Ishida Industrial
& Non-System Retail Products

Setup & Calibration Manual

ISHIDA & RICE LAKE WEIGHING SYSTEMS

51860

Contents

Introduction **1**

1.0 Retail Scales **1**

1.1 NOVA-II 2

1.2 BC-3000 3

2.0 Industrial Scales **5**

2.1 MTX/MTB 6

2.2 MTE Series 8

2.3 MG-3000 9

2.4 CWS Series 11

2.5 CWS Series 12

2.6 NCS Series 13

2.7 QBX Series 14

3.0 Balances **15**

3.1 QB Series 16

3.2 MB Series 17

3.3 MB-RE Series 18

3.4 IB Series 19

3.5 SB Series 20

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Introduction

This manual is a compilation of setup and calibration procedures for Ishida industrial and non-system retail products sold by Rice Lake Weighing Systems. It is intended for use by service technicians responsible for installing and servicing these products.



Authorized distributors and their employees can view or download this manual from the Ishida distributor site at www.ishidaretail.com.

1.0 Retail Scales

Rice Lake Weighing Systems currently sells and distributes the following models of Ishida retail scales.

- Nova–II
- BC–3000

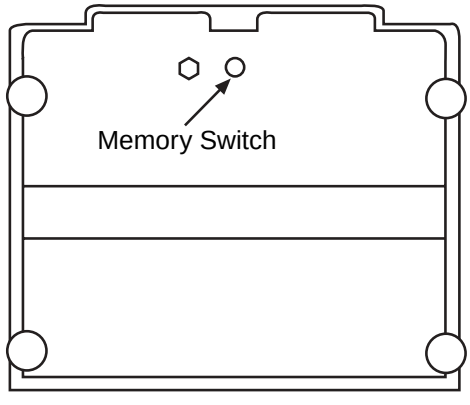
The following pages describe the setup and calibration procedures used for these products.

1.1 NOVA-II

Follow the steps below to set up and calibrate the NOVA-II scale.

IMPORTANT! *All work performed on the NOVA-II, including setup and calibration, must be done by an authorized scale distributor to ensure compliance with NTEP requirements.*

Step	Action	Display
1	Turn the scale off.	
2	Turn the scale on and immediately press the 1 key.	
3	Press the 1 key then the TARE key.	C 0
4	Press TARE after verifying the country code: 20 = United States (15 lb, 30 lb, and 60 lb) To change the country code, enter 20 20, then press TARE.	C1-1 20 0
5	Press TARE after verifying the Capacity Code: • 2 = 30 x 0.01 lb • 9 = 15 x 0.005 lb • 7 = 60 x 0.02 lb NOTE: *XXXX* = capacity, z = code. To change, enter the code, then press TARE.	C1-2 *XX.XX z*
6	With no weight on the scale, press ZERO to set 2000 counts. NOTE: *nnnn* = any number.	10 *nnnnn nnnn*
7	Place the full capacity weight on the scale as determined in Step 5.	10 2000 0
8	Press TARE. NOTE: *nnnn* = any number	10 *nnnnn nnnn*
9	The center display should read 32000 ± 1. If not, repeat the above starting with Step 6.	10 32000 30000
10	Remove the weights and the weigh platter.	10 32000 30000
11	Tip the scale on edge and remove the brass screw. See the diagram below. NOTE: *nnn* = any number.	10 *nnnnn nnnn*
12	Use a non-metallic device to press the memory switch on the circuit board. See the diagram below. The scale beeps and temporarily displays “ok.”	10 *nnnnn nnnn* 10 *s* ok
13	Replace the brass screw and the weigh platter. Turn off the scale.	10 2000 0
14	Turn the scale on again and test the calibration by placing a known weight on the platter.	0.00 0.00 0.00



