SHARP®

ELECTRONIC CASH REGISTER
CAISSE ENREGISTREUSE ELECTRONIQUE

MODEL
MODELE

ER-2385
ER-2395

INSTRUCTION MANUAL
MANUEL D'INSTRUCTIONS (SUPPLEMENT)

CONTENTS

GENERAL

This manual amends and supplements Instruction Manual for the model ER-2385/2395.
This manual outlines details of the New Canadian Tax.

INTRODUCTION

Owing to the recent tax reforms, GST (Goods and Services Tax) is added to the current taxes according to the following. The ER-2385/2395 is in accordance with the new tax rule.

Room - Tax on room charge of hotel
Liquor - Tax on liquor ordered at restaurants
Food - Tax on fast food
PST - Commodity tax on general merchandise
GST - Goods and Services tax

The GST is "value-added tax" or "add-on-tax."
Though the taxes other than GST are "add-on taxes," the taxation method differs from province to province, some provinces using "tax on tax" and some using "tax on base."

Note: The taxes except the GST are hereinafter referred to as "PST" provisionally.

You can select the taxation method from several types as follows. Please consult your dealer.

i) Which is the register's tax (functional) formation? — 2 GST/ 1 PST type, or 1 GST/ 2 PST type
ii) Which is each GST's method? — "value-added tax," or "add-on tax"
iii) Which is the PST's method? — "tax on tax," or "tax on base"

And you can choose whether the register prints the GST or not, though only when the GST is "value-added tax."

When you select the fax formation of 1 GST/ 2 PST type, the GST is assigned as Tax 3 on the register. And when you select the tax formation of 2 GST/ 1 PST type, two GSTs are assigned to Tax 2 and 3 respectively.

When the GST's method is "value-added tax," the tax amount will be printed with a blank instead of $ mark on the receipt.

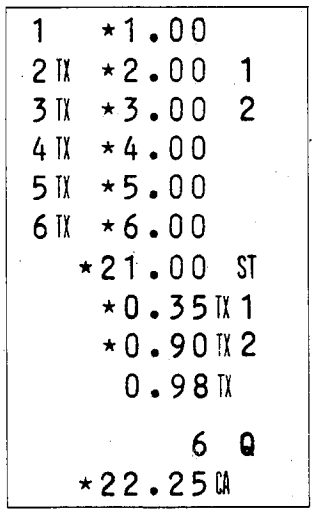
Sample calculation

- **Tax formation — 2 PST/ 1 GST system**

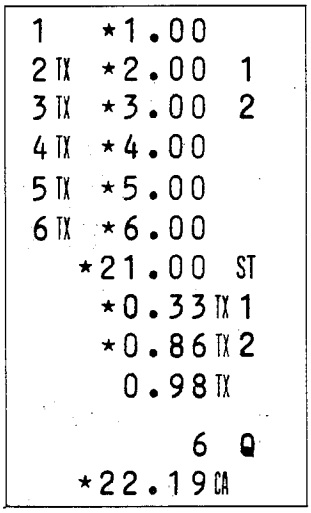
In case of: Tax 1 rate = 5% (for PST)
Tax 2 rate = 10% (for PST)
Tax 3 rate = 7% (for GST)
Dept 01: Non-taxable
Dept 02: Taxable 1 (PST)
Dept 03: Taxable 2 (PST)
Dept 04: Taxable 3 (GST)
Dept 05: Taxable 1 & 3 (PST/GST)
Dept 06: Taxable 2 & 3 (PST/GST)
*The tax will be rounded off to the nearest cent.

Sample calculations are as follows (These sample prints are the ER-2395's):

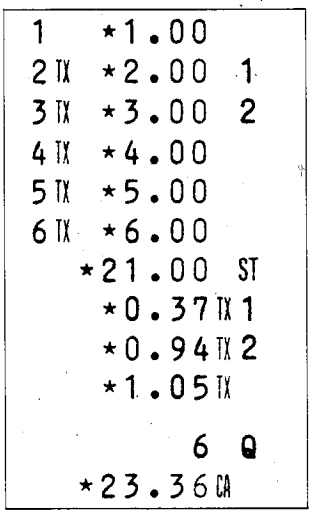
A GST (Tax 3): "value-added tax"
PST (Tax 1 or 2): "tax on tax"



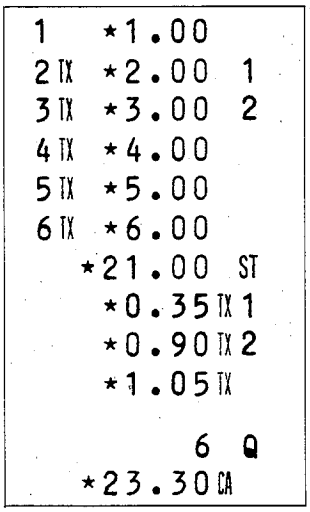
B GST (Tax 3): "value-added tax"
PST (Tax 1 or 2): "tax on base"



C GST (Tax 3): "add-on tax"
PST (Tax 1 or 2): "tax on tax"



D GST (Tax 3): "add-on tax"
PST (Tax 1 or 2): "tax on base"

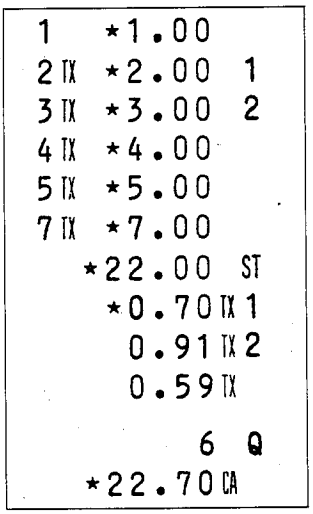


- **Tax formation — 1 PST/ 2 GST system**

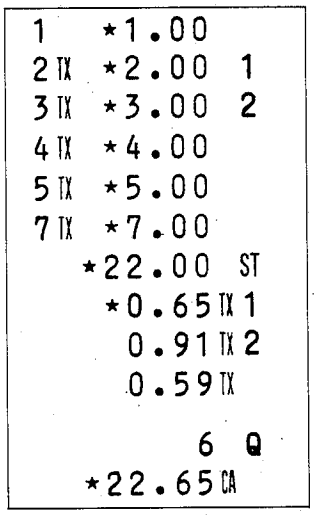
In case of: Tax 1 rate = 5% (for PST)
Tax 2 rate = 10% (for GST)
Tax 3 rate = 7% (for GST)
Dept 01: Non-taxable
Dept 02: Taxable (PST)
Dept 03: Taxable 2 (GST)
Dept 04: Taxable 3 (GST)
Dept 05: Taxable 1 & 3 (PST/GST)
Dept 07: Taxable 1 & 2 (PST/GST)
*The tax will be rounded off to the nearest cent.

