ISHIDA

Retail Scale

BC-3000

SERVICE MANUAL

ISHIDA CO., LTD.

Manual No. 0141A

48775

Contents

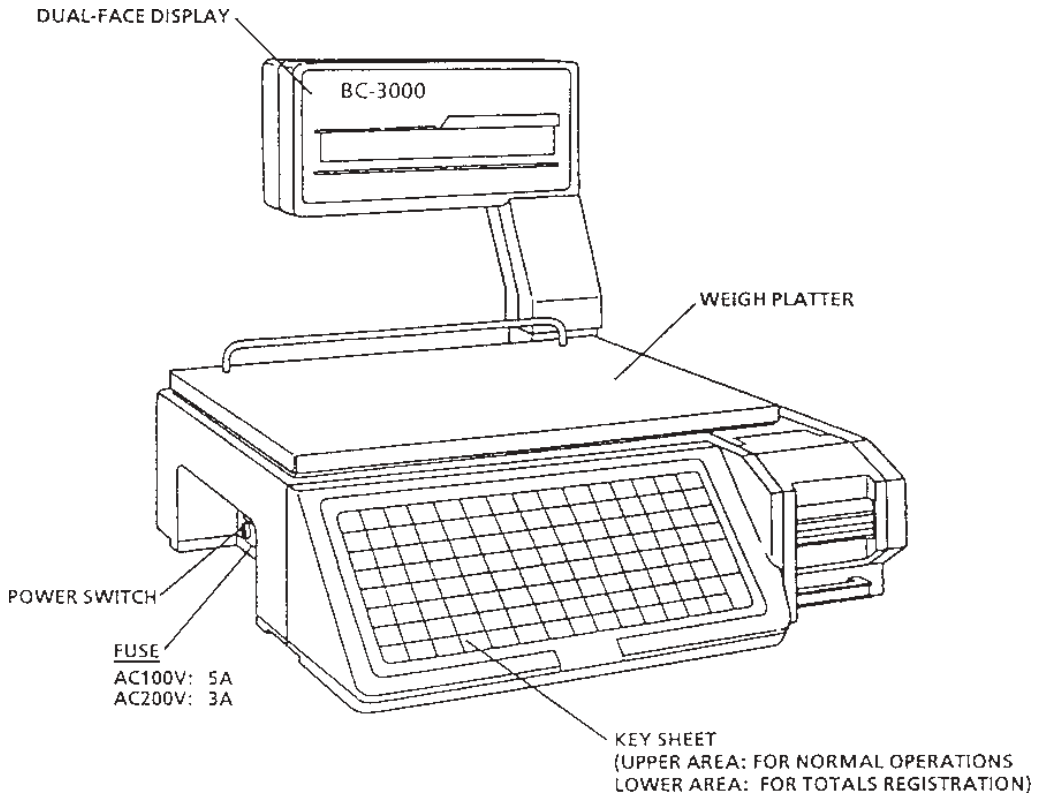
HARDWARE SECTION

SOFTWARE SECTION

HARDWARE SECTION

1 INTRODUCTION

1.1 MAIN COMPONENTS



1.2 CHARACTERISTICS

■ 16-Bit microprocessor

The BC-3000 scale is equipped with a 16-bit microprocessor unit (V-40) which enables processing of large quantities of data.

■ E^2ROM

The use of E^2ROM ensures that important data is not lost.

■ Resistance value and printing density settable via key entry

The thermal head resistance value as well as printing density can be set by key entry.

■ Settable sales mode

For supermarket specifications, there are operator and non-operator selections.

Differences from the AC-2000

- Data transmission to the IF-21FD is via I^2NET (9P) instead of RS-232C used by the AC-2000.
- An inspection mode has been added. Verification can be made during totaling.

Mode Key Function

Enter the pass code (4 digits), then press ☐ MODE to change modes. If ☐ MODE is pressed without entering a pass code, then normal operation mode is returned.

Pass Code	Mode
9000	Registration
8000	Totals
7000	Subtraction
6000*	Setting
5000*	Checking

*Fixed

2 SET UP

2.1 PARTS CHECK

Open the shipping carton and confirm the following:

- No parts are missing.
- No parts are damaged.

2.2 INSTALLATION SITE CHECK

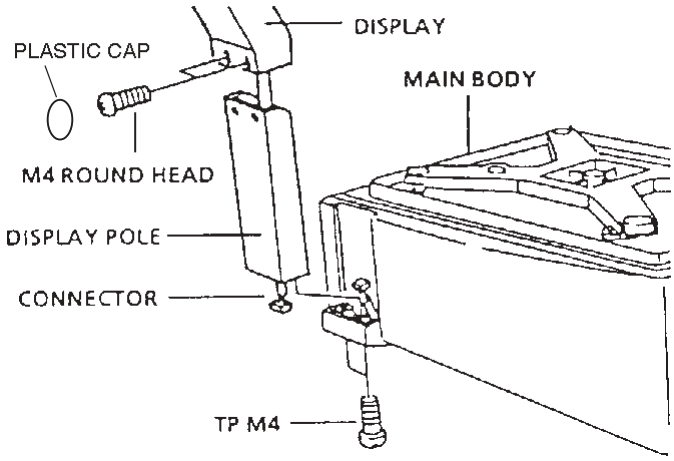
Check that the installation site conforms to the following conditions:

- Site is stable and level.
- Scale will not be exposed to water or other liquids.
- Scale will not be exposed to direct sunlight for long periods.
- Scale will not be exposed to wind or strong vibration.
- Installation site should be sufficiently spacious.
- Dedicated, grounded circuit is available.

2.3 ASSEMBLY

Assemble the display components as follows:

1. Thread the display connector cable through the display pole.
2. Attach display pole to the plastic display housing with 2 screws (M4).
3. Connect cables.
4. Attach the display to the main body with 2 screws (M4).
5. Cover the screws with the plastic screw caps.



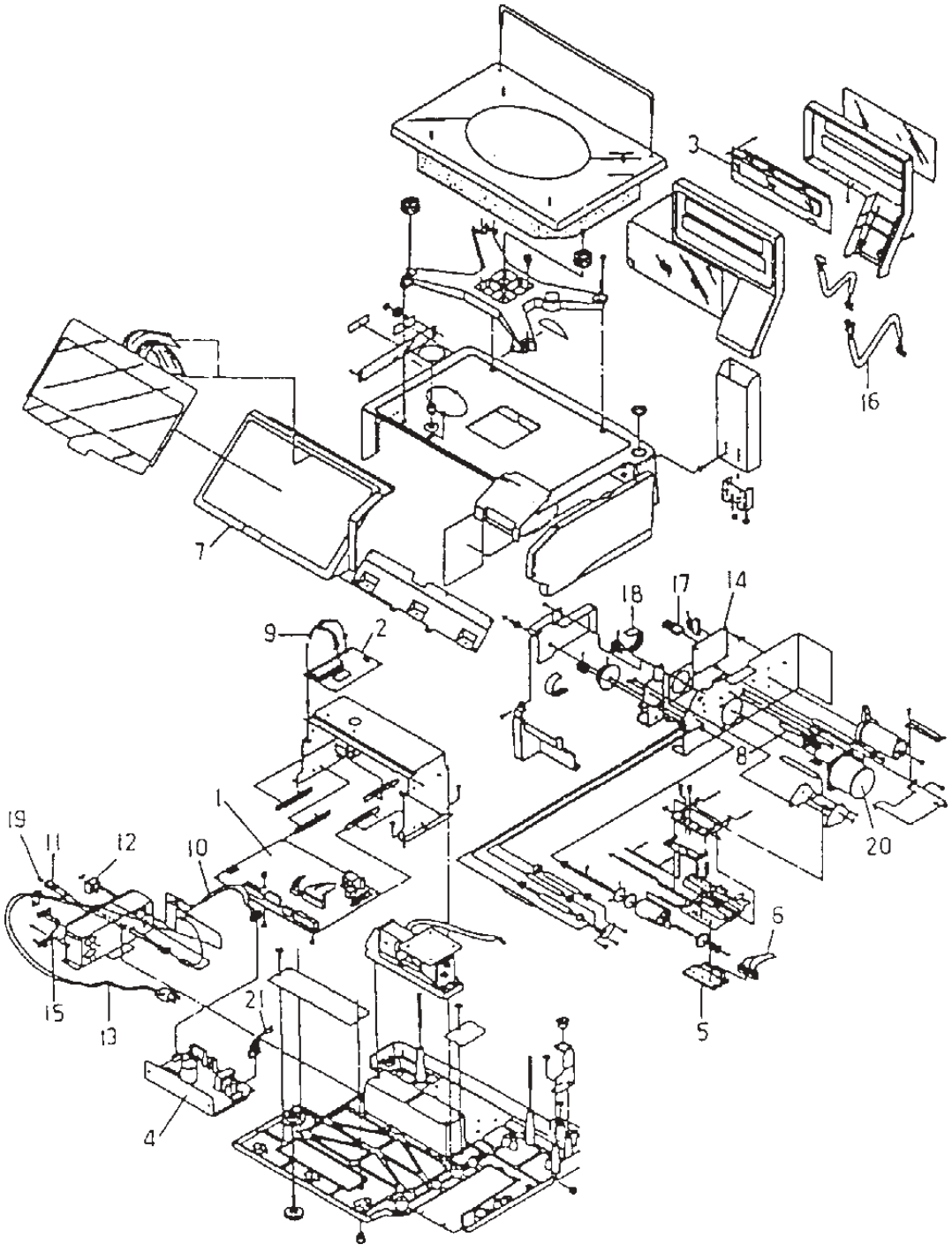
2.4 SET UP SEQUENCE

1. **Perform RAM clear sequence.**
   Insert the power plug into an outlet. Referring to Chapter S5 (Test Mode 2: RAM Clear), initialize all the RAM data.
2. **Set print format, label length and sales mode according to user's specifications.**
   Service manual reference sections:
   - Print format setting : Chapter S5 (Test Mode7: Label Format)
   - Label length setting : Chapter S4 (Setting Mode 1: Label Format)
   - Sales mode setting : Chapter S5 (Test Mode 8: Sales Mode)
3. **Register date and time.**
   Referring to the programming manual, enter the date and time.
4. **Register PLU.**
   Referring to the programming manual, enter PLU data registration in Registration mode.
5. **Perform print test.**
   Load a roll of labels or receipts, and confirm that printing is correct. Refer to Chapter S5 (Test Mode 3: Thermal Head).
6. **Perform totals clear.**
   Refer to the operation manual.
7. **Back up data.**
   Back up the registration data on a floppy disk. Refer to Chapter S5 (Test Mode 99: Data Transmission.)

3 PARTS DISASSEMBLY & REPLACEMENT

This chapter explains the procedures for disassembling and replacing the main components. Please be careful not to drop or strongly impact fragile parts such as the display unit and circuit boards. Also, before disassembly, be sure to turn off the power switch and unplug the power cord.

3.1 DISASSEMBLY VIEW AND PART NAMES



Part Name Key

Part No.	Part Name
1*	PWB: P-864: CPU
2	PWB: P-830: A/D
3	PWB: P-865: Display
4*	Power Supply: Switching
5	Thermal head
6	Harness: S2: Thermal head
7	Panel: Keyboard
8	Label Sensor: AS
9	Harness: C3: Scale
10	Harness: C3: Power
11	Fuse: AS
12	Switch: Seesaw
13*	Harness: C3: Power cord
14	Power Supply: DC/DC
15	Harness: C3: I^2NET
16	Harness: C2: Display 1
17	Harness: S2: DC/DC1
18	Timing Belt: XL (124 x L)
19*	Fuse: Glass tube
20	Motor: AS: Stepping
21	Harness: S3: Power

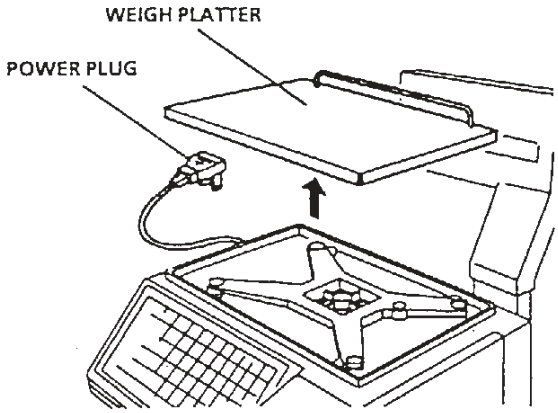
* These parts vary with country. (Only the software of PWB: P-864 varies; the board itself is common to all countries.)

Note: Only the main parts are listed here. For a complete listing of parts and their corresponding parts numbers, refer to the BC-3000 parts list.

3.2 UPPER COVER REMOVAL

1. Remove the weigh platter.

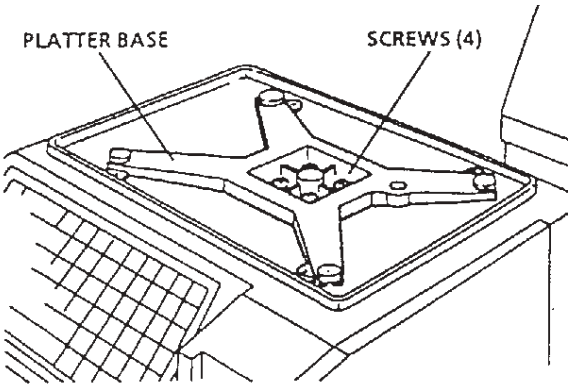
1) Place the scale on a level surface.
   Rotate the adjustment feet to level the scale if necessary.
2) Unplug the power plug from its outlet.
3) Lift off the weigh platter, keeping it horizontal.



Note: When replacing the weigh platter, align the platter pins with the rubber inserts on the platter base.

2. Remove the platter base.

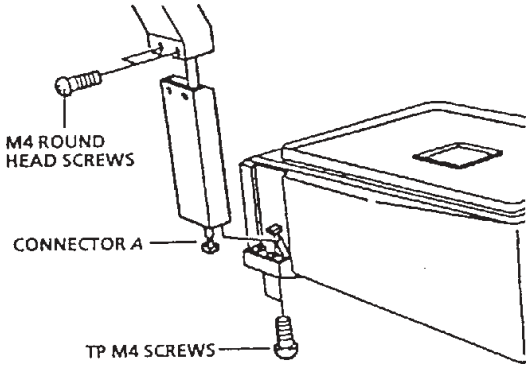
Remove the four attachment screws, then lift off the platter base.



Note: After replacing the platter base, perform four corner adjustment (Refer to Section 5.5).

3. Remove display unit.

1) Remove the two screws (M4) that secure the display pole to the main body.
2) Carefully lift up the display unit and disconnect connector A.
3) Remove the two screws (M4) which secure the plastic display housing to the display pole.

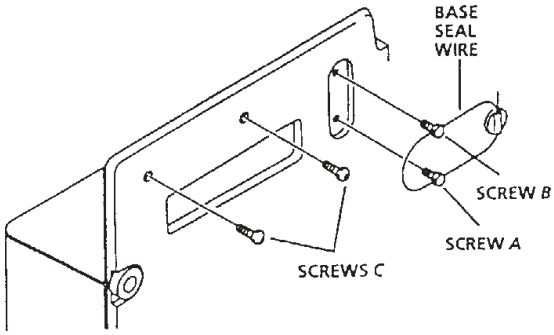


CAUTION!

In order to avoid damage to fragile components, be careful not to drop or strongly impact them.

4. Remove the operation keyboard panel.

1) Cut the base seal wire.
2) Remove base seal wire screw B.
3) Remove both screws C.



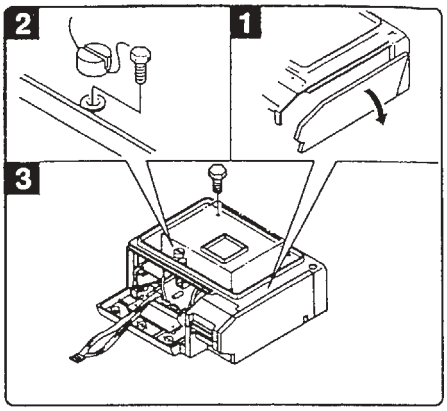
Note: The base seal wire is only used for countries requiring a base seal. For other specifications, remove only screws B & C.

CAUTION!

After the base seal wire is cut, it is necessary to have the scale re-inspected and the seal replaced. Never cut the base seal unless required.

5. Remove the upper case.

1) Lower the side panel in the direction of the arrow.
2) Cut the seal wire, and remove the seal wire screws.
3) Remove the four screws which secure the upper case, then carefully lift the cover off the main body.



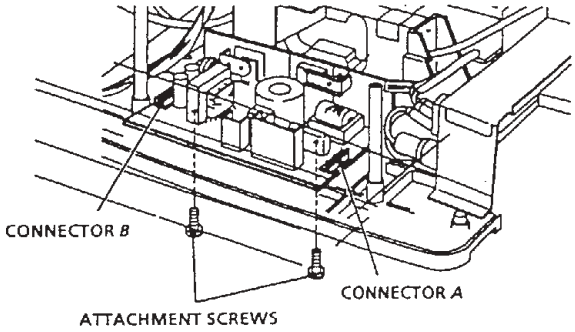
CAUTION!

After the base seal wire has been cut, it is necessary to have the scale re-inspected and the seal replaced. Never cut the base seal unless required.

3.3 CIRCUIT BOARD REPLACEMENT

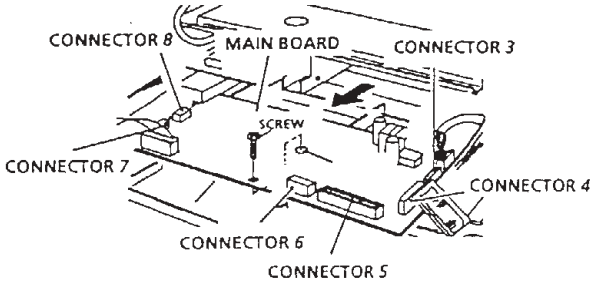
1. Remove the power unit.

1) Remove the two attachment screws from the power unit located in the lower part of the scale.
2) Remove connectors A & B.



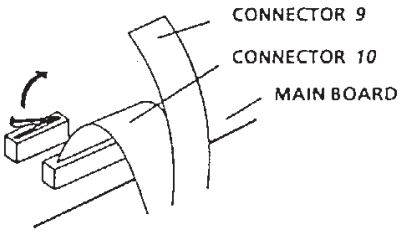
2. Remove the main board.

1) Remove the attachment screw from the main board.
2) Slide the main board toward you, and remove connectors 3~8.



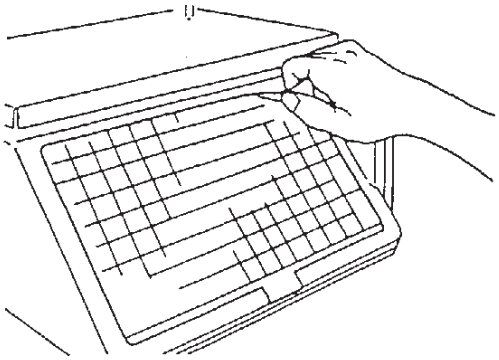
3. Remove the keyboard.

1) Remove connectors 9 and 10 located on the main board beside the keyboard.
2) Peel off the keyboard starting from the corner.



CAUTION!

If the keyboard is removed even once, it becomes unusable. Never remove unless necessary.



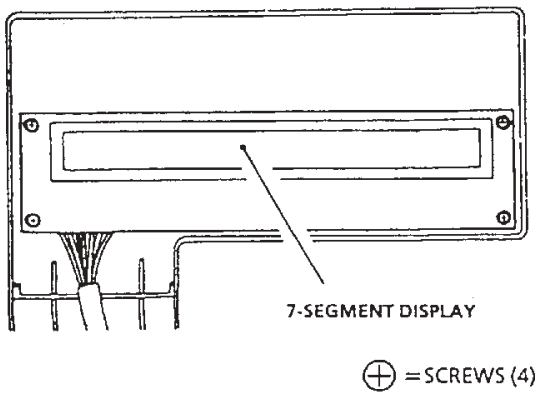
4. Remove the A/D board.