Bottom view of NOVA-II scale

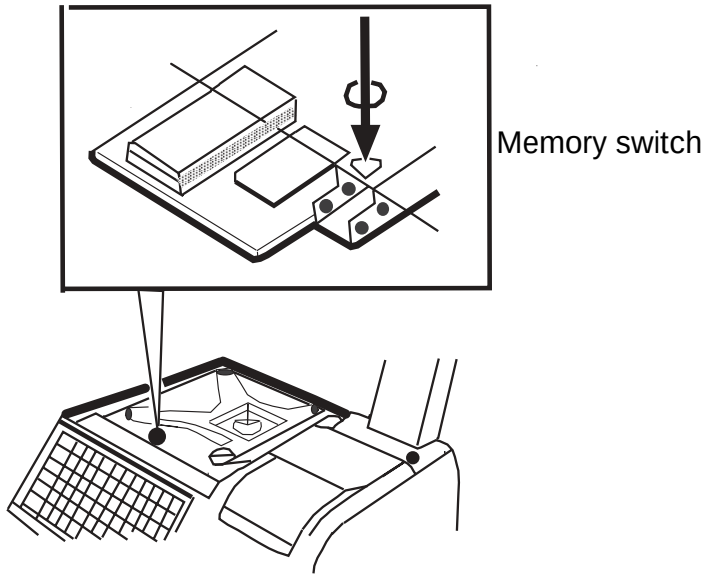
1.2 BC-3000

Follow the steps below to set up and calibrate the Ishida BC-3000 scale.

Step	Action	Display
1	Turn off scale.	
2	Turn on scale while depressing the 1 key. Release the 1 key after two beeps.	C00 0
3	Press the 1 key and push ENTER two times. xxxx=default values between 500 and 5000.	xxxx xxxx
4	With no weight on the weigh platter, press the ZERO key to set the initial zero point.	0 2000
5	Initial A/D value should read 2000 ± 1. If No: Press ZERO key again; If Yes: Proceed to step 6.	0 2000
6	Place 30 lb weight on platter.	30000 32000
7	Is A/D change value within 30000 ± 2? If NO: • Press the TARE key If YES: Proceed to step 8 • Remove weight from platter and return to step 4.	30000 32000
8	Remove weight and weigh platter from unit to perform data registration.	
9	Remove white plastic screw from unit (see illustration below).	
10	Press memory switch inside unit.	
11	Replace the white plastic screw and the weigh platter.	
12	Press the END key twice	C00 0
13	Turn scale off.	
14	Turn on scale again and test the calibration by placing a known weight on the platter.	0.00 0.00 0.00

Caution

Do not use a screwdriver or other metal tool to press the switch in Step 10.



View of BC-3000 scale

2.0 Industrial Scales

Rice Lake Weighing Systems sells and distributes the following models of Ishida industrial scales.

- MTX Series
- MTB Series
- MTE Series
- MG-3000 Series
- CWS Series
- NCS Series
- QBX Series

The following pages describe the setup and calibration procedures for these products.

2.1 MTX/MTB

The MTX and MTB Series scales have the same configuration and setup procedures.

NOTE: *Configuration settings must be set before calibrating the MTX/MTB series scales.*

2.1.1 Configuration

	Parameter										
Models	Cn	C1	C2	C3	C4	C5	C6	C7	C8	Check 1	Check 2
MTX-300L	F	1	F	6	b	9	2	2	0	B6F1	0229
MTX-60L	F	6	F	6	b	9	2	2	0	B6F6	0229
MTB-300L	F	1	E	6	b	9	2	2	0	B6E1	0229
MTB-60L	F	6	E	6	b	9	2	2	0	B6E6	0229
MTX-150Kg	F	A	F	6	b	9	2	0	0	B6FA	0229
MTX-30Kg	F	2	F	6	b	9	2	0	0	B6F2	0229
MTB-150Kg	F	A	E	6	b	9	2	0	0	B6EA	0229
MTB-30Kg	F	2	E	6	b	9	2	0	0	B6E2	0229

To Access The Configuration Settings:

1. Turn off the scale.
2. Press and hold the ZERO and COUNT keys.
3. Press and release the ON/OFF key.

NOTE*: For the MTB, press and hold the* ON/OFF *key for at least 2 seconds.*

4. Release the ZERO and COUNT keys.

To Enter Data:

1. The table above shows the parameter settings for the MTX/MTB series models. Use the ZERO (+) and TARE (–) keys to select the corresponding settings for each parameter (Cn–C8).
2. Use the COUNT key to enter the data and advance to the next step.

To Review:

1. After the operator enters C8 (see table above), the input displays C4–C1 setting.
2. If the C4–C1 settings are not correct, turn the scale off, then on again and re-enter the settings.
   If the C4–C1 settings are correct, press the COUNT key.
3. The unit displays the C8-C5 settings.
4. If the C8–C5 settings are not correct, turn the scale off, then on again and re-enter the settings.
   If the C8–C5 settings are correct, press the COUNT key.

