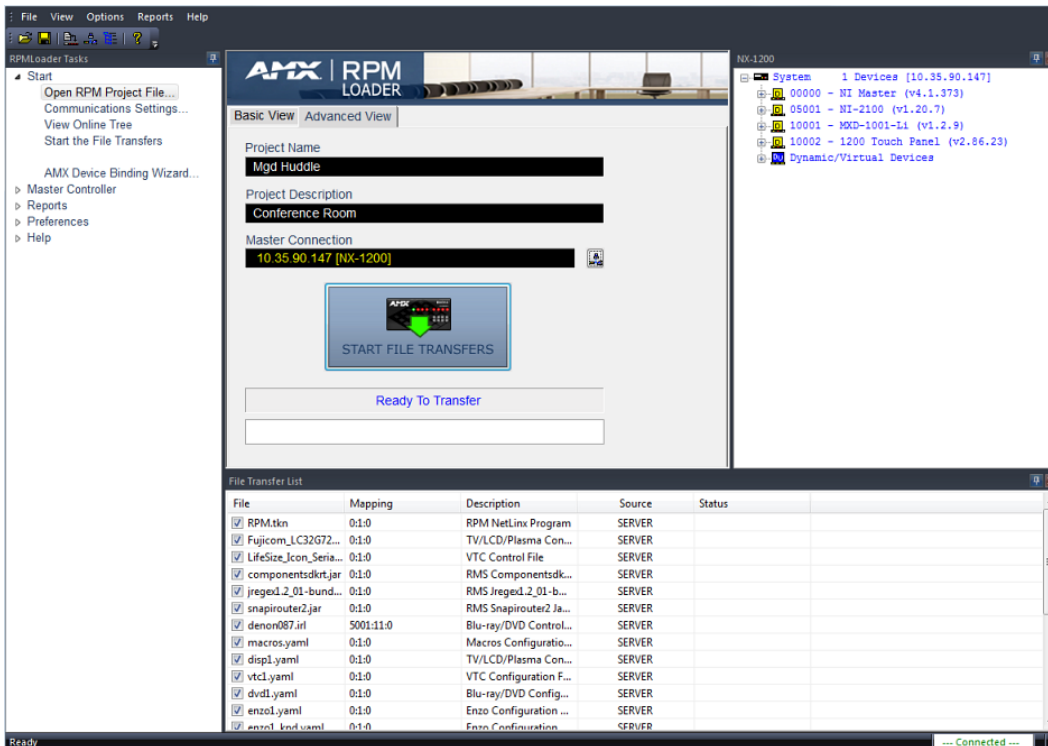




INSTRUCTION MANUAL

# RPM Loader FILE TRANSFER UTILITY APPLICATION

V2.4 OR HIGHER



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# RPMLoader - Quick Start

## Overview

*RPMLoader* is a companion program to the RPM (Rapid Project Maker) web application that transfers RPM-generated files to the Master Controller and System Devices.

**NOTE:** *Rapid Project Maker (NSS-RPM)* is a cloud-based configuration tool that allows entry level AV technicians or IT professionals with limited technical proficiency to easily configure an AMX system by using a step-by-step wizard-based approach. See [RPM on www.amx.com](http://www.amx.com) for details and additional product documentation.

When you click on the **Generate** button in RPM (on the Summary page), RPM generates an **RPMLoader project file (\*.rpmx)**.



**FIG. 1** RPM Web Application (Summary Page) - Generate command button

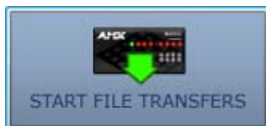
An RPMLoader project file (\*.rpmx) is a package of the files required to support the RPM-generated system, including the Master file (\*.TKN), Touch Panel files (\*.TP4), and any other system files required to support a RPM-generated project.

RPMLoader extracts the files and transfers them to their target system devices, based on information that was defined in RPM. Since RPMLoader Project Files already contain connection information for the Master Controller as well as device mapping information for the other files in the project, it is simple to use RPMLoader to transfer the files to the appropriate devices.

## Three Simple Steps

For RPM-Generated projects, there are just three simple steps to transferring RPMLoader project files:

1. Open an RPMLoader project file (\*.rpmx).
2. Select the **START FILE TRANSFERS** button to transfer the files to the Master Controller (FIG. 2):



**FIG. 2** RPMLoader - START FILE TRANSFERS button

3. Wait for the Master to reboot after all the files have been transferred.

**NOTE:** *RPMLoader generates several Reports based on the project. See Reports on page 31 for details.*

RPMLoader provides many powerful tools for communications and file transfers - see the Tasks window and related help topics for more information. Some of main options within the program are described in further detail in the sections below:

- Connecting to a Master Controller - page 11
- Zero-Configuration Networking - page 20
- Device Mapping - page 22
- Device Binding - page 24
- Adding and Removing Files From the File Transfer List - page 29

If you have any problems, visit the *Troubleshooting* section on page 42 for additional assistance. Also, RPMLoader provides an option to **Package Files for Tech Support** - this option allows you to create a ZIP file containing several key files in the current RPMLoader project, and e-mail the ZIP file to AMX Technical Support. See *Package Files for Tech Support* on page 43 for details.

## Opening an RPMLoader Project File

There are several ways to open an RPMLoader project file (\*.rpmx) in RPMLoader:

### Via the Download Project Command in RPM

1. In the RPM Web Application, click the **Download Project** button (FIG. 3):



**FIG. 3** RPM Web Application (Summary Page) - Download Project command button

- When the application prompts you to open or save the file, click **Open** (FIG. 4):

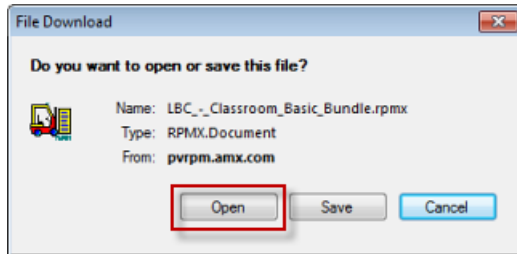


FIG. 4 File Download dialog

- The RPMLoader project file opens in RPMLoader.

### Via Windows Explorer

Double-click on an RPMLoader project file (\*.rpmx) in Windows Explorer to open the file in RPMLoader.

By default, downloaded RPMLoader Project Files are saved to the following directory:

"C:\DOCUME~1\

### Via RPMLoader (Start Tasks Window)

In the RPMLoader application *Start* Tasks window, select **Open a RPM Project File** (FIG. 5):

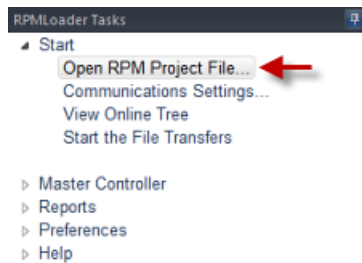


FIG. 5 RPMLoader Tasks window: Start > Open RPM Project File

### Via RPMLoader (Open Command)

Select **Open** in the File menu or the Toolbar.

- Once an RPMLoader project file has been opened in RPMLoader, the files indicated in the Project can be transferred to a target Master Controller.
- After making changes to your RPMX file, select **Save** in the File menu to update all of your changes.

## Connecting to a Master Controller

RPMLoader supports two types of connection to the Master Controller for file transfers: **Network (TCP/IP)** and **Serial (RS-232)**. Communication Settings are configured in the *Communication Settings* dialog (FIG. 6):

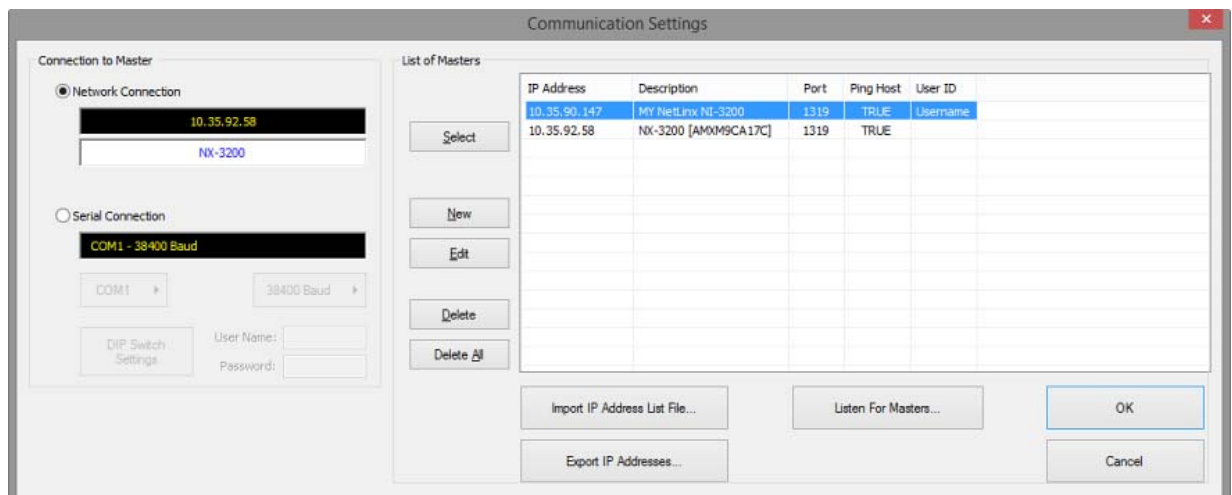


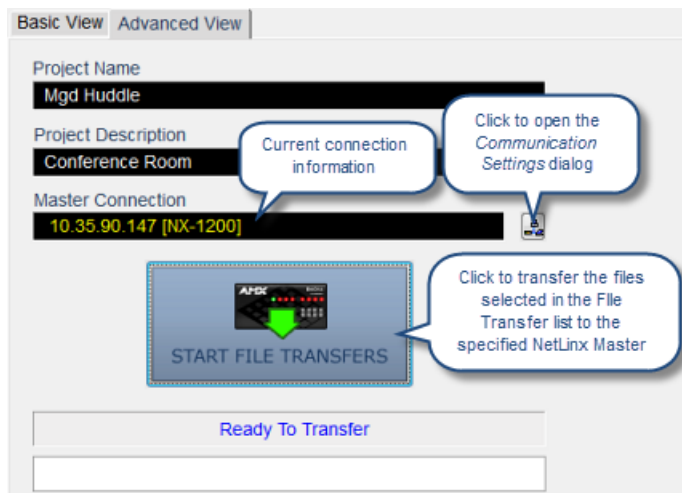
FIG. 6 Communication Settings dialog

Refer to the following sections for detailed instructions:

- See the *Connecting to a Master Controller via Network Connection* section on page 11
- See the *Connecting to a Master Controller via Serial Connection* section on page 14

## Transferring the Project Files

When you are connected to the Master Controller (indicated in the status bar), you can transfer the files contained in the RPMLoader Project to the Master. RPM-generated projects already include connection information for the target Master (as set in the RPM Web Application). Typically there is no need to re-configure the connection settings for the Project. In this case, the communication settings for the target Master are indicated in the *Master Connection* field (FIG. 7):



**FIG. 7** RPMLoader Project Window - Master Connection information

Verify the File Transfer List and click **Start File Transfers**.

- If the program detects that your project includes unbound devices when the *Start File Transfer* button is clicked, the *Binding/File Transfer Options* dialog is invoked. As indicated in this dialog, you might have unpredictable results with your System if you do not bind all of your Devices. Select an option and click **OK**: See the *Device Binding* section on page 24 for more information.
- The status bars indicate each file's progress during the transfer operation. The status of the transfer operation is also displayed in the Output Status Bar, with details on files were transferred and any problems or errors that occurred during the transfer.
- Refer to the *Transferring the Project Files* section on page 28 for more information.

### Reports

RPMLoader provides several report functions, accessible via the *Reports* section of the Tasks window, or via the Reports menu. Refer to the *Reports* section on pages 31 for details.



# RPMLoader Project Files (\*.rpmX)

## Overview

RPMLoader Project Files (\*.rpmX) are created by the RPM web application, and consist of a listing of the Master (\*.TKN), Touch Panel files (\*.TP4), as well as IR Library files (\*.IRL) and any other files required to support a RPM-generated project.

RPMLoader transfers the files contained in the RPMLoader Project to their designated AMX devices. RPMLoader Project Files also contain connection information for the Master Controller as well as device mapping information for device files.

