

**AVIOM<sup>®</sup>**

# Pro64 Update Tool

PRO  
64<sup>®</sup>

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**User Guide**

# Table of Contents

|   |    |
|---|----|
| Welcome . . . . .                             | 2  |
| Firmware Updates . . . . .                    | 2  |
| Pro64 Update Tool Requirements . . . . .      | 2  |
| Computer Requirements . . . . .               | 3  |
| Setting Up Pro64 Update Tool . . . . .        | 4  |
| RS-232 Connections . . . . .                  | 4  |
| Baud Rate Settings . . . . .                  | 4  |
| Managed Mode . . . . .                        | 5  |
| The Pro64 Update Tool Interface . . . . .     | 6  |
| Updates in Network Mode . . . . .             | 7  |
| Updating the 6416Y2 Yamaha Card . . . . .     | 7  |
| 6416Y2 as a Slave Device . . . . .            | 7  |
| 6416Y2 as Control Master . . . . .            | 8  |
| Network Mode Interface . . . . .              | 10 |
| Network Connection Status . . . . .           | 10 |
| Pro64 Device List . . . . .                   | 10 |
| Device List Components . . . . .              | 11 |
| Controls in the Device List . . . . .         | 12 |
| Network Info Status Display . . . . .         | 12 |
| Show Details . . . . .                        | 12 |
| Activate Device . . . . .                     | 14 |
| Update Device . . . . .                       | 14 |
| Settings Dialog . . . . .                     | 16 |
| Network Info . . . . .                        | 16 |
| Serial Interface Settings . . . . .           | 17 |
| Baud Rates . . . . .                          | 18 |
| Update Process . . . . .                      | 18 |
| Update File . . . . .                         | 18 |
| Information and Status Log Displays . . . . . | 19 |
| Pro64 Update Tool Menus . . . . .             | 20 |
| File Menu . . . . .                           | 20 |
| Operations Menu . . . . .                     | 20 |
| Device Menu . . . . .                         | 21 |
| Help Menu . . . . .                           | 21 |
| Updates in Local Mode . . . . .               | 22 |
| Enter Local Mode . . . . .                    | 22 |
| Exiting the Update State . . . . .            | 24 |
| Error Recovery . . . . .                      | 24 |
| Entering the Update State Manually . . . . .  | 25 |
| RS-232 Cables and Pinout . . . . .            | 25 |
| Wiring a Crossover Cable . . . . .            | 26 |
| Index . . . . .                               | 27 |

# Welcome

**Pro64 Update Tool** is a software application designed to update the operating firmware in Pro64® Series products. In developing the Aviom Pro64 Series product line and its support software, we have made every effort to make the user interface as easy to use and understand as possible. We encourage you to read the documentation for the Pro64 Update Tool software and the Pro64 modules completely, as some of the powerful features of your new products may not be immediately apparent.

## Firmware Updates

Pro64 devices can be updated using a PC (or Intel®-based Mac running Boot Camp) and the Pro64 Update Tool software. Updating a module requires the Pro64 Update Tool application, a host computer with RS-232 connection capability, a null modem DB9 cable, and the update file (with .upd extension) for the particular Pro64 device being updated. Refer to the Aviom website for information about the availability of the latest firmware upgrades and feature updates. ([www.aviom.com](http://www.aviom.com))

## Pro64 Update Tool Requirements

Using Pro64 Update Tool to update Pro64 Series modules requires the following:

- Pro64 network modules (at least one module must be capable of being the network's Control Master and have an RS-232 port)
- The Pro64 Update Tool application
- Pro64 firmware update files for the devices to be updated
- A PC or Mac computer with RS-232 capability
- Approved USB-to-RS-232 adapter (required only if the host computer has no built-in RS-232 capability)
- One female DB9 to female DB9 null modem (crossover) cable
- Cat-5e patch cable (required when updating modules such as the MH10/MH10f Merger Hub that do not have RS-232 capability built in)

## Computer Requirements

The minimum computer system requirements for Pro64 Update Tool are listed below.

### Windows

- Intel® or AMD® processor — 333 MHz or faster
- Intel, AMD, or 100% compatible motherboard and chipset
- Microsoft® Windows® XP or Vista
- One available RS-232 port (or a USB port with a compatible USB-to-RS-232 adapter)
- 128 MB System RAM
- 2 MB of free hard disk space for full installation
- VGA Video (640x 480) - 256 colors

### Mac

- Intel®-based Apple® Mac
- One available RS-232 port (or a USB port with a compatible USB-to-RS-232 adapter)
- Apple Boot Camp software (available from the Apple website)
- OS 10.4.6 or higher

# Setting Up Pro64 Update Tool

To use Pro64 Update Tool with Pro64 Series modules, the modules must be connected to the computer using the computer's RS-232 port, or an approved USB-to-RS-232 adapter.

Modules can be updated in Network Mode over A-Net® while part of an active Pro64 network, or in Local Mode where the computer is connected directly to the Pro64 device being updated (such as may be required for a bench configuration when setting up modules prior to installation). Some Pro64 devices, such as the MH10/MH10f Merger Hub, RCI Remote Control Interface, and ASI A-Net Systems Interface (for use with Pro16® Series products), cannot be updated in Local Mode since they have no RS-232 ports.

## RS-232 Connections

To update Pro64 modules via A-Net in Network Mode, the host computer connects to the network's Control Master via the RS-232 port in the Virtual Data Cable™ (VDC) section of its rear panel using a DB9 null modem cable.

Individual modules that are part of the network can then be selected and updated from the Pro64 Update Tool interface with the network set for Managed Mode. Updates can be applied to the Control Master or any slave device.

When updating firmware via A-Net in Network Mode, make sure that no RS-232, RS-422 (if applicable), or MIDI VDC resources are configured on the Control Master. (Refer to the Virtual Data Cable information in Pro64 module's User Guide for additional information about setting and clearing VDCs.)