Sample calculations are as follows (These sample prints are the ER-2395's):

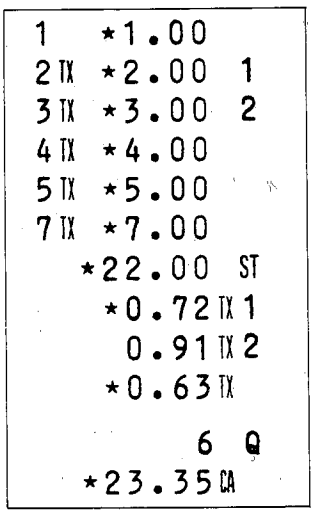
E GST (Tax 2): "value-added tax"
GST (Tax 3): "value-added tax"
PST (Tax 1): "tax on tax"



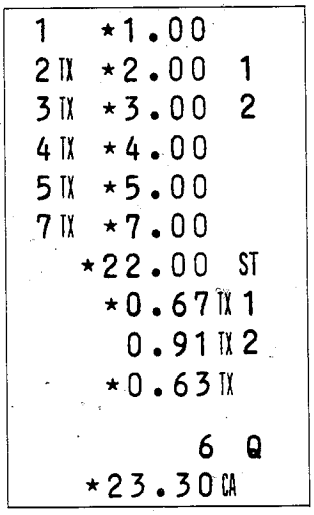
F GST (Tax 2): "value-added tax"
GST (Tax 3): "value-added tax"
PST (Tax 1): "tax on base"



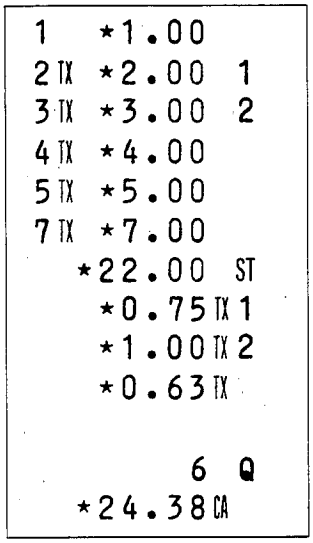
G GST (Tax 2): "value-added tax"
GST (Tax 3): "add-on tax"
PST (Tax 1): "tax on tax"



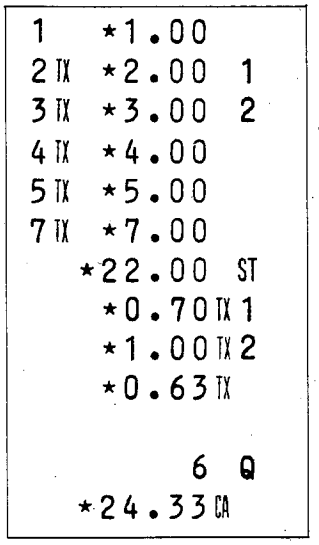
H GST (Tax 2): "value-added tax"
GST (Tax 3): "add-on tax"
PST (Tax 1): "tax on base"



I GST (Tax 2): "add-on tax"
GST (Tax 3): "add-on tax"
PST (Tax 1): "tax on tax"



J GST (Tax 2): "add-on tax"
GST (Tax 3): "add-on tax"
PST (Tax 1): "tax on base"



1. Programming for the automatic tax calculation function

The register has an automatic tax calculation function and allows you to program two tax tables and rates for the function.

Automatic tax calculations require programming, in addition to the tax tables and rates, the tax status of each pertinent department, PLU and function key which will be described later.

(1) Tax table programming (#240) (Applicable to the add-on tax)

1) As an example, refer to the New Jersey tax table below (column A).
New Jersey tax table: 6% rate

	A		B	C
Tax	Minimum breakpoint	Maximum breakpoint	Breakpoint difference (¢)	
.00	.01	.10	—	Non-cyclic
.01 ← T	.11 ← Q	.22	10	
.02	.23	.38	12	Cyclic (I)
.03	.39	.56	16	
.04	.57	.72	18	
.05	.73	.88	16	
.06	.89	1.10	16	
.07	1.11 ← "A" point	1.22	22	
.08	1.23	1.38	12	Cyclic (II)
.09	1.39	1.56	16	
.10	1.57	1.72	18	
.11	1.73	1.88	16	
.12	1.89	2.10	16	
.13	2.11	2.22	22	

The information which must be given to the register for tax table oriented calculations include the following:

R: The Rate (R) is entered as a six-digit number (2-digit integer and 4-digit decimal). Thus, a 6% rate would be entered as 60000. If the rate is fractional (e.g.4-3/8%), then the fractional portion (3/8) would be converted to its decimal equivalent (i.e.,3750) and the resulting rate of 43750 would be entered. Note that the nominal rate (R) is generally indicated on the tax table.
The other values which must be entered for correct table-based tax calculations are as follows:

Q: The smallest sales amount for which tax must be collected. In some states, there are amounts which are not subject to taxation (e.g., if amounts of $0.01 to $0.10 are not taxed, the value of Q - being the smallest taxable amount - would be $0.11).

T: The amount of tax which is associated with the amount Q.

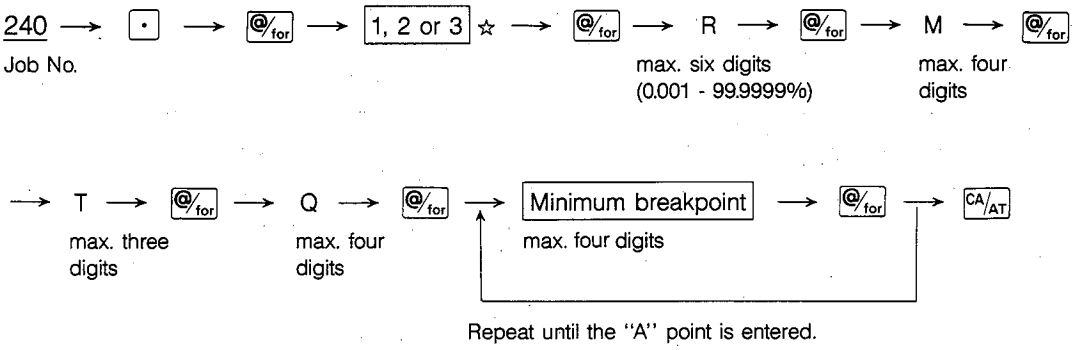
M: This value is associated with the cyclical nature of many tax tables. In fact, the need to support tax tables as opposed to the use of a straight percentage calculation exists because there are amounts where the result of applying the percentage calculation does not result in a tax amount which is the same as the related table amount. The table must, therefore, be used to obtain the data (i.e. the value M) necessary for the register to obtain the correct tax amount. The procedures to obtain this value are as follows:

The tax table must be examined in order to find repeating cycles in terms of the breakpoint differences as indicated in the preceding tax table (note that a 'breakpoint' is that amount at which a tax amount increment takes place).

