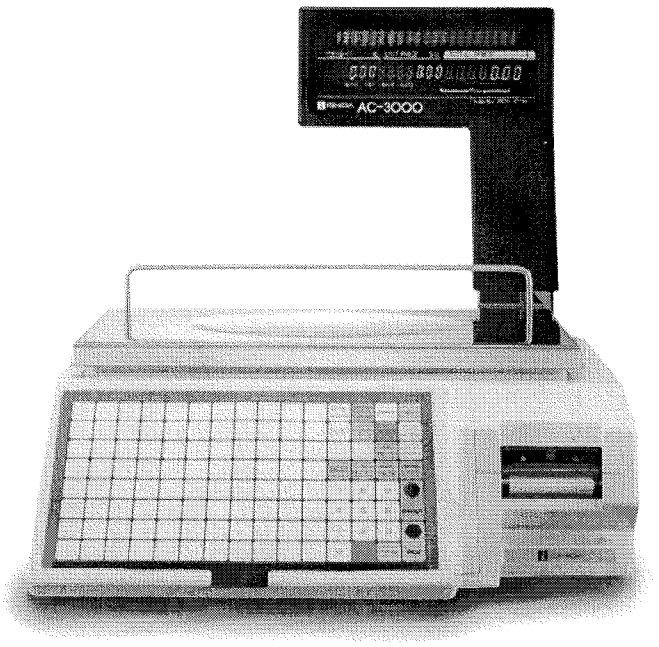
ISHIDA

AC-3000

Retail Scale

Service Manual



RICE LAKE WEIGHING SYSTEMS
Industrial Solutions on a Global Scale

ISO 9001 REGISTERED

48739

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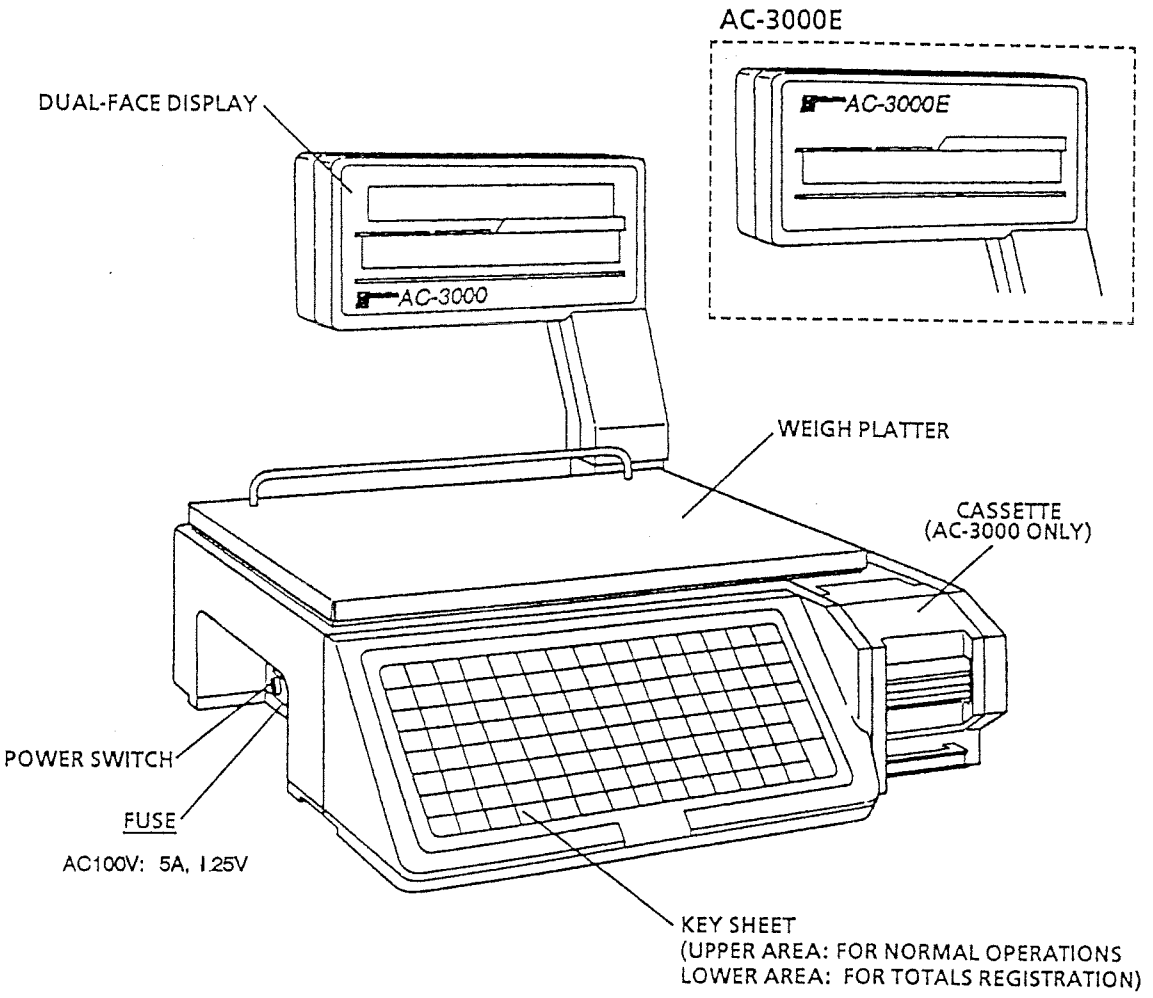
1 Introduction

1.1 MAIN COMPONENTS



1.2 CHARACTERISTICS

■ 16-Bit microprocessor

The AC-3000 and AC-3000E scales are equipped with a 16-bit microprocessor unit (V-40) which enables processing of large quantities of data.

■ Full dot display (AC-3000)

The AC-3000 is equipped with full dot display unit which can display easy-to-read text, numerals and a variety of symbols.

■ CSIS system development function

This function enables CSIS System development. Note that the master scale must be an AC-3000; satellites may be AC-3000E. Also, a master board is needed for this this function.

■ E^2 ROM

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

■ Four label cassettes

Up to four different label types may be printed by use of interchangeable label cassettes.

■ 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.

■ Peeling sensor sensitivity value display

The sensitivity value of the peeling sensor is displayed. There is no longer any need to measure detection voltage.

■ Settable sales mode

Supermarket or speciality store specifications are selectable.

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.
- Specifications permitting printing of connected totals reports are included.
- An inspection mode has been added. Verification can be made during totaling.
- Online/Offline switching is made via Registration mode

Mode Key Function

Enter the pass code (4 digits), then press □MODE to change modes. If □MODE is pressed without entering a passcode, then normal operation mode is returned. (See page S4-9 for procedure to change passwords.)

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:

1. No parts are missing.
2. No parts are damaged.

2.2 INSTALLATION SITE CHECK

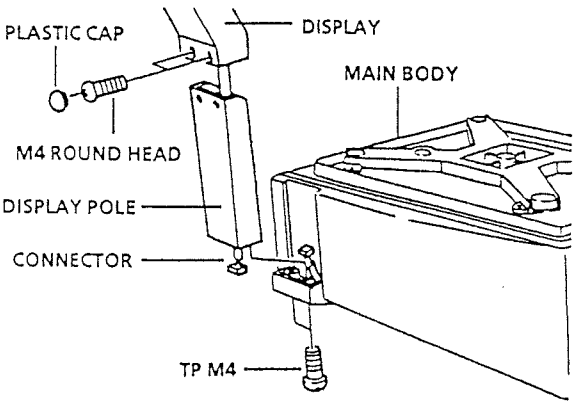
Check that the installation site conforms to the following conditions:

1. Site is stable and level.
2. Scale will not be exposed to water or other liquids.
3. Scale will not be exposed to direct sunlight for long periods.
4. Scale will not be exposed to wind or strong vibration.
5. Installation site should be sufficiently spacious.
6. 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. Attach the display to the main body with 2 screws (M4).
4. 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 users specifications.

Service manual reference sections:

- Sales mode setting : Chapter S5 (Test Mode 8: Sales Mode)
- Label length setting : Chapter S4 (Setting Mode 1: Label Format)
- Print format setting : Chapter S5 (Test Mode 7: Label Format)

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.)

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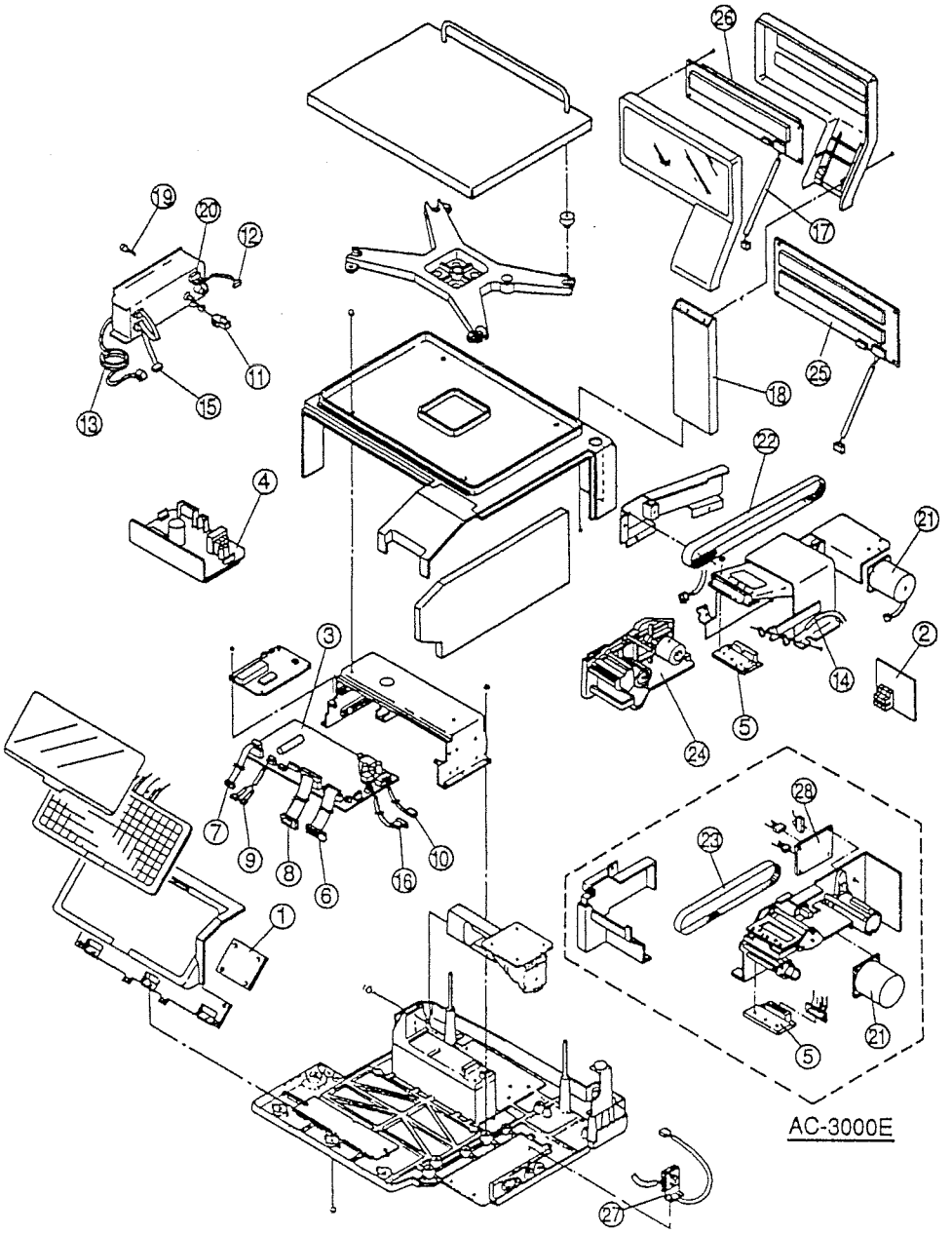
3 Parts Disassembly & Replacement

This chapter will explain 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 List

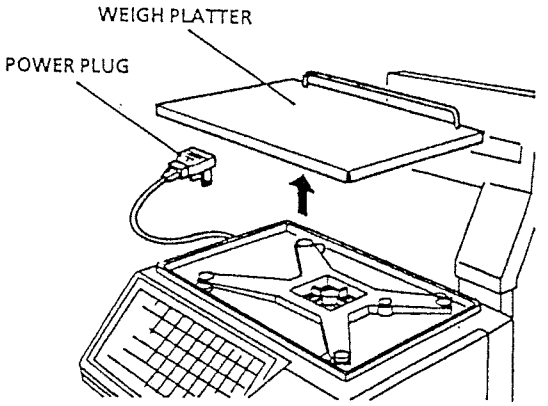
Part No.	Part Name	AC-3000	AC-3000E	AC-3000B	AC-3000F
1	PWB:P-862: Buzzer board	○	○	○	○
2	PWB:P-838: Cassette sensor	○			
3	PWB:P-834: CPU board	○	○	○	○
4	Power Supply: Switching	○	○	○	○
5	Thermal head	○	○	○	○
6	Harness: S2: Thermal head	○	○	○	○
7	Harness: S2: Key	○	○	○	○
8	Harness: S2: Sensor	○	○	○	○
9	Harness: C3: Scale	○	○	○	
10	Harness: C3: Power	○	○	○	○
11	Fuse: Assembly	○	○	○	○
12	Harness: C3: Power	○	○	○	○
13	Harness: C2: Power cord	○	○	○	○
14	Sensor: Assembly: Peeling	○			
15	Harness: C3: I^2Net	○	○	○	○
16	Harness: C2: Display 1	○	○	○	○
17	Harness: C2: Display 2	○	○	○	○
18	Display Pole	○	○	○	○
19	Fuse: Glass 5 A, 125V	○	○	○	○
20	Switch	○	○	○	○
21	Motor: AS: Stepping	○	○	○	○
22	Timing Belt: XL (190xL)	○			
23	Timing Belt: XL (124xL)		○	○	○
24	Cassette: Label	○			
25	Display Unit	○		○	○
26	Display Unit		○		
27	Sensor Unit: Label		○	○	○
28	PWB:P-838: Sensor junction		○	○	○
29	PWB:P-830: A/D board	○	○	○	

NOTE: Only the main parts are listed here. For a complete listing of parts and their corresponding parts numbers, refer to the individual machine's parts list in Appendix A4.

3.2 UPPER COVER REMOVAL

1. Remove the weigh platter.

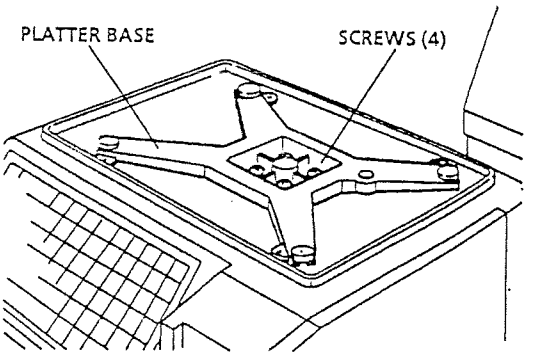
1) Place the scale on a level surface. Rotate the adjustment feet to level the scale if necessary.
2) Insert the power plug into an outlet.
3) Lift off the weigh platter, keeping it horizontal.



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

2. Remove the platter base.

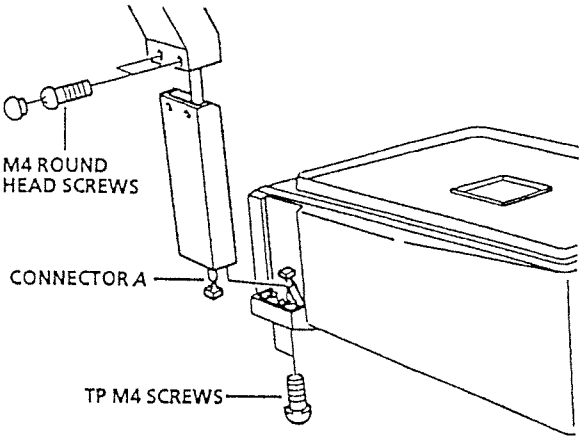
Remove the 4 attachment screws then lift off the platter base.



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

3. Remove display unit.

1) Remove the 2 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 2 screws (M4) which secure the plastic display housing to the display pole.

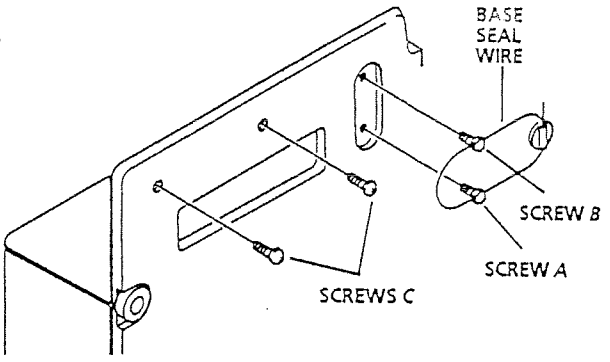


CAUTION! In order to avoid damage to fragile components, be careful not to drop or strongly impact them.

4. Remove the operation keyboard panel.

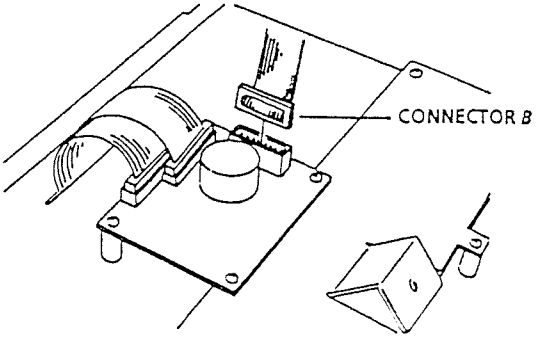
1) Cut the base seal wire.
2) Remove base seal wire screw B.
3) Remove both screws C.

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 has been cut, it is necessary to have the scale reinspected and the seal replaced. Never cut the base seal unless required.

4) Carefully pull the operation keyboard panel toward you, then disconnect connector B.