Remove the A/D board referring to the procedures described in Load Cell Replacement section of this manual (Section 3.5).

3.4 DISPLAY UNIT REPLACEMENT

Replace display unit.

1) Carefully remove the cover.
2) Remove the four screws which secure the display unit.



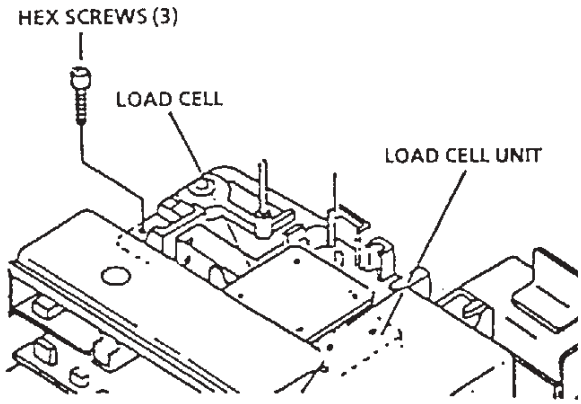
CAUTION!

• To avoid damage to the cover, open it slowly and carefully.
• Avoid touching the display unit.

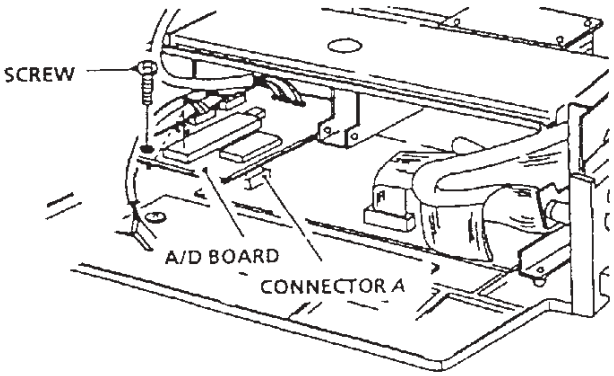
3.5 LOAD CELL REPLACEMENT

1. Remove the upper cover.
Refer to Section 3.2 of this manual for upper cover removal procedure.

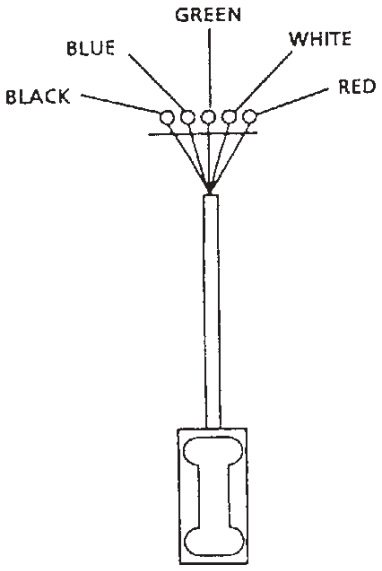
2. Remove the load cell unit.
1) Remove the three screws which secure the load cell unit.
2) Remove the load cell unit.



3. Remove the A/D board.
1) Remove the screw which secures the A/D board.
2) Slide the A/D board from its plastic bracket and disconnect Connector A.
3) Remove the load cell output cable (soldered in five places).

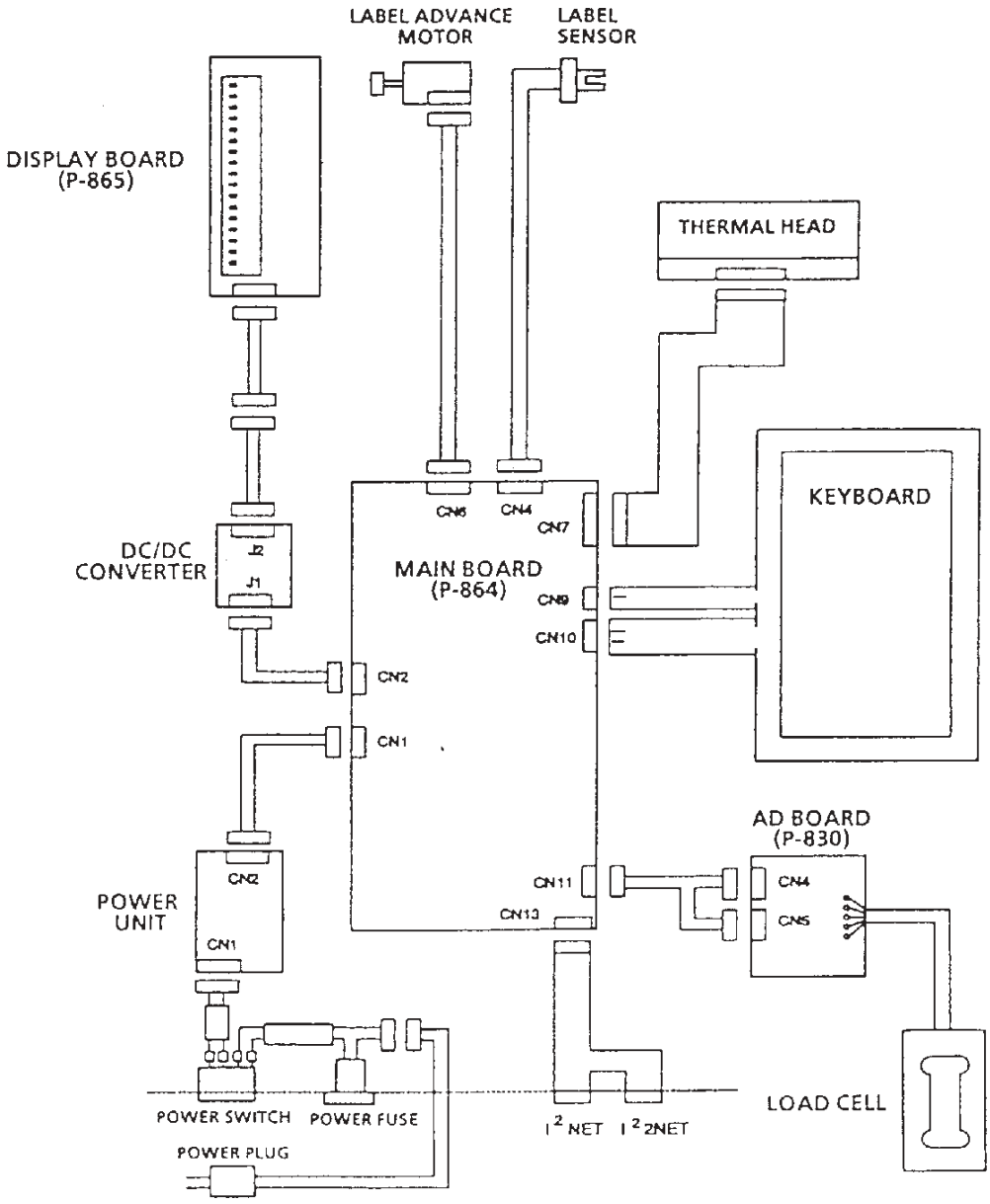


CAUTION!
- *The load cell output cable has five soldered points. When replacing be sure that the wires are in the correct order.*
- *After replacing the load cell unit, perform a four-corner test. (Reference: Section 5.5 of this manual)*



4 ELECTRONIC CONFIGURATIONS

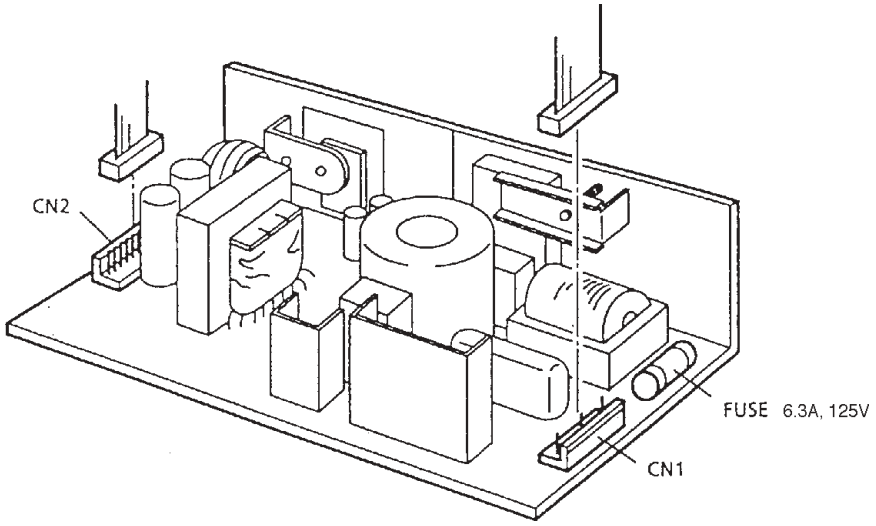
4.1 CONNECTOR CONFIGURATION



4.2 POWER UNIT

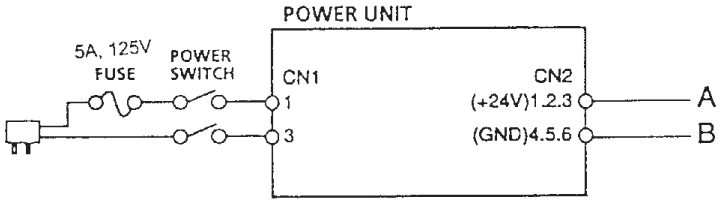
The power unit performs efficient voltage conversion, stabilizes low voltage, and supplies power to the various units.

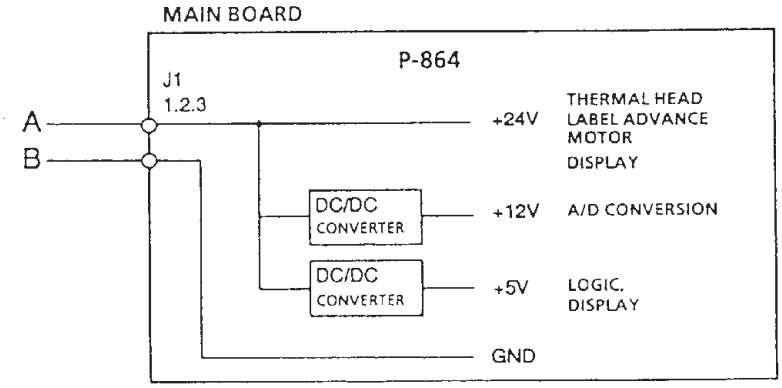
External View



Block Diagram

CN 1	SLS 100P
1	AC100 to 115V
3	AC100 to 115V

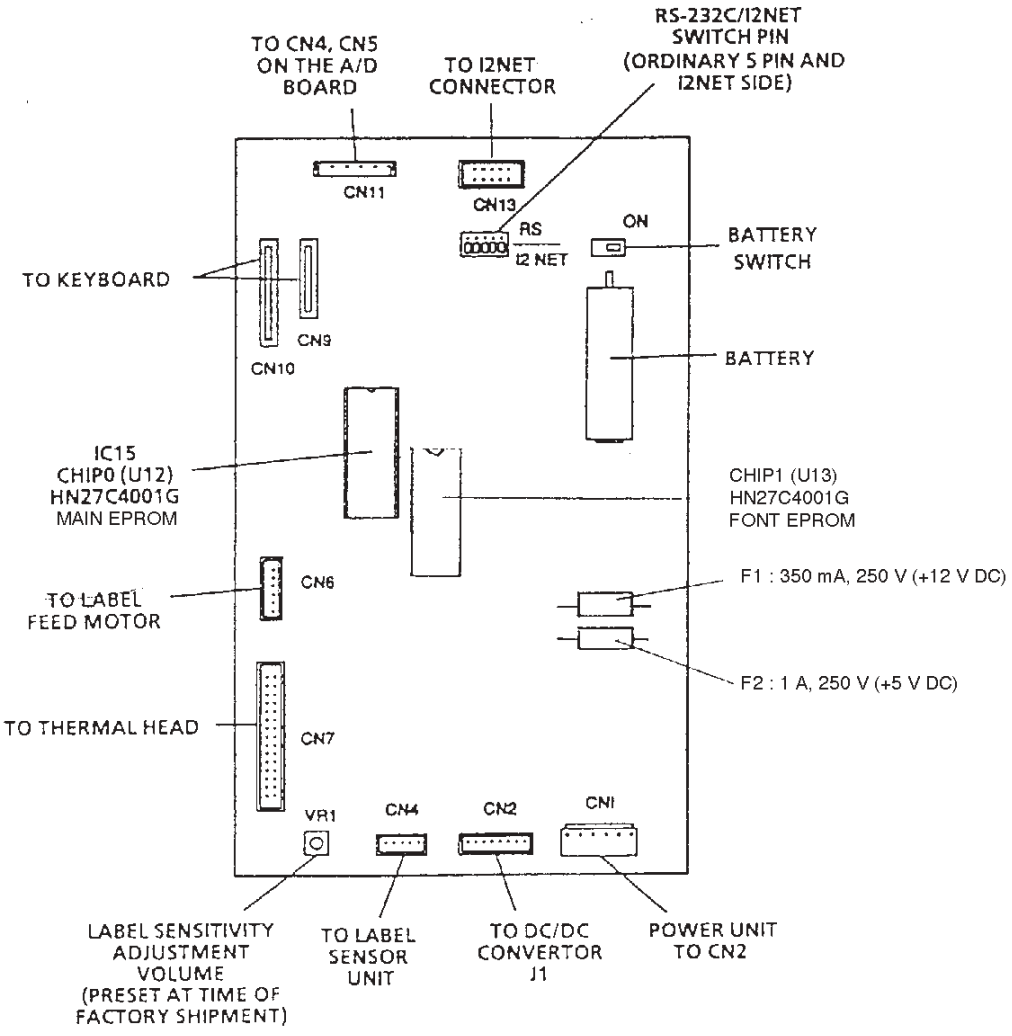




4.3 MAIN BOARD (P-864)

This board is equipped with a 16-bit microprocessor and is used to process scale data. The board is multi-layered, and its high precision construction is designed to reduce electrical impedance, electrical noise, and static electricity.

External View



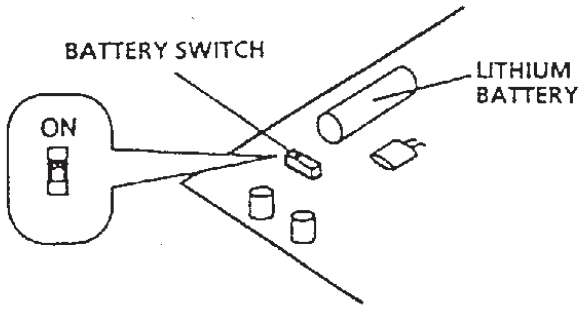
Board Functions

- Control of overall unit via CPU (V40)
  *EPROM (Program memory) 4 Meg type (2) are installed
- Process weight data from A/D board
- Key data input
- Price calculation
- Display of weight, price and unit price data
- Label advance motor output
- Thermal head printing output
- I^2NET output
- Label sensor input

Battery Switch

A lithium memory backup battery is included in these units.

After installation, make sure the battery switch is set to ON.



Note: This scale uses a rechargeable lithium battery. Normal charge is 3.6V. Battery switch is set to ON at time of shipment from factory.

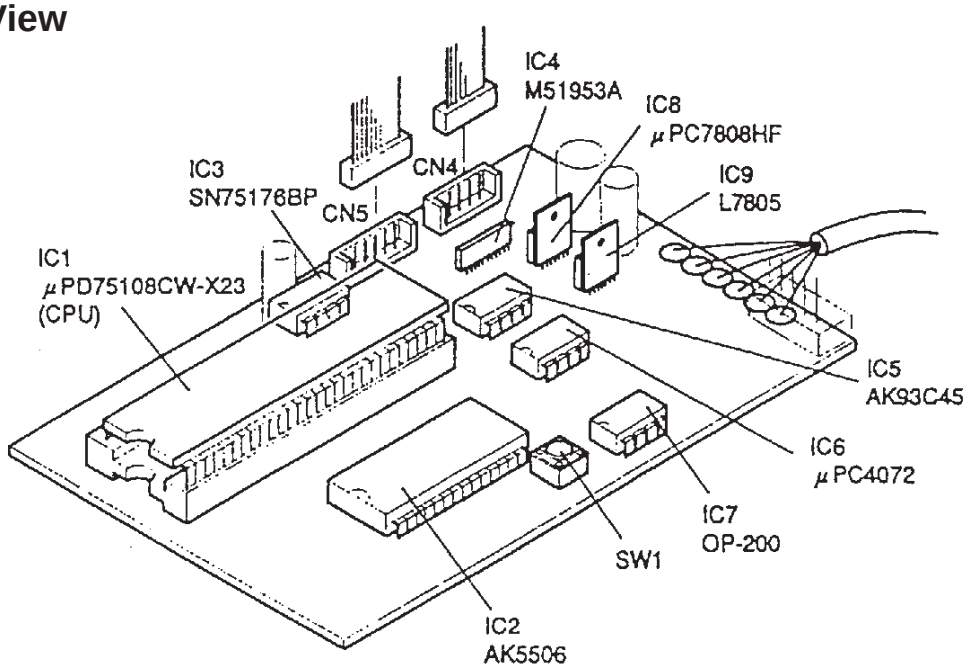
CAUTION!

There is danger of explosion if this battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

4.4 A/D BOARD (P-830)

The A/D board converts analog weight data from the load cell into digital data, and performs automatic span control and zero compensation.

External View

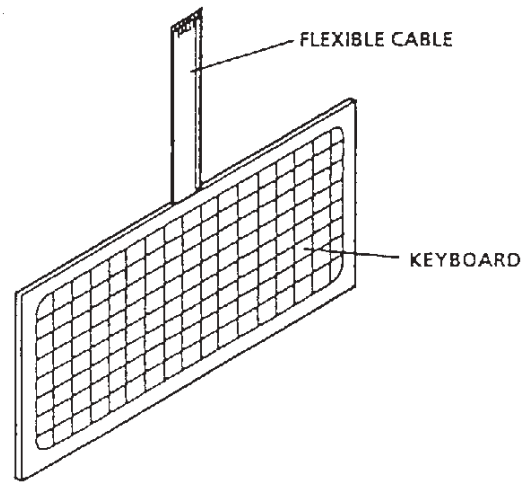


4.5 KEYBOARD

This is a panel type keyboard.

A flexible cable connects it to the main keyboard (CN9 and CN10).

