DIGI®
When Accuracy Counts

DI-80

Indicator

Operation Manual

RICE LAKE WEIGHING SYSTEMS
Industrial Solutions on a Global Scale®

ISO 9001 REGISTERED

73357

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1. INTRODUCTION

The DI-80 series is a general purpose weighing indicator for use in a variety of weighing, check weighing, counting systems. It can operate up to two analogue scales.

The DI-80 features, in its basic configuration, two scales interface, 1,000 item memory, back light LCD display with color bars, battery operation, fully isolated setpoint interface, one serial interface. For more complex application, expansion modules; built-in thermal printer, analogue output interface (will be available near future), and RS-232C/485 interface are available.

1.1. Display

7 Digits LCD display
Color Weight Checker Bars
17 digits dot matrix display (5 x 8 dots) for alphanumeric display
CCFL Back Light
Indicators: Zero, Net/Gross, Stable, Tare, Battery
Weight Base Indicator: kg, oz, g, dwt, lb and (Pcs)

1.2. A/D Section

A/D Conversion Speed: 30 times per sec. (at 1mV/V)
Internal Resolution: 1/500,000 or 1,000,000
Display Resolution: 2500d - 10,000
Excitation Voltage: 12VDC
Scale Channel: 2 scale channels
Number of Load Cells: Total 8 x 350 ohm load cells in parallel configuration (total load cells of scale 1 and 2)
Remote Sensing function
Input Sensitivity: 0.4mV/V to 4.0mV/V
Scale Interface: Amphenol 14 pin

1.3. Item Memory

1,000 item memory as standard (Expandable up to 2,000 item memory as factory option). Memory fields of item code are as follows;

Parameter	Max Length	Programmable Character
Item Code	12 or 16	Alphanumeric or Numeric
Part Number	12 or 16	Alphanumeric or Numeric
Part Name	20	Alphanumeric
Tare Weight	5	Numeric
Unit Weight	5	Numeric
Inventory	8	Numeric
Setpoint 1	6	Numeric
Setpoint 2	6	Numeric
Setpoint 3	6	Numeric
Setpoint 4	6	Numeric

1.4. Environment

Power Supply :	9VDC to 15VDC Input 1.5A or 6 pcs of D size battery (Via solder bridges, Di-80 can be configured for dry cell battery drive or rechargeable battery drive.)
Operating Temperature :	-10°C to 40 °C
Operating Humidity :	15% to 85% RH

1.5. Interface

SETPOINT INTERFACE :	Max 35VDC 500mA
RS-232C INTERFACE :	The device to be connected can be selected by internal specification. • BAR-CODE SCANNER (PSC QUICKscan 6000 series) • BAR-CODE PRINTER (ELTRON LP2622 series) • PC

1.6. Option

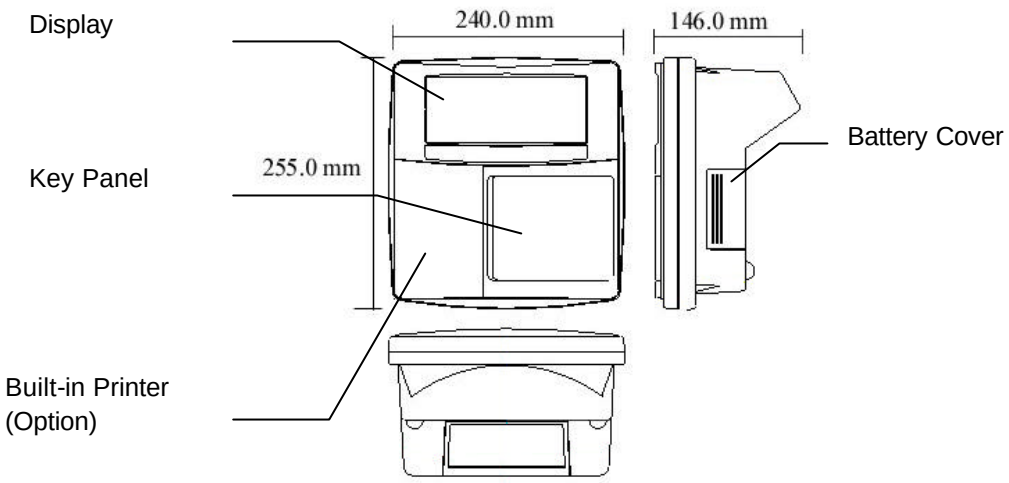
OP1 BUILT IN THERMAL PRINTER
The built-in printer module
Thermal serial dot printer (SEIKO MTP201)
Paper Size : 50mm diameter (58mm width)

OP2 RS-232/RS-485 Interface board
Optional interface board has RS-232C interface and 2 x RS-485 interface. It can be plugged into the interface socket of the CPU board.

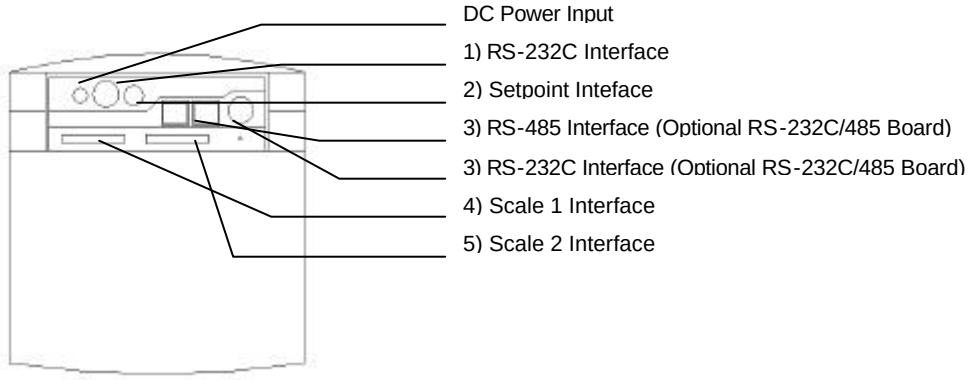
OP3 Analogue Output Interface board (will be available near future)
Optional analogue output board provides an analogue output signal with 11 bit resolution (Max 2000d). Via jumper switch, it can be configured for current output (4-20mA) or voltage output (0-10V). It can be plugged into the interface socket of the CPU board.

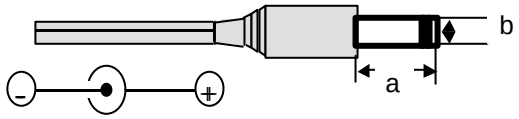
2. CONFIGURATION

2.1. Dimensions



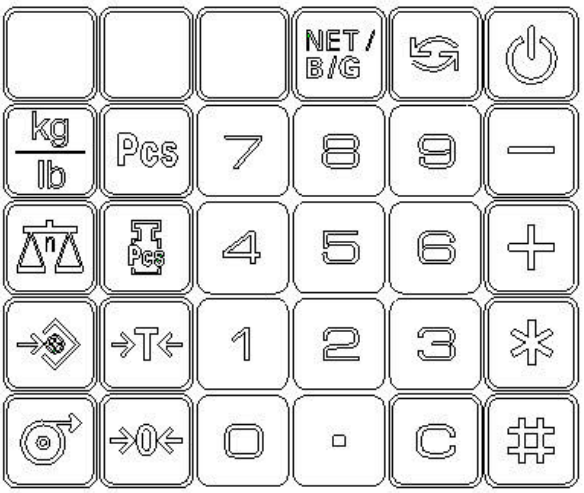
2.2. External Connectors



	DC Power Input		 a): 9.5± 0.5mm b): Inside (-) 2.1± 0.5mm Outside (+) 5.5± 0.5mm
1	RS-232C Interface		DIN 8 Pin (Female)
2	Setpoint Output Interface		Mini DIN 8 pin (Female)
3	RS-232/485 Interface	RS-232C	DIN 8 Pin (Female)
		RS-485	RJ45(8 Pin)
4	Scale 1 interface		Amphenol 14 pin
5	Scale 2 Interface		Amphenol 14 pin

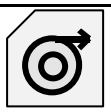
2.3. Control Panel

2.3.1. Keyboard Keys

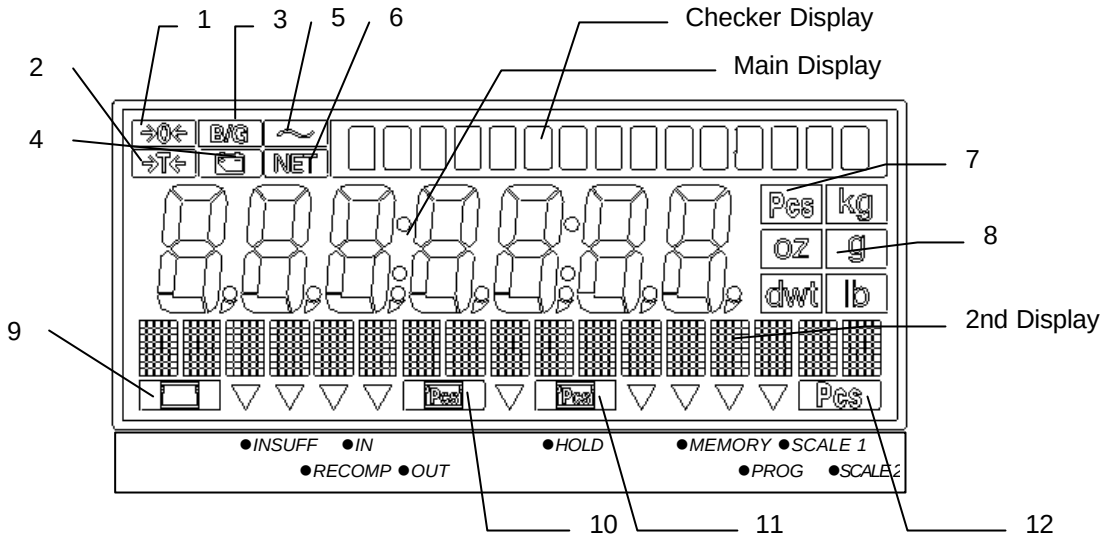


	ON/STAND BY KEY: Switches between the ON and Stand-by mode.
	MODE KEY: Switches check weighing and counting mode. (Enter program mode with RE-ZERO key.)
NET/ B/G	**NET/GROSS KEY:** Switches Between Net weight and Gross weight mode. If Item data is called, display inventory data. (By internal specification setting.)
INVENT	Program Inventory data in Program Mode.
HOLD	**HOLD KEY:** Enable/ disable Hold Function
Pcs	**SAMPLE KEY:** Calculate and enter a unit weight of item by sampling in counting mode and program mode.
	WEIGHT UNIT KEY: Select weight units.
Pcs	**UNIT WEIGHT KEY:** Enter a unit weight of Item(per 1000 pcs) in counting mode and program mode.
	SCALE KEY: Switch between platform 1 and 2 when connecting two platforms.

- *Continued to the next page* –

	**FEED KEY:** Feed paper when using an optional built in printer.
	**SET POINT KEY:** Enter Setpoint Data.
→T←	**TARE KEY:** Enter or clear tare value.
→0←	**ZERO KEY:** Set the scale to zero.
- DATE	**SUBTRACT KEY:** Subtract weight value (a quantity of parts in counting mode) to total memory. Set the date and time in program mode. Set parts name to item data in program mode.
+	**ADD KEY:** Add weight value (a quantity of parts in counting mode) to total memory. Set set point data to item data in program mode.
* PROG	**TOTAL KEY:** Clear total memory. Print the label or receipt when printer is used. Save the data in program mode.
# IN/OUT	**CODE KEY:** Call up item code. Select shipping, receiving, or stocktaking mode. Set parts no data to item data in program mode.
C	**CLEAR KEY:** Clear keyed-in data.
•	**DECIMAL KEY:** Enter the decimal comma during numeric entry.
0 - 9	**NUMERIC KEY:** Enter numeric data.