As you can see from the table, the breakpoint differences indicated by Cycle I repeat in Cycle II. I indicated the tax table's cyclical pattern and thus the value of M is determined by adding the breakpoint difference amounts associated with I (i.e., for purposes of the sample table, this value is 100).

The value of M may be viewed as the taxable amount which is covered by the cycle. Thus, it can be determined by adding all of the breakpoint differences in a cycle or by simply taking the differences between the first breakpoint of the cycle and the first breakpoint of the next cycle.

Procedure



☆ When your tax table is to be programmed as tax table 1, enter "1"; and when it is to be programmed as tax table 2 or 3, enter "2" or "3," respectively.

Note: If you make an incorrect entry before entering the M in programming a tax table, cancel it with the CL key; and if you make an error after entering the M, cancel it with the SBTL key. Then program again from the beginning correctly.

★ Limitations to the entry of minimum breakpoints
The register can support tax tables consisting of no more than 40 minimum breakpoints for tax 1 and of no more than 20 minimum breakpoints for tax 2 and tax 3.
If the number of breakpoints exceeds the register's table capacity, then the manual entry approach should be used.

Example: Programming the sample tax table shown above as tax table 1.

Key operation			Print
	240	[·] [@/for]	6.0000 TX 1
		1 [@/for]	1.00
R →		60000 [@/for]	001 0.11
M →		100 [@/for]	002 0.23
T →		1 [@/for]	003 0.39
Q →		11 [@/for]	004 0.57
		23 [@/for]	005 0.73
		39 [@/for]	006 0.89
The first		57 [@/for]	007 1.11
cyclic		73 [@/for]	
portion		89 [@/for]	
"A" point →		111 [@/for]	
		[CA/AT]	

Note 1) If you make an incorrect entry before entering the M value in programming a tax table, cancel it with the [CL] key; and if you make an error after entering the M value, cancel it with the [SBTL] key. Then program again from the beginning correctly.

Note 2) When you program three tax tables as tax tables 1, 2 and 3, be sure to program tax table 1 first.
When you have programmed three tax tables as tax tables 1, 2 and 3, and need to re-program tax table 1, it is necessary to re-program tax tables 2 and 3 as well because re-programming tax table 1 automatically cancels tax tables 2 and 3. Also when you need to re-program tax table 2, it is necessary to re-program tax table 3 as well.

2) If the tax is not prescribed for every cent, modify the tax table by setting the tax for every cent in the following way.
When setting the tax, consider the minimum breakpoint corresponding to unprescribed tax to be the same as the one corresponding to the tax prescribed on a larger amount.

Sample tax table

TAX	Minimum breakpoint
.00	.01
.01	.11
.02	.26
.03	.47
.04	.68
.06	.89
.09	1.11
.10	1.26
.11	1.47
.12	1.68
.14	1.89
.17	2.11

Modification of the tax table on the left

Tax	Minimum breakpoint	Breakpoint difference (¢)	
.00	.01	1	Non-cyclic
.01 ←	.11 ←	10	
.02	.26	15	Cyclic
.03	.47	21	
.04	.68	21	
.05	.89	21	
.06	.89	0	
.07	1.11 ← "A" point	22	
.08	1.11	0	
.09	1.11	0	
.10	1.26	15	Cyclic
.11	1.47	21	
.12	1.68	21	
.13	1.89	21	
.14	1.89	0	
.15	2.11	22	
.16	2.11	0	
.17	2.11	0	

From the modified tax table above:
"A" point = 1.11, R = 8(%), M = 100, T = $0.01 = ¢1, Q = 0.11 = ¢11

(2) Tax rate programming (#241)

241 → [·] → [@/for] → [1, 2 or 3] ☆ → [@/for] → [Tax rate] →

Job No.

max. six digits:
0.0001 to 99.9999%

→ [@/for] → [Smallest taxable amount] → [CA/AT]

max. four digits:
¢1 to $99.99

☆ When you program a tax rate as tax rate 1, enter "1"; and when you program it as tax rate 2 or 3 enter "2" or "3" respectively.

Example: Programming the tax rate 8.0000% as tax rate 2 with tax exemption as $4.01.

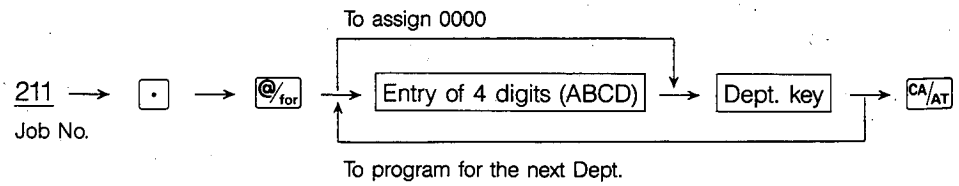
Key operation		Print
241	[·] [@/for]	8.0000 TX 2
2	[@/for]	4.01
80000	[@/for]	
401	[CA/AT]	

2. Programming for departments

- **Specifying the tax status and sign (#211)**

  This job assigns the tax status and plus or minus sign for an individual department.

Procedure



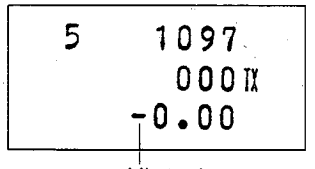
Function	Choice	Entry
A Tax 3	non-taxable taxable	0 1
B Tax 2	non-taxable taxable	0 1
C Tax 1	non-taxable taxable	0 1
D Sign	plus minus	0 1

Initial setting: 0000

Example: When programming dept. 5 as a minus department

Key operation	
211	• @/for
1	5
	CA/AT

Print



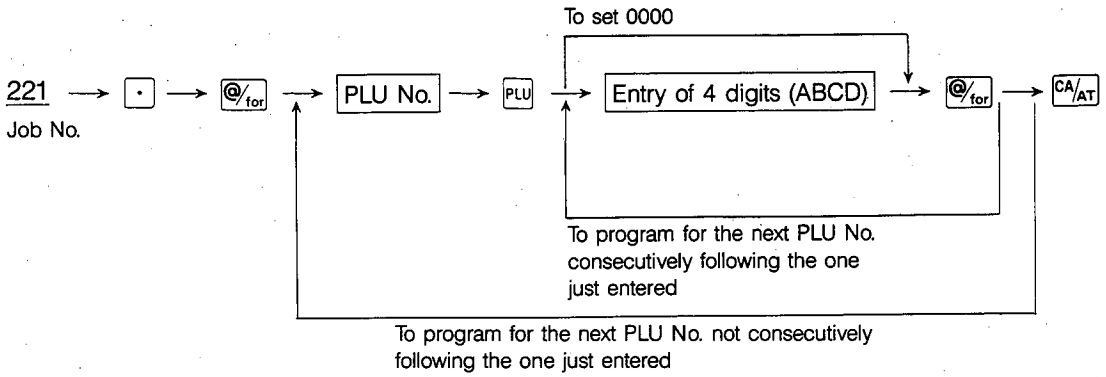
Minus department

3. Price look-up (PLU) programming

- **Specifying the tax status and sign (#221)**

  This job assigns the tax status and plus or minus sign for an individual PLU number.

