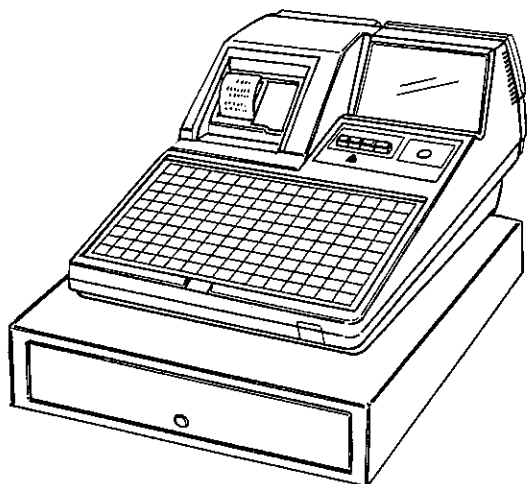


SHARP SERVICE MANUAL

CODE : 00ZER3100USME

A32 F3

ELECTRONIC CASH REGISTER



SECTION 1. PROGRAMMING

MODEL ER-3100

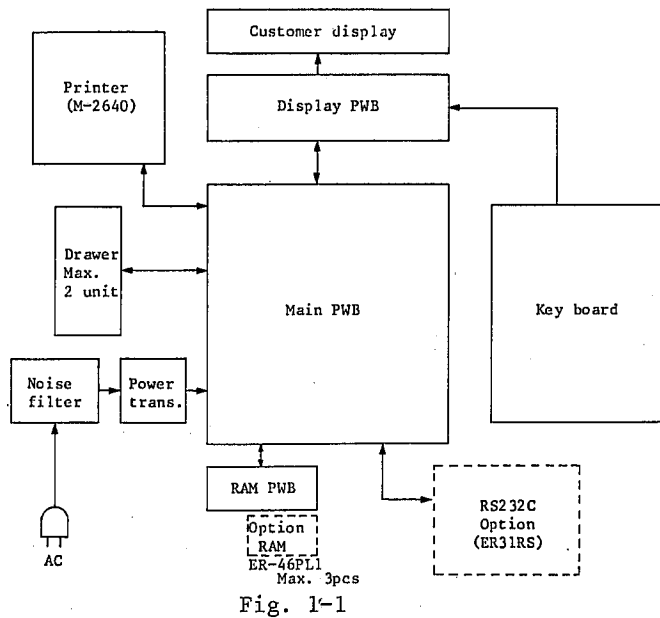
PRINTER : M-2640

SRV KEY : LKGIM7113RCZZ

WATER PROOF ~~KEY~~ COVER DKIT-8322 RCZZ PG-29
 PRINTER CONTENTS

1. BLOCK DIAGRAM.....	1
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1. BLOCK DIAGRAM



2. SPECIAL SERVICE TOOLS

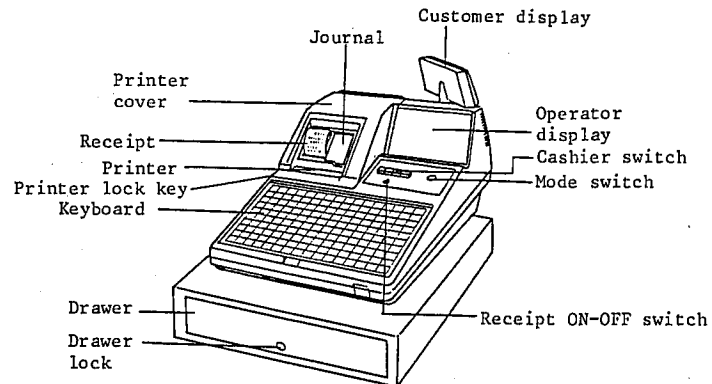
No.	Parts code	Description	Price rank
1	UKOGG0056CSZZ	Main PWB → RAM PWB expansion cable	BA
2	CKOG-6626RCZZ	Service battery	AX
3	QCNW-6952RCZZ	Loader cable	AY
4	UKOG-6651RCZZ	Loader loop back connector	AY
5	LKGIM7113RCZZ	Service key	AK

3. REFERENCE DOCUMENTS

- (1) Cash register basic manual
- (2) ER3100 service manual (00ZER3100SM-E)
SECTION 2. HARDWARE
- (3) M-2640 printer service manual (00ZM2640SM/-E)
- (4) ER3100 parts guide (00ZER3100PG-E)
SECTION 3. PARTS
- (5) ER-31RS service manual (00ZER31RSSM-E)

4. SPECIFICATION

4-1. Appearance



4-2. Rating

Power source	AC rating±10% 50/60Hz
Power consumption	40W
Dimensions	440(W)×507(B)×331(H)mm.
Weight	15.5kg (34.2 lbs.)
Operating temperature	0°C to 40°C (32°F to 104°F)

4-3. Keyboard

(1) Standard key layout (After master reset 1)

↑	↑	91	92	93	94	95	96	97	98	99	100	5	10		
RECEIPT	JOURNAL	81	82	83	84	85	86	87	88	89	90	4	9	NS	CONV
PRINT	RCPT	71	72	73	74	75	76	77	78	79	80	L2	L3	3	8
		61	62	63	64	65	66	67	68	69	70	PLU	L1	2	7
		51	52	53	54	55	56	57	58	59	60	PROMO #1	PROMO #2	1	6
		41	42	43	44	45	46	47	48	49	50	RA	PO	TAX @/FOR	CL
		31	32	33	34	35	36	37	38	39	40	TAX1 SHIFT	TAX2 SHIFT	7	8
		21	22	23	24	25	26	27	28	29	30	⊖1	⊖2	4	5
		11	12	13	14	15	16	17	18	19	20	%1	%2	1	2
		1	2	3	4	5	6	7	8	9	10	RFND	VOID	0	00

Fig. 4-2

Key sheet code: PSHEZ6697RCZZ

(2) Key top name

	Receipt paper feed key		Price lookup key		Conversion key (for currency conversion)
	Journal paper feed key	* 	PLU's level shift keys (option)		Food stamp shift key
	Numeric keys	* 			Food stamp tendered key
		* 			Tax 1 and tax 2 shift keys
			Percent 1 and 2 keys		
	Decimal point key				Tax key
	Multiplication/ split-pricing key		Receipting key		Non-add/subtotal key
	Clear key		Validation print key		Merchandise subtotal key
	Department keys		No-sale key		Tray subtotal key
			Discount 1 and 2 keys		Cash/amount tendered key
					2'nd cash key
	Promotion keys (Department for the promotion)		Refund key		Check key
			Void key		Charge 1, 2 and 3 keys
	Direct price lookup keys		Paid-out key		
			Received-on-account key		

4-4. Display

(1) Operator display

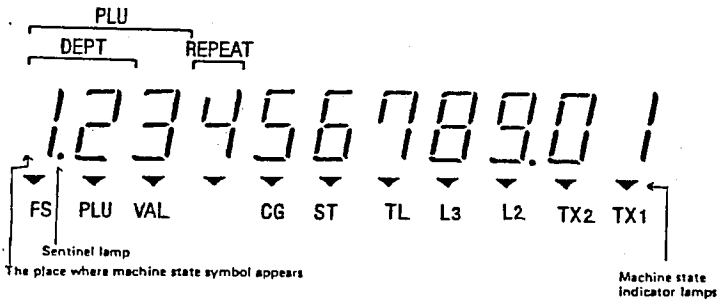


Fig. 4-3

(2) Customer display

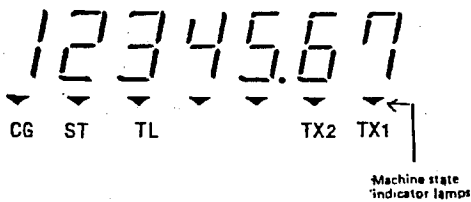


Fig. 4-4

(3) Description

The number of repeats is displayed from "2" and counted up with each repeat. When you've registered ten times, the display shows "0".

Example: (2 → 3 → 4 ----- 9 → 0 → 1 → 2 -----)

- Machine state symbols

P : Appears in the eleventh place from the right during programming.

[: Appears in the eleventh place when an error is detected.

- (Floating):

Appears when an entry is made into a minus department or PLU, and when a coupon, discount, reduction, or refund is made or corrected.

O : Appears in the eleventh place when the tax-included subtotal is displayed or when the amount tendered is smaller than the sale amount.

U : Appears in the eleventh place when the **VOID** key is depressed in the MGR mode indicating entry into the VOID mode. While your register is in the VOID mode, this symbol continues to be in the display except when department numbers, PLU numbers or tax-included subtotals are displayed.

- (Sentinel lamp):

Appears right below the eleventh place when the cash in drawer amount exceeds a programmed sentinel amount. The sentinel check is performed for the total Cash-In-Drawer.

F : Appears in the eighth place when the change due is to be paid out in food stamps.

C : Appears in the eleventh place (From the right) when the CONV key is pressed to calculate a subtotal in foreign currency.

•Cashier symbols

When the cashier is shift out and the new cashier is designated, cashier symbol A, B, D or appears in the tenth place (from the right) as shown below and continues to light until any item registration is made.

A : Cashier A **B** : Cashier B
D : Cashier D **E** : Cashier E

•Machine state indicator lamps

FS : Lights up when a department eligible for food stamps is entered.
PLU : Lights up each time a PLU item is entered.
VAL : Lights up when the machine is programmed for compulsory validation printing.
CG : Lights up whenever the change due appears in the display or when the total sale amount is negative.
ST : Lights up alone or together with other lamps when the register has computed sub-totals:
 •The lamp lights up alone when the merchandise subtotal has been figured out.
 •The "ST" lamp and the deficit symbol "D" light up together when the tax-included subtotal has been calculated.
 •The "ST" and "TX1" lamps light up together when the taxable 1 subtotal has been calculated.
 •The "ST" and "TX2" lamps light up together when the taxable 2 subtotal has been calculated.
 •The "ST", "TX1" and "TX2" lamps light up together when the taxable 1 and 2 subtotal has been calculated.
 •The "ST" and "FS" lamps light up when the food stamp eligible subtotal has been calculated.
TL : Lights up when a registration is finalized by pressing the **CA/AT**, **CA2**, **CHK**, or **CH1** thru **CH3** without any amount tendered entry.
L2 : Lights up when a second level PLU is selected.
L3 : Lights up when a third level PLU is selected.
TX2 : Lights up when the tax shift 2 key is depressed or a taxable 2 item is registered.
TX1 : Lights up when the tax shift 1 key is depressed or a taxable 1 item is registered.

4-5. Mode switch

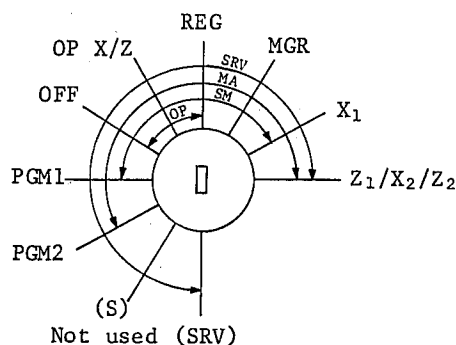


Fig. 4-5

Mode key

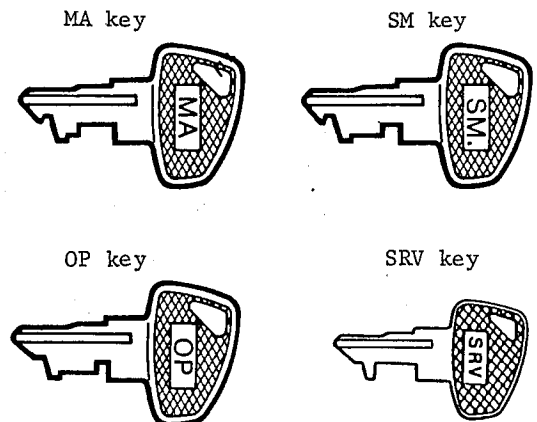


Fig. 4-6.

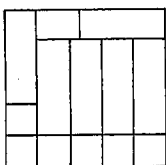
SRV: LKGIM7113RCZZ
 MA : LKGIM7110RCZZ
 SM : LKGIM7129RCZZ
 OP : LKGIM7111RCZZ

4-6. Printer (M-2640)

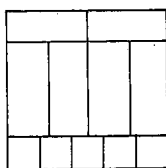
- | | |
|------------------------------------|--|
| 1. Printing system | : 2-station serial dot-matrix printer |
| 2. Printing direction | : Bidirectional |
| 3. Printing speed | : Max. 2.2 lines/sec. |
| 4. Font | : 7 × 7 (half-dot) |
| 5. Printing capacity | : 21 columns for the receipt and journal
47 columns for the validation form |
| 6. Dimensions of printed character | : 1.7(W) × 2.9(H) mm |
| 7. Character spacing | : 2.03 mm |
| 8. Line spacing | : 5.1 mm |
| 9. Receipt fast-feed speed | : Max. 25.7 lines/sec. |
| 10. Paper roll (DPAPR1006CSZZ) | : 44.5 ± 0.5 mm wide, max. 83 mm in diameter |
| 11. Validation form | : 130 mm or more wide, 60 mm or more high |
| 12. Ink ribbon | : Ribbon cassette PRBN-2320RCZZ |
| 13. Ribbon life | : 6 million characters |
| 14. Head life | : 40 million characters (in the case of 2 dots/1 wire/1 character) |
| 15. Reliability | : MCBF 2 million lines (except the head life) |
| 16. Stamp unit | : Porous rubber, 30(W) × 20(H) mm |
| 17. External dimensions | : 163.7(W) × 214.8(D) × 159.2(H) mm |

4-7. Drawer, lock

(1) Drawer

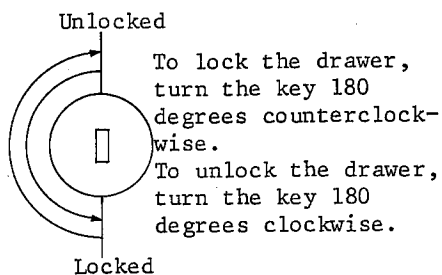


6B/6C
(for USA)



6B/5C
(for Canada)
(RB2/7, SB)

(2) Lock



To lock the drawer,
turn the key 180
degrees counterclock-
wise.
To unlock the drawer,
turn the key 180
degrees clockwise.