To update modules in Local Mode (a bench configuration), the computer is connected directly to the module being updated via its RS-232 port as described above. The Pro64 Update Tool application must also be set to its local update mode. (See page 22.)

- ✓ **NOTE:** Only modules with available RS-232 ports can be updated in Local Mode. The MH10, MH10f, ASI, and other Pro64 devices without dedicated RS-232 connections must be part of a network to be updated.

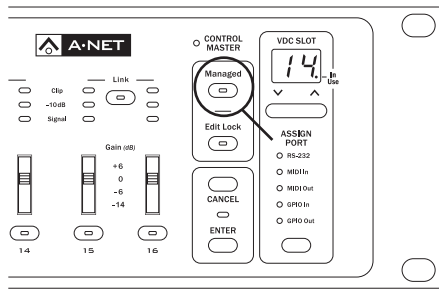
## Baud Rate Settings

Baud rates for data transfers must be set the same on the Pro64 Control Master device and host computer running Pro64 Update Tool. Refer to the

VDC RS-232 baud rate info in the Pro64 module's documentation to learn how to set the baud rate parameters with the RS-232 DIP switches. On the Pro64 module, RS-232 must be configured for eight data bits, no parity, and one stop bit.

## Managed Mode

When using Pro64 Update Tool, the Pro64 network must be in Managed Mode. Enter Managed Mode by pressing the **MANAGED** button on the network's Control Master, followed by **ENTER**. All Pro64 modules in the network will reflect the change—their Managed LEDs will be on until the user exits Managed Mode from the Control Master.



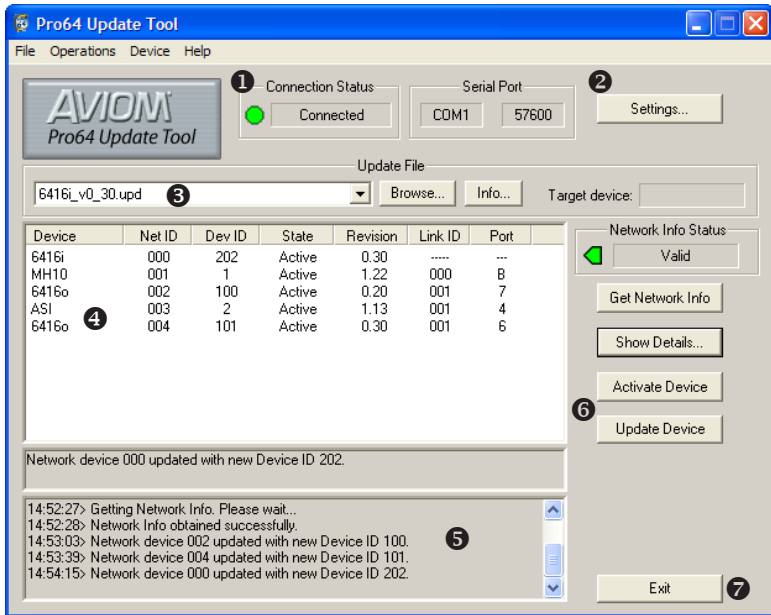
The Managed Button on the Control Master must be activated to update modules using Pro64 Update Tool. Shown here is the 6416i Input Module.

- ✓ **NOTE:** The 6416Y2 A-Net Interface Card for use with Yamaha® digital products is configured via DIP switches. See the 6416Y2 card documentation for information on setting up the card.

When using Pro64 Update Tool with Pro64 modules such as the 6416Y2 A-Net Interface Card and 6416dio Digital I/O Module, remember to set the RS-232/RS-422 DIP switch to the RS-232 position. Pro64 Update Tool will not operate via RS-422.

# The Pro64 Update Tool Interface

The main components of the Pro64 Update Tool user interface are indicated below.



- 1** Network Connection Status
- 2** Pro64 Update Tool Settings...
- 3** Currently Loaded Firmware Update File (.upd)
- 4** Pro64 Device List
- 5** Log File and Information
- 6** Pro64 Devices Update and Activation Controls
- 7** Exit Pro64 Update Tool

# Updates in Network Mode

Using Pro64 Update Tool's Network Mode allows Pro64 devices to be updated over A-Net while part of an active network. Each Pro64 module to be updated can be selected from the Device List and updated with just a mouse click. Detailed information about each section of the Pro64 Update Tool interface follows this section.

Follow these steps to update a Pro64 module:

1. Connect the computer and the Pro64 network's Control Master device with a DB9 null modem cable
2. Set the RS-232 baud rate on the Pro64 Control Master. Refer to the module's documentation for RS-232 baud rate DIP switch settings.
3. Put the network into Managed Mode at the Control Master. (Press **MANAGED**, followed by **ENTER**.)
4. Launch the Pro64 Update Tool application.
5. Set the baud rate for the Pro64 Update Tool application to the same baud rate set on the Pro64 Control Master module, for example 57.6k. (See page 16.)
6. Select the Pro64 device to be updated from the Device List (see page 10).
7. Load the appropriate firmware update file for the Pro64 device being updated (see page 18).
8. Click the **UPDATE DEVICE** button. The application sets up the Pro64 module to receive the update file.
9. Click the **CONTINUE** button when prompted to start the update process.
10. Once the update is completed the network will be returned to its original state. Continue updating Pro64 modules or exit the application as needed.