2.3.2. Display Icons & Indicator Lamps



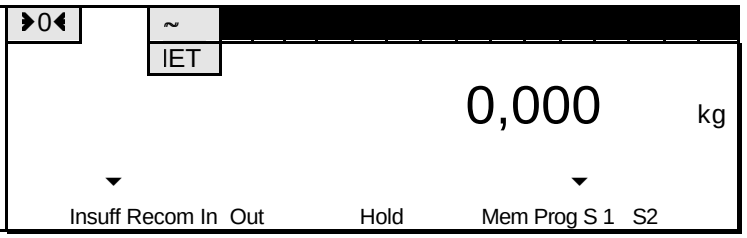
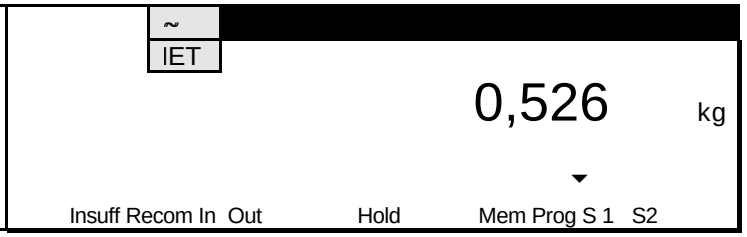
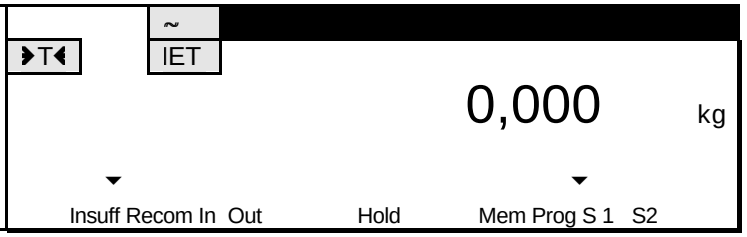
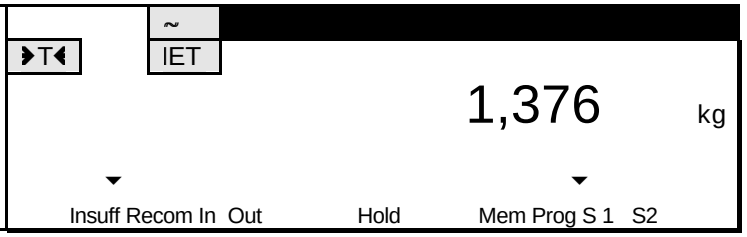
Indicators			Descriptions of Indicators
1	➔0←	Zero Lamp	Weight is stable at zero point.
2	➔T←	Tare Lamp	Presence of Tare weight
3	B/G	Gross Lamp	Gross weight is displayed.
4		Battery Lamp	Battery needs to be recharged.
5	~	Stable Lamp	Weight is stable.
6	NET	Net Lamp	Net weight is displayed.
7	Pcs	Pieces Lamp 1	Quantity is displayed.
8	kg,g,oz,lb, dwt	Weight Base Lamps	Main display shows weight in the indicated weight base.
9		Total Lamp	Total weight is displayed on the left half of sub-display.
10		Unit Weight Lamp 1	Unit weight is displayed on the left half of sub-display.
11		Unit Weight Lamp 2	Unit weight is displayed on the right half of sub-display.
12		Pieces Lamp 2	Quantity is displayed on the right half of sub-display.
Triangle Indicator Lamps			
INSUFF		Insufficient Lamp	Sample weight is too small to calculate unit weight.
RECOMP		Recomputing Lamp	Unit weight may be re-computed for higher accuracy.
IN		IN (Receiving) Lamp	Add a quantity of parts to item inventory.
OUT		OUT (Shipping) Lamp	Remove a quantity of parts from item inventory.
HOLD		Hold Lamp	Hold Function is enable.
MEMORY		Memory Lamp	Accumulation data is in memory.
PROG		Program Lamp	Scale is in Program mode.
SCALE 1		Scale1 Lamp	Scale 1 is in use.
SCALE 2		Scale2 Lamp	Scale 2 is in use.

3. BASIC OPERATION

3.1. Tare Subtraction

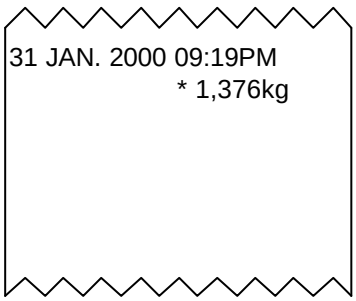
3.1.1. Semi-Auto Tare Subtraction (One Touch Tare)

This function is used for subtracting tare value of an empty container.

1. Check that the indicator is at gross zero.		
2. Put the container on platform.		
3. Subtract the tare.	[➔T⇦]	
4. Fill container to required weight. Note * 2)		

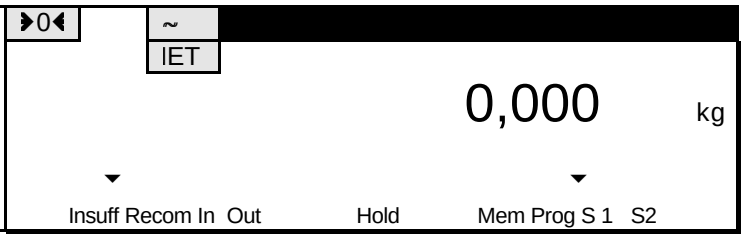
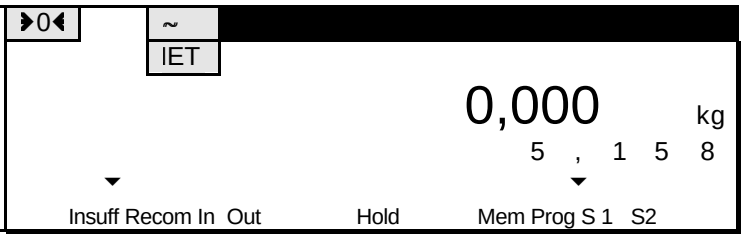
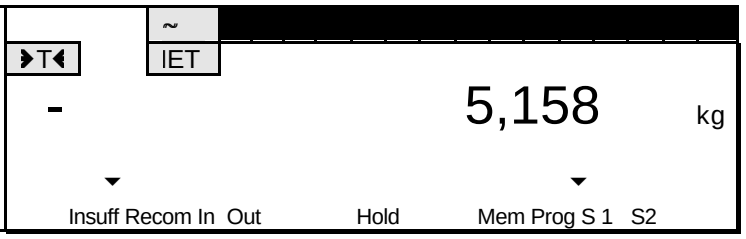
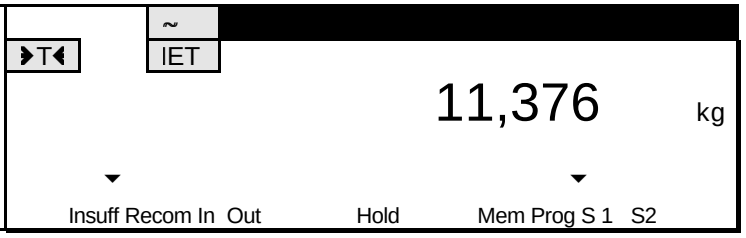
Note: 1) To clear the tare value, press [0] then [➔T⇦] key or remove all the weight from the platform and press [➔T⇦] key.

Note: * 2) When the optional printer is used, the net weight will be printed by [∗] key.



3.1.2. Digital Tare Subtraction (Preset Tare)

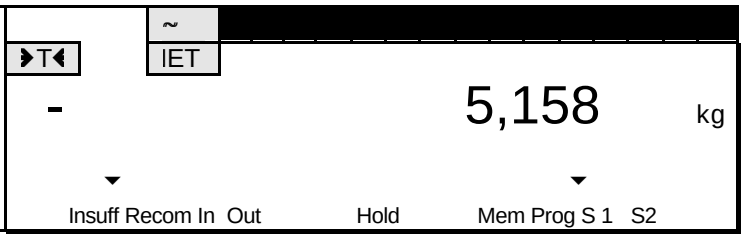
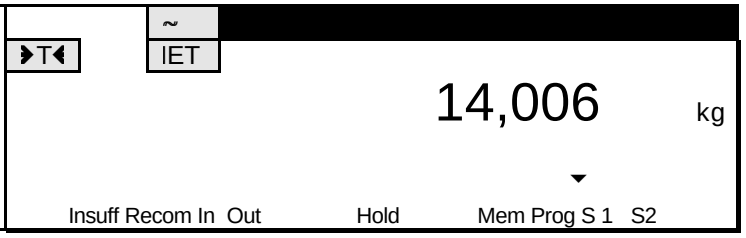
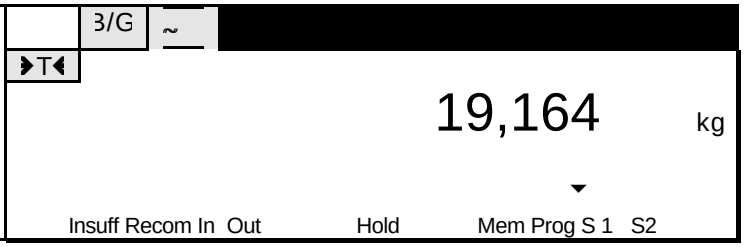
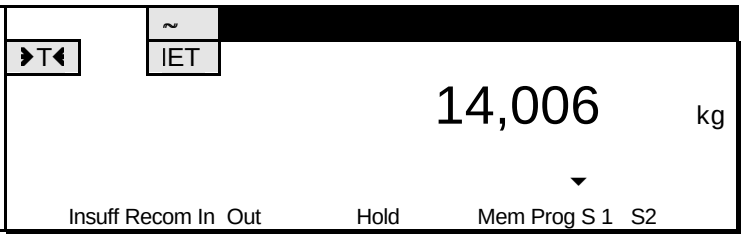
This function can be used when tare weight value is known. It is used for subtracting tare value of a pre-filled container.

1. Check that the indicator is at gross zero.		
2. Enter the tare value though numeric keys. i.e. 5,158kg	[5], [,] [1], [5] [8]	
3. Subtract the tare.	[➔T⇐]	
4. Put filled container.		

Note: 1) To clear the tare value, press [0] then [➔T⇐] key or remove all the weight from the platform and press [➔T⇐] key.

3.2. Gross Weight Display

DI-80 series can switch the display between the net weight and gross weight.

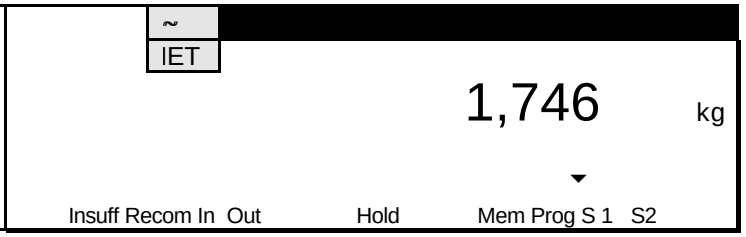
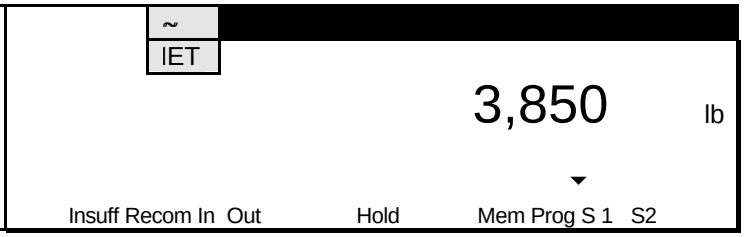
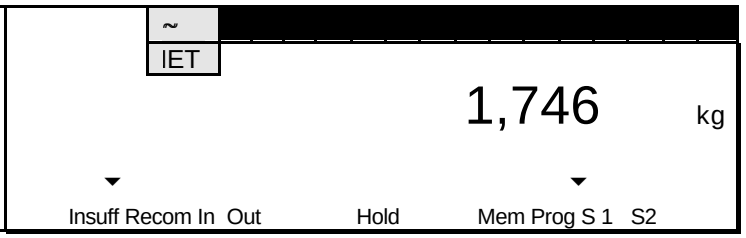
1. Enter tare value by any mean of 3.1 Tare Subtraction. i.e. Tare value = 5.158 kg		
2. Put weight on the platter. i.e. Gross weight = 19.164 kg		
3. Display Gross weight.	[NET/ B/G]	
4. Change to Net weight display.	[NET/ B/G]	

Note: This function can be invalid by internal specification setting. *(SPEC25 BIT0)*

3.3. Weight Unit Conversion

This function allows to convert the weight data in display to other weight base(s) by key operation. The convertible weight units are different from the base unit that the scale was calibrated with. The convertible units to each base unit and the conversion sequence when the designated key operation is done, are listed in the following table.