4-8. MEMORYS

ITEM	Q'TY	TOTAL-IZE	COUN-TER	PRE-SET	NOTE
GT	3	13Dg+S			+ - NET
Z counter	2		4Dg		
Department	20	9Dg+S	7Dg+S	8 ch 6 Dg 1 Dg 1 Dg 1 2 1 2 2 1	TEXT Unit price HALO HALO Max digit effective figure Sign +/- TAX sort 1/2 FS sort OPEN and/or PRESET SIS, SIF or Normal HASH
DEPT. TTL	4	9Dg+S		6 ch	TEXT
PLU	100 (999)	9Dg+S	7Dg+S	8 ch 6 Dg 1 2 1 1 2 Dg 2 Dg	TEXT Unit price Sign +/- TAX sort 1/2 FS sort Inhibit or provide DEPT. number GROUP
NET	3	9Dg+S		6 ch	TEXT
VOID	4	9Dg+S	5Dg+S	6 ch 1 1 1	VOID in Reg mode, two kind of VOID TTL in VOID mode and HASH VOID TEXT VOID mode Exist/Not Inhibit past item void in Reg/Not Inhibit last item void in Reg/Not
REFUND	2	9Dg+S	5Dg+S	6 ch 1	Normal REFUND and HASH REFUND TEXT Inhibit RF in Reg/Not

ITEM	Q'TY	TOTAL-IZE	COUN-TER	PRE-SET	NOTE
P/O	1	9Dg+S	5Dg+S	6 ch 1 Dg 1 Dg 1	TEXT HALO HALO Max digit effective figure Validation enforced/ optional
R/A	1	9Dg+S	5Dg+S	6 ch 1 Dg 1 Dg 1	TEXT HALO HALO Max digit effective figure Validation enforced/ optional
TX'BLE SALES	2	9Dg+S		6 ch	TEXT
TAX TTL	9			112 step 6 Dg X2 1 bit (srv)	for 2 Tables for % Tax Tax delete Available/ Not
MANUAL TAX	1			1 Dg 1 Dg	HALO HALO Max digit effective figure
CASH	2	9Dg+S	5Dg+S	6 ch 1 Dg 1 Dg 1 1 1 bit (srv)	TEXT HALO (CA2 only) HALO Max digit effective figure Validation enforced/ optional Amount tendering Compulsory/ optional Subtotal Compulsory/ Not

ITEM	Q'TY	TOTAL- IZE	COUN- TER	PRE- SET	NOTE
CHECK	1	9Dg+S	5Dg+S	6 ch 1 Dg 1 Dg 1 1 1 1 bit (srv)	TEXT HALO HALO Max digit effective figure Over tender Disallowed/ Allowed Validation enforced/ optional Amount tenderring Compulsory/ optional Subtotal Compulsory/ Not
CHARGE	3	9Dg+S	5Dg+S	6 ch 1 Dg 1 Dg 1 1 1 1 bit (srv)	TEXT HALO HALO Max digit effective figure Over tender Disallowed/ Allowed Validation enforced/ optional Amount tenderring Compulsory/ Inhibit Subtotal Compulsory/ Not
(-)	2	9Dg+S	5Dg+S	6 ch 1 Dg 1 Dg 1 2 1	TEXT HALO HALO Max digit effective figure Vender/Store TAX sort 1/2 FS sort
%	2	9Dg+S	5Dg+S	6 ch 1 1 4 Dg 2 1 1 1	TEXT Sbt1/Item Sign +/- % rate TAX sort 1/2 FS sort Open Preset
CID	1	9Dg+S			

ITEM	Q'TY	TOTAL- IZE	COUN- TER	PRE- SET	NOTE
CHK Change	1	9Dg		8 Dg	HALO
CP PLU	1	9Dg+S	5Dg+S		
FS Sale	1	9Dg	5Dg		
FS Change	1	9Dg			
FS Tax for Give	2	9Dg			
No sale	1		5Dg	1 bit (srv)	Seperate/Cash
Custom- er	1		5Dg		
Valida- tion	1		5Dg		
Curren- cy conv.	1	9Dg		6 ch 6 Dg	TEXT conv. rate
TRAY ST	1		5Dg+S		
Long time open drawer			5Dg		
Perio- dic	1	9Dgx()	5Dgx()		
Conse- cutive no.	1		4Dg		
Machine no.	1			3 Dg	
CASHIER SALES P/O R/A REFUND VOID (-) % Long time open draw- er Cur- rency conv.	4	9Dg+S 9Dg+S 9Dg+S 9Dg+S 9Dg+S 9Dg+S 9Dg+S (x2) 9Dg+S (x2) 9Dg+S	5Dg+S 5Dg+S 5Dg+S 5Dg+S 5Dg+S 5Dg+S 5Dg+S (x2) 5Dg+S (x2) 5Dg+S	8 ch	Name

ITEM	Q'TY	TOTAL- IZE	COUN- TER	PRE- SET	NOTE
FSID CHARGE		9Dg+S 9Dg+S (x3)	5Dg+S (x3)		
CHECK CID		9Dg+S 9Dg+S	5Dg+S		
LOGO TEXT	6			8 ch	TEXT

5. OPTIONS

Name	Model name	Country			Note
		USA	CANADA	other	
RS-232C inter- face	ER-31RS	○	○	○	
Expan- sion RAM	ER-46PL1	○	○	○	PLUs 100+ 999, cashier media report Bottle deposit 8K bytes x 3 chips
Preset loader	ER-52CB	○	○	○	ECR to ECR
	ER-67LC	-	-	○	ECR to PC
	ER-52LC	○	○	-	
	ER-01FD	○	○		ECR to FD
Remote drawer	ER-34DW3	○	-	-	Single unit
	ER-34DW5	-	○	-	
	ER-34DW7	-	-	○	
Barrel lock key	ER-25CL	○	○	○	30 dif- ferent keys
Mode switch	ER-25MD1 to ER-25MD5	○	○	-	100 dif- ferent keys
Battery	ER-30BT	-	-	○	
Coin case	ER-33CC	○	-	○	
	ER-33CC1	-	○	○	
	ER-38CC	-	-	○	
Coin case cover	ER-33CV	-	-	○	
	ER-33CV1	-	○	○	
	ER-38CV1	-	-	○	
	to ER-38CV5	-	-	○	

Refer to installation manual How to install.

Service route options

Name	Code	Note
Journal near-end sensor	DKIT-8226RCZZ	
Validation sensor	DKIT-8227RCZZ	
Drawer open sensor	DKIT-8331RCZZ	
Water-Proof switch cover	GCOVB6872RCZZ	For 4-stay down cashier SW
	GCOVB6873RCZZ	For barrel lock cashier SW
Mode key grip cover	LKGIM7126RCZZ	Only for OP key
Water-Proof printer cover	DKIT-8322RCZZ	

For installation, refer to chapter 9.

6. SRV(Service) MODE

The SRV key is used for operating in the SRV mode.

6-1. Program reset (Program Loop Reset)

Operation is returned to the program initial state with the contents of the memory retained, when the program execution is scrambled.

Procedure

- 1) Disconnect the AC cord from the wall outlet.
- 2) Set the MODE switch to the SRV position.
- 3) Connect the AC cord to the wall outlet.

*** SRV.RESET ***

6-2. Master reset (All memory clear)

There are two methods for the way of master reset.

• MRS-1

At the same time the memory contents are cleared, the machine is initialized to the standard setup including the keyboard function. For the standard keyboard layout, refer to page 1.

Procedure

- 1) Disconnect the AC cord from the wall outlet.
- 2) Set the MODE switch to the SRV position.
- 3) Connect the AC cord to the wall outlet, while depressing the JOURNAL FEED key.

• MRS-2

At the same time the memory contents are cleared, the machine is initialized to the standard setup excluding the keyboard function. In this event, nothing exists on the keyboard except the journal feed and receipt feed keys.

Procedure

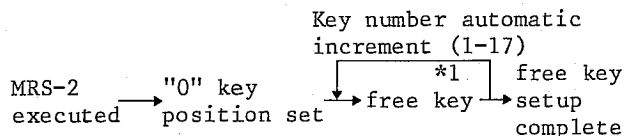
- 1) Disconnect the AC cord from the wall outlet.
- 2) Set the MODE switch to the SRV position.
- 3) Connect the AC cord to the wall outlet, while depressing the RECEIPT FEED key and the JOURNAL FEED key.

Key position assignment:

After the execution of MRS-2, only the RECEIPT FEED and JOURNAL FEED keys can remain effective on key assignment.

Any key can be assigned on any key position on the keyboard.

<Key setup procedure>



NOTES:

- *1: Push the key on the position to be assigned. With this, the key of the key number on display is assigned to that key position.

Key number	Key name	Key number	Key name
1	Numeric key "0"	9	Numeric key "8"
2	Numeric key "1"	10	Numeric key "9"
3	Numeric key "2"	11	Numeric key "00"
4	Numeric key "3"	13	Decimal point key
5	Numeric key "4"	14	CL key
6	Numeric key "5"	15	@/FOR key
7	Numeric key "6"	16	#/SBTL key
8	Numeric key "7"	17	CA/AT key

*** MRS.RESET ***

6-3. Service mode programming

The following are the key operation required for programming.

XXX → [] → [@/FOR] → (A)(B)(C)(D) → [CA/AT]
(4 digits max.)

Details of (A)(B)(C)(D) will be discussed at each item description.

Key entry without depression of [] key will affect the programmed contents.

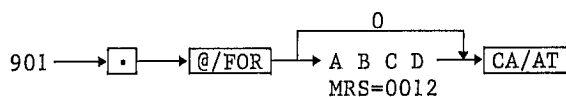
(List of service mode program)

Job#	Item
901	PLU option, change of code display at PLU entry, PLU ZERO skip, DEPT ZERO skip, Number of DEPT
902	Drawer assignment, cashier transaction report Yes/No, Operator sales total includes tax Yes/No, Number of cashier, Bottle deposit, Void transaction Yes/No, Loader transfer speed
903	Fraction treatment, split pricing, drawer close operation Compulsory/Noncompulsory, Singaporean Tax Yes/No, Tax delete Enable/Disable, Error method, Key catch sound non-add code, Manual tax Enable/Disable
904	Printing GT1, GT2, GT3 on Z report, Printing GT3 on X report, Printing TAX1, TAX2 on X/Z report
905	Printing Check/Charge total, Manual TAX on X/Z report Drawer open in credit sale, Past item void Enable/Disable, HASH DEPT programming, Key buffer clear, validation format, Printing of cashier name Yes/No, Date format, Amount symbol
906	Tax payment by FS, #/SBTL key, Compulsory/Noncompulsory, Non-add entry compulsory at the DEPT/PLU entry, Number of non-add code, RS232C Yes/No, TRAY SBTL is zero, Logo format
910,911	Z-counter setting
912,913	GT1 setting
914,915	GT2 setting
930	Secret code setting
950,951	Free key setting
996,997,998	SIO Application

(Programming)

<Job code #901>

Key operation



#901-A PLU option setting

PLU	Key entry
MAX100 (standard)	0
MAX322 (ER46PL1 x 1)	1
MAX678 (ER46PL1 x 2)	2
MAX999 (ER46PL1 x 3)	3

- #901-B
1. Change of code display at PLU entry DPT/PLU code.
 2. PLU zero skip Yes/No
 3. Department zero skip Yes/No

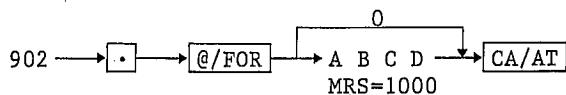
901-B

Code display at PLU entry	Zero skip PLU	Zero skip Dept	Key entry
DEPT code	Skip	Skip	0
		No skip	1
	No skip	Skip	2
PLU code	Skip	No skip	3
		Skip	4
	No skip	No skip	5
		Skip	6
		No skip	7

#901-C, D Number of DEPARTMENT
C, D =01 ~ 20

<Job code #902>

Key operation:



#902-A

Drawer assignment to each operator	Key entry
No drawer	0
(A,B,D,E)=1	1
(A,B)=1 (D,E)=2	2
(A)=1 (B,D,E)=2	3
(A)=1 (B)=2 (D,E)=Not open	4

- #902-B
1. Long cashier report with media totals Yes/No (ER46PL1 lpc, Required)
 2. Cashier sales total includes tax Yes/No
 3. Number of cashier 2 cashiers/4 cashiers