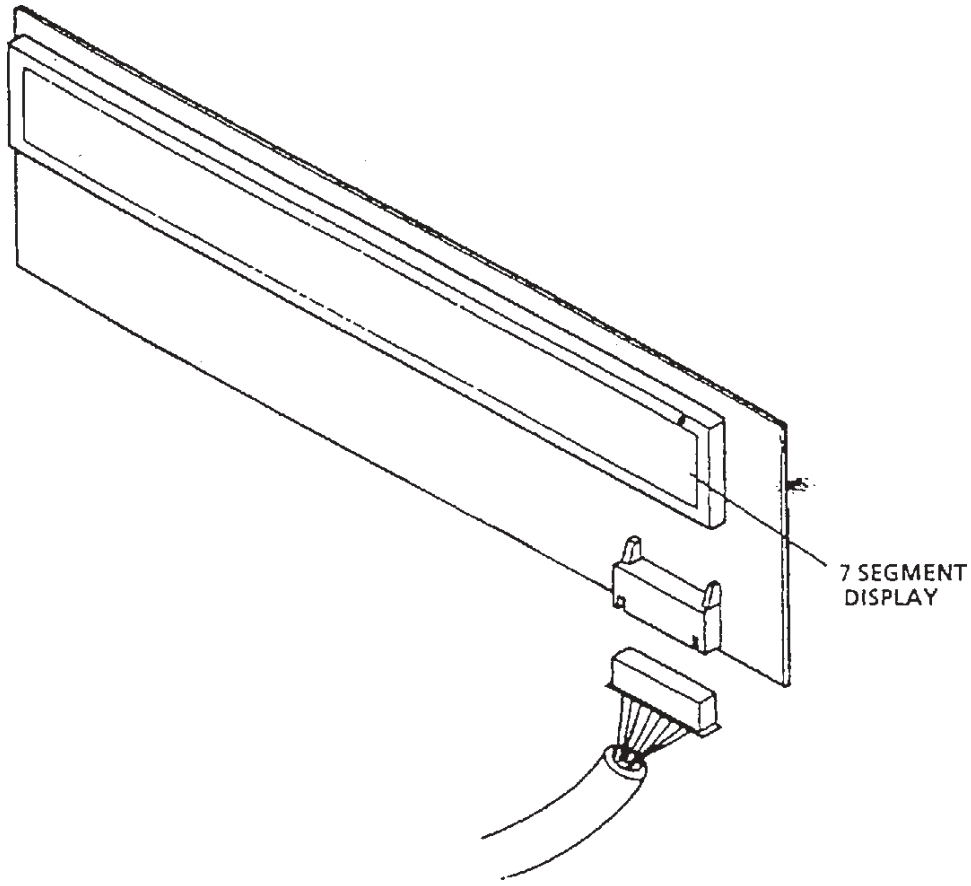
External View



4.6 DISPLAY UNIT (P-856)

- The BC-3000 is equipped with a 7-segment display module.
- Weight, price, and unit price data are displayed.

External View



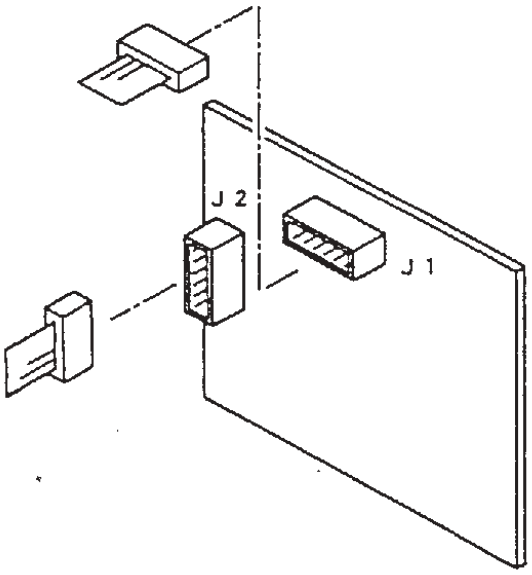
CAUTION!

- *The display modules are made of glass so care should be taken not to touch or impact the units.*
- *Do not remove the connectors with the power ON.*

4.7 DC/DC CONVERTER

The DC/DC converter transfers the voltage supplied to the display board.

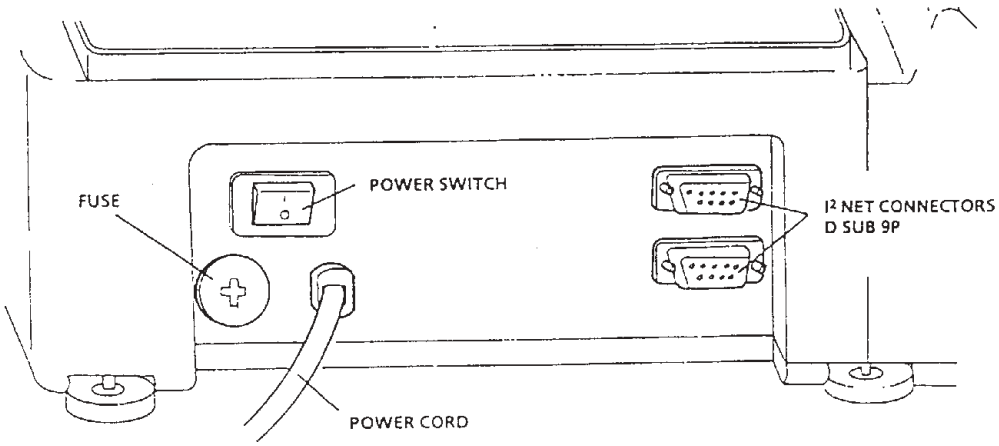
External View



4.8 CONNECTOR BRACKET

Includes the power switch, power cord, fuse, and I²NET connectors.

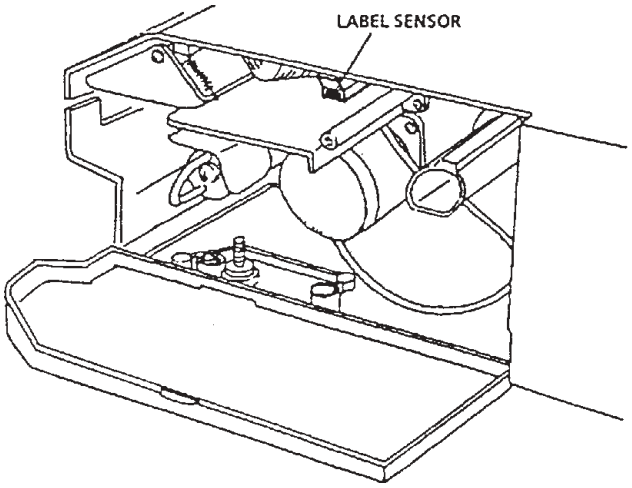
External View



4.9 LABEL SENSOR

The label sensor utilizes a photo-interrupter to detect the gap between labels, and functions to ensure that labels are printed correctly one at a time.

External View



Note: See Section 5.5 for adjustment procedures.

5 THERMAL HEAD

5.1 OVERVIEW

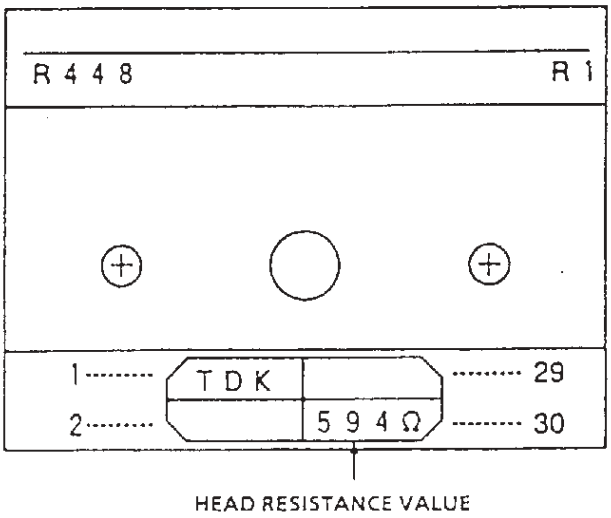
This 448 dot thermal head is specifically intended for use with label printers.

5.2 SPECIFICATIONS

Specification Sheet

Type	**LH3124I (Double density thermal head) TDK**
Overall dot count	448 dots
Dot pitch	0.135 (W) x 0.15mm (H)
Head resistance	R=528 to 672Ω
Required power	0.88 W/dot
Applied voltage	24 V
Maximum print width	60.5 mm
Resolution	188 dots/inch (7.4 dots/mm)
Print speed	2.8 inch/sec (70 mm/sec)

Configuration

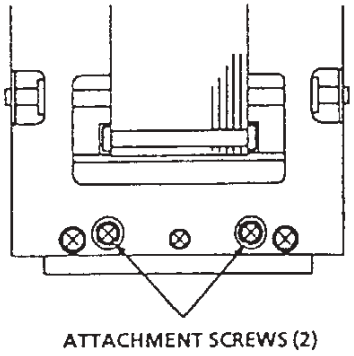


5.3 THERMAL HEAD ADJUSTMENT

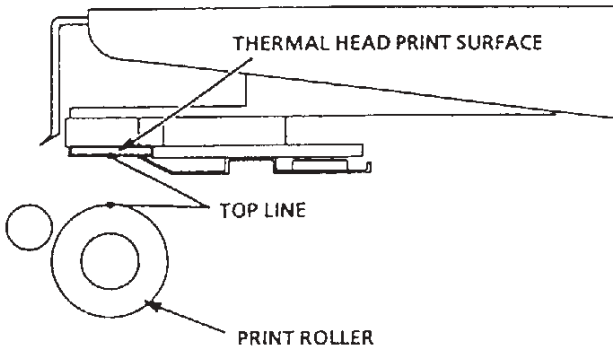
If the printing surface of the thermal head and the top line of the print roller are not properly aligned, then print quality across the width of the label will be poor.

First, print a test label, and if the clarity of the printed characters is not satisfactory, perform adjustment according to the following procedure.

1) Loosen by 1/4 turn the two thermal head attachment screws.
2) Manually adjust the position of the thermal head so that the top line of the roller and the thermal head print surface are aligned. Print out another test label, and note the print density. If not satisfactory, adjust the position of the thermal head, then print another label. Repeat until print density is correct.
   After adjustment, retighten the two attachment screws.



Note: Thermal head is usually mounted flush and parallel with the front edge of the mounting plate.



CAUTION!

- *Avoid touching the surface of the head. If touched, the surface should be wiped clean with a specialized head cleaner formula.*
- *Before adjusting, first lower the print density. This will facilitate adjustment.*

3) Set the thermal head resistance value.

Note: For setting method, refer to Chapter S5.2, Section 3, step C03-01.

4) Perform a label printing test.

Note: For test method, refer to Chapter S5.2, Section 3, step C03-03.

5.4 THERMAL HEAD CLEANING

If ink, glue, or other foreign matter adheres to the print surface of the thermal head, head conductivity will be diminished, resulting in poor print quality.

(1) Wipe the surface of the head clean using a soft cloth moistened with a specialized head cleaning formula.

CAUTION!

- *Do not touch the surface of the head with hands or metallic objects.*
- *Never use thinner to clean the head as it may damage other parts of the scale.*

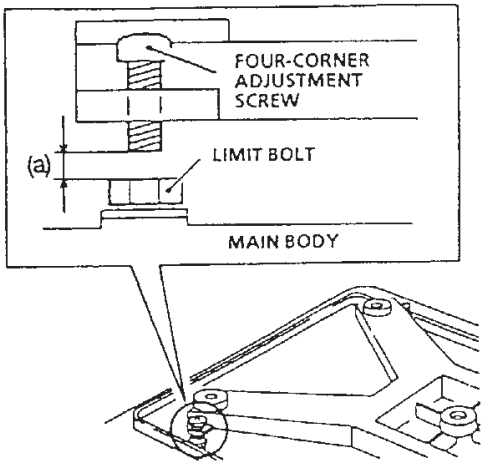
5.5 OTHER ADJUSTMENTS

Four limit bolts in the platter base function to prevent damage to the load cell from weight overload.

Four-corner adjustment is performed when the load cell is replaced or when external impact to the scale necessitates it.

1. Four-corner adjustment

Place a weight equal to scale capacity (15kg/ 30lb) plus 10% (1.5kg/3lb) on each corner of the weigh platter base in rotation.
Rotate each of the four-corner adjustment screws so that they just make contact with the limit bolts when the weight is loaded [Gap (a) in diagram].



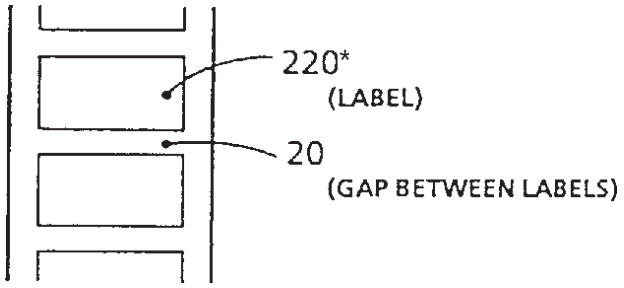
2. Label Sensor Adjustment

Label sensing is based on detection of variations in light between labels and the inter-label gaps. This adjustment is performed to compensate for differences in light values which vary according to the type of label paper used.

ADJUSTMENT METHOD

1) In test mode 4 (C04-00), check the values for the label and gap between labels.
   Example: Sensor value for the gap between labels is 20 (backing paper only) and the sensor value for label on backing paper is 220. These values are for example only and will vary depending on the label type.

2) In test mode 3 (C03-04), input the value calculated from the formula listed below based on the values for the label and gap between labels.



Example: $\frac{220^{*}\text{ (label) - 20 (gap)}}{2}$ = 100 (input value)

This input value (100) is the label and gap identification set value.

Note:

- If label on backing paper value is less than 200, perform adjustment procedure described below.
- The label and gap identification default setting value is 100.
- When using receipt paper for report printing, this adjustment is not necessary.

MAIN BOARD LABEL SENSITIVITY ADJUSTMENT VOLUME (VR1)

- The main board (P-864) label sensor adjustment volume (VR1) generally does not require adjustment (it is set before factory shipment).
- Label sensor adjustment is ordinarily through the adjustment method steps 1 and 2 described above.

* The value for label with backing paper must be greater than 200. If the value is less than 200, label feed may be inconsistent. Ideal value is between 240 and 250.

6 TROUBLESHOOTING

This chapter describes periodic parts replacement and troubleshooting countermeasures for error messages.

6.1 PERIODIC PARTS REPLACEMENT (MTBF*)

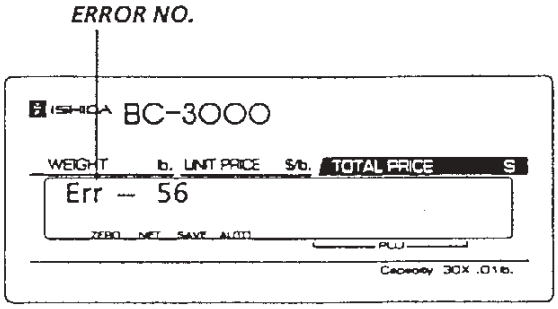
The following parts need to be periodically replaced. *MTBF = Mean Time Between Failures

1. **Thermal head**
   - Replacement period: When label advance distance reaches 30 km.
2. **Display module (Display board)**
   - Normal life expectancy: Under normal usage conditions, 30,000 hours.
3. **Print roller**
   - Replacement period: When label advance distance reaches 300 km.

6.2 MALFUNCTION TROUBLESHOOTING CHART

Error Condition	Probable Causes	Countermeasures
Scale cannot be powered up.	① Power plug mis-inserted. ② Fuse is blown. ③ Main board defective ④ Power unit defective ⑤ Power switch defective	① Reinsert power plug ② Replace fuse ③ Check, replace main board ④ Check, replace power unit ⑤ Check, replace power switch
Test mode is entered at power up	① Main board defective ② Keyboard defective	① Check, replace main board ② Check, replace keyboard
Dashes ("-") remain in the weight display	① Load cell defective ② External vibration ③ Main board defective ④ Power unit defective	① Check, replace load cell ② Check, change installation site ③ Check, replace main board ④ Check, replace power unit
Displayed weight is different from actual weight; or, displayed weight fluctuates.	① Four-corner screw making contact with limit bolt ② Foreign matter under weigh platter or load cell ③ Load cell defective ④ Main board defective	① Perform four-corner test ② Remove foreign matter ③ Adjust, replace load cell ④ Check, replace main board
Certain segments do not light or are continuously lit.	① Program not running ② Main board defective ③ Display board defective	① Check connectors ② Check, replace main board ③ Check, replace display board
Input to some or all keys is not accepted.	① Loose connection on keyboard cable ② Keyboard board defective	① Check, secure keyboard cable connection ② Check, replace keyboard
Registration data changes.	① Battery defective ② Main board defective ③ Ext. noise/static electricity	① Replace battery ② Check, replace main board ③ Check, change installation site
All of the display segments extinguish during operation	① Power voltage fluctuations ② Power unit defective ③ Display board defective ④ Main board defective	① Check power voltage ② Check, replace power unit ③ Check, replace display board ④ Check, replace main board
Partial printing or no printing at all.	① Thermal head cable defect ② Power unit defective ③ Thermal head defective ④ Main board defective	① Check, replace cable ② Check thermal head applied voltage ③ Adjust replace thermal head ④ Check, replace main board

6.3 ERROR MESSAGES



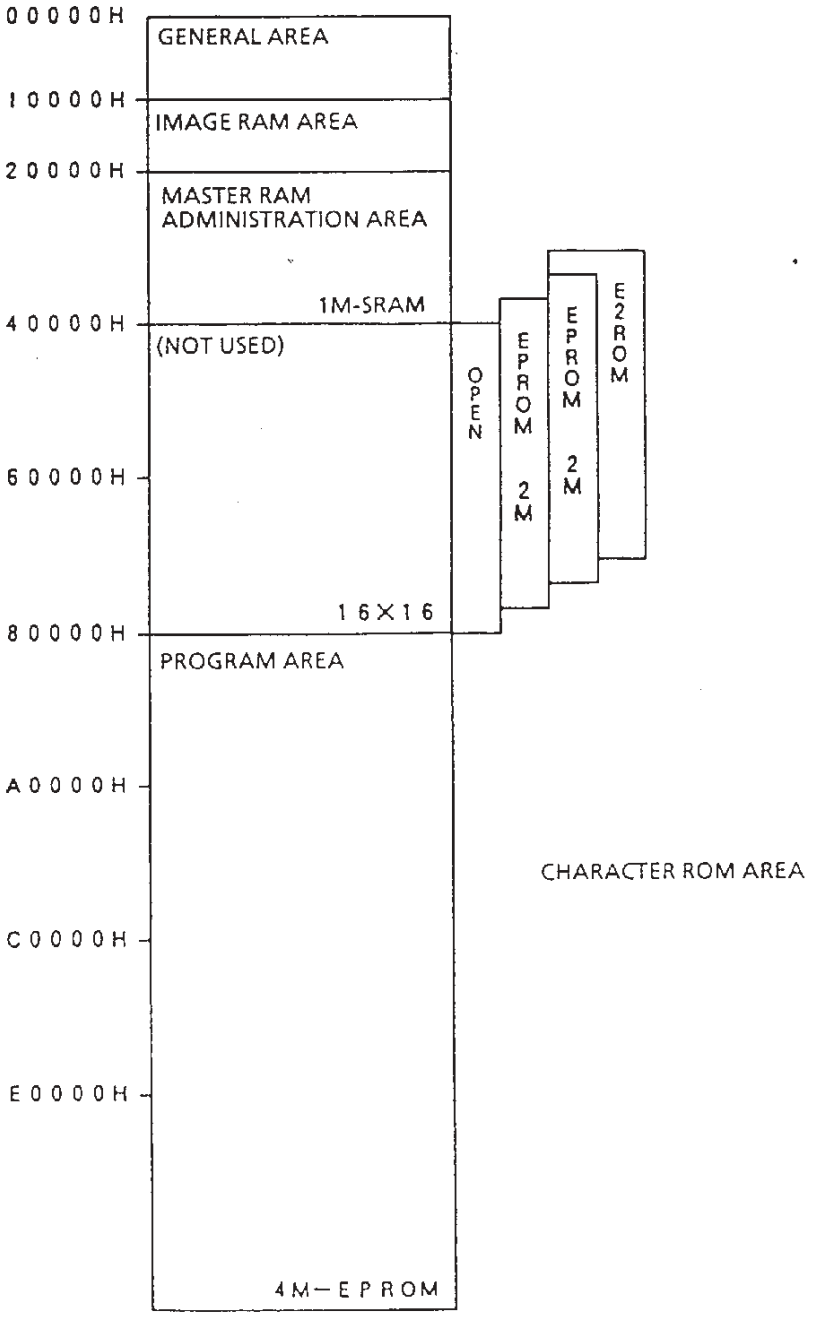
Error Display	Cause	Solution
Err-02	Too many characters on one line in product description.	Edit product description by removing excess characters per line
Err-03	Too many characters on first line for POP message to print.	Edit product description's first line by removing excess characters.
Err-04	Too many characters on one line in Extra message.	Edit Extra message by removing excess characters per line
Err-06	Too many characters on one line in Reg. Code.	Edit Reg. Code by removing excess characters
Err-07	Too many characters on one line in Store Name/Address	Edit Store Name/Address by removing excess characters per line
Err-08	• End of label roll. • Mis-threaded labels.	• Install new label roll. • Re-thread labels.
Err-09	• Incorrect labels installed in scale. • Label size settings are incorrect. • Mis-threaded labels.	• Install correct labels. • Check label size settings. • Re-thread labels.
Err-10	Discount price is equal to or greater than the original price.	Check the discount price registration.
Err-11	Internal database has become corrupted.	Perform memory clear.
Err-40	Memory in "FAT" area has been corrupted.	Re-initialize all memory including RAM and E2ROM
Err-42	Malfunction in main program: does not start up.	• Check possible CPU board failure. • Check firmware chips
Err-43	Memory in E2ROM has been corrupted.	Re-initialize with E2ROM clear.
Err-50	A/D board is disconnected or malfunctioning.	• Check A/D board cabling. • Replace A/D board
Err-51	NV RAM (calibration data) in ND board has been corrupted.	Recalibrate scale
Err-56	Scale is unstable or was turned on with some object on the platter.	Remove internal/external cause of instability.
Err-57	Scale was turned on with some object on the platter.	Remove all objects from the scale and then turn on the power.
Err-66	Transaction results cannot be written in to memory due to corruption of Totals area. ♦ Incorrect Memory clear procedure. ♦ Memory has become corrupted. ♦ Memory is full.	• Clear scale totals. • Power scale off after RAM clear, do NOT use RESET key. • Perform RAM clear. • Re-initialize E^2ROM
online Err no_XX	Master BC-3000 cannot communicate with satellite scale number "XX" during programming. • Faulty cable connections. • Satellite scale is turned off or set "off-line". • Satellite scale has been removed from the network.	• Check all cable connections. • Turn on satellite scale. • Reset satellite scale to "on-line". • Reprogram master BC-3000 to ignore missing satellite scale

Note: To clear error message from display, press the **CLR** key.