In the *Basic* view (see page 44), the *Project Name*, *Description* and *Master Connection* information are indicated in the RPMLoader *Project Window*:

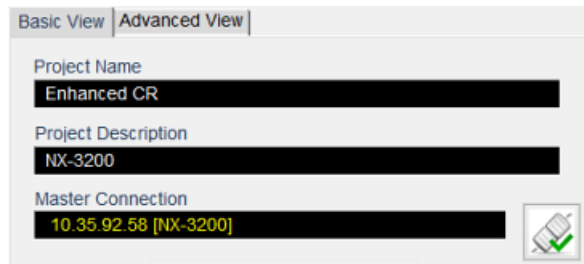


FIG. 8 RPMLoader Project Information (Basic View)

In the *Advanced* view (see page 45), the *Project Name*, *Description* and *Master Connection* information are indicated in the RPMLoader *Project Window*. Additionally, the *File Transfer List* indicates all of the files that are included in the current project, and the *Online Device Tree* indicates the current device tree as reported by the connected AMX Controller (FIG. 9):

File	Mapping	Description	Source	Status
<input checked="" type="checkbox"/> rpm_nx.tkn	0:1:0	RPM NetLinx Program	SERVER	
<input checked="" type="checkbox"/> componentsdk.jar	0:1:0	XDD Support File	SERVER	
<input checked="" type="checkbox"/> DeviceDriverEngine.jar	0:1:0	XDD Support File	SERVER	
<input checked="" type="checkbox"/> js-14-bundle.jar	0:1:0	XDD Support File	SERVER	
<input checked="" type="checkbox"/> json-bundle.jar	0:1:0	XDD Support File	SERVER	
<input checked="" type="checkbox"/> picocontainer-1.3-bundle.jar	0:1:0	XDD Support File	SERVER	
<input checked="" type="checkbox"/> BSS_BLU102_Comm_dr2_0_0.jar	0:1:0	ATC/Mixer Control F...	SERVER	
<input checked="" type="checkbox"/> AMX_NXBCCG_Comm_dr1_0_0.jar	0:1:0	Lighting Control File	SERVER	
<input checked="" type="checkbox"/> OBCUtility_dr1_0_0.jar	0:1:0	RCM Support File	SERVER	
<input checked="" type="checkbox"/> componentsdkrt.jar	0:1:0	RMS Componentsdk...	SERVER	
<input checked="" type="checkbox"/> jregex1.2_01-bundle.jar	0:1:0	RMS Jregex1.2_01-b...	SERVER	
<input checked="" type="checkbox"/> snapirouter2.jar	0:1:0	RMS Snapirouter2 Ja...	SERVER	
<input checked="" type="checkbox"/> LGELEC04.IRL	5001:11:0	Blu-ray/DVD Control...	SERVER	
<input checked="" type="checkbox"/> LG_Electronics_Monitor_47V520_1.0.0.xdd	0:1:0	Video Projector Con...	SERVER	

FIG. 9 RPMLoader Project Information (Advanced View)

## Opening an RPMLoader Project File

There are several ways to open an RPMLoader project file (\*.rpmx) in RPMLoader (see page 6 for details):

1. In the RPM Web Application, click the **Download Project** button. When the application prompts you to open or save the file, click **Open** (see FIG. 3 on page 6). The RPMLoader project file opens in RPMLoader.
2. Double-click on an RPMLoader project file (\*.rpmx) in Windows Explorer to open the file in RPMLoader.
3. In the RPMLoader application *Start Tasks* window, select **Open a RPM Project File** (see page 7 for details).
4. Select **Open** in the RPM Loader File menu or Toolbar.

Once an RPMLoader project file has been opened in RPMLoader, the files indicated in the Project can be transferred to a target Master Controller.

After making changes to your RPMX file, select **Save** in the File menu to update all of your changes.

## Saving an RPMLoader Project File

To save changes made to an RPMLoader project file (\*.rpmx):

- Select **File > Save** (or click the toolbar button) to save changes to the file, using the same filename and location.
- Select **File > Save As** to save changes to the file, using a different filename and/or location.

# Connecting to a Master Controller

## Overview

RPMLoader supports two types of connection to the Master Controller for file transfers: Network (TCP/IP) and Serial (RS-232). Communication Settings are configured in the *Communication Settings* dialog (FIG. 10):

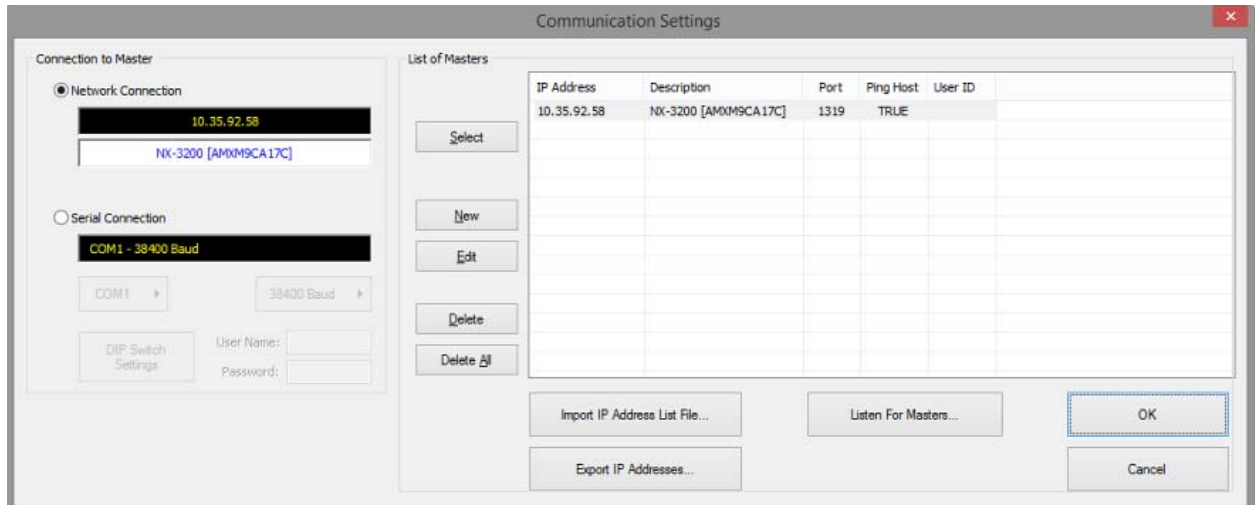


FIG. 10 Communication Settings dialog

## Connecting to a Master Controller via Network Connection

RPM-generated projects typically already have the NetLinX Master's IP information, based on the IP address entered in the RPM UI (*Project Details* page - FIG. 11):

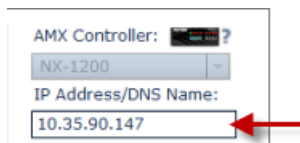


FIG. 11 RPM User Interface - AMX Controller's IP information (on the Project Details page)

However, RPM does not require that an IP address is entered in order to generate a project. Therefore, it is possible to open a RPMX project that does not have an IP address defined. Additionally, you may need to change the IP address that was entered in RPM. Use the *Communication Settings* dialog in RPMLoader to enter or edit the AMX Controller's IP information:

1. Select **Communication Settings** in the *Start Tasks* window to open the *Communication Settings* dialog. Alternatively, this dialog can be opened via the Options Menu and the Toolbar.
2. Under *Connection To Master*, select **Network Connection** (FIG. 12):



FIG. 12 Communication Settings dialog - Network Connection option

If the desired target NetLinX Master is listed in the *List of Masters* window, select it and click the **Select** button to populate the *Network Connection* fields with its IP Address and Description,

- If the target Master is online, but is not indicated in the List of Masters window, click on **Listen For Masters** to search the network for online NetLinX Masters in the *Listen For Masters* dialog. See *Listening for Masters on the Subnet* (below) for details.
- To enter TCP/IP information for a Master that is not indicated in the List of Masters window, click **New** to open the *IP/URL Properties* dialog. Use this dialog to manually specify a new TCP/IP connection. Enter a valid TCP/IP address, and fill in the Description. Enter a valid Username and Password if the target Master is secured. See *Adding a new Network Connection* on page 13 for details.

**NOTE:** Do not change the Port number - it should remain set to 1319.

- If the target Master is indicated in the List of Masters window, its TCP/IP settings can be edited via the *IP/URL Properties* dialog (click the **Edit** command button to open). See *Editing a Network Connection* on page 13 for details.

- Once the *Network Connection* fields indicate the correct IP information and Master Description, click **OK** to save the current configuration and close the *Communication Settings* dialog.
  - If the connection is successful, the Online Tree will be populated with the Master's Device Tree, and the Master Description name is displayed in the Header bar of the Online Tree Bar.
  - If the connection fails, the *Connection Failed* dialog is invoked, providing the options to either **Retry** or **Cancel** the connection attempt.

### Listening for Masters on the Subnet

If the target Master Controller is online, but is not indicated in the List of Masters window in the *Communication Settings* dialog, search the network for online Masters via the *Listen For Masters* dialog.

- Select **Communication Settings** in the *Start Tasks* window to open the *Communication Settings* dialog (see FIG. 10 on page 11). Alternatively, this dialog can be opened via the Communication Settings icon in the Project Window, or the Options Menu, or the Toolbar.
- Click **Listen For Masters** to open the *Listen For Masters* dialog.
- Click **Start Listening** to begin listening for "blink" (UDP) messages from Masters on the subnet.
  - Click *Stop Listening* at any time to stop listening for blink messages.
  - As Masters are detected on the subnet, they are displayed in the *List of Active NetLinX Master Controllers*.
- Select one or more Masters from the *List of Active NetLinX Master Controllers*, and click **Select To Add** (FIG. 13):

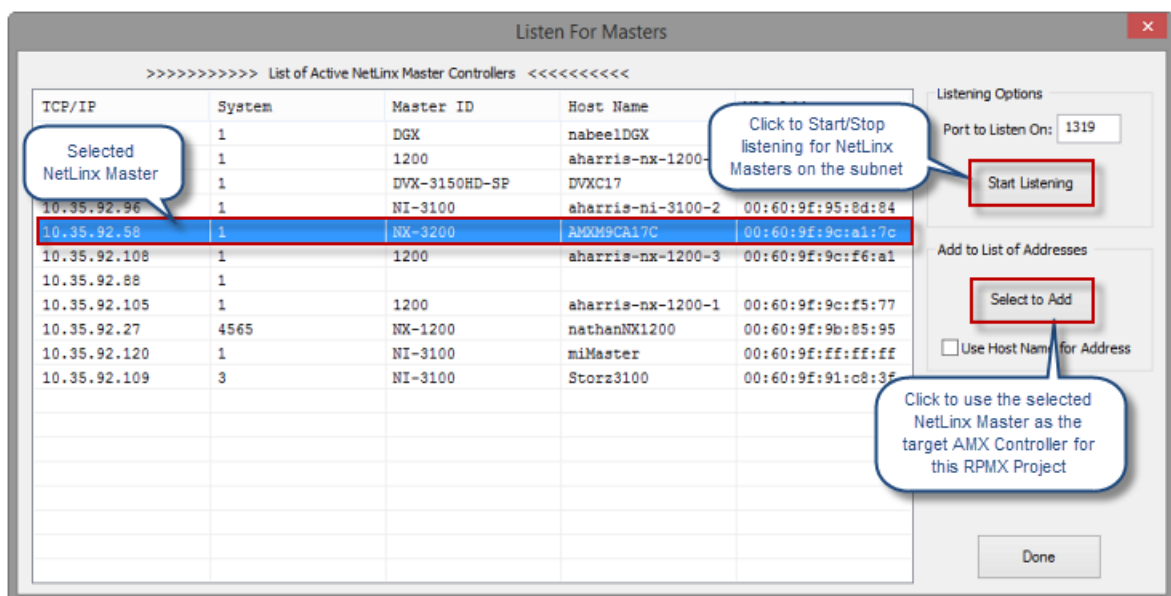


FIG. 13 Listen For Masters dialog

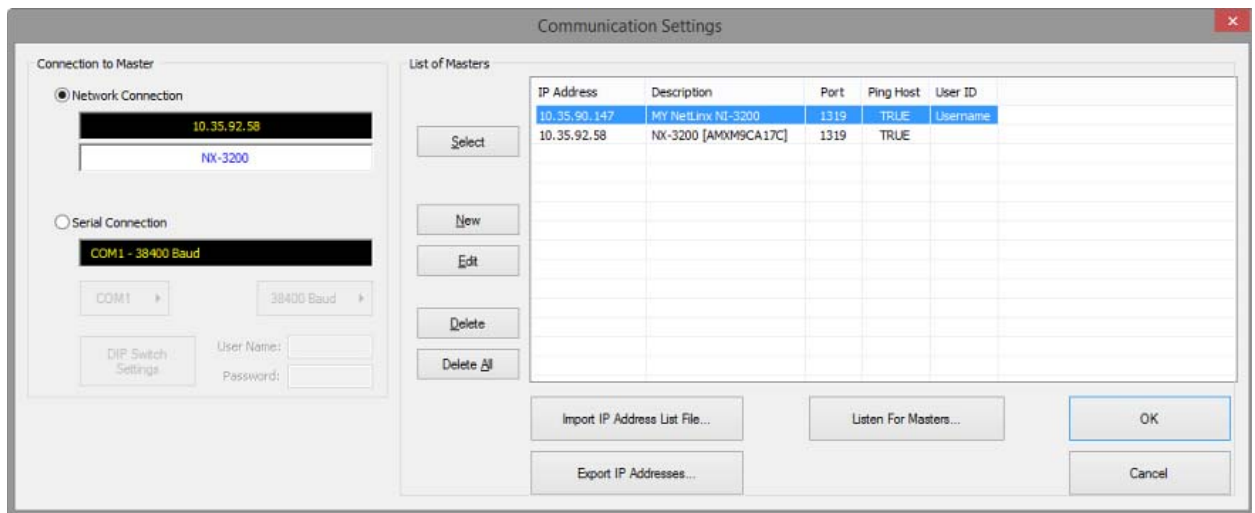
- The *New TCP/IP Setting* dialog is presented, to provide an opportunity to enter User Names and Passwords for each (only necessary if the target Master is secured):



FIG. 14 New TCP/IP Setting dialog

**NOTE:** If you have selected multiple Masters, then multiple *New TCP/IP Setting* dialogs will be presented serially, in the order that the Masters were selected. Fill in the fields as necessary and click **OK** to save changes and proceed to the next *New TCP/IP Setting* dialog. This process will continue until each new Master has been added to the *Communication Settings* dialog (*List of Masters*).