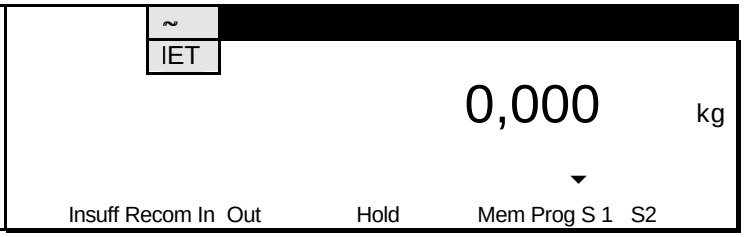
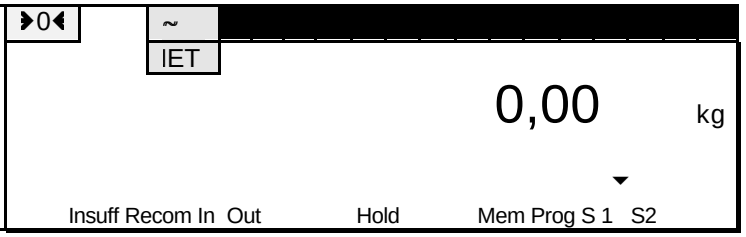
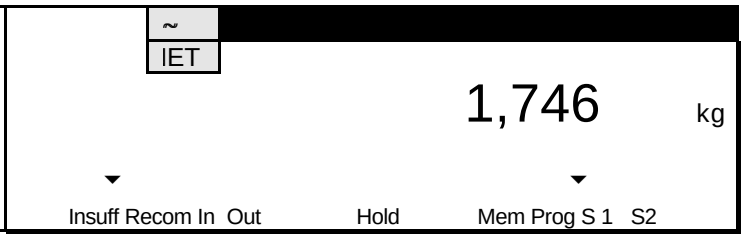
The base unit	The convertible units and the sequence
kg	kg ➔ lb ➔ kg
lb	lb ➔ kg ➔ lb
g	g ➔ oz ➔ dwt ➔ g
oz	oz ➔ dwt ➔ g ➔ oz
dwt	dwt ➔ g ➔ oz ➔ dwt

1. Put weight on the platter. *(i.e. Kg as base unit)*		
2. Change to lb base.	[WEIGHT UNIT]	
3. Back to kg base.	[WEIGHT UNIT]	

Note: This function can be invalid by internal specification setting. *(SPEC12 BIT0)*

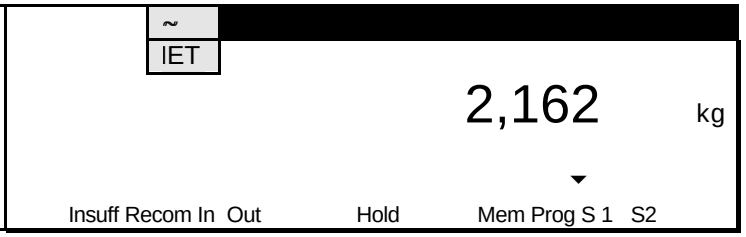
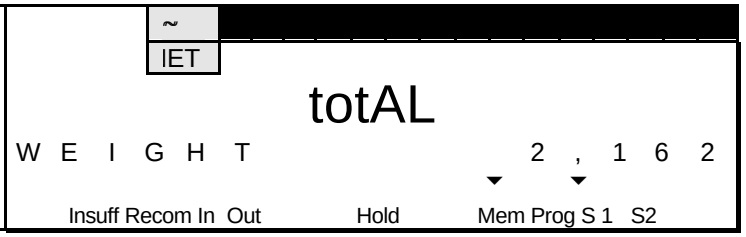
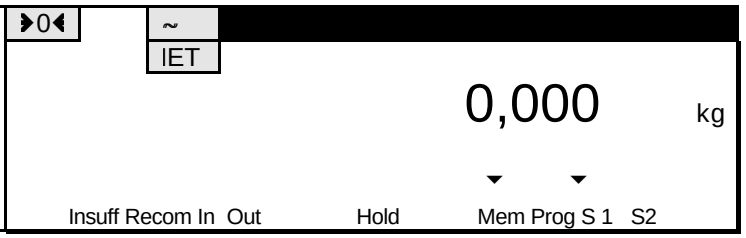
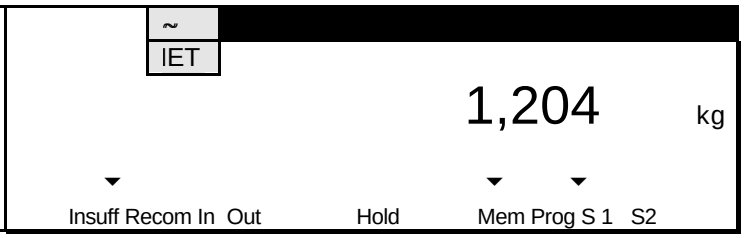
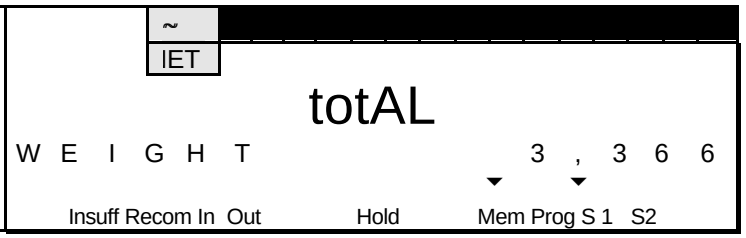
3.4. Dual Scale Function

This function is available only when the system has two platforms/scales. DI-80 switch the scale to be used by pressing [SCALE] key . The active platform is indicated by indicator lamps (scale 1 and scale 2) on the display.

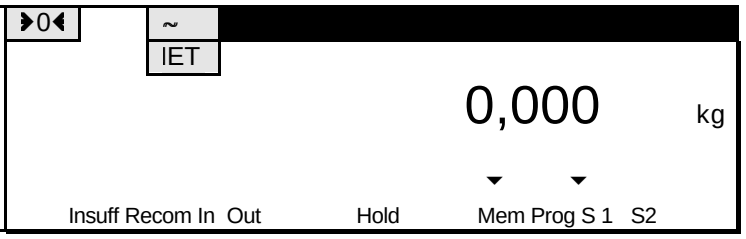
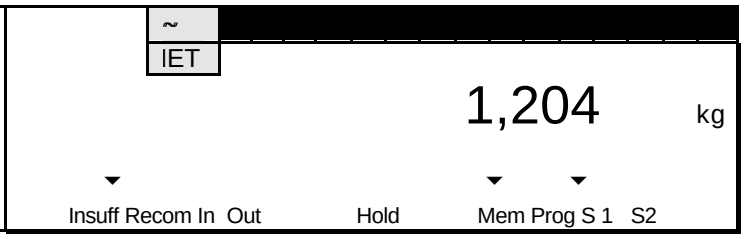
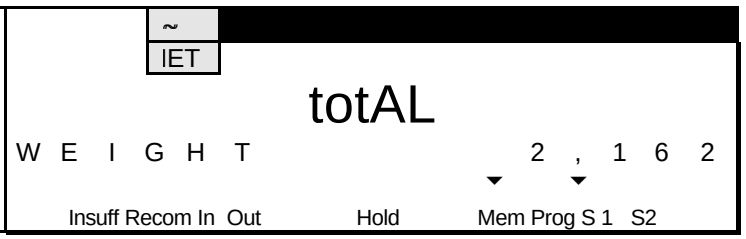
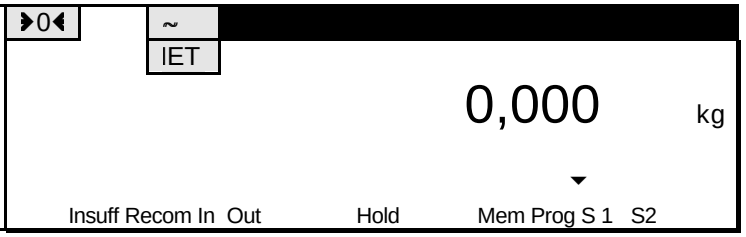
1. Scale 1 is used.		
2. Change to scale 2.	[SCALE]	
3. Back to scale 1.	[SCALE]	

3.5. Accumulation

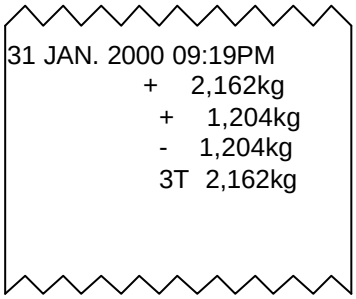
The weight data can be accumulated or subtracted by using [+] and [-] keys. Total net weight will be held and displayed in the indicator. When accumulation data is in memory, the unit weight conversion nor the scale change functions are invalid. The total data will be cleared by pressing [∗] key.

1. Put weight on the platform.		
2. Add the weight to total memory.	[+]	
3. Clear the total display by pressing [C] key. And, remove the weight	[C]	
4. Put next weight on the platter		
5. Add the weight to total memory.	[+]	

- Continue -

6. Clear the total display by pressing [C] key. And, remove the weight	[C]	
7. Put weight on the platter *Note: *1)*		
8. Void/ Subtract the weight from total memory	[-]	
9. Clear the total data. (Scale is back to weighing display automatically.) Note *3)	[✻]	

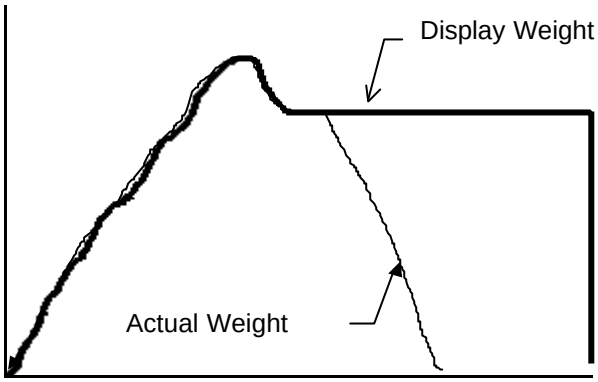
Note: *1) To view current total, press [✻] key.
Note: 2) Total display after [+], [-] key can be cleared automatically by specification.
Note: *3) When the optional printer is used, the transaction will be printed by [✻] key.



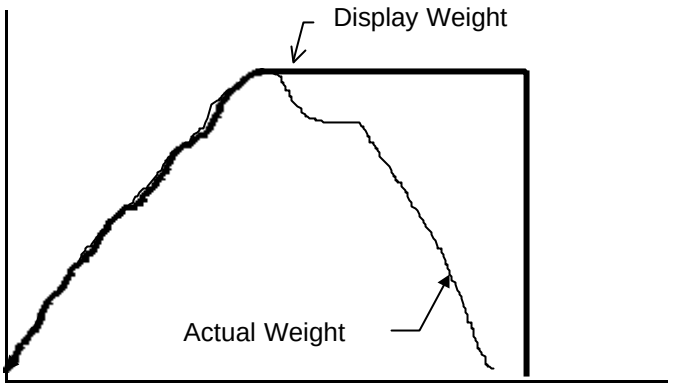
3.6. Weight Hold Function

DI-80 can hold weight display for 15 seconds. By internal specification setting, the weight data can be hold at the first stabilized point or peak point. This function is effective when pressing [HOLD] key. This function is effective when the indicator lamp (HOLD) is on by pressing [HOLD] key.

Weight hold at the first stable point



Weight hold at peak point



3.7. Animal Weighing Function

DI-80 can alter 4 different display filter levels by internal specification setting. (SPEC34 and 35)
Also, DI-80 series supports the animal weighing function to average the in-consist weight and display the averaged weight for much vibration and other environmental influences.
This function is effective by internal specification settings.(SPEC36)

3.8. Setpoint Function

Up to 4 setpoint values can be programmed by specification. The setpoint signals are output via the setpoint interface when the quantity or weight exceeds setpoint values.

The character of the parameter can be selected from the following selections by internal specification setting. (SPEC # 07 Bit 1 & 2)

Setpoint 1	Setpoint 2, (&3), (&4)
Weight	Weight
Weight	Percentage of setpoint 1 value
Quantity	Quantity
Quantity	Percentage of setpoint 1 value

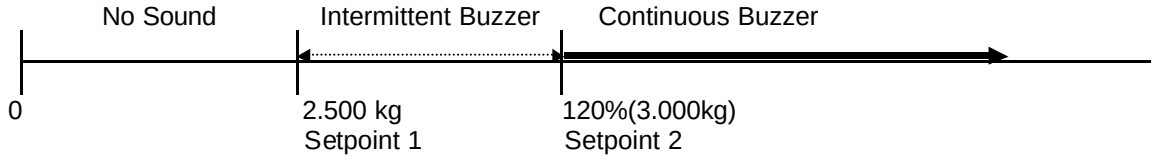
Setpoint 1 and Setpoint 2 can be utilized as under and over limits of filling or check weighing application. The indicator shows the under/over status audiovisually with color graphic display and internal buzzer. This function is valid when both of setpoint 1 and setpoint 2 are entered and setpoint 2 is larger than setpoint 1.

The setpoint alarm for filling or check weighing application can be selected by internal specification setting. (SPEC # 17 Bit 2)

SETPOINT ALARM FOR FILLING APPLICATION

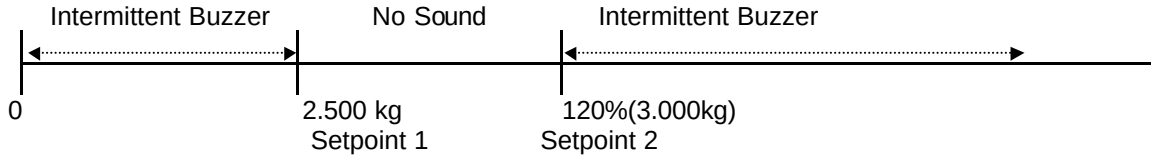
Intermittent buzzer will beep when the weight or quantity is between Setpoint 1 and Setpoint 2. Continuous buzzer will beep when the weight exceeds setpoint 2.

E.g.) SETPOINT 1 (Weight Base) = 2.500kg
SETPOINT 2 (Percentage of SETPOINT 1) = 120 %



SETPOINT ALARM FOR CHECK WEIGHING APPLICATION

The buzzer will beep when the weight or quantity is out of target limits for check weighing application by internal specification setting.

