iQUBE²® Junction Box

Quick-Start Guide

Use this document to install the *iQUBE²* using Rice Lake Weighing Systems recommended settings. It is written for an 8-cell truck scale that is being used with two *iQUBE²* CPU boards.

Note ***Load cells or simulators must be connected before using the instructions in this document. See the iQube2 installation manual (available on the Rice Lake website at www.ricelake.com).***

RS-422 and RS-485 are used interchangeably. TEDS is not supported.

Configuration using 920i

Establish a Connection

1. Connect the *iQUBE²* and the 920i® using an RS-422 connection.

Note ***RS-422 is recommended due to the 115,200 baud rate and a maximum distance of 1000' at this high baud rate. RS-232 has a maximum distance of 10'.***

Table 1 indicates the connections for RS-422 communications between a 920i and the *iQUBE²*. Two-wire half duplex is available on Port 4 of the 920i.

920i Board J10 Connector (Port 4)		iQUBE² J7 Connector	
RS-422 Signal	**Pin**	**Pin**	**RS-422 Signal**
GND	1	1	GND1
RS-422 A	5	4	RS-485 A
RS-422 B	6	5	RS-485 B

Table 1. RS-422 – 2-Wire Connections to 920i

2. Set ***S2*** dip switches on CPU board to 485 (both set to ***OFF***). See Figure 10 on page 6 for ***S2*** dip switch locations.

Note ***If a change is made to switch position, cycle power on the iQUBE² while in Setup mode, switch position is read on power-up.***

3. Once power is on again, place ***SW1*** in the ***OFF*** position.
4. Enter Config mode on the 920i and navigate to the ***PORTTYPE*** under the ***SERIAL*** menu.
5. Change the ***PORTTYPE*** parameter to ***422.***