Calibration

Continue with normal calibration as described on page7, Section 2.1.2 beginning from Step 3 (display = CA–).

Follow the steps in the table below to calibrate the MTX/MTB Series scales.

NOTE: *Configuration settings must be set prior to calibrating the MTX/MTB series scale.*

2.1.2 Calibration

<table>
<tr><th>Step</th><th>Action</th><th>Display</th></tr>
<tr><td>1</td><td>Press and hold the ZERO and TARE keys, then press the ON/OFF key.</td><td></td></tr>
<tr><td>2</td><td>Release the ON/OFF key first, then release both the ZERO and TARE keys. NOTE: For the MTB, hold the ON/OFF key for at least 2 seconds.</td><td></td></tr>
<tr><td>3</td><td>The displays shows CA–9. If CA–9 does not appears, press the ZERO key until the display shows CA–9. Press the COUNT key to go to the next step.</td><td>CA–9</td></tr>
<tr><td>4</td><td>Select the desired calibration weight using the ZERO or TARE key. Possible values are shown below:
<table>
<tr><th>Model</th><th>Capacity</th><th>Display</th></tr>
<tr><td>MTX only</td><td>12 lb (6 kg)
60 lb (30 kg)</td><td>G–5.0</td></tr>
<tr><td rowspan="3">MTX/MTB</td><td>60 lb (30 kg)
300 lb (150 kg)</td><td>G–1.0</td></tr>
<tr><td>30 lb (15 kg)
150 lb (75 kg)</td><td>G–2.0</td></tr>
<tr><td>24 lb (12 kg)
120 lb (60 kg)</td><td>G–2.5</td></tr>
<tr><td colspan="3">DO NOT USE L–1.0 THROUGH L–5.0. THE SCALE WILL NOT CALIBRATE.</td></tr>
</table>
NOTE: Use a test weight of 100% capacity for greatest accuracy. Press the COUNT key to go to the next step.
The initial A/D value displays:</td><td>G–1.0

<

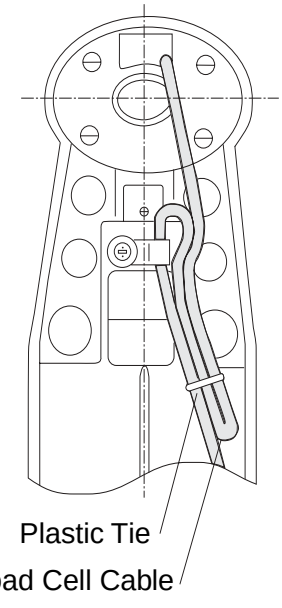
2.2 MTE Series

Follow the steps below to set up and calibrate the MTE Series scale.

Step	Action	Display
1	Start with the display ON.	
2	Push both ON/OFF plus VALUE key at the same time.	C1 10
3	Press the TARE key three times to access the Lb calibration mode.	C2 20
		C3 1
		L 1
4	Press the TARE key again to display the initial A/D value. NOTE: A normal A/D initial value is between 6000 and 10000 count.	8280
5	Press the ZERO key to set the A/D zero point value.	2000
6	Place a 300 Lb weight on the scale platter, then press the TARE key to set the A/D full capacity value.	70040 ± 2
7	Remove the weight, then press the ZERO key to set the A/D zero point value.	2000
8	Place the weight on the platter again. NOTE: If the displayed value is not 70040 ± 2, remove the calibration weight and repeat the above procedures starting with Step 4.	70040 ± 2
9	Remove the plastic screw from the bottom of the display. Use a non-metallic device to press the memory switch, then replace the plastic screw.	5
10	Turn the scale off, then on again. Test the calibration by placing a known weight on the scale.	
11	The MTE automatically calibrates the Kg mode.	

Securing the load cell cable:

When you mount the display pole on the main body, secure the load cell cable with the plastic tie as shown below. After you secure the cable, use the procedures (shown above) to calibrate the MTE Series scale.



Bottom view of MTE Series scale base

2.3 MG-3000

The MG-3000 uses one of two CPU boards. Early versions used the circuit board number P-780; later versions use the circuit board number P-802. Both function the same, but the calibration and setup procedures differ.