- Fill in the fields in this dialog and click **OK** to close the dialog and add the new Master to the *List of Masters* in the *Communication Settings* dialog (FIG. 15):



**FIG. 15** Communication Settings dialog (indicating a new NetLinx Master)

**NOTE:** Do not change the Port number - it should remain set to 1319.

### Adding a new Network Connection

1. Select **Communication Settings** in the *Start Tasks* window to open the *Communication Settings* dialog. Alternatively, this dialog can be opened via the Options Menu and the Toolbar.
2. Under *Connection To Master*, select **Network Connection**.
3. Click **New** to open the *New TCP/IP Setting* dialog (see FIG. 14 on page 12).
4. Enter a valid IP/URL Address.
5. Enter a descriptive name for the Master Controller in the *Description* field.

**NOTE:** Do not change the Port number - it should remain set to 1319.

6. Enter a valid *Username* and *Password* if the target Master is secured.
7. Click **OK** to save changes and close the *New TCP/IP Setting* dialog.

The new network connection is indicated in the *List of Masters* window in the *Communication Settings* dialog.

### Editing a Network Connection

1. Select **Communication Settings** in the *Start Tasks* window to open the *Communication Settings* dialog. Alternatively, this dialog can be opened via the Options Menu and the Toolbar.
2. Select **Network Connection**.
3. Select the network connection to edit, in the *List of Masters* window.
4. Click the **Edit** command button to open the *Edit TCP/IP Setting* dialog (FIG. 16):



**FIG. 16** Edit TCP/IP Setting dialog

5. Edit the fields in this dialog as necessary.
6. Click **OK** to save changes.

**NOTE:** *RPMLoader v2.4* or higher supports *IP Address List Files*. *IP Address List Files* provide the option of managing a list of *IP Addresses* as a separate file (*CSV* or *TXT*) that can be imported into *RPMLoader*, to quickly add target devices for file transfer operations. The *Import IP Address List File* and *Export IP Addresses* options are provided in the *Communication Settings* dialog. See the *IP Address List Files* section on page 36 for details.

## Connecting to a Master Controller via Serial Connection

To establish a Serial Connection with the target Master Controller:

1. Select **Communication Settings** in the *Start Tasks* window to open the *Communication Settings* dialog. Alternatively, this dialog can be opened via the Options Menu and the Toolbar.
2. Under *Connection To Master*, select **Serial Connection** (FIG. 17):

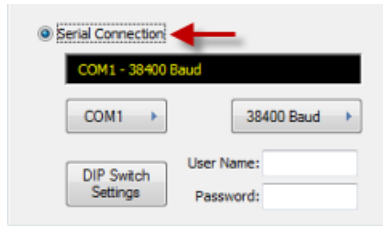


FIG. 17 Communication Settings dialog - Serial Connection option

3. Click and hold the **COM<X>** command button (FIG. 18) to select the port (COM 1 or COM 3) to use for Serial communication (default = COM 1):

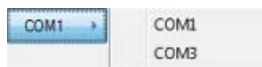


FIG. 18 Serial Connection option - COM <X> button

4. Click and hold the **Baud** command button (FIG. 19) to select the baud rate (9600, 38400, 57600 or 115200) for Serial communication (default = 38400):

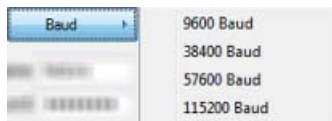


FIG. 19 Serial Connection option - Baud button

5. Click on the **DIP Switch Settings** command button (FIG. 20) to open the *DIP Switch Settings* dialog.

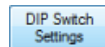


FIG. 20 Serial Connection option - DIP Switch Settings button

Use this dialog to view the DIP switch settings required on the NetLinX Master for each Baud Rate (FIG. 21):

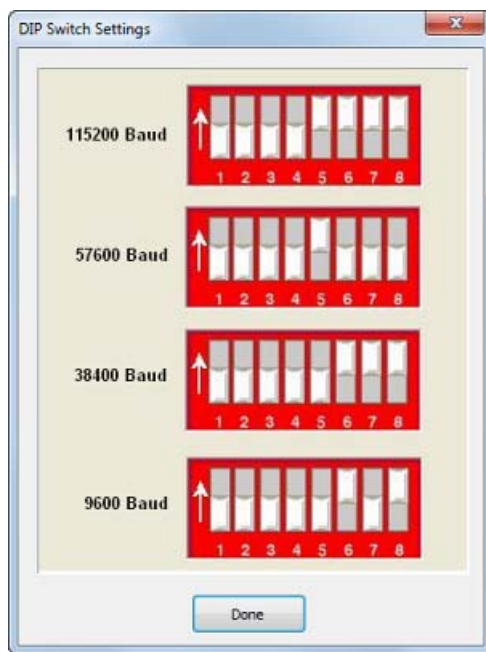


FIG. 21 DIP Switch Settings dialog

These settings are for the "CONFIGURATION" DIP Switch on the Master Controller. Verify that the "CONFIGURATION" DIP Switch on the Master matches the appropriate diagram in this dialog.

6. Enter a valid *Username* and *Password* if the target Master is secured (FIG. 22):

User Name: NetLinX  
 Password: ●●●●●●●●

**FIG. 22** Serial Connection option - Username and Password

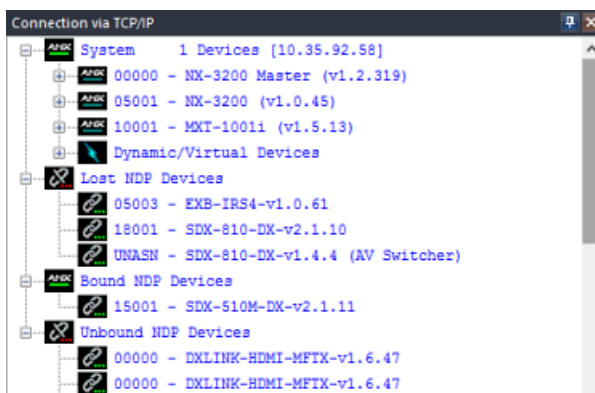
7. Click **OK** to close the *Communication Settings* dialog.
  - If the connection is successful, the Online Tree will be populated with the Master's Device Tree, and the Master Description name is displayed in the Header bar of the Online Tree Bar.
  - If the connection fails, the *Connection Failed* dialog is invoked, providing the options to either *Retry* or *Cancel* the connection attempt.

## Viewing Online Devices

The *Online Tree Bar* (FIG. 23) displays a list of devices detected to be currently online by the Master Controller to which RPMLoader is currently connected, providing the device number, port count and firmware version for each.

Click **View The Online Tree** in the *Start Tasks* window, the *View Menu* or the *Toolbar* to hide/show the Online Tree Bar.

**NOTE:** Initially, the only entry in the Online Tree is <Empty Device Tree>. Since the connection information for the target NetLinX Master is included in the RPMX Project file, you can simply click *Refresh System Online Tree* to connect to the Master and populate the online tree. If the connection fails, select *Options > Communications Settings* (or click the toolbar button) to configure the communication settings and establish a connection with the target Master via the *Communication Settings* dialog. See *Connecting to a Master Controller* on page 11 for details.



**FIG. 23** Online Tree Bar

- Right-click inside the Online Tree Bar context menu and select *Refresh System Online Tree*, or *Refresh Network Online Tree* to populate the online device tree.
- Select **Reports > View Online Tree Report** to open the a summary listing of all devices in the online tree, in TXT format. This option is also available via the Online Tree Bar context menu.
- The online devices are organized according to the System to which they belong.
- Double-click any System folder to display a list of System devices (and their firmware version) that are currently online.
- Double-click any online device in the list to display the ports and sub-devices associated with the device. Sub-devices are hardware components contained within a parent device, which may require their own firmware. For example, and NXI Master Controller contains three components, each of which require firmware.
- The *Unbound NDP Devices* folder in the Online Tree Bar indicates all devices in the system that are not currently bound to a Master. See *Device Binding* on page 24 for details.

**NOTE:** The Online Tree Bar is only a snap shot and is not updated in real time as devices come on/off line. Select *Refresh System Online Tree* or *Refresh Network Online Tree* from the Online Tree Bar context menu to update the Online Tree.

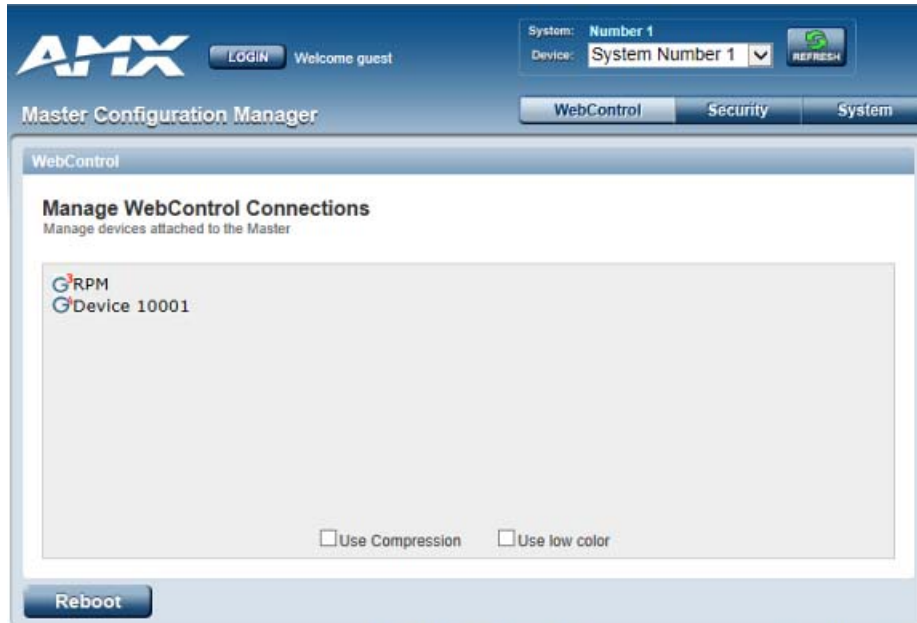


## Other Master Controller Tasks

### Opening the Master Controller's Configuration Page

Master Controllers feature an on-board Web Console which allows you to connect to the Controller via a web browser and make various configuration and security settings.

Select **Launch Configuration Page** from the *Master Controller* Tasks window, or select **Launch Master Configuration Page** from the *Options* Menu to open the connected Master's Configuration Page (in it's own browser window). An example is shown below (FIG. 24):



**FIG. 24** Example Master Configuration Page

**NOTE:** *The Web Console is described in the NI & DVX Central Controllers WebConsole & Programming Guide.*



## Opening the RPM Configuration Manager

Once a RPM project has been loaded on an AMX Controller, the *RPM Configuration Manager WebConsole* is available via the *Launch RPM Configuration Manager* option in the Options menu and Tasks Bar. Use the *RPM Configuration Manager* to view information on the project currently on the Master.

Select **Launch RPM Configuration Manager** from the *Master Controller* Tasks window, or select **Launch RPM Configuration Manager** from the *Options* Menu to open the connected Master's RPM Configuration Manager WebConsole (in it's own browser window).

The *Home* page (initial view) provides basic (read-only) summary information on the current project (FIG. 25).



**FIG. 25** Example RPM Configuration Manager (Home page)

The *Settings* and *Environment* menus provide options to configure some basic settings on various devices in the system. The options presented in these menus will depend on the devices in the system.

For example, select **Settings > Displays** to access a Display configuration page similar to the one shown in FIG. 26:



**FIG. 26** Example RPM Configuration Manager (sample Display configuration page)

In this example, the **Warm Up Time** and **Cool Down Time** values can be edited as desired. Click **Accept** to save changes.

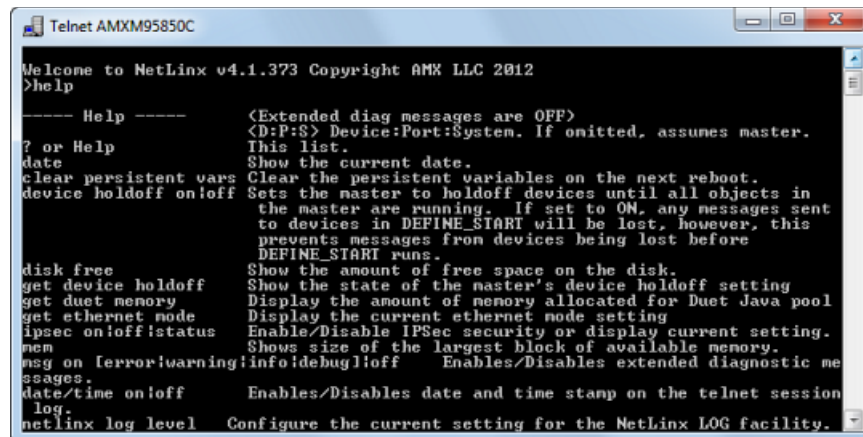
## Opening a Telnet Window

Select **Launch Telnet Window** from the *Master Controller Tasks* window, or select **Launch Master Telnet Window** from the *Options* Menu to open a Telnet session with the connected Master.

- The default Telnet program is TELNET.EXE and can be changed by the user via the *Preferences* dialog.
- In your terminal program, type "Help" or a question mark ("?") and <Enter> to access the Help Menu, and display a list of the supported commands.

**NOTE:** *Telnet Commands are described in the NI & DVX Central Controllers WebConsole & Programming Guide.*

An example Telnet window is shown below (FIG. 27):



```

Telnet AMXM95850C
Welcome to NetLinX v4.1.373 Copyright AMX LLC 2012
>help
----- Help -----      <Extended diag messages are OFF>
                           <D:P:$> Device:Port:$System. If omitted, assumes master.
? or Help                  This list.
date                       Show the current date.
clear persistent vars      Clear the persistent variables on the next reboot.
device holdoff on/off     Sets the master to holdoff devices until all objects in
                           the master are running. If set to ON, any messages sent
                           to devices in DEFINE_START will be lost, however, this
                           prevents messages from devices being lost before
                           DEFINE_START runs.
disk free                  Show the amount of free space on the disk.
get device holdoff        Show the state of the master's device holdoff setting
get duet memory           Display the amount of memory allocated for Duet Java pool
get ethernet mode         Display the current ethernet mode setting
ipsec on/off/status       Enable/Disable IPsec security or display current setting.
mem                       Shows size of the largest block of available memory.
msg on [error!warning!info!debug!off  Enables/Disables extended diagnostic me
ssages.
date/time on/off         Enables/Disables date and time stamp on the telnet session
log.
netlinx log level        Configure the current setting for the NetLinX LOG facility.