Procedure



	Function	Choice	Entry
A	Tax 3	non-taxable taxable	0 1
B	Tax 2	non-taxable taxable	0 1
C	Tax 1	non-taxable taxable	0 1
D	Sign	plus minus	0 1

Initial setting: 0000

Example: When setting "taxable" for tax 1 and tax 3 and "non-taxable" for tax 2 and plus sign for PLU No. 10

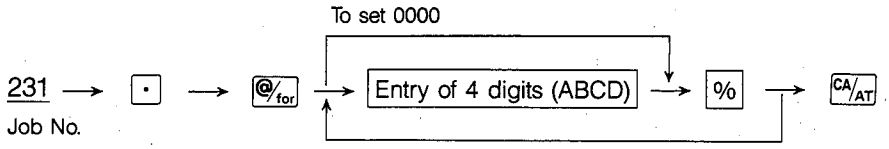
Key operation	Print
221 · @/for 10 PLU 1010 @/for CA/AT	PL10 101TX 510 10.00

* When setting "taxable for tax 1, "TX" and "1" are printed, and when setting "taxable" for both tax 3 or double taxation, only "TX" is printed.

4. Programming for the ⊖ or percent key(s)

- **Specifying the tax status and plus or minus sign to ⊖ or the percent key(s) (#231)**
  You can specify the tax status and plus (premium) or minus (discount) sign to the ⊖ or percent key(s).

Procedure



	Function	Choice	Entry
A	Tax 3	non-taxable taxable	0 1
B	Tax 2	non-taxable taxable	0 1
C	Tax 1	non-taxable taxable	0 1
D	Sign	plus minus	0 1

Initial setting: 0001

Example: When assigning "non-taxable" for tax 2 and tax 3, "taxable" for tax 1 and the plus (premium) sign to the % key.

Key operation	
231	· @/for
1011	%
101	⊖
	CA/AT

Print

Tax 1

```
101 TX
-5.00% 1
010 TX
97e
```

5. Reading the program contents

(1) Reading the program contents for departments (#110)

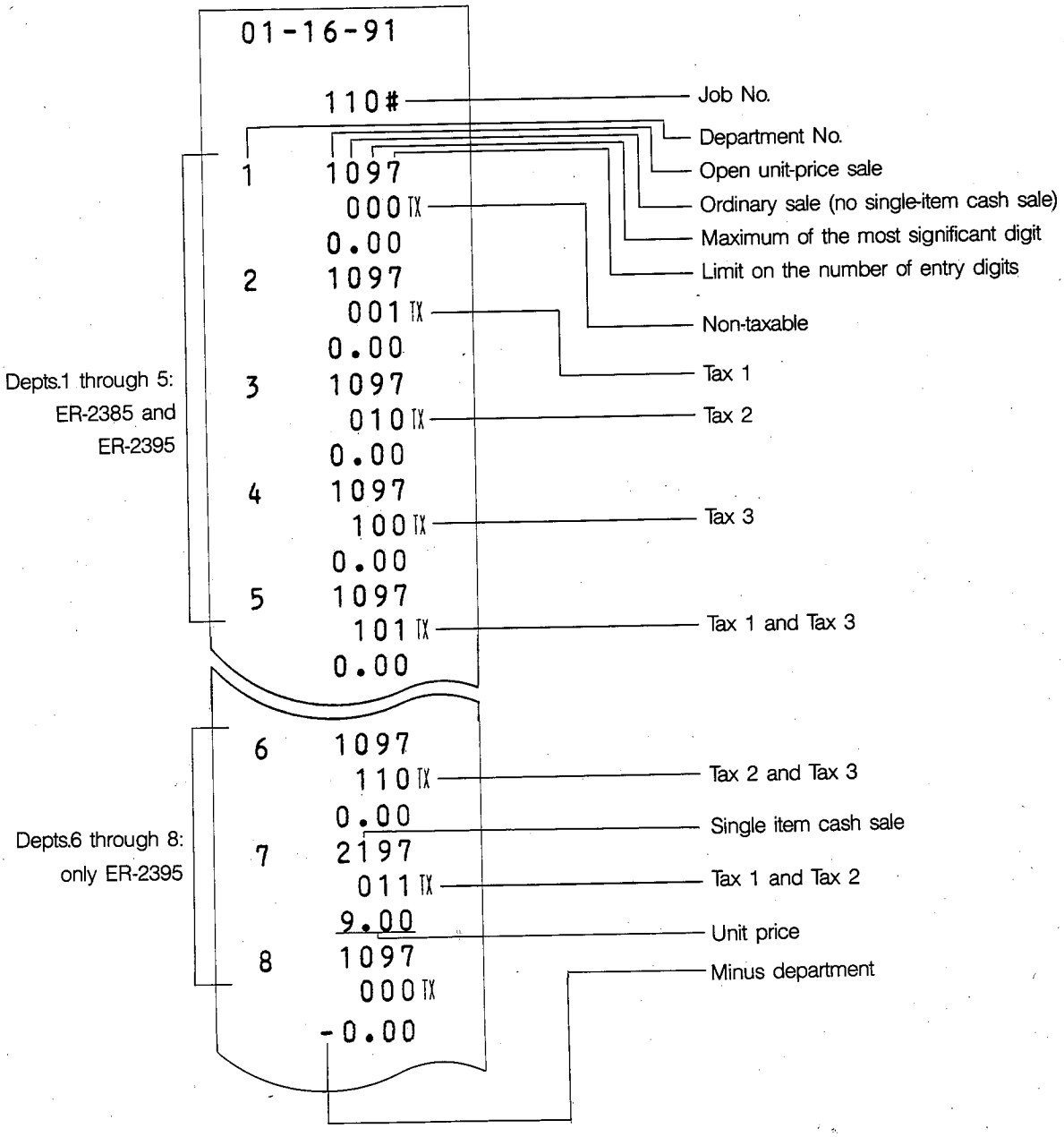
To check the programs stored for departments, proceed as follows.

