

# MSI9300

*PortaWeigh Plus Crane Scales  
PortaWeigh Plus Hi-Torque Crane Scales*

## Software Upgrade Guide



**Measurement Systems  
International™**

A RICE LAKE WEIGHING SYSTEMS COMPANY



## 1 Introduction.

This procedure describes how to perform software upgrades within the MSI-9300 Series Crane Scales. The MSI-9300 Series Crane Scales are controlled by an embedded MSI-9000 CellScale.

### **All scale functions & operating parameters are stored within the MSI-9000.**

The MSI-9000 CellScale operates as most processor based equipment do with a boot-loader and an application. Dependent upon original version to current version upgrade, it will be required to install both the boot-loader and application software into the MSI-9000 CellScale. These units will require the **FULL** upgrade procedure.

In the remaining cases where the original boot loader is the same version, then only the application software upgrade is needed and **step 5** can be skipped in its entirety.

Refer to the chart below to determine upgrade requirements. Additional variables to upgrade requirements include modem version (2400 or 2450) and in rare cases of some older systems, possible hardware upgrades.

**MSI-9000 CellScale Software Chart**

Boot-Loader Version	Application Version	2400 Modem Compatibility	2450 Modem Compatibility
2-15	2-23 thru 2-32	Yes	No
3-01	3-33 thru 3-37	Yes	No
3-02	3-38 thru 3-43	Yes	No
3-02	5-01 thru Current	No	Yes

For all MSI-9300 Series displays containing software versions, **3-40 c / d** or higher, have full compatibility with above charted MSI-9000 CellScale application software.

If your scale has a software version not listed, contact MSI.

## 2 Equipment requirements.

- 2.1 PC with terminal program as described within and RS-232 serial port with Std. DB-9 connection or adapters. Reference full version of the **MSI-9000 CellScale User Guide** for specific details on connections.
- 2.2 1 ea. 501705-0001 serial communication cable.
- 2.3 Applicable upgrade software in .hex format. Contact MSI as these files can be easily sent via E-Mail attachments.



### 3 Accessing the MSI-9300 Series CellScale Terminal Menu

- 3.1 Set the terminal program to emulate an ASCII terminal.
- 3.2 Set the terminal programs port protocol to 9600 Baud, no parity, 8 data bits and 1 stop bit.
- 3.3 Disable flow control in the terminal program.
- 3.4 Turn Scale **ON** and allow to power up. Once complete, press & hold **NET/GROSS** keys then press and release the **TEST** key. The scale should indicate **H-PORT**. Release all keys.
- 3.5 Connect the MSI-9300 Series crane scale comport to the PC serial port with the 501705-0001 serial cable.
- 3.6 From PC, press ENTER. Main Cell Scale Manu will appear.

```

----- MSI 9000 - CellScale -----
- (c) 2006 Measurement Systems International -
-----

12:01:26                01/01/03

(1) Channels/Calibration
(2) Communications
(3) Display
(4) Feature Locks/Passwords
(5) Product IDs
(6) Set Points
(7) System
(8) About...

Enter choice :

```

### 4 Accessing Boot Loader

- 4.1 Select (7) **System**.

```

***** System *****

(1) Clock
(2) Initializations
(3) LED Management
(4) Switch Functions
(5) System Power
(6) Display Device: 9300
(7) RF Modem Installed: Yes
(8) Load New Application Software
(ESC) Exit

```

- 4.2 Select (8) **Load New Application Software**.

```

Ready to load new application!

Are you sure??
Type YES to complete this action.
Type NO to abort this action.

```



- 4.3 The Cell Scale will prompt if you are sure. Type **YES** and press **Enter**.

```

MSI Boot Loader Version 3.02 action.

(1)          Update Application
(2)          Change Baud Rate
(ESC)        Start Application

Enter Command :
  
```

## 5 Updating the boot loader.

- 5.1 Press (1) to **Update Application**.

```

Enter Command : 1
                Send (Upload) the file:
  
```

- 5.2 Using the terminal program, send the **3-02 RE-BOOT** file.  
**Note: File must be sent as raw ASCII. Do not use Kermit, X-Modem, Z- Modem or any other protocol.**

- 5.3 After the file is sent, the re-boot loader program will display the following message.

```

Upload complete

Erasing sector 1 of 7
Erasing sector 2 of 7
Erasing sector 3 of 7
Erasing sector 4 of 7
Erasing sector 5 of 7
Erasing sector 6 of 7
Erasing sector 7 of 7
Erase Complete

Programming sector 1 of 7....
Programming sector 2 of 7
Programming sector 3 of 7
Programming sector 4 of 7
Programming sector 5 of 7
Programming sector 6 of 7
Programming sector 7 of 7
Programming Complete

MSI Boot Loader Version 2.15

(1)          Update Application
(2)          Change Baud Rate
(ESC)        Start Application

Enter Command :
  
