

# ISHIDA BC-4000

## Master-Satellite Setup & Operation



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# BC-4000 Master-Satellite Setup & Operation

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# BC-4000 Master-Satellite Setup & Operation

## 1. OVERVIEW

The BC-4000 Master-Satellite scale network is designed for customers that do not wish to use a computer to maintain the scales' PLU Files. PLU and price changes are made at the Master Scale and transmitted down to the Satellite Scales. The scales only communicate during PLU programming and price changes.

### 1.1 System Considerations

A BC-4000 Master-Satellite network has limited communication capabilities. Refer to the items below for a list of important features of this system.

- A maximum of six (6) BC-4000 scales may be connected: one Master and five Satellite Scales.
- PLU and Price Changes programmed at the Master Scale are down loaded to the Satellite Scales that are on and connected.
- After programming, all the scales in the network contain the same PLU file.
- Changes may be resent to a Satellite Scale that is switched off or disconnected.
- Complete Master Scale files cannot be transmitted to the Satellite Scales. Only changes to the PLU File and Price Changes can be sent.
- PC communication is available to any BC-4000 network scale via the same Switch/Hub/Router used by the scales.
- Any BC-4000 model may be connected in a Master-Satellite network. A BC-4000L2 Master Scale with an alphanumeric display simplifies PLU File maintenance.

## 2. CONFIGURATION

Refer to the steps below to configure the BC-4000 scales for Master-Satellite operation.

### 2.1 Communication Cables

The BC-4000 scales are interconnected by standard Ethernet cables via a switch. If the network consists of only two BC-4000 scales an Ethernet cross cable may be used for a direct connection.



Figure 2.1 BC-4000 Master-Satellite System

### 2.2 Sale Mode (C08-02)

Enter the Test Mode to configure the BC-4000 scales as either a Master or Satellite. Only one scale may be designated as Master. Enter the number corresponding to the desired mode. For the BC-4000L2 model the scale type is displayed at power up: "Master Scale" or "Satellite Scale".

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CSIS Mode (C08-02)	Value
Stand Alone	0
Master Scale	1
Satellite Scale	2

Table 2.2 BC-4000 Mode Settings

### **2.3 IP Address (B10)**

Each scale in the network must be configured with a unique IP Address. The IP Address of each Satellite scale is entered at the Master Scale to indicate where the PLU information should be sent.

#### ***2.3.1 Scale IP Address (B10-01)***

For each BC-4000 in the Master-Satellite network enter the scale's IP Address. Table 2.3.1 below shows the menu step numbers to enter an IP Address. Enter each address value then press ENTER. Use the Down Arrow (↓) key to move through the menu steps to enter the remaining address values. The example is for the Master Scale's IP Address: 192.168.10.10. The Satellite addresses are entered the same way.

Menu Step	Setting	Address Value
B10-01-01	IP Address 1	192
B10-01-02	IP Address 2	168
B10-01-03	IP Address 3	10
B10-01-04	IP Address 4	10

Table 2.3.1 BC-4000 IP Address Settings

#### ***2.3.2 Satellite IP Addresses (B10-10)***

At the Master Scale each of the Satellite Scale IP Addresses are entered. When the scale is configured as a Master a new step is added: B10-10 "Satellite IP Address". The Satellite Scales' IP Addresses are entered in a grid. The starting point is Address 1, Satellite 1. Use the Down Arrow (↓) key to move to the second address for Satellite 1. When Satellite 1 is complete use the Right Arrow (→) to move to Satellite 2. See Table 2.3.2 below for an example of Satellite IP Addresses.

**Note:** Unused Satellite IP Addresses are set as 0.0.0.0.

	Satellite 1	Satellite 2	Satellite 3	Satellite 4	Satellite 5
<b>IP Address 1</b>	192	192	192	0	0
<b>IP Address 2</b>	168	168	168	0	0
<b>IP Address 3</b>	10	10	10	0	0
<b>IP Address 4</b>	11	12	13	0	0

Table 2.3.2 BC-4000 Satellite IP Address Settings – at the Master Scale Step B10-10

## **3. PROGRAMMING & TRANSMITTING**

PLU and Price Changes are programmed at the Master Scale only. These steps are not available at a Satellite scale. When exiting PLU or Price Change programming the new information is transmitted to the Satellite Scales. PLU File or Price Change maintenance must be performed separately if the changes are to be transmitted to the Satellite Scales.

### **3.1 PLU File**

Add or modify PLUs using the Programming menu step P01. Edit one or more items as usual. When all PLUs changes have been completed **do not press END to exit**. Refer to step 3.3

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Transmitting Changes to Satellite Scales for the steps to exit and transmit the changes to the Satellite Scales.