SOFTWARE SECTION

S1 OUTLINE OF SOFTWARE

S1.1 MEMORY MAP



S2 PRINT FORMAT MODIFICATION

Label printing area can be changed to conform to user's label specifications.

S2.1 PRINT FORMAT OVERVIEW

The BC-3000 has four types of default label formats. These types (shown in the table), serve as the base settings which can be modified as needed.

Firmware B-0209D and higher (Single-Range weighing)		Firmware B-0312 and higher (Dual-Range weighing)	
Format	**Label**	**Format**	**Label**
No. 1	60x44mm	No. 1	60x44mm
No. 2	64x47mm	No. 2	64x47mm
No. 3	64x85mm S.H.	No. 3	64x85mm S.H.
No. 4	64x37mm Non-UPC	No. 4	64x59mm S.H.

S2.2 LABEL FORMAT MODIFICATION RANGE

The label printing areas are divided into three sectors: Product name, Data, and

Store Name and address. The only print format sector which can be modified is the data sector.

Product name sector
Data sector
Store name and address sector

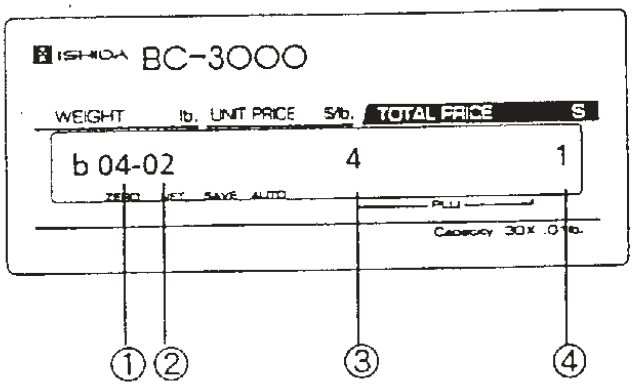
Note: Product name reference chapter: Chapter 4-Setting mode b01 (Label Format). Note that the number of Store name and address and Product name lines is fixed.

S2.3 FORMAT MODIFICATION METHOD

Print format change is performed in Test mode. For more details, refer to Chapter S5-Test Mode 7.

S3 DISPLAY MODULE

S3.1 DISPLAY MODULE OVERVIEW



1) Root menu No.
2) Submenu No.
3) Selected item's number
4) Selected parameter's number

S3.2 ROOT AND SUBMENU SELECTION

This section describes the procedures for selecting the root and submenus.

■ Root Menu Selection Procedure

- Enter the number of the Root menu to be displayed, then press ☐ ↓.
- Press ☐ ↓ on the setting mode display to switch the root menus in sequence.

■ Sub Menu Selection Procedure

Press ☐ ↓ ENTER on the root menu display.

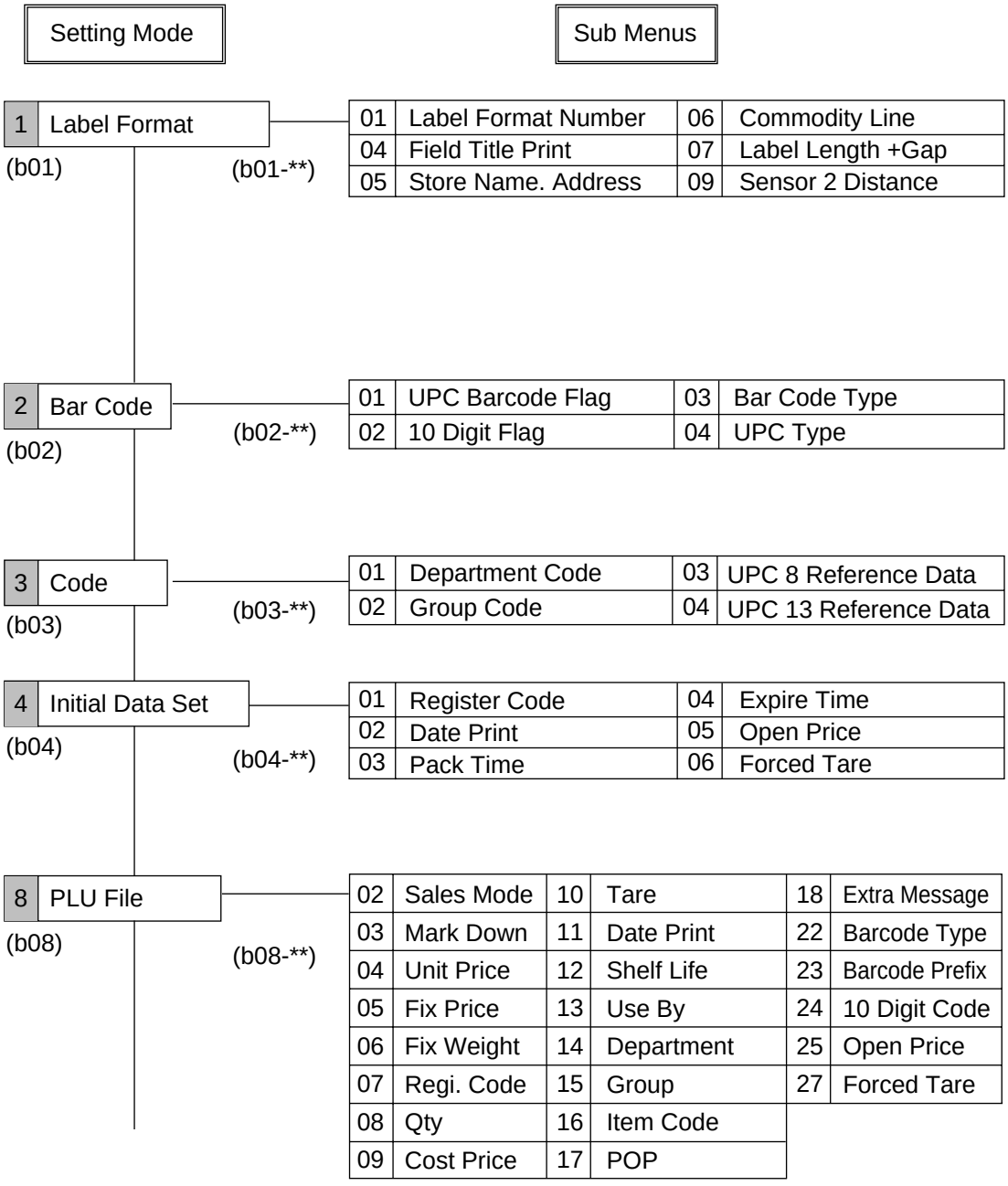
- Enter the number of the submenu to be displayed, then press ☐↓.
- Press ☐ ↓ to switch the submenus in sequence.

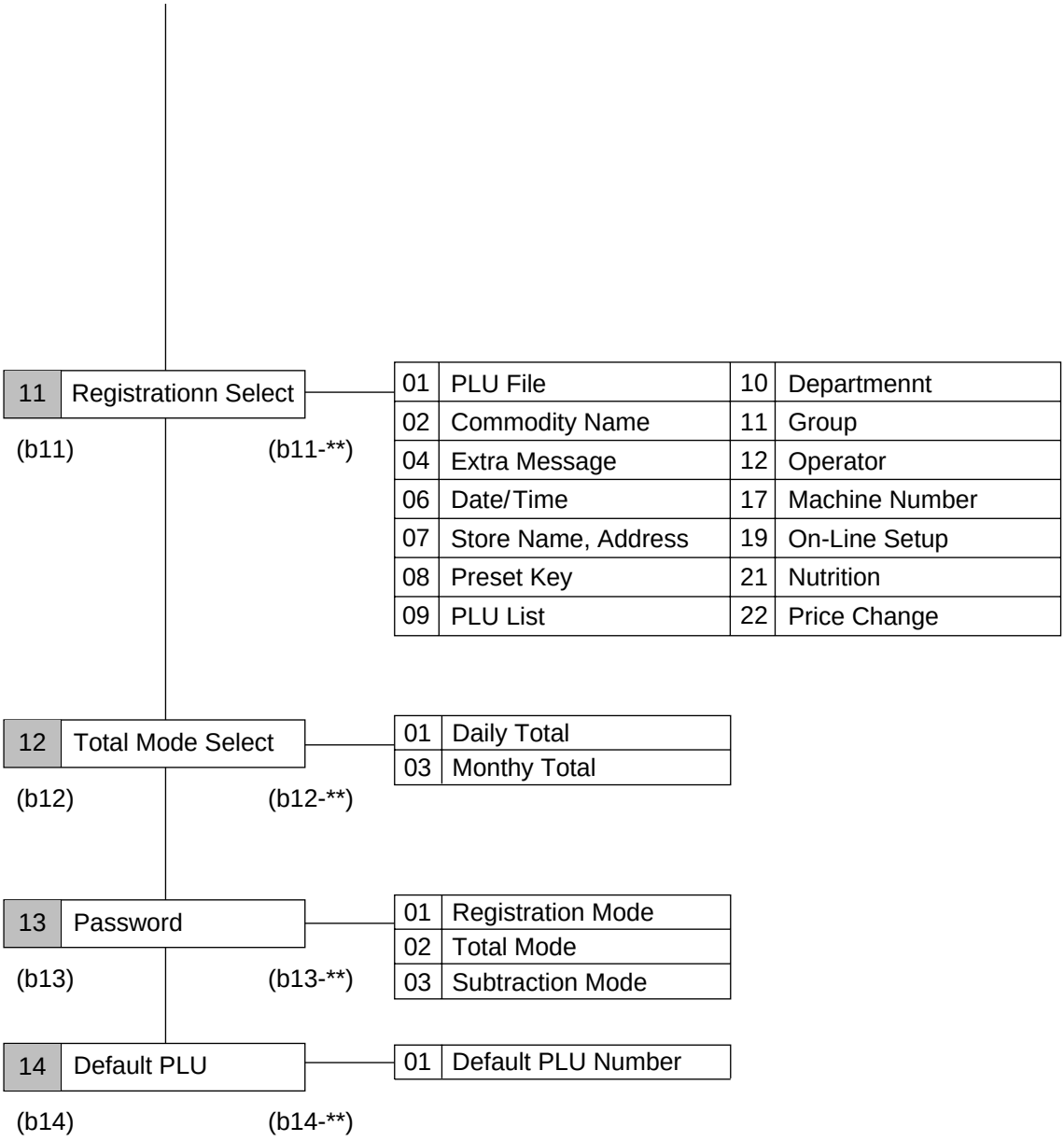
Note: Press ☐ END to return to the mode displays.

S4 SETTING MODE

The Setting mode is used to input settings to conform with user requirements. Enter Setting Mode using password 6000, followed by the MODE key.

S4.1 MENU SCHEMATIC




11 Registrationn Select
(b11)
(b11-**)
01 PLU File
02 Commodity Name
04 Extra Message
06 Date/Time
07 Store Name, Address
08 Preset Key
09 PLU List
10 Departmennt
11 Group
12 Operator
17 Machine Number
19 On-Line Setup
21 Nutrition
22 Price Change
12 Total Mode Select
(b12)
(b12-**)
01 Daily Total
03 Monthy Total
13 Password
(b13)
(b13-**)
01 Registration Mode
02 Total Mode
03 Subtraction Mode
14 Default PLU
(b14)
(b14-**)
01 Default PLU Number

S4.2 SETTING PROCEDURES

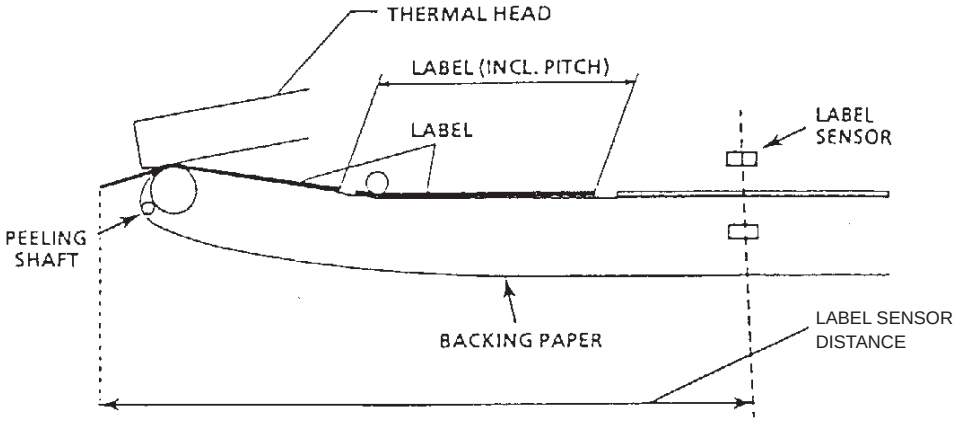
This section describes setting procedures for the items in the setting menu.

Label Format (b01)

Label Format is used to set the label print format.

For each item to be set, enter the number corresponding to the desired parameter, then press ☐ ENTER.

Menu No.	Description	Parameters	Notes
b01-01	Label format No.	0: Receipt 1: 60 x 44mm 2: 64 x 47mm 3: 64 x 85mm S.H. 4: 64 x 59mm S.H	See Sec S2-1 for complete listing
b01-04	Field title print	0: Title not printed 1: Title printed	Select if scale will print titles
b01-05	Store name, Address	0: Not printed 1: Printed	Select if scale will print store name and address
b01-06	Commodity Line	0.5 to 15.0 (0.5 steps)	Size three characters (15 x 30):1 line = 1.0 Size one characters (7 x 14): 1 line = 0.5. 0.5 = 2.7mm, 1.0 = 5.4mm, 2.0 = 10.8mm, 4.0 = 21.6mm, 9.0 = 48.6mm.
b01-07	Label Length + Gap	30.0-87.5 (0.1 steps)	Setting value: label length + label gap. 85mm maximum length.
b01-09	Sensor 2 Distance	50.0-150.0 (0.1 steps)	Gap sensor default = 107.5. Increase: Farther out, print moves up.



Bar Code (b02)

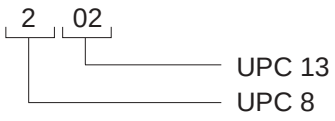
Bar Code is used to set bar code data.

Enter the number corresponding to the desired parameters, then press ☐ ENTER. After setting, confirm that settings are correct.

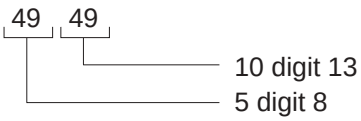
Menu No.	Description	Parameters	Note
b02-01	UPC Barcode Flag	Enter 3 digits	*1
b02-02	10 Digit Flag	Enter 4 digits	*2
b02-03	Bar Code Type	1: UPC 13 2: UPC 8 3: 10 Digit 13 4: 5 Digit 8	Default=1
b02-04	UPC Type	1: UPC, CODE:5 2: UPC, CODE:6 3: EAN, CODE:6 4: UPC, PRICE:5 5: EAN9, CD:4, PR:5 6: EAN9, PR:4, C/P:5 7: EAN, CD:6, WT:4 10: EAN, CD:4, WT:5 11: 0, COD:4, PR:5 12: MN:3, CD:2, PR:5 13: MN:2, CD:3, PR:5 14: FG:1, COD:6, PR:4 15: FG:1 , COD:6, PR:5 16: FG:1 , COD:6, WT:5	Default=1

Default values:

*1 UPC Barcode Flag (3 digits)



*2 10 Digit Flag (4 digits)



Code (b03)

Code is used to set the codes for department, group, etc. for totals accumulations. Enter the code numbers for each item, then press ☐ ENTER. After setting, confirm that settings are correct.

Menu No.	Description	Parameters	Note
b03-01	Department	Numeric entry: 2 digits	Default = 31
b03-02	Group	Numeric entry: 2 digits	Default = 42
b03-03	UPC 8 Reference	Numeric entry: 2 digits	Default = 42
b03-04	UPC 13 Reference	Numeric entry: 2 digits	Default = 45

Note: Item Code format = ①②③④⑤⑥⑦⑧ (step P01-16 in PLU programming)

Initial Data Setting (b04)

Initial Data Setting is used to set reference values for PLU programming. Enter the number corresponding to the desired parameters, then press ☐ ENTER. After setting, confirm that settings are correct.

Menu No.	Description	Parameters	Notes
b04-01	Register code	Enter 3 digits	Not used in USA
b04-02*†	Date Print	Select item by using ☐→. 1: Prohibit -- Enter [0] 2: Pack Date -- Enter [0] 3: Expire Date -- Enter 3 digits (shelf life in days) 4: Both -- Enter 3 digits (shelf life in days)	Use by setting [1] indicates same day
b04-03*†	Pack Time	Select item by using ☐→. 1: Prohibit -- Enter [0] 2: Internal -- Enter [0] 3: Designated -- Enter 4 digits indicating time Example: for 8 AM enter 800; for 2 PM, enter 1400.	Designated time: 0-11 = AM. 12 to 23 = PM
b04-04*	Expire Time	Select item by using ☐→. 1: Prohibit -- Enter [0] 2: Designated -- Enter 4 digits indicating time. Example: for 8 AM, enter 800. 3: Relative -- Enter 4 digits Example: To increase internal time by 3 hours enter 180. (Setting increments are 60)	Designated time: 0-11 = AM. 12 to 23 = PM
b04-05	Open Price	Operators may change programmed prices. 1 = Prohibit, 2 = Allow	Default = 2 (Allow)
b04-06	Forced Tare	A tare weight must be entered before a label will print. 1 = Yes, 2 = No	Default = 2 (No)

* The mode is steps b04-02 to b04-04 is selected by using ☐→. The numeric values are then input followed by ☐ ENTER.

† BC-3000 cannot program Pack Time and Expire Time by PLU.