```

- 5.4 Press **(ESC)** to **Start Application** (i.e. the reboot loader program).

```

MSI Re-BootLoader Version 3.02

(1)          Update Main BootLoader
(2)          Change Baud Rate
(ESC)        Start Main BootLoader

Enter Command : 1

                Send (Upload) the file :
  
```



5.5 Press **(1)** to **Update Main Bootloader**.

```
MSI Re-BootLoader Version 3.02

(1)      Update Main BootLoader
(2)      Change Baud Rate
(ESC)    Start Main BootLoader

Enter Command : 1

Send (Upload) the file :
```

5.6 Using the terminal program, send the **3-02 Boot file**.  
**Note: File must be sent as raw ASCII. Do not use Kermit, X-Modem, Z- Modem or any other protocol.**

5.7 After the file is sent, the re-boot loader program will display the following message.

```
Upload complete

Erasing sector 10
Erase Complete

Programming sector 10....
Programming Complete

MSI Re-BootLoader Version 3.02

(1)      Update Main BootLoader
(2)      Change Baud Rate
(ESC)    Start Main BootLoader

Enter Command :
```

5.8 Press **(ESC)** to **Start Main Bootloader**.

```
MSI Boot Loader Version 3.02

(1)      Update Application
(2)      Change Baud Rate
(ESC)    Start Application

Enter Command :
```







- 6.10 Change terminal program protocol to match (i.e. 9600, N, 8, 1).

When you can read this, press any key.  
 When you can read this, press any key.  
 When you can read this, press any key.  
**When you can read this, press any key.**

- 6.11 Press **(ANY KEY)**. **Enter** is fine.

MSI Boot Loader Version 3.02

(1) Update Application  
 (2) Change Baud Rate  
**(ESC) Start Application**

- 6.12 Press **ESC** to **Start Application**. Upon pressing **ESC**, allow a few moments for the CellScale to display the following message.

**CellScale will be in Host Mode in 5 seconds.**  
**To enter Terminal Access Mode, type MSI9MSI9**

----- MSI 9000 - CellScale -----  
 - (c) 2006 Measurement Systems International -  
 -----

12:01:26                      01/01/03

- (1) Channels/Calibration  
 (2) Communications  
 (3) Display  
 (4) Feature Locks/Passwords  
 (5) Product IDs  
 (6) Set Points  
 (7) System  
**(8) About...**

Enter choice :

**NOTE: If main menu does not appear after 15 seconds, type MSI9MSI9.**

## 7 Update Verification

- 7.1 Confirm that the CellScale program has been updated by accessing the CellScale application code. Select **(8) About**.

\*\*\*\* About \*\*\*\*

This hardware has not been registered!

(\*) Standard Mode: Industry

Software built:            05/14/08 at 14:56:11  
**Version number:        X-YZ**

ARC: 0, Rom:9 Ram:  
 1 0 0 1 0 0 1 0 1





- 7.2 Confirm that the software version is the latest version that you downloaded.  
**Version number X-YZ.**

Press **ESC** to return to Main Menu.

## 8 Master Re-set.

- 8.1 Perform Master Re-Set.

```
----- MSI 9000 - CellScale -----  
- (c) 2006 Measurement Systems International -  
-----  
  
12:08:17                01/01/03  
  
(1) Channels/Calibration  
(2) Communications  
(3) Display  
(4) Feature Locks/Passwords  
(5) Product IDs  
(6) Set Points  
(7) System  
(8) About...  
  
Enter choice :
```

- 8.2 Select **(7) System**.

```
***** System *****  
  
(1) Clock  
(2) Initializations  
(3) LED Management  
(4) Switch Functions  
(5) System Power  
(6) Display Device: None  
(7) RF Modem Installed: Yes  
(8) Load New Application Software  
(ESC) Exit
```

- 8.3 Select **(2) Initializations**.

```
***** Initializations *****  
  
(a) Clear all calibration data to defaults  
(b) Clear all product ID data to defaults  
(c) Clear all registry data to defaults  
(d) Clear all serial settings to defaults  
(e) Clear all set point settings to defaults  
(f) Clear all system settings to defaults  
  
(Z) Master reset  
  
(ESC) Exit
```



8.4 Select **(Z) Master reset.**

Reset ALL cellscale data. No exceptions!

Are you sure??

Type **YES** to complete this action.

Type **NO** to abort this action.

