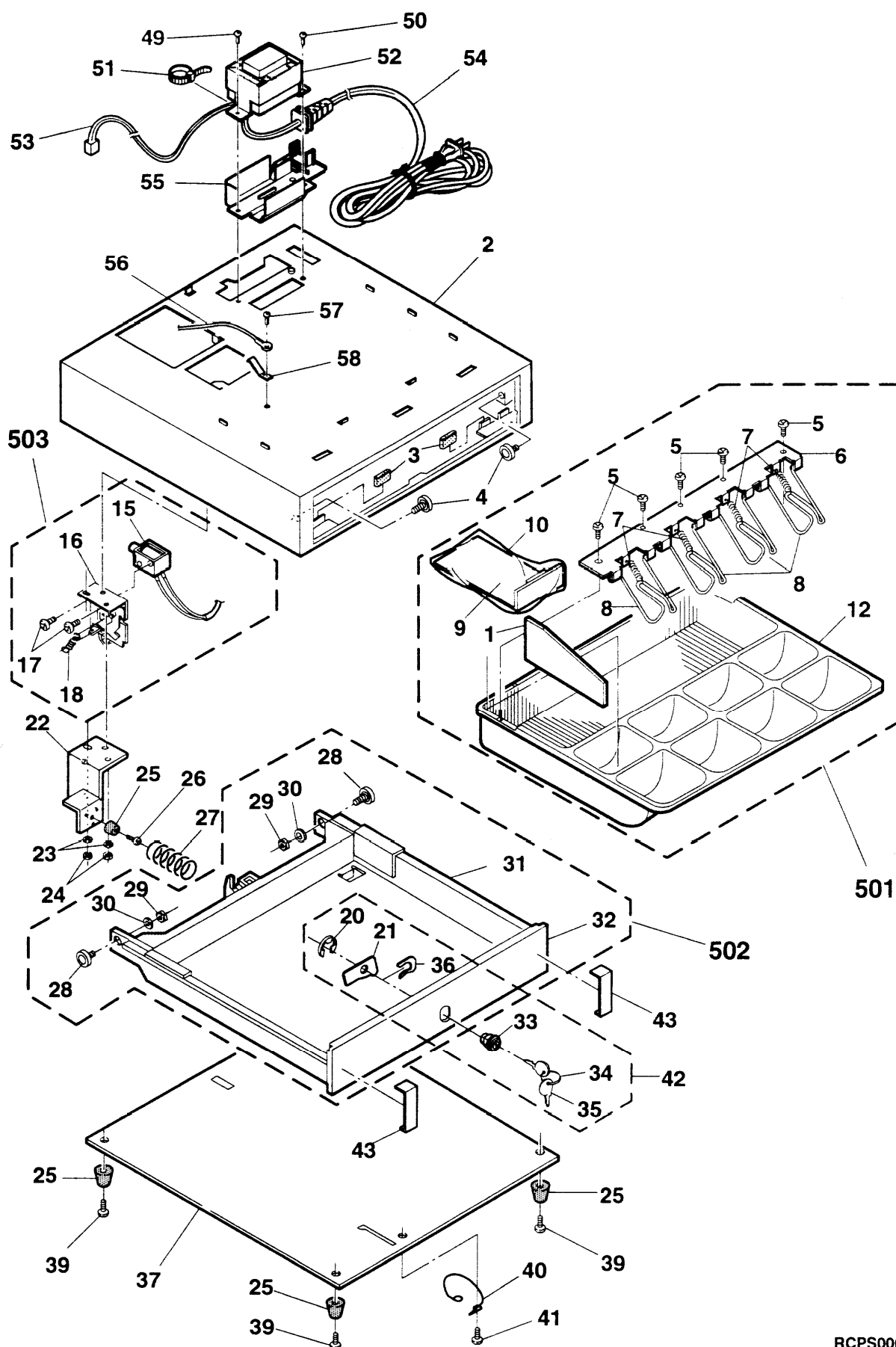


XEA130V

3 Drawer box unit(SK423type) [XE-A130 : KA,KB]

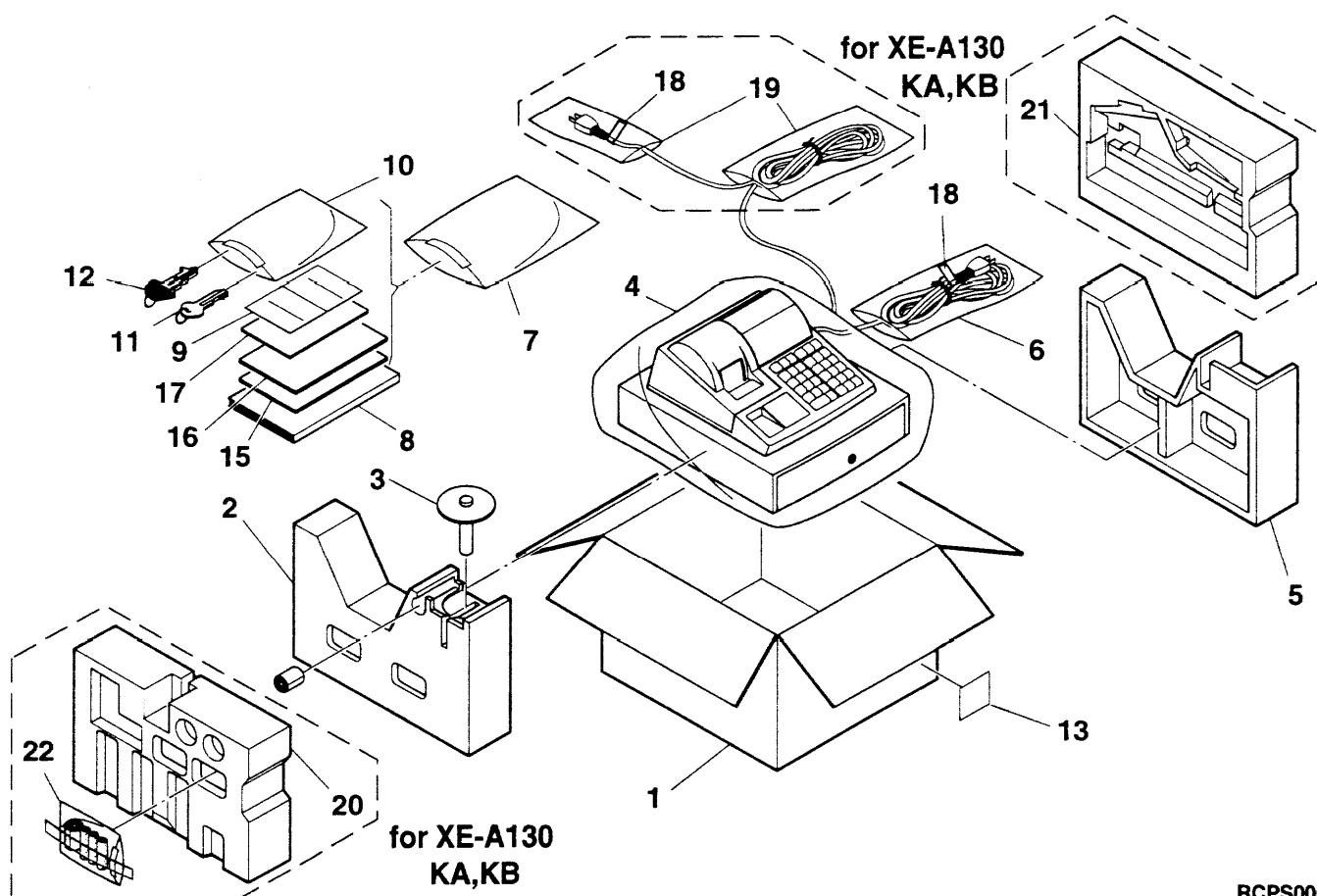
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
1	PSKR-6628BHZZ	AG		C	Separator
2	CCABM7151BH08	BH	N	D	Cabinet frame unit
3	PGUMM6695BHZZ	AE		D	Stopper gum
4	NRÖLP6650BHZZ	AP		C	Roller
5	XUBSD30P08000	AA		C	Screw (3×8)
6	LBRC-6663BHZZ	AQ		C	Bill bracket
7	MSPRT6714BHZZ	AE		C	Bill spring
8	MLEVF6695BHZZ	AK		C	Bill lever
9	PSKR-6629BHZZ	AL		C	Bill separator
10	SSAKA5004BHZZ	AA		D	Vinyl bag
12	GCAS-6678BHZZ	BC		D	Money case (4B/8C)
15	RPLU-6645BHZZ	AX	N	B	Solenoid
16	CFRM-6683BH01	AW		C	Lock frame unit
17	LX-BZ6775BHZZ	AA		C	Screw
18	MSPRT6713BHZZ	AD		C	Open lever spring
20	XRESJ50-06000	AA		C	E type ring (5mm)
21	MCAMM6633BHZZ	AG		C	Lock cam
22	LFRM-6682BHZZ	AN		C	Bell frame
23	XWSSD40-10000	AA		C	Washer (M4)
24	XNESD40-32000	AA		C	Nut (M4)
25	PGUMM6696BHZZ	AE		D	Gum leg
26	XHBSD30P12000	AA		C	Screw (3×12)
27	MSPRC6712BHZZ	AF		C	Push out spring
28	NRÖLP6650BHZZ	AP		C	Roller
29	XNESD60-50000	AA		C	Nut (M6)
30	XWSSD60-15000	AA		C	Washer (6mm)
31	GDRW-6678BHZZ	BF		C	Drawer case frame unit