Procedure

110 → [@/for] → [CA/AT]

Job No.

Sample print



(2) Reading the program contents for PLUs (#120)

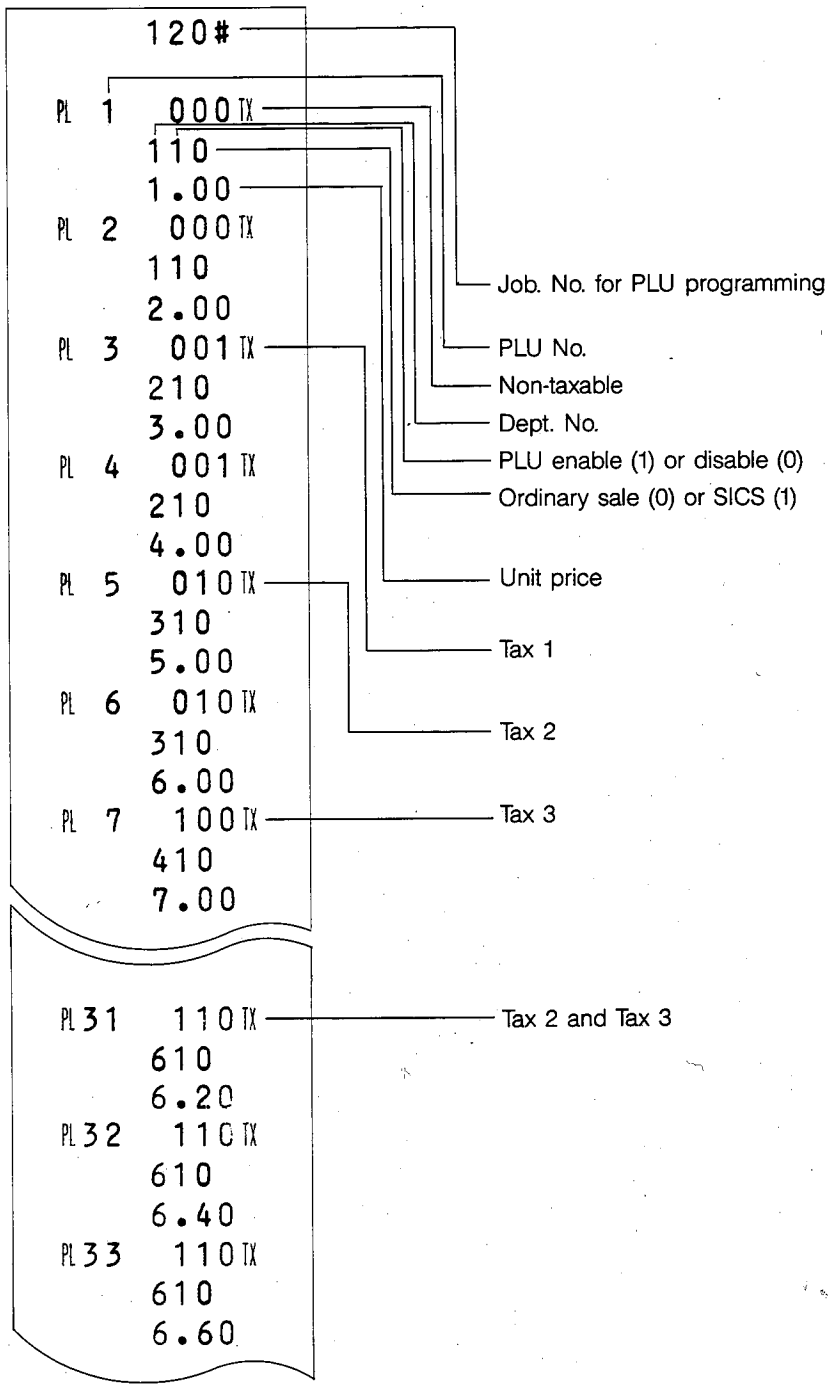
To check the programs stored for PLUs, proceed as follows.

Procedure

120 → [@/for] → [CA/AT]

Job No.

Sample print



(3) Reading the other program contents (#130)

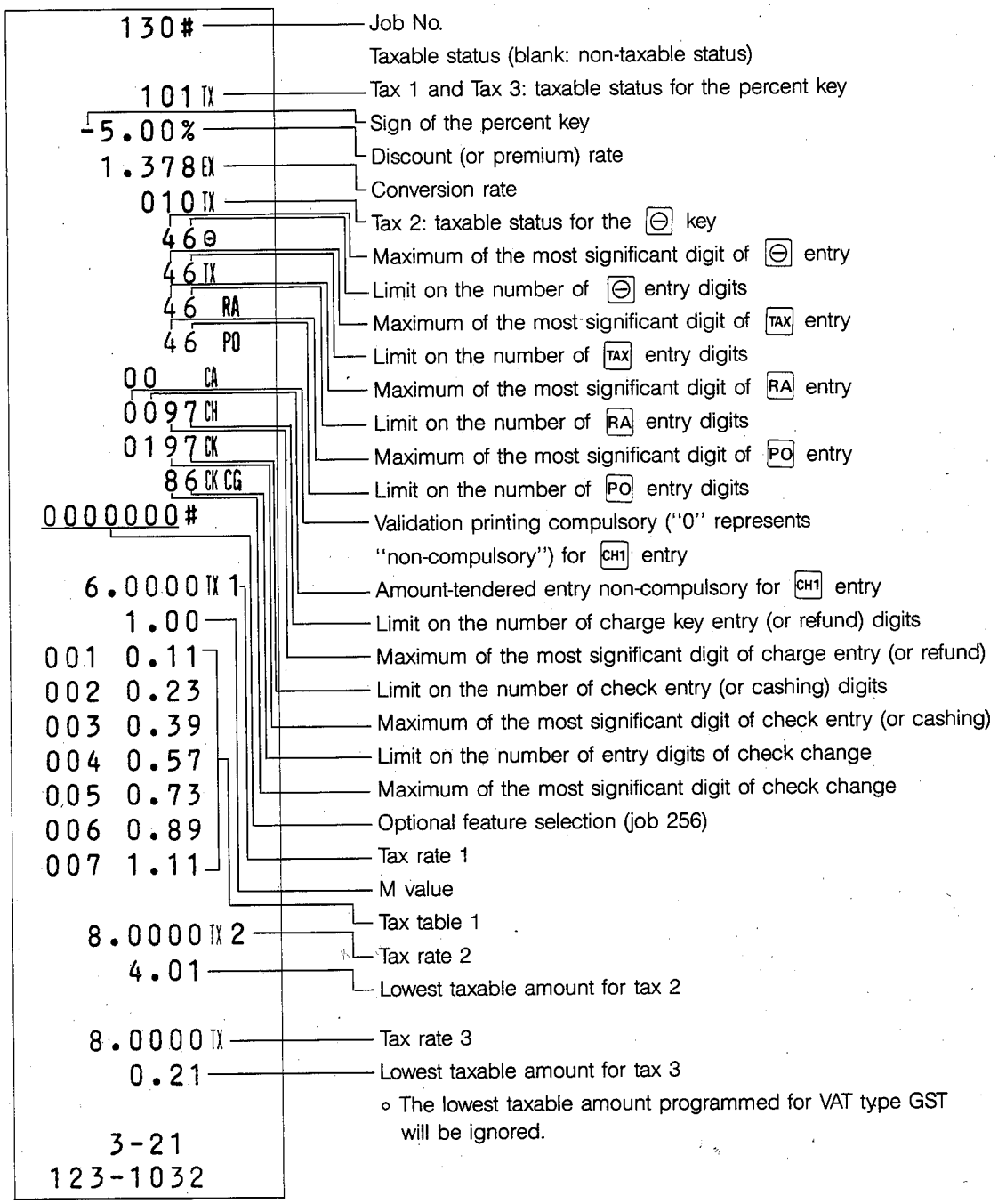
To check the program contents other than those for departments and PLUs, proceed as follows.