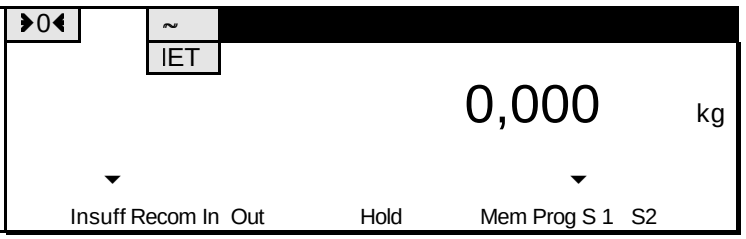
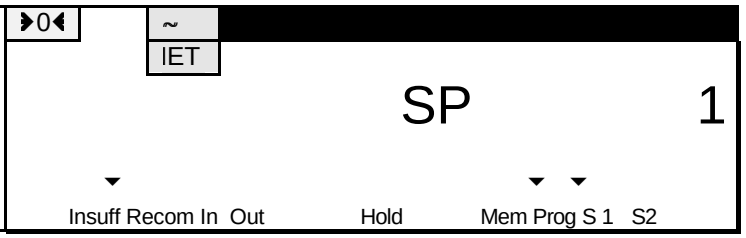
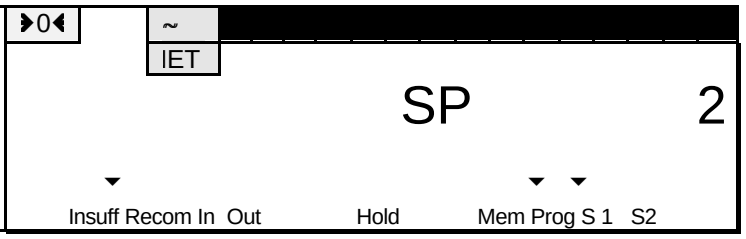
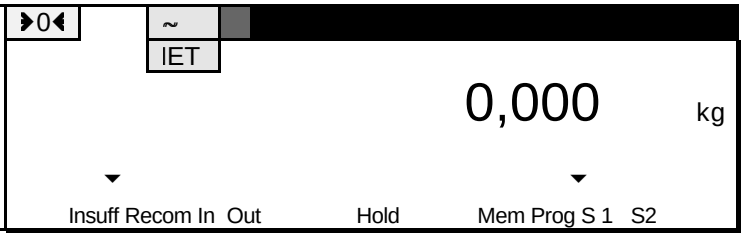


COLOR GRAPHIC DISPLAY

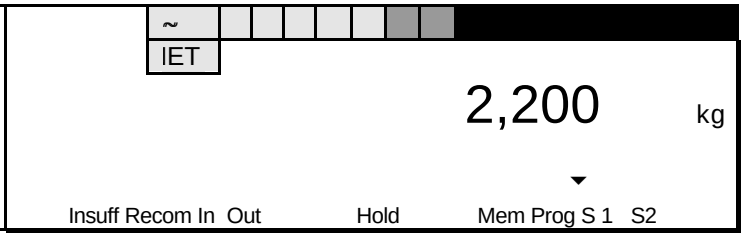
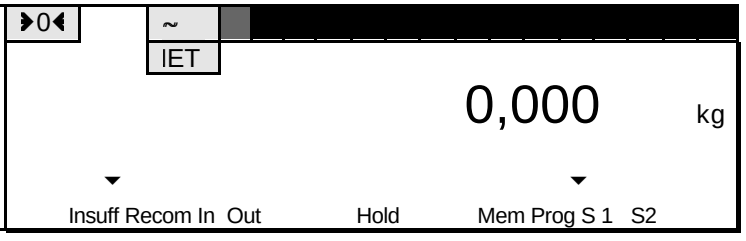
Color graphic display consists of total 15 graphic blocks. Each block shows the achievement rate to the target range.

	Functions
Yellow Block	shows the achievement rate to the minimum limit (setpoint 1)
Green Block	shows the weight status in the target range.
Red Block	shows the exceed rate against the maximum weight (setpoint 2)

3.8.1. Setpoint Value Entry

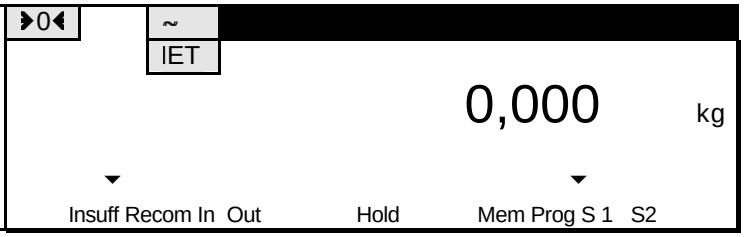
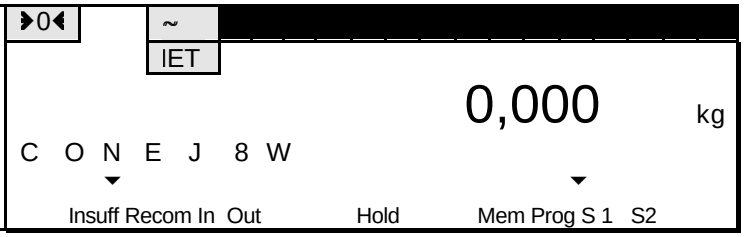
1. stand-by status		
2. Go to Setpoint Setting mode.	[SET POINT]key	
3. Enter Setpoint 1 value and enter the data by pressing [SETPOINT] key. i.e. 2.000kg	[2], [●], [0], [0], [0], [SET POINT]key	
4. Enter Setpoint 2 value and enter the data by pressing [SETPOINT] key. i.e. 2.500kg	[2], [●], [5], [0], [0], [SET POINT]key	

Note: 1) If the entry of setpoint 3 and 4 are required, repeat the same procedure for Setpoint 3 and 4.
Note: 2) If Setpoint 3 and 4 are not required, press [SET POINT] key without entering data.

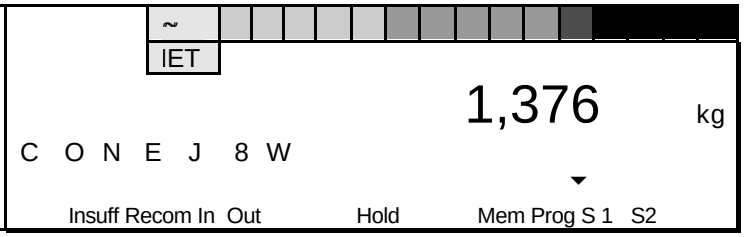
5. Fill the product to the container. i. e. 2,200kg		
6. When the weight data reaches to the lower set point, remove the weight.		

3.9. Call Item Code in Weighing Mode

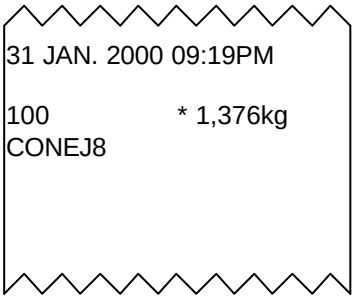
This section shows how to recall item codes in weighing mode.
(Item code should be pre-programmed in program mode before the following operation.)
Refer to 5. PROGERAM MODE)

1. Stand-by status		
2. Enter the item code.	[1], [0], [0], [#]	

Note: If parts name is programmed to item code, the parts name is displayed in the second display.

3. Place item on platter. weight. Note: * 2)		

Note: 1) If setpoint data is programmed to item code, the checker display shows the weight status.
Note: * 2) When the optional printer is used, the net weight will be printed by [✻] key.



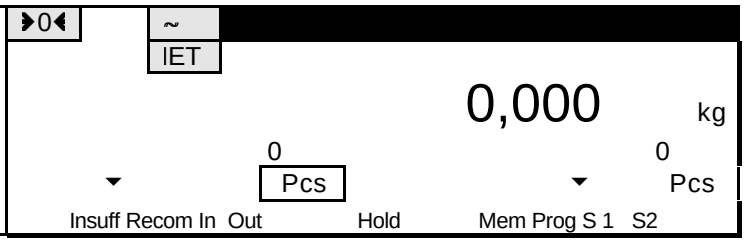
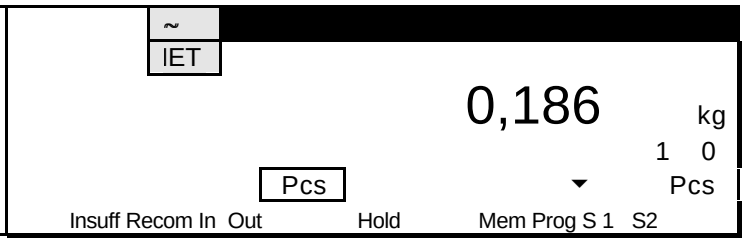
4. COUNTING OPERATION

DI-80 has the counting mode. To switch between weighing mode and counting mode, press [MODE] key.

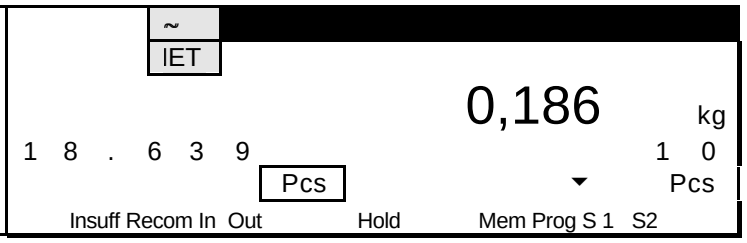
4.1. Unit Weight Entry

The unit weight can be determined by sampling or direct entry though numeric keys.

4.1.1. Unit weight entry by sampling

1. Go to counting mode.	[MODE]	
2. Place 10 samples onto the platter and check “INSUFF” lamp is off.		

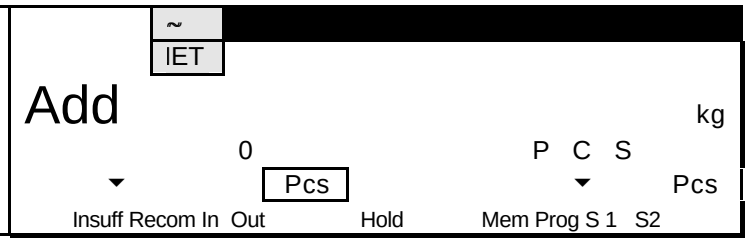
Note: If the sample quantity is not 10 pcs, enter the number of samples by numeric key.

3. Compute a unit weight.	[Pcs]	

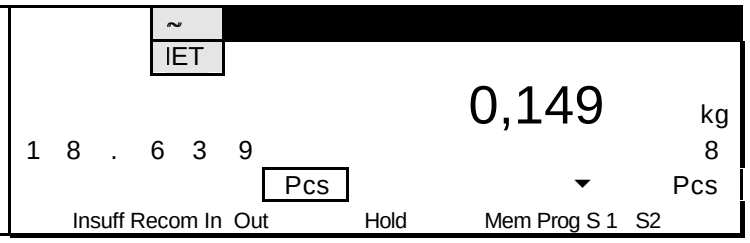
Note: 1) DI-80 calculate the average unit weight by [Pcs]. To calculate the accurate unit weight, a sufficient number of items are required.
Note: 2) Unit weight of item is displayed on the left half of the 2nd display.
Note: 3) Quantity is displayed on the right half of the 2nd display.
Note: 4) The indicator watches whether the weight of samples are enough to calculate a unit weight. If sample pieces are not sufficient for accurate counting, the **Insufficient lamp** is lit. If calculate the unit weight with insufficient samples, the procedure 4 and 5 are required.

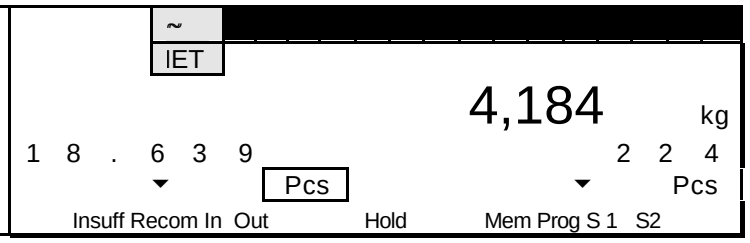
The insufficient range can be selected in internal setting mode from 0.1% or 0.2% of full scale capacity.

- Continued -

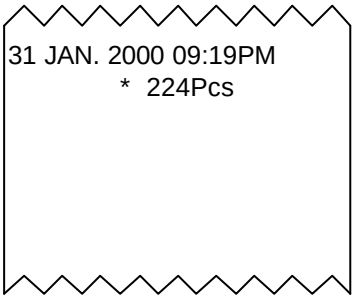
4. Add the required samples.		

Note: The additional sample quantity for accurate calculation is displayed on the left half of the 2nd display.