32	GCÖVA7036BH5B	AT	N	D	Front cover
33	LKGIW7330BHZZ	AY		B	Lock key (body)
34	PRNGT6637BHZZ	AA		C	Key ring
35	LKGIM7331BHZZ	AE		B	Lock key (1pc)
36	MSPRK6718BHZZ	AF		C	Lock key spring
37	LPLTM6674BHZZ	AY		D	Bottom plate
39	XHBSD40P12000	AA		C	Screw (4×12)
40	MSPRB6711BHZZ	AD		C	Earth spring
41	XHPSC30P08000	AA		C	Screw (3×8)
42	DUNT-1306BHZZ	AX		E	Lock key unit (Include No.20,21,33~36)
43	SPAKA8255BHZZ	AC		D	Paper pad
49	LX-BZ6778BHZZ	AA		C	Screw
50	LX-HZ0056BHZZ	AA		C	Screw (3×8KS)
51	LBNDJ2003SCZZ	AA		C	Nylon band
52	RTRNP6877BHZZ	AZ	N	B	Power transformer (230V~240V)
53	QCNW-7739BHZZ	AG	N	C	PS cable
54	QACCL1018CCN1	AV		B	AC cord [KA]
54	QCNW-1035CCZZ	AL		B	AC cord [KB]
54	QPLGA0006QCZZ	AQ		C	Plug (3A 250V) [KB]
55	GCÖVH7094BHZZ	AK	N	D	Trans cover
56	QCNW-7742BHZZ	AF		C	Earth wire
57	XHPSD30P06000	AA		C	Screw (3×6)
58	LANGQ7565BHZZ	AE		C	Earth spring
501	CCAS-6678BH01	BF		E	Money case unit (4B/8C)
502	GDRW-6678BHSA	BF	N	E	Drawer case unit (Include No.28~32)
503	CLOCK-6675BH01	BG	N	E	Lock unit
504	CFRM-6682BH02	AQ		D	Bell frame unit (Include No.22,25~27)
	(Unit)				
901	GBÖXD7106BHZZ	BS	N	E	Drawer box unit (except No.49~58)