Procedure

130 → [@/for] → [CA/AT]

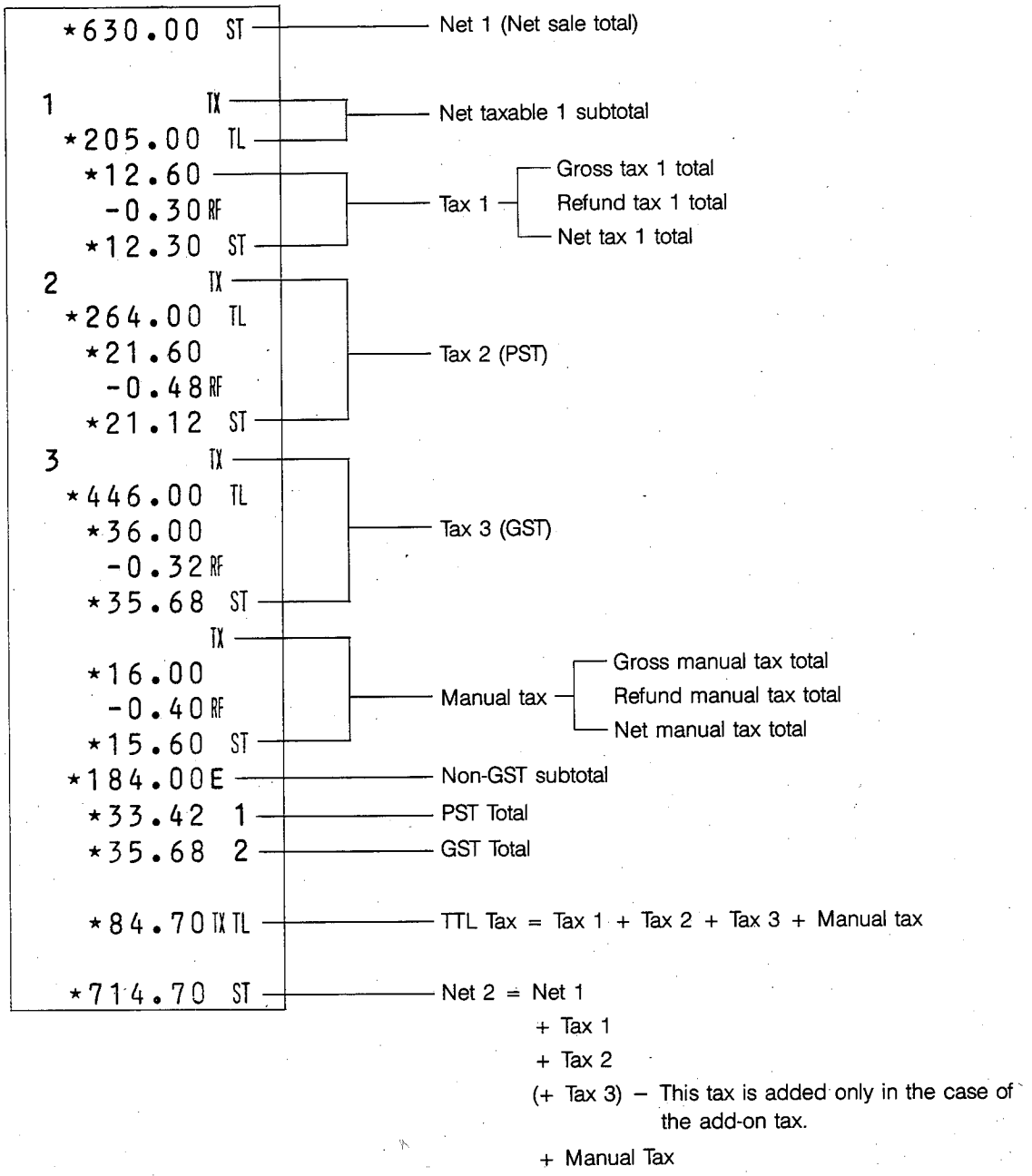
Job No.