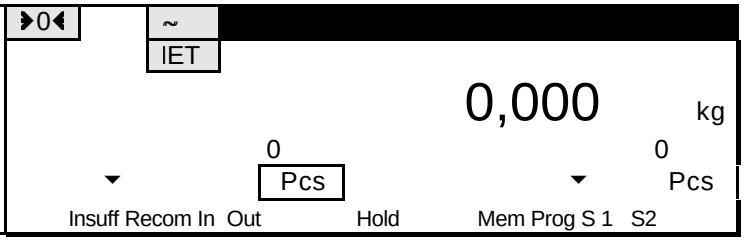
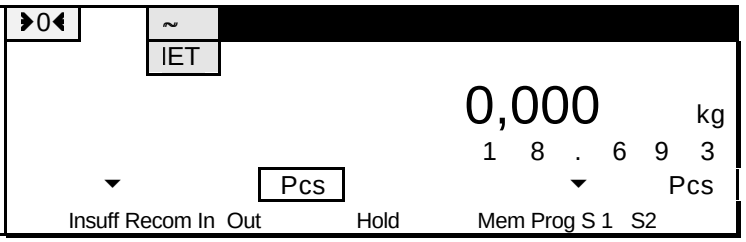
5. Calculate unit weight with sufficient samples.	[Pcs]	

6. Count item quantity. Note *4) Note *5)		

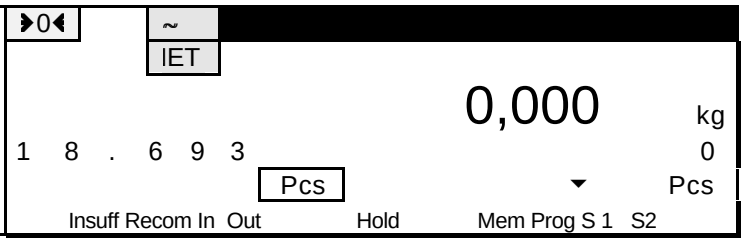
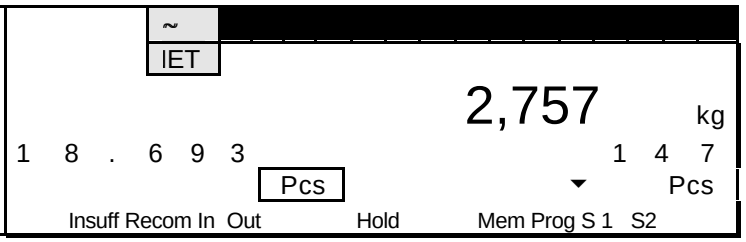
Note: 1) To clear unit weight data, press [C] key.
Note: 2) If multiple scales are connected to DI-80, it is qenerally recommended to perform the sampling operation with smaller capacity for better accuracy.
Note: 3) To return to weighing mode, press [MODE] key.
Note: *4) Accuracy of unit weight can be improved with more quantity than the sample quantities because a larger sample size makes the weight variance smaller. Unit weight can be improved by [Pcs] key when “RECOM” lamp is ON.
Note: *5) When the optional print is used, the counting result will be printed by [∗] key.



4.1.2. Direct Entry by numeric keys

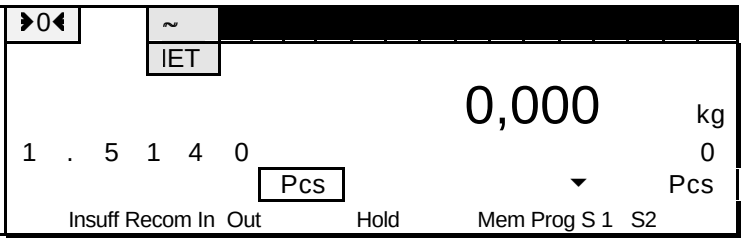
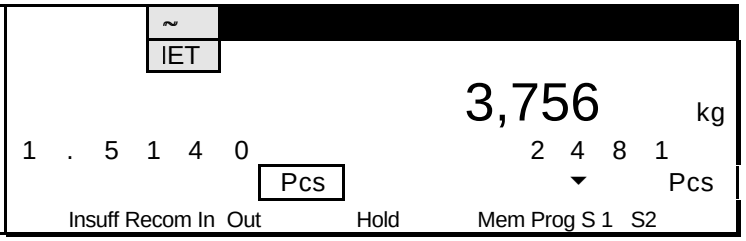
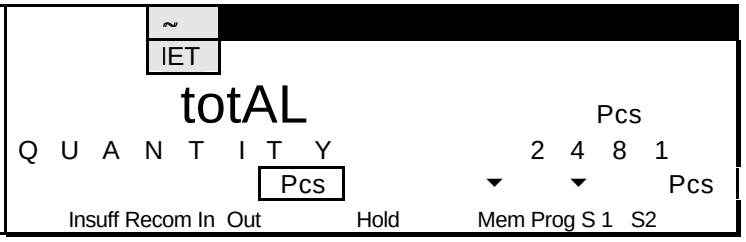
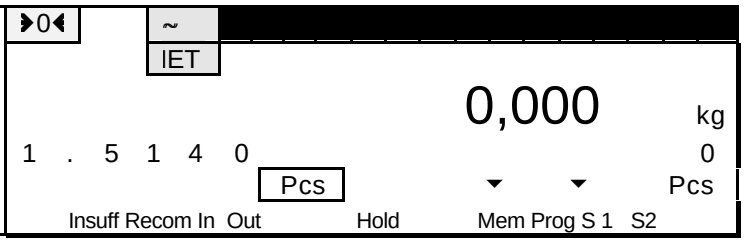
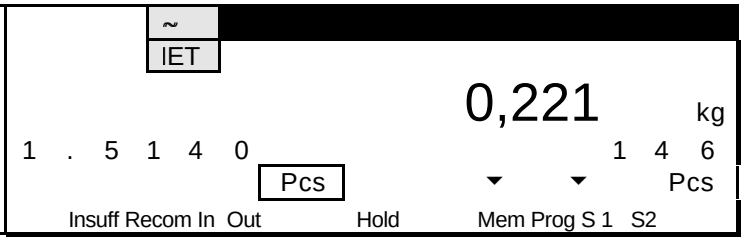
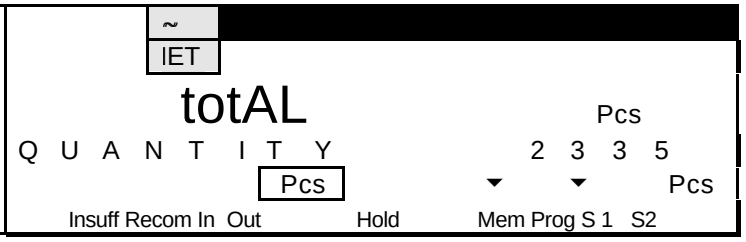
1. Go to counting mode.	[MODE]	
2. Enter unit weight value.	[1], [8], [●], [6], [9], [3]	

Note: The unit weight should be 1000 pcs of items.

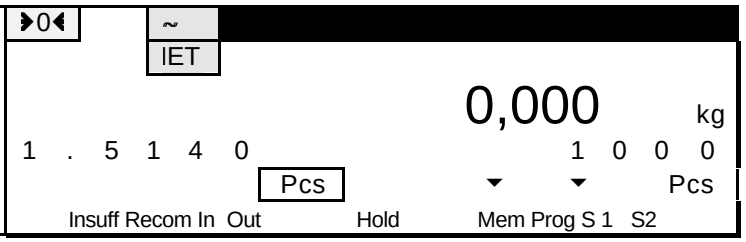
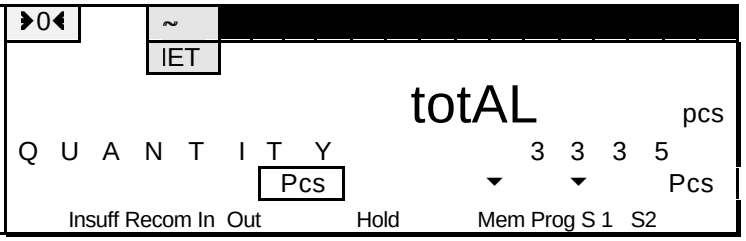
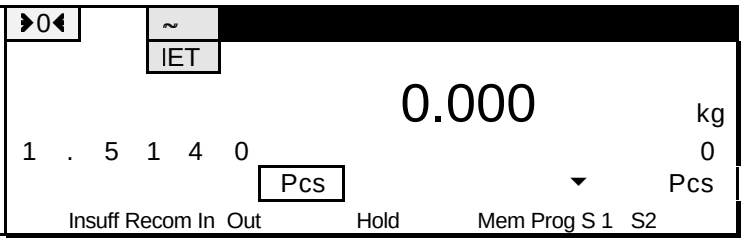
3. Enter unit weight.	[Unit Weight]	
4. Place parts on the platter.		

4.2. Accumulation of Counting Result

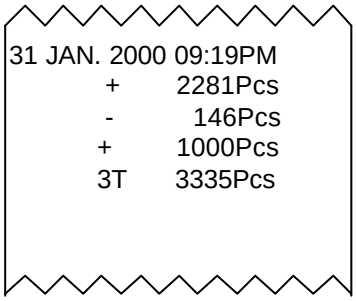
In counting mode, DI-80 will accumulate the counting results in total memory.

1. Go to counting mode and enter unit weight by any means of 4.1 Unit Weight Entry.		
2. Place parts onto the platter.		
3. Add the quantity to total memory.	[+]	
4. Clear the total display by pressing [C] key. And, remove the weight.	[C]	
5. Put parts on the platter.		
6. Subtract the quantity from total memory.	[-]	

- Continue -

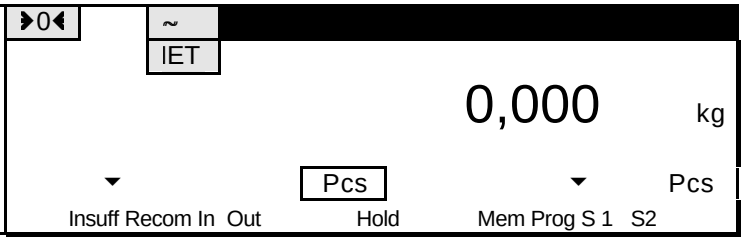
7. Enter the number of parts by numeric key. (When adding or subtracting the known quantity)	[1], [0], [0], [0]	
8. Add the quantity		
9. Clear the total data. (Return to counting mode automatically.)	[∗]	

Note: *1) To view current total, press [∗] key.
Note: 2) Total display after [+], [-] key can be cleared automatically by specification.
Note: *3) When the optional printer is used, the transaction will be printed by [∗] key.

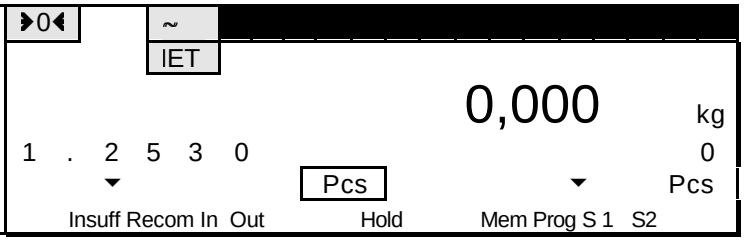


4.3. Call Item Code in Counting Mode

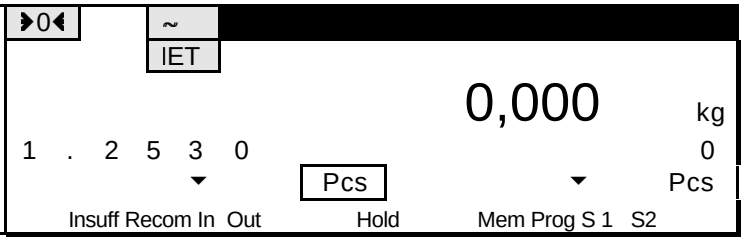
This section shows how to recall item codes in counting mode. (Item code should be pre-programmed in program mode before the following operation.)
Refer to 5. PROGERAM MODE)

1. Go to Counting Mode.		

Note: If parts name is programmed to item code, the parts name is displayed for a second in the second display.

2. Enter the item code.	[1], [0], [0], [#]	

Note: If the unit weight is programmed to item code, the unit weight is recalled automatically and displayed for a second display.

3. Select parts movement status.	[#]	

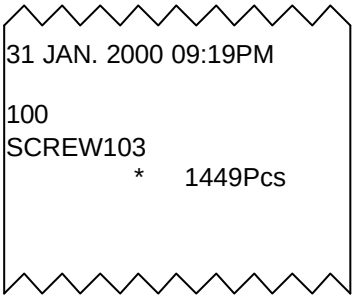
Note: If Inventory quantity is programmed to item code, the inventory data is up-dated automatically by pressing [∗] key. *If you do not use the inventory function, please skip this procedure.*

- When In lamp is lit, a quantity of item is added to item inventory. When Out lamp is lit, a quantity of item is removed from item inventory . When neither are lit, item inventory is not changed.
- In-Out status can be selected by pressing [#] key after calling up item code. The status is toggled between IN, OUT, NON ADD (NO CHANGE).

- Continue -

4. Place parts item on platter. weight. Note: 2)		~ IET 1,816 kg 1 . 2 5 3 0 1 4 4 9 Pcs Pcs Insuff Recom In Out Hold Mem Prog S 1 S2

Note: 1) If setpoint data is programmed to item code, the checker display shows the weight status.
Note: *2) When the optional printer is used, the transaction will be printed by [∗] key.



5. PROGRAM MODE

5.1. Item Memory

DI-80 series has 1000 item memory (can be expanded to 2000 item memory as factory option). Item code consists of the following data.

Parameter	Character	Data Length
Item Code *Note: *1)*	Numeric or Alphanumeric	12 or 16 letters
Parts No. *Note: *1)*	Numeric or Alphanumeric	12 or 16 letters
Parts Name	Alphanumeric	20 letters
Tare Weight	Numeric	5 digits
Unit Weight	Numeric	5 digits
Setpoint	Numeric	8 digits
Inventory quantity	Numeric	8 digits

Note: * 1) The maximum length and the programmable character can be set by specification.