③ Drawer box unit(SK423type) [XE-A130 : KA,KB]



4 Packing material & Accessories

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	XE-A110	XE-A130
1	SPAKC8320BHZZ	AY	N	D	Packing case	○	
	SPAKC8335BHZZ	AY	N	D	Packing case [KA,KB]		○
	SPAKC8321BHZZ	AY	N	D	Packing case [TQ,TR,TS]		○
2	SPAKA8326BHZZ	AV	N	D	Packing add(L) [XE-A130 : except KA,KB]	○	○
3	UREL-6629BHZZ	AN	N	D	Spool	○	○
4	PSHEP6828BHZZ	AF	N	D	Packing sheet [XE-A130 : except KA,KB]	○	○
	PSHEP6681BHZZ	AF		D	Packing sheet [KA,KB]		○
5	SPAKA8325BHZZ	AV	N	D	Packing add(R) [XE-A130 : except KA,KB]	○	○
6	SSAKH4231CCZZ	AA		D	Vinyl bag (140×500mm) [XE-A130 : except KA,KB]	○	○
7	SSAKH3015CCZZ	AA		D	Vinyl bag (200×300mm)	○	○
8	TINSM7326BHZZ	AQ	N	D	Instruction book	○	
	TINSM7327BHZZ	AQ	N	D	Instruction book		○
9	TCAUZ6681BHZZ	AD		D	Battery caution label	○	○
10	SSAKH3012CCZZ	AA		D	Vinyl bag (80×120mm)	○	○
11	LKGIM7331BHZZ	AE		B	Lock key (1pc)	○	○
12	LKGIM7111BHZZ	AE		B	OP key		○
	LKGIM7110BHZZ	AE		B	MA key		○
13	TLABR6989BHZZ	AG	N	D	Bar code label [KA]	○	
	TLABR6985BHZZ	AG	N	D	Bar code label [KA]		○
15	TGANE1001BHZA	AF		D	Guaranty [KA]	○	○
	TGANE6642BHZZ	AF		D	Guaranty [KB]	○	○
16	TCADZ2001BHZA	AM		D	Install card [KA]	○	○
17	TINSN7240BHZZ	AF		D	Instruction book(Battery adjust) [TQ]	○	○
18	TCAUS0002AHZZ	AD		D	Important label [KB]	○	○
19	SSAKA5004CCZZ	AA		D	Vinyl bag (100×300mm) [KA,KB]		○
20	SPAKA7837BHZZ	AX		D	Packing add(L) [KA,KB]		○
21	SPAKA7836BHZZ	AX		D	Packing add(R) [KA,KB]		○
22	SSAKH3012CCZZ	AA		D	Vinyl bag (80×120mm)		○
101	UBNDA6629BHZZ	AA		C	AC cord band	○	○