```

FIG. 27 Example Telnet window

## Rebooting the Master Controller

1. Select **Reboot Master** from the *Master Controller Tasks* window, or select **Reboot Master** from the Online Tree Bar Context Menu to reboot the connected Master Controller.
2. RPMLoader will prompt you to verify this action (FIG. 28):

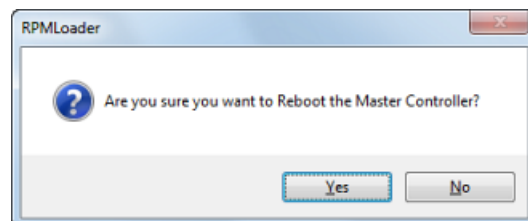


FIG. 28 Reboot Master Controller - Verify

3. Click **Yes** to proceed. The application will alert you that the Master has been rebooted, and reminds you to give it a little time to get back online (click **OK** to close this dialog - FIG. 29):

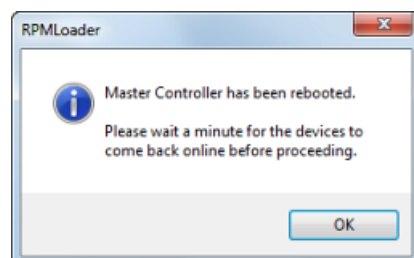


FIG. 29 Master has been rebooted

**NOTE:** *To re-establish communication with the Master after a reboot, select Refresh System Online Tree or Refresh Network Online Tree from the Online Tree Bar Context Menu.*

## Checking and Setting the Master Controller's Date and Time

Use the options in the Set Date and Time dialog to view and set the date/time information on the connected Master Controller:

1. Select **Check Master's Date/Time** in the *Master Controller* Tasks window to open the *Set Date and Time* dialog (FIG. 30). Note that this command is also available via the Options Menu.

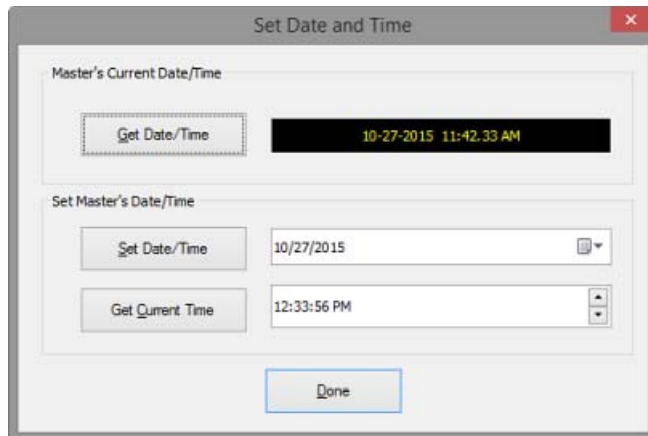


FIG. 30 Set Date and Time dialog

The read-only *Master's Current Date/Time* field indicates the current date/time information for the Master.

2. To change the *Date* setting, click the Edit icon in the *Set Date/Time* field to open a calendar and select the desired date (FIG. 31):

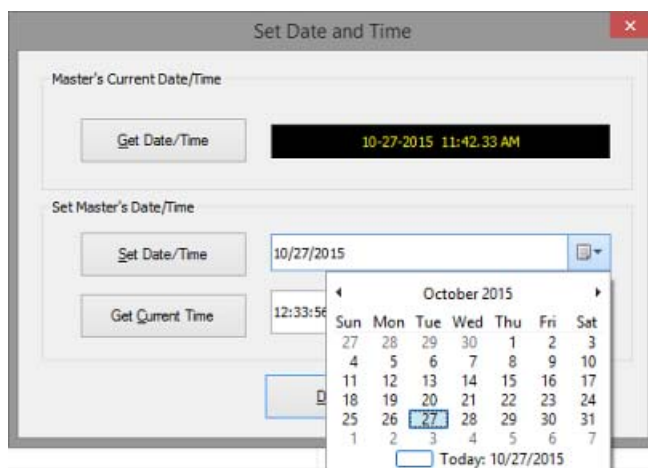


FIG. 31 Set Date and Time dialog - Calendar

3. To adjust the *Time* setting, select the Hour, Minute or Second display in the *Time* field and click the up and down arrow buttons as desired (FIG. 32):

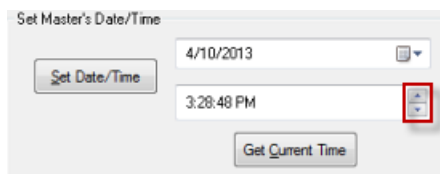


FIG. 32 Set Date and Time dialog - Time Settings

**NOTE:** Click *Get Current Time* to refresh the *Time* field with the current time.

4. Click **Done** to save changes and close this dialog.

## Changing the Master Controller's Network Address Information

Use the options in the *Master Controller's Network Address* dialog to change the network settings for the connected Master:

1. Select **Change Master's Network Address** in the *Master Controller Tasks* window to open the *Master Controller's Network Address* dialog (FIG. 33). Note that this command is also available via the Options Menu. The IP and DNS information in this dialog represents the current network address information for the Master.

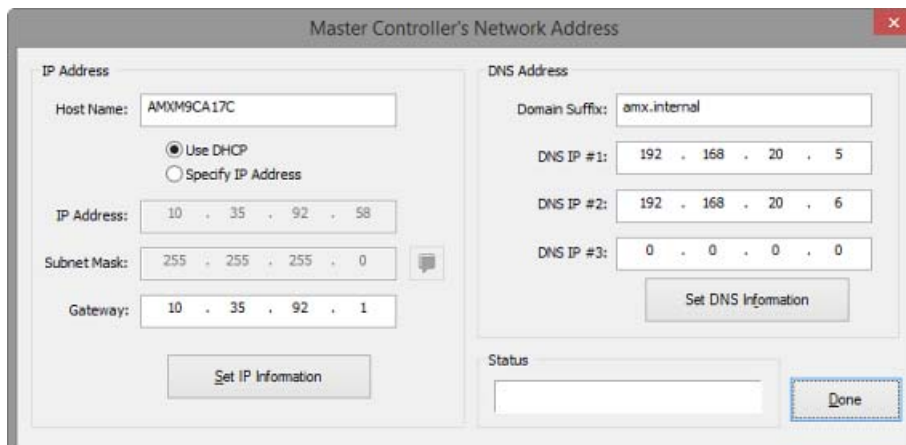


FIG. 33 Master Controller's Network Address dialog

2. Edit the *IP Address* fields as necessary.
3. Click **Set IP Information** to set the new IP address information on the connected Master.
 

**NOTE:** The program will prompt you that the Master Controller will be rebooted when this button is pressed (click OK to proceed).
4. Edit the *DNS Address* fields as necessary.
5. Click **Set DNS Information** to set the new IP address information on the connected Master.
 

**NOTE:** It is not necessary to reboot the Master if only the DNS Address information is changed.
6. Click **Done** to close this dialog.

## Zero-Configuration Networking

Zero-Configuration networking provides the ability to automatically discover devices that are present on the LAN. The Zero Configuration Bar provides Zero-Configuration networking functionality within RPMLoader.

Click **View > Zero Configuration Bar** to open this view, listing all Masters on the LAN to which the PC running RPMLoader is connected (FIG. 34):

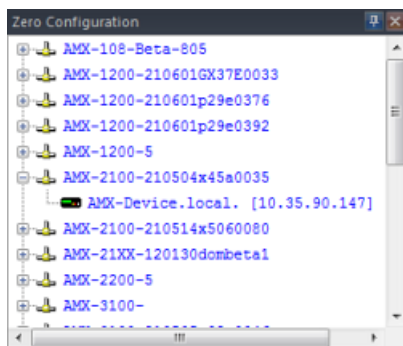


FIG. 34 Zero Configuration Bar

To populate the network device list, right-click anywhere within this tab, and click **Refresh Zero Config List** in the Zero-Configuration Window Context Menu.

Double-click on any entry in the *Network Device List* to open its Web Configuration page.

**NOTE:** By default, Web Configuration pages are opened in your default browser. To open Web Configuration pages within RPMLoader, right-click anywhere within this tab to open the Context Menu, and de-select *Launch Via Default Browser*.

### Generating a List of Network Devices

Right-click inside the Zero Configuration Bar, and select **Refresh Zero Config List** to generate an initial listing of all Zero-Config devices detected.

## Configuring Devices via Zero-Config Networking

Once you have generated a listing of devices of Zero-Config devices on the network, you can access any device in the list simply by double-clicking on it's entry - the selected device's Web Console (HTML) is displayed in your default browser.

- Use the Web Console pages to configure the device as desired.
- Refer to the device's *Operation/Reference Guide* for detailed configuration instructions and descriptions of settings.

### Valid Subnet Masks

The following table lists valid Subnet Masks and the maximum number of IP Hosts allowed for each:

Subnet Masks	Max IP Hosts	Subnet Masks	Max IP Hosts
255.255.255.255	1	255.255.0.0	65536
255.255.255.254	2	255.254.0.0	131072
255.255.255.252	4	255.252.0.0	262144
255.255.255.248	8	255.248.0.0	524288
255.255.255.240	16	255.240.0.0	1048576
255.255.255.224	32	255.224.0.0	2097152
255.255.255.192	64	255.192.0.0	4194304
255.255.255.128	128	255.128.0.0	8388608
255.255.255.0	256	255.0.0.0	16777216
255.255.254.0	512		
255.255.252.0	1024		
255.255.248.0	2048		
255.255.240.0	4096		
255.255.224.0	8192		
255.255.192.0	16384		
255.255.128.0	32768		

# Device Mapping

## Overview

In order to transfer the system files to the correct devices, each file must have correct device mapping information. NetLinx requires a Device:Port:System (D:P:S) specification for each file. If you are working with an RPMLoader Project Files (\*.rpmx) that was generated by the RPM web application, then the device mapping is already established for each file that is indicated in the RPMX file, and is displayed in the Mapping column of the File Transfer List Bar.

However, If you have added/imported files to the transfer list, or if you have created a new RPMLoader Project, then it will be necessary to define device mapping information for each file indicated in the File Transfer List Bar. To define device mapping for files indicated in an RPMLoader Project:

1. Right-click on a file in the File Transfer List Bar (FIG. 35):

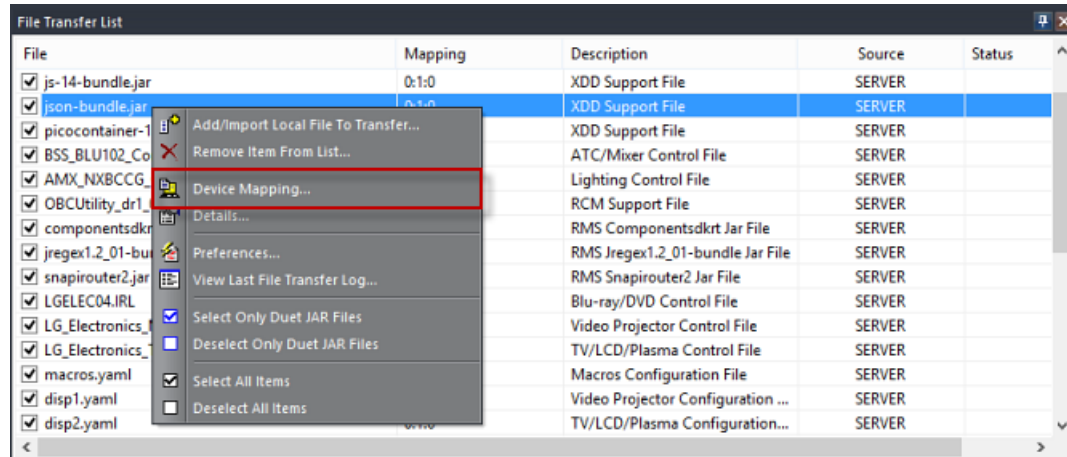


FIG. 35 File Transfer List Bar

2. Select **Device Mapping** from the File Transfer List Bar Context Menu to open the *Device Mapping* dialog (FIG. 36):



FIG. 36 Device Mapping dialog

3. Use the fields in this dialog to specify the target device for the selected file:
  - **Device Number:** 16-bit integer representing the device number (0 = NetLinx Master; numbers above 32767 are reserved for internal use).
  - **Port Number:** 16-bit integer representing the port number (range = 1 through the number of ports on the device).
  - **System Number:** 16-bit integer representing the system number that the device belongs to (0 = this system).
4. Click **OK** to save the mapping information and close the *Device Mapping* dialog.

## Device:Port:System (D:P:S)

A Device is any hardware component that can be connected to the NetLinx bus. Each Device must be assigned a unique number to locate that Device on the bus. The NetLinx language allows numbers in the range 0-32767.

*Device 0* refers to the master; numbers above 32767 are reserved for internal use.