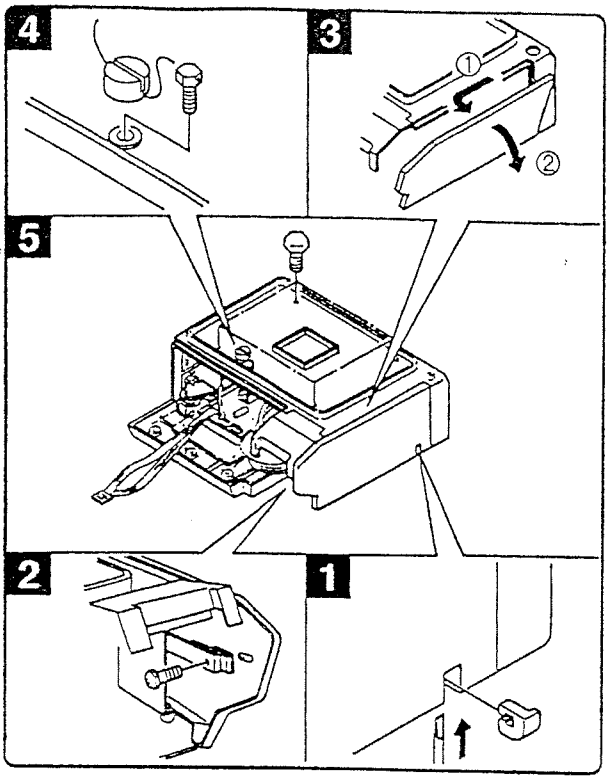


5. Remove the upper case.

For AC-3000:

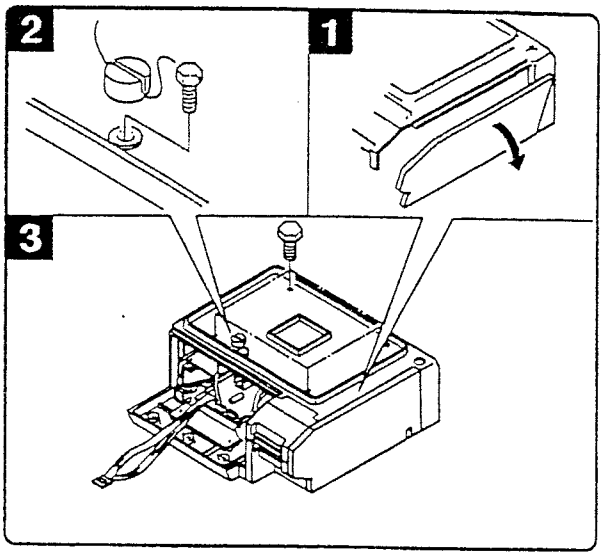
(First remove the label cassette)

1. Remove the securing block from the side panel by inserting a screwdriver blade, etc., as indicated by the arrow.
2. Remove the side panel attachment screw.
3. Slide the side panel approximately 5cm in the direction of arrow ① then pull it down in the direction of arrow ②.
4. Cut the seal wire, and remove the seal wire screws.
5. Remove the 4 screws which secure the upper case, then carefully lift the cover off the main body.



For AC-3000E:

1. Lower the side panel in the direction of the arrow.
2. Cut the seal wire, then remove the seal wire screws.
3. Remove the 4 screws which secure the upper case, then carefully lift the cover off the main body.

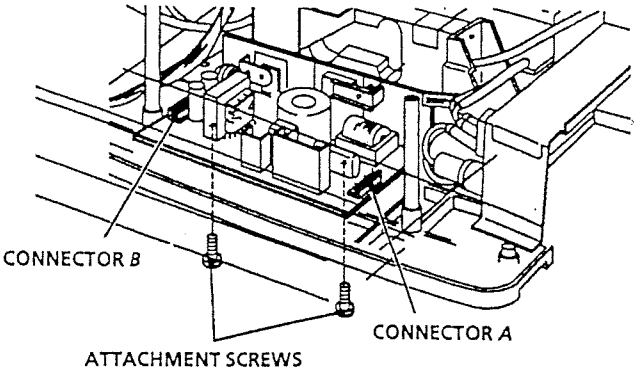


CAUTION! After the base seal wire has been cut, it is necessary to have the scale reinspected and the seal replaced. Never cut the base seal unless required.

3.3 CIRCUIT BOARD REPLACEMENT

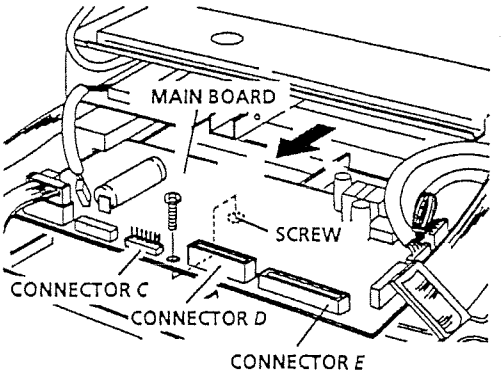
1. Remove the power unit.

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



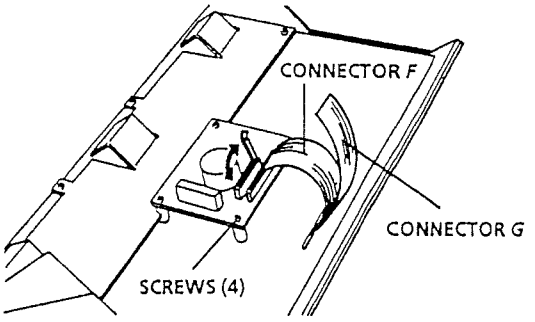
2. Remove the main board.

1) Remove the attachment screw from the main board.
2) Slide the main board toward you, and remove connectors *C, D & E.*



3. Remove keyboard junction board.

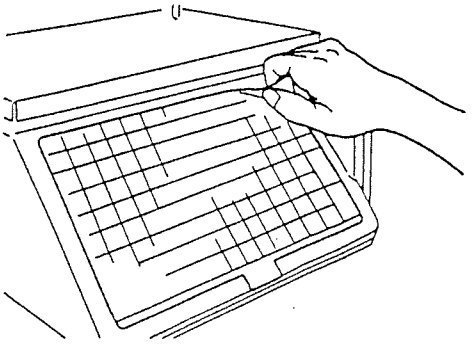
1) Remove the 4 attachment screws from the keyboard junction board.
2) Remove connectors *F & G.*



4. Remove the keyboard.

1) Peel off the key board starting from the corner.

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



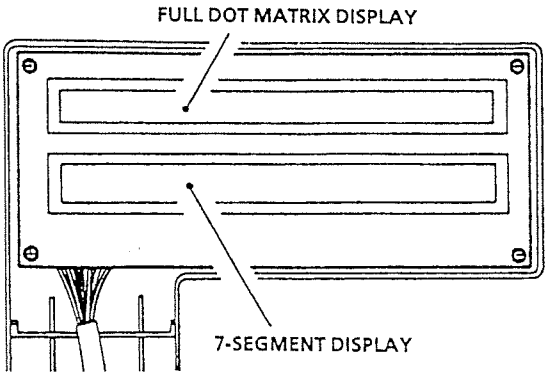
5. Remove the A/D board.

Remove the A/D board referring to the procedures described in Load Cell Replacement section of this manual (page 3-8).

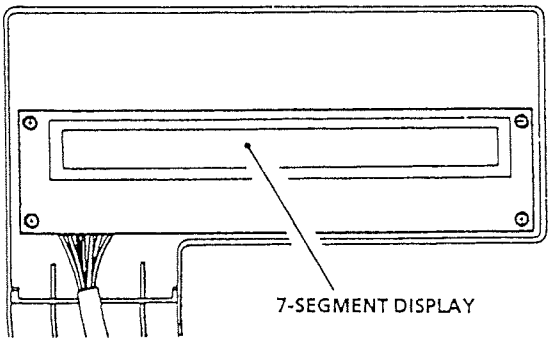
3.4 DISPLAY UNIT REPLACEMENT

Replace display unit.

1) Carefully remove the cover.
2) Remove the 4 screws which secure the display unit.



AC-3000

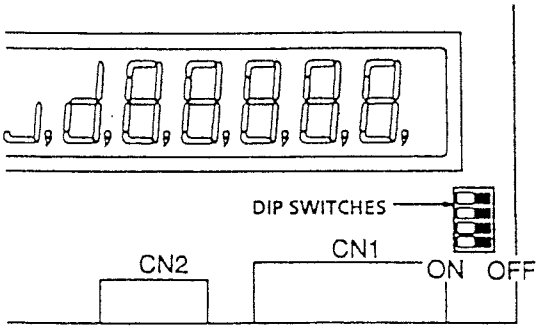


AC-3000E

⊕ =SCREWS (4)

CAUTION!

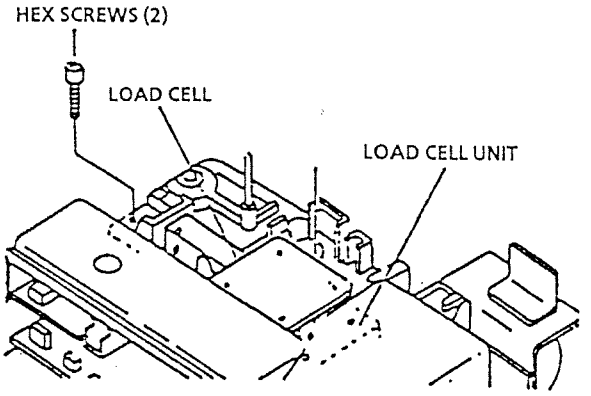
- To avoid damage to the cover, open it slowly and carefully.
- Avoid touching the display unit.
- No display will appear unless all the dip switches on the display board are OFF.



3.5 LOAD CELL REPLACEMENT

1. Remove the upper cover.

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

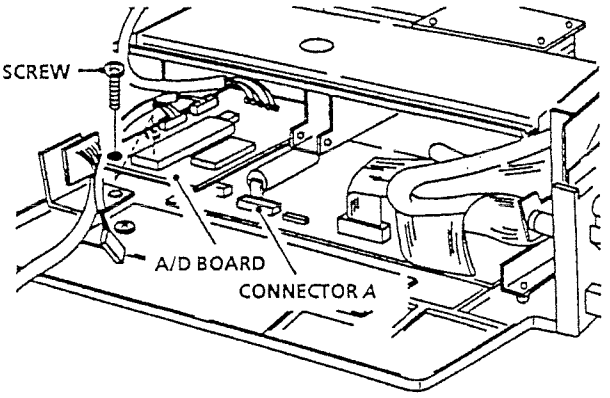


2. Remove the load cell unit.

1) Remove the 3 screws which secure the load cell unit.
2) Remove the load cell unit.

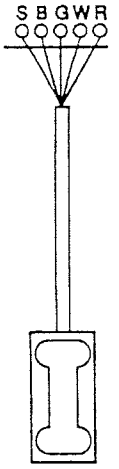
3. Remove the A/D board.

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 5 places).



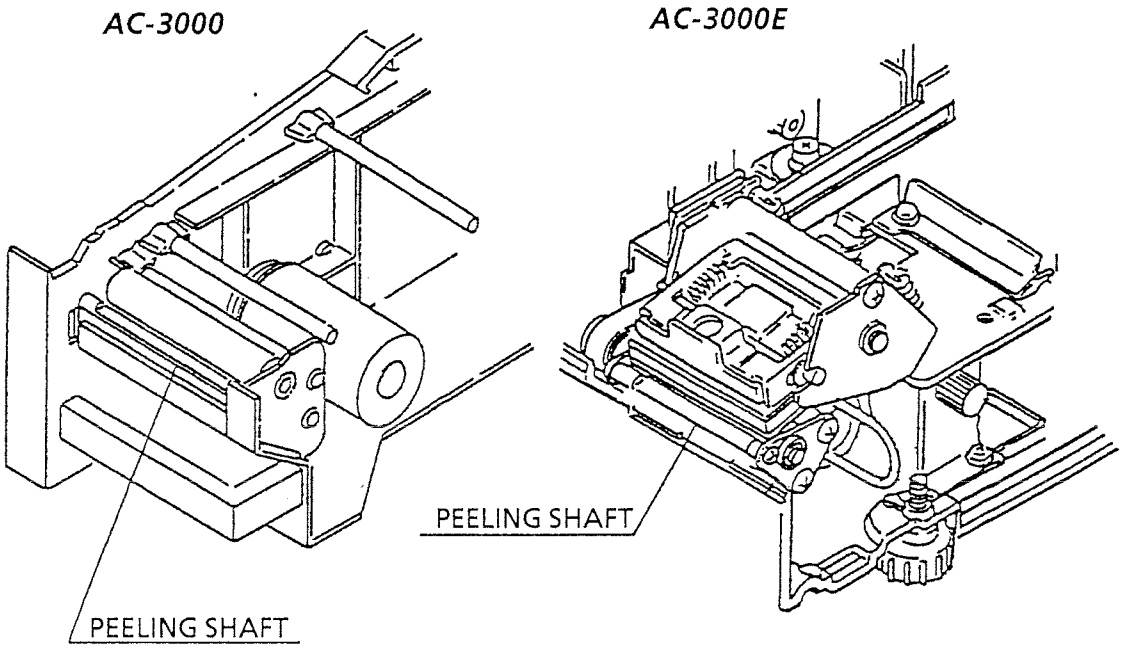
CAUTION!

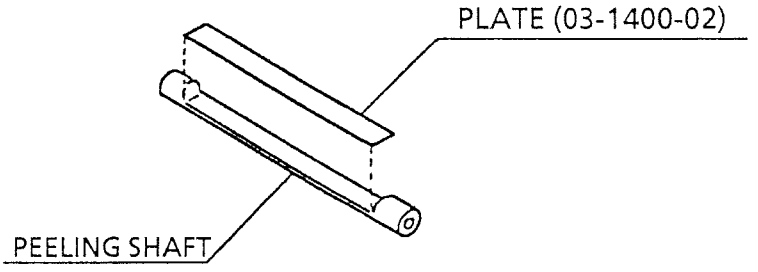
- The load cell output cable has five soldered points. When replacing be sure that the wires are in the correct order.
- After replacing the load cell unit, perform a four-corner test. (Reference: Section 5.5 of this manual)



3.6 CASSETTE MODIFICATION: LABEL TO RECEIPT

Procedure for Modifying from Label to Receipt Type Cassette:
Align the plate with the edges of the peeling shaft, then attach the plate.





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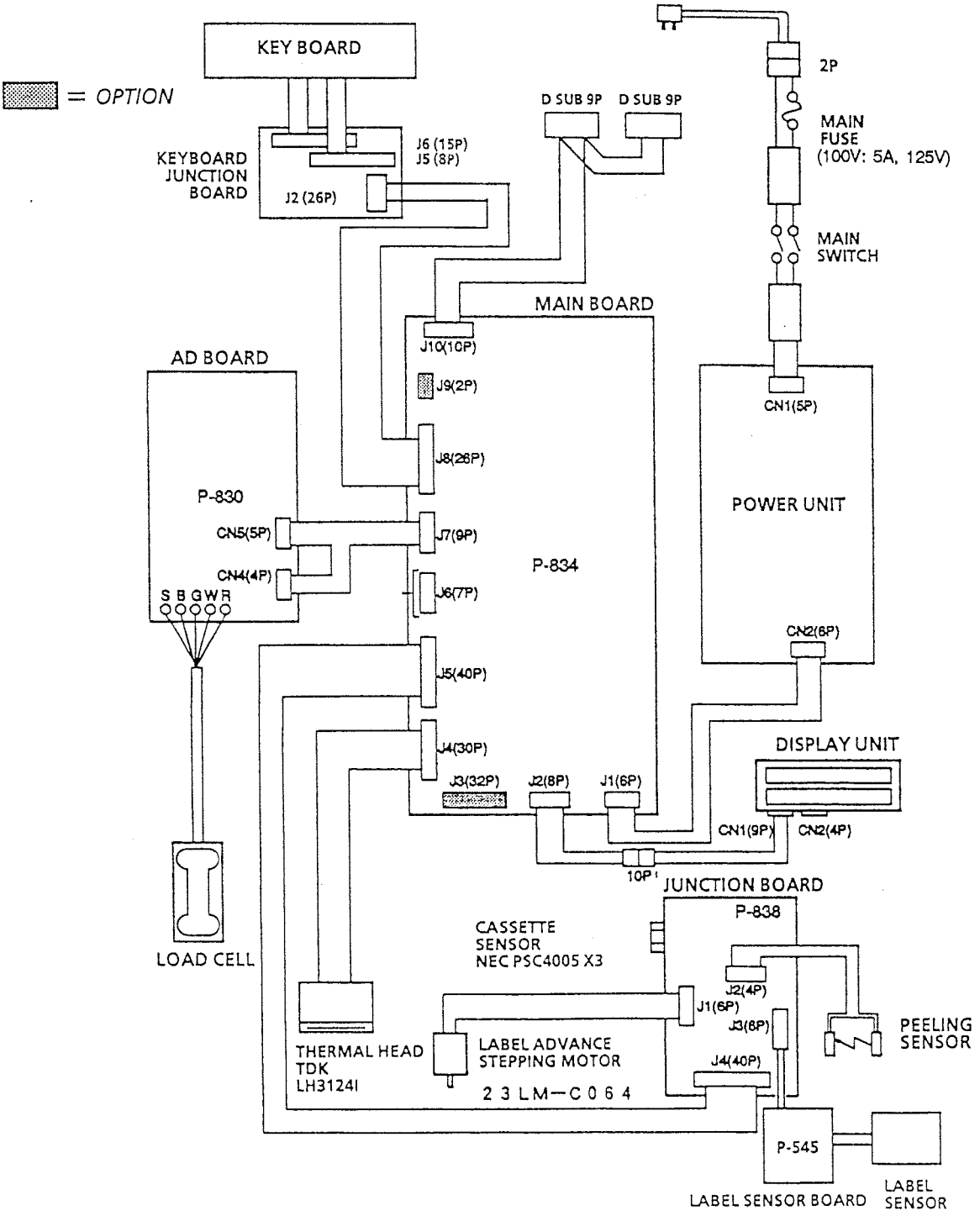
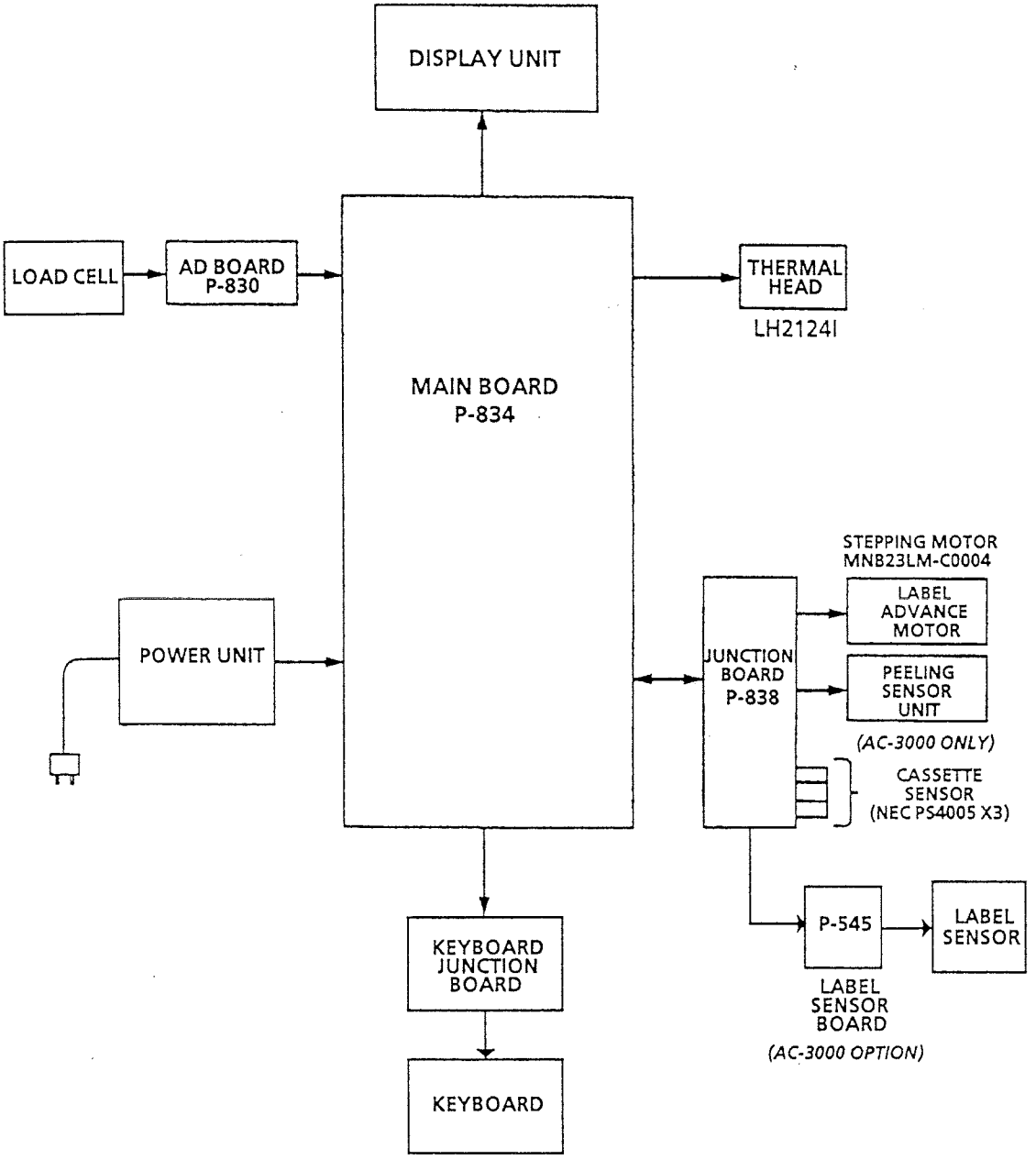
4 Electronic Configurations