PLU File (b08)

PLU File is used to set which PLU items can be entered. Enter a parameter number for each item, then press ☐ ENTER. After setting, confirm that settings are correct.

Note: All Item settings: 0 = Entry prohibit; 1 = Entry permit

MENU NO.	SETTING DESCRIPTION
b08-02	SALES MODE
b08-03	MARK DOWN
b08-04	UNIT PRICE
b08-05	FIX PRICE
b08-06	FIX WEIGHT
b08-07	REGI CODE
b08-08	QTY
b08-09	COST PRICE
b08-10	TARE
b08-11	DATE PRINT
b08-12	SHELF LIFE
b08-13	USE BY
b08-14	DEPARTMENT
b08-15	GROUP
b08-16	ITEM CODE
b08-17	POP
b08-18	EXTRA MESSAGE
b08-22	BARCODE TYPE
b08-23	BARCODE PREFIX
b08-24	10 DIG. CODE
b08-25	OPEN PRICE
b08-27	FORCED TARE

Registration Select (b11)

Registration Select is used to prohibit or permit items to be accessed from the Registration menu. Enter the desired parameter number for each item, then press ☐ ENTER. After setting, confirm that settings are correct.

Note: All Item settings: 0 = Prohibit; 1 Permit

Menu No.	Setting Description
b11-01	PLU File
b11-02	Commodity Name
b11-04	Extra Message
b11-06	Date/Time
b11-07	Store Name
b11-08	Preset Key
b11-09	List
b11-10	Department
b11-11	Group
b11-12	Operators
b11-17	Machine No.
b11-19	On Line Set
b11-21	Nutrition File
b11-22	Price Change

Total Mode Select (b12)

Total Mode Select is used to set totals mode parameters (Daily, or Monthly totals). Enter the number corresponding to the desired parameter, then press ☐ ENTER. After setting, confirm that settings are correct.

Note: All Item settings: 0 = Prohibit, 1 = Permit

Menu No.	Setting description
b12-01	DAILY TOTAL
b12-03	MONTHLY TOTAL

Password (b13)

Password is used to change the password for Registration, Totals, and Subtraction modes. Enter the 4 digit password then press ☐ ENTER.

Menu No.	Menu	Default Setting
B13-01	Registration	9000
B13-02	Totals	8000
B13-03	Subtraction	7000

Note: 1) The only value which cannot be entered is "6000."

2) The setup menu password cannot be changed from 6000.

Default PLU (b14)

Used to set the open PLU value. Enter the numbers (6 digits), then press ☐ ENTER.

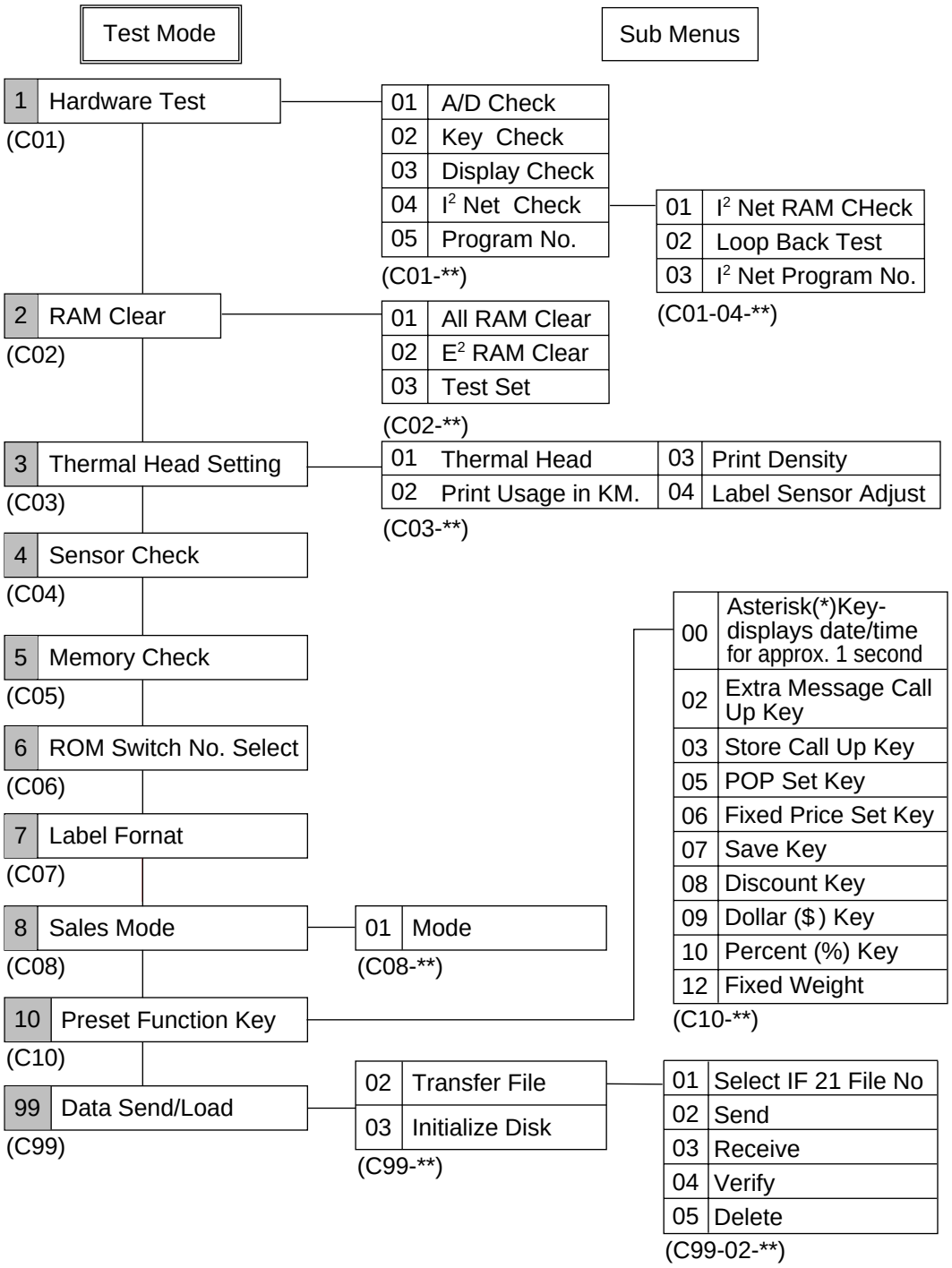
Menu No.	Setting Description	Entry Contents
b14-01	Open PLU	Numeric entry (6 digits)

Note: To disable this feature, enter [0].

S5 TEST MODE

To access Test Mode: Turn on the power switch while holding down any key. Test Mode will be called up.

S5.1 MENU SCHEMATIC

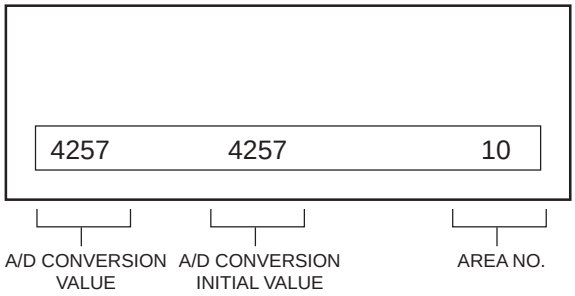


S5.2 TEST MODE PROCEDURES

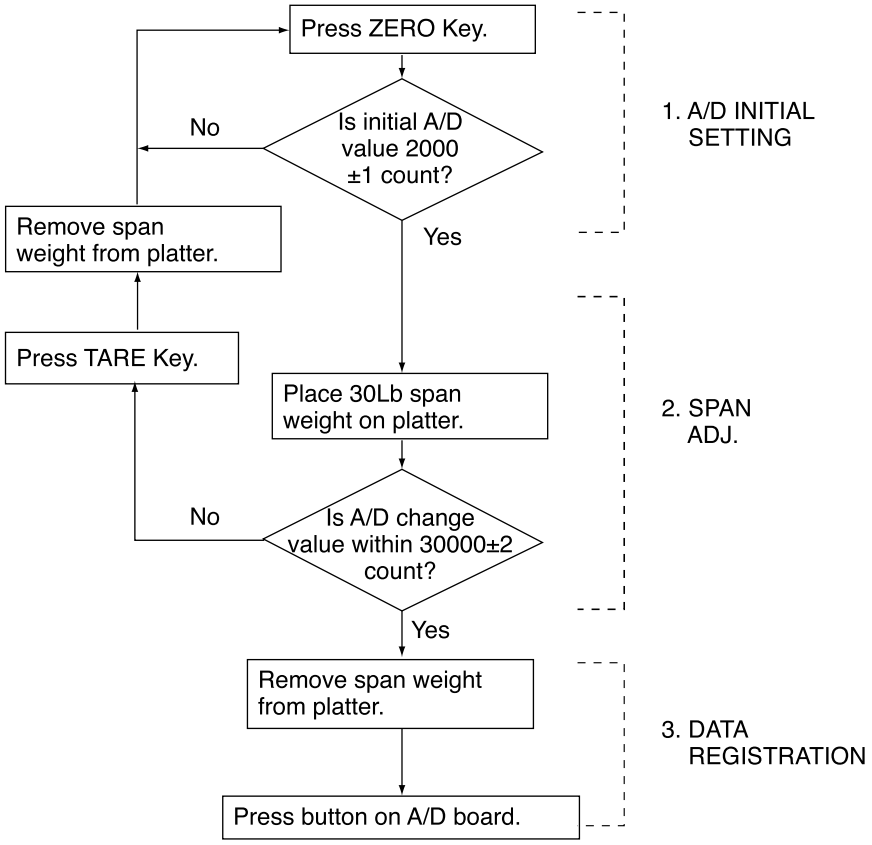
1	Hardware Test (C01)

1. A/D Check (C01-01)

This item is used to calibrate the scale.



SPAN ADJUSTMENT

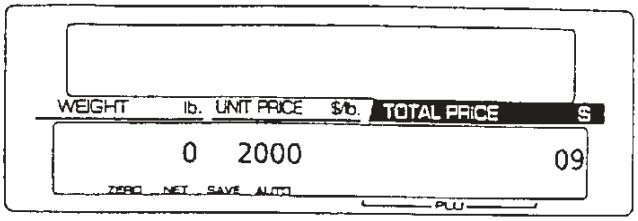


(1) A/D Initial Value Setting

■ A/D Initial Value Setting

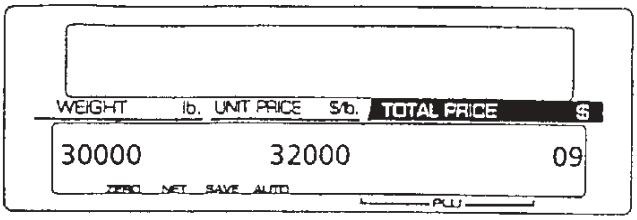
Press ☐ ZERO.

The A/D conversion value is displayed in the unit price column. Check that the value is 2000 ±1. If it is, perform span adjustment as described below. If the value is not 2000 ±1, press ☐ ZERO again.



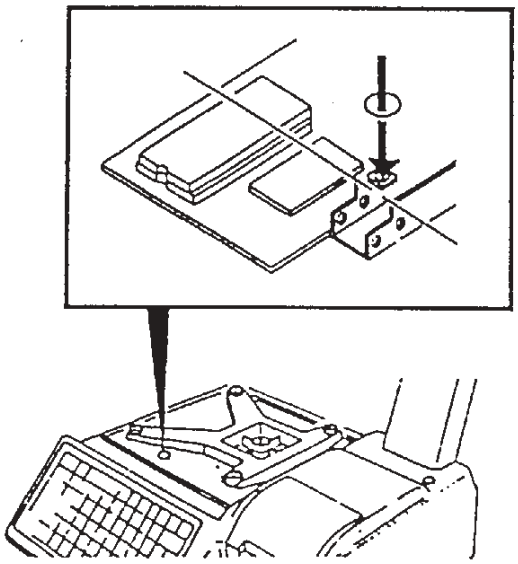
■ Span adjustment

Place a 30 lb span weight on the weigh platter. The A/D conversion value is displayed in the weight column. Check that the value is 30000 ±2. If it is, perform data registration as described below. If not 30000 ±2, press ☐ TARE, remove the span weight and perform A/D Initial Value Setting again.



■ Data Registration

This operation writes data into E^2 ROM. Remove the span weight, then remove the weigh platter. Press the switch as shown in the diagram at right.



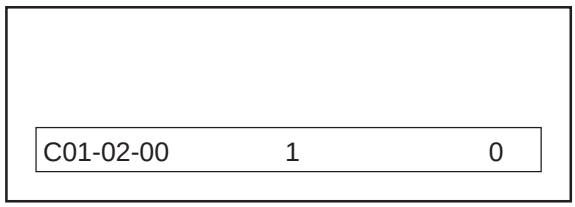
Note: Calibration data are stored on the A/D board. The BC-3000 does not require calibration if the main CPU board is replaced.

CAUTION!

Do not use a screwdriver or other metal tool to press the switch.

2. Key Check (C01-02)

This item is used to verify key data.



Keyboard

Reset Key

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28		30
31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100	101	102	103	104	105
106	107	108	109	110	111	112	113	114	115	116	117	118	119	120

Note: 1) Pressing ☐ RESET returns the display to the submenu.

2) If any keys do not work, check cable connections to the main board.

3) Once the membrane keyboard has been removed, it cannot be reused.

3. Display Check (C01-03)

This item is used to light all segments to check display function.

Press ☐ ENTER to start the display check.

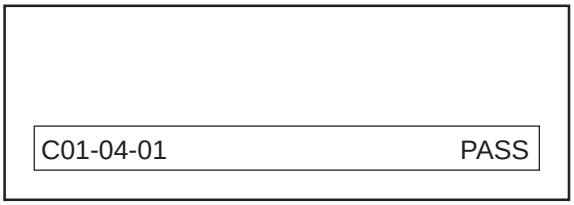
Press ☐ END to exit display check.

4. I²NET Check (C01-04)

This item is used to verify that I²NET is functioning normally.

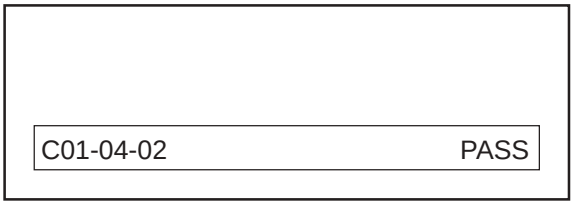
■ I²NET RAM Check (C01-04-01)

Press ☐ PRINT. Confirm that [PASS] is displayed.



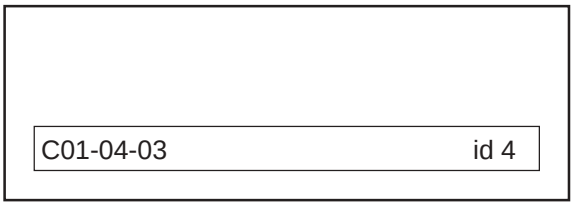
■ Loop Back Test (C01-04-02)

Press ☐ PRINT. Confirm that [PASS] is displayed.



■ I²NET Program No. (C01-04-03)

The I²NET Program No. (version) will be displayed.



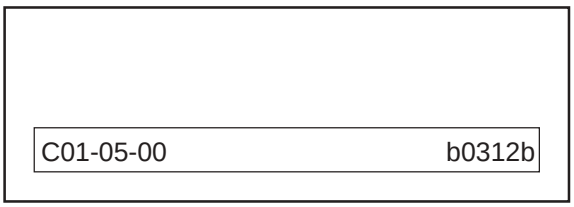
5. Program No. (C01-05)

This item is used to display the ROM version number of the main board.

Press ☐↓ to switch between the main and font ROM versions.

Step C01-05-00 = Main program

Step C01-05-01 = Font program

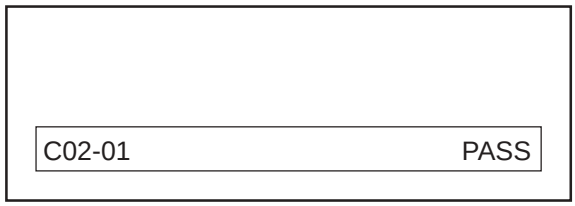


2 RAM Clear (C02)

1. All RAM Clear (C02-01)

This item is used to clear all data previously programmed in the Registration Menu.

Press ☐ ZERO twice. When all RAM data has been cleared, [PASS] is displayed.

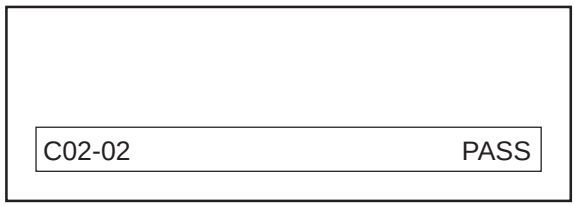


2. E²ROM Clear (C02-02)

This item is used to clear all configuration changes programmed in the Setup Menu and Test Menu.

Press ☐ ZERO twice. When E²ROM data has been cleared, [PASS] is displayed.

Note: This step MUST be performed when upgrading EPROM firmware chips.



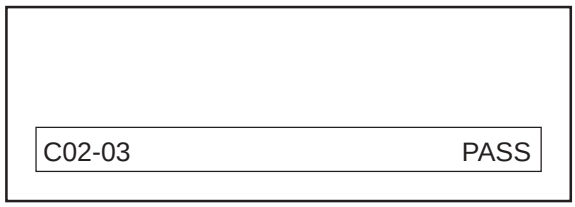
3. Test Set (C02-03)

This item performs the same function as steps C02-01 and C02-02 above with the additional feature of creating the following test data:

PLUs 1 through 10

Store Name/Address 1

Press ☐ ZERO twice. When Test Data has been registered, [PASS] will be displayed.



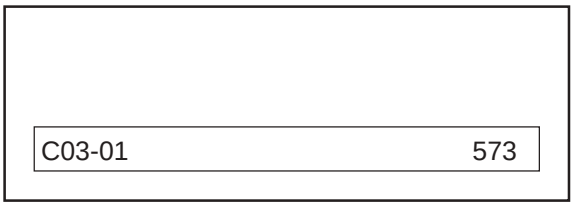
3 Thermal Head (C03)

1. Head Resistance Value (C03-01)

This item is used to set the thermal head resistance value.

Referring to the table below, enter the resistance value according to the displayed data.

Enter the value, then press ☐ ENTER.



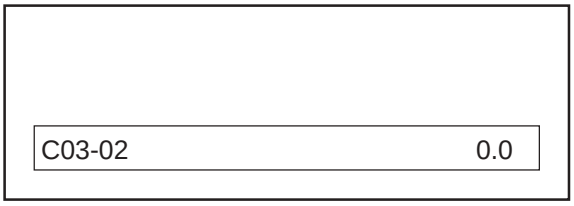
Resistance Value	Entry Value
528-545	537
546-563	555
564-581	573
582-600	591
601-618	609
619-636	627
637-654	645
655-672	663

Note: The resistance value can be automatically "read" from the thermal head by pressing ☐→.

2. Print Usage in KM (C03-02)

This item is used to display in kilometers the amount of thermal head usage.

To clear usage data, enter [0] then press ☐ ENTER.



PLEASE NOTE!

- When replacing the thermal head be sure to clear the usage data.
- When returning a defective thermal head to the Service Center, please make a notation of the usage distance on the repair invoice.

3. Print Density (C03-03)

This item is used to adjust the thermal head print density.

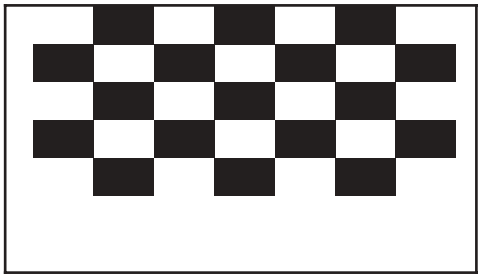
Enter the density value 1 (light) - 9 (heavy), then press ☐ ENTER.