NetLinx requires a Device:Port:System (D:P:S) specification. This D:P:S triplet can be expressed as series of constants, variables separated by colons, or as a DEV structure, to explicitly represent a device number, port and system. Here's the syntax:

```
DEVICE:PORT:SYSTEM
```

where:

- Device: 16-bit integer representing the device number
- Port: 16-bit integer representing the port number (in the range 1 through the number of ports on the device)
- System: 16-bit integer representing the system number (0 = this system) that the device belongs to.

For example, 128:1:0 represents the first port on device 128 on this system.

DEV structure example:

```
STRUCTURE DEV
{
  INTEGER Number    // device number
  INTEGER Port      // port on device
  INTEGER System    // system device belongs to
}
```

# Device Binding

## Overview

A *Bound* device is one which has established communication with a specific Master. The devices listed beneath the top System folder in the Online Device Tree are Bound to the Master.

An *Unbound* device is an NDP-capable device which has not yet been assigned (bound) to communicate with a specific Master. These are "orphan" devices, until they are assigned to communicate to a specific Master.

The *Unbound NDP Devices* folder in the Online Tree Bar indicates all devices in the system that are not currently bound to a Master (FIG. 37):

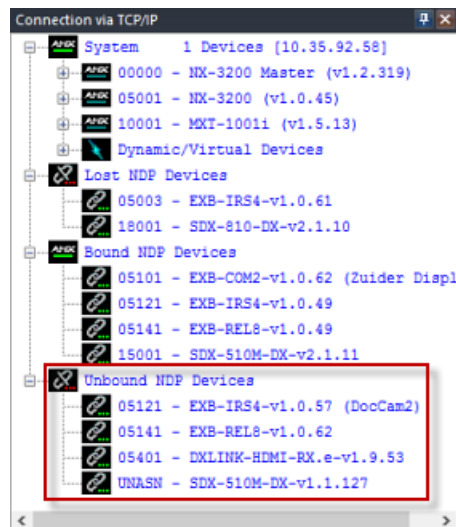


FIG. 37 Online Tree Bar - Unbound NDP Devices folder

Unbound devices can be associated (bound) to a Master for communications either via the *AMX Device Binding Wizard* dialog (based on the Manifest file), or manually via the *Bind/Unbind Devices* dialog.

## Using the AMX Device Binding Wizard

DXLink/ICSLan Device Binding is the process of pairing the assorted DXLink and/or ICSLan devices that were selected during your RPM project configuration. The options in the *AMX Device Binding Wizard* dialog allow you to bind DXLink/ICSLan devices (FIG. 38):

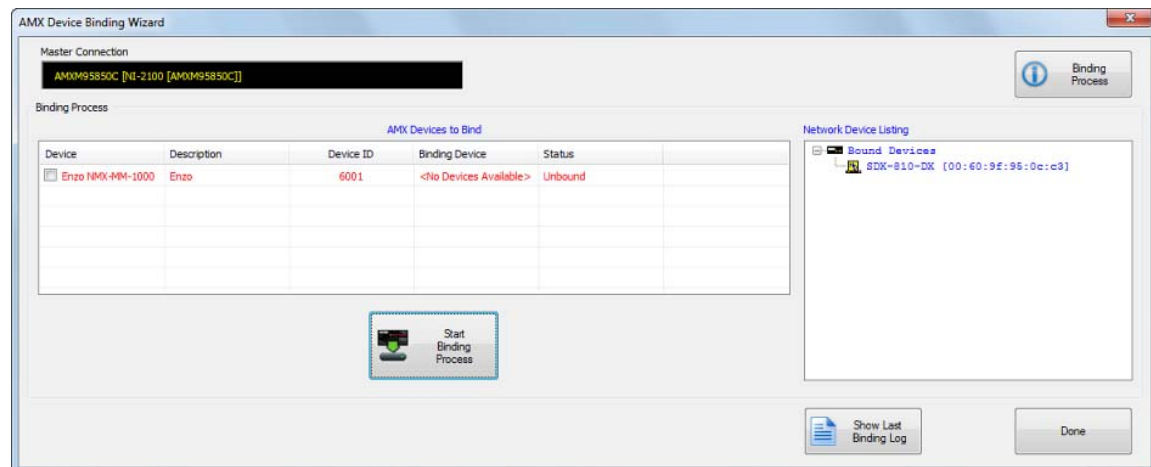


FIG. 38 AMX Device Binding Wizard dialog

To open this dialog, select **AMX Device Binding Wizard** from the *Start Tasks* window, or select **AMX Device Binding Wizard** from the *Options* menu.

**NOTE:** This option is only available if there are DXLink/ICSLan devices associated with your RPM project.

**IMPORTANT:** You must bind your DXLink/ICSLan devices **BEFORE** you transfer your configuration files to the devices.

The AMX Device Binding Wizard provides two main windows: *AMX Devices To Bind* and *Network Device Listing*.



1. In the *AMX Devices To Bind* window, click on an Unbound device. Note that devices that are eligible to be bound are pre-selected for binding.
2. In the *Binding Device* column, click on the **<Click to Select a Device>** entry to activate the *Device Selection* drop-down menu for the selected device (FIG. 39):

Device	Description	Device ID	Binding Device	Status
<input type="checkbox"/> EXB-REL8 Relay Expander	Near Screen Motor	5141	EXB-REL8 [00:60:9F:95:5E:93]	Bound
<input checked="" type="checkbox"/> EXB-COM2 Serial Expander	Near Projector Mount	5101	<Click to Select A Device>	Unbound
<input type="checkbox"/> DXLINK-HDMI-RX Remote Device	Near the TV Display	5401	<No Devices Available>	Unbound
<input checked="" type="checkbox"/> EXB-IRS4 Expander	Near Left Plasma	5121	<Click to Select A Device>	Unbound

**FIG. 39** AMX Device Binding Wizard dialog - Device Selection drop-down menu

3. Click the down arrow to access the drop-down listing of Network Devices that are compatible and available to bind with the selected device. Select the device to which the selected AMX device will be bound (FIG. 40):

Device	Description	Device ID	Binding Device	Status
<input type="checkbox"/> EXB-REL8 Relay Expander	Near Screen Motor	5141	EXB-REL8 [00:60:9F:95:5E:93]	Bound
<input checked="" type="checkbox"/> EXB-COM2 Serial Expander	Near Projector Mount	5101	<Click to Select A Device>	Unbound
<input type="checkbox"/> DXLINK-HDMI-RX Remote Device	Near the TV Display	5401	<Click to Select A Device>	Unbound
<input checked="" type="checkbox"/> EXB-IRS4 Expander	Near Left Plasma	5121	<Click to Select A Device>	Unbound

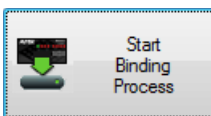
**FIG. 40** AMX Device Binding Wizard dialog - Selecting a Device

4. The selected device is indicated in the *Binding Device* column (FIG. 41):

Device	Description	Device ID	Binding Device	Status
<input type="checkbox"/> EXB-REL8 Relay Expander	Near Screen Motor	5141	EXB-REL8 [00:60:9F:95:5E:93]	Bound
<input checked="" type="checkbox"/> EXB-COM2 Serial Expander	Near Projector Mount	5101	EXB-COM2-[00:60:9F:95:5E:82]	Unbound
<input type="checkbox"/> DXLINK-HDMI-RX Remote Device	Near the TV Display	5401	<No Devices Available>	Unbound
<input checked="" type="checkbox"/> EXB-IRS4 Expander	Near Left Plasma	5121	<Click to Select A Device>	Unbound

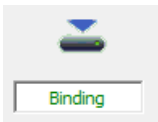
**FIG. 41** AMX Device Binding Wizard dialog - Device Selected

5. Repeat this process for all Unbound devices in the *AMX Devices To Bind* window. Note that the Status column still indicates Unbound for these devices, since the Binding Process has not yet been started.
  - Bind all devices in the *AMX Devices To Bind* window. You might have unpredictable results with your System if you do not bind all of your Devices. The program will prompt you bind any Unbound devices before transferring project files.
  - To unbind a Bound Device, right-click on a device and select **Unbind Device**.
6. When all devices have been paired for binding, click the **Start Binding Process** button to begin binding the devices according to the Binding Device selections (FIG. 42):



**FIG. 42** AMX Device Binding Wizard dialog - Start Binding Process

7. As the Binding Process is performed, the message in the Status column changes from "Unbound" to "Attempting To Bind Device", then to "Device Has Been Bound", then to "Setting Description", then "Changing Device ID", and finally to "Rebooting Device". Also, the Binding icon indicates that the process is active (FIG. 43):



**FIG. 43** AMX Device Binding Wizard dialog - Status Column

8. When the Binding Process is complete, the Binding Wizard Log file (*RPMBindingLog.TXT*) is opened, providing a summary of the binding process (FIG. 44):

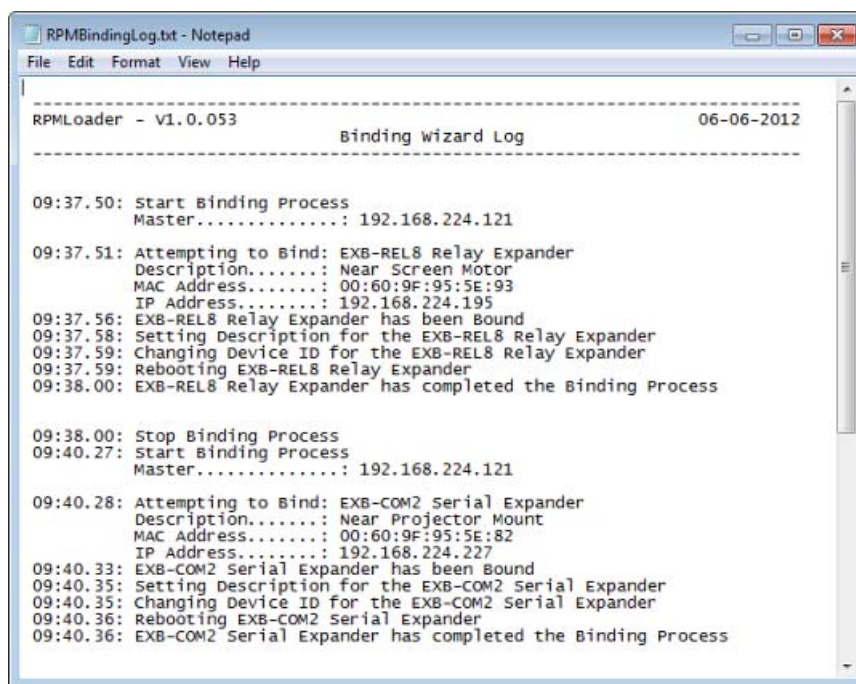


FIG. 44 Example Binding Wizard Log file (RPMBindingLog.TXT)

9. Close the Binding Wizard Log file and click **Done** to close this dialog.

Once you have bound all the devices to your Master controller, the devices will have the appropriate "Device ID" assigned to them along with their description and location information. You can view this information in the Online Tree Report.

## Manually Binding/Unbinding Devices

The *Unbound NDP Devices* folder in the Online Tree Bar indicates all devices in the system that are not currently bound to a Master Controller (FIG. 45):

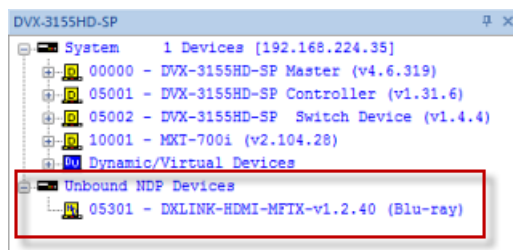


FIG. 45 Online Tree Bar - Unbound NDP Devices folder

To manually Bind or Unbind NDP Devices to the Master, use the *Bind/Unbind Devices* dialog (FIG. 46):

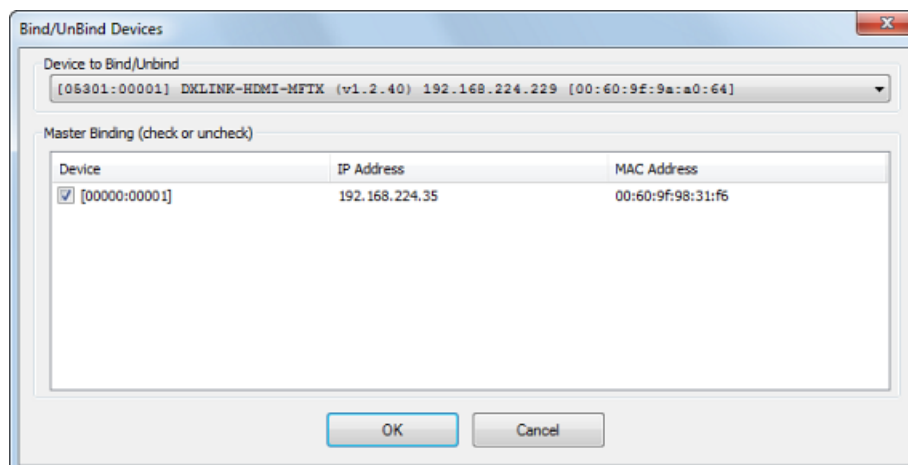


FIG. 46 Bind/Unbind Devices dialog

1. Select an unbound device in the Online Tree Bar (*Unbound NDP Devices* folder).

2. Right-click to open the context menu and select **Bind/Unbind Device** to open the *Bind/Unbind Devices* dialog.
3. The selected device is indicated in the *Device To Bind/Unbind* field at the top of the dialog. To select a different device, click the down arrow to select from a listing of all unbound devices in the current system.
4. The NetLinx Master associated with the System is indicated in the *Master Binding* list.
  - If there are multiple Master indicated here, place a checkmark next to the Master to which the selected device will be bound.
  - Note that a Device can only be bound to one Master.
5. Select the device(s) to be bound to this Master Controller. Devices that have a check will be bound, those without a check will be unbound devices.
6. Click **OK** to save the changes and close the *Bind/Unbind Devices* dialog.
7. Refresh the Online Tree to see the new device binding:
  - Right-click inside the Online Tree Bar to open the context menu and select **Refresh System Online Tree** to refresh the online tree at the System level.
  - Right-click inside the Online Tree Bar to open the context menu and select **Refresh Network Online Tree** to refresh the online tree at the Network level (including all Systems on the network)
    - If a device was selected to be unbound then it will have moved from the *System* folder into the *Unbound NDP Devices* folder;
    - If an unbound device was bound to the Master, then it will have moved out of the *Unbound NDP Devices* folder into the *System* folder.