902-B

Long cashier report enable	Cashier sales total includes tax	Number of cashier	Key entry
No	No	4 cashiers	0
		2 cashiers	1
	Yes	4 cashiers	2
		2 cashiers	3
Yes	No	4 cashiers	4
		2 cashiers	5
	Yes	4 cashiers	6
		2 cashiers	7

- #902-C
1. Bottle deposit Enable/Inhibit
 2. Periodic consolidation X2/Z2 Enable/Inhibit
 3. Void mode Enable/Inhibit

Bottle * deposit	X2/Z2	Void mode	Key entry
Enable	Enable	Enable	0
		Inhibit	1
	Inhibit	Enable	2
		Inhibit	3
Inhibit	Enable	Enable	4
		Inhibit	5
	Inhibit	Enable	6
		Inhibit	7

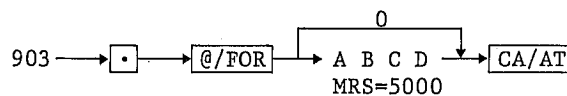
*ER-46PL1 REQUIRED

#902-D Loader/Dumper transfer speed

Transfer speed	Key entry
9600 BPS	0
4800 BPS	1
2400 BPS	2
1200 BPS	3
600 BPS	4

<Job code #903>

Key operation



#903-A

Fractional disposal	Key entry
Round down	0
Round off	5
Round up	9

- #903-B
1. Split pricing quantity fraction of set/Whole unit
 2. Drawer close operation Compulsory/Noncompulsory
 3. Singaporean tax system Yes/No

903-B

Split pricing quantity	Compulsory drawer closed	Singaporean tax system	Key entry
Whole unit	No	No	0
		Yes	1
	Yes	No	2
		Yes	3
Fraction of set	No	No	4
		Yes	5
	Yes	No	6
		Yes	7

- #903-C 1. Tax delete Enable/Disable
 2. Keyboard lock or not on error Yes/No
 3. Catch sound Yes/No

Tax delete	Keyboard lock on error	Key catch sound	Key entry
Disable	No	Yes	0
		No	1
	Yes	Yes	2
		No	3
Enable	No	Yes	4
		No	5
	Yes	Yes	6
		No	7

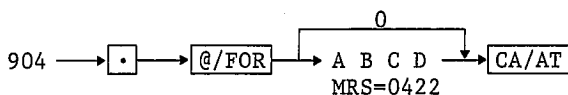
- #903-D 1. Entry of non-add code Enable/Disable
 2. No sale entry after non-add code printing Enable/Disable
 3. Manual tax Enable/Disable

903-D

Allow entry of non-add code	No sale after non-add code entry	Manual tax entry	Key entry
Yes	Enable	Enable	0
		Disable	1
	Disable	Enable	2
		Disable	3
No	Enable	Enable	4
		Disable	5
	Disable	Enable	6
		Disable	7

<Job code #904>

Key operation



- #904-A 1. Printing of GT1 on Z report Yes/No
 2. Printing of GT2 on Z report Yes/No
 3. Printing of GT3 on Z report Yes/No

904-A

GT1 print	GT2 print	GT3 print	Key entry
Yes	Yes	Yes	0
		No	1
	No	Yes	2
		No	3
No	Yes	Yes	4
		No	5
	No	Yes	6
		No	7

- #904-B 1. Printing of GT1 on X report Yes/No
 2. Printing of NET subtotal on X/Z report Yes/No

904-B

GT1 print on X report	Net subtotal	Key entry
Yes	Print	0
	Skip	1
No	Print	4
	Skip	5

- #904-C 1. Printing of taxable 1 on X/Z report Yes/No
 2. Printing of gross tax 1 and refund tax 1 totals on X/Z report Yes/No
 3. Printing of NET tax 1 on X/Z report Yes/No

904-C

Taxable 1 print	Gross tax 1 and Refound tax 1 total print	Net tax 1 print	Key entry
Yes	Yes	Yes	0
		No	1
	No	Yes	2
		No	3
No	Yes	Yes	4
		No	5
	No	Yes	6
		No	7

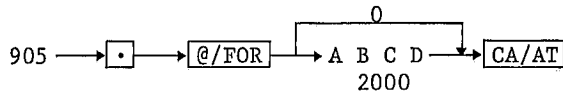
- #904-D 1. Printing of taxable 2 total on X/Z report Yes/No
 2. Printing of gross tax 2 and refund tax 2 totals on X/Z report Yes/No
 3. Printing of NET tax 2 total on X/Z report Yes/No

904-D

Taxable 2 print	Gross tax 2 and Refound tax 2 total print	Net tax 2 print	Key entry
Yes	Yes	Yes	0
		No	1
	No	Yes	2
		No	3
No	Yes	Yes	4
		No	5
	No	Yes	6
		No	7

<Job code #905>

Key operation



- #905-A
1. Printing of check/change total on X/Z report Yes/No
 2. Printing of gross manual tax and refund manual tax totals on X/Z report Yes/No
 3. Printing of NET manual tax total on X/Z report Yes/No

905-A

Check/change total print	Gross manual TAX and Refund manual TAX total print	NET manual tax total print	Key entry
Yes	Yes	Yes	0
		No	1
	No	Yes	2
		No	3
No	Yes	Yes	4
		No	5
	No	Yes	6
		No	7

- #905-B
1. Drawer open in credit sale Yes/No
 2. Past item void Enable/Disable
 3. HASH Dept. programming allowed in PGM 2./Not.

905-B

Allow HASH Dept. programming	Allow drawer open in credit sale	Allow past item void	Key entry
No	Yes	Enable	0
		Disable	1
	No	Enable	2
		Disable	3
Yes	Yes	Enable	4
		Disable	5
	No	Enable	6
		Disable	7

- #905-C
1. Clear key buffer after receipt generation Yes/No
 2. Validation printing format Date/Consecutive No. & machine No.

Clear key buffer	Validation format	Key entry
No.	Date	0
	CC# + Machine#	1
Yes	Date	2
	CC# + Machine#	3

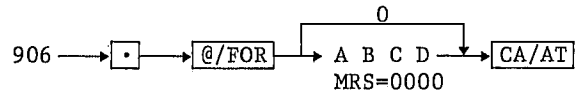
- #905-D
1. Printing of cashier name on header Yes/No
 2. Date format MMDDYY/DDMMYY
 3. Amount leading symbol \$/*

905-D

Cashier name	Date format	Amount leading symbol	Key entry
Print	MMDDYY	\$	0
		*	1
	DDMMYY	\$	2
		*	3
Skip	MMDDYY	\$	4
		*	5
	DDMMYY	\$	6
		*	7

<Job code #906>

Key operation



- #906-A Tax payment by food stamp
- 0: No food stamp function
 - 1: Allow tax to be paid by food stamps
 - 2: Food stamp tax must be paid by cash
 - 3: Food stamp tax forgiveness

- #906-B
1. #/ST depression before finalizing a transaction Compulsory/Noncompulsory
 2. # key entry at the time of DPT/PLU entry Compulsory/Noncompulsory
 3. Non-add code 8 digits/14 digits

906-B

Subtotal key compulsory	Non-add entry at DEPT/PLU registration	Number of non-add digit	Key entry
Non-compulsory	Non-compulsory	8 digits	0
		14 digits	1
	Compulsory	8 digits	2
		14 digits	3
Compulsory	Non-compulsory	8 digits	4
		14 digits	5
	Compulsory	8 digits	6
		14 digits	7

- #906-C
1. Compulsory TRAY total before finalization
 2. RS232C (ER31RS) Selected/Not selected
 3. Cashier key 4-stay down/ER25CL

906-C

TRAY total before finalization	RS232C (ER31RS)	Cashier key	Key entry
Non-compulsory	No	4-stay down	0
		ER25CL	1
	Yes	4-stay down	2
		ER25CL	3
Compulsory	No	4-stay down	4
		ER25CL	5
	Yes	4-stay down	6
		ER25CL	7

#906-D Logo format

Logo message format	Key entry
3 lines under stamp(1)	0
Stamp only (2)	1
Logo 1 line (3)	2
Logo 2 lines (4)	3
Logo 3 lines (5)	4
Logo 4 lines (6)	5
Logo 5 lines (7)	6
Logo 6 lines (8)	7

YOUR RECEIPT
THANK YOU
ABCDEFGHIJ
KLMNOPQRST
UVWXYZ1234

01/01/00 1:05AM
DPT.O1 \$1.00
CASH \$1.00
000H0017 A

(1)

YOUR RECEIPT
THANK YOU
01/01/00 1:05AM
DPT.O1 \$1.00
CASH \$1.00
000H0016 A

(2)

YOUR RECEIPT
THANK YOU
01/01/00 1:04AM
000H0014 A
DPT.O1 \$1.00
CASH \$1.00
ABCDEFGHIJ

(3)

YOUR RECEIPT
THANK YOU
01/01/00 1:04AM
000H0013 A
DPT.O1 \$1.00
CASH \$1.00
ABCDEFGHIJ
KLMNOPQRST

(4)

YOUR RECEIPT
THANK YOU
01/01/00 1:03AM
000H0012 A
DPT.O1 \$1.00
CASH \$1.00
ABCDEFGHIJ
KLMNOPQRST
UVWXYZ1234

(5)

YOUR RECEIPT
THANK YOU
01/01/00 1:03AM
000H0011 A
DPT.O1 \$1.00
CASH \$1.00
ABCDEFGHIJ
KLMNOPQRST
UVWXYZ1234
!!@!?"#\$%&'*(<

(6)

YOUR RECEIPT
THANK YOU
01/01/00 1:02AM
000H0010 A
DPT.O1 \$1.00
CASH \$1.00
ABCDEFGHIJ
KLMNOPQRST
UVWXYZ1234
!!@!?"#\$%&'*(<
>*+,-./=:;<

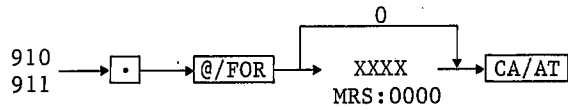
(7)

YOUR RECEIPT
THANK YOU
01/01/00 1:02AM
000H0009 A
DPT.O1 \$1.00
CASH \$1.00
ABCDEFGHIJ
KLMNOPQRST
UVWXYZ1234
!!@!?"#\$%&'*(<
>*+,-./=:;<
=>?@~`'f<|>

(8)

<Job code #910, 911> Z1, Z2 counter setting

Key operation

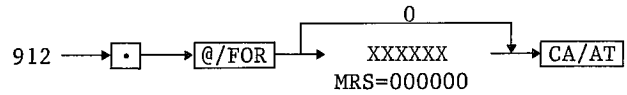


910: Z1 counter

911: Z2 counter

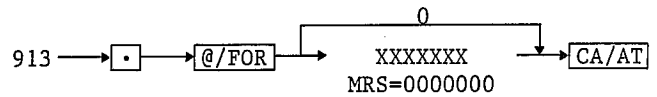
<Job code #912> GT1 upper 6 digits setting

Key operation



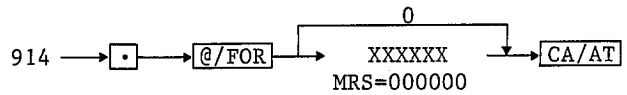
<Job code #913> GT1 Lower 7 digits setting

Key operation



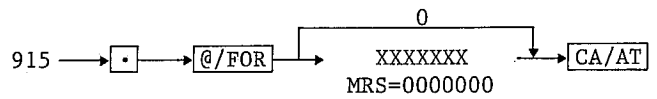
<Job code #914> GT2 upper 6 digits setting

Key operation



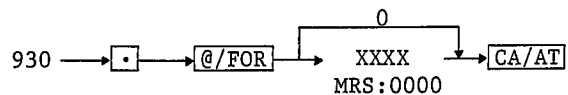
<Job code #915> GT2 Lower 7 digits setting

Key operation



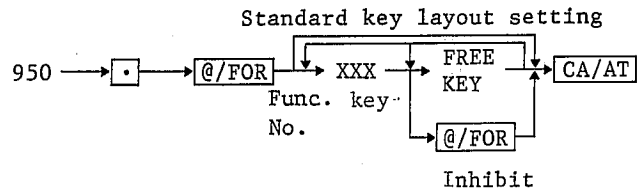
<Job code #930> Secret code setting of PGM 2 mode

Key operation

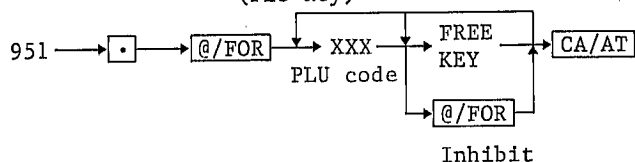


<Job code #950> Free key layout setting 1

Key operation



<Job code #951> Free key layout setting 2
(PLU key)



Function key No.