4.1 CONNECTOR CONFIGURATION



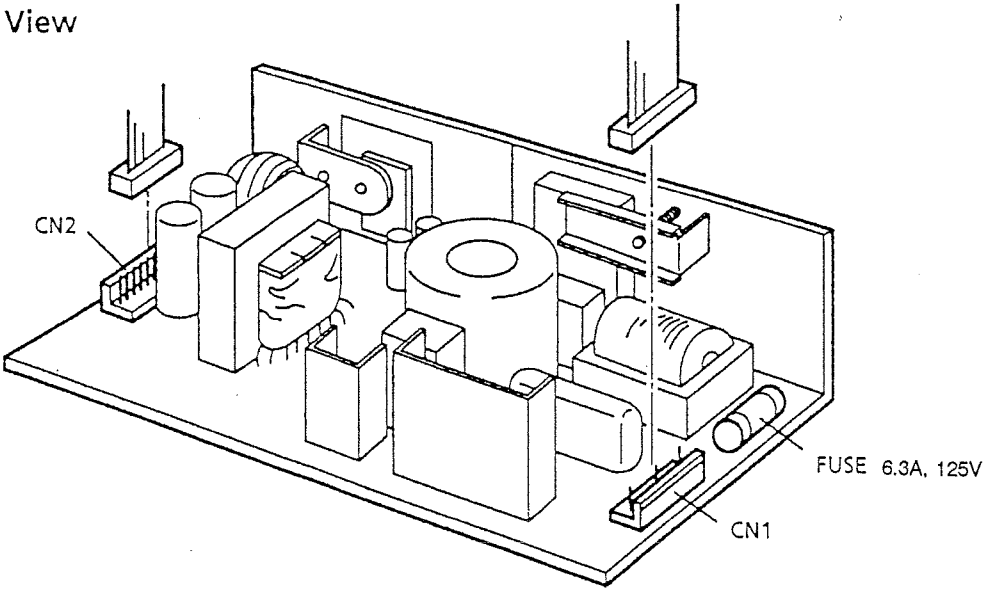
4.2 BLOCK DIAGRAM



4.3 POWER UNIT

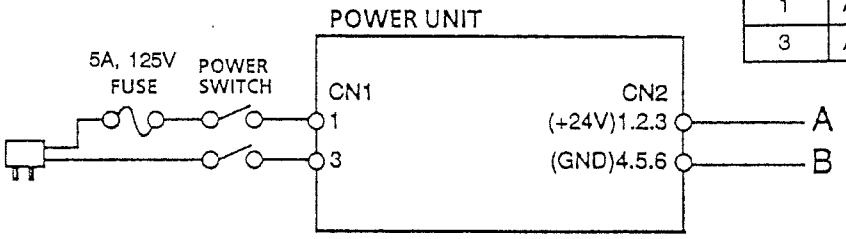
The power unit performs efficient voltage conversion, stabilizes low voltage, and supplies power to the various units.

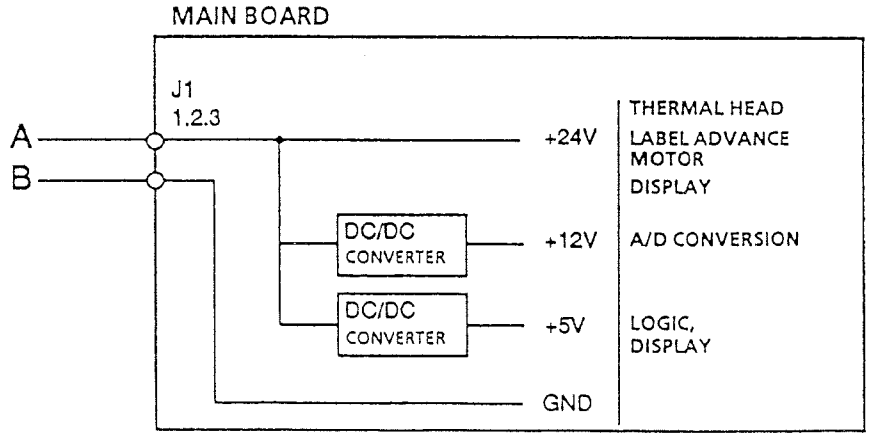
1. External View



2. Block Diagram

CN1	SLS100P
1	AC100~120V
3	AC100~120V

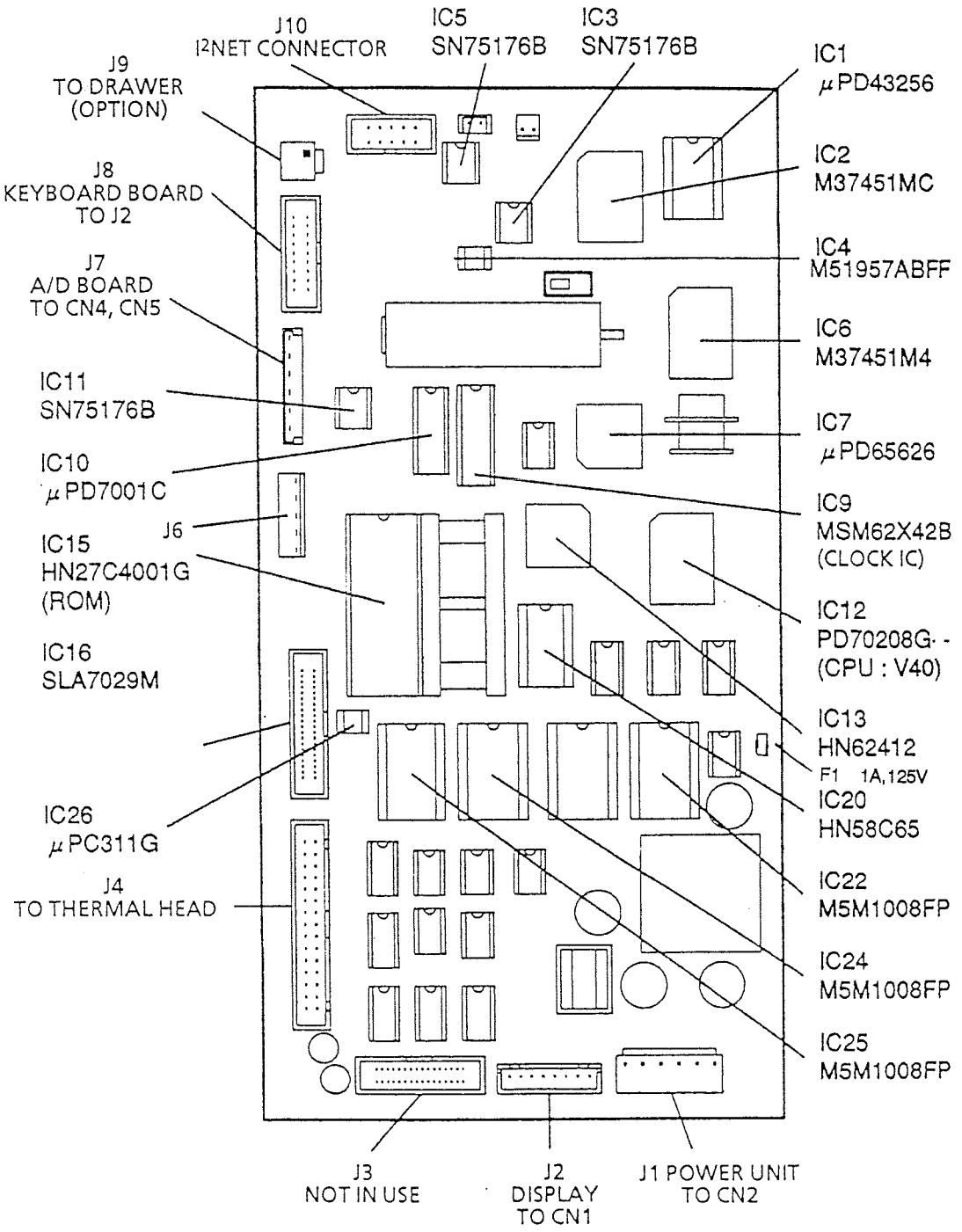




4.4 MAIN BOARD (P-834)

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

1. External View

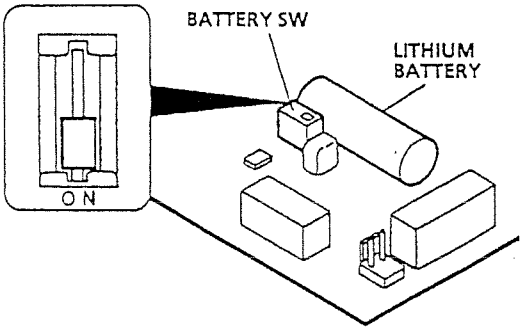


2. Board Functions

1) Control of overall unit via CPU (V40)
   ※EPROM (Program memory) 4 Meg type (2) are installed
2) Process weight data from A/D board
3) Key data input
4) Price calculation
5) Display of weight, price and unit price data
6) Label advance motor output
7) Label sensor/cassette sensor input
8) Thermal head printing output
9) I^2 net output
10) Option (CSIS and drawer) output

3. Battery Switch

A lithium memory backup battery is included in these units.
After installation make sure the battery switch is set to ON.



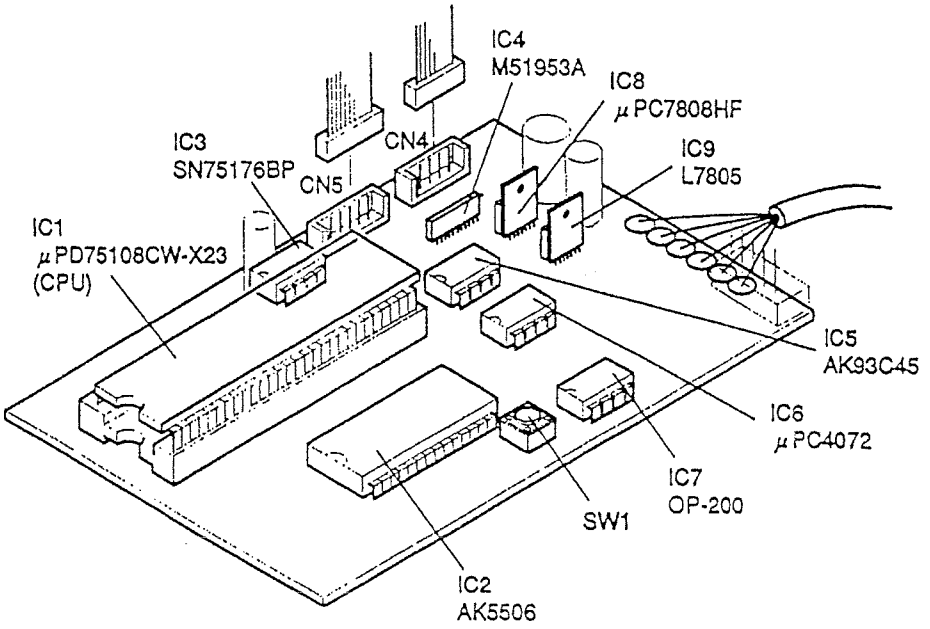
NOTE: This scale uses a rechargeable lithium battery. Normal charge is 3.8v and average life is 10 years. Battery switch is turned ON at time of shipment from factory.

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.

4.5 A/D BOARD (P-830)

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

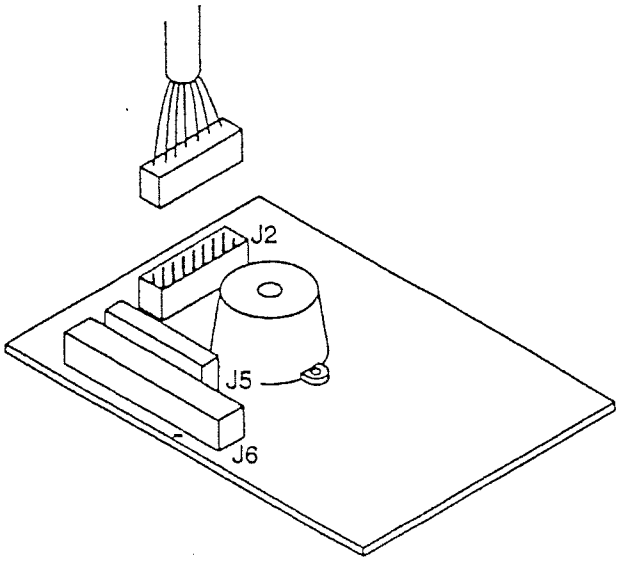
External View



4.6 KEYBOARD JUNCTION BOARD

This unit consists of 3 connectors and a buzzer.
The board transmits key switch data to the main board via connector J2.

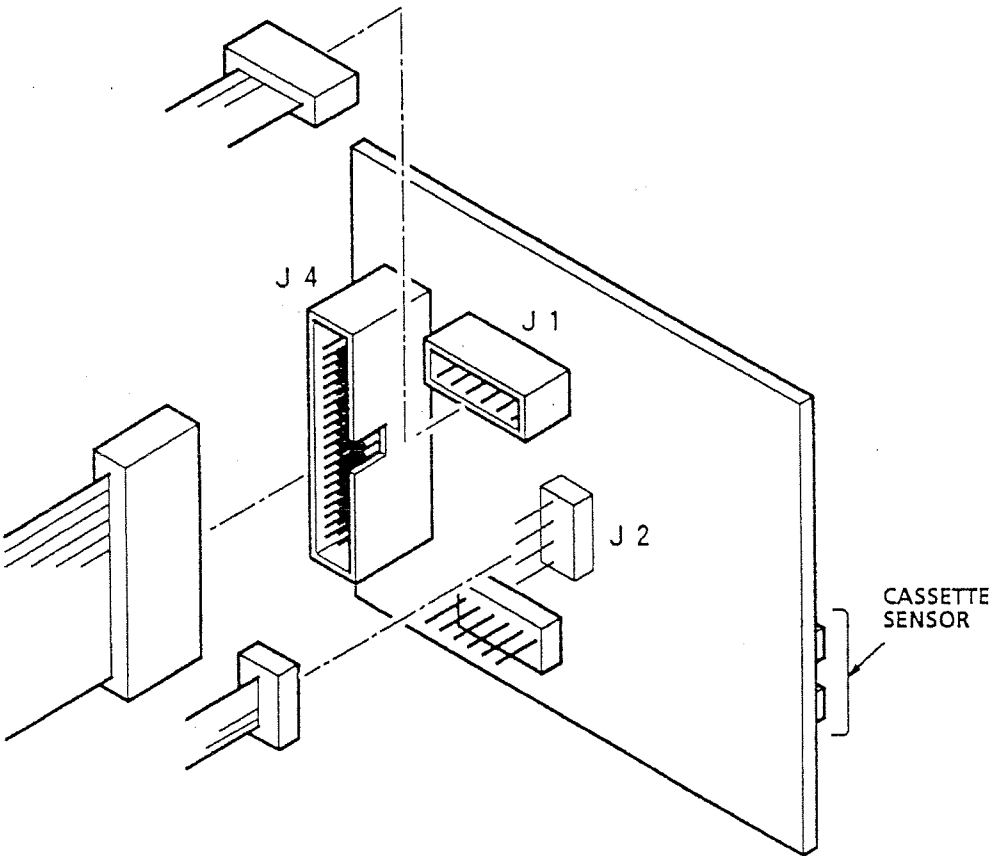
External View



4.7 JUNCTION BOARD (P-838)

This board transmits peeling sensor (AC-3000), cassette sensor (AC-3000) and stepping motor signals from its J4 connector via flat cable to main board J5 connector.