# Transferring the Project Files

## Overview

When you are connected to the Master Controller (indicated in the status bar), you can transfer the files contained in the RPMLoader Project to the Master. The status bar indicates the current connection status (FIG. 47):

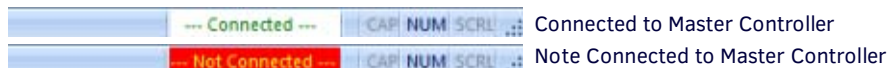


FIG. 47 RPMLoader Status Bar - Connected / Not Connected

RPM-generated projects already include connection information for the target Master (as set in the RPM Web Application). Typically there is no need to re-configure the connection settings for the Project. In this case, the communication settings for the target Master are indicated in the *Master Connection* field (FIG. 48):

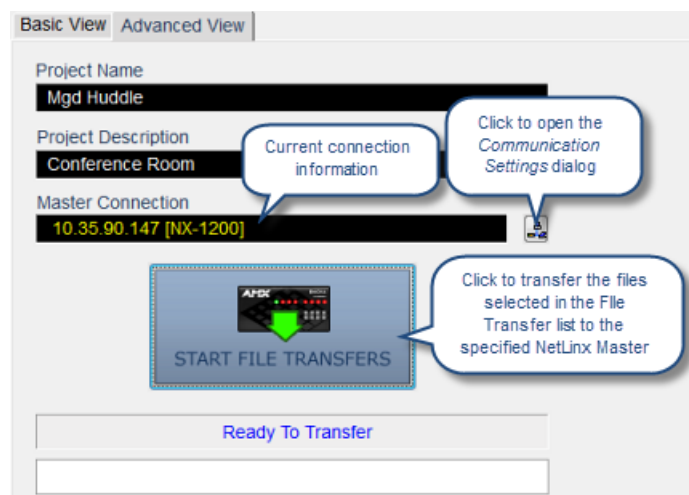


FIG. 48 RPMLoader Project Window - Master Connection information

1. Verify the File Transfer List and click **Start File Transfers**.

If the RPMLoader project does not have connection information, then the *Start File Transfers* button is disabled, and the Master Connection field indicates that no communication settings have been selected for this project (FIG. 49):

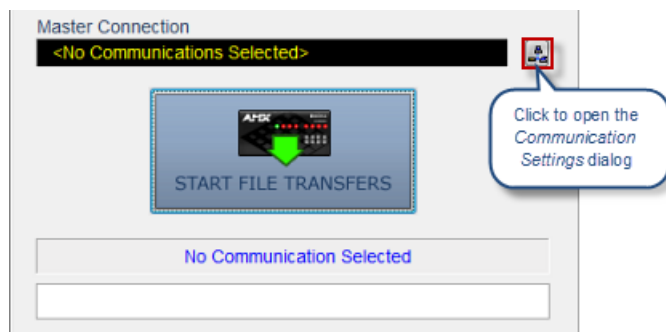


FIG. 49 RPMLoader Project Window - Start File Transfers button disabled

In this case, it is necessary to configure communications settings to establish a connection with the target Master via the *Communication Setting* dialog. See the *Connecting to a Master Controller* section on page 11 for details. Once communications have been configured, the *Start File Transfers* button is enabled.

2. At this point, verify the File Transfer List and click **Start File Transfers**.

The status bars indicate each file's progress during the transfer operation (FIG. 50):

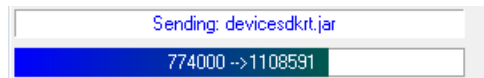


FIG. 50 RPMLoader Project Window - Status Bars

If the program detects that your project includes unbound devices when the *Start File Transfer* button is clicked, the *Binding/ File Transfer Options* dialog is invoked. As indicated in this dialog, you might have unpredictable results with your System if you do not bind all of your Devices. Select an option and click **OK**:

- You can **Start the Binding Wizard to Bind your Devices** - click to open the *AMX Device Binding Wizard*. See the *Device Binding* section on pages 24 for information.
- You can **Skip the Binding Wizard and Start the File Transfer Process** - click to begin the file transfer when you click *OK*.

The status of each file in the transfer operation is displayed in the *Output Status Bar*, with details on files were transferred and any problems or errors that occurred during the transfer (FIG. 51).

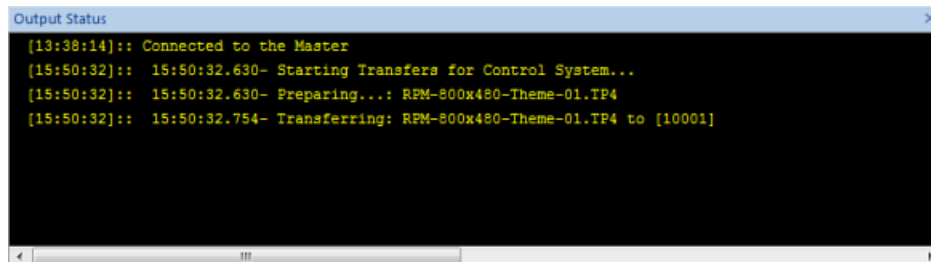


FIG. 51 Output Status Bar - Example File Transfer Status Information

Once you start to transfer files, you can cancel the transfer operation via the *STOP FILE TRANSFERS* button (FIG. 52):



FIG. 52 RPMLoader Project Window - STOP FILE TRANSFERS

## Adding and Removing Files From the File Transfer List

The list of files contained in the RPMLoader Project are indicated in the File Transfer List Bar.

### Adding Files To the File Transfer List

1. Select **Add/Import Local File To Transfer** from the Options Menu or the File Transfer List Bar Context Menu to open the *Add/Import File To Transfer* dialog (FIG. 53). Use the options in this dialog to either Add or Import a file to the transfer list.

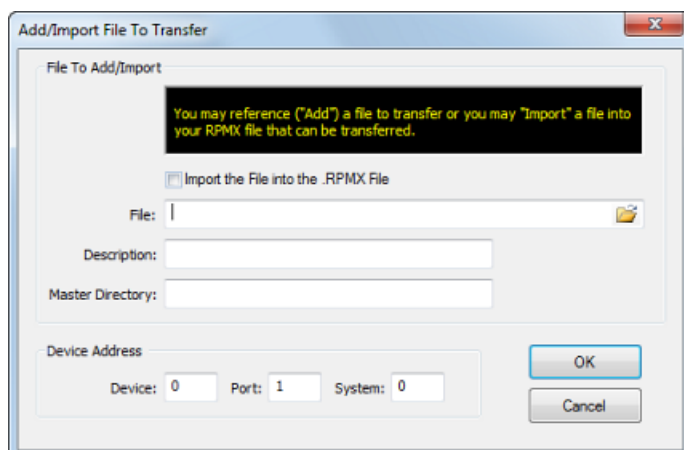


FIG. 53 Add/Import File To Transfer dialog

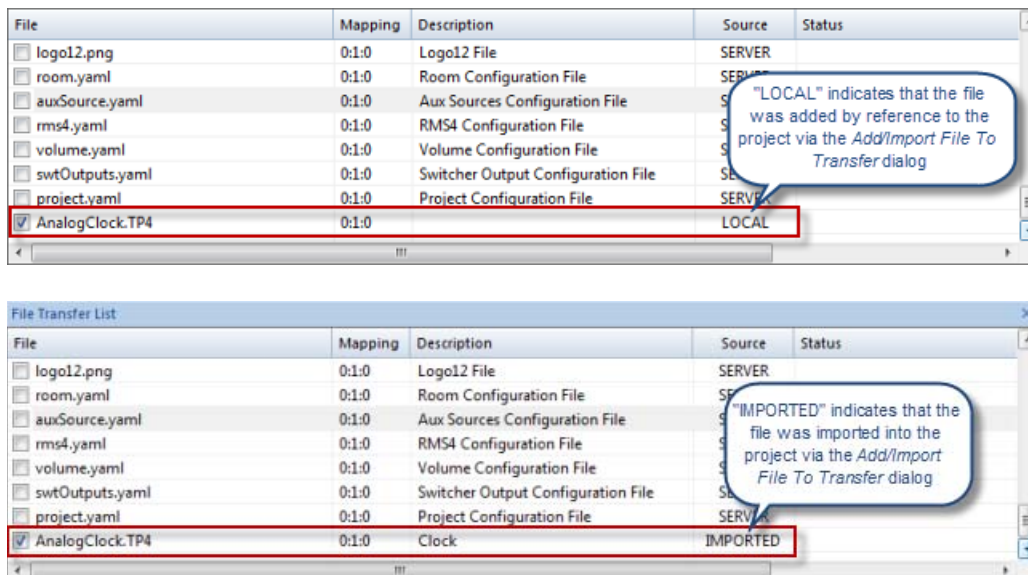
By default, the **Import the File into the .RPMX File** option is de-selected. In this case, the file will be added by reference to the File Transfer list (but not saved in the RPMLoader project file). Select this option to import the selected file into the current RPMLoader Project. In this case, the file will be added to the RPMLoader Project.

2. Click the *Browse* button in the File field to invoke the *Open* dialog. Note that the *Open* dialog includes a **File Type** drop-down menu (lower-left corner). By default, only TPDesign4 (\*.TP4) files are listed, until a different file type is selected:
  - TPDesign4 Files (.TP4) - default selection
  - IR Library Files (\*.IRL)
  - Master Files (\*.TKN)
  - JAR Files (\*.JAR)
  - Driver Design Files (.XDD)
  - All Files (\*.\*)

**NOTE:** *Driver Design Files (.XDD) are created in the Driver Design plug-in for AMX Design Suite integrated development environment. See [www.amx.com](http://www.amx.com) for details.*

3. Select a file and click **Open**. This closes the *Open* dialog and returns to the *Add/Import File To Transfer* dialog.
4. The selected file name is indicated in the **File** field.
5. Enter a **Description** and **Master Directory**.
6. In the **Device Address** fields (*Device*, *Port* and *System*), specify the (D:P:S) device-file mapping information required to associate this file with a target device.
7. Click **OK** to save changes and close the *Add/Import File To Transfer* dialog.

The selected file is now indicated in the File Transfer Status window, at the bottom of the file list (FIG. 54).



**FIG. 54** File Transfer Status window - LOCAL and IMPORTED Files

- By default, all newly added files are mapped to "0:1:0".
- All newly added files are selected for inclusion in the file transfer (as indicated by the checkmark in the File column of the File Transfer List window). To exclude a file from the transfer operation, de-select this checkmark.

### Removing Files From the File Transfer List

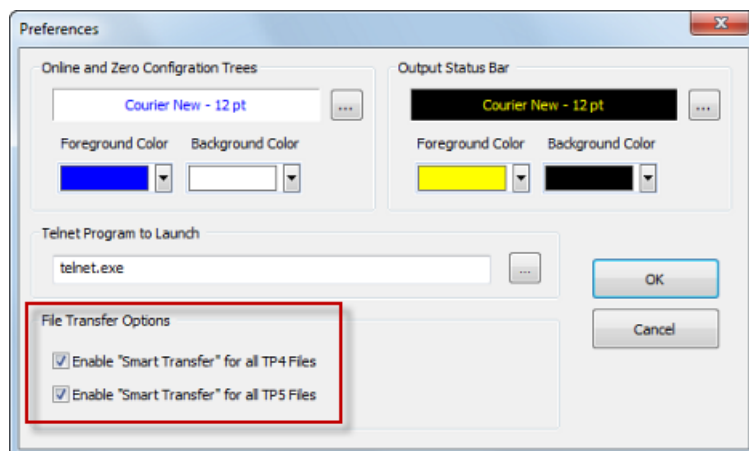
De-select (uncheck) any files that you do not want to include in the transfer.

To remove a file from the list entirely, highlight the file and select **Remove Item From List** from the File Transfer List context menu.

## Smart Transfer (TP4/TP5 files)

The *Smart Transfer* feature reduces the transfer time by only replacing those panel files that have been updated (relative to the files already loaded in the panel). Any bitmaps, sound files and fonts that all already resident on the target panel, or in your panel file on your PC (for uploads) are not included in the transfer.

By default, Smart Transfer is enabled in RPMLoader. This feature can be disabled via the **Enable "Smart Transfer" for all TP4 Files** and **Enable "Smart Transfer" for all TP5 Files** options in the *Preferences* dialog (FIG. 55):



**FIG. 55** Preferences dialog - Enable "Smart Transfer" for all TP4 and TP5 Files options

# Reports

## Overview

RPMLoader provides several report functions, accessible via the *Reports* section of the Tasks window, or via the Reports menu (FIG. 56):

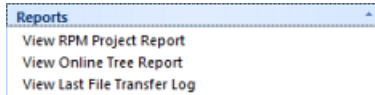


FIG. 56 Reports Tasks Window

## RPM Project (Configuration) Report

Select **View RPM Project Report** from the *Reports* Tasks window, or select **Reports > View Project Report** to open the RPM Project (Configuration) Report (FIG. 57).