Func. key No.	Key name	Func. key No.	Key name	Func. key No.	Key name
1	0 KEY	18	(-)1	35	FSTND
2	1 KEY	19	(-)2	36	R/A
3	2 KEY	20	%1	37	P/O
4	3 KEY	21	%2	38	NS
5	4 KEY	22	TAX	39	PRINT
6	5 KEY	23	TAX 1ST	40	RCPT
7	6 KEY	24	TAX 2ST	41	CONV
8	7 KEY	25	FS SFT	42	L1
9	8 KEY	26	RFND	43	L2
10	9 KEY	27	VOID	44	L3
11	00 KEY	28	MDSEST	45-64	DPT.01-20
12	.	29	TRAYST		
13	CL	30	CA2		
14	@/FOR	31	CHK	1-100	PLU001-100
15	#/SBTL	32	CH1		
16	CA/AT	33	CH2		
17	PLU#	34	CH3	999	INHIBIT

Key position number

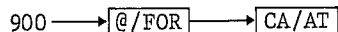
↑ RECEIPT	↑ JOURNAL	28	38	48	58	68	78	88	98	108	118	128	138	148	158
9	18	27	37	47	57	67	77	87	97	107	117	127	137	147	157
8	17	26	36	46	56	66	76	86	96	106	116	126	136	146	156
7	16	25	35	45	55	65	75	85	95	105	115	125	135	145	155
6	15	24	34	44	54	64	74	84	94	104	114	124	134	144	154
5	14	23	33	43	53	63	73	83	93	103	113	123	133	143	153
4	13	22	32	42	52	62	72	82	92	102	112	122	132	142	152
3	12	21	31	41	51	61	71	81	91	101	111	121	131	141	151
2	11	20	30	40	50	60	70	80	90	100	110	120	130	140	150
1	10	19	29	39	49	59	69	79	89	99	109	119	129	139	149

Fig. 6-1

6-4. SRV mode program reading

<Job code #900> SRV-mode programming reading

Key operation:



01/01/00	0:45AM
000H0003	
#900	
901H	0012
902H	1040
903H	5000
904H	0422
905H	2000
906H	0001
	Z1 0000
	Z2 0000
GT1	\$0000000000.00
912H	
913H	
GT2	\$0000000000.00
914H	
915H	
GT3	\$-0000000000.00
930H	0000

Fig. 6-2

<Job code #950> Free key reading

Key operation:

950 → @/FOR → CA/AT

01/01/00 000#0004 #950	0:45AM	031 CHK 144	031	CHK	144
001 0 KEY 119		032 CH 1 154	Func.	Key	Key
002 1 KEY 120		033 CH 2 145	key No.	name	position
003 2 KEY 130		034 CH 3 155			number
004 3 KEY 140		035 FSTND 156			
005 4 KEY 121		036 R/A 103			
006 5 KEY 131		037 P/D 113			
007 6 KEY 141		038 NS 147			
008 7 KEY 122		039 PRINT 009			
009 8 KEY 132		040 RCPT 018			
010 9 KEY 142		041 CD-W 157			
011 00 KEY 129		042 L1 115			
012 . KEY 139		043 L2 116			
013 CL 143		044 L3 114			
014 @/FOR 133		045 DPT.01 124			
015 W/SBTL 150		046 DPT.02 125			
016 CA/AT 149		047 DPT.03 126			
017 PLUM 105		048 DPT.04 127			
018 (-)1 101		049 DPT.05 128			
019 (-)2 111		050 DPT.06 134			
020 %1 100		051 DPT.07 135			
021 %2 110		052 DPT.08 136			
022 TAX 123		053 DPT.09 137			
023 TAX1ST 102		054 DPT.10 138			
024 TAX2ST 112		055 DPT.11 104			
025 FS SFT 146		056 DPT.12 114			
026 RFND 099		057 DPT.13 ---			
027 VOID 109		058 DPT.14 ---			
028 MOSEST 151		059 DPT.15 ---			
029 TRRYST 152		060 DPT.16 ---			
030 CA2 153		061 DPT.17 ---			
		062 DPT.18 ---			
		063 DPT.19 ---			
		064 DPT.20 ---			

Fig. 6-3

<Job code #951> PLU free key reading

Key operation:

951 → @/FOR → CA/AT

01/01/00 000#0005 #951	0:46AM	031 PLU031 004	067	PLU066	055
001 PLU001 001		032 PLU032 013	PLU	PLU	Key
002 PLU002 010		033 PLU033 022	code		position
003 PLU003 019		034 PLU034 032			number
004 PLU004 029		035 PLU035 042			
005 PLU005 039		036 PLU036 052			
006 PLU006 049		037 PLU037 062			
007 PLU007 059		038 PLU038 072			
008 PLU008 069		039 PLU039 082			
009 PLU009 079		040 PLU040 092			
010 PLU010 089		041 PLU041 005			
011 PLU011 002		042 PLU042 014			
012 PLU012 011		043 PLU043 023			
013 PLU013 020		044 PLU044 033			
014 PLU014 030		045 PLU045 043			
015 PLU015 040		046 PLU046 053			
016 PLU016 050		047 PLU047 063			
017 PLU017 060		048 PLU048 073			
018 PLU018 070		049 PLU049 083			
019 PLU019 080		050 PLU050 093			
020 PLU020 090		051 PLU051 006			
021 PLU021 003		052 PLU052 015			
022 PLU022 012		053 PLU053 024			
023 PLU023 021		054 PLU054 034			
024 PLU024 031		055 PLU055 044			
025 PLU025 041		056 PLU056 054			
026 PLU026 051		057 PLU057 064			
027 PLU027 061		058 PLU058 074			
028 PLU028 071		059 PLU059 084			
029 PLU029 081		060 PLU060 094			
030 PLU030 091		061 PLU061 007			
		062 PLU062 016			
		063 PLU063 025			
		064 PLU064 035			
		065 PLU065 045			
		066 PLU066 055			
		067 PLU067 065			
		068 PLU068 075			
		069 PLU069 085			
		070 PLU070 095			
		071 PLU071 008			
		072 PLU072 017			
		073 PLU073 026			
		074 PLU074 036			
		075 PLU075 046			
		076 PLU076 056			
		077 PLU077 066			
		078 PLU078 076			
		079 PLU079 086			
		080 PLU080 096			
		081 PLU081 027			
		082 PLU082 037			
		083 PLU083 047			
		084 PLU084 057			
		085 PLU085 067			
		086 PLU086 077			
		087 PLU087 087			
		088 PLU088 097			
		089 PLU089 107			
		090 PLU090 117			
		091 PLU091 028			
		092 PLU092 038			
		093 PLU093 048			
		094 PLU094 058			
		095 PLU095 068			
		096 PLU096 078			
		097 PLU097 088			
		098 PLU098 098			
		099 PLU099 108			
		100 PLU100 118			

Fig. 6-4

6-5. Down-load function

AS one of features of the ER3100, it is possible to transfer RAM data (system RAM and bank RAM) between an ER3100 and another ER3100 which is useful in protecting data during machine servicing. The special cable (QCNW-6952RCZZ) must be used to perform data transfer between the two ER3100's.

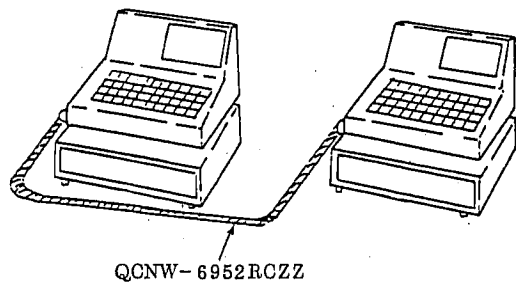


Fig. 6-5

(1) SIO interface specification

- 1) Operating mode: Half-duplex
- 2) Connection: Direct connection
- 3) Transmission speed: 9600, 4800, 2400, 1200, 600 bps
(to be selected by Job #902 in the SRV mode)
- 4) Synchronization: Async
- 5) Parity check: Vertical, odd
- 6) Code system: ASCII, BCD
- 7) Signal level: TTL
- 8) Data format: 1 start bit + 7 data bits + 1 parity bit + 1 stop bit.

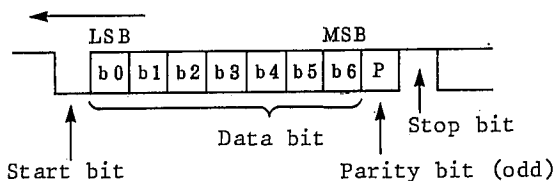


Fig. 6-6

- 9) Data size: 255 bytes, max.

(2) Cable connection

QCNW-6952RCZZ

TPX 2208-01-010

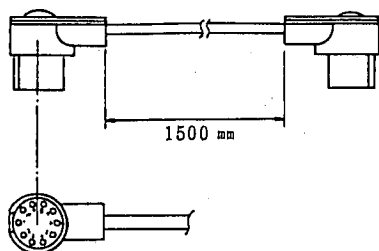
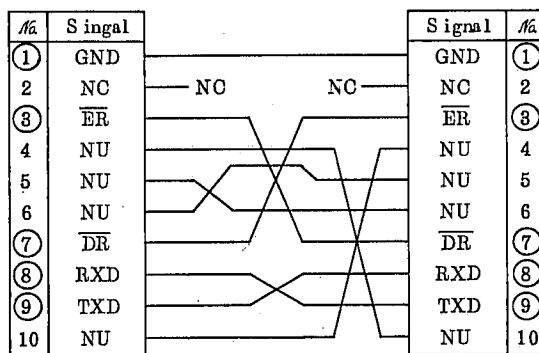


Fig. 6-7



NU: Not used

Fig. 6-8

°Interface signal

Pin No.	Signal name	Description	I/O as seen from the main unit	ON level
1	GND (SG)	Signal ground		
2	NC			
3	ER	Device ready (power on)	Out	Low
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	DR	Data set ready	In	Low
8	RXD	Receive data	In	Mark=high, space=low
9	TXD	Transmit data	Out	Mark=high, space=low
10	-	-	-	-

This cable is identical to the one used for the ER5200. But, it has to be noted that different signals are used.

(3) Application specification

The following service (SRV) modes are available for the serial data transfer of the ER3100.

① All RAM contents transmit

996 → [] → @/FOR → CA/AT

② SSP transmit

997 → [] → @/FOR → CA/AT

③ Receive

998 → [] → @/FOR → CA/AT

① All RAM contents transmit

The contents of all RAMs are transmitted.

°Key operation

996 → [] → @/FOR → CA/AT

°Display

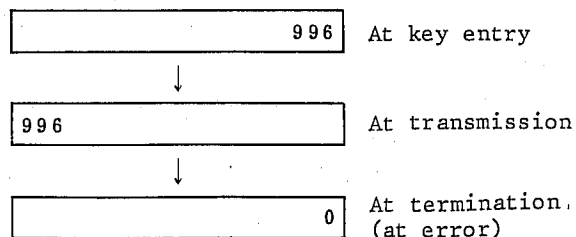


Fig. 6-9

°Termination printout

The following message is printed on the paper upon termination of transmission.

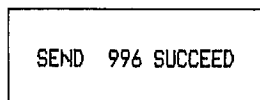
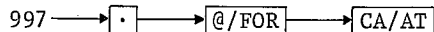


Fig. 6-10

② SSP transmit

Only the SSP data are transmitted.

°Key operation



°Display

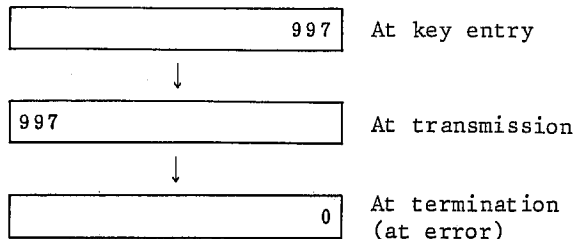


Fig. 6-11

°Termination printout

The following message is printed on the paper upon termination of transmission.

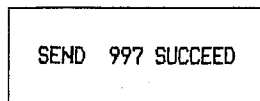
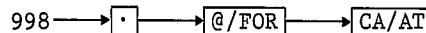


Fig. 6-12

③ Receive

Data are received.

°Key operation



°Display

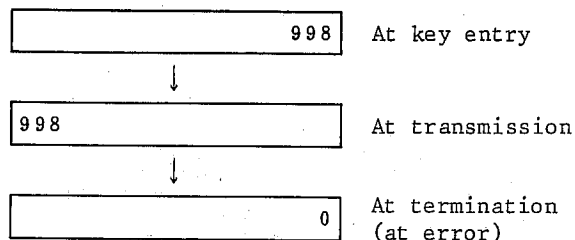


Fig. 6-13

°Termination printout

The following message is printed on the paper upon termination of transmission.