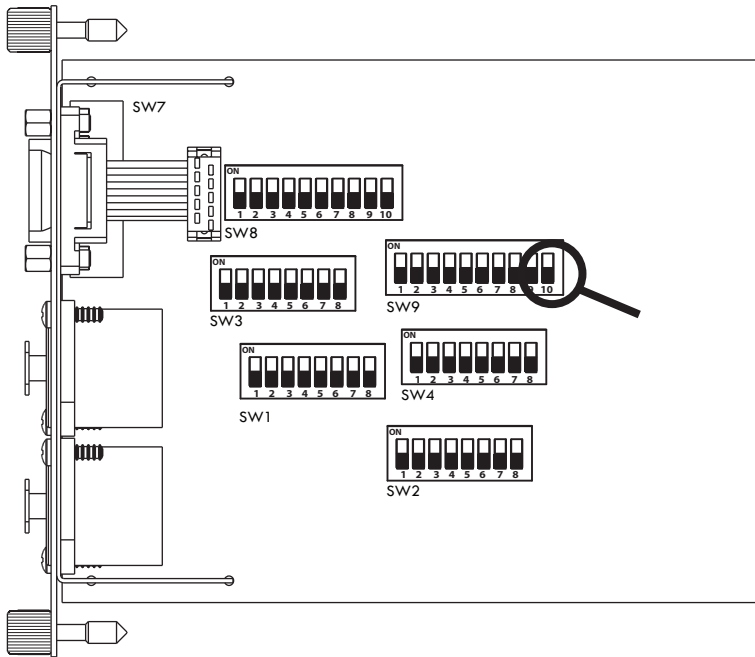
## Updating the 6416Y2 Yamaha Card

These special rules apply when updating the Pro64 6416Y2 A-Net Interface Card that is used with Yamaha digital products.

### 6416Y2 as a Slave Device

If the 6416Y2 A-Net Interface Card device is currently a slave in the Pro64 network (i.e., another Pro64 device is set as the Control Master), be sure that the 6416Y2 card has its Managed Mode DIP switch set to **Off**.

- Power off the Yamaha device in which the 6416Y2 A-Net Interface Card is installed.
- Carefully remove the 6416Y2 card.
- On Switch Block 9 (labeled SW9), set DIP switch 10 to the **Off** position (see below).
- Carefully reinsert the 6416Y2 card and power up the Yamaha device.
- Proceed with the update instructions as outlined previously.



DIP switch 10 in block SW9 controls Managed Mode. It is shown here in the down position; Managed Mode is set to Off when the card is a slave device in the network. (DIP switch handles are shown in black.)

## 6416Y2 as Control Master

If the 6416Y2 card is currently the Control Master in the Pro64 network, then be sure that the 6416Y2 has its Managed Mode DIP switch set to **On**.

- Power off the Yamaha device in which the 6416Y2 device is

installed.

- Carefully remove the 6416Y2 card.
- On Switch Block 9 (labeled SW9), set DIP switch 10 to the **On** position (see above).
- Carefully reinsert the 6416Y2 card and power up the Yamaha device.
- Proceed with the update instructions as described previously.
- Once the 6416Y2 card has been updated, power off the Yamaha device.
- Carefully remove the 6416Y2 card and set DIP switch 10 to the **Off** position.
- Carefully reinsert the 6416Y2 card and power up the Yamaha device.

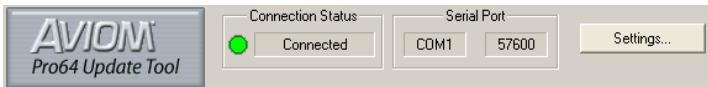
- ✓ **NOTE** After updating the 6416Y2 card to v1.09 or higher, it may take up to 30 seconds for the card to restart, during which time the LEDs on the card will be unlit and the card will no longer appear in the Pro64 Update Tool device list. This happens while the card is running a test to verify the hardware. The 6416Y2 card will restart after 30 seconds and will reappear in the Pro64 Update Tool device list.

# Network Mode Interface

The following section details the various parts of the Pro64 Update Tool user interface in Network Mode. Note that many of the parameters are the same in Local Mode. (See page 22 for information about using Local Mode.)

## Network Connection Status

The green status indicator in the Connection Status area indicates a valid connection to a Pro64 network. If an error occurs, or if communication is lost between Pro64 Update Tool and the network, this indicator will change from green to red. This status indicator will light blue if no network devices are found when the application is launched.



The Connection Status shows the current baud rate and also indicates the state of the network.


Click **Settings...** to open the baud rate configuration dialog box. (See page 16 for more information)

## Pro64 Device List

The Device List shows a variety of information, displayed in table format, about the Pro64 devices in the network. Click any line to select a device. Pro64 devices are displayed in the order in which they were enumerated (granted access to the network) by the Control Master.

| Device | Net ID | Dev ID | State  | Revision | Link ID | Port |
|--------|--------|--------|--------|----------|---------|------|
| 6416i  | 000    | 202    | Active | 0.30     | ----    | ---  |
| MH10   | 001    | 1      | Active | 1.22     | 000     | B    |
| 6416o  | 002    | 100    | Active | 0.20     | 001     | 7    |
| ASI    | 003    | 2      | Active | 1.13     | 001     | 4    |
| 6416o  | 004    | 101    | Active | 0.30     | 001     | 6    |

Network Info Status

 Valid

Get Network Info

Show Details...

Activate Device

Update Device

The Device List shows information about each Pro64 device in the network.

Some fields contain information gathered by the network's Control Master; these fields are read-only.

- ✓ **NOTE:** The Device List is only shown while Pro64 Update Tool is connected to a Pro64 audio network. When the application is set to Local Mode, used for updating individual devices outside of a network setting, only information about the specific Pro64 device being updated is displayed.

## Device List Components

The **Device** column shows each Pro64 device in the network by model name.

The **Network ID** (displayed as “Net ID”) is the enumeration ID given to each network device by the Control Master during the enumeration process.