FIG. 57 Example RPM Project Report (sample page one)

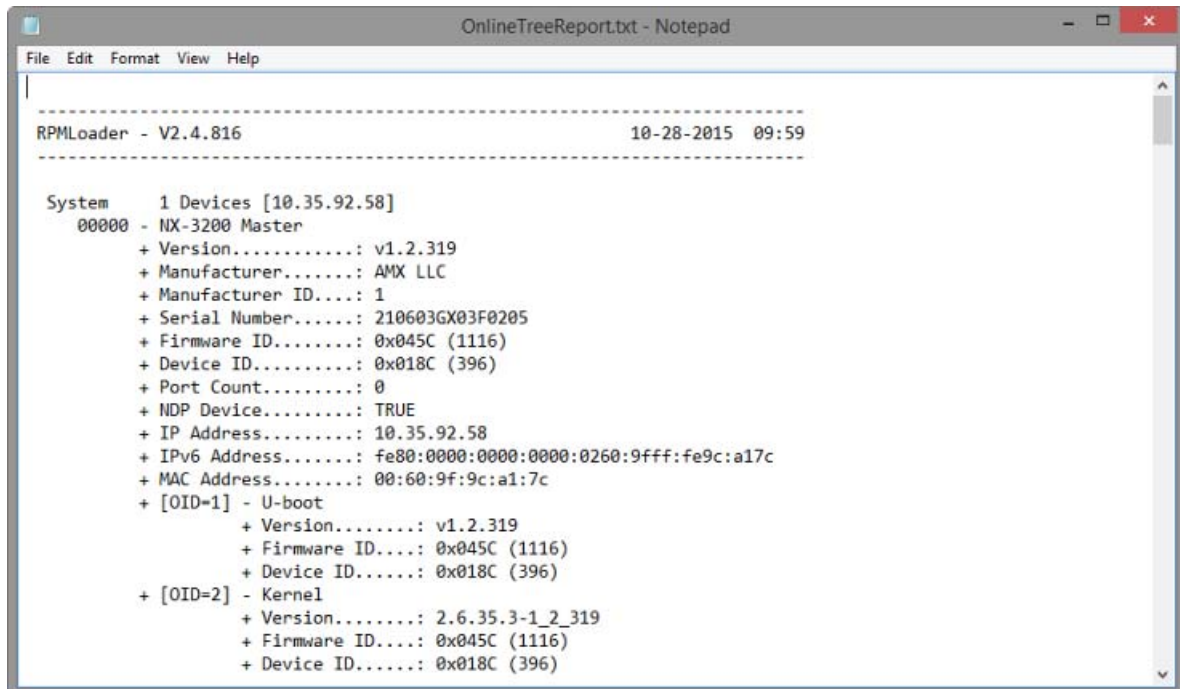
This report is in the form of an PDF document ("RPM\_Report.pdf"), and opens in your default PDF viewer. It provides a full summary of the current RPM Project, organized to follow the flow presented by the RPM web interface:

- Project Information
- Controller Information
- Device Count Listing
- Device Configuration Information
- <AMX Controller Type> Control Connections
- Direct Connections to Display Devices
- A/V Connections
- Macro Touch Panel Summary
- Macro Definitions
- Enzo Device - Enzo
- Sensor Diagrams
- Touch Panel - Touch Panel (including *Logo Image Uploaded*)
- Cable Diagrams
- Equipment List



## Online Tree Report

Select **View Online Tree Report** from the *Reports* Tasks window, or select **Reports > View Online Tree Report** to open the Online Tree report (FIG. 58):



```

OnlineTreeReport.txt - Notepad
File Edit Format View Help
-----
RPMLoader - V2.4.816                               10-28-2015  09:59
-----

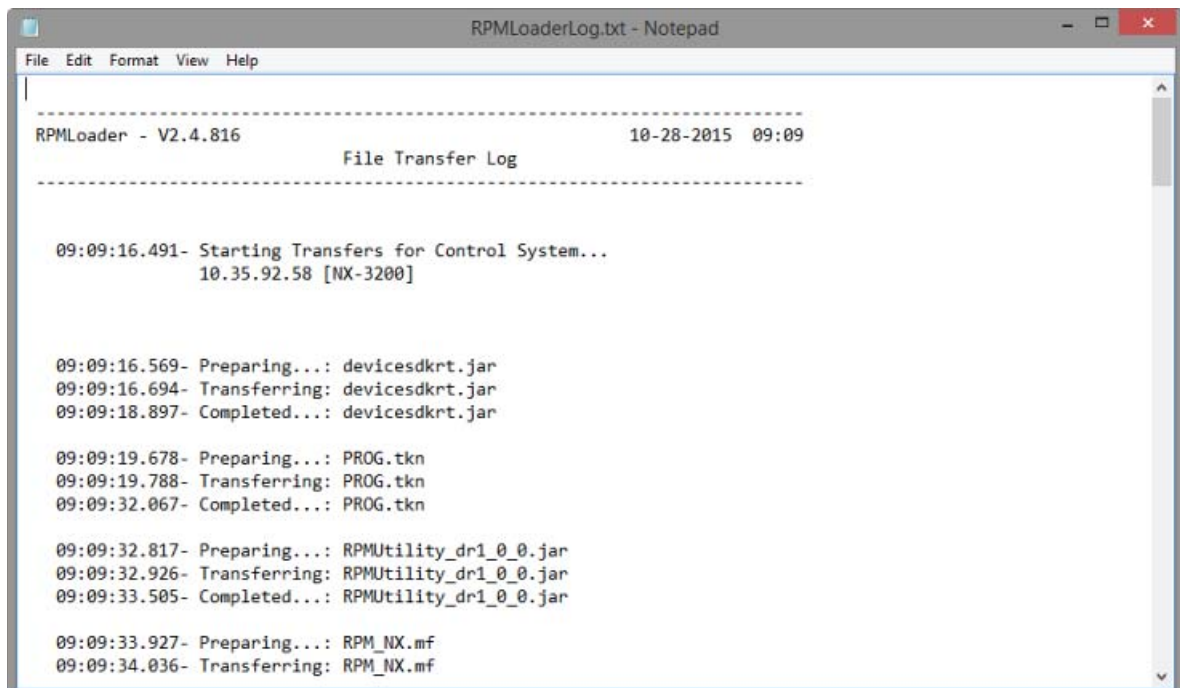
System      1 Devices [10.35.92.58]
  00000 - NX-3200 Master
    + Version.....: v1.2.319
    + Manufacturer.....: AMX LLC
    + Manufacturer ID....: 1
    + Serial Number.....: 210603GX03F0205
    + Firmware ID.....: 0x045C (1116)
    + Device ID.....: 0x018C (396)
    + Port Count.....: 0
    + NDP Device.....: TRUE
    + IP Address.....: 10.35.92.58
    + IPv6 Address.....: fe80:0000:0000:0000:0260:9fff:fe9c:a17c
    + MAC Address.....: 00:60:9f:9c:a1:7c
    + [OID=1] - U-boot
      + Version.....: v1.2.319
      + Firmware ID....: 0x045C (1116)
      + Device ID.....: 0x018C (396)
    + [OID=2] - Kernel
      + Version.....: 2.6.35.3-1_2_319
      + Firmware ID....: 0x045C (1116)
      + Device ID.....: 0x018C (396)
  
```

**FIG. 58** Example Online Tree Report

This report provides a summary of the online device tree for this RPM Project, in the form of a TXT file:

## Last File Transfer Log

Select **View Last File Transfer Log** from the *Reports* Tasks window, or select **Reports > View Last File Transfer Log** to open the *File Transfer Log* (FIG. 59):



```

RPMLoaderLog.txt - Notepad
File Edit Format View Help
-----
RPMLoader - V2.4.816                               10-28-2015  09:09
-----
                                File Transfer Log
-----

09:09:16.491- Starting Transfers for Control System...
              10.35.92.58 [NX-3200]

09:09:16.569- Preparing...: devicesdkrt.jar
09:09:16.694- Transferring: devicesdkrt.jar
09:09:18.897- Completed...: devicesdkrt.jar

09:09:19.678- Preparing...: PROG.tkn
09:09:19.788- Transferring: PROG.tkn
09:09:32.067- Completed...: PROG.tkn

09:09:32.817- Preparing...: RPMUtility_dr1_0_0.jar
09:09:32.926- Transferring: RPMUtility_dr1_0_0.jar
09:09:33.505- Completed...: RPMUtility_dr1_0_0.jar

09:09:33.927- Preparing...: RPM_NX.mf
09:09:34.036- Transferring: RPM_NX.mf
  
```

**FIG. 59** Example Last File Transfer Log

The File Transfer Log file ("RPMLoaderLog.txt") is a summary of all transfers that were included in the most recent file transfer operation, in the form of a text file.



# Advanced Operations

## Firmware File Transfers

Master Controllers use Kit files for firmware upgrades. A Kit file (.KIT) is a package of several files, all of which are required to upgrade the firmware, and are available online via [www.amx.com](http://www.amx.com).

- The Online Tree Bar displays information about each online device, including the current firmware version.
- Before attempting to upgrade the firmware to a Master, you must have the appropriate Kit file for your Master.

Warning! If for any reason your Kit file transfer should fail, continue to retry the transfer until you are successful. DO NOT reboot the Master, or change connections until the transfer is complete. Failure to complete this operation successfully may result in a factory repair of the Master.

Use the *Send To NetLinx Device* dialog to update the firmware in Master Controllers or System devices (FIG. 60):

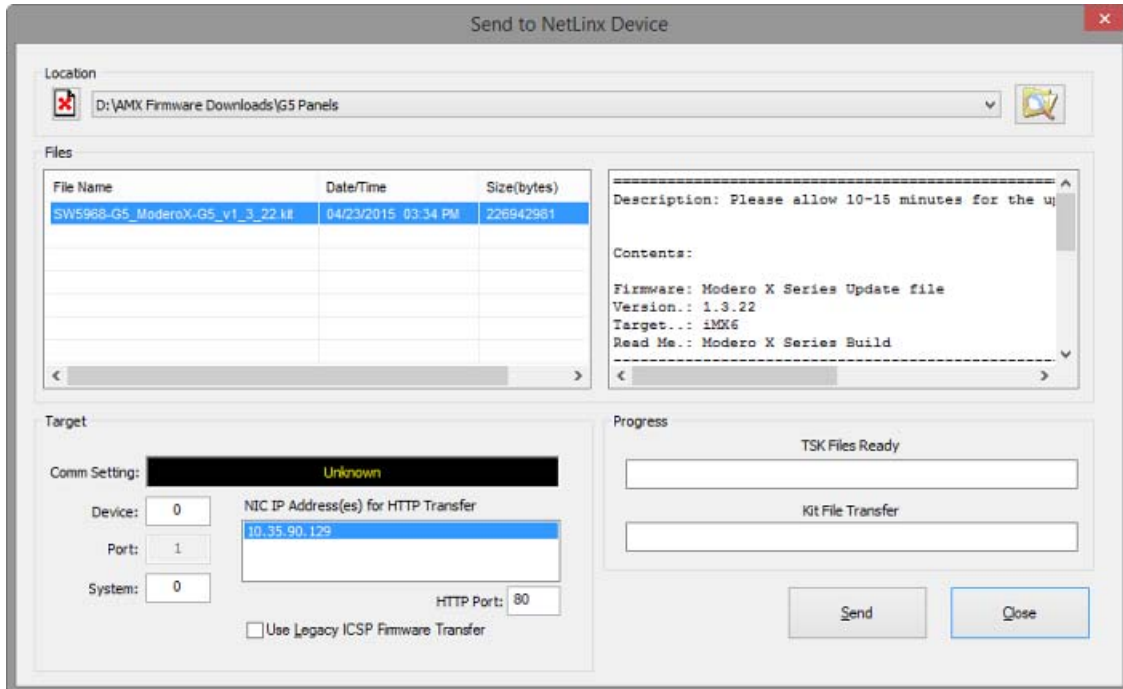


FIG. 60 Send To NetLinx Device dialog

1. Choose **Options > Advanced > Firmware File Transfer** to open the *Send To NetLinx Device* dialog.
2. Under *Location*, click the Browse button to locate and select the Firmware Directory that contains the desired KIT file, via the *Browse For Folder* dialog.

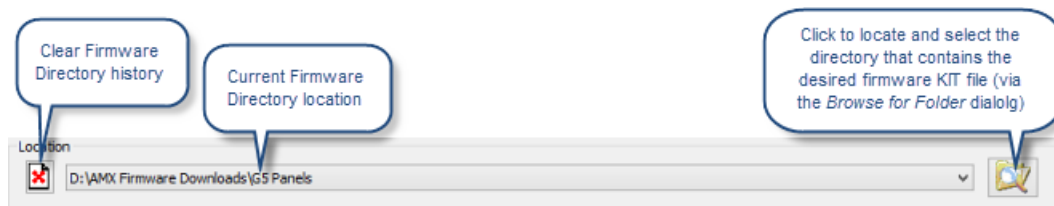


FIG. 61 Send To NetLinx Device dialog - Location

3. The *Files* window lists all of the KIT files that are in the selected Firmware Directory with each file's last modified date/time and file size. Select the appropriate .KIT file from the list.
4. Under **Target**, set the Device and System number of the device that is the target for this firmware transfer. If the Kit file is determined to be specifically for the target Master, the Device number is forced to zero. If the Kit file is for an unspecified device, you must enter the correct Device ID number (FIG. 62):

**FIG. 62** Send To NetLinX Device dialog - Target fields

- Use the Online Tree to determine the device's assigned ID.
  - **Port** is preset to 1 and cannot be edited.
  - If your PC has more than one NIC Card, use the **NIC IP Address(es) for HTTP Transfer** option to select which NIC card to use for this transfer.
  - **HTTP Port**: Specify which port to use for HTTP transfers. In most cases, the default setting of 80 should work.
  - **Use Legacy ICSP Firmware Transfer**: Check this option to use ICSP (rather than HTTP) for this transfer.
5. Review the *File*, *Connection*, *Address*, and *Target Device* information before you send.
  6. Click **Send** to send the selected KIT file to the specified device. The progress of the transfer is indicated in the *Kit File Transfer* progress bars.
  7. Allow 20-30 seconds for Masters to reboot. When the Master has rebooted, the Status LED on the front panel blinks once a second to indicate that it is functioning properly. Once it has rebooted, click **OK**.
  8. When the transfer is finished, and the reboot is complete, press **Close**.