Sample print



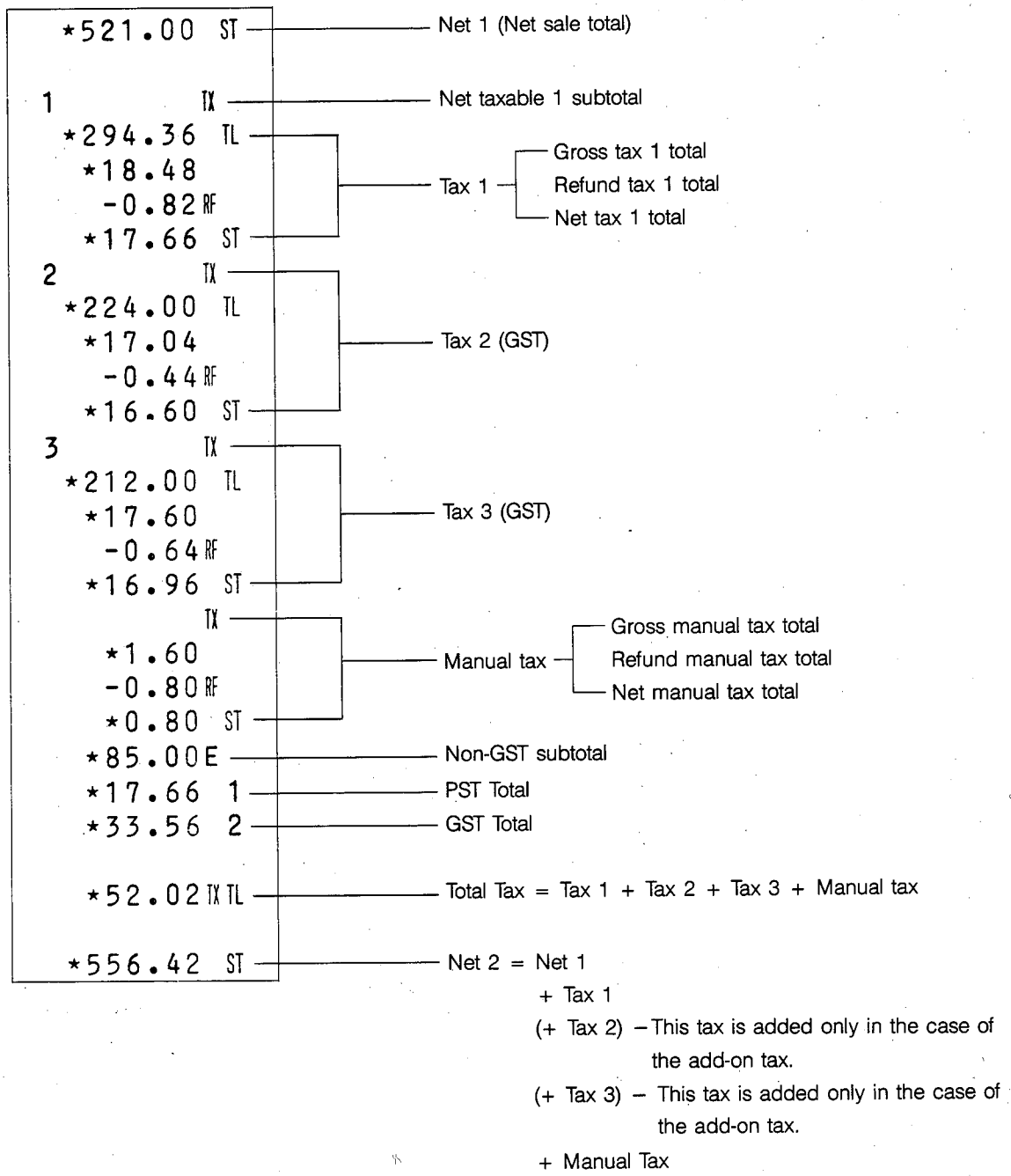
6. Reading and resetting of sales totals

2-PST/1-GST system (Tax 2 is PST)



The above report sample presumes that the Tax-on-base method is used for PST (Tax 1 and Tax 2) while the Add-on-tax method is used for GST (Tax 3).

1-PST/2-GST system (Tax 2 is GST)



The above report sample presumes that the Value-add-tax method is used for Tax 1 (GST) and the Add-on-tax method for Tax 3 (GST) while the Tax-on-tax method is used for PST (Tax 1).

7. Display of subtotals

The current subtotal can be displayed at any time during registrations by pressing the SBTL key.

(1) Subtotal:

When the SBTL key is pressed at any point during a transaction, the current sale subtotal will appear on the display. (In the Auto-tax mode, full subtotal (tax-inclusive) is displayed.)

(2) Merchandise subtotal:

When the MDSE SBTL key is pressed at any point during a transaction, the current net sale subtotal (tax-exclusive) will appear on the display.

(3) Taxable subtotal:

When a single tax is applied to a transaction, the current subtotal of taxable 1, 2 or 3 items can be displayed with the following procedure.

Taxable 1 subtotal

When the TAX1 SHIFT and SBTL keys are pressed in this order at any point during a transaction, the current subtotal of sale of taxable 1 items will appear on the display.

Taxable 2 subtotal

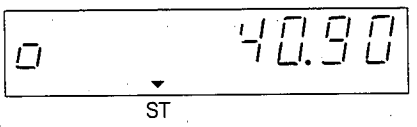
When the TAX2 SHIFT and SBTL keys are pressed in this order at any point during a transaction, the current subtotal of sale of taxable 2 items will appear on the display.

Taxable 3 subtotal

When the TAX3 SHIFT and SBTL keys are pressed in this order at any point during a transaction, the current subtotal of sale of taxable 3 items will appear on the display.

- When two taxes are applied to a transaction, the current subtotal of taxable items cannot be displayed.

Example:

Key operation		Display
1500	[1]	
5	[@/for]	
(500)	[3]	
	[SBTL]	

Omissible when using the preset value

8. Automatic tax

When the register is programmed with tax tables (or tax rates) and the tax status (taxable or non-taxable for tax 1, tax 2 and/or tax 3) for individual departments and PLU numbers, upon entry of a sale it computes the tax amount automatically according to the program, and the tax amount is added to the amount of the sale.

Example: When selling five $6.70 items (dept. 4, taxable 1) and three $1.00 items (PLU No. 1, taxable 2) for cash

Key operation		Print
5	[@/for]	5 Q
670	[4]	6.70 @
3	[@/for]	4 Ⅱ*33.50 1
1	[PLU]	3 Q
		1.00 @
		R 1
		Ⅱ *3.00 2
		*36.50 ST
		*2.01 Ⅱ1
		*0.12 Ⅱ2
		8 Q
		*38.63 CA

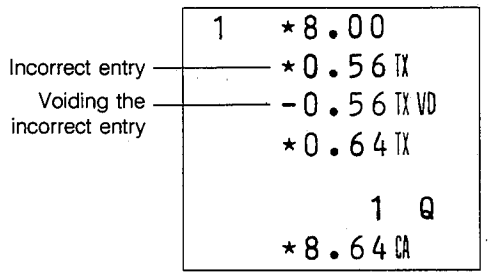
9. Manual tax

After entry of a sale, you can enter the tax amount manually before finalization. Key in the tax amount and press the [TAX] key after the entry of the sale is made. Correction is made by pressing the [VOID] key directly after pressing the [TAX] key.

Example: When selling an $8.00 item (dept. 1) for cash with ¢64 as tax.
(Correction is made after keying in ¢56 and then ¢64 is entered.)

Key operation	
800	[1]
(56	[TAX])
(	[VOID])
64	[TAX]
	[CA/AT]

Print



10. Tax status shift

The register allows you to change the tax status programmed for each department or PLU No. by pressing the [TAX 1 SHIFT], [TAX 2 SHIFT] and/or [TAX 3 SHIFT] key. You can turn on and off (make valid or invalid) the taxable status for tax 1, tax 2 and tax 3 by pressing the [TAX 1 SHIFT], [TAX 2 SHIFT] and [TAX 3 SHIFT] keys, respectively. However, if departmental or PLU entry results in PST or GST double taxation, such entry is rejected as error (PST includes Room, Liquor and Food taxes.)