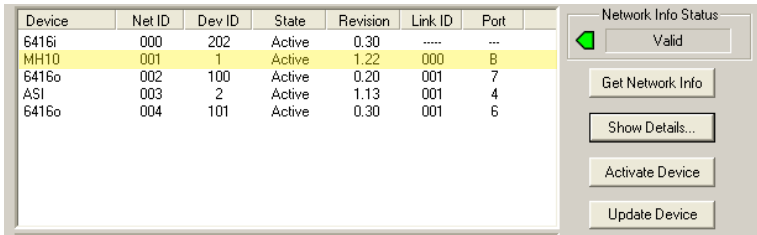
**Device ID** (displayed as “Dev ID”) is a user-definable field. This field can display a number, in the range of 0-65535, that can be used to further identify individual units or sections of a network. For example, set all Pro64 devices installed in Studio A to have a Device ID in the range starting with “100”, those in Studio B to an ID in the range starting with “200”, etc. This field will display *Default* until a user-defined number is entered for a device. The Device ID number can be edited in the dialog box displayed when the **Show Details** button is clicked.

The **State** field shows the current status, Active or Inactive, for each device in the network. Devices will remain in the Active state until they are made ready to receive an update by clicking the **Update Device** button. Pro64 devices are inactive while being updated.

The current firmware version number for each Pro64 device is displayed in the **Revision** field.

**Link ID** shows the network device that is sending A-Net to each Pro64 module. The number displayed is the Network ID (Net ID) of the transmitting device.

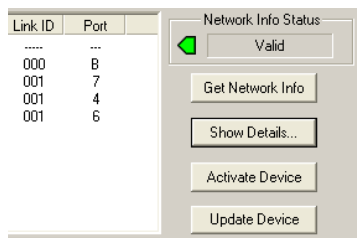
The **Port** field shows the port on each device that is connected to an A-Net source. The field will show letters, A or B, for connections to an I/O module, and port numbers from 1 to 10 for connections made to merger hubs such as the MH10 or MH10f.



In the example seen here, the MH10 has a Link ID of “000,” indicating that it is receiving A-Net from the 6416i Input Module. The Port field indicates that it is Port B on the 6416i that is transmitting A-Net to the MH10.

## Controls in the Device List

The fields and controls to the right of the Device List are used to get information about specific Pro64 devices and to initiate updates.



Buttons to the right of the Device List are used to get network information and to start the update process.

## Network Info Status Display

The **Network Info Status** shows a green status indicator and the word *Valid* as long as the Pro64 network, computer, application, and Control Master connections remain intact. The status indicator will light yellow to indicate that a change has been detected (for example, changing the Cat-5 cable connecting the 6416o from Port 2 on the MH10 to Port 7). The display will read *Change Detected* during this time. The Device List will be updated with new information after each change in status.

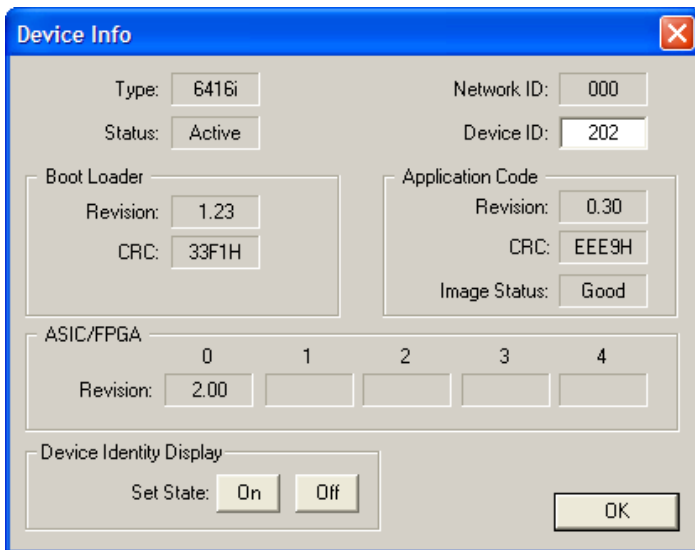
## Show Details

Click the **Show Details** button to display the Device Info for the selected Pro64 device. This dialog box displays software revision, checksum, and

other device-specific information. Click the **OK** button (or the click the close box) within the dialog to close it.

The **Device ID** is the only field that can be edited by the user. Numbers from 0 to 65535 are valid. Other fields are read-only.

The Application Code section of the display shows the current state of the firmware in the selected Pro64 module. In most cases, the Image Status field will read "Good." If for some reason the software image in a Pro64 device is damaged due to an incomplete update, computer crash during transfer, loss of power, etc., this field will read "Bad." If this happens, refer to the instructions on error recovery, page 24.



The Device Info dialog box shows firmware information and also contains the user-defined Device ID setting.

The **Device Identity Display** can be used to identify a specific Pro64 module in a large network. Clicking **On** will cause the selected Pro64 device to flash its front-panel LEDs as a way of identifying itself.

This feature is useful when you need to identify and update a specific Pro64 device in a large rack of gear, for example, or when gear is located in a different room from the computer and Control Master during the update process.

Click the **Off** button to cancel the flashing LED state. Multiple Pro64 network devices can be set to the flashing state if desired.

- ✓ **NOTE:** The flashing LED state can also be canceled by pressing any front-panel button on the Pro64 device.

Click **OK** to close the Device Info dialog box.

## Activate Device

Use **Activate Device** when a module in the Device List displays Inactive in the Status field, as may happen after a device has been updated.

## Update Device

To load the selected firmware update file as seen in the Update File display into the targeted Pro64 device:

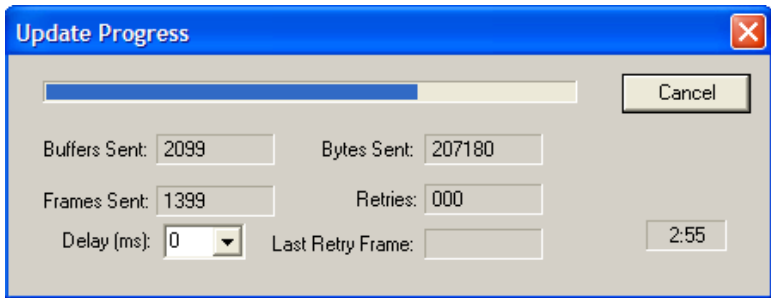
11. Click the **UPDATE DEVICE** button.
12. This causes the targeted Pro64 module to go into update mode; its front-panel LEDs will flash during the update process.
13. Once Pro64 Update Tool has configured the module to receive the firmware update, click the on-screen **CONTINUE** button.
14. Firmware is loaded into the {Pro64 module.
15. During the update process, a progress bar will be displayed on screen.