Press ☐ PRINT to print a test label to confirm correct density.

Repeat until satisfactory.

C03-03	5

PRINT SAMPLE



Note:

1) The default value is 5.
2) A value of "0" will cause unacceptably light/ spotty printing.

4. Label and Gap Identification Setting (C03-04)

Set the label and gap identification value.

Input the value and press ☐ ENTER.

C03-04	100

* For an explanation of the label and gap identification set value, refer to "Label Sensor Adjustment" (P.5-4 Section 5.5) under Chapter 5, "Other Adjustments."

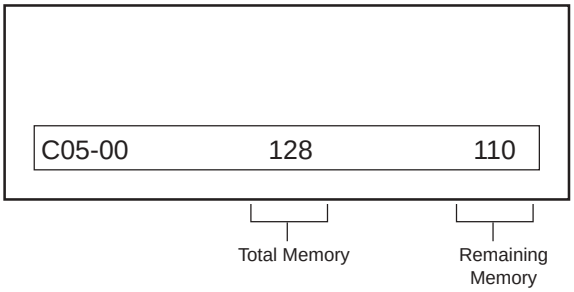
4 Sensor Check (C04)

This item is used to confirm the current label gap sensor value.

C04-00	255

5 Memory Check (C05)

This item is used to confirm the amount of total and remaining memory in kilobytes.

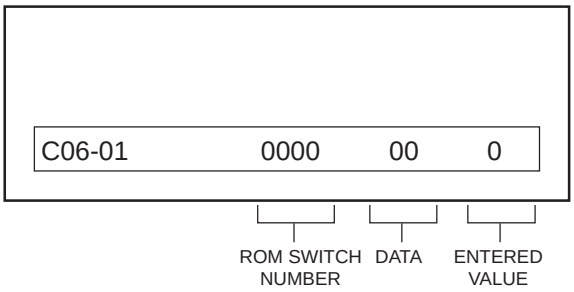


6 ROM Switch Number Select (C06)

Note: ROM switches are used to change operational specifications and parameters.

Press ☐→ to select the ROM Switch No.

Enter the value and then press ☐ ENTER.

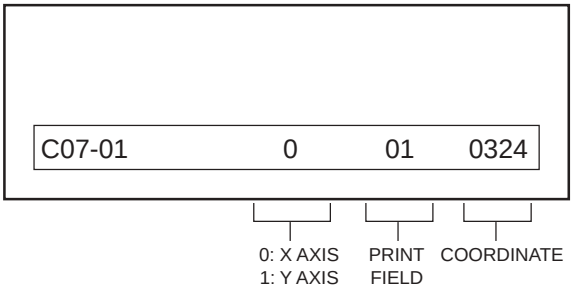


ROM Switch Number	ROM Switch Function	Setting Values
13	Temporary date change type	00 = Pack and Expire (default) 01 = Expire only
15	FEED key function	00 = blank label (default) 01 = reissue last label
16	VOID key function	00 = no label (default) 01 = print Void label
1D	Selection of Unit Pricing	00 = $/kg 01 = $/100g and lb. (default)
26*	Computer communications speed	00 = 9600 baud (default) 01 = 2400 baud, 02 = 4800 baud 03 = 9600 baud, 04 = 19200 baud
28*	Wait time for PC acknowledgement after transmission from scale	0 to 255 msec [0 to FF hex] (default = 00)
2A	RESET key operation	00 = Enable (default) 01 = Disable
2D	On Line (BC to BC Master - Satellite System)	00 = Stand Alone (default) 01 = System
2E	Satellite 2 connected (set in Master only)	00 = No (default) 02 = Yes
2F	Satellite 3 connected (set in Master only)	00 = No (default) 03 = Yes
30	Satellite 4 connected (set in Master only)	00 = No (default) 04 = Yes
31	Satellite 5 connected (set in Master only)	00 = No (default) 05 = Yes
3F*	Wait time before transmission from scale to PC	0 to 255 msec [0 to FF hex] (default = 00)

* Available only in Dual-Range weighing scales with RS-232 enabled port.
(firmware B-0312 with "B" revision and higher)

7 Label Format (C07)

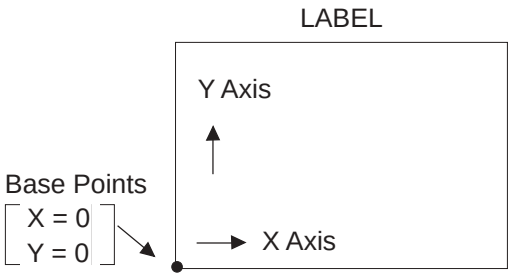
This item is used to change the label printing coordinates.



1. Enter the label format number (1 to 4), then press ☐ PLU.
2. Select X or Y coordinate using ☐→

   0: X axis, 1: Y axis
3. Select Print Field using ☐↓ or ☐ ↑ .
4. Enter the new coordinate value, then press ☐ ENTER.
5. Press ☐ PRINT to print a test label.
6. Press ☐ END to return to the main Test Menu.

NOTES:
- To switch X and Y axis, press ☐→.
- Reposition graduation is 1 = 0.1mm



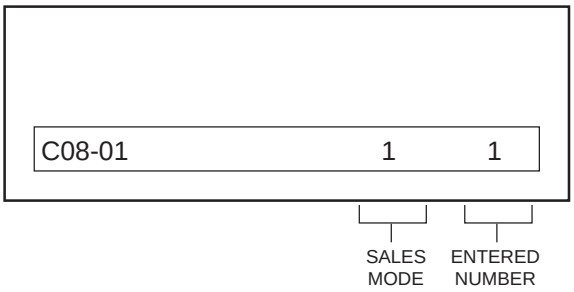
Note: Refer to Appendix A6 for worksheets of all default label formats.

8 Sales Mode (C08)

1. Sales Mode (C08-01)

This item is used to set the sales mode most suitable for the user's application.

Enter the number corresponding to the desired mode, then press ☐ ENTER.

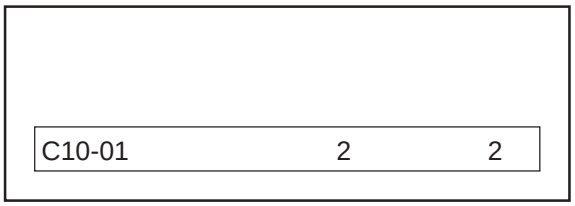


Entry No.	Sales Mode
1	No SM Operator
2	SM Operator

10 Preset Function Key (C10)

Preset Function Key is used to set the functions of preset keys PF1 to PF4.

Press ☐ ↓to select one of the function keys (PF1 to PF4). Enter the number corresponding to the desired function, then press ☐ ENTER.



Preset Function Key Locations

PF(1)	
PF(2)	
PF(3)	PF(4)
DATE	X MULTIPLY

Entry No.	Function Name	Description
0	DATE/TIME	Displays Date/Time for 3 seconds
1	----	----
2	MESSAGE	Call up ad message
3	STORE	Call up store name
4	----	----
5	POP	Call up POP
6	FIX PRICE	Set fixed price
7	SAVE	Save PLU
8	DISCOUNT	Set discount (New Total Price)
9	-$	Set amount of price reduction
10	-%	Set percent of price reduction
11	----	----
12	FIXED WEIGHT	Set bakery weight in ounces

99 Data Send/Load (C99)

Data Send/Load is used for data communication with an IF-21FD interface unit.

Preparation

Before attempting to transmit data, make sure the BC-3000 is connected to the IF-21FD unit, and the scale and IF-21FD power switches are ON.

Note: 1) All IF-21FD operations are performed from the BC-3000.

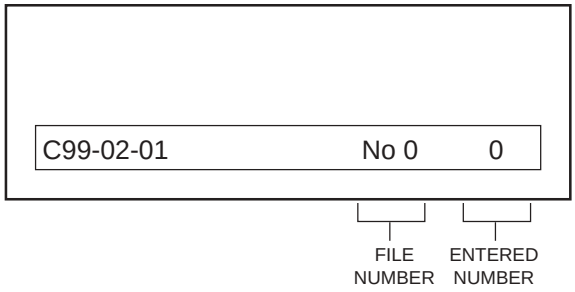
2) Before using a new floppy disk perform step 99-03 to format the disk. (Use 2DD type disk only).

1. Transfer File (C99-02)

Transfer File is used to transmit individual data files.

1.1 Select IF-21 file No. (C99-02-01)

Enter the number corresponding to the desired file number (1 to 8), then press ☐ ENTER



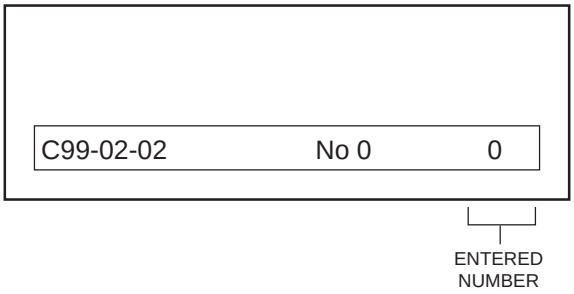
Note: 1) Press ☐→ to see which files have been used previously.
2) Connect IF-21FD to the BC-3000 using the 9-pin cable supplied with the IF-21FD recorder.
3) Set IF-21FD DIP switches 2 and 5 down, all others are up.
4) For communications error codes, see chapter S6.

1.2 Send (C99-02-02)

This item is used to transmit data from the scale to an IF-21FD interface unit.

Enter the number corresponding to the file(s) to be sent, then press ☐ ENTER.

To start transmission, press ☐ PRINT.



Entry No.	File Mode
1	All Files
2	Master File
3	E^2 ROM File

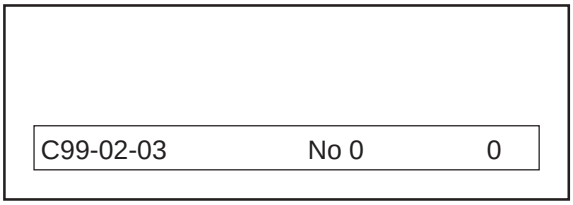
Note: Master File contains all data programmed in Registration Mode.
E^2ROM File contains all configuration setting changes made in Setup and Test Modes.

1.3 Receive (C99-02-03)

This item is used to receive data from an IF-21FD interface unit.

Enter the number corresponding to the type of file(s) to be received, then press ☐ ENTER.

To start reception, press ☐ PRINT.



Entry No.	Function
1	All Files
2	Master File
3	E^2ROM File
4	Item Master*
5	Store Master*
6	----
7	Message Master*
8	Operator*
9	Press Key
10	Label Format
11	Setup File

Entry No.	Function
12	----
13	----
14	Title File
15	Department*
16	Group*
17	----
18	----
19	----
20	Sub Total
21	Nutrition File

* File is compatible with other 3000 Series scales.

Note: 1) Master File contains all data programmed in Registration Mode.
E^2ROM File contains all configuration setting changes made in Setup and Test Modes.
2) Master File contains file numbers 4-9 and 12-21.
3) E^2ROM File contains file numbers 10 (Label Format) and 11 (Setup File).

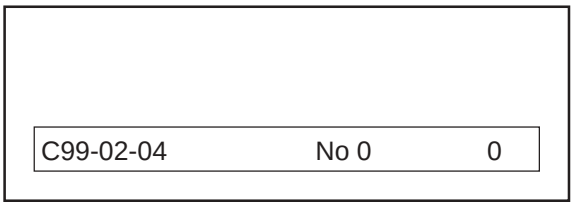
IMPORTANT

When upgrading firmware or transferring files from one model to another, ***DO NOT*** *load 11: SETUP FILE. This file is incompatible and will cause unintended configuration settings.*

1.4 Verify (C99-02-04)

This item is used to compare IF-21FD and BC-3000 data.

Enter the number corresponding to the file(s) to be compared, then press ☐ ENTER.



To execute press ☐ PRINT.

Entry No.	Function
1	All Files
2	Master File
3	E^2ROM File
4	Item Master*
5	Store Master*
6	----
7	Message Master*
8	Operator*
9	Preset Key
10	Label Format
11	Setup File

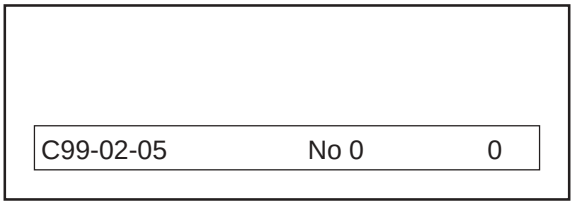
Entry No.	Function
12	----
13	----
14	Title File
15	Department*
16	Group*
17	----
18	----
19	----
20	Sub Total
21	Nutrition File*

* File is compatible with other 3000 Series scales.

1.5 Delete (C99-02-05)

This item is used to delete a complete file from a disk.

Press ☐ ZERO twice to delete the selected file. OK is displayed after the file has been deleted.



Select the file as shown in step 1.1 above.

Note:

2. INITIALIZE DISK (C99-03)

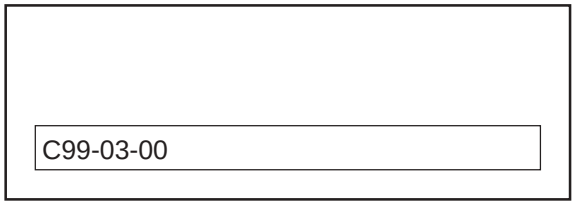
Initialize Disk is used to initialize floppy disks.

CAUTION!
Executing Initialize Disk will delete all floppy disk data.

2.1 Delete file (C99-03-00)

To delete files from the floppy disk, press ☐ CHAR DELETE.

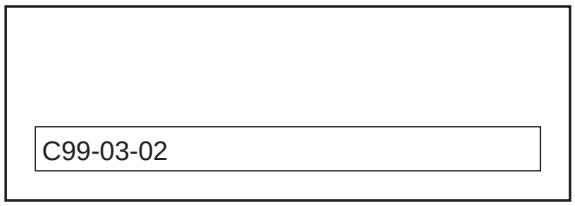
To terminate deletion in progress, press any other key than ☐ CHAR DELETE.



2.2 OK to delete? (C99-03-02)

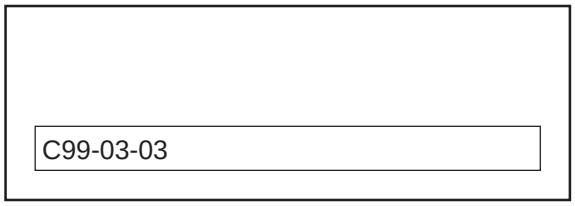
To execute disk initialization, press ☐ CHAR DELETE.

To terminate deletion in progress, press any other key than ☐ CHAR DELETE.



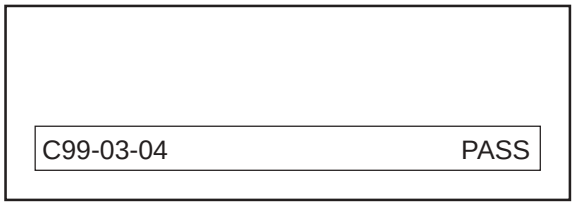
2.3 OK to delete? (C99-03-03)

Disk initialization in progress.



2.4 Complete (C99-03-04)

Disk initialization completed.



Note: If initialization is not successful, "Err" is displayed.