5 Main PWB unit

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	XE-A110	XE-A130
1	VHD1N4002G/-1	AA		B	Diode (1N4002G) [D1]	○	○
2	VHERD6.2EB2-1	AB		B	Zener diode (RD6.2EB2) [ZD1]	○	○
	VHEMTZ6.2A/-1	AC	N	B	Zener diode (MTZ6.2A) [ZD1]	○	○
3	VHDDSS133HV-1	AA		B	Diode (DSS133HV) [D2~6.8~16]	○	○
4	VRD-RC2EY221J	AA		C	Resistor (1/4W 220Ω ±5%) [R1,28~43]	○	○
	VRD-RC2EY221J	AA		C	Resistor (1/4W 220Ω ±5%) [R1,28~43,60~75]	○	○
5	VRD-RC2EY104J	AA		C	Resistor (1/4W 100KΩ ±5%) [R6]	○	○
6	VRD-RC2EY123J	AA		C	Resistor (1/4W 12KΩ ±5%) [R25,27]	○	○
7	VRD-RC2EY153J	AA		C	Resistor (1/4W 15KΩ ±5%) [R11,13]	○	○
8	VRD-RC2EY102J	AA		C	Resistor (1/4W 1.0KΩ ±5%) [R8,10,12,15,17,19,21,23,47,48,49]	○	○
9	VRD-RC2EY105J	AA		C	Resistor (1/4W 1.0MΩ ±5%) [R2]	○	○
10	VRD-RC2EY222J	AA		C	Resistor (1/4W 2.2KΩ ±5%) [R24,26]	○	○
11	VRD-RC2EY272J	AA		C	Resistor (1/4W 2.7KΩ ±5%) [R7]	○	○
12	VRD-RC2EY472J	AA		C	Resistor (1/4W 4.7KΩ ±5%) [R9,59]	○	○
13	VRD-RC2EY473J	AA		C	Resistor (1/4W 47KΩ ±5%) [R44,45,46,51~57]	○	○
14	VRD-RC2EY562J	AA		C	Resistor (1/4W 5.6KΩ ±5%) [R4]	○	○
15	VRD-RC2EY563J	AA		C	Resistor (1/4W 56KΩ ±5%) [R5]	○	○
16	VRD-RC2EY682J	AA		C	Resistor (1/4W 6.8KΩ ±5%) [R14,16,18,20,22]	○	○
17	VRD-RC2EY683J	AA		C	Resistor (1/4W 68KΩ ±5%) [R3]	○	○
18	VRD-RC2EY471J	AA		C	Resistor (1/4W 470Ω ±5%) [R76]	○	○
19	VCEAGA1EW337M	AC		C	Capacitor (25WV 330μF) [C3]	○	○
20	VCEAGA1EW107M	AB		C	Capacitor (25WV 100μF) [C4]	○	○
21	VCEAGA1CW227M	AB		C	Capacitor (16WV 220μF) [C18]	○	○
	VCEAGA1CW337M	AB		C	Capacitor (16WV 330μF) [C18]	○	○
22	QFSHD2109AFZZ	AC		C	Fuse holder (HD2109AF)	○	○
23	VCEAGA1CW106M	AA		C	Capacitor (16WV 10μF) [C6]	○	○
	VCEAGA1CW226M	AB		C	Capacitor (16WV 22μF) [C6]	○	○
24	VCQYNU1HM104K	AB		C	Capacitor (50WV 0.1μF) [C5,19]	○	○
25	RC-Z1N104RCZZ	AA		C	Capacitor (12WV 0.1μF) [C16,17]	○	○
26	VCCCPU1HH220J	AA		C	Capacitor (50WV 22PF) [C12]	○	○
27	VCCCPU1HH300J	AA		C	Capacitor (50WV 30PF) [C14,15]	○	○
28	VCCCPU1HH330J	AB		C	Capacitor (50WV 33pF) [C13]	○	○
29	VCEAGA1HW226M	AB		C	Capacitor (50WV 22μF) [C8]	○	○
30	VCEAGA1HW335M	AB		C	Capacitor (50WV 3.3μF) [C7]	○	○
31	VCKYPU1HB103K	AA		C	Capacitor (50WV 10000pF) [C9,10,11]	○	○
32	VCQYNA1HM333K	AA		C	Capacitor (50WV 0.033μF) [C1]	○	○
33	VS2SB621AR/SC	AD		B	Transistor (2SB621AR/SC) [Q4,5,6,7,8]	○	○
34	VSDSC001-A/BC	AA		B	Transistor (DSC001-A/BC) [Q1,9,10]	○	○
35	VH1K1A7806P-1	AK	N	B	IC (KIA7806P) [IC4]	○	○
36	VH1LB1268/-1	AK		B	IC (LB1268) [IC5]	○	○
37	QCNCW7118BH0E	BF	N	C	Connector (5P)(5229-05CPB) [KEY CN2]	○	○
38	QCNCW7118BH0i	BH	N	C	Connector (9P)(5229-09CPB) [KEY CN1]	○	○
39	QCNCW-7740BHZZ	AD	N	C	Earth wire (PWB TO PWB) [R52~G4]	○	○
40	QCNCW-7742BHZZ	AF		C	Earth wire (PWB TO K/B) [G1]	○	○
41	VCEAGU1EW338M	AG		C	Capacitor (25WV 3300μF) [C2]	○	○
42	LANGK7575BHZZ	AM	N	C	Heat sink angle	○	○
43	VH1TD62503P-1	AG		B	IC (TD62503P) [IC2,3]	○	○
44	VHD1D4B42/-1	AD		B	Diode (1D4B42) [BD]	○	○
45	QCNCM7085RC0B	AB		B	Connector (2pin) [CN2]	○	○
46	QCNCM6865RC0B	AA		B	Connector (2pin) [CN4]	○	○
47	QCNCM1101CCZZ	AB		C	Connector (2pin) [CN1]	○	○
48	QCNCM2236SCZZ	AC		B	Connector (2pin)(Drawer) [CN3]	○	○
49	VS2SD1929-/-1	AD		B	Transistor (2SD1929) [Q2,3]	○	○
50	RCSRSP2327RCZZ	AD		B	Crystal (12MHz) [X2]	○	○
51	RCSRSP1003CCZZ	AT		B	Crystal (32KHz) [X1]	○	○
52	RALMB5006SCZZ	AD		B	Buzzer (EFB-RD22C01) [BZ]	○	○
53	QFS-C4301CCZZ	AE		A	Fuse (800mA 250V) [Fuse1]	○	○
54	XBBSD30P06000	AA		C	Screw (3×6)	○	○
55	VHPHDSP5521-1	AK		B	LED (HDSP5521)(Red 2dig.) [LED2,3,4,5]	○	○
	VHPHDSP5521-1	AK		B	LED (HDSP5521)(Red 2dig.) [LED2,3,4,5,8,9]	○	○
56	VH18650165866	AX		B	IC (8650165866) [IC1] (Until the August production in 1995)	○	○
	VH18650165896	AX	N	B	IC (8650165896) [IC1] (From the september production in 1995)	○	○
	VH18650165800	AX	N	B	IC (8650165800) [IC1] (Until the August production in 1995)	○	○
	VH18650165895	AX	N	B	IC (8650165895) [IC1] (From the september production in 1995)	○	○
57	RC-KZ1054CCZZ	AB		C	Capacitor (50WV 0.1μF) [C100]	○	○
58	VHPHDSP5501-1	AH	N	B	LED (HDSP5501)(Red 1dig.) [LED1]	○	○
	VHPHDSP5501-1	AH	N	B	LED (HDSP5501)(Red 1dig.) [LED1,6]	○	○
	(Unit)						
901	CPWBF7438BH03	BM	N	E	Main PWB unit	○	○
	CPWBF7441BH02	BP	N	E	Main PWB unit		○