2.3.1 Calibration For Units With P-802 Circuit Board

Follow the steps below to calibrate an MG-3000 with a P–802 circuit board.

Step	Action	Display
1	Turn off the scale.	
2	Press and hold the ZERO and CHG/VAL keys, then press and release the ON/OFF key.	
3	Release the ZERO and CHG/VAL keys.	C
4	Proceed to Step 10 for calibration only. Continue with the next step for configuration.	*xxxx*
5	Press and hold the ZERO key, then press the CHG/VAL key, then release both keys.	*xxxx*
6	Set the country code = 20 (USA): Press the TARE key to change the digit position. Press the CHG/VAL key to increment the value.	Cb *xx*
7	Press the SET key.	Cb 20
8	Press the CHG/VAL key to select the capacity: 11 = 15 x 0.005 Lb; 10 = 6 x 0.002 Lb.	CAP *xx*
9	Press the SET key.	CAP 11
10	With no weight on the scale, press the ZERO key until the display shows 2000 counts.	*xxxx*
11	Place the full capacity weights on the scale as determined in Step 9 above.	2000
12	Press the TARE key.	*xxxxx*
13	The span counts should read 17000 ± 1. If not, repeat the process from Step 10.	17000
14	Remove the brass hex bolt on the rear of the indicator. Use a non-metallic device to press the memory switch on the circuit board. NOTE: Using a metallic device can damage the unit. The switch feels like it clicks when pressed.	17000
15	Remove weights, then turn off the scale.	17000
16	Turn on the scale and test the calibration by placing a known weight on the scale.	
17	When calibration is complete, replace the brass hex bolt on the back of the indicator.	

2.3.2 Calibration For Units With P-780 Circuit Board

Follow the steps below to calibrate an MG-3000 with a P–780 circuit board.

Step	Action	Display
1	Turn off the scale.	
2	Press and hold the ZERO and CHG/VAL keys, then press and release the ON/OFF key.	
3	Release the ZERO and CHG/VAL keys.	
4	Wait for the internal counts to display (usually 6 to 7 seconds).	C lb
5	Proceed to Step 11 for calibration only. Continue with the next step for configuration.	*xxxxx*
6	Press and hold the ZERO key, then press the CHG/VAL key, then release both keys.	*xxxxx*
7	Press the CHG/VAL key until the country code = 20 (USA).	Cd *xx*
8	Press the TARE key.	Cb 20
9	Press the CHG/VAL key to select the capacity: b = 15 x 0.005 Lb; A = 6 x 0.002 Lb.	CAP *x*
10	Press the TARE key.	CAP b
11	With no weight on the scale, press the ZERO key until the display shows 2000 counts.	*xxxx*
12	Place the full capacity weights on the scale as determined in Step 9.	2000
13	Press the TARE key once.	*xxxxx*
14	The span counts should read 17000 ± 1. If not, repeat the process from Step 11.	17000
15	Remove the brass hex bolt on the rear of the indicator. Use a non-metallic device to press the memory switch on the circuit board. NOTE: Using a metallic device can damage the unit. The switch feels like it clicks when pressed.	17000
16	Turn on the scale and test the calibration by placing a known weight on the scale.	17000
17	When calibration is complete, replace the brass hex bolt on the back of the indicator.	

2.4 CWS Series

Follow the steps below to set up and calibrate the CWS Series scale.

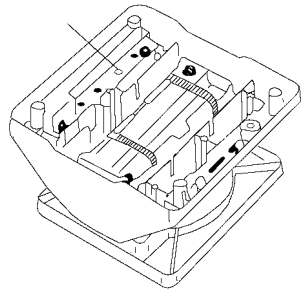
KG and GRAM Calibration Procedure:

Step	Action	Display
1	Turn off the scale.	
2	Press and hold the TARE and ZERO keys, then press and release the ON/OFF key.	
3	Release the TARE and ZERO *after* the display goes blank.	–1888
4	Press the TARE key while the numbers are scrolling to enter the setup mode. If you do not press the TARE, the CWS proceeds directly to Step 14 for calibration.	1, 2, 3, 4. . .
5	Enter the scale capacity code using the ZERO key. (see table below).	C1 – N_1
6	Press the TARE key.	C1 – N_1
7	Use the ZERO key to select either: 5 = Auto Off *or* 7 = Continuous On.	C2 – N_2
8	Press the TARE key.	C2 – N_2
9	Use the ZERO key to set b. NOTE: Do not enter 6.	C3 – N_3
10	Press the TARE key.	C3 – b
11	Use the ZERO key to set 2.	C4 – N_4
12	Press the TARE key.	C4 – 2
13	Review the settings. If the settings are correct, press TARE. If not, turn the scale off, then on again, and re-enter the settings.	2 B N_2 N_1
14	The X's represent the internal reference counts. Press the ZERO key.	*xxxx*
15	With no weight on the scale, press ZERO until the display shows 2000 counts.	2000
16	Place the full capacity weights on the scale as determined in Step 5 above.	2000
17	Press the TARE key.	*yyyy*
18	The system performs calibration.	CAL
19	The span count should read 7000. If not, repeat the setup process from Step 5.	7000
20	Turn the scale over and use a non-metallic device to press the memory switch to store the information (see diagram below). NOTE: Using a metallic device can damage the unit. The display flashes "P-EP".	7000
21	Return the scale to an upright position, then turn off the scale.	7000
22	Turn the scale on again and test the calibration by placing a known weight on the scale.	

CWS–02		CWS–05		CWS–10		CWS–20	
Capacity	Code	Capacity	Code	Capacity	Code	Capacity	Code
2000 x 2 g	4	5000 x 5 g	8	10 x 0.01 kg	2	20 x 0.02 kg	6
2 x 0.002 kg	7	5 x 0.005 kg	B	20 x 0.02 lb	6	50 x 0.05 lb	A
5 x 0.005 lb	B	10 x 0.01 lb	2				
100 x 0.1 oz	1	200 x 0.2 oz	5				

Table 2-1. Scale capacity codes

Memory Switch



2.5 CWS Series

Follow the steps below to set up and calibrate the CWS Series scale.

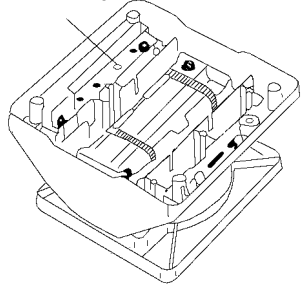
LB and OZ Calibration Procedure

Step	Action	Display
1	Turn off the scale.	
2	Press and hold the TARE and ZERO keys, then press and release the ON/OFF key.	
3	Release the TARE and ZERO *after* the display goes blank.	– 1888
4	Press the TARE key while the numbers are scrolling to enter the setup mode. If you do not press TARE, the CWS proceeds directly to Step 14 for calibration.	1, 2, 3, 4 . . .
5	Enter the scale capacity code using the ZERO key. (See table below).	C1 – N_1
6	Press the TARE key.	C1 – N_1
7	Use the ZERO key to select either: 5 = Auto Off *or* 7 = Continuous On.	C2 – N_2
8	Press the TARE key.	C2 – N_2
9	Use the ZERO key to set to F. NOTE: *Do not enter 6.*	C3 – N_3
10	Press the TARE key.	C1 – b
11	Use the ZERO key to set to 4.	C4 – N_4
12	Press the TARE key.	C4 – 2
13	Review the settings. If the settings are correct, press TARE. If not, turn the scale off, then on again, and re-enter the settings.	2 B N_2 N_1
14	The X's represent the internal reference counts. Press the ZERO key.	*xxxx*
15	With no weight on the scale, press ZERO until the display shows 2000 counts.	2000
16	Place the calibration weights on the scale as follows: 5 Lb capacity = 5 Lb weight 10 Lb capacity = 10 Lb weight 19 Lb capacity = 25 Lb weight	2000
17	Press the TARE key.	*yyyy*
18	The system performs calibration	CAL
19	The span count should read 6000. If not, repeat the setup process from Step 15.	6000
20	Turn the scale over and use a non-metallic device to press the memory switch to store the information (see diagram below). NOTE: Using a metallic device can damage the unit. The display flashes *"P–EP."*	6000
21	Return the scale to an upright position, then turn off the scale.	6000
22	Turn the scale on again and test the calibration by placing a known weight on the scale.	

