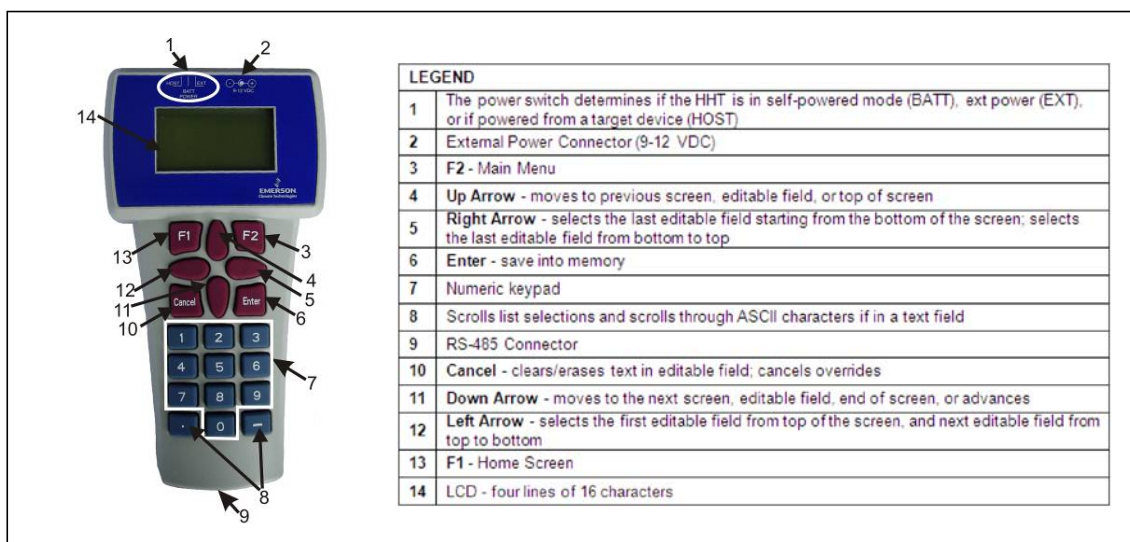# Hand Held Terminal Upgrade Kit (814-3118) Instructions

Overview

The 814-3118 Hand-Held Terminal (HHT) can be optionally loaded with controller firmware that enables controllers to be upgraded in the field. The controller firmware needs to be identified when the HHT is ordered. The 814-3118 HHT can operate like a standard 814-3110 in the "Slave Terminal" mode, but it also has support to upgrade products that support firmware updates through the HHT port. Previously, the PL-440 was used for this function.

Note that only boards of the same type can be upgraded. For example, Multiflex 168 to Multiflex 168 = YES, Multiflex 168 to Multiflex 168AO = NO.

HHT Device Front Keypad

LEGEND	
1	The power switch determines if the HHT is in self-powered mode (BATT), ext power (EXT), or if powered from a target device (HOST)
2	External Power Connector (9-12 VDC)
3	F2 - Main Menu
4	Up Arrow - moves to previous screen, editable field, or top of screen
5	Right Arrow - selects the last editable field starting from the bottom of the screen; selects the last editable field from bottom to top
6	Enter - save into memory
7	Numeric keypad
8	Scrolls list selections and scrolls through ASCII characters if in a text field
9	RS-485 Connector
10	Cancel - clears/erases text in editable field; cancels overrides
11	Down Arrow - moves to the next screen, editable field, end of screen, or advances
12	Left Arrow - selects the first editable field from top of the screen, and next editable field from top to bottom
13	F1 - Home Screen
14	LCD - four lines of 16 characters

Specifications

Connector	Female RJ-11 plug
Display	Graphic LCD (128 x 64 pixels)
Power Requirements	None (9V battery optional)
Dimensions	3.9" Wide x 8.3" Tall x 1.6" Deep (approx.)

EMERSON Climate Technologies

Operating Environment	-20°C to 50°C
Storage Environment	-40°C to 65°C
Approvals	UL/CSA, CE, FCC

## Controller Firmware Update Using the HHT

The following steps give an example on how to update the firmware in a controller. Controllers like the 810-306x MultiFlex series support firmware update and the 810-3065 MultiFlex 168AO is used in the example.