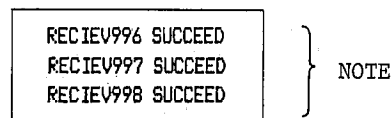


Fig. 6-14

NOTE: 996: When receiving all RAM contents
 997: When receiving SSP data
 998: When receiving data from EROLFD

(4) Transmission protocol

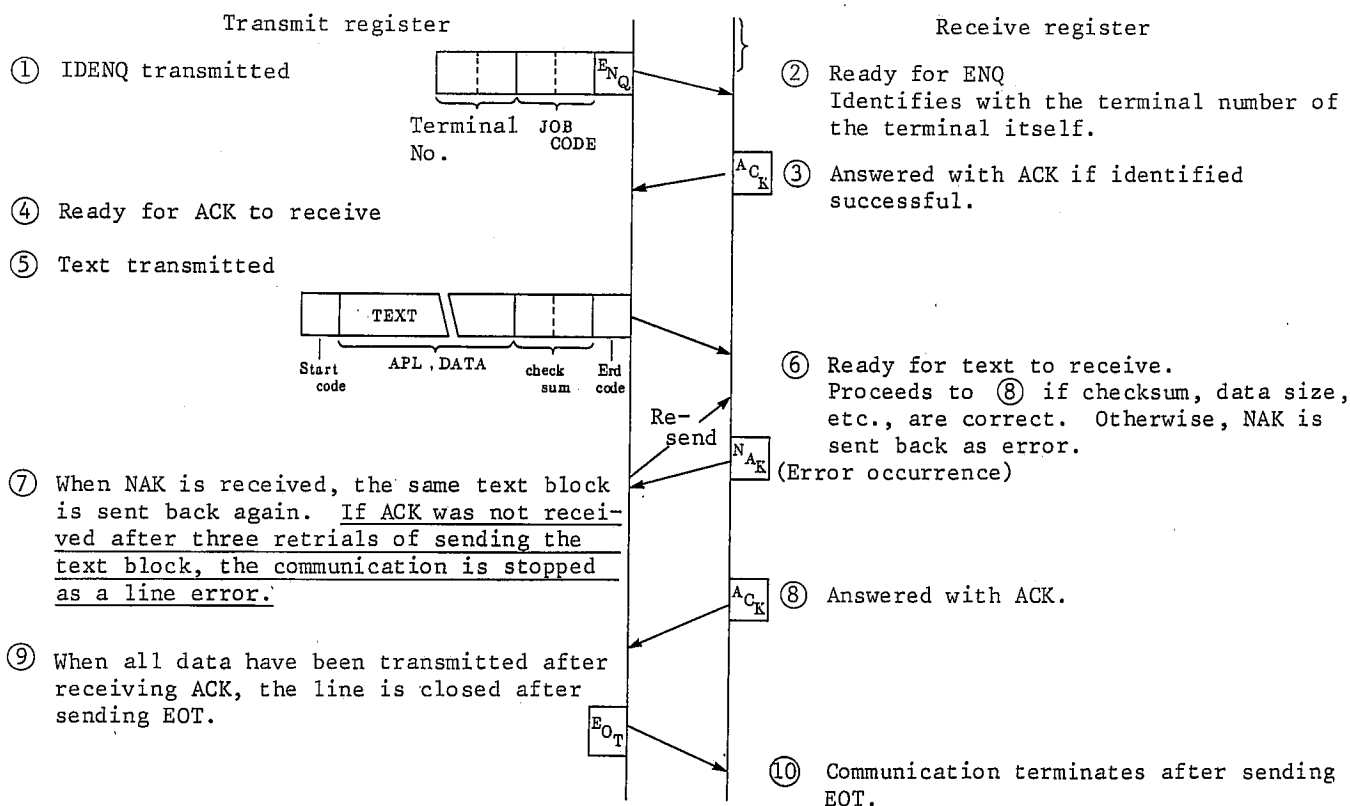
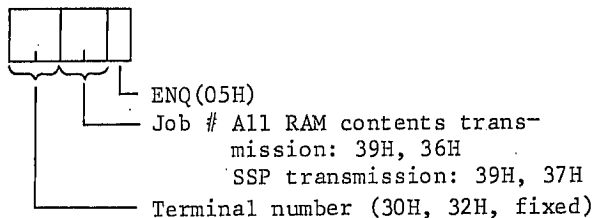


Fig. 6-15

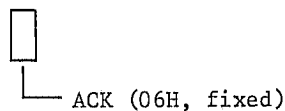
(5) Data format

One byte of the RAM data to be transmitted is divided into high order four bits and low order four bits and converted into ASCII code or BCD. Then, they are transmitted in the following format as memory image. Status is transmitted as a block.

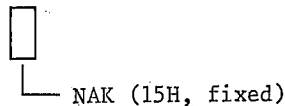
(5)-1 ENQ block (enquiry)



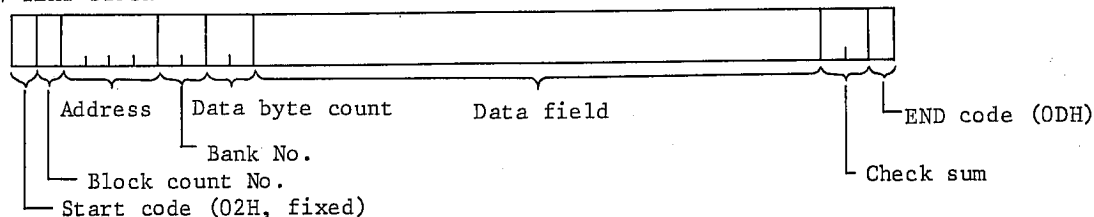
(5)-2 ACK block (normal acknowledge)



(5)-3 NAK block (non-acknowledge)



(5)-4 TEXT block



- Start code: STX 02H, fixed
- Block count No.: Ring count method (30H+31H+32H+...+39H)
- Address: Represents the memory top address of the data to be transmitted in the ASCII code.
- Data byte count: Indicates the number of effective data within the data field.

- Data field: Memory contents are converted into ASCII code and sent. Fixed to 128 bytes.
- Check sum
- End code: CR (0DH, fixed)

(6) Operational method

- 1) Get ready one unit of ER3100 as a receiver. The memory size (RAM capacity) of this unit must be larger than the unit on the transmit side.
- 2) Master reset the receiver ER3100.
- 3) Match the baud rate of the transmitter with the receiver using Job #902 in the SRV mode.
- 4) Connect loader cable (QCNW-6952RCZZ) between ER3100s.
- 5) Set the receiving ER3100 ready to receive.

998 → [] → [@/FOR] → [CA/AT]

- 6) Start the transmitting ER3100.

996 → [] → [@/FOR] → [CA/AT]
997

- 7) Transmission starts.

(7) Error print

When an error is met during transmission or reception, the transmission terminates with the following printed.

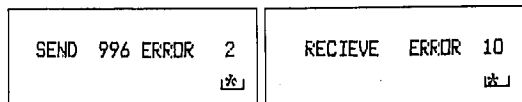


Fig. 6-16

*: Error status

Description of error status

- 1: Instruction error
- 2: Line error (such as terminal number)
- 3: Parity error
- 4: Check sum error
- 5: Data size error (at the receiving side)
- 6: Data size error (at the transmitting side)
- 7: Hardware error
- 8: Power off error
- 10: Time out error
- 11: Protect error
- 12: Block sequence error

7. PGM1/PGM2(Program) MODE

7-1. Secret code entry

- (1) To start the key operation for programming in the PGM1 or PGM2 mode, the secret code programmed for each mode is entered in the order given below.

In PGM1 and PGM2 modes

CA/AT → XXXX → CA/AT
(Secret code)

- (2) The secret code for PGM1 mode is programmed in the PGM2 mode and that for the PGM2 mode in the SRV mode.
- (3) Once a secret code is entered in a mode, the code does not need to be entered again in the same mode.
- (4) If the secret code is programmed for "0", no secret code entry is compelled.

7-2. PGM JOB CODE LIST

JOB #	DATA	JOB #	DATA
110	Dept unit price programming	241	% tax rate
210	Dept function programming 1	144	Cashier name programming
211	Dept function programming 2	250	Date
212	Dept function programming 3	251	Time
214	Dept text programming	252	Machine number
120	PLU unit price programming	253	Consecutive number
121	PLU programming 1	254	Logo message
221	PLU programming 2	255	Validation counter
224	PLU text programming	256	Optional feature selection
226	PLU group No. programming	257	Sentinel amount programming
130	% rate programming	260	Media key programming 1
131	Currency conversion rate programming	261	Media key programming 2
230	Miscellaneous key programming 1	262	Media key programming 3
231	Miscellaneous key programming 2	270	Time interval for drawer open count
232	Miscellaneous key programming 3	275	Promotion code programming
234	Miscellaneous key programming 4	280	Secret code for PGM 1 mode
235	% ITEM/% SBTL selection for %1, %2	281	Secret code for Z1
236	Vender/Store coupon selection for (-)1/, (-)2	282	Secret code for Z2
237	Miscellaneous keys text programming	225	Bottle deposit programming
240	Tax tables		

7-3. Programming (More detail please refer to the Instruction Book.)

Job #	Meaning	
110	Dept unit price programming	110 → [.] → @/FOR → 1-20 (Dpt code) → @/FOR → Dpt code auto increment (0) → XXXXXX (Price) → #/SBTL → CA/AT MRS=0
210	Dept function programming 1	210 → [.] → @/FOR → 1-20 (Dpt code) → @/FOR → Dpt code auto increment (0) → ABC (Price) → #/SBTL → CA/AT MRS=000 A: HASH/Normal = 1/0 B: Single item finalize/Single sale/Normal = 2/1/0 C: Open & Preset/Preset/Open/Inhibit = 3/2/1/0
211	Dept function programming 2	211 → [.] → @/FOR → 1-20 (Dpt code) → @/FOR → Dpt code auto increment (0) → ABCD (Price) → #/SBTL → CA/AT A: -/+ sign = 1/0 B: Food stamp eligible = 1/0 C: Taxable 2./Not. = 1/0 D: Taxable 1./Not. = 1/0
212	Dept function programming 3	212 → [.] → @/FOR → 1-20 (Dpt code) → @/FOR → Dpt code auto increment (0) → XZ (Price) → #/SBTL → CA/AT MRS=97 X: Max. = 0-9 Z: HALO = 0-7
214	Dept text programming (8 characters)	214 → [.] → @/FOR → 1-20 (Dpt code auto increment) → @/FOR → Space Character key(8) → #/SBTL → CA/AT MRS=DPT.XX * Characters can be entered by the use of either character keys or ten numeric keys. ° Character entry sequence by ten numeric keys (for 1 character) ZZZ [00] ZZZ; Character code (3 digits)
120	PLU unit price programming	Up to 6 digits for price or Unit. XXXXXX 120 → [.] → @/FOR → 1-999 (PLU code) → @/FOR → PLU code auto increment (0) → XXXXXX (Price) → #/SBTL → CA/AT MRS=0
121	PLU programming 1	121 → [.] → @/FOR → 1-999 (PLU code) → @/FOR → To prohibit (XX (Dpt code)) → #/SBTL → CA/AT PLU code auto increment MRS=0 Dpt code 1-20

Job #	Meaning	
221	PLU programming 2	221 → [.] → [@/FOR] → 1-999 → [@/FOR] → 0 → [#/SBTL] → [CA/AT] (PLU code) ABCD PLU code auto increment MRS=0000 A: -/+ sign = 1/0 B: Food stamp eligible = 1/0 C: Taxable 2./Not. = 1/0 D: Taxable 1./Not. = 1/0
224	PLU text programming (8 characters)	224 → [.] → [@/FOR] → 1-999 → [@/FOR] → (Space) → [#/SBTL] → [CA/AT] (PLU code) Character key(8) PLU code auto increment MRS=PLU-XXX. Characters can be entered by the use of either characters keys or ten numeric keys.
225	Bottle deposit programming	225 → [.] → [@/FOR] → 1-999 → [@/FOR] → 0 → [#/SBTL] → [CA/AT] (PLU code) XXX (Linked PLU code) PLU code auto increment MRS=0 Programming is cancelled by entering "0".
226	PLU group number	226 → [.] → [@/FOR] → 1-999 → [@/FOR] → 0 → [#/SBTL] → [CA/AT] (PLU code) XX (Group No.) PLU code auto increment Group No. = 1-15 MRS=00
130	% rate programming %1, %2 keys	130 → [.] → [@/FOR] → XX → [@/FOR] → 0 → [#/SBTL] → [CA/AT] (Func. No.) XXXX 0.00%-99.99% Func. No.: 3 = %1 4 = %2 MRS=0.00
131	Currency conversion rate programming	131 → [.] → [@/FOR] → 42 → [@/FOR] → 0 → [#/SBTL] → [CA/AT] (Func. No.) XXXXXX 0.000%-999.999% MRS=0.000
230	Miscellaneous keys programming 1	230 → [.] → [@/FOR] → XX → [@/FOR] → 0 → [#/SBTL] → [CA/AT] (Func. No.) A Func. No.: 38 = PO 39 = RA Validation enforced./Optional. = 1/0 for RA and PO MRS=0 for the all
231	Miscellaneous key programming 2	231 → [.] → [@/FOR] → XX → [@/FOR] → 0 → [#/SBTL] → [CA/AT] (Func. No.) ABCD MRS=1000 A: -/+ sign for %1, %2 keys = 1/0 B: Food stampable./Not. = 1/0 C: Taxable2./Not. = 1/0 D: Taxable1./Not. for %1, %2, (-)1, (-)2 keys. = 1/0 Func. No.: ⊖1 = 1 %1 = 3 ⊖2 = 2 %2 = 4