Note that the dot in the A-Net Slot display of the Pro64 device being updated turns on, indicating that the device is being updated over the network as opposed to in Local Mode.

The update time will vary based on the size of the network, the size of the firmware update file, and the specific Pro64 device being updated.



**Do not interrupt the firmware update process by pressing buttons on the front panel of any connected Pro64 devices, or by quitting the Pro64 Update Tool application.**



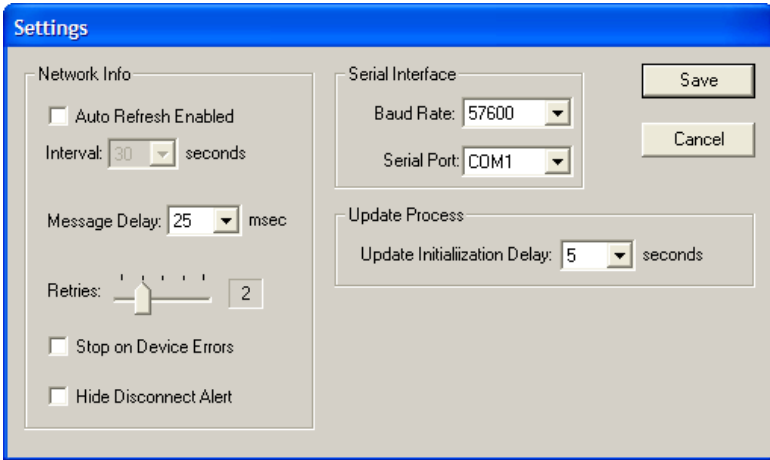
The Update Progress dialog box shows a progress bar, elapsed time, and data transfer information.

- ✓ **NOTE:** While a Pro64 device is being updated, it is offline and unavailable as an audio source, as are any Pro64 devices that are connected in series with it.

The progress bar displays info about the number of bytes transferred and will report any errors in the **Retries** field. If an update is reporting retry errors, the Delay parameter can be used to increase the time between frames being transferred. Leave this set to the default setting (0 msec) for the fastest transfer times.

## Settings Dialog

The Settings dialog box contains RS-232 baud rate and other communication preferences. User preferences are saved in a file named “Settings.ini” in the Pro64 Update Tool application folder.



Use the Settings dialog to change RS-232 baud rate, serial port, and other communication preferences.

Click the **Save** button to save Settings changes, or click **Cancel** to exit the dialog box without saving changes. Each component is described below.

### Network Info

The **Auto Refresh Enabled** check box turns on or off automatic network checks. When checked, this feature causes the application to check the network status and display any changes, such as new modules being added. Refresh intervals can be set to 15, 30, 45, or 60 seconds. This is the equivalent of clicking the **Get Network Info** button in the main Pro64 Update Tool screen.

Use this feature when adding modules to a network. The default state for this feature is off. Leaving Auto Refresh in the enabled state after a network is configured may cause Pro64 Update Tool’s response time to be slower due to unnecessary updates.

The **Message Delay** field can be used to fine tune network information requests, which may be useful as the size of a network increases. The time

it takes to send requests to and receive information back from devices in the network will vary with the number of network modules, the types of connection (serial/parallel, through merger hubs), etc. The **Message Delay** pop-up menu allows the user to set an interval from 1 to 1000 milliseconds between messages. As the network increases in size and complexity, you may need to increase the delay time to avoid network timeout errors.

The **Retries** parameter tells Pro64 Update Tool how many times to attempt to get information from the network devices should an error occur or communication be lost. Settings range from 1 to 5 retries.

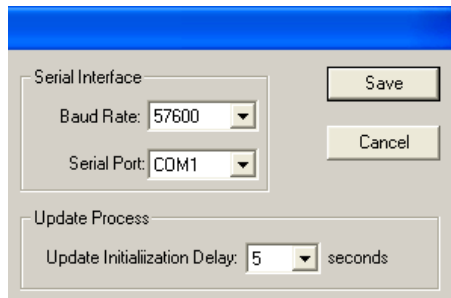
Use **Stop on Device Errors** to instruct Pro64 Update Tool to stop further attempts to refresh the network device list should an error occur. When left in the default off state, Pro64 Update Tool will continue gathering network information, reporting modules that it cannot communicate with as Inactive in the Device List.

Use **Hide Disconnect Alert** to instruct Pro64 Update Tool to stop alert messages that are displayed when a Pro64 device is removed from the network or communication is lost.

## Serial Interface Settings

Baud Rate settings for communication between the computer and Pro64 devices are set with the Serial Interface parameters.

- ✓ **NOTE: Baud rate settings must match on the computer and Pro64 device.**



Set a baud rate and serial port by selecting values from the pop-up menus.

See the documentation for the individual Pro64 I/O modules for information about setting baud rates with the rear-panel DIP switches.

## Baud Rates

The **Baud Rate** pop-up menu displays the following baud rates:

| Baud Rates |       |
|------------|-------|
| 1200       | 14400 |
| 2400       | 19200 |
| 4800       | 28800 |
| 7200       | 38400 |
| 9600       | 57600 |

Serial Port communication can be set to any of the computer's available COM ports from 1 to 9 in the **Serial Port** pop-up menu.