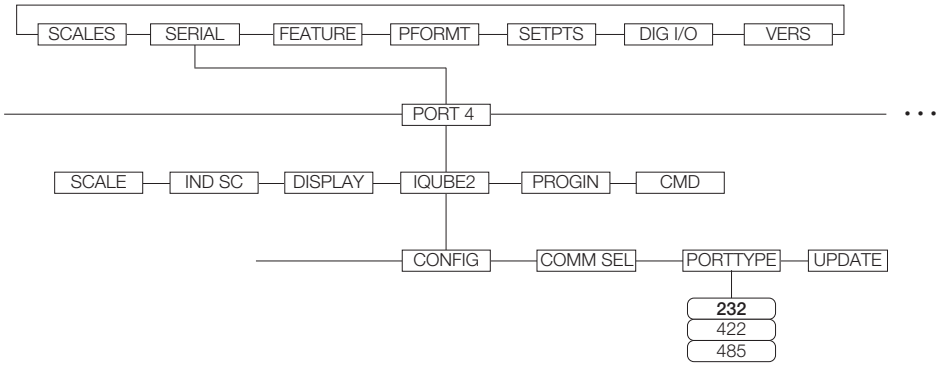


Figure 1. PORTTYPE Parameter

6. Navigate to the ***CONFIG*** menu and press the **Connect** softkey (see Figure 2).

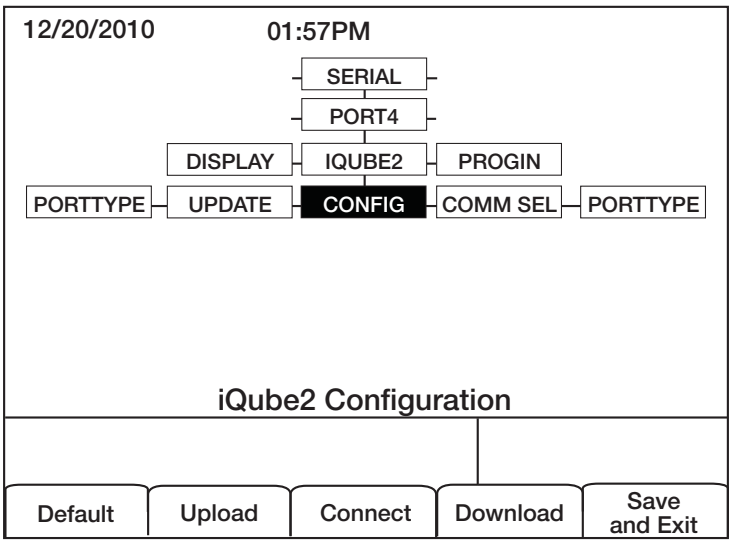


Figure 2. CONFIG Menu

7. The serial number displays (i.e., 123XX456 *NONE* *NONE* NONE*)
   If the serial number does not display, check wiring and dip switches.

Add a Secondary Board to the System

1. Under ***CONFIG***, navigate to the ***BOARDS*** parameter and select the **Auto Assign** softkey. Green lights on the CPU board start blinking on all cells.

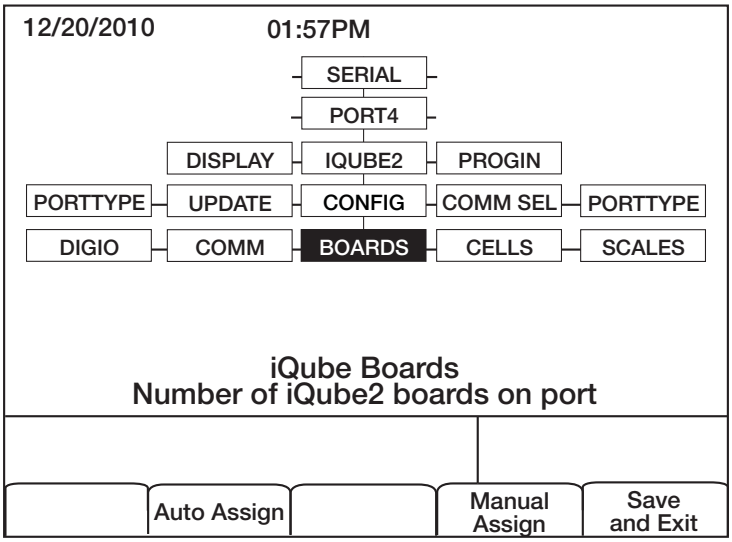


Figure 3. BOARDS Parameter

2. Press and release the ***SETUP*** **(S1)** button on secondary board #1. Cells 5-8 are now available to the system and registers its serial number with the primary board. The lights on the board will stop blinking.
3. Press the ***SETUP*** **(S1)** button on the primary board when the secondary unit has been assigned.
4. The primary board serial number and any assigned secondary board serial numbers will display.