ITEM CODE
Item code is used as a reference code to call up item data.

PARTS NO
Parts No will be printed on label and transmitted to PC when connecting bar-code printer and PC. If bar-code printer nor PC is not used, you may skip to program parts No.

PARTS NAME
Parts No will be printed on label and transmitted to PC when connecting bar-code printer and PC. When calling item code in operation mode, the parts name will be displayed in the 2nd display.

TARE WEIGHT
Maximum length of data depends on the scale capacity and interval of your system. If several tare container will be used to one item code, you may skip to store tare data to item memory.

UNIT WEIGHT
Unit weight can be registered by sampling or numeric data entry in program mode. If an item is used in weighing mode only, you may skip to store unit weight data to item memory.

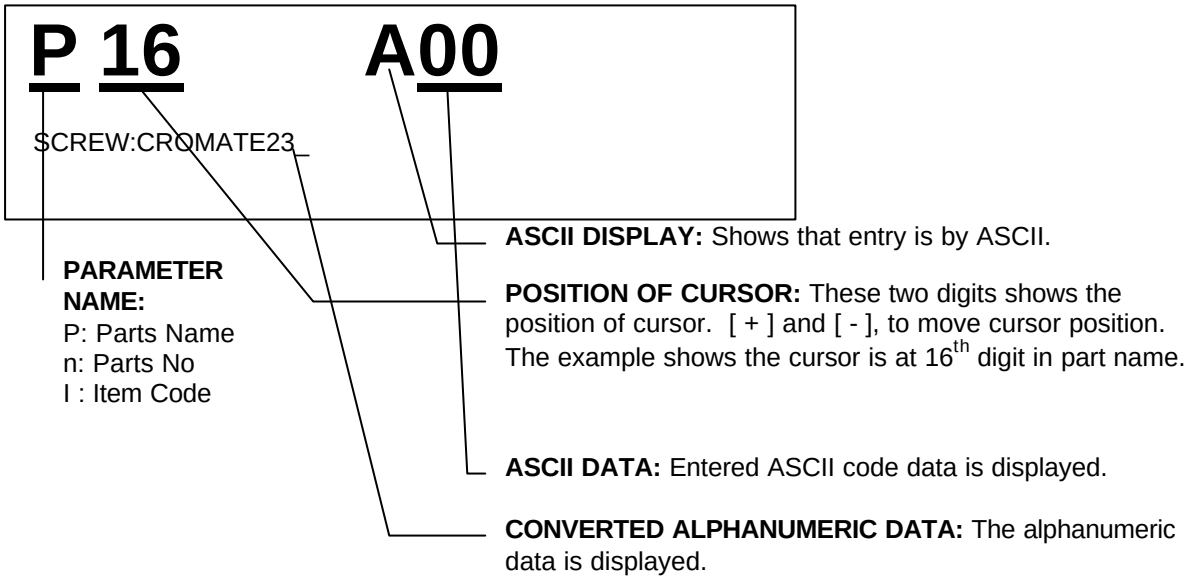
INVENTORY QUANTITY
Inventory quantity will be up-dated automatically after IN/OUT operation in counting mode. If an item is used in weighing mode only, you may skip to store inventory data to item memory.

SETPOINTS
Maximum 4 setpoints can be programmed to each item code. The character of setpoint data can be selected from weight base or quantity base.

5.1.1. Alphanumeric Data Entry

Alphanumeric data can be programmed to Item no., parts no, parts name. You may select the data entry by ASCII code or TERAOKA entry (two digit numeric data) by internal spec selection.

ASCII CODE ENTRY by ASCII code



FUNCTION KEYS IN ASCII CODE ENTRY

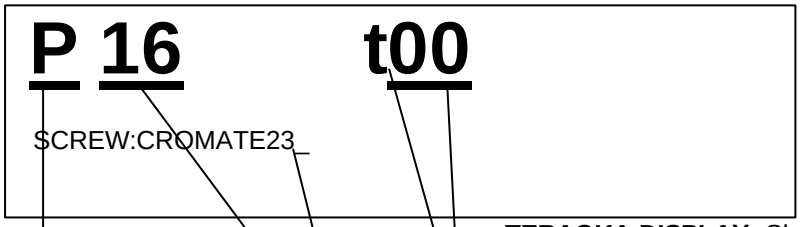
[C] = Escape from Alphanumeric screen		[0] = 0
[+] = Move the cursor ahead		[1] = 1
[-] = Move the cursor back		[2] = 2
[WEIGHT UNIT CHANGE]	= A	[3] = 3
[Pieces]	= B	[4] = 4
[SCALE CHANGE]	= C	[5] = 5
[UNIT WEIGHT]	= D	[6] = 6
[SETPOINT]	= E	[7] = 7
[FEED]	= F	[8] = 8
		[9] = 9

i.e.) To enter **SCREW:** enter

[5], [3]	**S**
[4], [3]	**C**
[5], [2]	**R**
[4], [5]	**E**
[5], [7]	**W**
[3], [A]	**:**

Note) Refer to Appendix I (ASCII CODE LIST)

TERAOKA CODE ENTRY Data can be entered by TERAOKA character code.



PARAMETER NAME:
P: Parts Name
n: Parts No
I : Item Code

TERAOKA DISPLAY: Shows that entry is by TERAOKA CODE.

POSITION OF CURSOR: These two digits shows the position of cursor. [+] and [-], to move cursor position. The example shows the cursor is at 16th digit in part name.

TERAOKA DATA: Entered TERAOKA code data is displayed.

CONVERTED ALPHANUMERIC DATA: The alphanumeric data is displayed.

FUNCTION KEYS IN ASCII CODE ENTRY

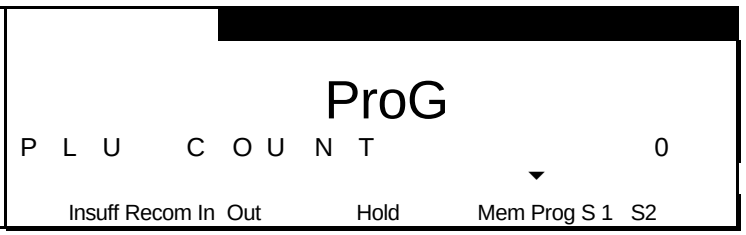
[C] = Escape from Alphanumeric screen
[+] = Move the cursor ahead
[-] = Move the cursor back
[0] = 0
[1] = 1
[2] = 2
[3] = 3
[4] = 4
[5] = 5
[6] = 6
[7] = 7
[8] = 8
[9] = 9

i.e.) To enter **SCREW:**, enter

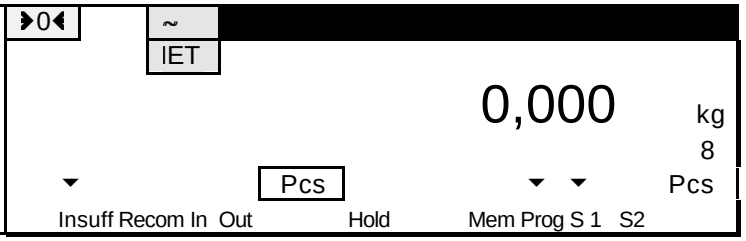
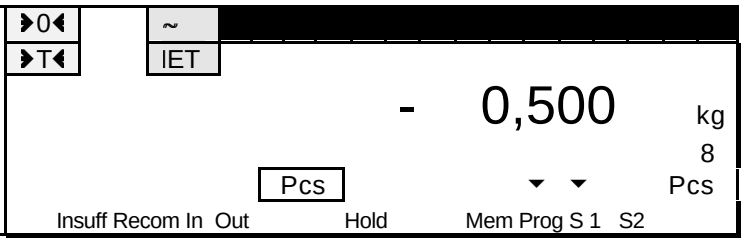
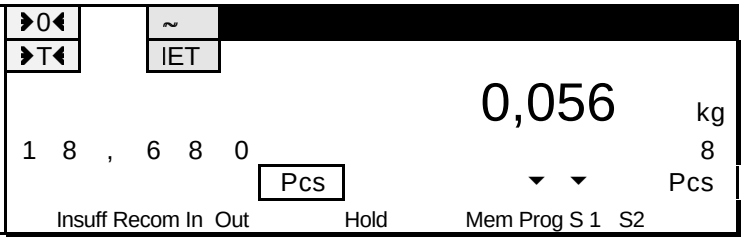
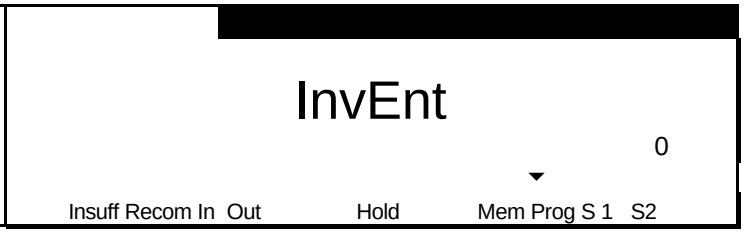
[1], [9]	**S**
[0], [3]	**C**
[1], [8]	**R**
[0], [5]	**E**
[2], [3]	**W**

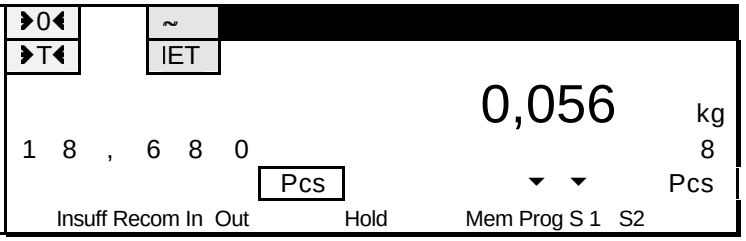
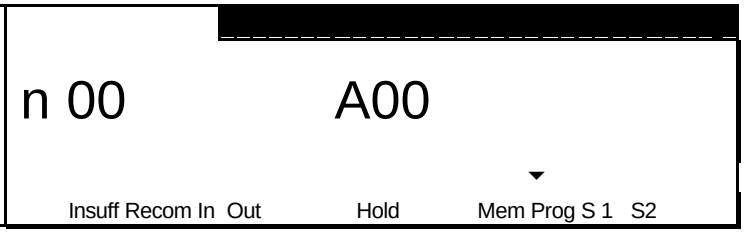
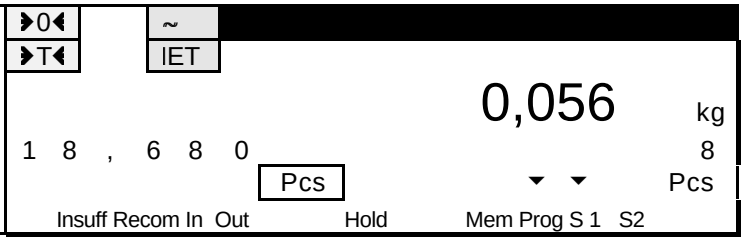
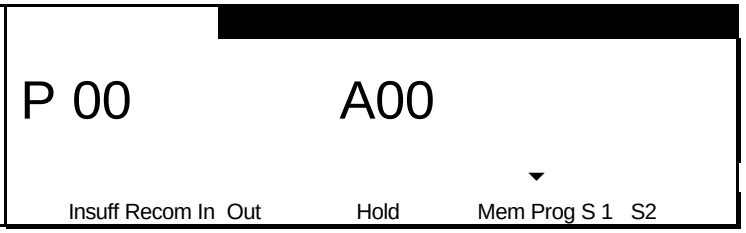
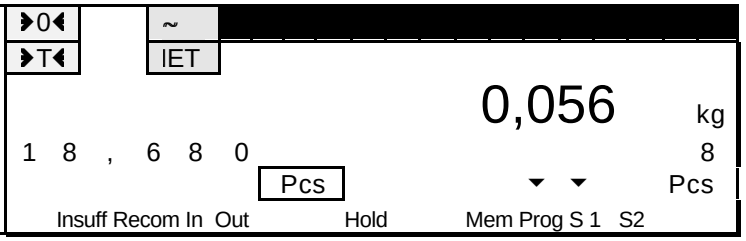
Note: Refer to Appendix II (TERAOKA CODE LIST)