6 Slide PWB unit [XE-A110]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION	
1	QCNCW7167BH0H	AG	N	C	Connector (52012-0810)	[CN5]
2	QCNCW-7734BHZZ	AN	N	C	Slide PWB cable (13P)	

XEA130V

6 Slide PWB unit [XE-A110]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
3	QSW-S6900BHZZ (Unit)	A L	N	B	Slide switch [SW1]
901	CPWBF7442BH01	A Z	N	E	Slide PWB unit

7 Rotary PWB unit [XE-A130]

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
1	QCNCW6882BH0H	AF		C	Connector (52011-0810)
2	QCNCW-7735BHZZ	AL	N	C	Rotary PWB cable (8P)
	(Unit)				
901	CPWBF7443BH01	AS	N	E	Rotary PWB unit

8 Articles for consumption

[illegible]

9 AC CORD

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
1	QACCCJ1413QCZZ	AG		B	AC cord Japan, RB6, RB7, RC5, SC, SD
	QACCA3441QCZZ	AL		B	AC cord SB
2	QACCD8411QCZZ	AN		B	AC cord U. S. A. Canada, Japan (Okinawa), Guam
	QTANP0004HCZZ	AB		B	Lug terminal U. S. A. Canada
3	QACCE3120QCN5	AP		B	AC cord RA1, RA2, RB3, RB5, SG, TQ, TR, TS, K
					AC cord Yugoslavia
4	QPLGA4501CCZZ	AK		B	Plug SE
	QCNW-6629RCZZ	AN		B	AC cord SE
5	QPLGA0018WRE0	AN		B	Plug SH, RA5
	QCNW-6629RCZZ	AN		B	AC cord SH, RA5, SHE
	PHOG-1023CCZZ	AB		B	Bushing for AC cord SH, RA5, SHE
	QACCL1018CCN1	AV		B	AC cord KA, SL
7	QTANP0004HCZZ	AB		B	Lug terminal RC2, SM, SMT, RC1, SBA, RB8
	QPLGA0006QCZZ	AN		B	Plug KB, SM, SMT, RC1, SBA, RB8, RC2
	QCNW-1035CCZZ	AH		B	AC cord KB, RC1, RC2, SM, SMT, SBA
	QCNW-6629RCZZ	AN		B	AC cord RB8
8	QCNW-6629RCZZ	AN		B	AC cord RB4 (AC cord only. The plug is not included.)
9	QACCC3423QCZZ	AH		B	AC cord SJ, SJ2

Note: Instead of AC cords QACCC3421QCZZ, QACCK1008CCZZ, the AC cord QACCE1122QCZZ(No.3) is supplied as service spare part.