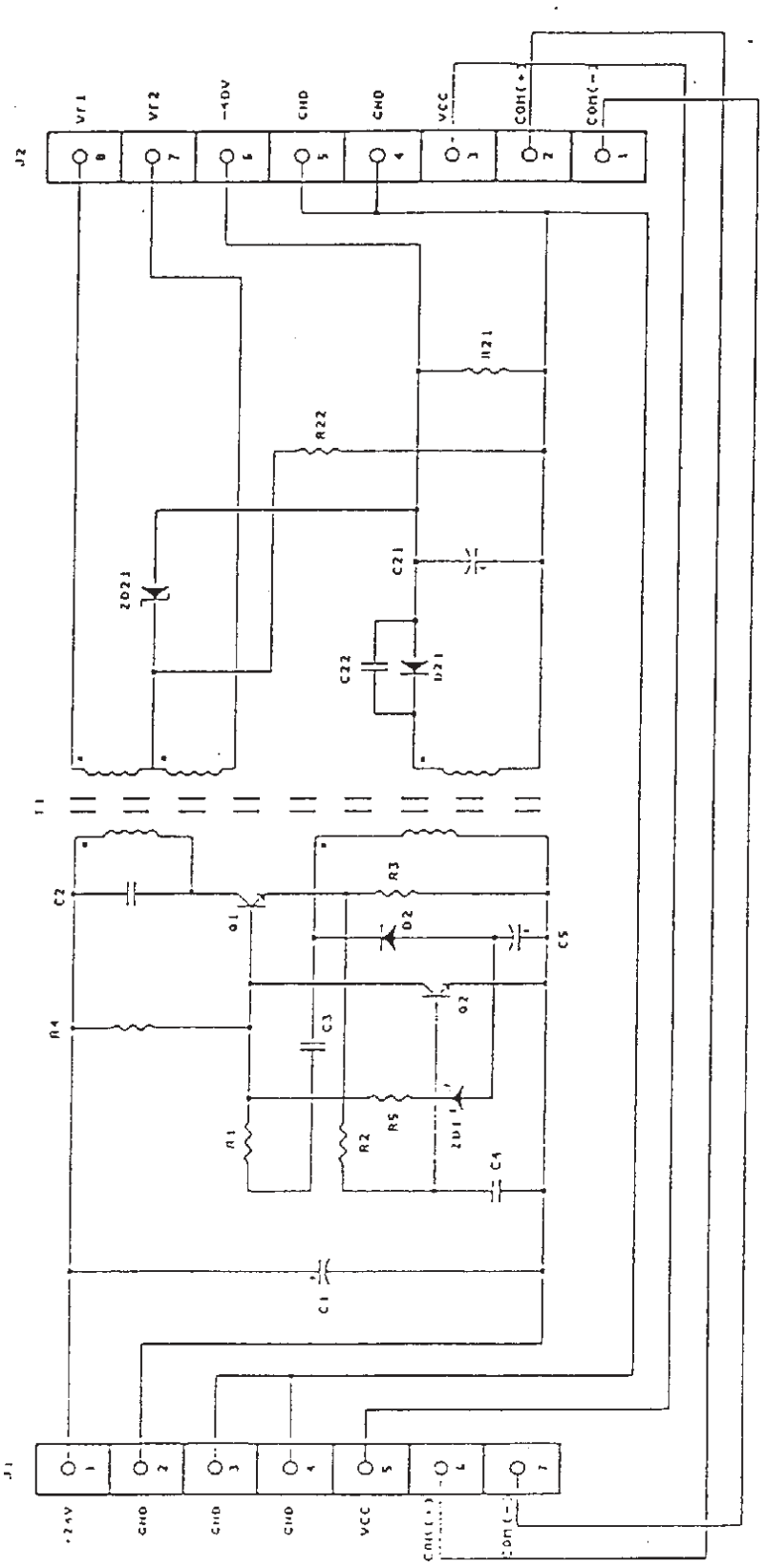
S6 IF-21FD Errors

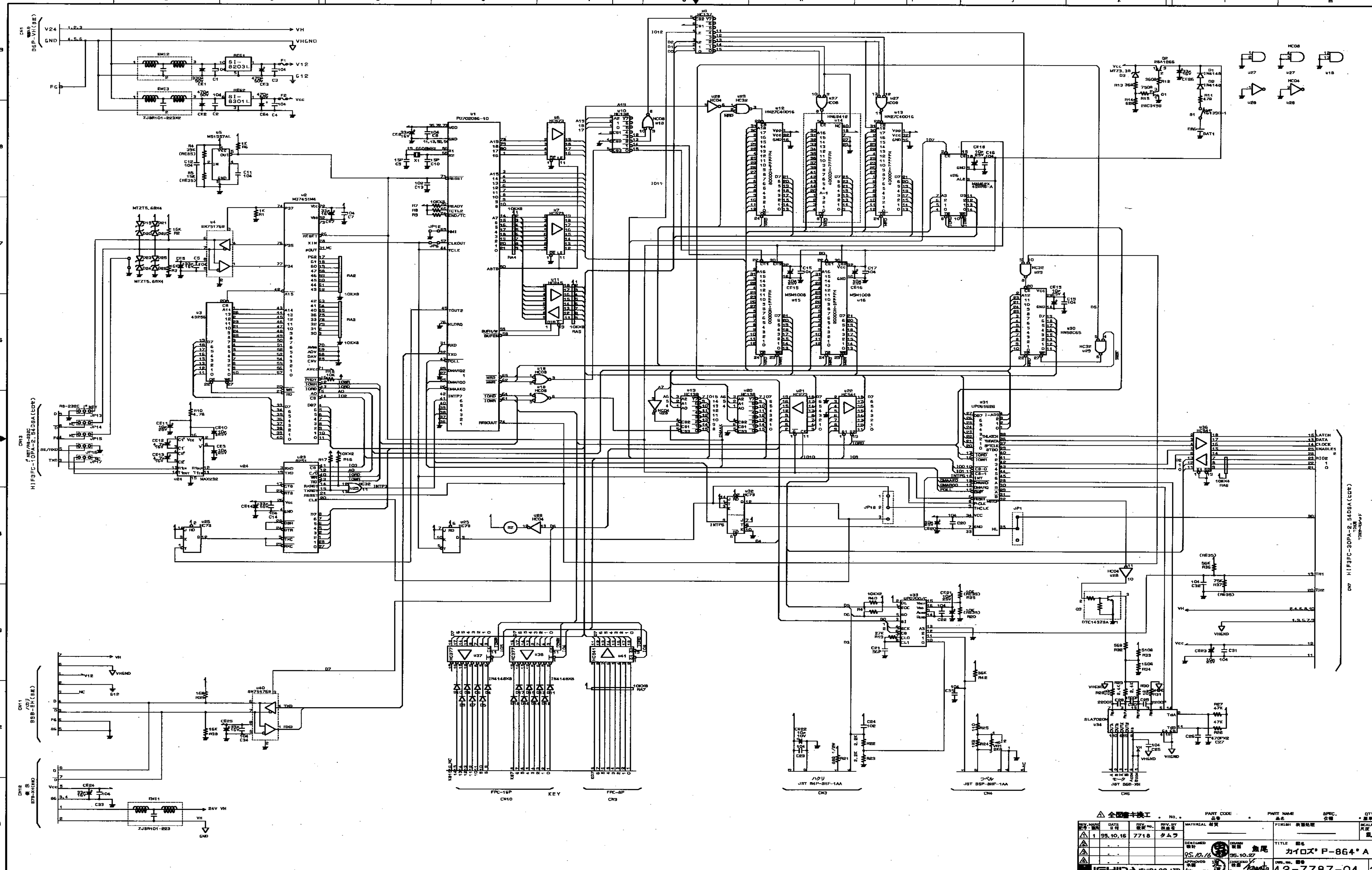
Refer to the table below when an error occurs during data transfer between the BC-3000 and the IF-21FD Floppy Disk recorder.

Number	Display	Cause	Solution
2	Err 2	Floppy disk does not verify.	• Reload data to/from disk • Create new master disk.
3	Err 3	• No disk in IF-21FD floppy disk recorder. • Bad IF-21FD disk drive.	• Install DS, DD floppy disk into recorder • Repair IF-21FD.
4	Err 4	Cannot record to floppy disk because it is write protected.	Move write protect tab on floppy disk to correct position
5	Err 5	• Attempting to over write existing file on floppy disk. • Attempting to receive, verify, or delete a nonexistent file on floppy disk.	• Select an unused file number • Select an existing file number.
6	Err 6	IF-21FD floppy disk unit not configured correctly.	• Check that only dip switches 2 and 5 are in the down position • Check that the IF-21FD has the latest firmware version (J-209N). • Use 9-pin cable, not 25-pin cable.
7	Err 7	Parity error in communication protocol.	Check scale CPU board.
8	Err 8	Floppy disk memory overflow.	• Restart with a blank floppy disk • Erase unused files from floppy disk.
9	Err 9	Operation error.	Begin SAVE/LOAD procedure again following correct procedure.
10	Err 10	Floppy disk format error.	Reformat floppy disk
66	Err 66	• Data on disk is corrupted. • File is too large for scale memory. • Scale memory is corrupted.	• Create new master disk • Reduce file size and reload in to scale's memory. • Clear scale memory, reload disk.
73	Err 73	• IF-21FD floppy disk recorder not connected. • Incorrect disk format.	• Power off scale and connect IF-21FD floppy disk recorder • Reformat floppy disk.

APPENDIX

A1 DC/DC Converter Unit Schematic Diagram





全図書キ換工
カイロズ° P-864° A
42-7787-04
ISHIDA CO.,LTD.
95.10.16
7718
タムラ
95.10.27
95.10.31
PD70208G-10
M37451M4
HN27C4001G
HN62412
MSM1008
HN58C65
UPD65626
UPD7200/C
SN75176B
MAX232
8251
HIF3FC-30PA-2.54DSA(ｺﾈｸﾀ)
HIF3FC-10PA-2.54DSA(ｺﾈｸﾀ)
B6P-VH(BE)
B5B-EH(BE)
B7B-XH(BE)
JST B6B-XH
JST B5P-SHF-1AA
JST B4P-SHF-1AA
FPC-16P
FPC-8P
KEY

A3 BC to BC System Setup

- BC-3000 Master/Satellite Communication -

(Firmware B-0209E & F-0194)

1. Overview

The BC-3000 has limited communication capabilities as compared to the AC-3000 series. Important system considerations are listed here.

- PLU and price changes programmed at the master scale are instantly sent to each satellite scale that is connected and set "on-line".
- If a satellite scale is not connected or is turned off or is set "off-line" the changes cannot be registered into its memory.
- After programming, the master scale and all of the satellite scales contain identical PLU files in their memory.
- The memory from the master scale cannot be downloaded or retransmitted to the memory of any satellite scale.
- A maximum of five scales (one master plus four satellites) may be connected.

2. Set Up

Three separate memory areas of each BC-3000 scale must be configured to allow master-satellite communications.

A. Test Menu

Step C06-01: ROM Switch [Access by powering up holding 1 key, 6, ENTER]

Set the on-line flag in all scales:

address 2D = 1

[Access by entering the address and pressing the → key]

Identify satellite scales (in master scale only)

address 2E = 2

address 2F = 3 (only if a third scale is connected)

address 30 = 4 (only if a fourth scale is connected)

address 31 = 5 (only if a fifth scale is connected)

B. Programming Menu

Step P17-01: Scale Number. [Access by password 9000, MODE, 17, ENTER]

Master Scale = 1

Satellite Scale = 2 to 5

Step P19-01: On-Line Mode. [Access by password 9000, MODE, 19, ENTER]

On-Line = 1

Off-Line = 0

3. Hardware

A shielded 4-conductor twisted-pair cable is used to inter-connect the scales. The cable is terminated at a 9-Pin Sub-Miniature D-Type male connector. Grounding is made at only one point - the master scale chassis. At each satellite scale the ground wires are "daisy chained". The ground cable at the last scale is not used.

Cable Pinout (straight through configuration)

Pair One	5 ---- 5 Data
	9 ---- 9 Data
Pair Two	3 ---- 3 Signal Ground
	7 ---- 7 Frame Ground

4. Programming

The following programming steps are available only at the master scale.

P01 - PLU Editing

P02 - PLU Name

P22 - Price Changes

5. Operation

A BC-3000 system scale operates the same as a normal stand alone machine.

6. Totals

A BC-3000 system scale operates the same as a normal stand alone machine. Totals must be taken at each machine separately.

7. Errors

If a satellite scale is not communicating the master scale will display

On Line Error No X

where X is the satellite number that is not communicating.

8. Miscellaneous

If a satellite is to be removed from the system, reset its ROM switch number 2D = 0. See step 2A above.

A4 Korean/English Language Firmware

(Firmware C-0840 & F-0208)

Operation

All operations remain the same as the standard BC-3000 except for the entry of text as described below.

1. Character Sizes available = 3 (large: 24 char. per line max., Korean and/or English)
   2 (small: 24 char. per line max., Korean and/or English)
   1 (ingredient: 48 char. per line, English only)
2. Korean vs. English characters

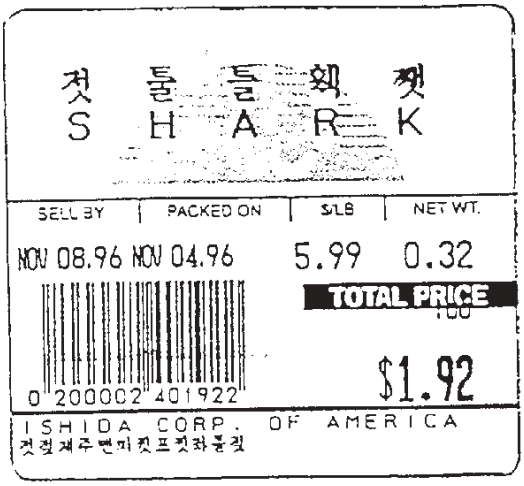
   Press the **BLANK** key between **NORMAL** and **REVERSE** to switch between Korean and English character entry.

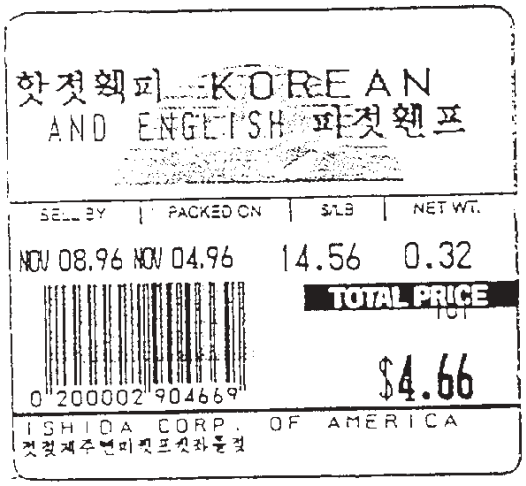
   Korean - triangle above SAVE is **on** (default)
   - characters are entered as a four digit code (refer to KIS character list, available separately)

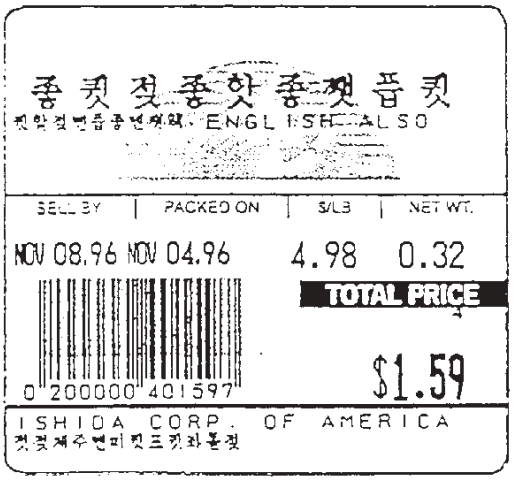
   English - triangle above SAVE is **off**
   - enter letters and numbers using the standard keyboard
   - characters are not shown in the display

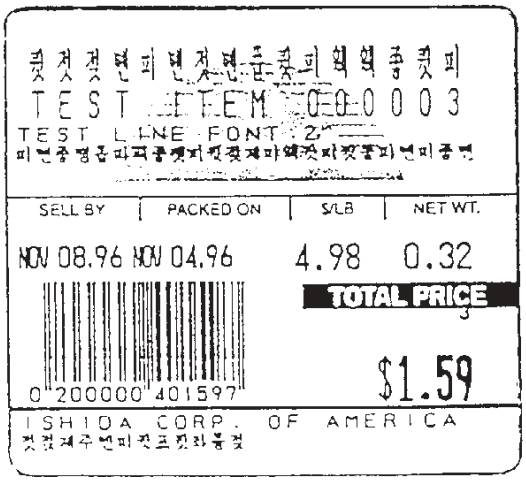
   Korean and English characters may be mixed on the same line (except character size 1).

Sample Labels









A5 Chinese/Japanese/English Language Firmware

(Firmware C-0877 & F-0218)

Operation

All operations remain the same as the standard BC-3000 except for the entry of text as described below.

1. Character Sizes available = 3 (large: 24 char. per line max., Chinese, Japanese, and/or English)
   2 (small: 24 char. per line max., Chinese, Japanese, and/or English)
   1 (ingredient: 48 char. per line, English only)

2. Chinese/Japanese vs. English characters

   Press the **BLANK** key between **NORMAL** and **REVERSE** to switch between Chinese/Japanese and English character entry.

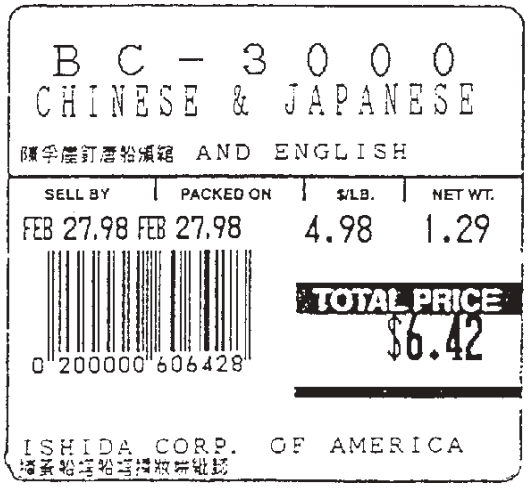
   Chinese/Japanese

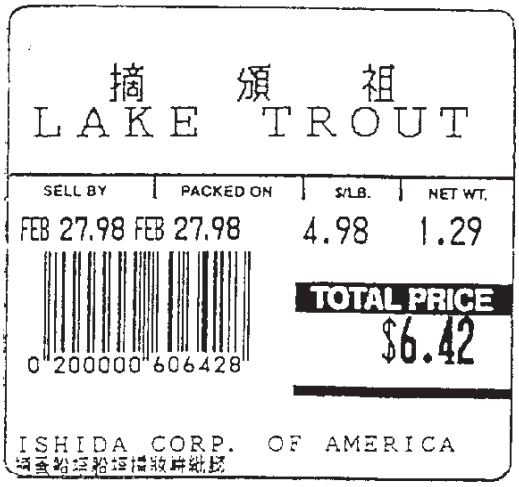
   - triangle above SAVE is **on** (default)
   - characters are entered as a four digit code (refer to JIS character list, available separately)

   English
   - triangle above SAVE is **off**
   - enter letters and numbers using the standard keyboard
   - characters are not shown in the display

   Chinese, Japanese, and English characters may be mixed on the same line (except character size 1).

Sample Labels





60mm x 44mm with Barcode BC-3000 B-0209D-K-Fmt. 1

Field #	Standard Function	Code Value	Old Value		New Value		Size
			X-Width	Y-Height	X-Width	Y-Height	
1	Barcode	05	0000	0165			
2	Pack Date	03	0153	0211			
3	Expiration Date	04	0010	0211			
4		00	0149	0160			
5	Unit Price ($/lb)	08	0297	0211			
6		00	0321	0174			
7	Weight	09	0456	0211			
8	Total Price	07	0367	0067			
9	PLU Number	02	0486	0132			
10	Price before Discount	13	0430	0036			
11	Markdown Line 1	13	0430	0027			
12	Markdown Line 2	13	0430	0018			
13	Discounted Price	14	0430	0067			
14		00	0000	0000			
15	Single Pc. - (Fixed Pr.)	21	0156	0216			
16	Single "PC" - (Fixed Pr.)	21	0224	0211			
17	Price Including Tax	11	0367	0067			
18	"AMOUNT TOTAL"	11	0375	0097			
19	Transaction Number	12	0545	0163			
20	"Pcs."	12	0375	0163			
21	PLU Description	06	0008	0364			
22	PLU Name 2	49	0008	0364			
23		62	0016	0241			
24	"Sell By..." Random Wt.	63	0016	0241			
25		8D	0016	0241			
26	"Sell By" Fixed Price	6B	0016	0241			
27	"TOTAL PRICE" Legend	90	0405	0106			

60mm x 44mm with Barcode BC-3000 B-0209D-K-Fmt. 1

Field #	Standard Function	Code Value	Old Value		New Value		Size
			X-Width	Y-Height	X-Width	Y-Height	
28	Ad Message 1	0E	9999	0000			
29	Sign	0B	0338	0052			
30	Sub-Total - Price	28	0342	0067			
31	Sub-Total - Weight	27	0390	0211			
32	Sub-Total - Pieces	26	0067	0051			
33	Store Name/Address	01	0008	0465			
34	Piece Count	2C	0156	0216			
35	"Pcs." Legend	2C	0224	0211			
36	"@" Legend	2B	0286	0211			
37	@ count	2B	0305	0216			
38	"/ " Legend	2B	0372	0211			
39	@/FOR Price	2D	0391	0216			
40	Total OZ Weight	32	0337	0166			
41	Total "oz" Symbol	32	0373	0156			
42	"(" Symbol	32	0415	0166			
43	") " Symbol	32	0572	0166			
44	LB Wt. inside ( )	31	0434	0166			
45	"lb" symbol	31	0471	0156			
46	OZ Wt. inside ( )	30	0513	0166			
47	"oz" symbol	30	0549	0156			
48							
49							
50							

Note: The height values of the fields 21 and 33 are dependent on the height of the text area. As the text area increases the height position of these fields also increases, as do any data fields printed above the text.

64mm x 47mm with Barcode BC-3000 B-0209D-K-Fmt. 2

Field #	Standard Function	Code Value	Old Value		New Value		Size
			X-Width	Y-Height	X-Width	Y-Height	
1	Barcode	05	0008	0204			
2	Pack Date	03	0162	0247			
3	Expiration Date	04	0018	0247			
4		00	0157	0190			
5	Unit Price ($/lb)	08	0305	0247			
6		00	0321	0204			
7	Weight	09	0472	0247			
8	Total Price	07	0375	0121			
9	PLU Number	02	9999	0201			
10	Price before Discount	13	0438	0088			
11	Markdown Line 1	13	0438	0079			
12	Markdown Line 2	13	0438	0070			
13	Discounted Price	14	0438	0121			
14		00	0000	0000			
15	Single Pc. - (Fixed Pr.)	21	0156	0252			
16	Single "PC" - (Fixed Pr.)	21	0224	0247			
17	Price Including Tax	11	0375	0121			
18	"AMOUNT TOTAL"	11	0410	0154			
19	Transaction Number	12	0553	0243			
20	"Pcs."	12	0379	0243			
21	PLU Description	06	0016	0394			
22	PLU Name 2	49	0016	0394			
23		62	0024	0276			
24	"Sell By..." Random Wt.	63	0024	0276			
25		8D	0024	0276			
26	"Sell By" Fixed Price	6B	0024	0276			
27	"TOTAL PRICE" Legend	90	0415	0175			

64mm x 47mm with Barcode BC-3000 B-0209D-K-Fmt. 2

Field #	Standard Function	Code Value	Old Value		New Value		Size
			X-Width	Y-Height	X-Width	Y-Height	
28	Ad Message 1	0E	9999	0000			
29	Sign	0B	0348	0112			
30	Sub-Total - Price	28	0351	0121			
31	Sub-Total - Weight	27	0398	0247			
32	Sub-Total - Pieces	26	0075	0082			
33	Store Name/Address	01	0013	0495			
34	Piece Count	2C	0156	0252			
35	"Pcs." Legend	2C	0224	0247			
36	"@" Legend	2B	0286	0247			
37	@ Count	2B	0305	0252			
38	"/" Legend	2B	0372	0247			
39	@/For Price	2D	0391	0252			
40	Total OZ Weight	32	0337	0211			
41	Total "oz" Symbol	32	0373	0202			
42	"(" Symbol	32	0415	0211			
43	")" Symbol	32	0572	0211			
44	LB Wt. inside ( )	31	0434	0211			
45	"lb" Symbol	31	0471	0202			
46	OZ Wt. inside ( )	30	0513	0211			
47	"oz" Symbol	30	0549	0202			
48							
49							
50							

Note: The height values of fields 21 and 33 are dependent on the height of the text area. As the text area increases the height position of these fields also increases, as do any data fields printed above the text.