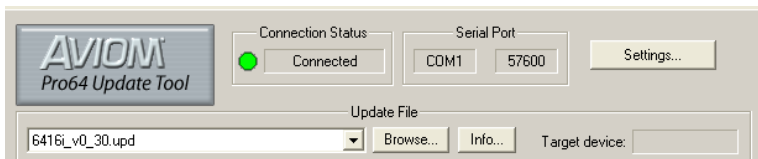
## Update Process

The **Update Initialization Delay** can be set to intervals from 5 to 30 seconds. This parameter determines the time between when the Control Master tells a target network device to go into update mode and that device's information being refreshed in the Device List. This time interval may need to change with the size of the network and connection topology.

## Update File

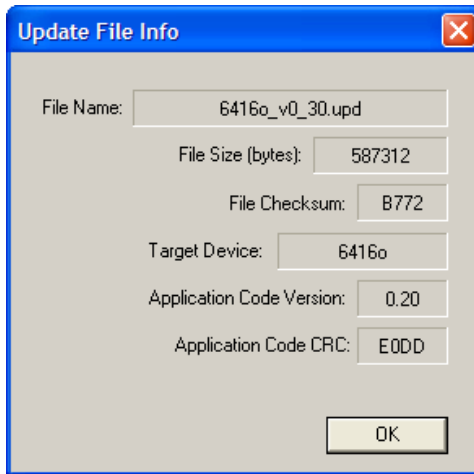
The Update File section of the interface shows information about the currently loaded .upd firmware update file and the Pro64 device that it is associated with. The pop-up menu displays currently available software update files that can be selected and then sent to a Pro64 device.

The **Browse...** button allows you to navigate to update files stored on your computer system.



Firmware updates can be loaded from disk and made ready for transfer into a Pro64 module.

The **Info...** button displays the update file's size, checksum, target Pro64 device info, and version information.



Clicking the **Info** button in the Update File section of the main screen displays the selected Update File's checksum, version number, etc.

The Update File Info dialog box is read-only. Click the **OK** button to close the box.

## Information and Status Log Displays

Below the Device List on the main screen is a pair of information displays. The first field displays information about the most recent operation or edit performed. The larger field below shows a scrolling status message log, which includes all network activity and user-initiated commands.



The information display (top) and the log file area (bottom) update as operations are performed in the main window.

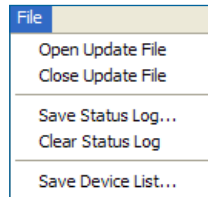
The status message log file can be cleared or saved to disk as a text file by using the commands found in the File menu (see page 20).

# Pro64 Update Tool Menus

Each of the menus in the Pro64 Update Tool main screen is described in detail below.

## File Menu

**Open Update File** loads the selected update file into memory so that it is ready to be transmitted to a Pro64 device. The Information field below the Device List will display a “ready to start update process” message when an update file is loaded. The **Target Device** field will show the Pro64 device that the selected file can update.



**Close Update File** closes the current update file. The **Target Device** field will be cleared.

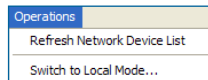
Use **Save Status Log...** to save a text file containing the current status message log to disk. The file is saved into the Log Files folder. It has the default name of “statuslog-xxx.txt,” where “xxx” is the date/time stamp.

The **Clear Status Log** function will clear the current on-screen status message log. Confirm the action by clicking **Yes** in the dialog box. Click **No** to preserve the current log file in memory.

**Save Device List...** will save a list of the current Pro64 devices in the network as a text file. The default location is the Log Files folder. The default file name is date stamped and time stamped. The user has the option of navigating to and saving the Device List in any folder on the current computer system. It has the default name of “devicelist-xxx.txt,” where “xxx” is the date/time stamp.

## Operations Menu

Use **Refresh Network Device List** to poll the Pro64 network and display any changes in the Device List. Using this menu item performs the same function as clicking the **Get Network Info** button in the Device List area.

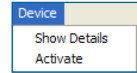


Selecting **Switch to Local Mode...** sets the update mode to the single-device Local Mode. This mode is used for bench configuring Pro64 devices (outside of a working Pro64 audio network). See page 22 for more details.

## Device Menu

**Show Details** will open the Device Info window for the selected Pro64 device. This action is the same as clicking the **Show Details** button found in the main Pro64 Update Tool window.

Use **Activate** to change the selected Pro64 device's state from Inactive to Active. This menu item performs the same function as clicking the **Activate Device** button found in the main Pro64 Update Tool window.



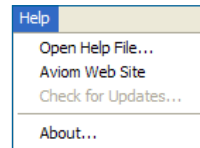
- ✓ **NOTE:** The Device Menu is not available when using Pro64 Update Tool's Local Mode.

## Help Menu

Select **Open Help File...** from the Help menu to open the Pro64 Update Tool documentation.

Choosing **Aviom Web Site** will use your computer's Internet connection to connect to the Pro64 Update Tool area of the Aviom website.

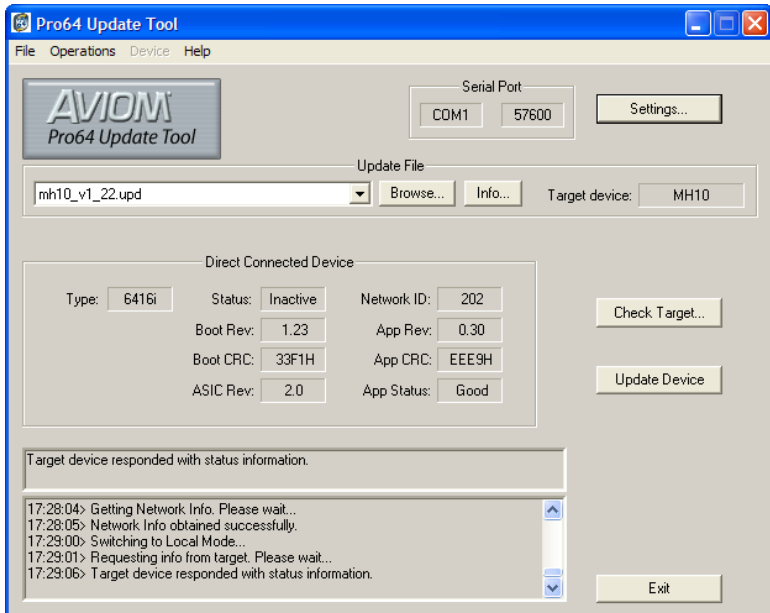
The **About...** menu item shows the version information for Pro64 Update Tool.