Example: When selling the following items for cash with their programmed tax status changed.

- One $10.00 item of dept. 1 (non-taxable) as a taxable 1 item
- One $6.20 item of PLU No. 31 (taxable 2 and 3) as a taxable 1 and 3 item
- One $50.00 item of dept. 5 (taxable 1 and 3) as a taxable 2 and 3 item

Key operation			
1000		[TAX 1 SHIFT]	[1]
31	[TAX 1 SHIFT]	[TAX 2 SHIFT]	[PLU]
5000	[TAX 1 SHIFT]	[TAX 2 SHIFT]	[5]

Print

```
1 TX *10.00  1
PL 31
  TX  *6.20
5 TX *50.00
    *66.20  ST
     *0.97 TX 1
     *4.00 TX 2
     *4.50 TX
           3  Q
    *75.67 CA
```

11. Tax delete

When a single tax is applied to a transaction, you can delete the automatic taxation on taxable items for those customers who are exempted from such taxation. Press the [TAX] key while the subtotal is on display, and the tax is excluded from the total. When two or more taxes are applied to a transaction, the tax delete function can not be used.
Also when the VAT method is programmed for GST, this function is ineffective.

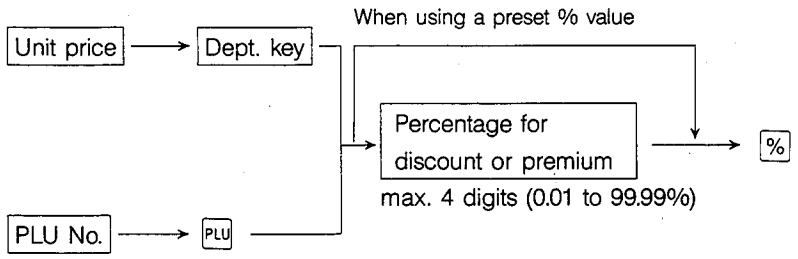
Example: When selling a $10.00 item (dept. 2, taxable) and entering the sale as a non-taxable one.

Key operation	Print
1000 [2]	2 TX *10.00 1
[TAX 1 SHIFT]	*0.00 TX1
[SBTL]	
[TAX]	1 Q
[CA/AT]	*10.00 CA

12. Percent calculations (premium or discount)

(1) Percent calculation for item registrations

Discount or premium registration for an item is made by entering a percent value and pressing the percent key after pressing the department key or [PLU] key.
(When a preset percent value is to be used, entry of the percent value is omitted.)



Example: You sell one $28.00 item (dept. 4) at a 5% discount.

Key operation

2800 [4]
(5) [%]
[CA/AT]

Omissible when using the preset value

Print

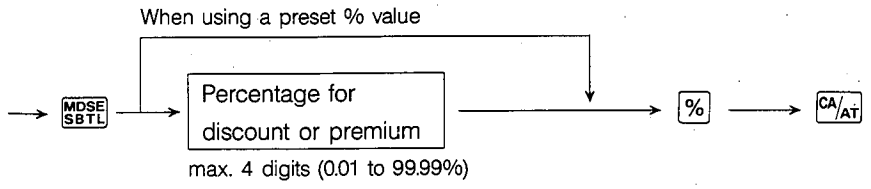
```
4 TX *28.00
   -5.00%
4 TX  -1.40
   *26.60 ST
    *2.13 TX
          1 @
   *28.73 CA
```

Percent calculation for an item preset as a minus department is impossible. The programmed tax status can be changed by pressing the [TAX 1 SHIFT], [TAX 2 SHIFT] and/or [TAX 3 SHIFT] key before pressing the percent key. However, if departmental or PLS entry results in PST or GST double taxation, such entry is rejected as an error. (PST includes Room, Liquor and Food taxes.)

(2) Percent calculation for subtotals

Discount or premium registration for a merchandise subtotal is made by pressing the [MDSE SBTL] key after transaction entry.

No percentage entry is allowed if a valid key is pressed after the press of the [MDSE SBTL] key and before the press of the percentage key.



Example: You sell one $20.00 item (dept. 4) and six $5.00 items (dept. 3) with an 8% discount on the subtotal.

Key operation

2000 [4]
6 [@/for]
(500) [3]
[MDSE SBTL]
(8) [%]
[CA/AT]

Omissible when using the preset value

Print

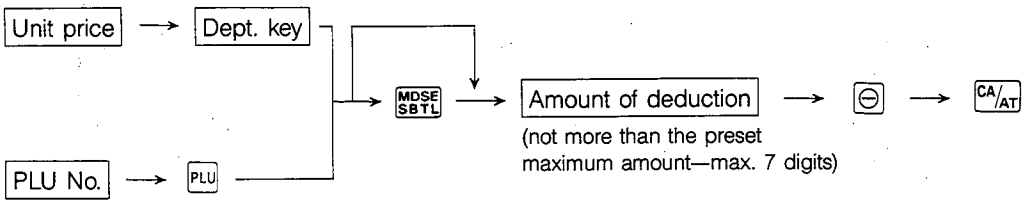
```
4 TX*20.00
          6 Q
       5.00 @
3 TX*30.00  2
   *50.00 ST
   TX
        -8%
    -4.00
   *46.00 ST
    *2.40 TX 2
    *1.47 TX
          7 Q
   *49.87 CA
```

Percent calculation for a minus subtotal is impossible.

The programmed tax status can be changed by pressing the [TAX 1 SHIFT], [TAX 2 SHIFT] and/or [TAX 3 SHIFT] key before pressing the percent key.

13. Deduction registrations

Deduction (price reduction) registration is made by entering the amount of deduction and pressing the ⊖ key after pressing the department or PLU key or the MDSE SBTL key.



Example: You sell one $7.50 item (dept. 4) and one $8.60 item (dept. 3), deducting the last 10 cents.

Key operation

750 [4]
860 [3]
([MDSE SBTL])
10 ⊖
[CA/AT]

Print

```
4 TX  *7.50
3 TX  *8.60  2
    *16.10  ST
  TX -0.10⊖2
    *16.00  ST
     *0.68 TX2
     *0.60 TX

            2 Q
    *17.28 CA
```

The programmed tax status can be changed by pressing the TAX1 SHIFT, TAX2 SHIFT and/or TAX3 SHIFT key before pressing the ⊖ key. However, if a change results in PST or GST double taxation, such change is rejected as an error. (PST includes Room, Liquor and Food taxes.)

The totalizers and counters accept up to 8 and 4 digits respectively for deduction. Deduction registration can not be made for minus preset items and minus subtotals. The repeat function, indirect void function and multiplication function are invalid for deduction.