CWS-oz-05		CWS-oz-10		CWS-oz-19	
Capacity	Code	Capacity	Code	Capacity	Code
5 Lb x 0.1 oz	0	10 lb x 0.2 oz	1	19 lb x 0.5 oz	2

Table 2-2. Lb/Oz Scale capacity codes

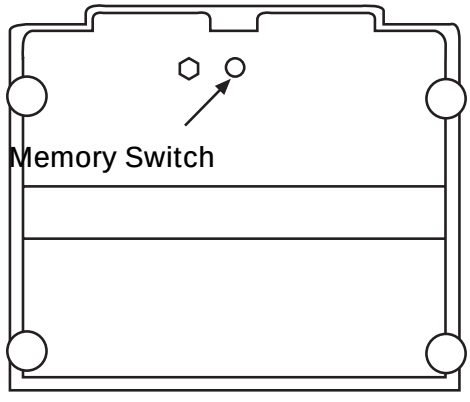
Memory Switch



2.6 NCS Series

Follow the steps below to set up and calibrate the CWS Series scale.

Step	Action	Display
1	Turn the scale off.	
2	Turn the scale on and immediately press the 1 key.	
3	Press the 1 key, then the TARE key.	C 0
4	Press TARE after verifying the country code: 20 = United States (6 lb, 30 lb, and 60 lb). To change the country code, enter 20 then press TARE.	C1–1 20 0
5	Press TARE after verifying the Capacity Code: • 15 = 6 x 0.001 lb • 12 = 30 x 0.005 lb • 18 = 12 x 0.002 • 16 = 60 x 0.01 lb NOTE: *xx.xx*= capacity, zz = code. To change, enter the code then press TARE.	C1–2 *xx.xx zz*
6	With no weight on the scale, press ZERO to set 2000 counts. NOTE: *nnnn* = any number.	10 *nnnnn nnnn*
7	Place the full capacity weight on the scale as determined in Step 5.	10 2000 0
8	Press TARE. NOTE: *nnnn* = any number.	10 *nnnnn nnnn*
9	The center display should read 32000 ± 1. If not, repeat the above starting with Step 6.	10 32000 30000
10	Remove the weights and weight platter.	10 32000 30000
11	Tip the scale on edge and remove the brass screw. See the diagram below. NOTE: *nnnn* = any number.	10 *nnnnn nnnn*
12	Use a non-metallic device to press the memory switch on the circuit board. See diagram below. The scale beeps and temporarily displays *"ok."*	10 *nnnnn nnnn* 10 *s* ok
13	Replace the brass screw and the weigh platter. Turn off the scale.	10 2000 0
14	Turn the scale on again and test the calibration by placing a known weight on the platter.	0.00 0.00 0.00



Bottom view of NCS scale

2.7 QBX Series

Follow the steps below to set up and calibrate the QBX Series scale.

Setup	Action
1	Press and hold the MODE key until [Func] –> [CAL] appear in sequence, then release the key.
2	Press and hold the T key, press the MODE key, then release both keys at the same time.
3	[un it] appears. Press the T key to increase the value of the right digit in this order: [1] –> [2] –>. . . . [5] Select the desired until system number (see table below).
4	Press the MODE key to call up [on 0]. The QB automatically performs zero adjustment. (Do not leave any weight on the pan).
5	After the QBX performs zero adjustment, [on FS] is shown. Place the calibration weight on the center of the weigh pan (see table below for designated calibration weights).
6	When calibration is complete, the scale automatically returns to weighing mode.

NOTES:

- Press any key to cancel calibration procedures and return to the weigh display.
- If *[o–Err]* appears on the display, the weight exceeds the scale capacity.
- Standard calibration weight is 1/2 capacity. However, when possible, calibrate using a full capacity weight. See the table below for the unit system capacities.
- If *[1–Err]* appears on the display, the calibration weight is less than 50% of the standard.
- If *[2–Err]* appears on the display, an object other than the calibration weight is on the pan, or the display tolerance (1%) is exceeded.

Unit No. (mark)		QB–150E	QB–300E	QB–600E	QB–1500E	QB–3000E	QB–6000E	QB–12KE	QB–620E	QB–6200E
1	(g)	150	300	600	1500	3000	6000	12000	620	6200
2	(kg)	0.15	0.3	0.6	1.5	3	12	12	0.62	6.2
3	(ct)	750	1500	3000	7500	15000	30000	60000	3100	31000
4	(oz)	5.2	10	21	52	100	210	420	21	210
5	(lb)	0.33	0.66	1.3	3.3	6.6	13	26	1.3	13

3.0 Balances

Rice Lake Weighing Systems sells and distributes the following models of Ishida precision balances.