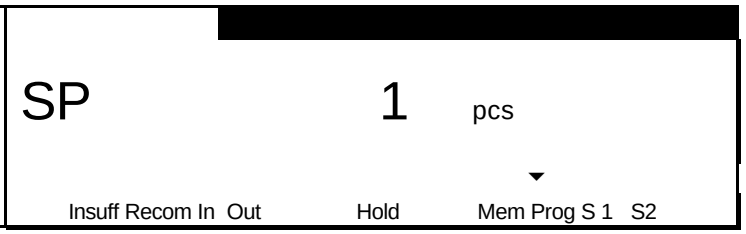
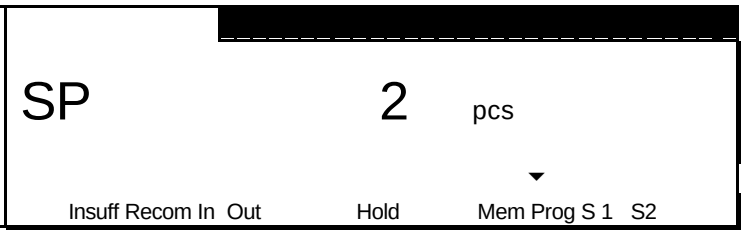
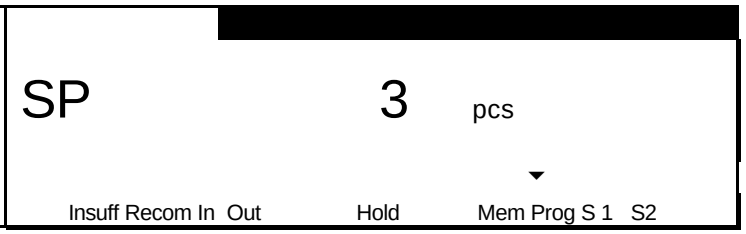
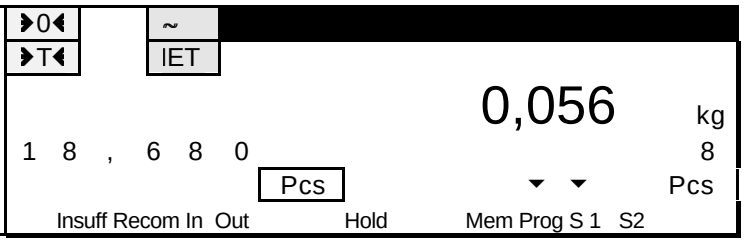
5.1.2. Item Programming

1. Go to program mode.	[MODE] + [RE-ZERO]	

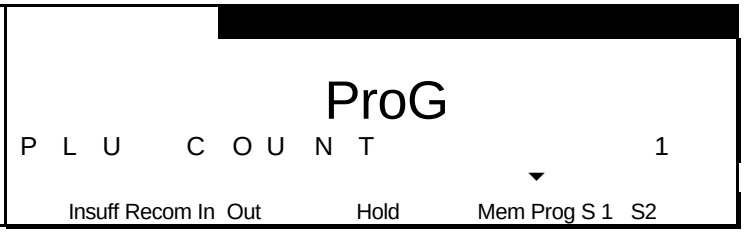
Note) Press [MODE] key while pressing [RE-ZERO] key.
Note) The 2nd display shows the number of items that exist in memory.

2. Enter Item Code number and press [#] key.	[1], [0], [0], [#]	
3. Enter tare value by any means of 3.1 Tare Subtraction.		
4. Enter unit weight value by any means of 4.1 Unit weight entry.		
5. Press [GROSS] key to enter inventory value.	[GROSS]	

6. Enter inventory quantity and press [GROSS] key. i.e.1500pcs	[1], [5], [0], [0], [GROSS]	
7. Press [-] key to enter parts no.	[-]	
8. Enter data to parts No and press [∗] key. Refer to 5.1.1 Alphanumeric data entry. i.e. 5ATR	[3], [5], [4], [0], [5], [4], [5], [2], [∗]	
9. Press [#] key to enter parts name.	[#]	
10. Enter parts no and press [#] key. Refer to 5.1.1 Alphanumeric data entry. i.e. SCREW	[5], [3], [4], [3], [5], [2], [4], [5], [5], [7], [#]	

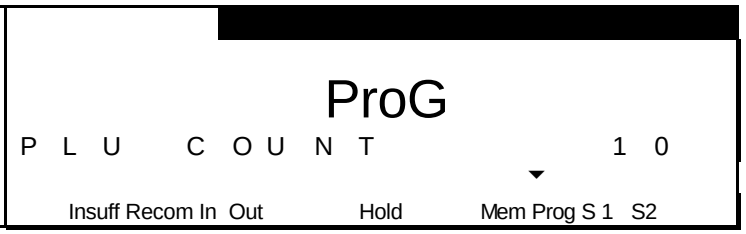
11. Press [+] key to enter setpoint data.	[+]	
12. Enter Setpoint 1 and press [+] key. i.e. 350 pcs	[3], [5], [0], [+],	
13. Enter Setpoint 2 and press [+] key. i.e. 400 pcs	[4], [0], [0], [+],	
14. Enter Setpoint 3 and press [+] key. i.e. 500 pcs	[5], [0], [0], [+],	

Note: The setpoint data can be selected from weight base or quantity base by internal specification settings. If the data is based on weight, please enter the weight value in the procedure 10 - 13. (Refer to 3.8 Setpoint Function) If the setpoint data is not required, skip the operation procedure 10-13.

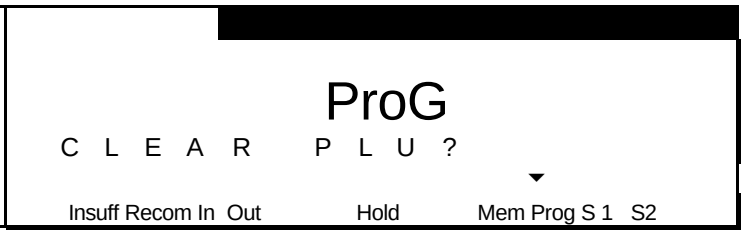
15. Save the data to memory.	[✻]	

5.2. Memory Edition and Deletion

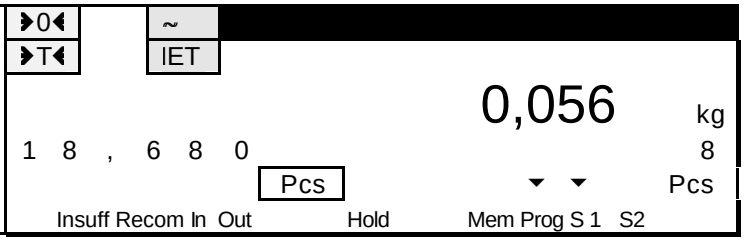
5.2.1. Delete and edit a certain Item Code

1. Go to program mode.	[MODE] + [RE-ZERO]	

Note) Press [MODE] key while pressing [RE-ZERO] key.
Note) The 2nd display shows the number of items that exist in memory.

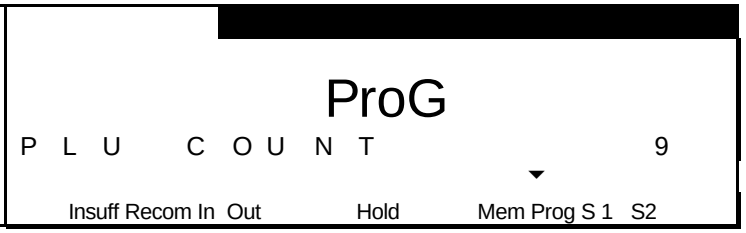
2. Enter Item Code to delete and press [#] key. If calling the item that has already existed in item memory, this display appears.	[1], [0], [0], [#]	

To edit an item data.

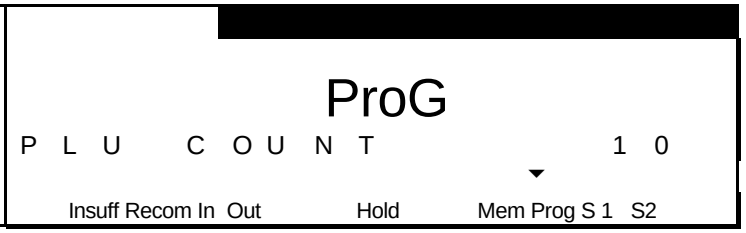
3. Press [#] key. The display is changed to item programming screen. Note: * 1)	[#]	

Note: * 1) After changing item data, save the data by [∗] key.

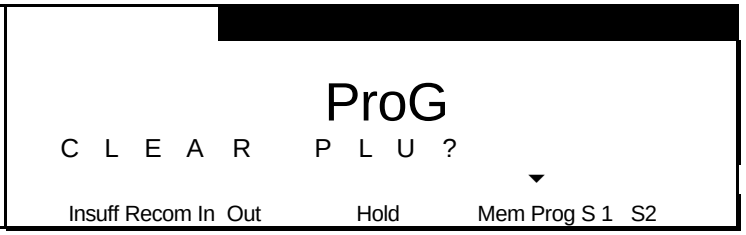
To clear a certain item code.

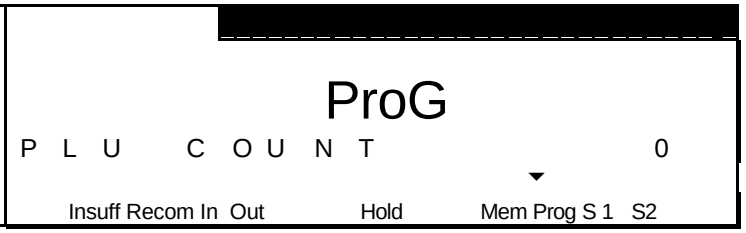
4. Clear the data by [C] key.	[C]	

5.2.2. Erase all Item data in memory

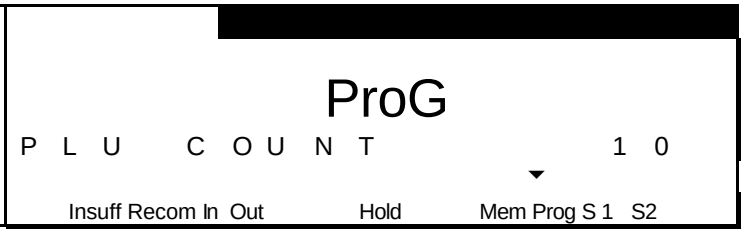
1. Go to program mode.	[MODE] + [RE-ZERO]	

Note) Press [MODE] key while pressing [RE-ZERO] key.
Note) The 2nd display shows the number of items that exist in memory.

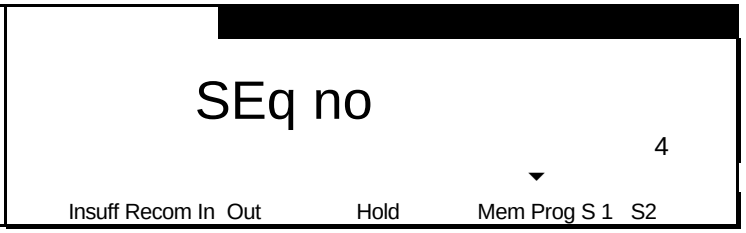
2. Enter [•], [•], [0], while pressing [RE-ZERO] key.	[•], [•], [0], + [RE-ZERO]	

3. Clear all item data.	[C]	

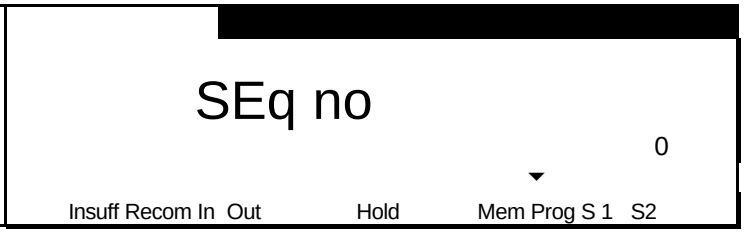
5.2.3. Reset Sequence Number to 0

1. Go to program mode.	[MODE] + [RE-ZERO]	

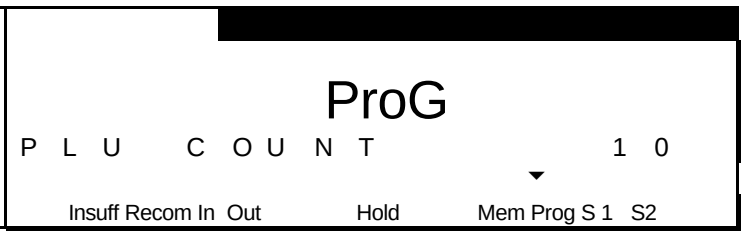
Note) Press [MODE] key while pressing [RE-ZERO] key.
Note) The 2nd display shows the number of items that exist in memory.

2. Press [+] key	[+]	

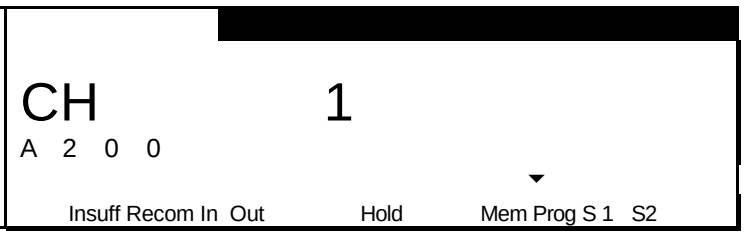
Note) The 2nd display shows the existing sequence number in memory.