Job #	Meaning																																																																																																																									
232	Miscellaneous keys programming 3	232 → [.] → [@/FOR] → XX → [@/FOR] → 0 → [#/SBTL] → CA/AT (Func. No.) ⊖1 = 1 PO = 38 MRS=97 ⊖2 = 2 RA = 39 X: Max digit = 0-9 M-TAX = 16 Z: HALO digit = 0-7																																																																																																																								
234	Miscellaneous keys programming 4	234 → [.] → [@/FOR] → XX → [@/FOR] → 0 → [#/SBTL] → CA/AT (Func. No.) MRS=1 A: Open & preset./Prest./Open. = 3/2/1																																																																																																																								
235	%Item/%SBTL selection for %1, %2.	235 → [.] → [@/FOR] → XX → [@/FOR] → 0 → [#/SBTL] → CA/AT (Func. No.) Func. No. %1 = 3 0: %SBTL %2 = 4 1: %ITEM MRS=0																																																																																																																								
236	Vender/Store coupon selection for (-)1, (-)2	236 → [.] → [@/FOR] → XX → [@/FOR] → 0 → [#/SBTL] → CA/AT (Func. No.) Func. No. ⊖1 = 1 0: Vender ⊖2 = 2 1: Store MRS=0																																																																																																																								
237	Miscellaneous & Media key programming (6 characters)	237 → [.] → [@/FOR] → XX → [@/FOR] → Space → [#/SBTL] → CA/AT (Func. No.) Character key (6) MRS=Default Function Default No. <table><tr><td>1</td><td>(-) 1</td><td>2</td><td>(-) 2</td><td>3</td><td>% 1</td><td>4</td><td>% 2</td><td>5</td><td>NET 1</td><td>6</td><td>TAX1ST</td></tr><tr><td>7</td><td>GRSTX1</td><td>8</td><td>RFDTX1</td><td>9</td><td>TAX 1</td><td>10</td><td>TAX2ST</td><td>11</td><td>GRSTX2</td><td>12</td><td>RFDTX2</td></tr><tr><td>13</td><td>TAX 2</td><td>14</td><td>MGRSTX</td><td>15</td><td>MRFTDX</td><td>16</td><td>M-TAX</td><td>17</td><td>FS TX1</td><td>18</td><td>FS TX2</td></tr><tr><td>19</td><td>TL TAX</td><td>20</td><td>NET 2</td><td>21</td><td>(-)PLU</td><td>22</td><td>VOID</td><td>23</td><td>VD MGR</td><td>24</td><td>VD TRN</td></tr><tr><td>25</td><td>RFND</td><td>26</td><td>VD (H)</td><td>27</td><td>RF (H)</td><td>28</td><td>NOSALE</td><td>29</td><td>VP CNT</td><td>30</td><td>TRY CN</td></tr><tr><td>31</td><td>DRW CN</td><td>32</td><td>CUSTRM</td><td>33</td><td>NET 3</td><td>34</td><td>CASH</td><td>35</td><td>CASH2</td><td>36</td><td>FSSALE</td></tr><tr><td>37</td><td>FSTEND</td><td>38</td><td>***P/O</td><td>39</td><td>***R/A</td><td>40</td><td>CHK/CG</td><td>41</td><td>FS/CG</td><td>42</td><td>CONV</td></tr><tr><td>43</td><td>*FS/1D</td><td>44</td><td>CH 1</td><td>45</td><td>CH 2</td><td>46</td><td>CH 3</td><td>47</td><td>CHECK</td><td>48</td><td>**C1D</td></tr><tr><td>49</td><td>**TTL</td><td>50</td><td>**SALE</td><td>51</td><td>*COPY*</td><td>52</td><td>CHNG</td><td>53</td><td>TRAYST</td><td>54</td><td>ST</td></tr><tr><td>55</td><td>DPTTL</td><td>56</td><td>G TL</td><td>57</td><td>TL*</td><td>58</td><td>TL*-</td><td>59</td><td>TLH</td><td>60</td><td>TLH-</td></tr></table> Characters can be entered by the use of either character keys or ten numeric keys.	1	(-) 1	2	(-) 2	3	% 1	4	% 2	5	NET 1	6	TAX1ST	7	GRSTX1	8	RFDTX1	9	TAX 1	10	TAX2ST	11	GRSTX2	12	RFDTX2	13	TAX 2	14	MGRSTX	15	MRFTDX	16	M-TAX	17	FS TX1	18	FS TX2	19	TL TAX	20	NET 2	21	(-)PLU	22	VOID	23	VD MGR	24	VD TRN	25	RFND	26	VD (H)	27	RF (H)	28	NOSALE	29	VP CNT	30	TRY CN	31	DRW CN	32	CUSTRM	33	NET 3	34	CASH	35	CASH2	36	FSSALE	37	FSTEND	38	***P/O	39	***R/A	40	CHK/CG	41	FS/CG	42	CONV	43	*FS/1D	44	CH 1	45	CH 2	46	CH 3	47	CHECK	48	**C1D	49	**TTL	50	**SALE	51	*COPY*	52	CHNG	53	TRAYST	54	ST	55	DPTTL	56	G TL	57	TL*	58	TL*-	59	TLH	60	TLH-
1	(-) 1	2	(-) 2	3	% 1	4	% 2	5	NET 1	6	TAX1ST																																																																																																															
7	GRSTX1	8	RFDTX1	9	TAX 1	10	TAX2ST	11	GRSTX2	12	RFDTX2																																																																																																															
13	TAX 2	14	MGRSTX	15	MRFTDX	16	M-TAX	17	FS TX1	18	FS TX2																																																																																																															
19	TL TAX	20	NET 2	21	(-)PLU	22	VOID	23	VD MGR	24	VD TRN																																																																																																															
25	RFND	26	VD (H)	27	RF (H)	28	NOSALE	29	VP CNT	30	TRY CN																																																																																																															
31	DRW CN	32	CUSTRM	33	NET 3	34	CASH	35	CASH2	36	FSSALE																																																																																																															
37	FSTEND	38	***P/O	39	***R/A	40	CHK/CG	41	FS/CG	42	CONV																																																																																																															
43	*FS/1D	44	CH 1	45	CH 2	46	CH 3	47	CHECK	48	**C1D																																																																																																															
49	**TTL	50	**SALE	51	*COPY*	52	CHNG	53	TRAYST	54	ST																																																																																																															
55	DPTTL	56	G TL	57	TL*	58	TL*-	59	TLH	60	TLH-																																																																																																															
240	TAX TABLES 112 break points can be shared for two tables.	240 → [.] → [@/FOR] → AB → [@/FOR] → XX.XXXX → [@/FOR] → XXXX Tax rate Cycle [@/FOR] → XXX → [@/FOR] → XXXX → [@/FOR] → XXXXX → [@/FOR] → CA/AT Intial tax Lower tax limit Break point MRS=No table A: The difference between a break point and the next one is \$1.00 or more./Less than \$1.00 = 1/0 B: Table 1 programming/Table 2 = 1/2 By hitting the #/SBTL key at the any timming after "*" point, the auto tax feature will be deleted.																																																																																																																								

Job #	Meaning							
241	% TAX RATE	241 → [•] → [@ / FOR] → A → [@ / FOR] → XX.XXXX → [@ / FOR] 1 or 2 % TAX RATE XXXX Lower TAXATION LIMIT CA/AT #/SBTL → FOR % TAX DELETE A: For TAX1 (A=1) and TAX2 (A=2) Presetable TAX RATE range = 0.0001-99.9999% Maximum lower taxation limit = \$99.99 MRS=0						
144	Cashier name programming, 8 characters for each of four cashiers	144 → [•] → [@ / FOR] → 1-4 → Z → [@ / FOR] → Space → Character key (8) → #/SBTL → CA/AT MRS=Space Cashier code (Z): 1:(A), 2:(B), 3:(D), 4:(E) Characters can be entered by the use of either character keys or ten numeric keys						
250	Date	250 → [•] → [@ / FOR] → XXXXXX → CA/AT MM/DD/YR or DD/MM/YR (Programmed by SRV # 905D) MRS=0						
251	Time	251 → [•] → [@ / FOR] → 0 → XXXX → CA/AT MRS=0 Enter the time in 24-hour format. 1AM=100 1PM=1300						
252	Machine number 3 digits	252 → [•] → [@ / FOR] → 0 → XXX → CA/AT MRS=0						
253	Consecutive number 4 digits	253 → [•] → [@ / FOR] → 0 → XXXX → CA/AT MRS=0						
254	Logo message (21 characters)	254 → [•] → [@ / FOR] → 1-6 → Z → [@ / FOR] → Space → Character key (21) → #/SBTL → CA/AT MRS= Space 6 lines <table><tr><td>1</td></tr><tr><td>2</td></tr><tr><td>3</td></tr><tr><td>4</td></tr><tr><td>5</td></tr><tr><td>6</td></tr></table>	1	2	3	4	5	6
1								
2								
3								
4								
5								
6								
255	Validation counter.	255 → [•] → [@ / FOR] → 0 → YX → CA/AT MRS=01 Y: Number of line feed 0-9 X: V.P. count 0-9						

Job #	Meaning	
256	Optional feature selection	256 → [•] → [@/FOR] → ⁰ ABCDEFG → [CA/AT] MRS=0000000 A: PLU shit method 0: Auto, REG & MGR mode 1: Auto, MGR mode only 2: Manual, REG & MGR mode 3: Manual, MGR mode only B: OP X/Z Inhibit./Exist. = 1/0 C: Inhibit VOID TRANSACTION in Reg./Not. = 1/0 D: Inhibit last item void in Reg./Not. = 1/0 E: Inhibit pait item void in Reg./Not. = 1/0 F: Inhibit RF in Reg./Not. = 1/0 G: Journal select./Full print. = 1/0
257	Sentinel amount programming	257 → [•] → [@/FOR] → ⁰ XXXXXXXXXX → [CA/AT] MRS=000000000 \$0.00 - \$99999.99 (Up to 9 digits)
260	Media key programming 1 Treatment of each media key	260 → [•] → [@/FOR] → XX → [@/FOR] → ⁰ DEABC → [#/SBTL] → [CA/AT] (Func. No.) MRS=000 A: Over tender disallowed/Allowed = 1/0 (for check and charges 1-3) B: Validation compulsory./Not. = 1/0 C: Amount tendering compulsory. = 1/0 /Optional for cashes and check. or compulsory./Inhibited for charges 1-3. D: TAX 2 DELETE/Not. = 1/0 E: TAX 1 DELETE/Not. = 1/0 Func. No. CA/AT = 34 CA2 = 35 CH1 = 44 → CH2 = 45 CH3 = 46 CHK = 47
261	Media key programming 2 Upper limit of change due at the time of payment by check	261 → [•] → [@/FOR] → 40 → [@/FOR] → ⁰ XZ → [#/SBTL] → [CA/AT] MRS=98 X: Max = 0-9 Z: HALO = 0-8
262	Media key programming 3 Limit on the number of entry digits of each media key	262 → [•] → [@/FOR] → XX → [@/FOR] → ⁰ XZ → [#/SBTL] → [CA/AT] (Func. No.) MRS=98 Func. No. CA2 = 35 CH1-CH3 = 44-46 CHK = 47 X: Max = 0-9 Z: HALO (5media keys) = 0-8
270	Time interval for drawer open count. 0 to 255 seconds	270 → [•] → [@/FOR] → ⁰ XXX → [CA/AT] MRS=0
275	Promotion code programming	275 → [•] → [@/FOR] → ABC → [@/FOR] → XXX → [#/SBTL] → [CA/AT] (PLU code) (Valid only once. Promotion is cancelled. Auto increment from 1 to 5) A: 1 or 2 BC: DPT CODE

Job #	Meaning	
280 281 282	Secret code (4 digits) for PGM1 mode: #280 Z1 (X1/Z1 mode): #281 Z2 (X2/T2 mode): #282	280 281 → [.] → [@/FOR] 282 0 XXXX CA/AT MRS=0000

7-4. PGM programming reading

Job #	Meaning	
110	Dept programming reading	110 → [@/FOR] → [CA/AT]
120	PLU programming reading	120 → [@/FOR] → XXX Start PLU code 0 XXXX END PLU code CA/AT
130	Miscellaneous programming reading	130 → [@/FOR] → [CA/AT]
140	Cashier reading	140 → [@/FOR] → [CA/AT]
240	Tax table reading	240 → [@/FOR] → [CA/AT]

7-5. TEXT preset

1) For a text or name for Job #214, 224, 237, 144, and 254, there are two ways of using a character key and entering a 3-digit code.

2) Fig. 7-1 shows the relation of character keys vs. character. Use the keyboard template that comes with the machine.

↑ RECEIPT	↑ JOURNAL																		
1	2	3	4	½	Ft	F	T	←	→										
!!	¢	!	”	#	\$	%	&	,	(										
)	*	+	,	—	.	/	:	;	<										
=	>	?	@	^	_	‘	{		}							@/FOR	CL		
0	1	2	3	4	5	6	7	8	9							7	8	9	
A	B	C	D	E	F	G	H	I	J							4	5	6	
K	L	M	N	O	P	Q	R	S	T							1	2	3	#/SBTL
U	V	W	X	Y	Z	(SPACE)	(SPACE)	(SPACE)	(DC)							0	00	•	CA/AT

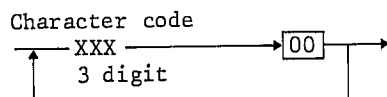
Key sheet code: PSHEZ6698RCZZ

Fig 7-1

DC=Double character

3) Code entry method

In the code entry mode, use the ten key keyboard. See below for the key entry sequence.