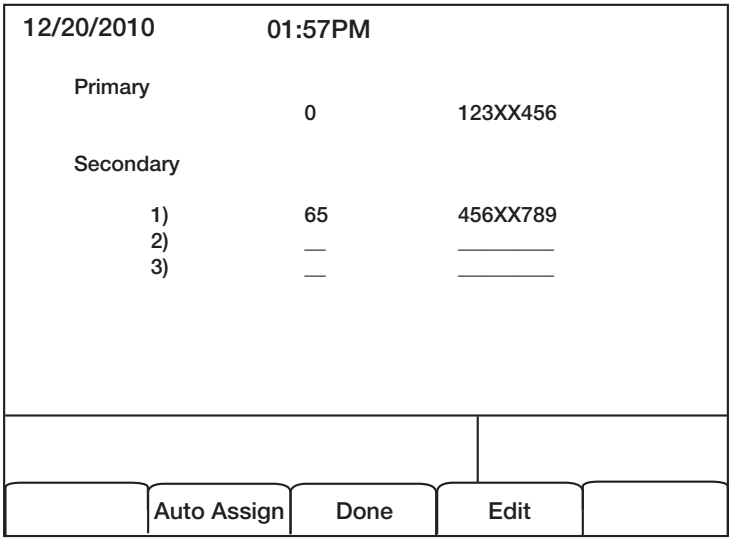


Figure 4. Primary and Secondary Boards screen

5. Press the **Done** softkey.

Configure and Add Load Cells

1. Under ***CELLS***, set the capacity and m/v.
2. Add cells 5-8 to Scale 1 under the ***SCALES*** » ***SERIAL*** menu.

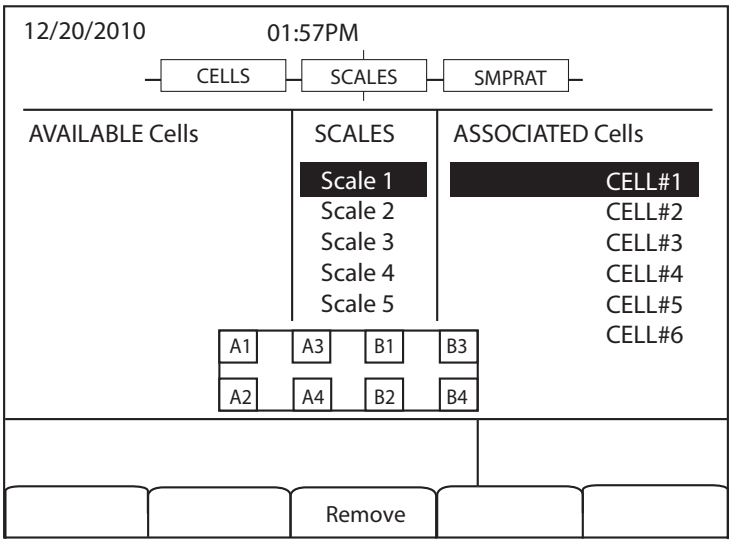


Figure 5. Cells 5-8 added to Scale 1

3. Download to the *iQUBE*^{2}.

Add iQUBE^2 to the 920i

1. From the ***SCALES*** menu, drop down to ***CONFIG***.
2. Press the **Change Type** softkey until ***Available iQubes*** displays.

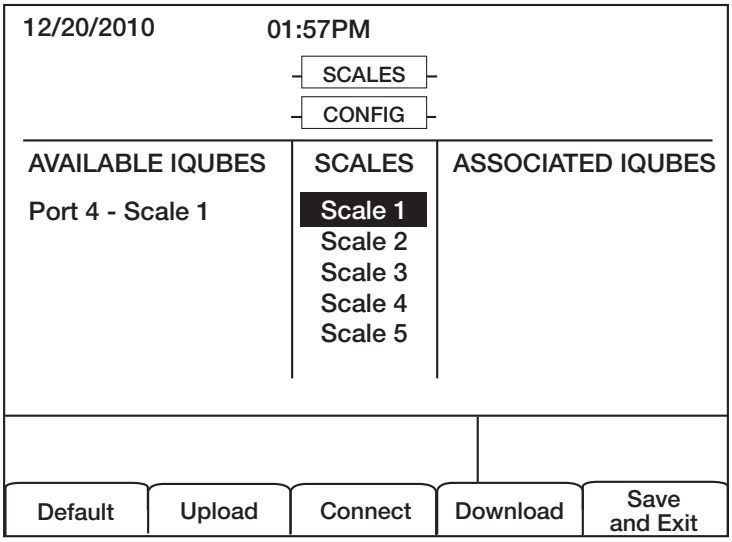


Figure 6. Scale Association screen

3. Select ***Port 4 - Scale 1*** and press the **ADD** softkey to add it to ***Associated iQUBES***.
4. Press the **Save and Exit** softkey.
5. Continue with calibration using the installation manual.

Configuration using iRev

1. Complete Steps 1 - 4 on page 1.
2. From the iRev4 ***File*** menu, select ***New***.

Configure Communications

1. From the ***System Parameters*** section, press **Communications**.
2. Click on Port 4.
3. In the ***General*** tab, set the input type to ***iQube2*** and the Port type to ***RS-485***.