To update an 810-3065 Multiflex 168AO:

1. Plug the 814-3118 into the RJ-11 jack on the 810-306x.

2. After a couple of seconds you should see the following screen:

```
ECT HHT: (xxx)
    814-3118
VER: 1.10A11 01
 ( PRESS ↓ )
```
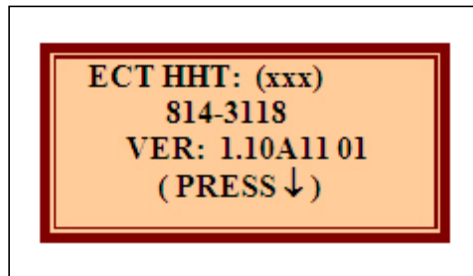
3. To access the controller like a MultiFlex as a standard slave terminal, press the down arrow to get the following screen:

```
SELECT:  1
1= SLAVE  TERMINAL
2= LOAD FIRMWARE
3= RS-485 TESTER
```
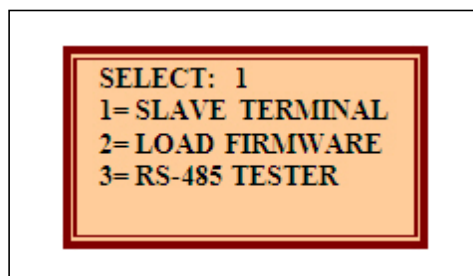
4. Press the right arrow and enter **2** to select option 1 - **SLAVE TERMINAL**. Press the down arrow key twice.
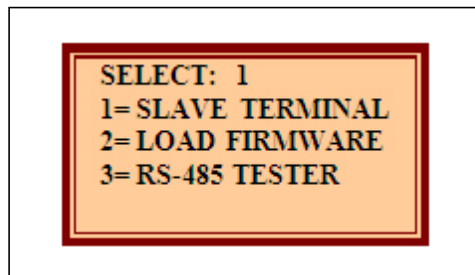
5. After a couple of seconds you should see the MultiFlex home screen for the model it is plugged into. Shown is an example of the MultiFlex 168AO (810-3065) home screen:

```
MULTIFLEX 168AO
    810-3065
 VER:  1.80F01
  ( PRESS ↓ )
```
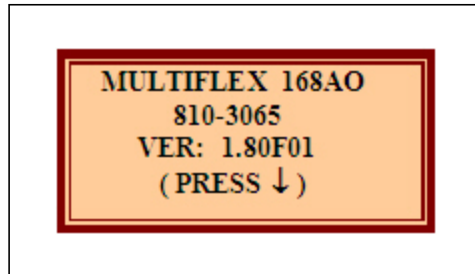
6. At this point you can use the 814-3118 just like the standard 814-3110 HHT. Since the 814-3118 model has many different modes of operation, the user must specify the operation mode.

7. If you want to upgrade the firmware in the controller, press and hold the **F1** function key for at least 6 seconds. The home screen for the 814-3118 HHT should display:

```
ECT HHT:  (xxx)
    814-3118
 VER:  1.10A11 01
  ( PRESS ↓ )
```
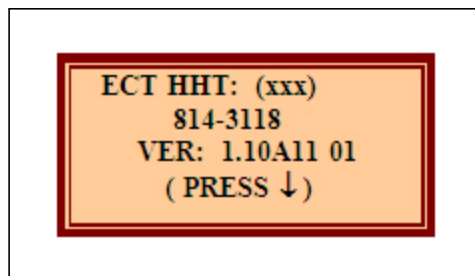
8. Press the **F2** function key or press the down arrow key to get to the menu screen:

```
SELECT:  1
1= SLAVE  TERMINAL
2= LOAD FIRMWARE
3= RS-485 TESTER
```