64mm x 85mm, with Safe Handling BC-3000 B-0209D-K-Fmt. 3

Field #	Standard Function	Code Value	Old Value		New Value		Size
			X-Width	Y-Height	X-Width	Y-Height	
1	Barcode	05	0008	0177			
2	Pack Date	03	0162	0228			
3	Expiration Date	04	0018	0228			
4		00	0157	0171			
5	Unit Price ($/lb)	08	0305	0228			
6		00	0321	0169			
7	Weight	09	0472	0228			
8	Total Price	07	0375	0076			
9	PLU Number	02	0494	0156			
10	Price before Discount	13	0438	0043			
11	Markdown Line 1	13	0438	0034			
12	Markdown Line 2	13	0438	0025			
13	Discounted Price	14	0438	0076			
14		00	0000	0000			
15	Single Pc. - (Fixed Pr.)	21	0156	0232			
16	Single "PC" - (Fixed Pr.)	21	0224	0228			
17	PLU Description	06	0016	0774			
18	PLU Name 2	49	0016	0774			
19		62	0024	0256			
20	"Sell By..." Random Wt.	63	0024	0256			
21		8D	0024	0256			
22	"Sell By Fixed Price"	6B	0024	0256			
23	"TOTAL PRICE" Legend	90	0415	0126			
24	Ad Message 1	0E	9999	0000			
25	Sign	0B	0348	0067			
26	Sub-Total - Price	28	0351	0076			
27	Sub-Total - Weight	27	0398	0228			

64mm x 85mm, with Safe Handling BC-3000 B-0209D-K-Fmt. 3

Field #	Standard Function	Code Value	Old Value		New Value		Size
			X-Width	Y-Height	X-Width	Y-Height	
28	Sub-Total - Pieces	26	0075	0082			
29	Safe Handling Panel	8C	0013	0640			
30	Store Name/Address	01	0008	0874			
31	Piece Count	2C	0156	0232			
32	"Pcs." Legend	2C	0224	0228			
33	"@" Legend	2B	0286	0228			
34	@ Count	2B	0305	0232			
35	"/" Legend	2B	0372	0228			
36	@/For Price	2D	0391	0232			
37	Total OZ Weight	32	0337	0189			
38	Total "oz" Symbol	32	0373	0180			
39	"(" Symbol	32	0415	0189			
40	")" Symbol	32	0572	0189			
41	LB Wt. inside ( )	31	0434	0189			
42	"lb" Symbol	31	0471	0180			
43	OZ Wt. inside ( )	30	0513	0189			
44	"oz" Symbol	30	0549	0180			
45							
46							
47							
48							
49							
50							

Note: The height values of fields 17 and 30 are dependent on the height of the text area. As the text area increases the height position of these fields also increases, as do any data fields printed above the text.

64mm x 37mm without Barcode BC-3000 B-0209D-K-Fmt. 4

Field #	Standard Function	Code Value	Old Value		New Value		Size
			X-Width	Y-Height	X-Width	Y-Height	
1	Pack Date	03	0008	0141			
2	Expiration Date	04	0008	0045			
3	Unit Price ($/lb)	08	0162	0141			
4	Weight	09	0297	0141			
5	Total Price	07	0372	0067			
6	PLU Number	02	0162	0036			
7	Price before Discount	13	0436	0036			
8	Markdown Line 1	13	0436	0027			
9	Markdown Line 2	13	0436	0018			
10	Discounted Price	14	0436	0067			
11	Single Pc. - (Fixed Pr.)	21	0120	0105			
12	Single "PC" - Fixed Pr.)	21	0167	0105			
13	Price Including Tax	11	0372	0067			
14	"AMOUNT TOTAL"	11	0375	0097			
15	Transaction Number	12	0545	0163			
16	"Pcs."	12	0375	0163			
17	PLU Description	06	0013	0294			
18	PLU Name 2	49	0013	0294			
19		62	0016	0171			
20	"Packed On" Weighed	63	0016	0171			
21		8D	0016	0171			
22	"Packed On" Fixed Pr.	6B	0016	0171			
23	'Sell By" Legend	90	0016	0075			
24	"TOTAL PRICE" Legend	90	0411	0171			
25	Ad Message 1	0E	9999	0000			
26	Sign	0B	0338	0045			
27	Sub-Total - Price	28	0348	0067			

64mm x 37mm without Barcode BC-3000 B-0209D-K-Fmt. 4

Field #	Standard Function	Code Value	Old Value		New Value		Size
			X-Width	Y-Height	X-Width	Y-Height	
28	Sub-Total - Weight	27	0390	0141			
29	Sub-Total - Pieces	26	0151	0051			
30	Store Name/Address	01	0013	0394			
31	Piece Count	2C	0120	0105			
32	"Pcs." Legend	2C	0167	0105			
33	"@" Legend	2B	0206	0105			
34	@ Count	2B	0220	0105			
35	"/" Legend	2B	0267	0105			
36	@/For Price	2D	0280	0105			
37	Total Ounce Weight	32	0153	0076			
38	Total "oz" Symbol	32	0190	0067			
39	"(" Symbol	32	0213	0076			
40	")" Symbol	32	0356	0076			
41	LB Weight inside ( )	31	0232	0076			
42	"LB" Symbol	31	0268	0067			
43	OZ Weight inside ( )	30	0297	0076			
44	"OZ" Symbol	30	0333	0067			
45							
46							
47							
48							
49							
50							

Note: The height values of fields 17 and 30 are dependent on the height of the text area. As the text area increases the height position of these fields also increases, as do any data fields printed above the text.

60mm x 44mm UPC Barcode Label B-0312B

Field #	Standard Function	Code Value	Old Value		New Value	
			X-Width	Y-Height	X-Width	Y-Height
1	Store Name/Address	01	0008	0465		
2	PLU Description	06	0008	0364		
3	Barcode	05	0000	0165		
4	Pack Date	03	0153	0211		
5	Expiration Date	04	0010	0211		
6		00	0149	0160		
7	Unit Price ($/lb)	08	0297	021 1		
8		00	0321	0174		
9	Weight	09	0456	0211		
10	Total Price	07	0367	0067		
11	PLU Number	02	0486	0132		
12	Price before Discount	13	0430	0036		
13	Markdown Line 1	13	0430	0027		
14	Markdown Line 2	13	0430	0018		
15	Discounted Price	14	0430	0067		
16	Single Pc. - (Fixed Pr.)	21	0156	0216		
17	Single "PC" - (Fixed Pr.)	21	0224	0211		
18	Price Including Tax	11	0367	0067		
19	"AMOUNT TOTAL"	11	0375	0097		
20	Transaction Number	12	0545	0163		
21	"Pcs."	12	0375	0163		
22	PLU Name 2	49	0008	0364		
23		62	0016	0241		
24	"Sell By..." Random Wt.	63	0016	0241		
25		8D	0016	0241		
26	"Sell By" Fixed Price	6B	0016	0241		
27	"TOTAL PRICE" Legend	90	0405	0106		

BC-3000-dual range Format 1

Field #	Standard Function	Code Value	Old Value		New Value	
			X-Width	Y-Height	X-Width	Y-Height
28	Ad Message 1	0E	9999	0000		
29	Sign	0B	0338	0052		
30	Sub-Total - Price	28	0342	0067		
31	Sub-Total - Weight	27	0390	0211		
32	Sub-Total - Pieces	26	0067	0051		
33	Piece Count	2C	0156	0216		
34	"PCS" Legend	2C	0224	0211		
35	"@" Legend	2B	0286	0211		
36	@ count	2B	0305	0216		
37	"/" Legend	2B	0372	0211		
38	@/FOR Price	2D	0391	0216		
39	Total OZ Weight	32	0337	0166		
40	Total "oz" Symbol	32	0373	0156		
41	"(" Symbol	32	0415	0166		
42	")" Symbol	32	0572	0166		
43	LB Wt. inside ( )	31	0434	0166		
44	"lb" symbol	31	0471	0156		
45	OZ Wt. inside ( )	30	0513	0166		
46	"oz" symbol	30	0549	0156		
47						
48						
49						
50						

Note: The height values of fields 1 and 2 are dependent on the height of the text area. As the text area increases the height position of these fields also increases, as do any data fields printed above the text.

Note: Navigation- use ↑↓ keys to select FIELD NUMBERS
- use →key to select X (Width) or Y (Height).

64mm x 47mm UPC Barcode Label B-0312B

Field #	Standard Function	Code Value	Old Value		New Value	
			X-Width	Y-Height	X-Width	Y-Height
1	Store Name/Address	01	0013	0495		
2	PLU Description	06	0016	0394		
3	Barcode	05	0008	0204		
4	Pack Date	03	0162	0247		
5	Expiration Date	04	0018	0247		
6		00	0157	0190		
7	Unit Price ($/lb)	08	0305	0247		
8	Weight	09	0472	0247		
9	Total Price	07	0375	0121		
10	PLU Number	02	9999	0201		
11	Price before Discount	13	0438	0088		
12	Markdown Line 1	13	0438	0079		
13	Markdown Line 2	13	0438	0070		
14	Discounted Price	14	0438	0121		
15		00	0000	0000		
16	Single Pc. - (Fixed Pr.)	21	0156	0252		
17	Single "PC" - (Fixed Pr.)	21	0224	0247		
18	Price Including Tax	11	0375	0121		
19	"AMOUNT TOTAL"	11	0410	0154		
20	Transaction Number	12	0553	0243		
21	"PCS"	12	0379	0243		
22	PLU Name 2	49	0016	0394		
23		62	0024	0276		
24	"Sell By..." Random Wt.	63	0024	0276		
25		8D	0024	0276		
26	"Sell By" Fixed Price	6B	0024	0276		
27	"TOTAL PRICE" Legend	90	0415	0175		

BC-3000 - dual range Format 2

Field #	Standard Function	Code Value	Old Value		New Value	
			X-Width	Y-Height	X-Width	Y-Height
28	Ad Message 1	0E	9999	0000		
29	Sign	0B	0348	0112		
30	Sub-Total - Price	28	0351	0121		
31	Sub-Total - Weight	27	0398	0247		
32	Sub-Total - Pieces	26	0075	0082		
33	Piece Count	2C	0156	0252		
34	"PCS" Legend	2C	0224	0247		
35	"@" Legend	2B	0286	0247		
36	@ Count	2B	0305	0252		
37	"/" Legend	2B	0372	0247		
38	@/For Price	2D	0391	0252		
39	Total OZ Weight	32	0337	0211		
40	Total "oz" Symbol	32	0373	0202		
41	"(" Symbol	32	0415	0211		
42	")" Symbol	32	0572	0211		
43	LB Wt. inside ( )	31	0434	0211		
44	"lb" Symbol	31	0471	0202		
45	OZ Wt. inside ( )	30	0513	0211		
46	"oz" Symbol	30	0549	0202		
47						
48						
49						
50						

Note: The height values of fields 1 and 2 are dependent on the height of the text area. As the text area increases the height position of these fields also increases, as do any data fields printed above the text.

Note: Navigation - use ↑↓ keys to select FIELD NUMBERS
- use →key to select X (Width) or Y (Height).

64mm x 85mm Safe Handling Label B-0312B

Field #	Standard Function	Code Value	Old Value		New Value	
			X-Width	Y-Height	X-Width	Y-Height
1	Store Name/Address	01	0008	0874		
2	PLU Description	06	0016	0774		
3	Barcode	05	0008	0207		
4	Pack Date	03	0162	0258		
5	Expiration Date	04	0018	0258		
6		00	0157	0171		
7	Unit Price ($/lb)	08	0297	0258		
8	Tare Weight	22	0326	0049		
9	Weight	09	0456	0258		
10	Total Price	07	0375	0106		
11	PLU Number	02	0494	0186		
12	Price before Discount	13	0438	0073		
13	Markdown Line 1	13	0438	0064		
14	Markdown Line 2	13	0438	0055		
15	Discounted Price	14	0438	0106		
16		00	0000	0000		
17	Single Pc. - (Fixed Pr.)	21	0156	0262		
18	Single "PC" - (Fixed Pr.)	21	0224	0258		
19	PLU Name 2	49	0016	0774		
20		62	0024	0256		
21	"Sell By..." Random Wt.	63	0024	0286		
22		8D	0024	0256		
23	"Sell By" Fixed Price	6B	0024	0286		
24	"TOTAL PRICE" Legend	90	0415	0156		
25	Ad Message 1	0E	9999	0000		
26	Sign	0B	0348	0097		
27	Sub-Total - Price	28	0351	0106		

BC 3000-dual range Format 3

Field #	Standard Function	Code Value	Old Value		New Value	
			X-Width	Y-Height	X-Width	Y-Height
28	Sub Total - Weight	27	0398	0258		
29	Sub-Total - Pieces	26	0075	0112		
30	Safe Handling Panel	8C	0013	0640		
31	Piece Count	2C	0156	0262		
32	"PCS" Legend	2C	0224	0258		
33	"@" Legend	2B	0286	0258		
34	@ Count	2B	0305	0262		
35	"/" Legend	2B	0372	0258		
36	@/For Price	2D	0391	0262		
37	Total OZ Weight	32	0337	0219		
38	Total "oz" Symbol	32	0373	0210		
39	"(" Symbol	32	0415	0219		
40	")" Symbol	32	0572	0219		
41	LB Wt. inside ( )	31	0434	0219		
42	"lb" Symbol	31	0471	0210		
43	OZ Wt. inside ( )	30	0513	0219		
44	"oz" Symbol	30	0549	0210		
45						
46						
47						
48						
49						
50						

Note: The height values of fields 1 and 2 are dependent on the height of the text area. As the text area increases the height position of these fields also increases, as do any data fields printed above the text.

Note: Navigation- use ↑↓ keys to select FIELD NUMBERS
- use →key to select X (Width) or Y (Height).

64mm x 59mm Safe Handling Label B-0312B

Field #	Standard Function	Code Value	Old Value		New Value	
			X-Width	Y-Height	X-Width	Y-Height
1	Store Name/Address	01	0008	0622		
2	PLU Description	06	0008	0540		
3	Barcode	05	0000	0135		
4	Pack Date	03	9999	0211		
5	Expiration Date	04	0449	0211		
6		00	0149	0160		
7	Unit Price ($/lb)	08	0129	0184		
8	Tare Weight	22	0318	0000		
9	Weight	09	0000	0184		
10	Total Price	07	0379	0067		
11	PLU Number	02	0486	0169		
12	Price before Discount	13	0437	0036		
13	Markdown Line 1	13	0437	0027		
14	Markdown Line 2	13	0437	0018		
15	Discounted Price	14	0437	0067		
16		00	0000	0000		
17	Single Pc. - (Fixed Pr.)	21	0000	0184		
18	Single "PC" - (Fixed Pr.)	21	0067	0180		
19	Price Including Tax	11	9999	0067		
20	"AMOUNT TOTAL"	11	9999	0097		
21	Transaction Number	12	9999	0163		
22	"PCS"	12	9999	0163		
23	PLU Name 2	49	9999	0250		
24		62	9999	0241		
25	"Sell By..." Random Wt.	63	9999	0241		
26		8D	9999	0241		
27	"Sell By" Fixed Price	6B	9999	0241		

BC-3000-dual range Format 4

Field #	Standard Function	Code Value	Old Value		New Value	
			X-Width	Y-Height	X-Width	Y-Height
28	"TOTAL PRICE" Legend	90	9999	0106		
29	Ad Message 1	0E	9999	0000		
30	Sign	0B	9999	0052		
31	Sub-Total - Price	28	0342	0067		
32	Sub-Total - Weight	27	0000	0184		
33	Sub-Total - Pieces	26	0067	0051		
34	Piece Count	2C	0000	0184		
35	"PCS" Legend	2C	0067	0180		
36	"@" Legend	2B	0129	0180		
37	@ count	2B	0148	0184		
38	"/" Legend	2B	0216	0180		
39	@/FOR Price	2D	0233	0184		
40	Total OZ Weight	32	0349	0135		
41	Total "oz" Symbol	32	0386	0124		
42	"(" Symbol	32	0426	0135		
43	")" Symbol	32	0584	0135		
44	LB Wt. inside ( )	31	0445	0135		
45	"lb" symbol	31	0484	0124		
46	OZ Wt. inside ( )	30	0526	0135		
47	"oz" symbol	30	0561	0124		
48						
49						
50						

Note: The height values of fields 1 and 2 are dependent on the height of the text area. As the text area increases the height position of these fields also increases, as do any data fields printed above the text.

Note: Navigation - use ↑↓ keys to select FIELD NUMBERS
- use →key to select X (Width) or Y (Height).

A7 NEW BC-3000 Dual Range Scale Notice

Due to popular demand from our customers the BC-3000 has been enhanced to provide dual weight range readings. From 0 to 15 pounds weight readings increment by 0.005 lb. From 15 to 30 pounds weight readings return to a standard 0.01 lb. The added accuracy in the lower weight range will provide greater cost benefits to your customers by more closely tracking actual tare weights and product weights.

You should be aware of the following issues resulting from the BC-3000 upgrade to dual range weight readings.

1. **Revised Label Formats** The four standard label formats have been altered. The format worksheets can be found in Appendix A6 and are posted in the Distributor section of the Rice Lake/Ishida web site at: http://www.ishidaretail.com.

   The four formats are:

   - 60mm x 44mm, standard
   - 64mm x 47mm, standard
   - 64mm x 85mm, Safe Handling
   - 64mm x 59mm, Safe Handling

2. **Using old Label Formats** Label formats that were created on single range BC-3000 scales must be modified for use with a dual range BC-3000. After loading them from an IF-21FD recorder the decimal point position of any weight fields must be moved one place to the left. This procedure is straight forward and listed here:

   1. Enter the Test Menu (C00) [Power ON holding the “1” key].
   2. Enter the Label Format step (C07-00) [“7”, ENTER].
   3. Select the label format 1~4 (C07-01) [format number, PLU key].
   4. Enter “Flag Change” area (C07-01 01) [SIZE].
   5. Use the RIGHT ARROW to move across to column 17 (decimal point location).
   6. Use the DOWN ARROW to move down to the Weight field (refer to worksheets to determine Weight field number.).
   7. Reduce the decimal point value by one.
      Example: Current value is 02, input 01, press ENTER.
   8. Print a test label to verify there are now three digits after the decimal point in the Weight field.
   9. Make similar changes to the Tare Weight and SubTotal Weight fields.
   10. Press END, turn the scale off.

3. **Existing PLU Files** PLU files from single range BC-3000 scales are not fully compatible with the new dual range BC-3000. Tare weight values are low by a factor of ten.

   Example
   1. Old tare is 0.04. Dual range BC-3000 reads this as 0.004. This is then rounded up to 0.005 (dual range BC-3000 counts by 0.005 therefore the last digit must be either a “0” or “5”.
   2. Old tare is 0.12. Dual range tare is 0.012, rounded down to 0.010

4. **Networking** BC-3000 dual range and single range scales cannot be networked together. Tare weight values will not transfer correctly resulting in the decimal point being off by one position. In other words, the tare value will be either ten times too large or too small.

If a new BC-3000 will be added to an existing network, this should be specified at the time the order is placed.

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