- ✓ **NOTE:** The **Check for Updates** feature is reserved for future versions of the Pro64 Update Tool application.

# Updates in Local Mode

Updating Pro64 devices with Pro64 Update Tool's Local Mode allows modules to be updated without being configured as a network and are also faster. This makes bench configuration and multiple product updates prior to installation easy.



Only Pro64 devices with RS-232 connectivity can be updated in Local Mode.

## Enter Local Mode

To enter the Pro64 Update Tool Local Mode:

16. Select **Switch to Local Mode...** from the Operations menu.
17. At the warning prompt, click **Yes** to continue or **No** to return to Network Mode.

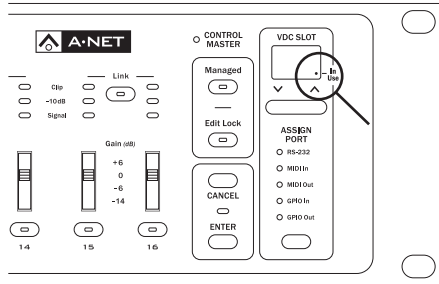
✓ **NOTE:** Using Local Mode disables all audio I/O and Virtual Data Cable transmission throughout the Pro64 network.

Only the Pro64 device directly connected to the computer via RS-232 can be updated. To update multiple devices, the RS-232 connection must be

established for each device.

Once Pro64 Update Tool has entered Local Mode, the front-panel LEDs on the connected Pro64 device will begin to flash, indicating that the module is ready to receive an update.

When a module is being updated locally, the dot in the VDC Slot display will be on, indicating that a Local Mode update is in progress.



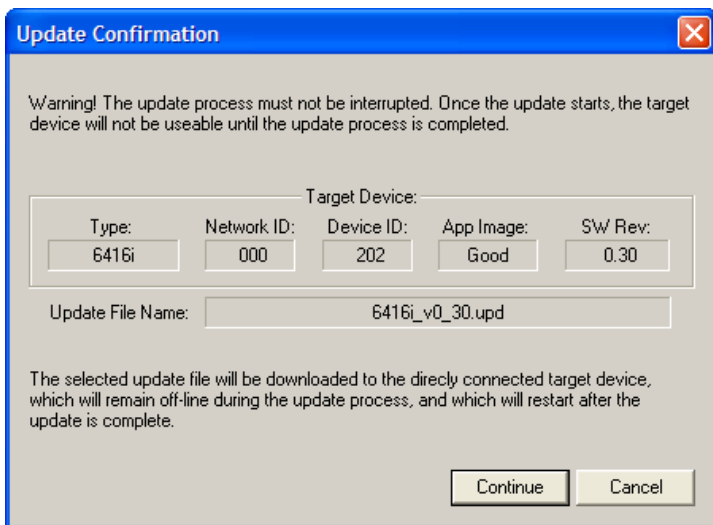
In Local Mode, the connected Pro64 device will have its In Use LED lit.

Check to confirm that the update file (.upd extension) shown in the Update File information area is compatible with the connected Pro64 device. If not, select an appropriate update file from the pop-up menu, or click Browse... to navigate to and select a file from disk.

To update the Pro64 module:

18. Click the **Update Device** button. A warning dialog box will appear.
19. Confirm the update process by clicking the **Continue** button, or click **Cancel** to exit and return to the Local Mode main screen.
20. A progress bar will appear (the same one used in Network Mode, see page 14).
21. Once the update file has been sent to the Pro64 module, it will reset and return to its normal operating state.
22. At the prompt confirming the successful file transfer, click **OK** to continue. Pro64 Update Tool returns to the Local Mode main screen.

At this point another Pro64 module can be connected to the computer using the RS-232 connection. Click **Check Target** to establish a link between the Pro64 Update Tool application and Pro64 device. Then, follow the previously outlined steps to update the device.



Begin the update process by clicking the **Continue** button.

## Exiting the Update State

When a module is waiting for a software update to begin, you can exit the update state by pressing the **CANCEL** button on the device's front panel. If the software update has not yet started, the module will attempt to reset, returning it to normal operation.

✓ **NOTE: Do not press the CANCEL button while an update is in progress.**

If for some reason the firmware update fails, refer to the error recovery information below for instructions on how to recover and complete the update.

## Error Recovery

In case of a partial update download or interruption to the update transfer process (as would happen because of a power failure, computer crash, or by pressing the Cancel button in the middle of an update), the Pro64 module can still be updated but will need to be powered up directly into the local update mode. It cannot be updated in Network Mode.

If the device has already been powered up, its front-panel LEDs will be flashing and the dot in the A-Net Slot display will be on, indicating that the

module is ready to receive an update in Network Mode. The module needs to be put into Local Mode manually in order to continue.

To place a module in Local Mode manually and then update it:

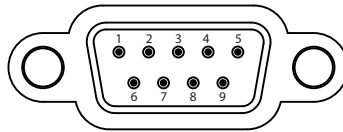
23. Hold the VDC Slot decrement (down arrow) button while powering up the unit.
24. The front-panel LEDs on the connected Pro64 device will begin to flash as before, indicating that the module is ready to receive an update. But note that the dot in the A-Net Slot display is now off and the dot in the VDC Slot display is now on, indicating that the device is ready to be updated in Local Mode.
25. Send the software from the computer by clicking the **Update Device** button.
26. Once the update file has been sent to the Pro64 module, it will reset and return to its normal operating state.
27. At the prompt confirming the successful file transfer, click **OK** to continue.
28. Pro64 Update Tool returns to the Local Mode main screen.

