

MSI9000

Spread Spectrum RF

Software Upgrade Guide



**Measurement Systems
International™**

A RICE LAKE WEIGHING SYSTEMS COMPANY



1 Introduction.

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

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 **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-9000 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 9000 **ON** and allow to complete power up sequence.
- 3.4 Connect the MSI-9000 comport 1 to the PC serial port with the 501705-0001 serial cable.
- 3.5 From PC, press ENTER. Main Cell Scale Manu will appear.

```
----- MSI 9000 - CellScale -----  
- (c) 2006 Measurement Systems International -  
-----  
  
12:01:26                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 :
```

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 MSI-9000 CellScale 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.
```

- 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 Cell Scale 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                01/05/08
```

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

```
Enter choice :
```

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

7 Update Verification

- 7.1 Confirm that the Cell Scale program has been updated by accessing the MSI-9000 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                01/05/08  
  
(1) Channels/Calibration  
(2) Communications  
(3) Display  
(4) Feature Locks/Passwords  
(5) Product IDs  
(6) Set Points  
(7) System  
(8) About...  
  
Enter choice :
```

- 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           01/05/08  
  
(1) Channels/Calibration  
(2) Communications  
(3) Display  
(4) Feature Locks/Passwords  
(5) Product IDs  
(6) Set Points  
(7) System  
(8) About...  
  
Enter choice :
```

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

Procedure is now complete. Scale must be calibrated, reference the MSI-9000 CellScale Calibration Procedure.



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 CCom1 (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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