### **3.2 PLU Price Changes**

Change PLU Prices for one or more PLUs using the Programming menu step P03. When all prices have been updated **do not press END to exit**. Refer to step 3.3 Transmitting Changes to Satellite Scales for the steps to exit and transmit the changes to the Satellite Scales.

### **3.3 Transmitting Changes to Satellite Scales**

Use the following steps to exit from PLU File and Price Changes and transmit the changes to the Satellite Scales.

#### ***3.3.1 Exiting and Transmitting***

When PLU File changes or Price Changes are complete **do not press the END button**. To transmit data to the Satellite Scales use the following steps.

- a. Press **MODE** → the Master Scale enters ***M00 Auto Master Maintenance*** mode
- b. Press **ENTER** → any unsent data are sent to the Satellite Scales
- c. When complete press **MODE** to exit

#### ***3.3.2 Transmission Status***

During and after transmission five digits are shown in the Unit Price display indicating the status. The five digits represent, from left to right, the Satellite Scales 1 to 5. The status indicators are listed in the table below.

Indicator	Explanation
<b>B</b>	Changes are being transmitted
<b>0</b>	Changes have successfully transmitted
<b>-</b>	Changes were not sent
<b>-</b>	Scale is not enabled (See Section A1.3)

Table 3.3.2 Transmission Status Indicators

#### ***3.3.3 Retransmission***

If one or more Satellite Scales is off-line the Master Scale will temporarily store the changes for retransmission. Refer to the procedure below to retransmit any unsent data to the Satellite Scales.

- a. From the Operation mode, enter the password **1000**
- b. Press **MODE** → the Master Scale enters ***M00 Auto Master Maintenance*** mode
- c. Press **ENTER** → any unsent data are sent to the Satellite Scales
- d. When complete press **MODE** to exit

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## 4. OPERATION

### 4.1 Operation

A BC-4000 Master or Satellite scale operates the same as a normal stand-alone machine. There is no communication between the scales except when the Master Scale is transmitting PLU or Price updates to the Satellite Scales.

### 4.2 Totals

A BC-4000 system scale operates the same as a normal stand-alone machine. Totals must be taken at each machine separately.

## A1. APPENDIX

### A1.1 Removing a Scale from the Network

If a scale is to be removed from a Master-Satellite network the following settings should be changed.

- a. At the Master Scale remove the scale from the list of Satellite Scale IP Addresses. In step B10-10 set the scale's IP Address to 0.0.0.0\* or 255.255.255.255\*. Refer to Section A1.3 Firmware Versions for to determine the correct value.
- b. Change the Satellite Scale's CSIS Mode to Alone. Refer to Section 2.2 Sale Mode.

### A1.2 Wireless

It is possible to use wireless communication for a BC-4000 Master-Satellite network. The requirements for standard PC to scale communication are necessary. An Access Point or Wireless Router must be used.

### A1.3 Firmware Versions

Master-Satellite configuration varies based on the BC-4000 firmware version. See the details below.

<b>Firmware*</b>	<b>Description</b>
E60xxN or later	Set unused Satellite IP Addresses as 0.0.0.0 (B10-10)
E60xxK to E60xxM	Master-Satellite operation is not supported
E60xxJ or earlier	Set unused Satellite IP Addresses as 255.255.255.255 (B10-10)

Table A1.3 BC-4000 Firmware

\* BC-4000L2 (E6010x), BC-4000E/S (E6011x), BC-4000L2 Bench (E6022x)

### A1.4 Menu Access

Refer to the following steps to access the three BC-4000 Menus referenced in this guide. To navigate the BC-4000 menus use the arrow keys (→←↑↓) and the **ENTER** key. To exit use the **END** or **MODE** keys.

#### *A1.4.1 Test Mode*

To access the Test Mode turn on the power switch while holding down the **1** key. The display shows C00 indicating the Test Mode.

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### *A1.4.2 Setup Mode*

To access the Setup Mode enter the password **6000** followed by the **MODE** key. The display shows B00 indicating the Setup Mode. Note that 6000 is the default password but it can be changed.

### *A1.4.3 Programming Mode*

To access the Programming Mode enter the password **9000** followed by the **MODE** key. The display shows P00 indicating the Program Mode. Note that 9000 is the default password but it can be changed.

### **A1.5 Transmitting Updates from a PC**

PLU updates sent to the Master Scale from a PC may be sent to the Satellite Scales. Refer to Section 3.3.3 Retransmission for details.

### **A1.6 Non-Supported Data**

Only PLU File and Price Changes may be sent from the Master Scale to the Satellite Scales. No other data such as Extra Messages, Keyboard Presets, Ad Messages, etc. may be sent. All other data must either be entered at each Satellite Scale or send from a PC to each scale.