- QB Series
- MB Series
- IB Series
- SB Series

The following pages describe the setup and calibration procedures for these products.

3.1 QB Series

Follow the steps in the table below to set up and calibrate the QB Series scale.

Step	Action
1	Press and hold the F key until [Func] –> [CAL] appear in sequence, then release the key.
2	Press and hold the T key, then press the F key, then release both keys.
3	[un it] appears. Press the T key to increase the value of the right digit in the following order: [0] –> [1] –> [2] –> . . . .[9] –> [A] –> [6] –> [d] (repeat from 0). Select the desired unit system number (see table below).
4	Press the F key to call up [on 0]. The QB automatically performs a zero adjustment. (Do not leave any weight on the pan).
5	After the QB performs zero adjustment, [on FS] automatically appears. Gently place the designated calibration weight on the center weigh pan (see table below for designated calibration weights).
6	When calibration is complete, the scale automatically returns to the weighing mode.

NOTES:

- Press the P key to cancel calibration procedures and return to the weigh display.
- If *[o–Err]* appears on the display, the weight exceeds the scale capacity.
- Standard calibration weight is 1/2 capacity. However, when possible, calibrate using a full capacity weight. See the table below for the unit system capacities.
- If *[1–Err]* appears on the display, the calibration weight is less than 50% of the standard.
- If *[2–Err*] appears on the display, an object other than the calibration weight is on the pan, or the display tolerance (1%) is exceeded.

Unit No. (mark)		QB-150E	QB-300E	QB-600E	QB-1500E	QB-3000E	QB-6000E	QB-12KE	QB-620E	QB-6200E
1	(g)	150	300	600	1500	3000	6000	12000	620	6200
2	(kg)	0.15	0.3	0.6	1.5	3	6	12	0.62	6.2
3	(ct)	750	1500	3000	7500	15000	30000	60000	3100	31000
4	(oz)	5.2	10	21	52	100	210	420	21	210
5	(Lb)	0.33	0.66	1.3	3.3	6.6	13	26	1.3	13
6	(ozt)	4.8	9.6	19	48	96	190	380	19	190
7	(dwt)	96	190	380	960	1900	3800	7700	390	3900
8	(gr)	2300	4600	9200	23000	46000	92000	180000	9500	95000
9	(tl)	4	8	16	40	80	160	320	16	160
A	(tl)	3.9	7.9	15	39	79	150	310	16	160
b	(tl)	4	8	16	40	80	160	320	16	160
c	(mom)	40	80	160	400	800	1600	3200	160	1600

3.2 MB Series

NOTE: MB Series scales cannot be calibrated. They are stamped or sealed by local weights/measurement offices. When calibration is necessary for the MB, contact your local dealer.

Follow the steps in the table below to set up and calibrate the MB-E Series scale.

Step	Action
1	Press and hold the F key until [Func] –> [CAL] appear in sequence, then release the key.
2	Press the ZERO key. While holding it down, press the F key, then release both keys. The display blinks [on 0] to indicate zero adjustment is being performed. Verify that no load is on the weigh platter.
3	After the MB-E performs zero adjustment, [on FS] automatically appears. Gently place the designated calibration weight on the center weigh pan (see table below for designated calibration weights).
4	When calibration is complete, the scale automatically returns to the weighing mode.

NOTES:

- In Step 2, if the F key is pressed prior to the ZERO key, the scale will return to weighing mode.
- Standard calibration weight is 1/2 capacity. However, when possible, calibrate using a full capacity weight. See the table below for the unit system capacities.
- If *[o-Err]* appears on the display, the weight exceeds the scale capacity.
- If *[1-Err]* appears on the display, the calibration weight is less than 50% of the standard.
- If *[2-Err]* appears on the display, the display tolerance (0.4%) is exceeded, or the scale may be defective. Contact your Ishida representative.