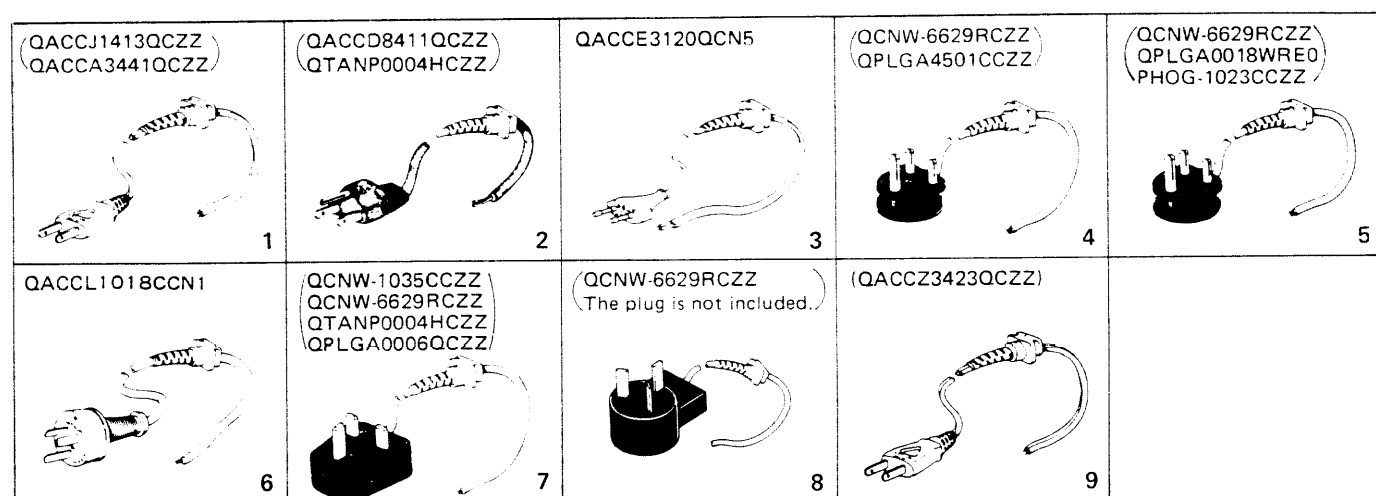


Table of destinations

SELECTION CODE	COUNTRIES
U	U. S. A., Guam
A	Canada
TS	Germany
TQ	SEEG territory other than Germany (Stamp : English)
TR	SEEG territory other than Germany (Stamp : Spanish)
KB	U. Kingdom
KA	Australia

SELECTION CODE	COUNTRIES
K	Korea

SELECTION CODE	COUNTRIES
SB	Saudi Arabia (127V area)
SBA	Saudi Arabia (220V area)
SC	Taiwan
SD	Venezuela
SE	Hong Kong
SG	Lebanon, Syria, Greece, Pakistan, Iran, Egypt, Thailand, Iraq, Mauritius, Seychelles, Tahiti, Jordan, Sudan, Turkey
SH	South Africa (U. S. A. version)
SHE	South Africa (Europe version)
SJ	Philippines (Europe version)
SJ2	Philippines (U. S. A. version)
SM	Kuwait, Qatar, Oman, UAE, Malta, Bahrain
SMT	Nigeria, Yemen, Kenya

SELECTION CODE	COUNTRIES
RA1	Morocco, Algeria, Tunisia, West Africa
RA2	Chile, Uruguay, Peru, Argentina, Paraguay
RA5	Sri Lanka

SELECTION CODE	COUNTRIES
RB3	Indonesia
RB4	
RB5	Cyprus
RB6	Panama
RB7	Barbados
RB8	Malaysia (U. S. A. version)

SELECTION CODE	COUNTRIES
RC1	Malaysia (Europe version)
RC2	Singapore
RC5	Dominican Republic, Ecuador

■ Index

PARTS CODE	NO.	PRICE RANK	NEW MARK	PART RANK	
[C]					
CCABM7151BH08	3- 2	BH	N	D	
CCAS-6678BH01	3- 501	BF		E	
CFRM-6682BH02	3- 504	AQ		D	
CFRM-6683BH01	3- 16	AW		C	
CKNBZ6891BH01	1- 37	AX	N	C	
CKNBZ6892BH01	1- 37	AZ	N	C	
CLÖK-6675BH01	3- 503	BG	N	E	
CPWBF7438BH03	1- 22	BM	N	E	
"	5- 901	BM	N	E	
CPWBF7441BH02	1- 22	BP	N	E	
"	5- 901	BP	N	E	
CPWBF7442BH01	1- 27	AZ	N	E	
"	6- 901	AZ	N	E	
CPWBF7443BH01	1- 23	AS	N	E	
"	7- 901	AS	N	E	
[D]					
DPAPR1025CSZZ	8- 1	AV		S	
DUNT-1306BHZZ	2- 35	AX		E	
"	3- 42	AX		E	
DUNTK4892BHZZ	1- 26	BC	N	E	
DUNTK4896BHZZ	1- 26	BC	N	E	
[G]					
GBÖXD7106BHZZ	3- 901	BS	N	E	
GBÖXD7133BHZZ	2- 901	BQ	N	E	
GCABB7206BHZZ	2- 13	BD	N	D	
GCABB7207BHZZ	1- 4	BC		D	
GCABB7208BHZZ	1- 4	BC	N	D	
GCAS-6678BHZZ	3- 12	BC		D	
GCAS-6697BHZZ	2- 28	AZ	N	D	
GCÖVA7036BHSS	3- 32	AT	N	D	
GCÖVB7093BHZZ	1- 1	AR	N	D	
GCÖVH7094BHZZ	2- 7	AK	N	D	
"	3- 55	AK	N	D	
GDAi-6667BHZZ	1- 16	AG	N	C	
GDRW-6678BHSA	3- 502	BF	N	E	
GDRW-6678BHZZ	3- 31	BF		C	
GFTAB6791BHZZ	1- 9	AF	N	C	
[H]					
HDECP6840BHZZ	1- 8	AL	N	D	
HDECP6841BHZZ	1- 8	AL	N	D	
[K]					
Ki-ÖB6774BHZZ	1- 14	BE	N	E	
Ki-ÖB6775BHZZ	1- 14	BK	N	E	
[L]					
LANGK7575BHZZ	1- 28	AM	N	C	
"	5- 42	AM	N	C	
LANGK7584BHZZ	2- 40	AL		C	
LANGQ7565BHZZ	2- 11	AE		C	
"	3- 58	AE		C	
LANGQ7576BHZZ	2- 6	AG	N	C	
LBNDJ2003SCZZ	2- 4	AA		C	
"	3- 51	AA		C	
LBRC-6663BHZZ	3- 6	AQ		C	
LBRC-6668BHZZ	2- 22	AN		C	
LFRM-6682BHZZ	3- 22	AN		C	
LFRM-6694BHZZ	1- 32	AS	N	D	
LHLDZ6833BHZZ	1- 18	AE	N	C	
LKGIM7110BHZZ	1- 31	AE		B	
"	4- 12	AE		B	
LKGIM7111BHZZ	1- 31	AE		B	
"	4- 12	AE		B	
LKGIM7331BHZZ	2- 30	AE		B	
"	3- 35	AE		B	
"	4- 11	AE		B	
LKGIM7330BHZZ	2- 29	AY		B	
"	3- 33	AY		B	
LKGIM7374BHZZ	1- 30	AX	N	B	
LPLTM6674BHZZ	3- 37	AY		D	
LPLTM6694BHZZ	2- 37	AV	N	C	
LPLTM6695BHZZ	2- 8	AU	N	C	
LPLTM6696BHZZ	1- 35	AS	N	C	
LX-BZ6775BHZZ	2- 16	AA		C	
"	3- 17	AA		C	
LX-BZ6778BHZZ	2- 38	AA		C	
"	3- 49	AA		C	
LX-HZ0056BHZZ	2- 1	AA		C	
"	3- 50	AA		C	
[M]					
MCAMM6633BHZZ	2- 33	AG		C	