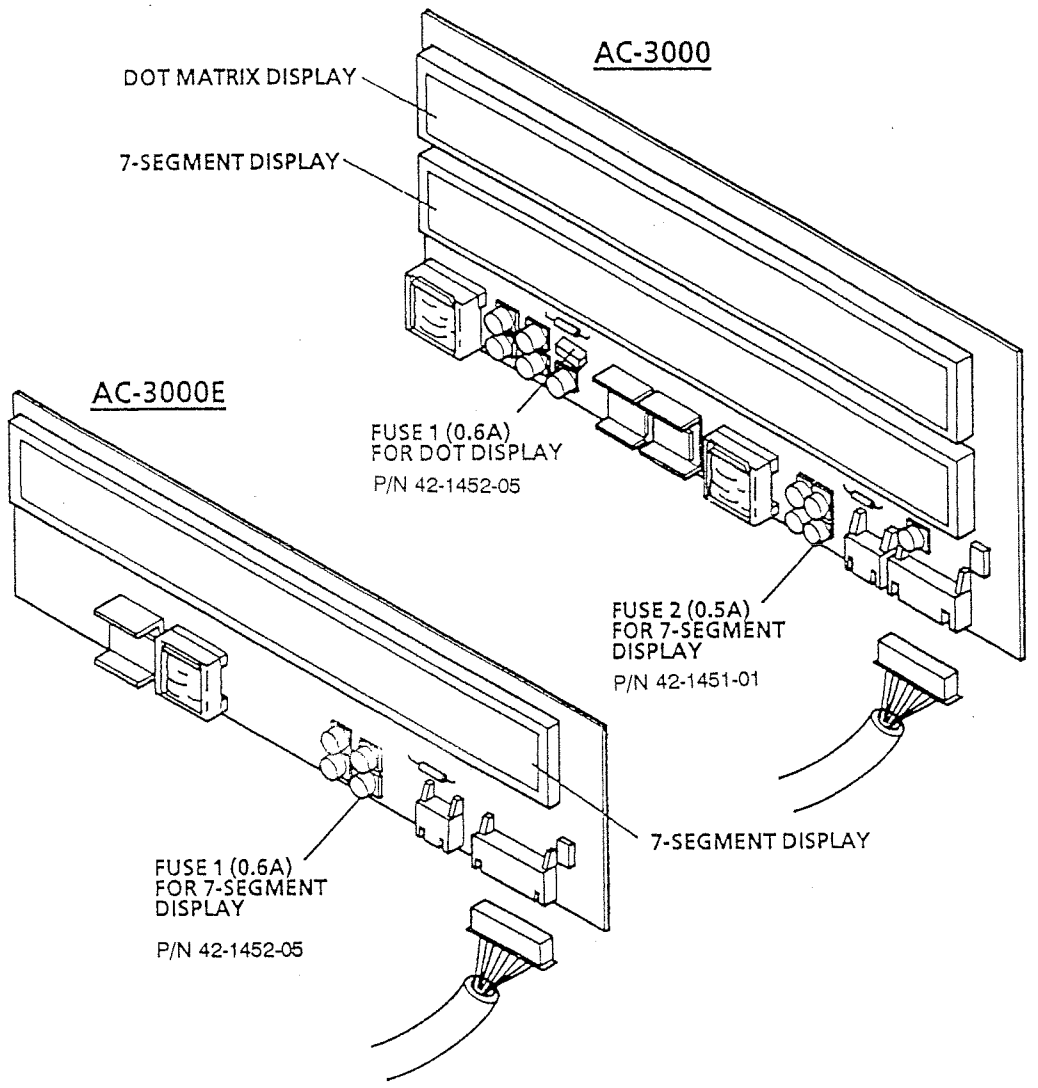
External View



4.8 DISPLAY UNIT

The AC-3000 is equipped with both full dot and a 7-segment display modules; the AC-3000E has only a 7-segment display module.

External View



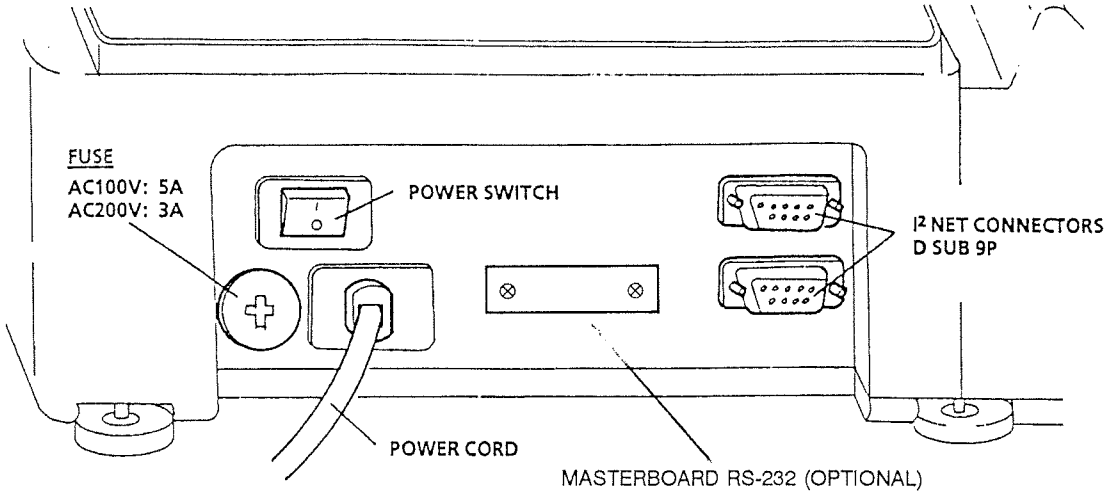
CAUTION!

- 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.
- Turn all the dip switches on the display board to OFF, or no display will appear.

4.9 CONNECTOR BRACKET

Includes the power switch, power cord, fuse, I^2 NET connectors, and cutout for optional master board RS-232 connector.

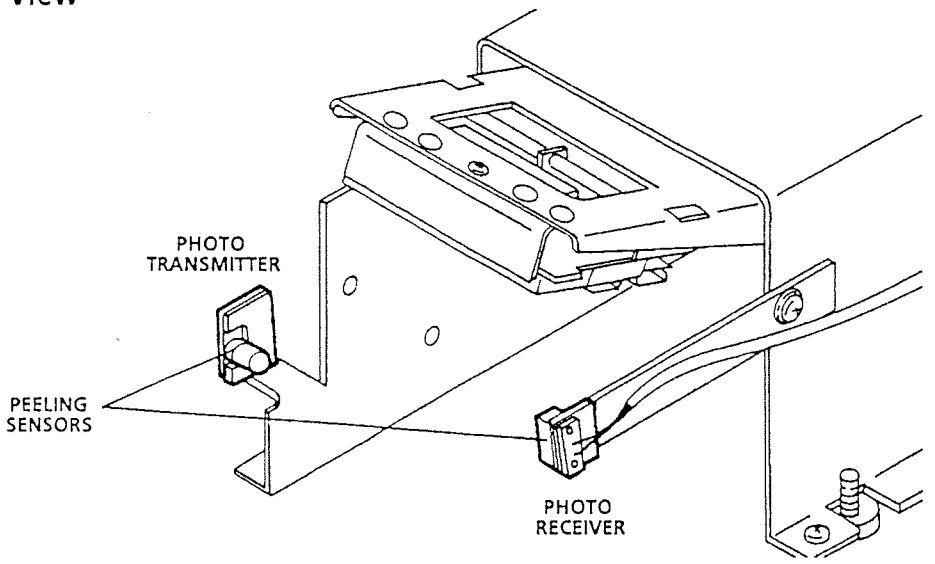
External View



4.10 PEELING SENSOR (AC-3000 ONLY)

This sensor controls label advance distance which is determined by the Cassette No. and Label Size settings (Setting Mode).

External View

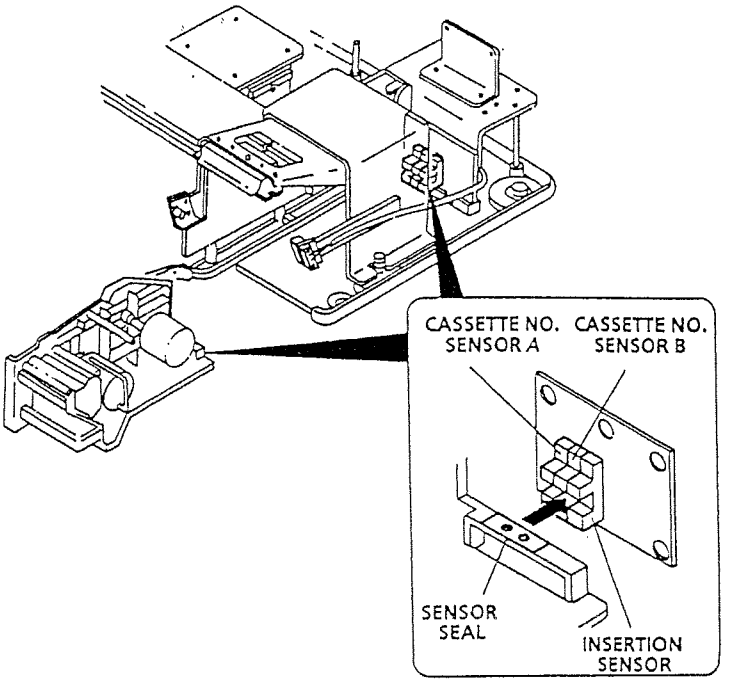


PLEASE NOTE: During printing, labels will not be advanced unless the peeling sensor operates.

4.11 CASSETTE SENSOR

The cassette sensor utilizes photo interruptors for cassette detection. When the sensor seal interrupts the light beam, the cassette signals are detected. The cassette number (types 1~4) is determined by the combination of these signals.

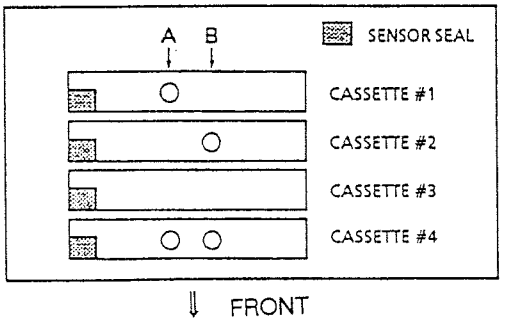
1. External View



2. Cassette Number Sensing

Cassete sensor configuration is shown at right.

○ = indicates sensor beam location

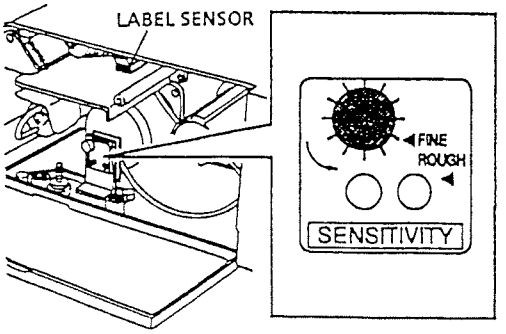


4.12 LABEL SENSOR AND SENSOR BOARD (P-545)

AC-3000E/B/F only

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

Note: See Section 5.5 (pg 5-5) for adjustment procedure.



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5 Thermal Head

5.1 OVERVIEW

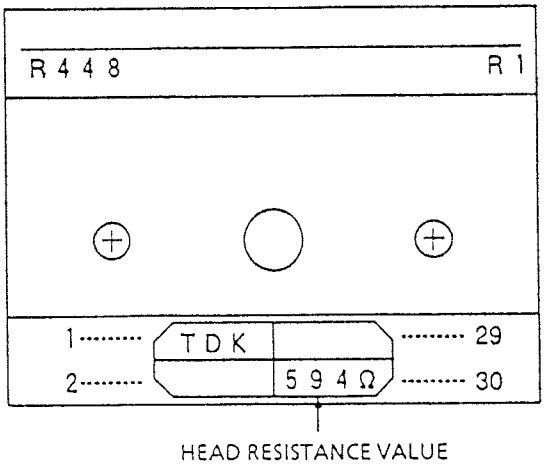
This 440 dot thermal head is specifically intended for use with label printers.

5.2 SPECIFICATIONS

Specification Sheet

Type	LH3124I (Double density thermal head) TDK
Overall dot count	448 dots
Dot pitch	0.135 (W) x 0.15 mm (H)
Head resistance	R=528~672Ω
Required power	0.66 [W/dot]
Applied voltage	24 [V]
Maximum print	60.5 mm
Resolution	188 dots/inch (7.4 dots/mm)
Print speed	3.2 inch/sec (80 mm/sec)

Configuration



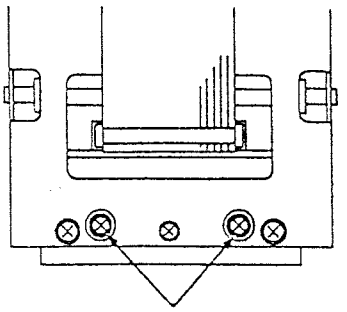
5.3 THERMAL HEAD ADJUSTMENT

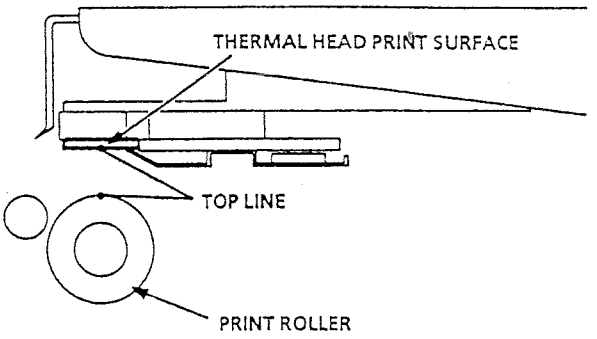
If the printing surface of the thermal head and the top line of the print roller are not aligned, then print quality across the width of the label will be poor.
First, print a test label, and if the clarity of the printed characters is not satisfactory, perform adjustment according to the following procedure.

1) Loosen by 1/4 turn the 2 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.

4) Perform a label printing test.

NOTE: For test method, refer to Chapter S5-3.

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.

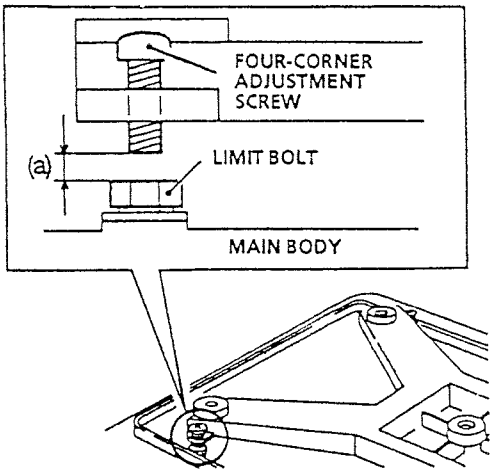
5.5 OTHER ADJUSTMENTS

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

(1) Place a weight equal to scale capacity (30lb) plus 10% (3lb) on each corner of the weigh platter.
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].

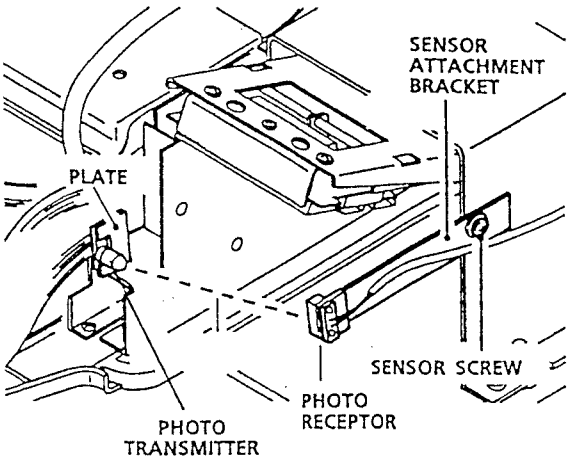


2. Peeling Sensor Adjustment (AC-3000 only)

The peeling sensor photocells may become misaligned from external impact to the scale. When label advance action seems abnormal, perform the following adjustment.

(1) Loosen 1/4 turn the screw which secures the peeling sensor.

(2) Adjust the angles of the photo transmitter receptor cells so that the light beam is aligned. During adjustment, monitor the peeling sensor value via Test Mode 4. (See Chapter S5 of this manual.)



NOTE: If the light beam cannot be correctly aligned, the plate on the photo-receptor side can be bent to effect adjustment.

PEELING SENSOR SENSITIVITY LEVEL AFTER ADJUSTMENT

- The correct peeling sensor values are shown here. (See Chapter S5; Test Mode 4--Sensor Test)

Peeling sensor	Sensor display value	Peeling sensor photoreceptor voltage
During light input	200 count or more	1 [V] or less
During interruption	50 count or less	4 [V] or more

Note: Values between 50 and 200 may cause intermittent operation.

3000 Series Label Gap Sensor
Alternate Adjustment Method

1. Turn FINE adjustment knob to center position.
2. Place backing paper only under gap sensor.
3. Turn ROUGH adjustment until the point where the red L.E.D. turns on/off - this is point A.
4. Place label on backing paper under gap sensor.
5. Turn ROUGH adjustment until the point where the red L.E.D. turns on/off - this is point B.
6. Center the ROUGH adjustment between points A and B.

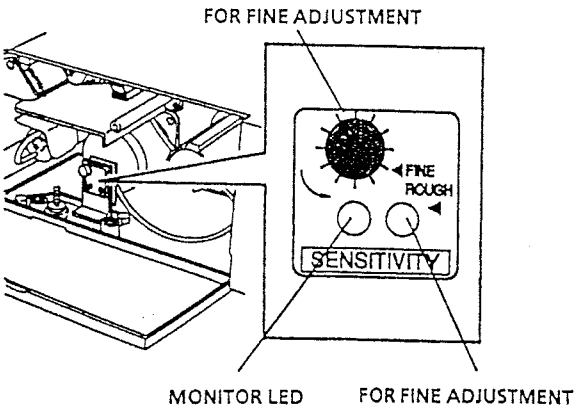
3. Label Sensor Adjustment (AC-3000E/B/F only)

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.

SENSOR ADJUSTMENT

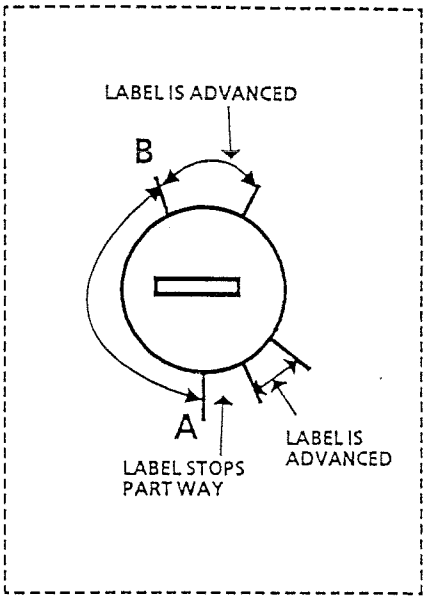
Sensor adjustment is performed using the Label sensor adjustment unit.

(Illustration at right shows AC-3000E)



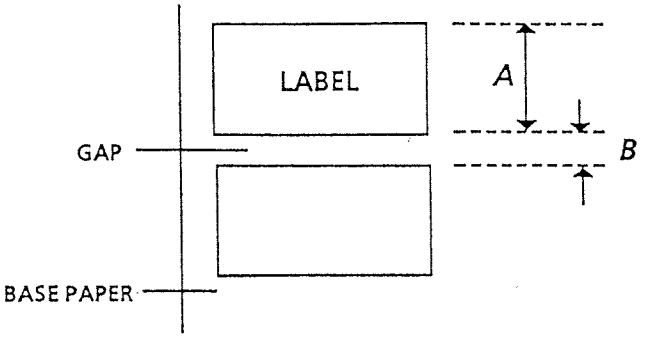
ADJUSTMENT METHOD

1) Align the fine adjustment volume with the sensor.
2) Rotate the rough adjustment volume to the limit in the counterclockwise direction.
3) Press the label advance key one time, and adjust the rough adjustment volume clockwise to the position where one label stops. This point is "A"
4) Rotate the rough adjustment volume to the limit inthe clockwise direction.
5) Press the label advance key one time, and adjust the rough adjustment volume counterclockwise to the position where one label stops. This point is "B".
6) Set the rough adjustment volume midway between points A and B.



SENSITIVITY LEVEL CHECK

After adjustment, use the monitor LED to check that the sensitivity level is correct.