## Entering the Update State Manually

A Pro64 device can also be placed into the update state manually from its front panel. Advanced Function 15 enables a Pro64 module to receive new software from a host PC connected to the RS-232 port on the module's rear panel. See the Advanced Functions section of the documentation that came with the Pro64 device for additional information.

## RS-232 Cables and Pinout

Connecting a computer to Pro64 devices requires a female-to-female DB9 null modem cable (also referred to as a *crossover* cable).



The DB9 connector on a Pro64 device has the pinout seen above.

The RS-232 jacks in the VDC section of Pro64 devices have the following pinout. Note that some of the pins are not connected.

| Pin | Signal                  |
|-----|-------------------------|
| 1   | Data Carrier Detect *   |
| 2   | <b>Received Data</b>    |
| 3   | <b>Transmitted Data</b> |
| 4   | Data Terminal Ready *   |
| 5   | <b>Signal Ground</b>    |
| 6   | Data Set Ready *        |
| 7   | Request To Send *       |
| 8   | Clear To Send *         |
| 9   | Ring Indicator *        |

\* *Not supported*

### Wiring a Crossover Cable

The following table can be used to create a crossover cable:

| Crossover Cable    |         |
|--------------------|---------|
| Pin #              | Pin #   |
| 1 and 6            | 4       |
| 2                  | 3       |
| 3                  | 2       |
| 4                  | 1 and 6 |
| 5                  | 5       |
| 7                  | 8       |
| 8                  | 7       |
| Pin 9 - no connect |         |

# Index

## Symbols

- 6416dio Digital I/O Module 5
- 6416i Input Module 5
- 6416Y2 A-Net Interface Card 5
  - Control Master 8
  - updating 7, 9

## A

- A-Net Slot display
  - dot LED on 14, 24, 25
- Activate 21
- Activate Device 14
- Activate Device button 21
- Active, Inactive 11
- Advanced Functions 25
- A-Net Systems Interface 4
- Apple 3
- Application Code 13
- ASI 4
- Auto Refresh Enabled 16

## B

- Baud Rate 4, 16, 17, 18
- Boot Camp 3
  - Mac OS 2
- Browse... button 18

## C

- Cable 4
- Cancel 24
- Cat-5e 2
- Clear Status Log 20
- COM port 18
- computer 2
- Computer Requirements 3
- Connection Status LED 10
- Control Master 2, 4, 7, 10, 18
  - 6416Y2 8
- Crossover Cable 25, 26
  - DB9 null modem 2

## D

- data bits 5
- DB9 25
- DB9 cable
  - null modem 2
- DB9 null modem
  - crossover cable 2
- Device ID 11, 13
- Device Identity Display 13
- Device List 6, 7, 14
  - Controls 12
- Device Menu 21
- Dev ID 11
- Digital I/O Module 5
- DIP switch
  - 6416Y2 8
  - RS-232 5

## E

- enumeration 10, 11
- Error Recovery
  - Software Update 24
- Exit 6
- exit the update state 24

## F

- File Menu 20
- Firmware Update
  - Error Recovery 24
- firmware version number 11
- Function 15 22

## G

- Get Network Info 20
- Get Network Info button 16
- green status indicator 10, 12

## H

- Help Menu 21

## I

- Image Status field 13
- Inactive 14
- Info... button 19
- Information and Status Displays 19

## L

- Link ID 11
- Local 22
- Local Mode 4, 11, 14, 21, 23, 24, 25
- Log File 6, 20

## M

- Mac 2, 3
- Mac OS
  - Boot Camp 2
- Managed LED 5
- Managed Mode 4, 5
- Managed Mode DIP switch
  - 6416Y2 7
- Message Delay 16
- message log 19
- MH10/MH10f 2, 4, 11, 12
- MIDI 4

## N

- Net ID 11
- Network Connection Status 6, 10
- NetworkID 11
- Network Info 16, 20
- Network Info Status 12
- Network Mode 4, 7, 24
- Neutrik EtherCon. *See* EtherCon
- null modem cable 4, 7
  - DB9 2

## O

- Operations Menu 20, 22

## P

- parity 5
- Port field 11
- Pro16 Series 4
- Pro64 Device List 10
- Pro64 Update Tool 2, 4
- processor 3
- progress bar 14, 23

## R

- RCI Remote Control Interface 4
- Refresh Network Device List 20

- Requirements 2, 3
- reset 23, 25
- Retries 17
- Revision 11
- RS-232 2, 4, 22, 23
  - and software update 4
    - null modem cable 2
- RS-232 Baud Rates 5, 16
- RS-232 Cables 25
- RS-232 Pinout 25
- RS-422 4, 5

## S

- Save Device List 20
- Save Status Log 20
- Serial Interface Settings 17
- Serial Port 18
- Settings.ini file 16
- Settings Dialog 16
- Show Details 11, 12, 21
- State field 11
- status indicator 10
- Status Log 19
- status message log 19
- stop bit 5
- Stop on Device Errors 17
- Switch to Local Mode 20, 22

## T

- Target Device 14, 18, 20

## U

- Update Device 14
- Update Device button 11, 23
- Update File 6, 18
- Update File information 23
- Update Initialization Delay 18
- Update State
  - Entering Manually 25
- Update Tool 2
- upd extension 2, 6
- USB 3, 4
- USB-to-RS-232 adapter 2

## V

- Valid 12
- VDC 25

- VDC resources
  - during update 4
- VDC Slot display
  - dot LED on 25
  - during software update 23
- version number 11
- Virtual Data Cable 4, 22

## **W**

- Windows Vista 3
- Windows XP 3
- Wiring a Crossover Cable 26

## **Y**

- Yamaha 5, 7