PARTS CODE	NO.	PRICE RANK	NEW MARK	PART RANK	
MCAMM6633BHZZ	3- 21	AG		C	
MLEVF6695BHZZ	3- 8	AK		C	
MLEVF6699BHZZ	2- 24	AE		C	
MLEVF6712BHZZ	2- 17	AF	N	C	
MSPRB6711BHZZ	3- 40	AD		C	
MSPRC6712BHZZ	3- 27	AF		C	
MSPRC6743BHZZ	2- 21	AG	N	C	
MSPRC6748BHZZ	2- 41	AD		C	
MSPRK6718BHZZ	2- 32	AF		C	
"	3- 36	AF		C	
MSPRT6713BHZZ	3- 18	AD		C	
MSPRT6714BHZZ	3- 7	AE		C	
MSPRT6731BHZZ	2- 23	AD		C	
MSPRT6742BHZZ	2- 18	AD	N	C	
[N]					
NRÖLP6650BHZZ	2- 20	AP		C	
"	3- 4	AP		C	
"	3- 28	AP		C	
NRÖLP6655BHZA	2- 43	AF	N	C	
NRÖLR1022CC05	8- 2	BA		S	
NSFTA6655BHZZ	2- 44	AE	N	C	
NSFTA6656BHZZ	2- 12	AD	N	C	
[P]					
PCUT-6652BHZZ	1- 2	AF	N	C	
PFLW6940BHZZ	1- 7	AM	N	D	
PFLW6941BHZZ	1- 6	AK	N	D	
PGUMM6695BHZZ	3- 3	AE		D	
PGUMM6696BHZZ	3- 25	AE		D	
PGUMM6702BHZZ	1- 19	AB		C	
PGUMM6721BHZZ	1- 33	AU	N	C	
PGUMM6722BHZZ	1- 33	AV	N	C	
PRNGT6637BHZZ	2- 31	AA		C	
"	3- 34	AA		C	
PSHEP6681BHZZ	4- 4	AF		D	
PSHEP6826BHZZ	2- 14	AE	N	C	
PSHEP6827BHZZ	1- 34	AY	N	C	
PSHEP6828BHZZ	4- 4	AF	N	D	
PSKR-6628BHZZ	3- 1	AG		C	
PSKR-6629BHZZ	3- 9	AL		C	
PSKR-6630BHZZ	2- 27	AH		C	
[Q]					
QACCE3120QCNS	2- 3	AL		B	
QACCL1018CCN1	2- 3	AV		B	
"	3- 54	AV		B	
QCNCM1101CCZZ	5- 47	AB		C	
QCNCM2236SCZZ	5- 48	AC		B	
QCNCM6865RC0B	5- 46	AA		B	
QCNCM7085RC0B	5- 45	AB		B	
QCNCW6882BH0H	7- 1	AF		C	
QCNCW7118BH0E	5- 37	BF	N	C	
QCNCW7118BH0I	5- 38	BH	N	C	
QCNCW7167BH0H	6- 1	AG	N	C	
QCNCW-1035CCZZ	2- 3	AL		B	
"	3- 54	AL		B	
QCNCW-7734BHZZ	6- 2	AN	N	C	
QCNCW-7735BHZZ	7- 2	AL	N	C	
QCNCW-7736BHZZ	1- 29	AK	N	C	
QCNCW-7737BHZZ	1- 38	AF	N	C	
QCNCW-7738BHZZ	1- 21	AE	N	C	
QCNCW-7739BHZZ	2- 5	AG	N	C	
"	3- 53	AG	N	C	
QCNCW-7740BHZZ	5- 39	AD	N	C	
QCNCW-7742BHZZ	2- 9	AF		C	
"	3- 56	AF		C	
"	5- 40	AF		C	
QFS-C4301CCZZ	5- 53	AE		A	
QFSHD2109AFZZ	5- 22	AC		C	
QPLGA0006QCZZ	2- 3	AQ		C	
"	3- 54	AQ		C	
QSW-S6900BHZZ	6- 3	AL	N	B	
QTANZ6649BHZZ	1- 11	AF	N	C	
QTANZ6650BHZZ	1- 12	AF	N	C	
QTANZ6651BHZZ	1- 13	AF	N	C	
QTANZ6652BHZZ	1- 10	AE	N	C	
[R]					
RALMB5006SCZZ	5- 52	AD		B	
RC-KZ1054CCZZ	5- 57	AB		C	
RC-Z1N104RCZZ	5- 25	AA		C	
RCRSP1003CCZZ	5- 51	AT		B	
RCRSP2327RCZZ	5- 50	AD		B	