8.5 Type **YES.** After a few moments, the main menu will appear.

```
----- MSI 9000 - CellScale -----  
- (c) 2006 Measurement Systems International -  
-----  
  
12:00:11          01/01/03  
  
(1) Channels/Calibration  
(2) Communications  
(3) Display  
(4) Feature Locks/Passwords  
(5) Product IDs  
(6) Set Points  
(7) System  
(8) About...  
  
Enter choice :
```

**NOTE: If main menu does not appear after 15 seconds, type MSI9MSI9.**

**Software upgrade is now complete.**

## **9 Configure the MSI-9000 CellScale for operation with the MSI-9300 Series Crane Scales**

9.1 Select **(7) System.**

```
***** System *****  
  
(1) Clock  
(2) Initializations  
(3) LED Management  
(4) Switch Functions  
(5) System Power  
(6) Display Device: None  
(7) RF Modem Installed: Yes  
(8) Load New Application Software  
(ESC) Exit
```

9.2 Select (6) **Display Device: None**

```
**** System ****  
  
(1) Clock  
(2) Initializations  
(3) LED Management  
(4) Switch Functions  
(5) System Power  
(6) Display Device: 9300  
(7) RF Modem Installed: Yes  
(8) Load New Application Software  
(ESC) Exit
```

**Note Display Device change from None to 9300.**

9.3 Select (3) **LED Management**

```
**** System ****  
  
(1) Clock  
(2) Initializations  
(3) LED Management  
(4) Switch Functions  
(5) System Power  
(6) Display Device: 9300  
(7) RF Modem Installed: Yes  
(8) Load New Application Software  
(ESC) Exit
```

## 9.4 Select (1), then (2), then (3), ....., thru (7).

```
**** LED Management ****  
  
(1) LED COMM1: Enabled  
(2) LED COMM2: Enabled  
(3) LED SP1: Enabled  
(4) LED SP2: Enabled  
(5) LED SP3: Enabled  
(6) LED RF: Enabled  
(7) LED POWER: Bright  
(8) LED POWER DWELL: 10  
(ESC) Exit
```

**Note that all “Enabled” change to “Disabled”, and “Bright” changes to “Dim”.**



9.5 Select **(ESC) Exit**.

```

***** LED Management *****

(1) LED COMM1:   Disabled
(2) LED COMM2:   Disabled
(3) LED SP1:     Disabled
(4) LED SP2:     Disabled
(5) LED SP3:     Disabled
(6) LED RF:      Disabled
(7) LED POWER:   Dim
(8) LED POWER DWELL: 10
(ESC) Exit

```

9.6 Select **(5) System Power**.

```

***** System *****

(1) Clock
(2) Initializations
(3) LED Management
(4) Switch Functions
(5) System Power
(6) Display Device: 9300
(7) RF Modem Installed: Yes
(8) Load New Application Software
(ESC) Exit

```

9.7 Assure that **(1) Hard-wired (Type A): AC or DC** and **(7) Auto Shutdown: Disabled** are selected. If they are not, press the appropriate number, 1 or 7, until they are.

```

***** System Power *****

(1) Hard-wired (Type A): AC or DC

(5) Shutdown with:           switch only
(6) Re-start with:          switch only
(7) Auto Shutdown:         Disabled
(8) Shutdown Now!
(9) Battery Calibration
(ESC) Exit

Current Power Level: 100 %
RAM backup battery is OK

```



9.8 Press **(ESC)** twice to exit to main menu.

```
----- MSI 9000 - CellScale -----  
- (c) 2006 Measurement Systems International -  
-----  
  
16:57:52                01/05/08  
  
(1) Channels/Calibration  
(2) Communications  
(3) Display  
(4) Feature Locks/Passwords  
(5) Product IDs  
(6) Set Points  
(7) System  
(8) About...  
  
Enter choice :
```

***Configuration of 9000CS is complete.***

***If 5-20, or later, MSI-9000 CellScale application software is used. Perform the **MSI-9300-5-20 Setup Exit** procedure before exiting system.***

***If software upgrade was to a version less than 5-20, then disconnect comm. cable and cycle power on scale.***



## Notes on terminal programs

There are several terminal programs available for every platform. Below are some notes on terminal programs that are used regularly at MSI for communicating with CellScale products.

### ***TeraTermPro***

Get from downloads.com or MSI can e-mail "tterm23.zip"  
After installing, start the program Start -> Programs -> TeraTermPro  
Select "serial" and COM1 or whichever port being used (DO NOT SELECT TCP/IP) Hit  
OK  
Set-up Serial port  
Port: COM1  
Baud Rate: 9600  
Data: 8 bits  
Parity: none  
Stop: 1 bit  
Flow Control: none  
Hit OK May need to hit space bar to refresh display.

### ***HyperTerminal***

Comes with Windows Start -> Programs -> Accessories -> Communications ->  
HyperTerminal -> Hyperterm.exe  
Name connection CSCom1 (any name is fine)  
Under connect using:  
Direct to Com1 DO NOT TYPE PHONE NUMBER IN!  
Hit OK  
Port Settings  
Baud Rate: 9600  
Data: 8 bits  
Parity: none  
Stop: 1 bit  
Flow Control: Hardware  
Hit OK

May need to press space bar to refresh the display When done, save session as you named it earlier and an icon will be created so you will not have to go through set-up in the future.

### ***ProComm Plus***

After installed: Programs Procomm Plus  
Data Terminal Set-up – set-up bar is at the bottom of the screen. To change, click on the appropriate parameter and set to the following:  
Port: Direct connect-Com1  
Baud: 9600  
Parity-Data bits-Stop bits: N-8-1  
Hit 'r' key to refresh



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