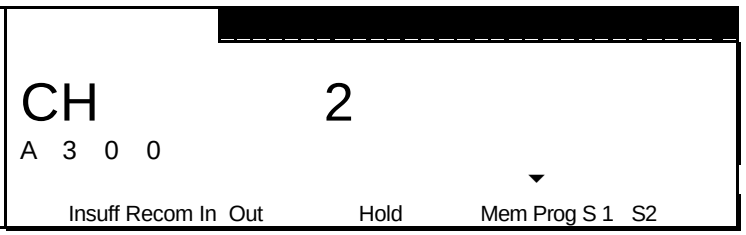
3. Reset Sequence No by pressing [0] key	[0]	

5.3. Review Item Code already in Memory

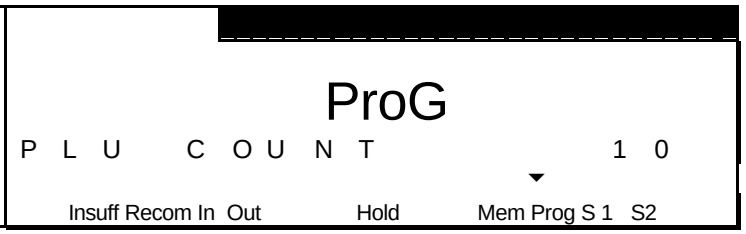
1. Go to program mode.	[MODE] + [RE-ZERO]	

Note: Press [MODE] key while pressing [RE-ZERO] key.
Note: The 2nd display shows the number of items that exist in memory.

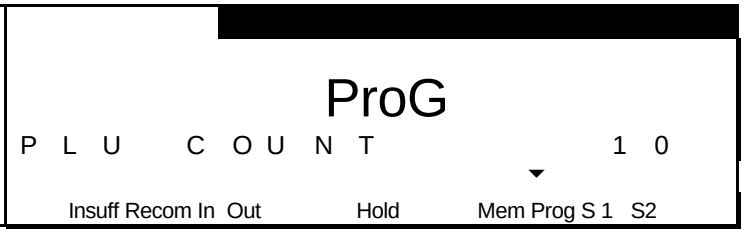
2. Press [#] key.	[#]	

3. Check other item codes with [-] and [+] key.	[C]	

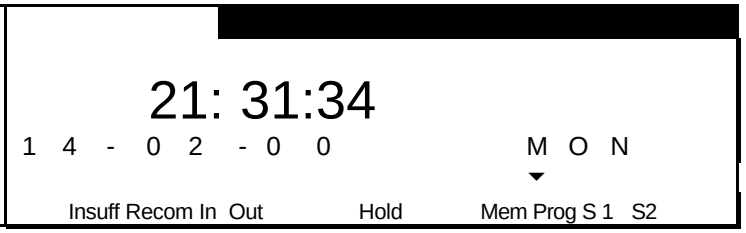
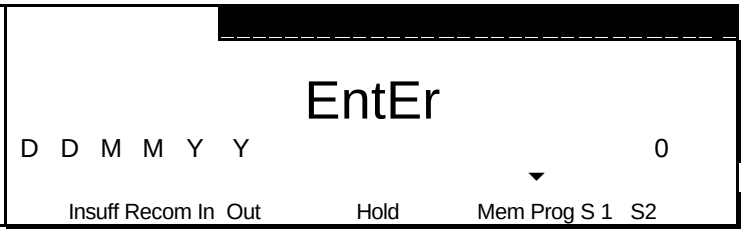
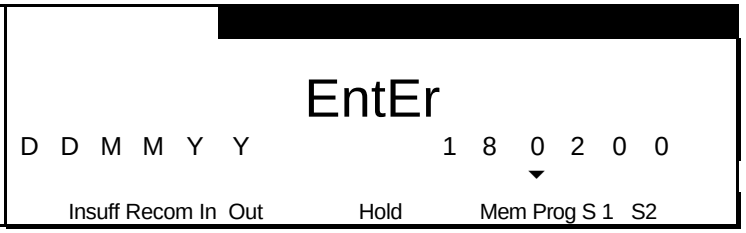
Note) [+] key works to move to the next item code. [-] key works to be back to the previous item.

4. Back to the initial screen of program mode.	[MODE] + [RE-ZERO]	

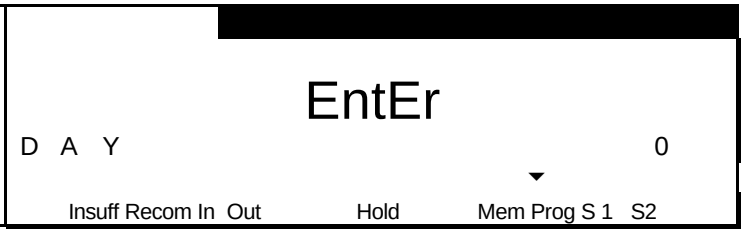
5.4. Date and Time

1. Go to program mode.	[MODE] + [RE-ZERO]	

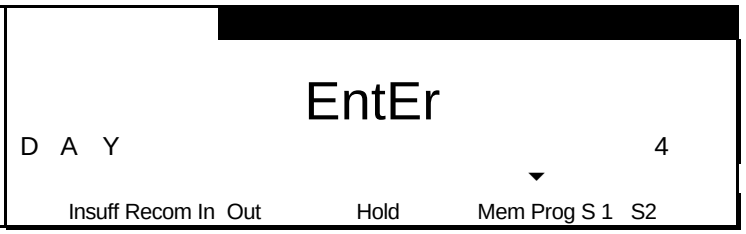
Note: Press [MODE] key while pressing [RE-ZERO] key.
Note: The 2nd display shows the number of items that exist in memory.

2. Press [-] key to display date and time.	[-]	
3. Press [-] key and again to go to date entry mode.	[-]	
4. Enter date, month, and year data. i.e. 18 Feb 2000	[1], [8], [0], [2], [0], [0]	

Note: Each of two digit numeric data represents date, month, and year. The order of Date, Time, Year (DDMMYY) can be changed by specification.

5. Press [-] key.	[-]	

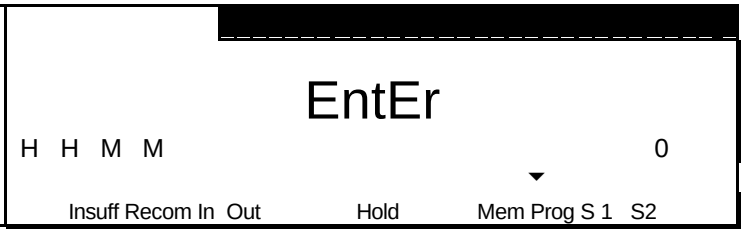
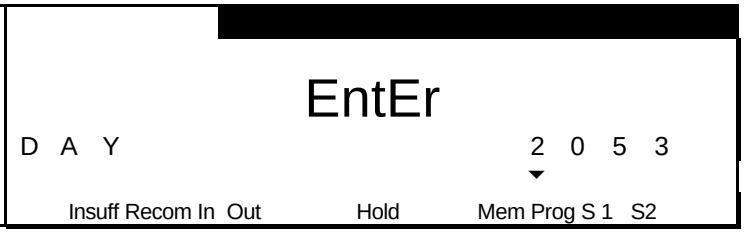
- Continue -

6. Enter the day of the week. i.e. Friday	[4]	

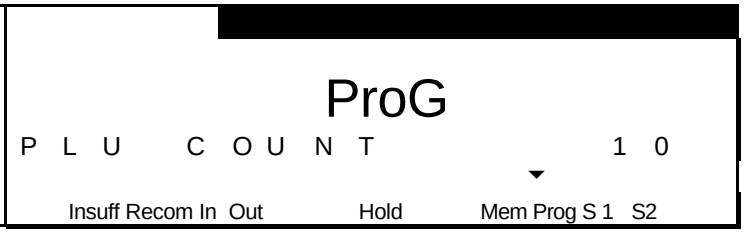
Note: one digit numeric data represents the day of the week as following table.

Number	Day of Week
0	Monday
1	Tuesday
2	Wednesday
3	Thursday

Number	Day of Week
4	Friday
5	Saturday
6	Sunday

7. Press [-] key.	[-]	
8. Enter the current time. i.e. 20: 53	[2], [0], [5], [3]	

Note: Each of two digit numeric data represents hour and minute.

9. Store the data.	[∗]	

Note: When pressing [∗] key, the internal clock starts to move from 00 second.

APENDIX I (LIST OF ASCII CODE)

Code	Chara.	Code	Chara.	Code	Chara.	Code	Chara.	Code	Chara.	Code	Chara.
20	Space	30	**0**	40	@	50	**P**	60	`	70	**p**
21	**!**	31	**1**	41	**A**	51	**Q**	61	**a**	71	**q**
22	**“**	32	**2**	42	**B**	52	**R**	62	**b**	72	**r**
23	**#**	33	**3**	43	**C**	53	**S**	63	**c**	73	**s**
24	**$**	34	**4**	44	**D**	54	**T**	64	**d**	74	**t**
25	**%**	35	**5**	45	**E**	55	**U**	65	**e**	75	**u**
26	**&**	36	**6**	46	**F**	56	**V**	66	**f**	76	**v**
27	**’**	37	**7**	47	**G**	57	**W**	67	**g**	77	**w**
28	**(**	38	**8**	48	**H**	58	**X**	68	**h**	78	**x**
29	**)**	39	**9**	49	**I**	59	**Y**	69	**I**	79	**y**
2A	*****	3A	**:**	4A	**J**	5A	**Z**	6A	**j**	7A	**z**
2B	**+**	3B	**;**	4B	**K**	5B	**[**	6B	**k**	7B	**{**
2C	**,**	3C	**<**	4C	**L**	5C	****	6C	**l**	7C	**|**
2D	**-**	3D	**=**	4D	**M**	5D	**]**	6D	**m**	7D	**}**
2E	**.**	3E	**>**	4E	**N**	5E	**^**	6E	**n**	7E	**~**
2F	**/**	3F	**?**	4F	**O**	5F	**_**	6F	**o**	7F	

APENDIX II (LIST OF TERAOKA CODE)

Code	Chara.	Code	Chara.	Code	Chara.	Code	Chara.	Code	Chara.
00	Space	20	**T**	40	**@**	60		80	
01	**A**	21	**U**	41	**!**	61		81	
02	**B**	22	**V**	42	**“**	62		82	
03	**C**	23	**W**	43	**#**	63		83	
04	**D**	24	**X**	44	**$**	64		84	
05	**E**	25	**Y**	45	**%**	65		85	
06	**F**	26	**Z**	46	**&**	66		86	
07	**G**	27	**,**	47	**/**	67		87	
08	**H**	28	**.**	48	**(**	68		88	
09	**I**	29	**-**	49	**)**	69		89	
10	**J**	30	**0**	50	**‘**	70		90	
11	**K**	31	**1**	51	**Æ**	71		91	
12	**L**	32	**2**	52	**Ä**	72		92	
13	**M**	33	**3**	53	**Ø**	73		93	
14	**N**	34	**4**	54	**Ö**	74		94	
15	**O**	35	**5**	55	**Ã**	75		95	
16	**P**	36	**6**	56	**Ê**	76		96	
17	**Q**	37	**7**	57	**Á**	77		97	
18	**R**	38	**8**	58		78		98	
19	**S**	39	**9**	59		79		99	**CR**

DI-80 Limited Warranty

Rice Lake Weighing Systems (RLWS) warrants that all RLWS equipment and systems properly installed by a Distributor or Original Equipment Manufacturer (OEM) will operate per written specifications as confirmed by the Distributor/OEM and accepted by RLWS. All systems and components are warranted against defects in materials and workmanship for two (2) years.

RLWS warrants that the equipment sold hereunder will conform to the current written specifications authorized by RLWS. RLWS warrants the equipment against faulty workmanship and defective materials. If any equipment fails to conform to these warranties, RLWS will, at its option, repair or replace such goods returned within the warranty period subject to the following conditions:

- Upon discovery by Buyer of such nonconformity, RLWS will be given prompt written notice with a detailed explanation of the alleged deficiencies.
- Individual electronic components returned to RLWS for warranty purposes must be packaged to prevent electrostatic discharge (ESD) damage in shipment. Packaging requirements are listed in a publication, "Protecting Your Components From Static Damage in Shipment," available from RLWS Equipment Return Department.
- Examination of such equipment by RLWS confirms that the nonconformity actually exists, and was not caused by accident, misuse, neglect, alteration, improper installation, improper repair or improper testing; RLWS shall be the sole judge of all alleged non-conformities.
- Such equipment has not been modified, altered, or changed by any person other than RLWS or its duly authorized repair agents.
- RLWS will have a reasonable time to repair or replace the defective equipment. Buyer is responsible for shipping charges both ways.
- In no event will RLWS be responsible for travel time or on-location repairs, including assembly or disassembly of equipment, nor will RLWS be liable for the cost of any repairs made by others.

THESE WARRANTIES EXCLUDE ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NEITHER RLWS NOR DISTRIBUTOR WILL, IN ANY EVENT, BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

RLWS AND BUYER AGREE THAT RLWS'S SOLE AND EXCLUSIVE LIABILITY HEREUNDER IS LIMITED TO REPAIR OR REPLACEMENT OF SUCH GOODS. IN ACCEPTING THIS WARRANTY, THE BUYER WAIVES ANY AND ALL OTHER CLAIMS TO WARRANTY.

SHOULD THE SELLER BE OTHER THAN RLWS, THE BUYER AGREES TO LOOK ONLY TO THE SELLER FOR WARRANTY CLAIMS.

No terms, conditions, understanding, or agreements purporting to modify the terms of this warranty shall have any legal effect unless made in writing and signed by a corporate officer of RLWS and the Buyer.

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