- Monitor LED ON/OFF status:
  - When Label sensor passes *A*, monitor goes out.
  - When Label sensor passes *B*, monitor lights.

ADJUSTMENT METHOD

NOTE: Make sure that the LED is always lit just before printing (label stopped).

LABEL STOP POSITION ADJUSTMENT

For instructions on label stop position adjustment, refer to Chapter S4: Setup mode 1: Label Format: Label Sensor Distance (b01-09).

6 Troubleshooting

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

6.1 PERIODIC PARTS REPLACEMENT (MBTF*)

The following parts need to be periodically replaced.

1. *Thermal head (LH3124I)*
   - Replacement period: When label advance distance reaches 60 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.

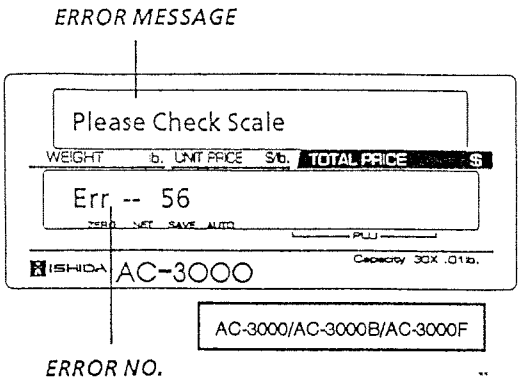
*MBTF = Mean Time Between Failures

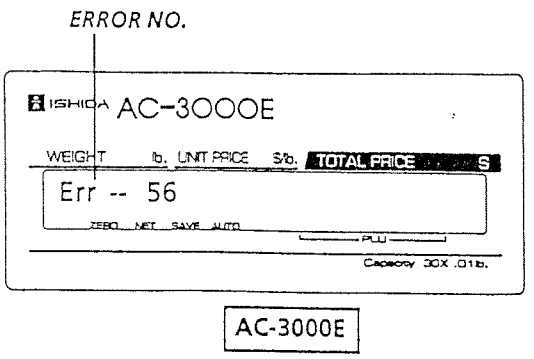
6.2 MALFUNCTION TROUBLESHOOTING CHART

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 board defective	① Check, replace main board ② Check, replace keyboard board
"We will serve you shortly" message remains displayed indefinintely.	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 mattter 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 Keyboard board defective ② Faulty keys	① Check, replace keyboard board ② Check, replace keys
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 Input voltage fluctuation ② Power unit defective ③ Display board defective ④ Main board defective	① Check, replace main board 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

Note: see Troubleshooting Appendix

6.3 ERROR MESSAGES





Error No.	Error message	Countermeasures
1	*Improper position, check cassette*	Re-insert the cassette, Press □ CLEAR to return to the original display.
2 3 4 5 6 7	*Character over* *POP message: Over character* *Ad message: Over character* *Additives: Over character* *Reg. Code Over character* *Store name/addr. : Over char.*	When there are too many characters registered for the label which is set, the label is not printed and an error message is displayed. Press □ CLEAR to return to the original display, and check the registration contents.
8	*Label end*	Replace with a new label and press □ CLEAR to return to the original display,
9	*Label size error*	This message is displayed when the set label size and the size of the labels in the cassette are different. Press □ CLEAR to return to the original display, and check the label size setting.
10	*Excess $ on scale item*	When discount price function is used, this message indicates that the discount price is the same or exceeds the original price. Press □ CLEAR to return to the original display, and check the discount registration contents.
56 57	*Please check scale* *Remove the item on the platter*	When the scale is not stable, or if the scale is powered up with something on the weigh platter this message is displayed. Remove the object from the platter.

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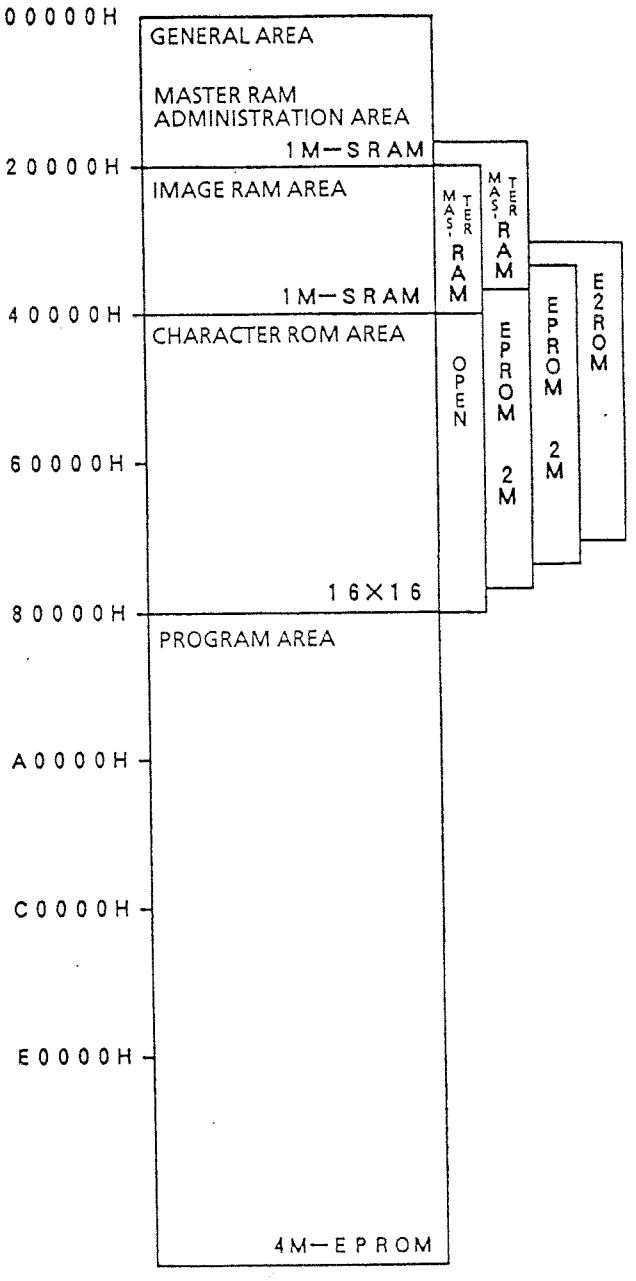
S1 Outline of Software

S1.1 MEMORY MAP



S2 Print Format Modification

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

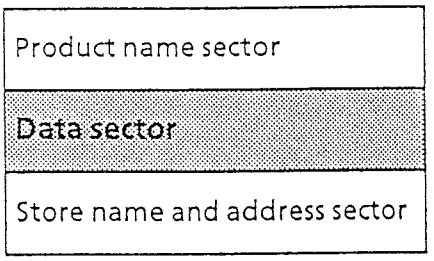
S2.1 PRINT FORMAT OVERVIEW

The AC-3000 and AC-3000E have 4 types of default label formats. These types (shown in the table) serve as the base settings which can be modified as needed.

AC-3000/E (B-0202C)		AC-3000B (B-0220B)		AC-3000F (B-0241B)	
Format	Label	Format	Label	Format	Label
No. 1	60x44mm	No. 1	60x44mm	No. 1	60x44mm
No. 2	64x47mm (SHI)	No. 2	64x47mm (SHI)	No. 2	41x36mm
No. 3	64x110mm	No. 3	64x90	No. 3	40x113mm Barbell
No. 4	66x85mm	No. 4	64x110 Bakery	No. 4	47x76mm
		No. 5	66x85mm		
		No. 6	66x145mm		

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.



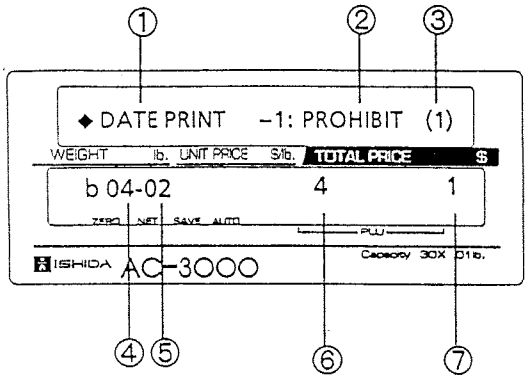
NOTE: Product name reference chapter: Chapter 4--Setting mode 1 (Label Format). Note that the number of Store name and address and Product name lines is fixed.

S2.3 FORMAT MODIFICATION METHOD

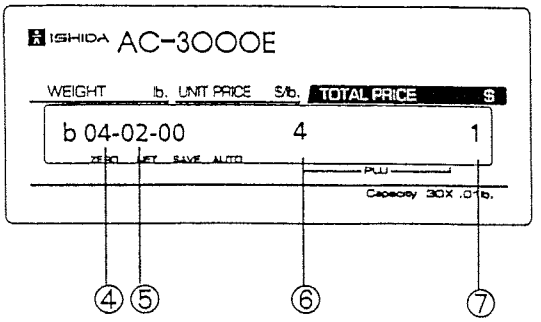
Print format change is performed in Test mode. For more details, refer to Chapter S5--Test Mode 7.

S3 Display Modules

S3.1 PRINT FORMAT OVERVIEW



AC-3000



AC-3000E

① Setting item
② Selected parameter
③ Selected parameter's setting number
④ Root menu No.
⑤ Sub menu No.
⑥ Selected item's number
⑦ Selected parameter's number

NOTE: Items ①②③ are not displayed by the AC-3000E. To determine display contents, refer to the menu schematics in this manual.

S3.2 ROOT AND SUB MENU SELECTION

This section describes the procedures for selecting the root and sub menus.

■ 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

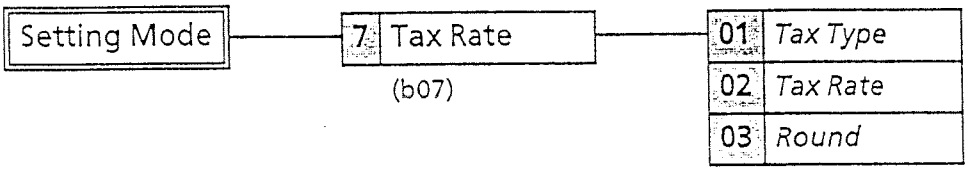
Press □ENTER on the root menu display.

- Enter the number of the sub menu to be displayed, then press □ ↓.
- Press □ ↓ to switch the sub menus in sequence.

NOTE: Press □MENU to return to the mode displays.

Example

To set the Tax Rate item to Parameter 3: *Round*:

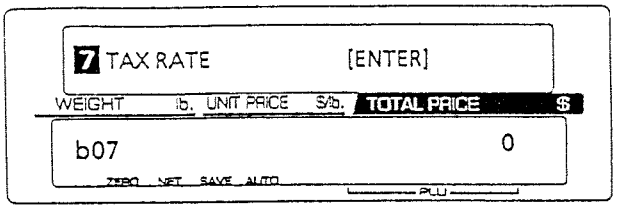


1. Access setting mode

Enter the password [6000], then press □MODE.

2. Select root menu.

Enter [7], then press □ ↓.

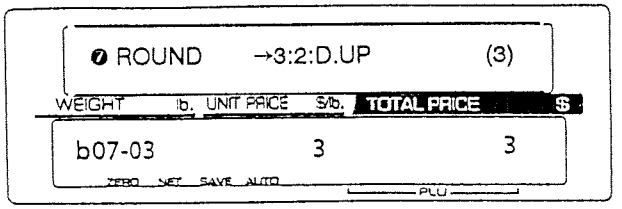


3. Select Sub menu.

With Tax Rate selected, press □ENTER.

Enter [3], then press □ ↓.

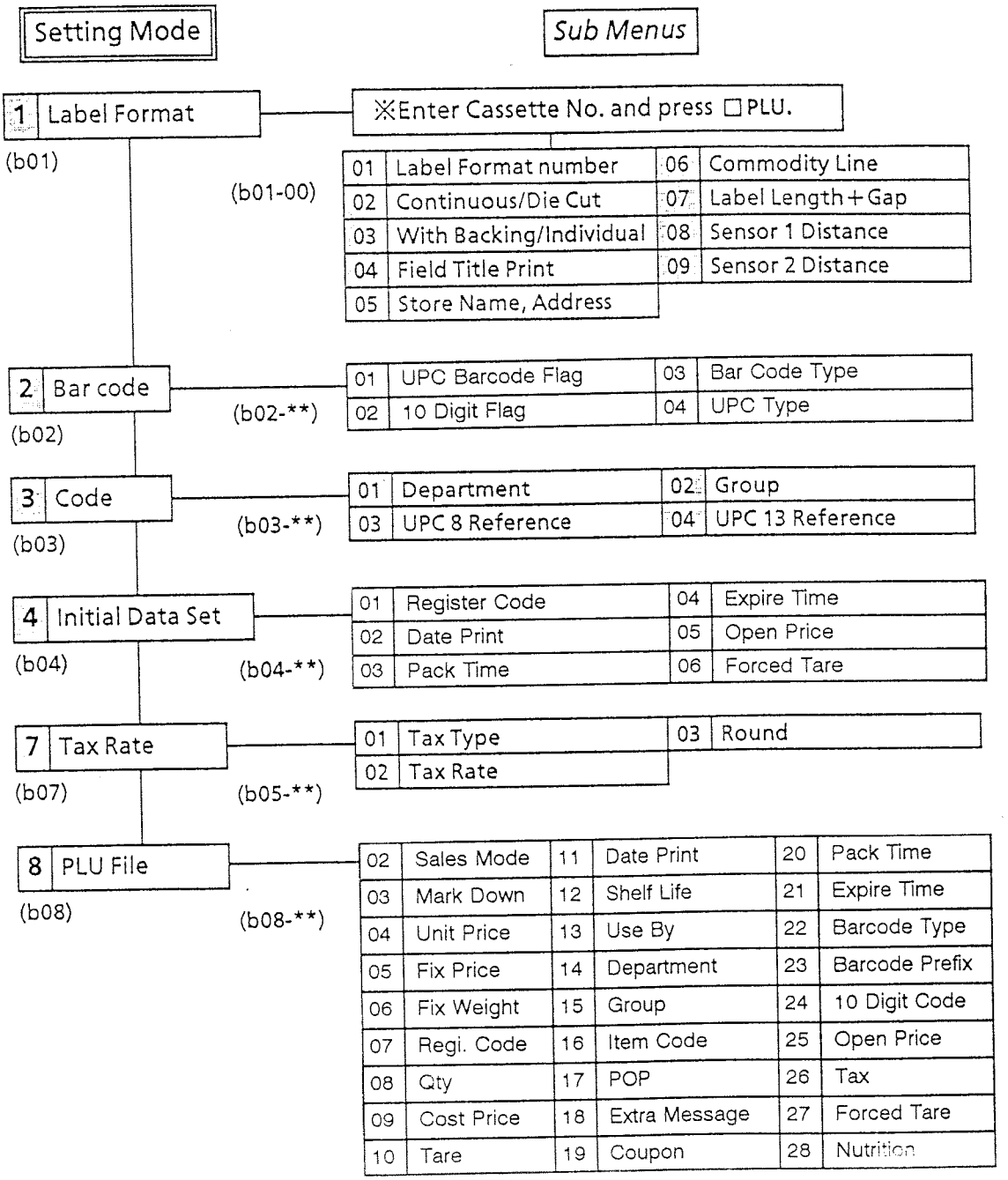
Enter [3], then press □ENTER.



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



10 Preset Reports (b10)

01	DAILY SALES TOTAL	22	DAILY ITEM(GR.) WT.Z	43	WEEKLY ITEM(DPT.) CT.ABC
02	DAILY MACHINE TOTAL	23	DAILY ITEM(GR.) CT.Z	44	WEEKLY ITEM(DPT.) PR.Z
03	DAILY ITEM(ITEM)	24	DAILY PROFIT TOTAL	45	WEEKLY ITEM(DPT.) WT.Z
04	DAILY ITEM(ITEM) PRICE ABC	25	DAILY DEPARTMENT	46	WEEKLY ITEM(DPT.) CT.Z
05	DAILY ITEM(ITEM) WEIGHT ABC	26	DAILY GROUP	47	WEEKLY ITEM(GR.)
06	DAILY ITEM(ITEM) COUNT ABC	27	DAILY HOURLY TOTAL	48	WEEKLY ITEM(GR.) PR.ABC
07	DAILY ITEM(ITEM) PRICE Z	28	DAILY OPERATOR TOTAL	49	WEEKLY ITEM(GR.) WT.ABC
08	DAILY ITEM(ITEM) WEIGHT Z	29	CUSTOMER UNIT PR.ANALIZ	50	WEEKLY ITEM(GR.) CT.ABC
09	DAILY ITEM(ITEM) COUNT Z	30	CUSTOMER PIECS ANALIZ	51	WEEKLY ITEM(GR.) PR.Z
10	DAILY ITEM(DPT.)	31	WEEKLY SALES TOTAL	52	WEEKLY ITEM(GR.) WT.Z
11	DAILY ITEM(DPT.) PR.ABC	32	WEEKLY MACHINE TOTAL	53	WEEKLY ITEM(GR.) CT.Z
12	DAILY ITEM(DPT.) WT.ABC	33	WEEKLY ITEM(ITEM)	54	WEEKLY PROFIT TOTAL
13	DAILY ITEM(DPT.) CT.ABC	34	WEEKLY ITEM(ITEM) PR.ABC	55	WEEKLY DEPARTMENT
14	DAILY ITEM(DPT.) PR.Z	35	WEEKLY ITEM(ITEM) WT.ABC	56	WEEKLY GROUP
15	DAILY ITEM(DPT.) WT.Z	36	WEEKLY ITEM(ITEM) CT.ABC		
16	DAILY ITEM(DPT.) CT.Z	37	WEEKLY ITEM(ITEM) PR.Z		
17	DAILY ITEM(GR.)	38	WEEKLY ITEM(ITEM) WT.Z		
18	DAILY ITEM(GR.) PR.ABC	39	WEEKLY ITEM(ITEM) CT.Z		
19	DAILY ITEM(GR.) WT.ABC	40	WEEKLY ITEM(DPT.)		
20	DAILY ITEM(GR.) CT.ABC	41	WEEKLY ITEM(DPT.) PR.ABC		
21	DAILY ITEM(GR.) PR.Z	42	WEEKLY ITEM(DPT.) WT.ABC		

(b10 - **)

11 Registration Select (b11)

01	PLU FILE	10	DEPARTMENT	19	ON LINE SET
02	COMMODITY NAME	11	GROUP	20	FILE DOWNLOAD
03	PRICE CHANGE	12	OPERATOR	21	NUTRITION FILE
04	EXTRA MESSAGE	13	ADVERTISING MSG.	22	PRICE CHANGE
05	COUPON	14	CAMPAIGN		
06	DATE/TIME	15	TOTAL BARCODE		
07	STORE NAME	16	COUPON RATE		
08	PRESET KEY	17	MACHINE NO.		
09	LIST	18	TAX RATE		

(b11 - **)

12 Total Mode Select (b12)

01	DAILY TOTAL
02	WEEKLY TOTAL
03	MONTHLY TOTAL

(b12 - **)

13 Password (b13)

01	REGISTRATION MODE
02	TOTAL MODE
03	SUBTRACTION MODE

(b13 - **)

14 Default PLU (b14)

01	PLU NUMBER

(b14 - **)

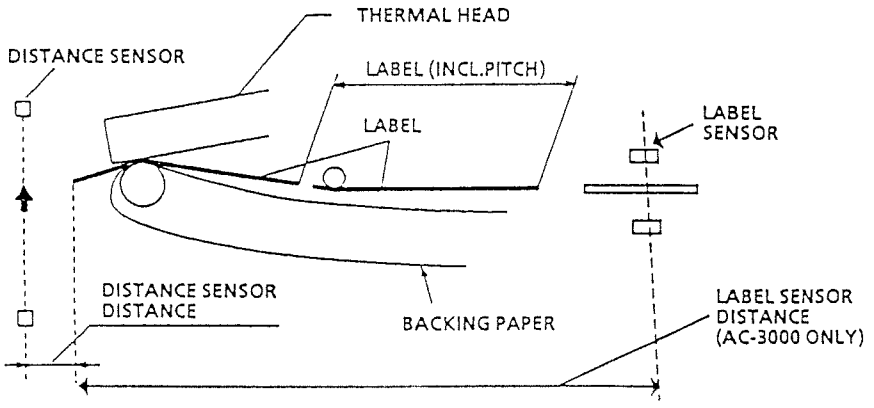
S4.2 SETTING PROCEDURES

This section describes setting procedures for the 11 setting items.