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PARTS CODE	NO.	PRICE RANK	NEW MARK	PART RANK
RMOTM6631BHZZ	1- 20	A Z		B
RPLU-6644BHZZ	2- 15	AW	N	B
RPLU-6645BHZZ	3- 15	AX	N	B
RTRNP6876BHZZ	2- 2	A Z	N	B
RTRNP6877BHZZ	2- 2	A Z	N	B
//	3- 52	A Z	N	B
{ S }				
SPAKA7836BHZZ	4- 21	AX		D
SPAKA7837BHZZ	4- 20	AX		D
SPAKA8255BHZZ	3- 43	AC		D
SPAKA8325BHZZ	4- 5	AV	N	D
SPAKA8326BHZZ	4- 2	AV	N	D
SPAKA8339BHZZ	2- 42	AC		D
SPAKC8320BHZZ	4- 1	AY	N	D
SPAKC8321BHZZ	4- 1	AY	N	D
SPAKC8335BHZZ	4- 1	AY	N	D
SSAKA5004BHZZ	3- 10	AA		D
SSAKA5004CCZZ	4- 19	AA		D
SSAKH3012CCZZ	4- 10	AA		D
//	4- 22	AA		D
SSAKH3015CCZZ	4- 7	AA		D
SSAKH4231CCZZ	4- 6	AA		D
{ T }				
TCADZ2001BHZA	4- 16	AM		D
TCAUS0002AHZZ	4- 18	AD		D
TCAUZ6681BHZZ	4- 9	AD		D
TGANE1001BHZA	4- 15	AF		D
TGANE6642BHZZ	4- 15	AF		D
TINSM7326BHZZ	4- 8	AQ	N	D
TINSM7327BHZZ	4- 8	AQ	N	D
TINSN7240BHZZ	4- 17	AF		D
TLABR6985BHZZ	4- 13	AG	N	D
TLABR6989BHZZ	4- 13	AG	N	D
{ U }				
UBNDA6629BHZZ	4- 101	AA		C
UREL-6629BHZZ	4- 3	AN	N	D
{ V }				
VCCCPU1HH220J	5- 26	AA		C
VCCCPU1HH300J	5- 27	AA		C
VCCCPU1HH330J	5- 28	AB		C
VCEAGA1CW106M	5- 23	AA		C
VCEAGA1CW226M	5- 23	AB		C
VCEAGA1CW227M	5- 21	AB		C
VCEAGA1CW337M	5- 21	AB		C
VCEAGA1EW107M	5- 20	AB		C
VCEAGA1EW337M	5- 19	AC		C
VCEAGA1HW226M	5- 29	AB		C
VCEAGA1HW335M	5- 30	AB		C
VCEAGU1EW338M	5- 41	AG		C
VCKYPUIHB103K	5- 31	AA		C
VCQYNA1HM333K	5- 32	AA		C
VCQYNU1HM104K	5- 24	AB		C
VHDDSS133HV-1	5- 3	AA		B
VHD1D4B42//--1	5- 44	AD		B
VHD1N4002G/--1	5- 1	AA		B
VHEMTZ6.2A/--1	5- 2	AC	N	B
VHERD6.2EB2-1	5- 2	AB		B
VHIKIA7806P-1	5- 35	AK	N	B
VHILB1268//--1	5- 36	AK		B
VHITD62503P-1	5- 43	AG		B
VHI8650165800	5- 56	AX	N	B
VHI8650165866	5- 56	AX		B
VHI8650165895	5- 56	AX	N	B
VHI8650165896	5- 56	AX	N	B
VHPHDSP5501-1	5- 58	AH	N	B
//	5- 58	AH	N	B
VHPHDSP5521-1	5- 55	AK		B
//	5- 55	AK		B
VRD-RC2EY102J	5- 8	AA		C
VRD-RC2EY104J	5- 5	AA		C
VRD-RC2EY105J	5- 9	AA		C
VRD-RC2EY123J	5- 6	AA		C
VRD-RC2EY153J	5- 7	AA		C
VRD-RC2EY221J	5- 4	AA		C
//	5- 4	AA		C
VRD-RC2EY222J	5- 10	AA		C
VRD-RC2EY272J	5- 11	AA		C
VRD-RC2EY471J	5- 18	AA		C
VRD-RC2EY472J	5- 12	AA		C
VRD-RC2EY473J	5- 13	AA		C

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