Configure and Add Load Cells and Secondary Board

1. Select the *iQUBE^2* tab.

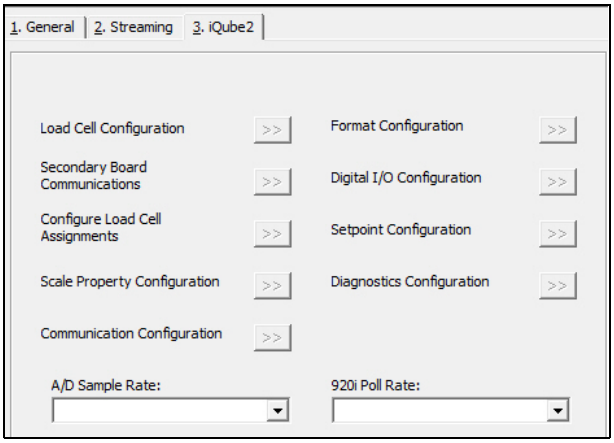


Figure 7. Serial port iQUBE2 settings

2. Press ***Load Cell Configuration*** and update as needed.

3. Press ***Secondary Board Communications***.
4. In the ***Secondary Board One ID*** text box, enter the serial number found on the secondary board (see Figure 10 on page 6).
5. In the ***Address*** text box, enter a number higher than one. Starting secondary board address numbering at 65 is recommended.

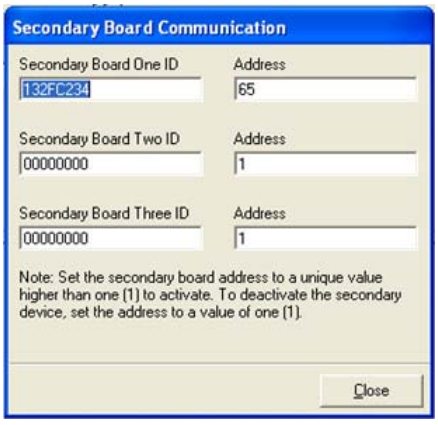


Figure 8. Secondary Board Communications

6. Press ***Configure Load Cell Assignments*** and move desired cells to the right.

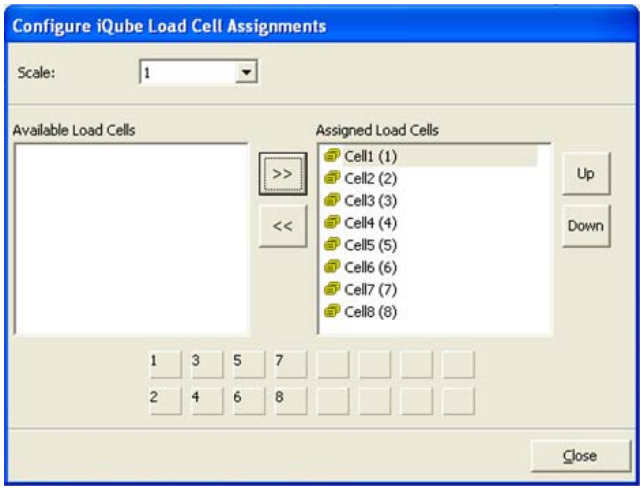


Figure 9. Load cell assignments

7. Press ***Scale Property Configuration*** and update as needed.

Configure Scale #1

1. From the ***System Parameters*** section, click **Scales.** See Figure 1.
2. Double-click ***Scale #1***.
3. Under ***Source Types***, select ***iQube2 Systems*** and associate Port 4.

Save and Download Configuration to iQUBE^2

1. From the ***File*** menu, select ***Save As*** to save the file. Name it appropriately.
2. From the ***Communications*** menu, select ***Connect***.
3. Download all configuration steps. Mark the ***Download to iQube2*** checkbox.
4. On the 920i, press the ***Save and Exit*** softkey. A weight displays.
5. Continue with calibration using installation manual.