1. Label Format (b01)

Label Format is used to set the label print format.
Insert the cassette, or enter the cassette number, then press □ PLU. (AC-3000 only)
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: 64x44mm UPC 2: 64x47mm UPC 3: 64x110mm Bakery 4: 64x85mm Coupon	See Sec S2-1 for complete listing by model
b01-02	Continuous/ Die cut	0: Continuous label 1: Individual labels	
b01-03	With back-ing/Individual	0: Labels with backing 1: Individual labels	AC-3000E/B/F AC-3000 only
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	0.5~35.0 (0.5 steps)	Capital letters (15x30):1 line=1.0. Lower case letters (7x14): 1 line=0.5. 0.5=2.7mm, 1.0=5.4mm, 2.0=10.8mm, 4.0=21.6mm
b01-07	Label Length + Gap	10.0~200.0 (0.1 steps)	Setting value: label length÷label gap. 175mm maximum length.
b01-08	Sensor 1 Distance	0.1~29.9 (0.1 steps)	AC-3000 only Peeling sensor default=7.5.
b01-09	Sensor 2 Distance	50.0~150.0 (0.1 steps)	AC-3000E/B/F Gap sensor default=107.5.



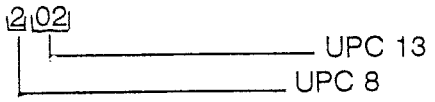
2. Bar Code (b02)

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.

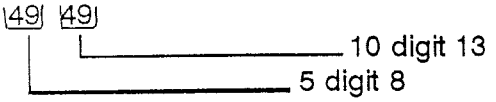
Menu No.	Description	Parameters	Notes
B02-01	UPC Barcode Flag	Enter 3 digits	✲1
B02-02	10 Digit Flag	Enter 4 digits	✲2
B02-03	Bar Code Type	1: UPC 13 2: UPC 8 3: 10 Digit 13 4: 5 Digit 8	Default=1
B02-04	UPC Type	1: UPC, CODE:5 2: UPC, CODE:6 3: EAN, CODE:6 4: UPC, PRICE:5 5: EAN9, CD:4, PR:5 6: EAN9, PR:4, C/P:5 7: EAN, CD:6, WT:4 8: EAN, CD:5, WT:5 9: CD:4, PR:6 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 values:

✲1 UPC Barcode Flag (3 digits)



✲2 10 Digit Flag (4 digits)



3. 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	Notes
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)

4. Initial Data Setting (b04)

Initial Data Setting is used to set reference values for PLU programming. Enter the number corresponding to the desired parameters, the 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: *Use By* -- 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 2PM, 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 150. (Setting increments are 50).	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 in steps b04-02~b04-04 is selected by using □→. The numeric values are then input followed by □ENTER.

5. Tax rate (b07)

Tax rate is used to set tax mode.
Enter the number corresponding to the desired parameters, then press □ENTER. After setting, confirm that settings are correct.

Menu No.	Description	Parameters	Notes
b07-01	Tax Type	1: Ext. Tax 2: Inc. Tax 3: Non Tax	
b07-02	Tax Rate	0.0000~99.9999	Example→ 3.0000=3%
b07-03	Round	1: 4/5 Round 2: L.D. Cut 3: L.D. Up	

6. PLU File (b08)

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

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

MENU NO.	SETTINGS DESCRIPTION
b 08 -- 02	SALES MODE
b 08 -- 03	MARK DOWN
b 08 -- 04	UNIT PRICE
b 08 -- 05	FIX PRICE
b 08 -- 06	FIX WEIGHT
b 08 -- 07	REGI CODE
b 08 -- 08	QTY
b 08 -- 09	COST PRICE
b 08 -- 10	TARE
b 08 -- 11	DATE PRINT
b 08 -- 12	SHELF LIFE
b 08 -- 13	USE BY
b 08 -- 14	DEPARTMENT
b 08 -- 15	GROUP
b 08 -- 16	ITEM CODE
b 08 -- 17	POP
b 08 -- 18	EXTRA MESSAGE
b 08 -- 19	COUPON
b 08 -- 20	PACK TIME
b 08 -- 21	EXPIRE TIME
b 08 -- 22	BARCODE TYPE
b 08 -- 23	BARCODE PREFIX
b 08 -- 24	10 DIG. CODE
b 08 -- 25	OPEN PRICE
b 08 -- 26	TAX
b 08 -- 27	FORCED TARE
b 08 --28	NUTRITION

7. Preset Report (b10)

Preset Report is used to set which totals will be printed. Enter the number corresponding to the desired parameter for each item, then press □ENTER. After setting, confirm that settings are correct.

NOTE: All Item settings: 0=Not printed; 1: Printed

MENU NO.	SETTING DESCRIPTION
b 1 0 — 0 1	DAILY SALES TOTAL
b 1 0 — 0 2	DAILY MACHINE TOTAL
b 1 0 — 0 3	DAILY ITEM(ITEM)
b 1 0 — 0 4	DAILY ITEM(ITEM) PRICE ABC
b 1 0 — 0 5	DAILY ITEM(ITEM)WEIGHTABC
b 1 0 — 0 6	DAILY ITEM(ITEM) COUNT ABC
b 1 0 — 0 7	DAILY ITEM(ITEM) PRICE Z
b 1 0 — 0 8	DAILY ITEM(ITEM) WEIGHT Z
b 1 0 — 0 9	DAILY ITEM(ITEM) COUNT Z
b 1 0 — 1 0	DAILY ITEM(DPT.)
b 1 0 — 1 1	DAILY ITEM(DPT.) PR.ABC
b 1 0 — 1 2	DAILY ITEM(DPT.) WT.ABC
b 1 0 — 1 3	DAILY ITEM(DPT.) CT.ABC
b 1 0 — 1 4	DAILY ITEM(DPT.) PR.Z
b 1 0 — 1 5	DAILY ITEM(DPT.) WT.Z
b 1 0 — 1 6	DAILY ITEM(DPT.) CT.Z
b 1 0 — 1 7	DAILY ITEM(GR.)
b 1 0 — 1 8	DAILY ITEM(GR.) PR.ABC
b 1 0 — 1 9	DAILY ITEM(GR.) WT.ABC
b 1 0 — 2 0	DAILY ITEM(GR.) CT.ABC
b 1 0 — 2 1	DAILY ITEM(GR.) PR.Z
b 1 0 — 2 2	DAILY ITEM(GR.) WT.Z
b 1 0 — 2 3	DAILY ITEM(GR.) CT.Z
b 1 0 — 2 4	DAILY PROFIT TOTAL
b 1 0 — 2 5	DAILY DEPARTMENT
b 1 0 — 2 6	DAILY GROUP
b 1 0 — 2 7	DAILY HOURLY TOTAL
b 1 0 — 2 8	DAILY OPERATOR TOTAL
b 1 0 — 2 9	COSTOMER UNIT PR.ANALIZ
b 1 0 — 3 0	COSTOMER PIECS ANALIZ
b 1 0 — 3 1	WEEKLY SALES TOTAL
b 1 0 — 3 2	WEEKLY MACHINE TOTAL
b 1 0 — 3 3	WEEKLY ITEM(ITEM)
b 1 0 — 3 4	WEEKLY ITEM(ITEM) PR.ABC
b 1 0 — 3 5	WEEKLY ITEM(ITEM) WT.ABC
b 1 0 — 3 6	WEEKLY ITEM(ITEM) CT.ABC
b 1 0 — 3 7	WEEKLY ITEM(ITEM) PR.Z
b 1 0 — 3 8	WEEKLY ITEM(ITEM) WT.Z
b 1 0 — 3 9	WEEKLY ITEM(ITEM) CT.Z
b 1 0 — 4 0	WEEKLY ITEM(DPT.)

MENU NO.	SETTING DESCRIPTION
b10-43	WEEKLY ITEM(DPT.) CT.ABC
b10-44	WEEKLY ITEM(DPT.) PR.Z
b10-45	WEEKLY ITEM(DPT.) WT.Z
b10-46	WEEKLY ITEM(DPT.) CT.Z
b10-47	WEEKLY ITEM(GR.)
b10-48	WEEKLY ITEM(GR.) PR.ABC
b10-49	WEEKLY ITEM(GR.) WT.ABC
b10-50	WEEKLY ITEM(GR.) CT.ABC
b10-51	WEEKLY ITEM(GR.) PR.Z
b10-52	WEEKLY ITEM(GR.) WT.Z
b10-53	WEEKLY ITEM(GR.) CT.Z
b10-54	WEEKLY PROFIT TOTAL
b10-55	WEEKLY DEPARTMENT
b10-56	WEEKLY GROUP

8. REGISTRATION SELECT (b11)

Registration Select is used to prohibit or permit items to be accessed from the main programming menu. Enter 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
b11-03	Price Change
b11-04	Extra Message
b11-05	Coupon
b11-06	Date/Time
b11-07	Store Name
b11-08	Preset Key
b11-09	List
b11-10	Department
b11-11	Group
b11-12	Operator
b11-13	Advertising Message
b11-14	Campaign
b11-15	Total Barcode
b11-16	Coupon Rate
b11-17	Machine No.
b11-18	Tax Rate
b11-19	On Line Set
b11-20	File Download
b11-21	Nutrition File
b11-22	Price Change

9. Total Mode Select (b12)

Total Mode Select is used to set totals mode parameters (Daily, Weekly 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
B12-02	WEEKLY TOTAL
B12-03	MONTHLY TOTAL

10. 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.

11. Default PLU (b14)

Used to set the open PLU value. Enter the PLU number (up to 6 digits), then press □ENTER

Menu No.	Setting Description	Entry Contents
B14-01	Open PLU	Numeric entry (6 digits)

NOTE: 1) Scrolling display messages are not available when this option is used.
2) To disable this feature, enter [0].

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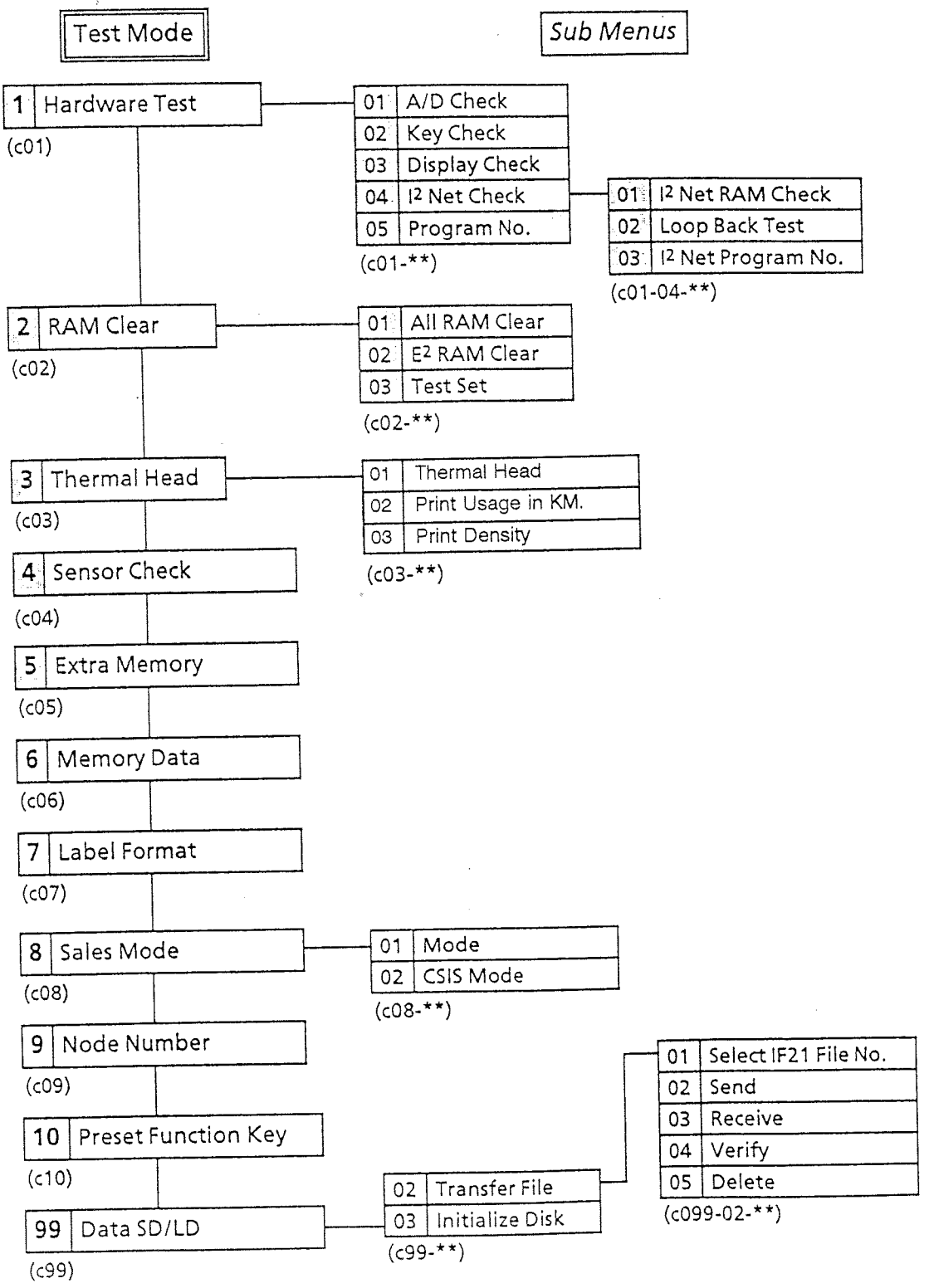
S5 Test Mode

To access Test Mode, turn on the power switch while holding down any key.

S5.1 MENU SCHEMATIC

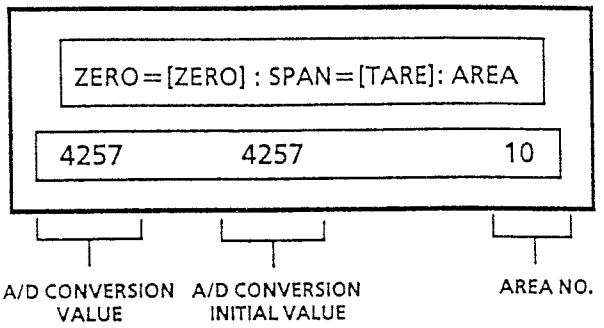


S5.2 TEST MODE PROCEDURES

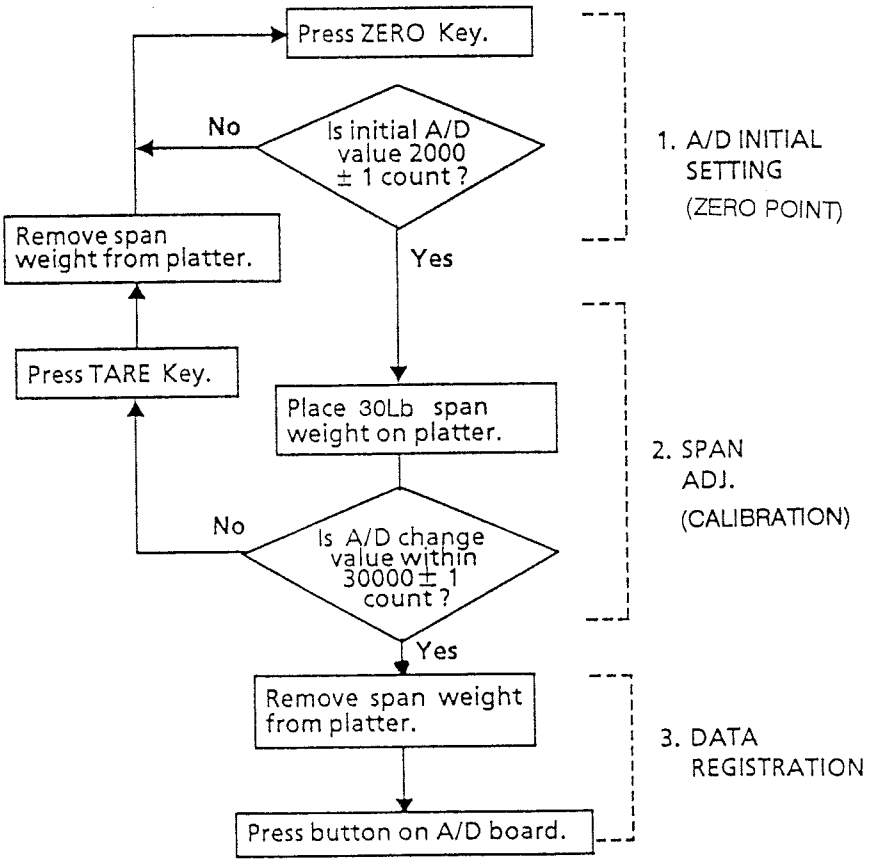
1. Hardware Test (C01)

1.1 A/D Check (C01-01)

This item is used to calibrate the scale.