Unit No. (mark)	MB-150E	MB-300E	MB-600E	MB-1500E	MB-3000E	MB-6000E
1 (g)	150	300	600	1500	3000	6000
2 (ct)	750	1500	3000	7500	15000	30000
3 (Lb/Oz)	5.2	10	21	52	6.6	13

3.3 MB-RE Series

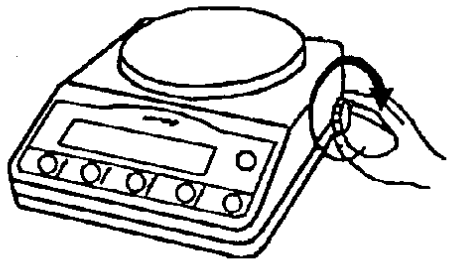
Follow the steps in the table below to set up and calibrate the MB-RE Series scale.

Step	Action
1	Press the S key and release. [SA CAL] appears in the display.
2	The display blinks [CAL. 0] which indicates zero adjustment is automatically performed.
3	Display changes to [CAL. on] which shows the mode advanced to span adjustment.
4	Turn the calibration knob counterclockwise to CAL until it stops (see figure 4.1 below). Now the calibration weight is loaded. Display starts flashing to indicate span adjustment is being automatically performed.
5	Display changes to [CAL oFF].
6	Return calibration knob at WEIGH point by turning it gently until it stops with a slight sound. Calibration weight inside has been unloaded to display [End].
7	When span calibration is complete, [0] is shown on the display.

NOTES:

- Pressing any other key other than ON/OFF will interrupt the operation and show *[StOP].*
- Calibration knob should be turned gently, but don't stop until fully turned. At *[CAL]* it stops lightly, at *[WEIGH],* it stops with a sound.
- Keep calibration knob at *[WEIGH]* except during calibration. *[CAL.oFF]* appears if the power is turned on while it is at *[CAL].*
- The calibration will not advance after *[CAL.0]* if affected by wind or external vibration. Provide a windshield or a stable base.
- If *[3-Err]* appears on the display after zero adjustment is performed, an object other than the calibration weight is on the pan.
- If *[4-Err]* appears on the display after returning the knob to *[WEIGH]*, this indicates that the error at span varies too much from that of the factory-set value.

Unit No. (mark)	MB-300RE	MB-600RE
1 (g)	300	600
2 (ct)	1500	3000
3 (Lb/oz)	10	21



Calibration Knob

3.4 IB Series

Follow the steps below to set up and calibrate the Ishida IB Series scale.

CALIBRATION

Step	Action	Display
1	Turn on scale.	0000 0000 0000
2	Press and hold the F key until the [CAL] message is displayed.	CAL
3	Press and hold the T key, press the F key, then release both keys.	on 0
4	After zeroing procedure has finished, the following message will be displayed. Set standard weight in weigh pan. The scale automatically calibrates itself.	on F.S.
5	Scale automatically returns to original measurement mode.	50000

NOTES:

- The Ishida IB Series precision balance automatically calibrates itself.
- Press the P key to cancel calibration procedures and return to the weigh display.
- If *[o-Err]* appears on the display, the weight exceeds the scale capacity.
- Standard calibration weight is 1/2 capacity. When possible, calibrate using full capacity.
- If *[1-Err]* appears on the display, the calibration weight is less than 50% of the standard.
- If *[2-Err]* appears on the display, an object other than the calibration weight is on the pan or the display tolerance (1%) is exceeded.

3.5 SB Series

Follow the steps to set up and calibrate the Ishida SB Series scale.

Step	Action	Display
1	Turn on scale.	00000 00000 00000
2	Press [CAL] , then release the key.	CAL
3	Press and hold the T key, then press the F key, then release both keys.	on 0
4	The scale will automatically be set to the zero point.	
5	After the zeroing procedure is finished, the measurement point must be set.	on F.S
6	Set standard weight in center of weigh pan. The scale will automatically calibrate itself.	on F.S
7	After calibration has finished, scale will automatically return to the original measurement mode.	5000.00

NOTES:

- The Ishida SB Series precision balance automatically calibrates itself.
- Press the P key to cancel calibration procedures and return to the weigh display.
- If *[o-Err]* appears on the display, the weight exceeds the scale capacity.
- Standard calibration weight is 1/2 capacity. However, when possible, calibrate using full capacity.
- If *[1-Err]* appears on the display, the calibration weight is less than 50% of the standard.
- If *[2-Err*] appears on the display, an object other than the calibration weight is on the pan, or the display tolerance (1%) is exceeded.