J7 SERIAL COMMUNICATIONS

J7 Pin	RS-232	RS-485 2-Wire	RS-485 4-Wire
1	GND1	GND1	GND1
2	RxD	—	Rx+ A
3	—	—	Rx- B
4	—	A / +	Tx+ Y
5	TxD	B / –	Tx- Z
6	—		

J12 M/S PORT

J12 Pin	Primary iQUBE²	Secondary iQUBE²
1	iQA →	iQA
2	iQB →	iQB
3	GND2 →	GND2
4	GND2 →	GND2

S2 SWITCH SETTINGS

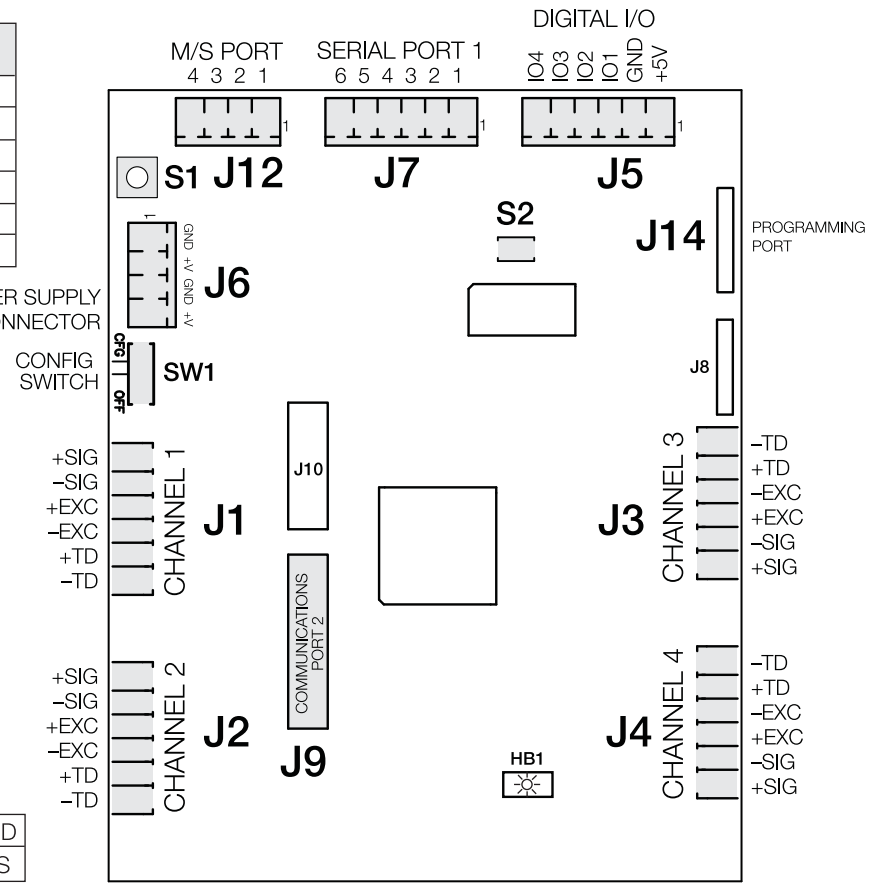
	OFF	ON
1	RS-485 ← OFF/ON →	RS-232
2*	2-WIRE ← OFF/ON →	4-WIRE

SWITCHES READ ON POWER-UP ONLY
**SWITCH IS ONLY VALID IN RS-485 MODE*

S1 SWITCH SETTINGS

PRESS & RELEASE	ASSIGN BOARD ID
PRESS & HOLD**	RESET DEFAULTS

***HOLD FIVE SECONDS*



DO NOT connect sense to TD+ or TD-. These terminals are for TEDS communication only

Figure 10. iQUBE² CPU Board Wiring

RICE LAKE WEIGHING SYSTEMS

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