Character code

CODE	Chra.	CODE	Chra.	CODE	Chra.	CODE	Chra.
032		060	<	088	X	116	t
033	!	061	=	089	Y	117	u
034	"	062	>	090	Z	118	v
035	#	063	?	091	A	119	w
036	\$	064	@	092	O	120	x
037	%	065	A	093	U	121	y
038	&	066	B	094	Λ	122	z
039	,	067	C	095	—	123	{
040	(	068	D	096	'	124	
041	)	069	E	097	a	125	}
042	*	070	F	098	b	126	ß
043	+	071	G	099	c	127	¢
044	,	072	H	100	d	128	!!
045	—	073	I	101	e	129	1
046	.	074	J	102	f	130	2
047	/	075	K	103	g	131	3
048	0	076	L	104	h	132	4
049	1	077	M	105	i	133	1/2
050	2	078	N	106	j	134	Fr
051	3	079	O	107	k	135	+
052	4	080	P	108	l	136	→
053	5	081	Q	109	m	137	~
054	6	082	R	110	n	138	≈
055	7	083	S	111	o	139	◀
056	8	084	T	112	p	140	▶
057	9	085	U	113	q	141	F
058	:	086	V	114	r	142	T
059	;	087	W	115	s	251	DC

DC: Double code

8. OP X/Z, X1, Z1/X2/Z2 MODE

8-1. OP X/Z mode

IN/OUT TIME PRINTING

1. The following key operation print the date, cashier code and time:

- 1) **[1]** → **PRINT**: Prints the date, cashier code, and time on the left half of the printing area.
- 2) **[2]** → **PRINT**: Prints the date, cashier code, and time on the right half of the printing area.

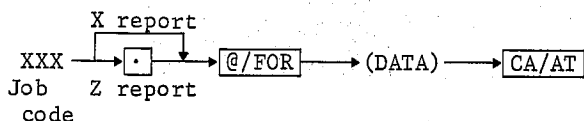
2. Sample prints

01-28-87 A 10:25AM 01/28/87 A 10:25AM

Fig. 8-1

8-2. X/Z mode

Key operation:



X/Z JOB CODE LIST

Job #	Report name	Mode			Data form
		OP X/Z	X ₁	Z ₁ /X ₂ /Z ₂	
1	General	—	X ₁	Z ₁	—
201		—	—	X ₂ /Z ₂ *1	
2	Individual cashier	X/Z	X ₁	Z ₁	Cashier key
4	Hourly	—	X ₁	—	(RANGE)2
5		—	X ₁	Z ₁	—
205	Full cashier	—	X ₁	Z ₁	—
		—	—	X ₂ /Z ₂ *1	
20	PLU block	—	X ₁	Z ₁	(RANGE)1
21	PLU by associated dept.	—	X ₁	—	*2
22	Individual group PLU	—	X ₁	—	*2
23	Full group PLU	—	X ₁	Z ₁	—
30	CID	—	X ₁	—	—

Cashier key: Must be determined before the Job # is entered.

(RANGE)1: XXX → **[@/FOR]** → (XXX);
 "0" can not be entered.

(RANGE)2: (XXXX) → **[@/FOR]** → (XXXX);
 XXXX = 0 - 2330

*1: RAM option required

*2: XX;

XX = 01 - 20 (for specifying dept.)
 01 - 15 (for specifying group)

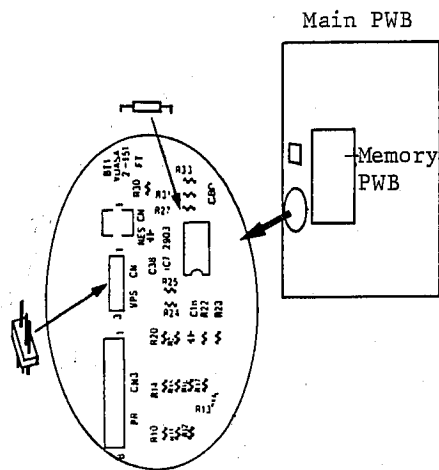


Fig. 9-3

5) Installing the sensor unit

Install the sensor unit in the M2640 printer, in reference to page 21 in M2640 Service Manual (00ZM2640SM/-E).

6) Reassembling

Replace connector and other parts in the reverse sequence.

7) Restoring the data

Load the data from the ER3100 in which the data was saved.

8) Operation check

Executes the Job #108 of the test function.

108 → CA/AT
Display
U0 P1

When validation paper loaded = U1
When validation paper unloaded = U0

9-2. Near end sensor (DKIT-8226RCZZ)

Component parts:

DUNKTK8296RCZZ: Near end sensor unit, with connector and screws

Installation:

1) Protecting data

If there is no need of saving the data, you may proceed to a next step without executing this step.

The contents of the memory of the ER3100 to be installed with the option must be saved in the data saving unit consisting of the ER3100 and ER01FD, using the cable (QCNW-6952RCZZ).

2) Removing the cabinet

Remove the cabinet in reference to 1-2).

3) Removing the main PWB

Remove the main PWB in reference to 1-3).

4) Installing parts on main PWB

Install and solder the 2-pin connector on the main PWB (Fig. 9-4).

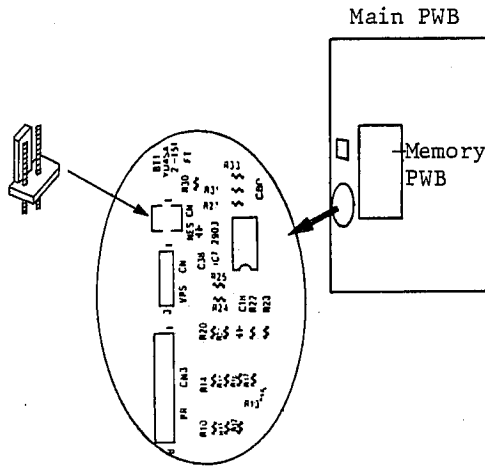


Fig. 9-4

5) Installing the sensor unit (Fig. 9-5)

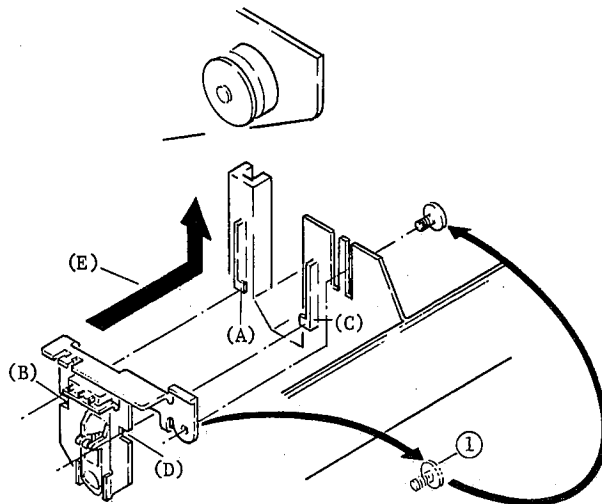


Fig. 9-5

Remove the sensor unit adjusting screw. Match the journal guides (A) and (C) to points (B) and (D) of the sensor unit, and install the sensor unit in the arrow direction (E). Then, secure it with the adjusting screw ①.

6) Fasten the connector removed at 4) with the connector from the sensor unit.

7) Replace the main PWB and the cabinet.

8) Restoring the data

Load the data saved from the ER3100 in which the data was saved.

9) Operation check

Executes the Job #108 of the test function.

108 → CA/AT
Display
U0 P0

When paper loaded = P1
When paper unloaded = P0

Adjustment:

Loosen the adjusting screw and adjust the position of the sensor unit.

9-3. Waterproof printer cover (DKIT-8322RCZZ)

Component parts:

GCOVH6884RCZZ: Waterproof printer cover
 GDAI-6658RCZZ: Bracket
 HBDGD6817RCZZ: ER3100 logo plate
 XUPSD30P12000: Screw, M3 × 12, 3 pcs
 XWHS40-08100: Washer, 3 pcs

Installation: (Fig. 9-6)

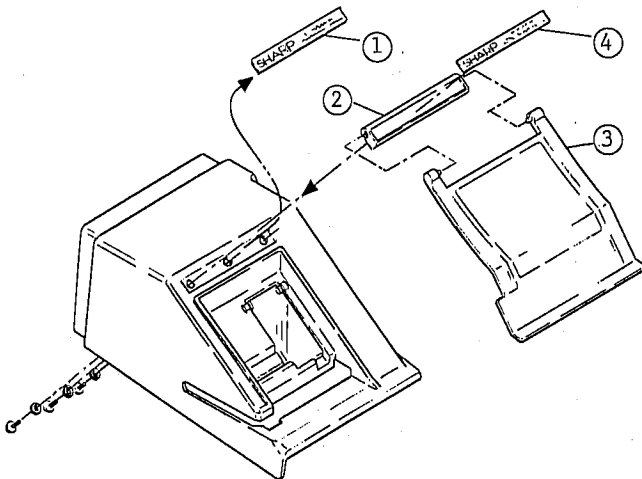


Fig. 9-6

- 1) Remove the printer cover.
- 2) Remove the logo plate ① from the printer cover.
- 3) Install the bracket ② and waterproof printer cover ③.
- 4) Install on the printer cover the components assembled in 3) above and secure it with screws and washers from the back of the printer cover.
- 5) Attach the logo plate ④. The logo plate is contained in the package.

9-4. Drawer open sensor (DKIT-8331RCZZ)

Component parts: DUNT-8332RCZZ

QSW-M6797RCZZ: Microswitch, 1 pc
 PSHEP6635RCZZ: Spacer, 1 pc
 QCNCW6925RCZZ: Wired connector for solenoid, 1 pc
 QCNW-6637RCZZ: Microswitch leads, 1 set
 LX-BZ6728RCZZ: Screw, M3 × 14, 2 pcs

Installation:

- 1) Remove two screws in the drawer bottom plate and separate the drawer from the main body. (Fig. 9-7)

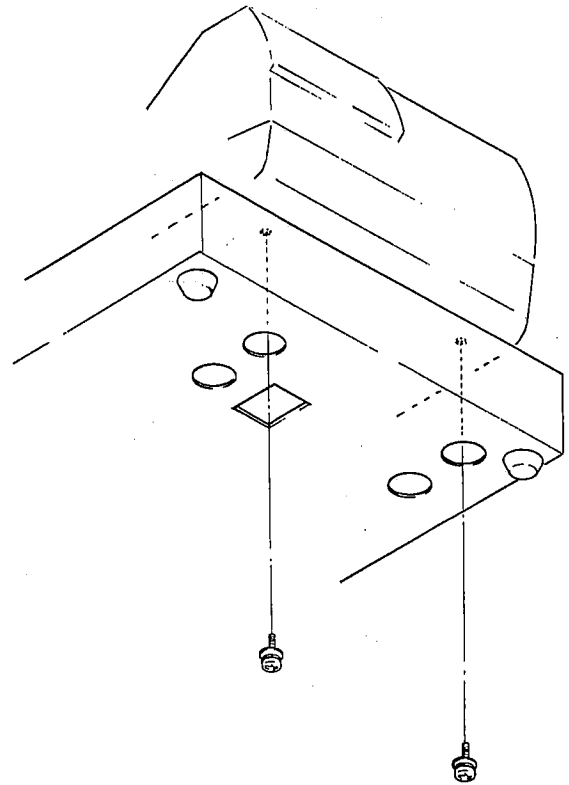


Fig. 9-7

- 2) Remove (the cabinet), drawer connector, from the main PWB.
- 3) Remove the ground wire found on the upper side of the drawer and remove the clamp ① that holds the drawer cable. Unfasten the drawer connector from the main body and completely isolate the drawer from the main body (Fig. 9-8).

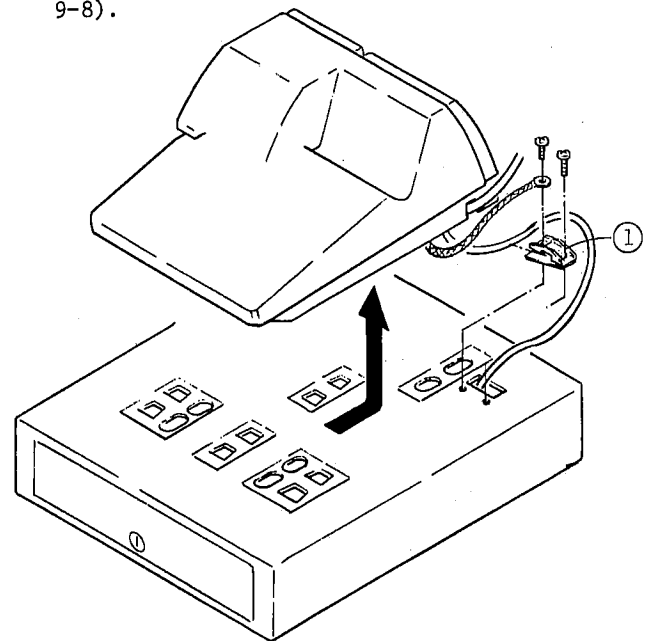


Fig. 9-8

- 4) Remove the drawer bottom plate.
- 5) Remove two nuts and remove the lock unit.

- 6) Unsolder a red lead and a white lead from the solenoid.
- 7) Solder the leads to the microswitch as shown in the Fig. 9-9.

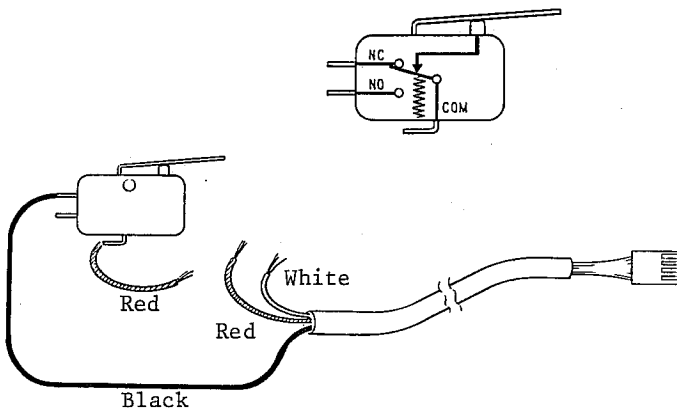


Fig. 9-9

- 8) Solder the rest of leads to the solenoid as shown in the Fig. 9-10.