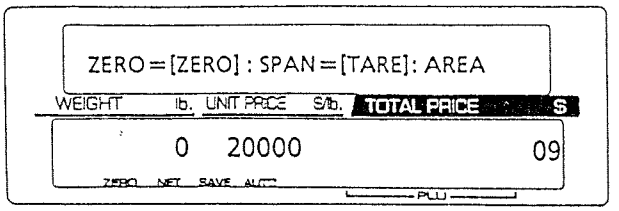
SPAN ADJUSTMENT



1. A/D Initial Value Setting

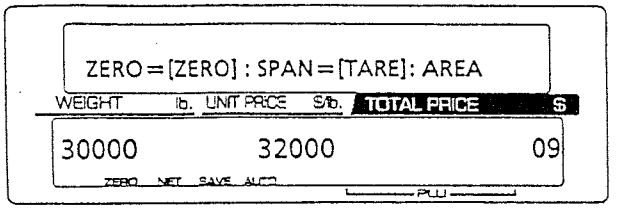
■ A/D Initial Value Setting

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



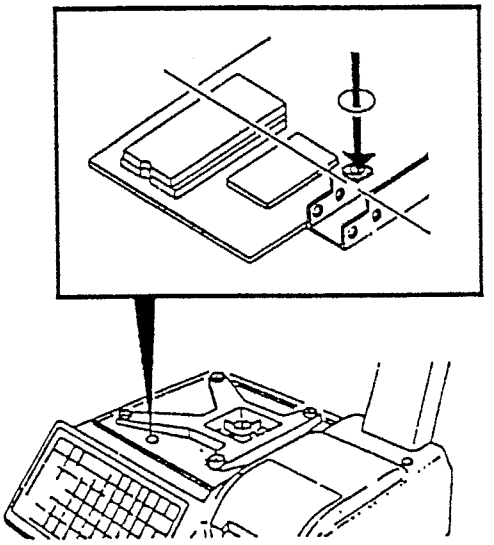
■ Span Adjustment

Place a 30 Lb span weight on the weigh platter.
The A/D conversion value will be 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 adjustment again.



■ Data Registration

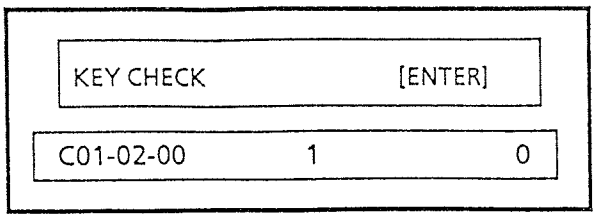
This operation writes data onto E^2 ROM.
Remove the span weight, then remove the weigh platter. Press the switch as shown in the diagram at right.



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

1.2 Key Check (C01-02)

This item is used to verify key data.



KEYBOARD

RESET

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	119	111	112	113	114	115	116	117	118	119	120

NOTE:
1) Pressing □RESET will return the display to the sub menu.
2) If any keys do not work, check cable connections to the buzzer board and to the main board.
3) Once the membrane keyboard has been removed, it cannot be reused.

1.3 Display Check (C01-03)

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

Press □ENTER to start the display check.

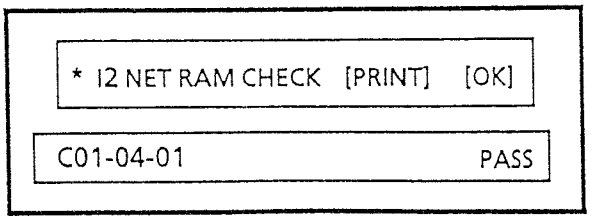
Press □END to exit display check.

1.4 I2 Net Check (C01-04)

This item is used to verify that I2 Net is functioning normally.

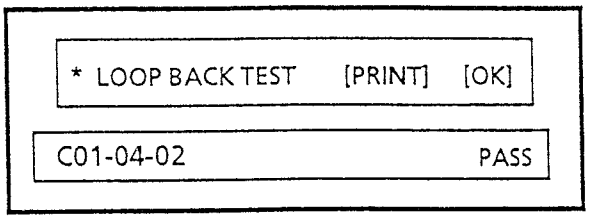
■ I2 Net RAM Check (C01-04-01)

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



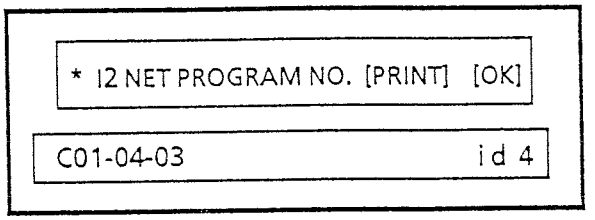
■ Loop Back Test (C01-04-02)

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



■ I2 Net Program No. (C01-04-03)

The I2 Net Program No. (version) will be displayed.

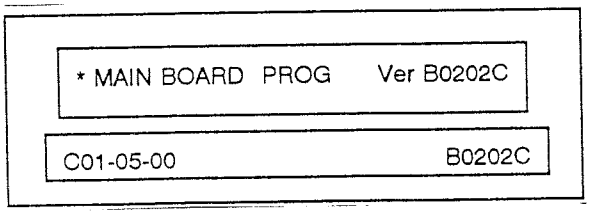


1.5 Program No. (C01-05)

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

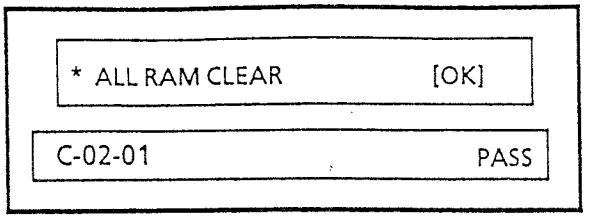


2. RAM Clear (C02)

2.1 All RAM Clear (C02-01)

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

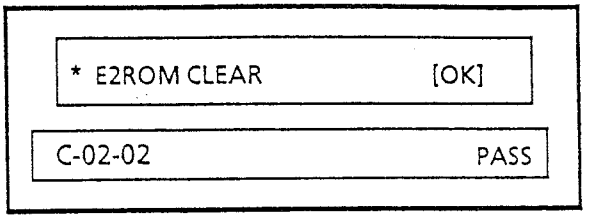
Press □ZERO twice. When all RAM data has been cleared, [PASS] will be displayed.



2.2 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 all E²ROM data has been cleared, [PASS] will be displayed.



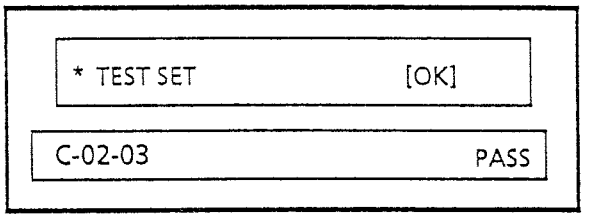
Note: This step MUST be performed when upgrading EPROM firmware chips.

2.3 Test Set (C02-03)

This item is identical to step C02-01 above with the additional feature of creating the following test data:

- PLU's 1 through 10
- Store Name/Address 1

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



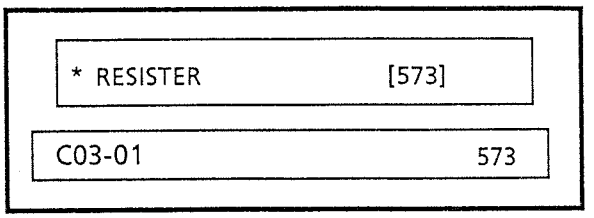
3. Thermal Head (C03)

3.1 Resister (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.



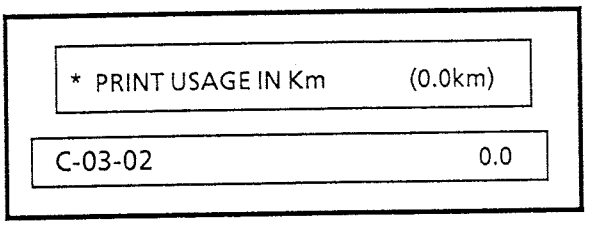
Resistance Value	Entry Value
528~545	537
546~563	555
546~581	573
582~600	591
601~618	609
619~636	627
637~654	645
655~672	663

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

3.2 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.



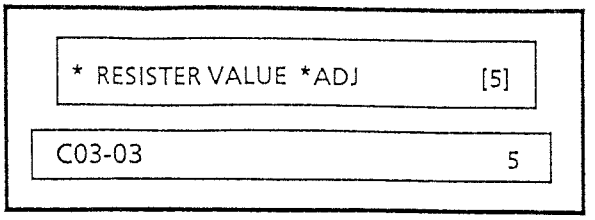
PLEASE NOTE!

- 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.

3.3 Resister Value *ADJ (C03-03)

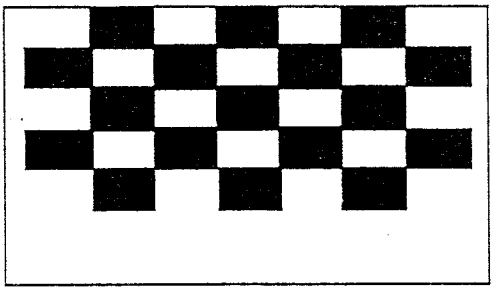
This item is used to adjust the thermal head print density

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.



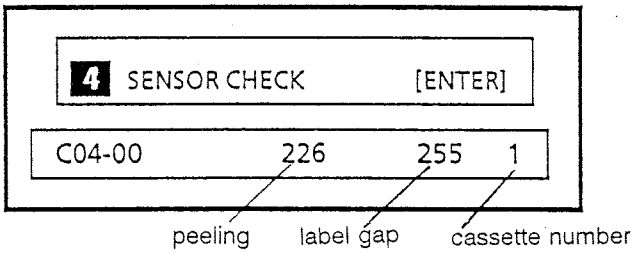
Note: 1) Default value is 5.
2) A value of 0 will cause unacceptably light/spotty printing.

PRINT SAMPLE



4. Sensor Check (C04)

This item is used to confirm the current peeling sensor value and cassette No.

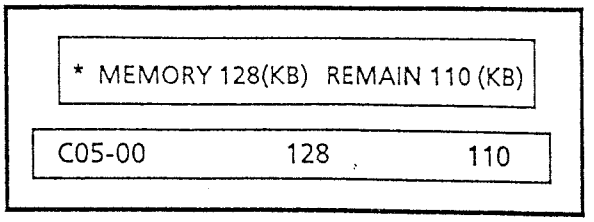


NOTE

- Refer to Chapter 5: *Peeling Sensor Adjustment* for the normal sensor value.
- When there is no cassette inserted, "0" will be displayed for the cassette number.
- Refer to section 4.11 Cassette Sensor for cassette numbering information.
- Refer to section 5.5 #3 for Label Gap Sensor adjustment procedure.

5. Memory Check (C05)

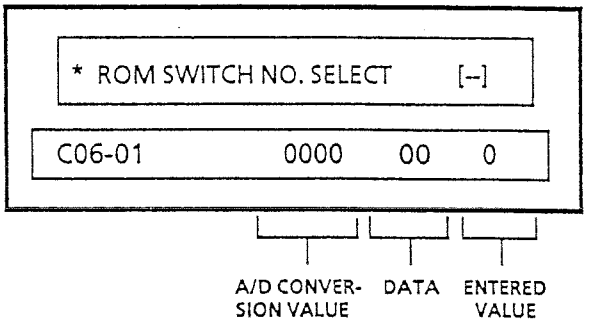
This item is used to confirm the amount of total and remaining memory in kilobytes.



6. ROM Switch Number Select (C06)

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

Press □→ then select the ROM Switch No.
Enter the value and then press □ENTER.

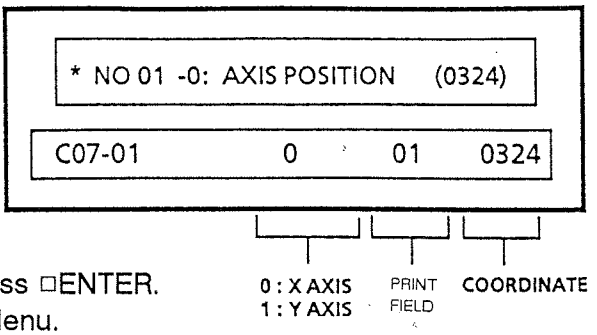


ROM SW No.	Setting Item and Selectable Parameters
1	Flag defining whether SM (Super Market) auto totals are generated 0: No totals 1: Totals (default setting)
2	Flag defining whether CR (Cash Register) auto totals are generated 0: No totals (default setting) 1: Totals
4	Defines whether fixed price count is added in production totals 0: Not added 1: Added (default setting)
8	Defines whether tax is displayed and printed 0: Not displayed or printed 1: Displayed and printed (default setting)
A	0: Printing prohibited 1: PLU No. printed (default setting) 3: Store number printed 4: Register code no. printed.

Note: See complete listing by model in Appendix A3.

7. Label Format (C07)

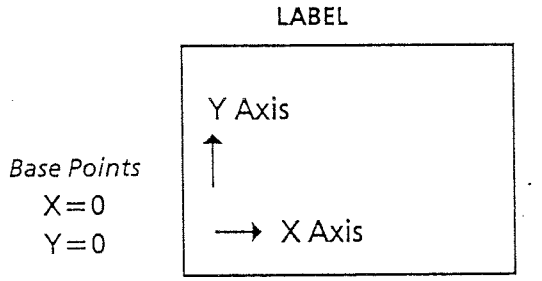
This item is used to change the label printing coordinates.



1. Enter the label format number (1~4), 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 □END to return to the main Test Menu.

NOTES:

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



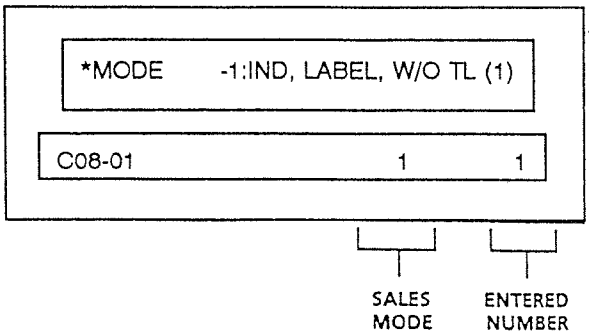
Note: Refer to Label Format Worksheets in Appendix A1.3.

8. Sales Mode (C08)

8.1 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.



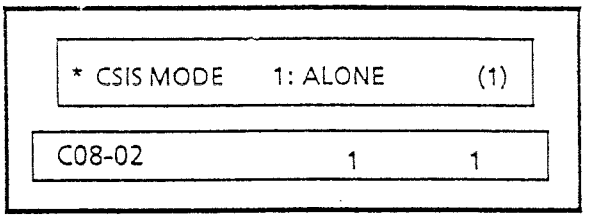
Entry No.	Sales Mode
1	Ind, Label, W/O TL
2	Ope, W, Total
3	Ope, W, TL, Receipt
4	Ope, W/O Lbl, W TL

Note: See Appendix A2 for a detailed description of each selection.

8.2 CSIS Mode (C08-02)

This item defines whether the scale is used as a stand alone unit or is linked to a system as a master or satellite scale.

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



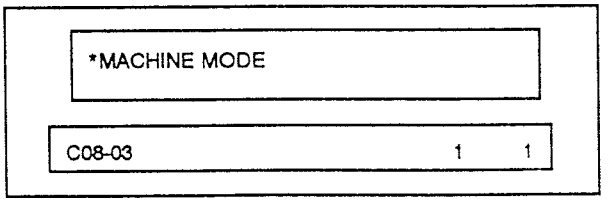
Entry Number	CSIS Mode
1	Alone
2	Master (CSIS)
3	Satellite (CSIS)

Definition: CSIS: Computer/Scale Interface System

PLEASE NOTE: An optional master board (P-835) must be installed if the scale is to be used as a CSIS master unit.

8.3 Machine Mode

This item is used to distinguish between the AC-3000 and AC-3000E as both models use the same EPROM firmware chips.



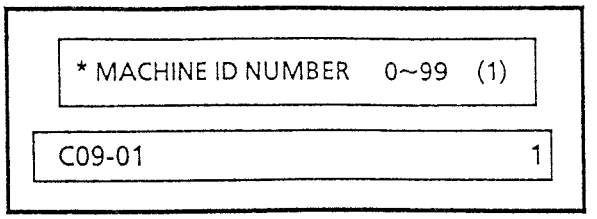
Enter the access password 4141, then press □ENTER.
Enter the appropriate model designation, then press □ENTER.

Model	Code	Model	Code
AC-3000	1	AC-3000E	2

9. Node Number (C09)

Node Number is used to set the PC identification number when scale is linked to a computer.

Enter the scale's identification number (0~99) and then press ☐ ENTER.



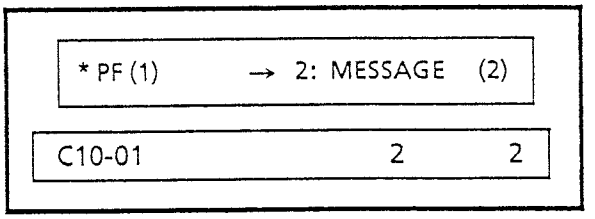
PLEASE NOTE:

- An optional master board (P-835) must be installed if the scale is to be linked to a PC.
- The number of master scales which can be linked is determined by the type of level converter used.
- If "0" is entered as the ID No., the scale will be set to Offline.

10. Preset Function Key (C10)

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

Press ☐ ↓ to select one of the function keys (PF1~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	*	No assigned function
1	LOGO	Call up logo (option)
2	MESSAGE	Call up ad message
3	STORE	Call up store name
4	COUPON	Call up coupon message
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	PRINT	Print (when used with cash register)
12	FIXED WEIGHT	Set bakery weight in ounces
13	LABEL FORMAT	Set desired label style (3000B/F only)

11. Data SD/LD (C99)

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

Preparation

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

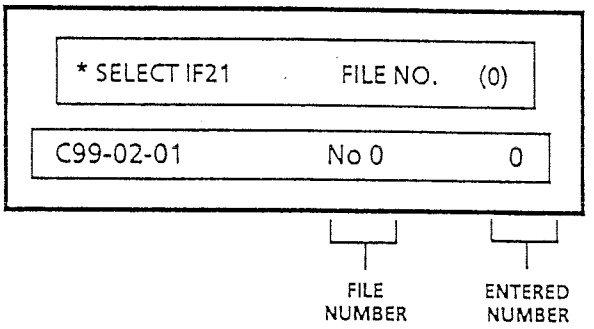
NOTE: 1) All IF-21 FD operations are performed from the AC-3000/E/B/F.
2) Before using a new floppy disk perform step 99-03 to format the disk. (Use 2DD type disk only.

11.1 Transfer File (C99-02)

Transfer File is used to transmit individual data files.

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

Enter the number corresponding to the desired file number (1~8), then press □ ENTER.



NOTE: 1) Press □ → to see which files have been used previously.
2) Connect IF-21FD to the 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.

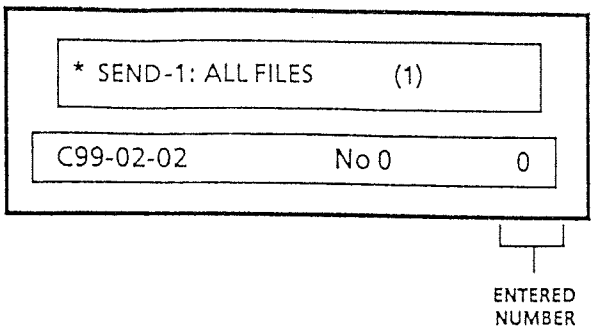
For communications error codes, see page S5-17.