9. Press the right arrow key and enter **2** to select Option 2 - **LOAD FIRMWARE**. Press the down arrow key twice.

10. On the Loader Menu, press the right arrow key and enter **1** to select Option 1 - **UPGRADE DEVICE**. Press the down arrow key twice:

```
LOADER OPT:  1
1= UPGRADE  DEVICE
2= LOAD FIRMWARE
3= UPGRADE  HHT
```
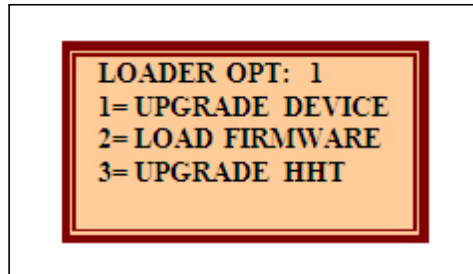
11. The firmware contents of the first EEPROM slot in the HHT will be displayed similarly to the following screen. If the firmware is correct, press the right arrow key to get to the **UPGRADE** field and press the **-** minus key to toggle the **NO** to **YES**. If the firmware is not correct, press the down arrow key to view the contents of the next slot.

NOTE: Before initiating the upgrade, verify that the status LEDs are ON solid. This may take a couple of seconds after entering this screen. For a MultiFlex board, the Status LED, Code A LED, and Code B LED should illuminate ON steady.

```
MULTIFLEX  168AO
VER: 1.81B01
SLOT:  1  CNT:   0
UPGRADE:  NO
```
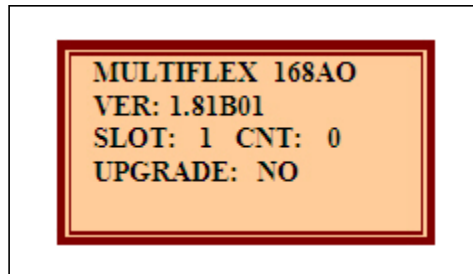
12. If the **UPGRADE** field is toggled to **YES**, press the down arrow key twice and the upgrade will start. The following status screen will be displayed during the upgrade. The **BLOCK** number will advance during the load. The total number of blocks sent will vary by device. There are 1920 blocks sent during the upgrade of a MultiFlex 168 series controller:

```
MULTIFLEX  168AO
VER: 1.81B01

BLOCK:  (xxx)
```
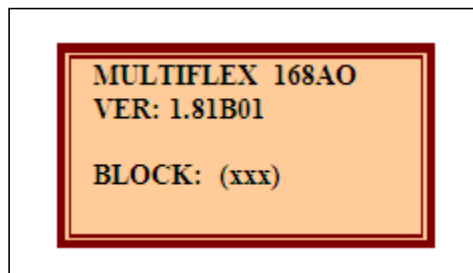
13. After the upgrade is complete, the following screen will display **FIRMWARE UPDATED**. If a problem occurs, an error message will be displayed. Press **-**, press **F2** and repeat starting with Step 5:
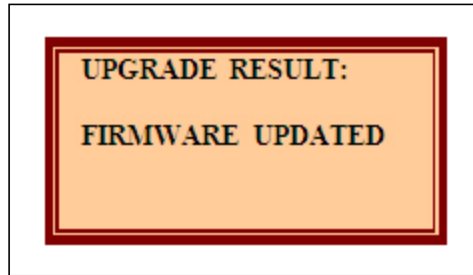
14. Press **F2** or the up arrow key twice. Select option **1** for **SLAVE TERMINAL** mode and press the down arrow twice. You should see the MultiFlex home screen for the model the HHT is plugged into. For this example, you would see the MultiFlex 168AO home screen. You should see the updated firmware version:
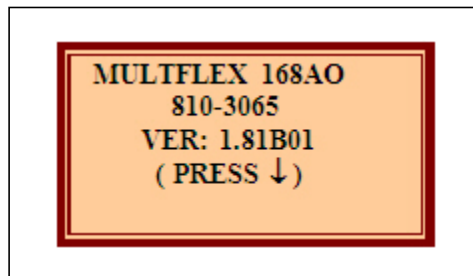
HHT Power Source

The HHT does not require a separate power source. The unit is powered from the RJ-11 connector on the peripheral equipment. The 9V battery and 9-12V DC adapter connection are not used on this model. The HHT includes a standard male RJ-11 to male RJ-11 cable.

Ordering Information

When ordering the HHT, the part numbers for the desired firmware must be included on the order. The order can contain only the 814-3118 HHT and up to four firmware part numbers. Contact your Emerson Retail Solutions account manager for additional ordering information.

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