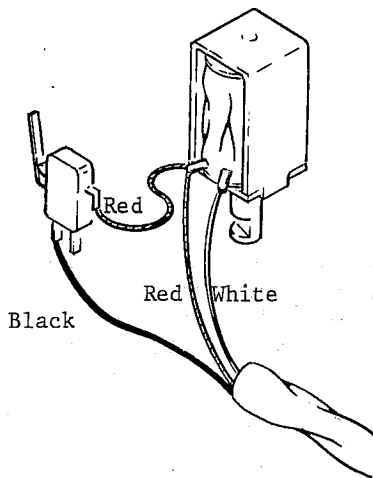


Fig. 9-10

- 9) Install the microswitch on the lock unit as shown in the Fig. 9-11.

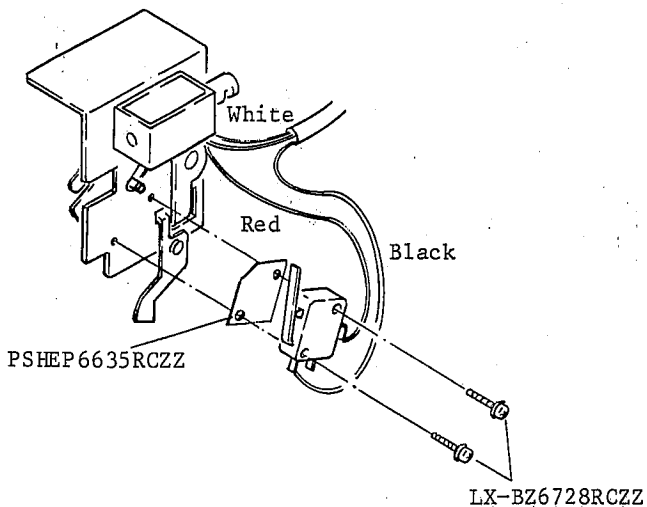
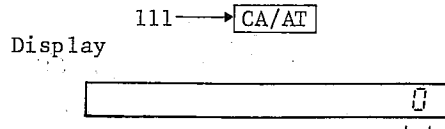


Fig. 9-11

- 10) Install the lock unit in the drawer.

- 11) Secure the drawer connector with the clamp on the drawer upper side. At the same time, hold the ground wire with the clamp together.
- 12) Route the drawer connector through the bottom cabinet and install it on the main PWB.
- 13) (Replace the cabinet.)
- 14) Install the drawer to the main body using the screw saved.
- 15) Operation check

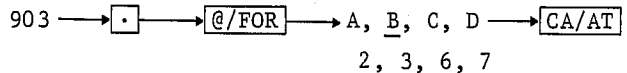
Excutes the Job #111 of the test function.



When drawer open = 0
When drawer close = [

Service programming: (Refer to page 9, 10)

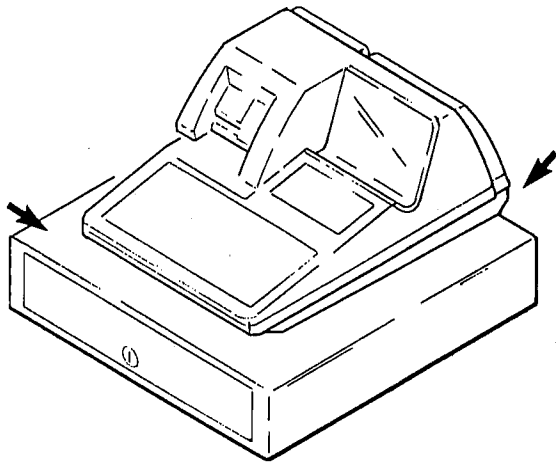
Execute Job #903-B in the SRV mode and enter one of numbers, 2, 3, 6, or 7.



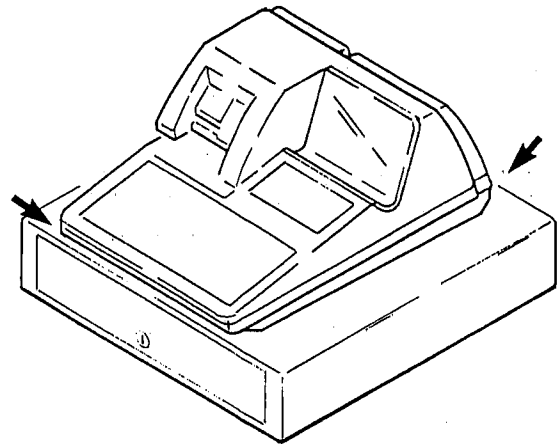
9-5. Changing drawer position

It is possible for the ER3100 to change drawer position.

It had been factory installed that the back of the ER3100 extends beyond the drawer. (Fig. 9-12)

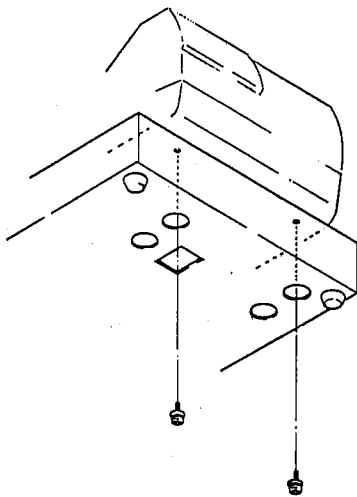


(Fig. 9-12)



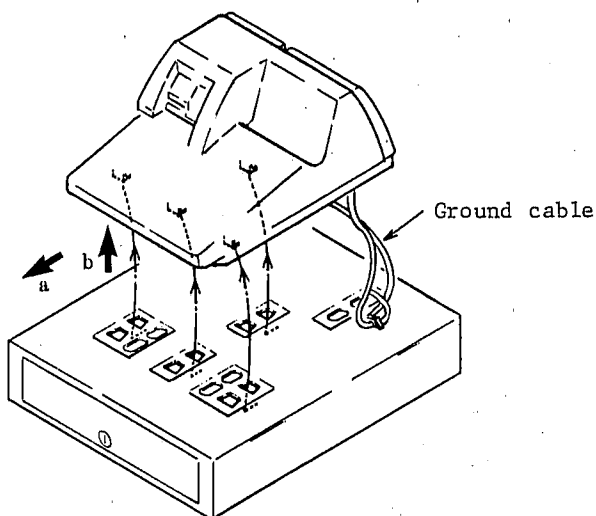
(Fig. 9-13)

- 1) Remove two screws from the bottom of the drawer (Fig. 9-14).



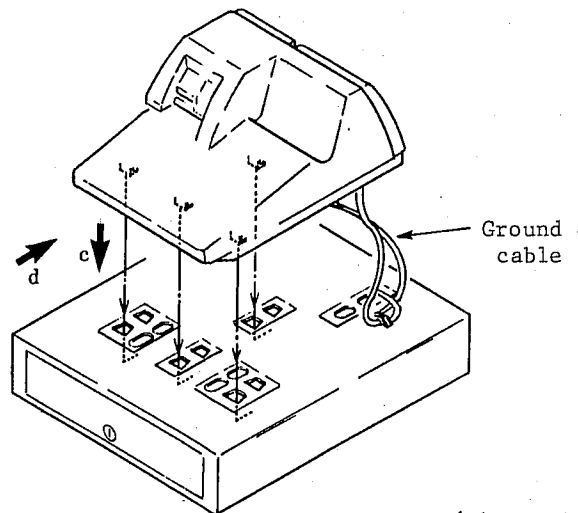
(Fig. 9-14)

- 2) Move the cash register towards the front (arrowhead a) and lift it up (arrowhead b).



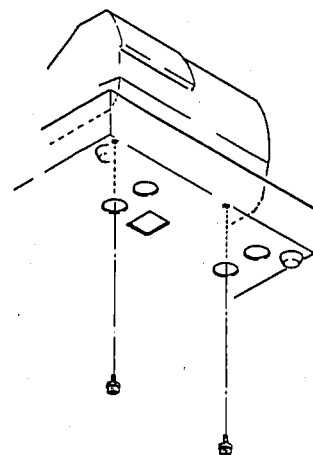
(Fig. 9-15)

- 3) Insert studs under the bottom plate in the holes of the drawer (arrowhead c) and move the cash register towards the rear (arrowhead d).



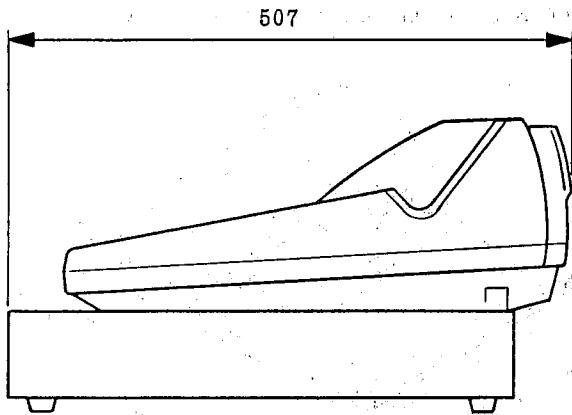
(Fig. 9-16)

- 4) Secure the front side of the drawer with the two screws removed at 1). (Fig. 9-17)

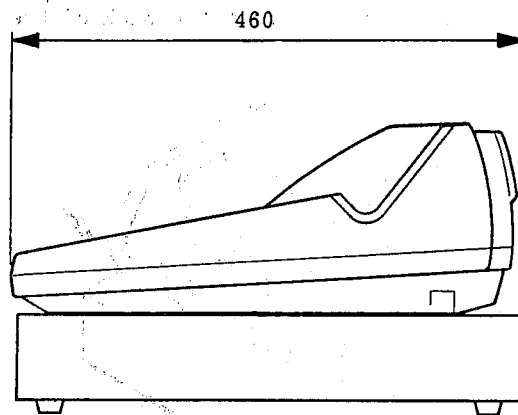


(Fig. 9-17)

5) With this, the dept changes from 507mm to 460mm which become 47mm shorter (Figs. 9-18 and 9-19).



(Fig. 9-18)

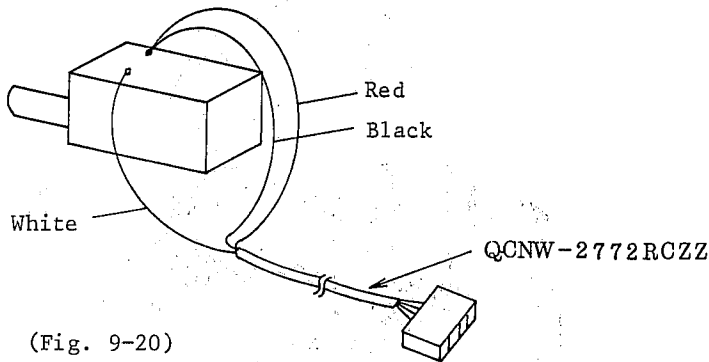


(Fig. 9-19)

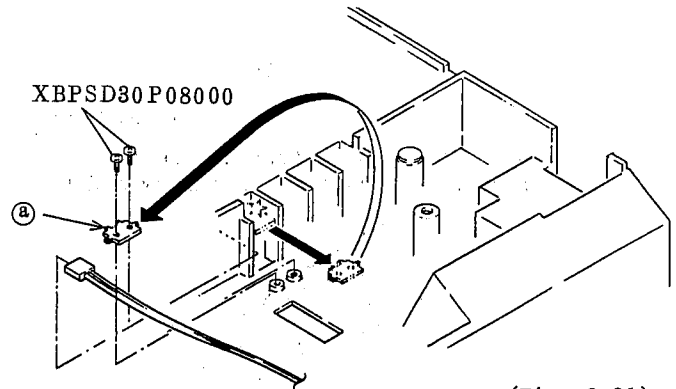
9-6. Separately installing the drawer from the register

To install the register separately from the drawer, the ground cables in Figs. D and E must be removed. The ER34DW3, etc., may be used as a separate drawer. If the drawer of the register is to be used, the drawer cable must be replaced by the 5m long cable (QCNW-2772RCZZ) because the standard cable may not be long enough.

This extension cable is a 3-wire cable. The black wire must be soldered together with the red wire.

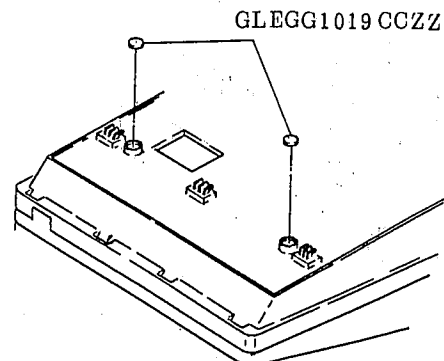


The 3-pin side of the QCNW-2772RCZZ connector must be connected to the drawer connector of the ER3100. Remove from the bottom cabinet the plastic cover (a) under the drawer connection slot use it for a strain relief.



(Fig. 9-21)

Two rubber footings (GLEGG1019CCZZ) must be installed under the bottom cabinet to hold the register stable.



(Fig. 9-22)