11.1.2 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 Type
1	All files
2	Master File
3	E² ROM File

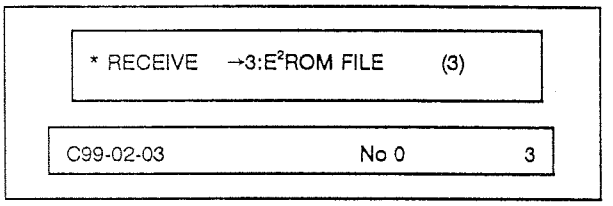
NOTE: Master File contains all data programmed in Registration Mode.
E²ROM File contains all configuration setting changes made in Setup and Test Modes.

11.1.3 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	E²ROM File
4	Item Master
5	Store Master
6	Coupon Master
7	Message Master
8	Operator
9	Preset Key
10	Label Format
11	Setup File

Entry No.	Function
12	Ad Message
13	Tax Master
14	Title File
15	Department
16	Group
17	Campaign Master
18	Batch File
19	Receipt Bartype
20	Sub Total
21	Nutrition File

NOTE:
1) Master File contains all data programmed in Registration Mode.
E²ROM File contains all configuration setting changes made in Setup and Test Modes.
2) Master File contains file numbers 4-9 and 12-21.
3) E²ROM File contains file numbers 10 (Label Format) and 11 (Setup File).

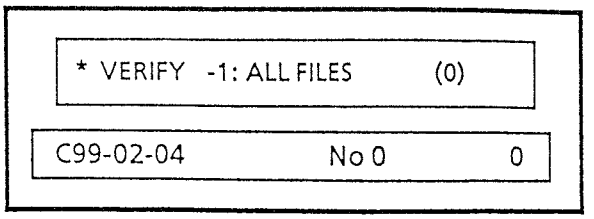
IMPORTANT: When upgrading firmware or transferring files from one model to another, **DO NOT** load 11: SETUP FILE. This file is incompatible and will cause unintended configuration settings.

11.1.4 Verify (C99-02-04)

This item is used to compare IF-21FD and AC-3000(E) data.

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

To execute, press □PRINT.



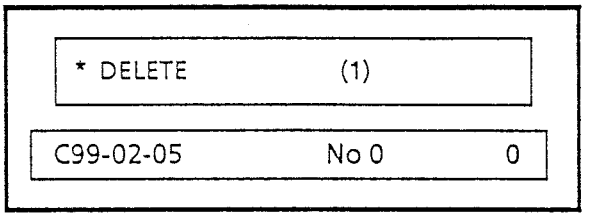
Entry No.	Function
1	All Files
2	Master File
3	E^2ROM File
4	Item Master
5	Store Master
6	Coupon Master
7	Message Master
8	Operator
9	Preset Key
10	Label Format
11	Setup File

Entry No.	Function
12	Ad Message
13	Tax Master
14	Title File
15	Department
16	Group
17	Campaign Master
18	Batch File
19	Receipt Bartype
20	Sub Total
21	Nutrition File

11.1.5 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 will be displayed after the file has been deleted.



NOTE: Select the file as shown in step 11.1.1 above.

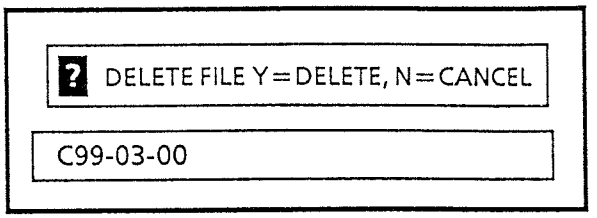
11.2 INITIALIZE DISK (C99-03)

Initialize Disk is used to initialize floppy disks.

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

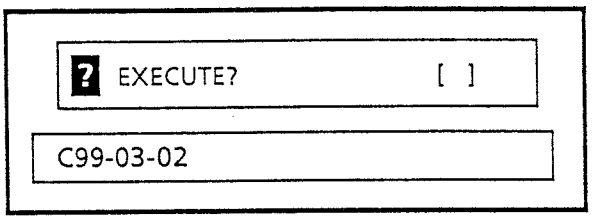
11.2.1 Delete file (C99-03-00)

To delete files from the floppy disk, press □DELETE CHAR.
To terminate deletion in progress, press any *other key* than □DELETE CHAR.



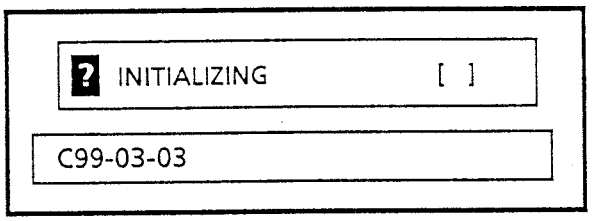
11.2.2 OK to delete? (C99-03-02)

To execute disk initialization, press □DELETE CHAR.
To terminate deletion in progress, press any *other key* than □DELETE CHAR.



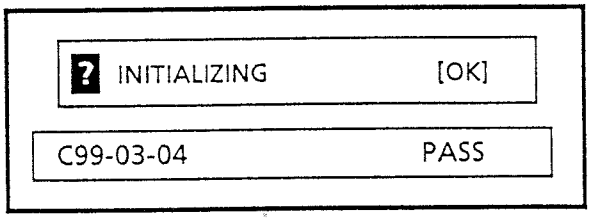
11.2.3 OK to delete? (C99-03-03)

Disk initialization in progress.



11.2.4 Complete (C99-03-04)

Disk initialization Completed.



Reference Diagrams

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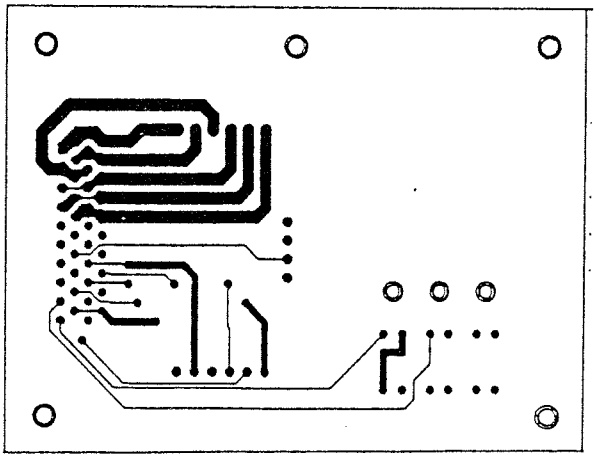
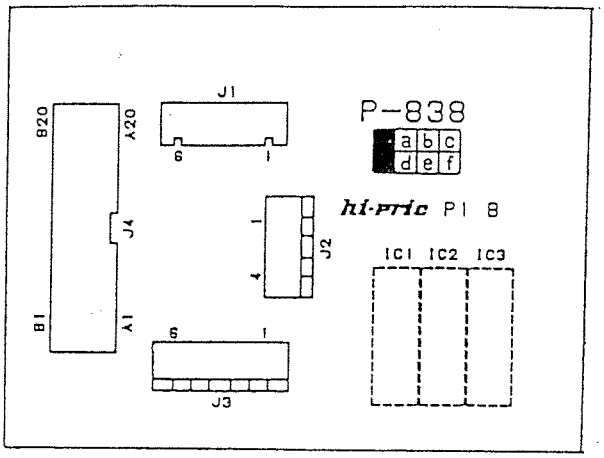
ISHIDA 3000 Series ROM Switch List -- Test Menu 6:ROM SWITCH

Move to the desired address using the **RIGHT ARROW** key.
Input the new data then press **ENTER**.

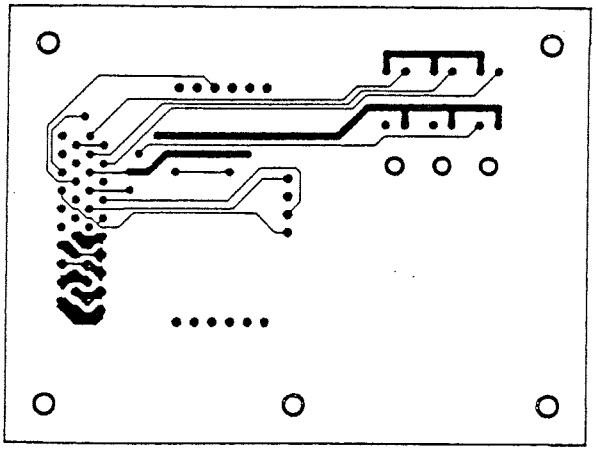
Function Name	**AC-3000/E** (B-0202G)	**AC-3000B** (B-0220E)	**AC-3000FN** (B-0241G)
	ROM Switch Address [default value]		
Print barcode on Total Receipt 00 = No print, 01 = Print	11 [00]	11 [00]	11 [01]
Temporary date change type 00 = Pack (and Expire), 01 = Expire only	13 [00]	13 [00]	13 [00]
FEED key function 00 = blank label, 01 = reissue last label	15 [00]	15 [00]	15 [00]
VOID key function 00 = no label, 01 = print Void label	16 [00]	16 [00]	16 [00]
Flashing message timer (seconds) 00 ~ 99 (HEX)	17 [08]	17 [60]	17 [60]
Selection of Unit Pricing 00 = $/kg, 01 = $/100g and lb. (USA)	1D [01]	1D [01]	1D [01]
Second Nutrition Label (Label Format 1) 00 = None, 01 = Short, 02 = Long	1E [01]	1E [01]	1E [01]
Second Nutrition Label (Label Format 2) 00 = None, 01 = Short, 02 = Long	1F [02]	1F [02]	1F [02]
Second Nutrition Label (Label Format 3) 00 = None, 01 = Short, 02 = Long	20 [01]	20 [01]	20 [01]
Second Nutrition Label (Label Format 4) 00 = None, 01 = Short, 02 = Long	21 [02]	21 [02]	21 [02]
Second Nutrition Label (Label Format 5) 00 = None, 01 = Short, 02 = Long	----	22 [01]	22 [01]
Second Nutrition Label (Label Format 6) 00 = None, 01 = Short, 02 = Long	----	23 [02]	23 [02]
Computer communications speed 00, 03 = 9600 baud, 01 = 2400 baud, 02 = 4800 baud, 04 = 19200 baud	26 [00]	28 [00]	26 [00]
Answer wait time for PC 01 = 1.5 msec	28 [30]	2A [30]	2A [30]
RESET key operation 00 = Enable, 01 = Disable	29 [00]	2B [00]	2B [00]
Receive to transmit turn around timer 01 = 1.5 msec	2A [00]	2C [00]	2C [00]
Fixed Price with Random Weight Sales Mode 00 = Disable, 01 = Enable	2C [00]	----	----



Board Surface P-838



Board Silk P-838



Soldered Surface P-838

1) IC 1,2 # 3: soldered surface installation

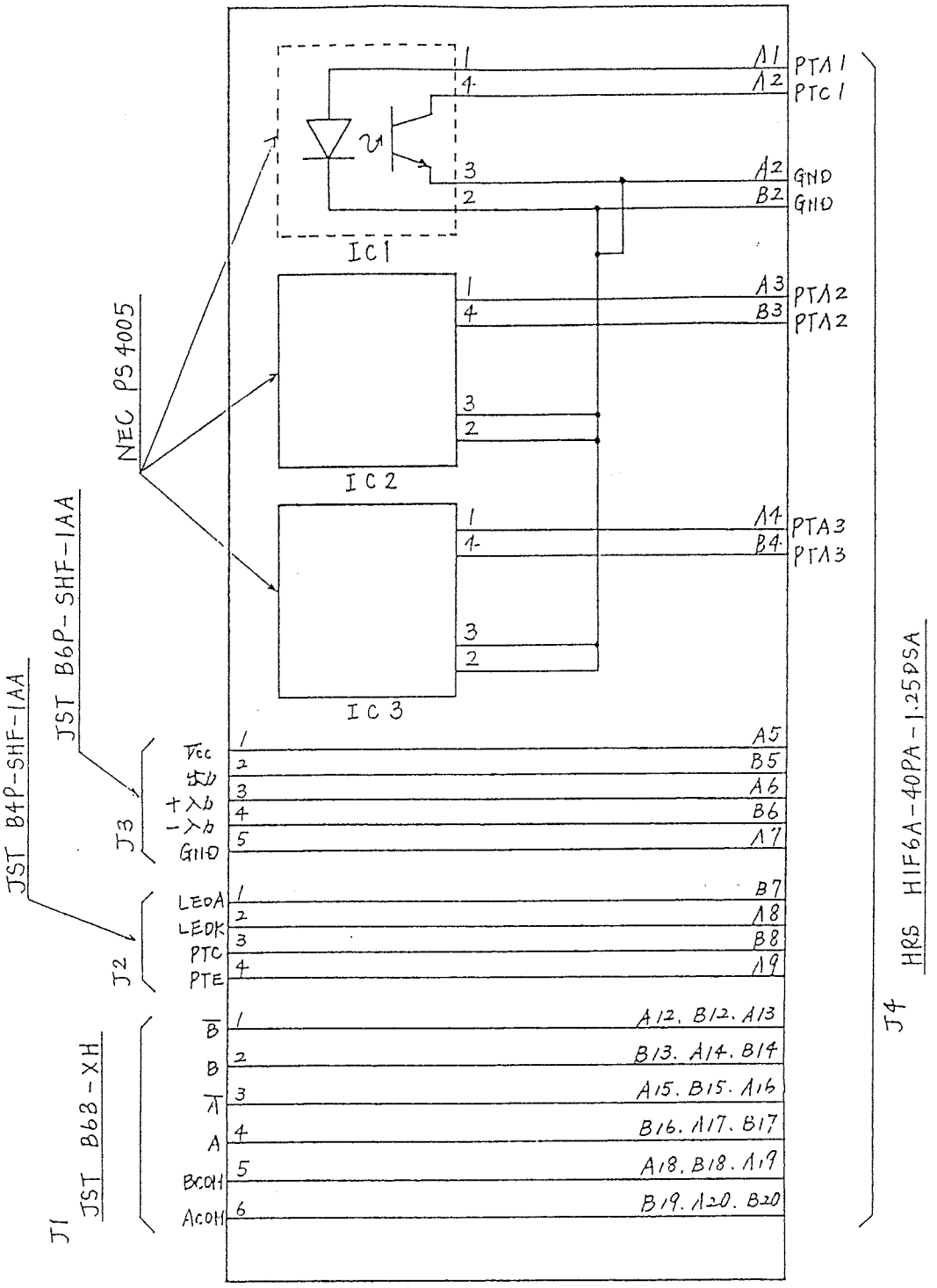
No.	PART CODE 品番	PART NAME 品名	SPEC. 仕様	QTY. 個所・員数・単位

REV. MARK 記号・箇所	DATE 日付	REV. No. 改変	REV. BY 担当者
1			
2			
3			
4			

ISHIDA ISHIDA CO.,LTD.

MATERIAL 材質	FINISH 表面処理	SCALE 尺度

DESIGNED 設計	DRAWN 製図	TITLE 図名
松井 '94.3.31	角尾 '94.3.31	PWB 'P-838'
APPROVED 承認 北岡 '94.4.7	CHECKED 検図 田村 '94.4.5	DWG. No. 図番 36-3150-08



No.	PART CODE 品番	PART NAME 品名	SPEC. 仕様	QTY. 所属位

REV. MARK 記号・箇所	DATE 日付	REV. No. 改変	REV. BY 担当者
1	. .		
2	. .		
3	. .		
4	. .		

MATERIAL 材質		FINISH 表面処理	SCALE 尺度 . .
DESIGNED 設計 北井 '93.12.25	DRAWN 製図 魚尾 93.12.25	TITLE 図名	P-838'
APPROVED 承認 北岡 94.4.7	CHECKED 検図 田村 94.3.30	DWG. No. 図番	36-3181-03

ISHIDA ISHIDA CO.,LTD.

3000 Series Error Code List

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

OPERATION			
Number	Display	Cause	Solution
1	IMPROPER POSITION. CHECK CASSETTE Err--01	Label cassette not completely inserted in scale.	Reinsert label cassette.
2	CHARACTER OVER Err--02	Too many characters on one line in product description.	Edit product description by removing excess characters per line.
3	POP MESSAGE: OVER CHARACTER Err--03	Too many characters on first line for POP message to print.	Edit product description's first line by removing excess characters.
4	AD MESSAGE:OVER CHARACTER Err--04	Too many characters on one line in Ad message.	Edit Ad message by removing excess characters per line.
6	REG. CODE: OVER CHARACTER Err--06	Too many characters on one line in Reg. Code.	Edit Reg. Code by removing excess characters.
7	STORE NAME/ADDR.: OVER CHARACTER Err--07	Too many characters on one line in Store Name / Address.	Edit Store Name / Address by removing excess characters per line.
8	LABEL END Err--08	! End of label roll. ! Mis-threaded labels.	! Install new label roll. ! Re-thread labels.
9	LABEL SIZE ERROR 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.
10	EXCESS $ ON SCALE ITEM Err--10	Discount price is equal to or greater than the original price.	Check the discount price registration.
11	TABLE STRUCTURE CORRUPTION Err--11	Internal database has become corrupted.	Perform memory clear.
12	MAX ITEM NUMBER OVERFLOW Err--12	Accumulated operator totals have exceeded 30 transactions or $100,000 per operator or 100 total transactions.	Clear operator totals by printing a total label. (Use the TOTAL key).
13	SAME OPR. TOTALING ON MAC. Err--13	Same operator number used within one second.	Wait and restart operation.

3000 Series Error Code List

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

OPERATION			
Number	Display	Cause	Solution
66	MEMORY AREA OVERFLOW Err--66	Transaction results cannot be written in to memory due to corruption of Totals area. Incorrect Memory clear procedure. Incorrect Master Satellite setup procedure Noise from RS-232 communications with PC.	! Clear scale totals. ! Power scale off after RAM clear - do NOT use RESET key. ! Re-initialize Master - Satellite system. (Refer to Tech Bulletin #TB961217 for correct procedure.)
68	RESEND RESULT DATA Err--68	Unsuccessful transmission of transaction results to Total area of memory.	! Press **PLU** key to resend data. ! Press **VOID** key to cancel transmission.
203	PRINTER POWER-OFF OR NOT CONNECT Err--203	No communication with second printer at initial power up of main unit.	!Turn on second printer unit before main unit. !Check cabling between printers.
204	PRINTER COMMUNICATION ERROR Err--204	No communication with second printer.	!Check power at second printer. !Check cabling between printers.
----	CHARACTER BUFFER OVER	Too many characters per PLU.	Check PLU name registration area.
----	CHARACTER DOTS OVER	Too many characters per line.	Check PLU name registration area.

3000 Series Error Code List

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

SAVE & LOAD WITH IF-21FD FLOPPY DISK UNIT			
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.	Switch write protect tab on the disk to correct position.
5	Err 5	! Attempting to over write an 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. (Refer to service manual if needed).
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.