## G5 Panel Firmware KIT File Transfers

RPMLoader (v2.0 or higher) will activate a stand-alone web server to transfer G5 Firmware KIT files via HTTP.

For G5 Panels, the *Send To NetLinX Device* dialog will automatically transfer the KIT file using the stand-alone web server that is started by the program.

The Firmware KIT file for these G5 panels contains a token within the description to signify to the program that a web server file transfer can take place, as indicated in the description section of the dialog (FIG. 63):

File Name	Date/Time	Size(bytes)
SW5968_ModeroX-G5_v0_0_54.kit	09-19-2013 08:20	237253944
SW5968_ModeroX-G5_v0_0_56-Full.kit	09-18-2013 15:46	237261376
SW5968_ModeroX-G5_v0_0_56.kit	09-18-2013 15:46	237260830
SW5968_ModeroX-G5_v0_0_61.kit	10-01-2013 14:35	235226229
SW5968_ModeroX-G5_v0_0_62.kit	10-03-2013 11:06	236558717
SW5968_ModeroX-G5_v2_0_0.kit	10-04-2013 11:04	240650645

Firmware: Modero X Series Build Prop file  
Version: 2.0.0  
Target: iMX6  
Read Me: Modero X Series Build

\*\*\*\* HTTP File Transfer Capable \*\*\*\*

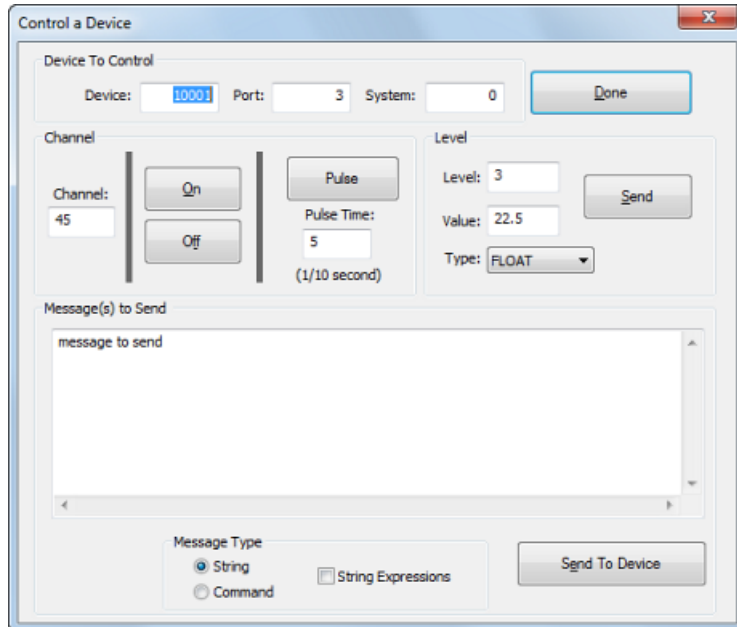
**FIG. 63** Send To NetLinX Device dialog - indicating G5 (HTTP File Transfer Capable) KIT file

If an error occurs during this type of transfer, the *HTTP Server Transfer Error* dialog is presented. This dialog provides options for completing the download.

## Controlling a Device

To send strings and/or commands to a device connected to the Master Controller. Note that you must be connected to a Master to use this function.

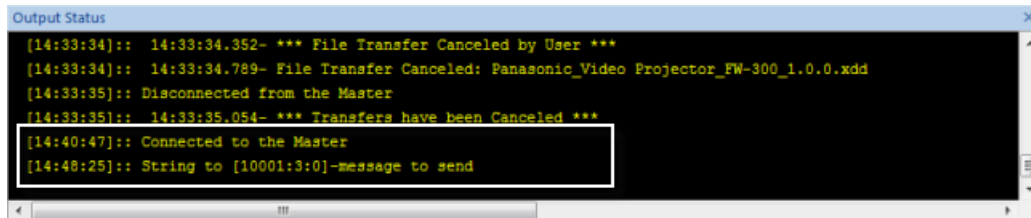
1. Select **Control a Device** in the **Options > Advanced** sub-menu to open the *Control a Device* dialog (FIG. 64):



**FIG. 64** Control a Device dialog

2. Enter the target device's D:P:S values in the **Device To Control** fields.
3. Enter the desired **Channel** and **Level** information for the target device.
4. In the **Message(s) To Send** field, enter the string or command to send to the specified device.
5. Click **Send To Device**.

Note the results are indicated in the Output Status Bar. For example, the entry highlighted below shows that the string "message to send" was sent to the device with D:P:S values of [10001:3:0]:



**FIG. 65** Output Status Bar Indicating Message Sent

## IP Address List Files

*IP Address List Files* provide the option of managing a list of IP Addresses as a separate file (CSV or TXT) that can be imported into RPMLoader, to quickly add target devices for file transfer operations. The **Import IP Address List File** and **Export IP Addresses** options are provided in the *Communication Settings* dialog (FIG. 66):

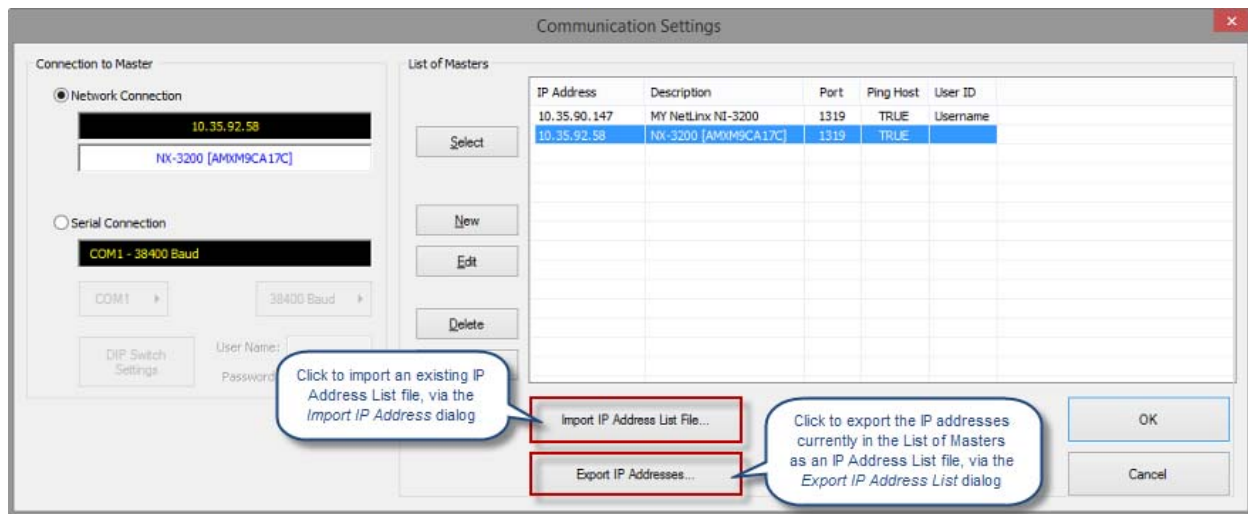


FIG. 66 Communication Settings dialog

### Importing an IP Address List File

1. In the *Communication Setting* dialog, click on **Import IP Address List File**. This selection opens the *Import IP Address List File* dialog (FIG. 67):

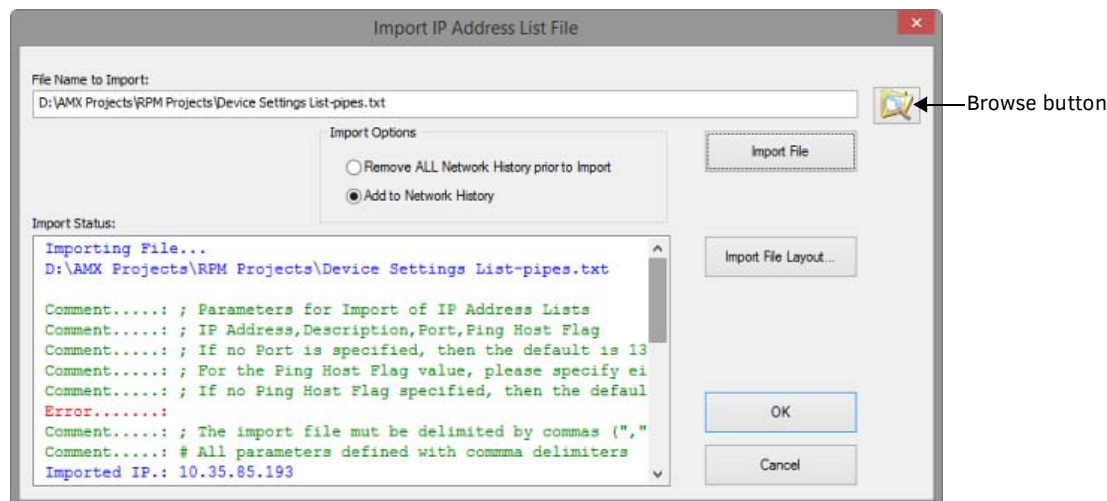
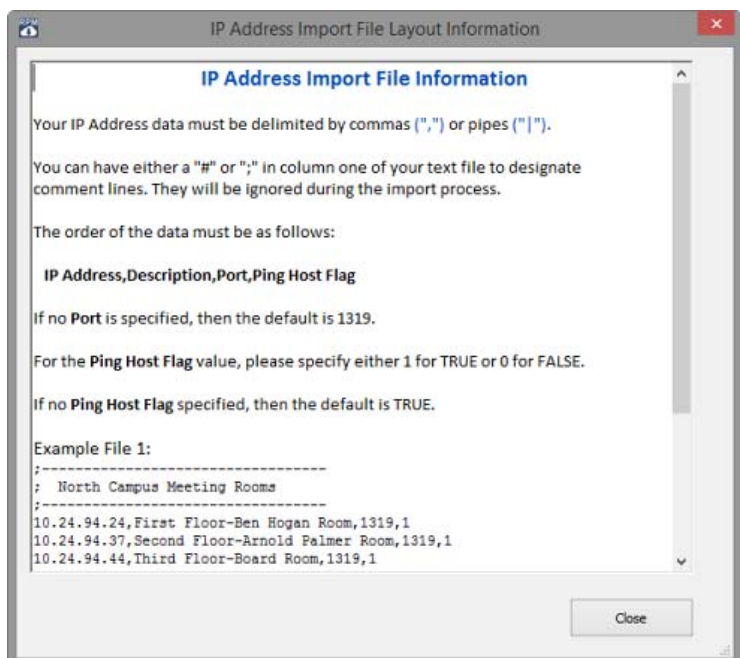


FIG. 67 Import IP Address List File dialog

2. Select an *Import Option*:
  - **Remove ALL Network History prior to Import** (default selection): Select this option to clear all entries from the IP address list (of the *Communication Settings* dialog) before adding the contents of the imported IP Address List File. With this option selected, only the IP Addresses in the imported file will be indicated.
  - **Add to Network History**: Select this option to add the addresses in the IP Address List File to the existing list of IP addresses (in the *Communication Settings* dialog).
3. Click the Browse button (see FIG. 67) to locate and select the desired .TXT or .CSV file (via the *Open* dialog). Alternatively, type the path and filename directly in the *File Name to Import* field.
 

**NOTE:** This file must contain one or more IP addresses formatted according to the rules described in the *IP Address Import File Information* section on page 37. These rules are also indicated in the *Import IP Address List File* dialog.
4. Click **Import File Layout** to open the *IP Address Import File Layout Information* dialog (FIG. 68):



**FIG. 68** IP Address Import File Layout dialog

This dialog describes the layout required by RPMLoader to utilize IP Address Import Files (see *IP Address Import File Information* on page 37).

5. Click **Import File** to import the selected .TXT or .CSV file.
6. Click **OK** to close the *Import IP Address List File* dialog and return to the *Communication Settings* dialog. The contents of the imported file are indicated in the *List of Masters* in the *Communication Settings* dialog.

#### IP Address Import File Information

Your IP Address data must be delimited by commas (",") or pipes ("|").

You can have either a "#" or ";" in column one of your text file to designate comment lines. They will be ignored during the import process.

The order of the data must be as follows:

**IP Address,Description,Port,Ping Host Flag**

- If no *Port* is specified, then the default is 1319.
- For the *Ping Host Flag* value, please specify either 1 for TRUE or 0 for FALSE. If no Ping Host Flag is specified, then the default is TRUE.

#### Example File 1:

```

;-----
; North Campus Meeting Rooms
;-----
10.24.94.24,First Floor-Ben Hogan Room,1319,1
10.24.94.37,Second Floor-Arnold Palmer Room,1319,1
10.24.94.44,Third Floor-Board Room,1319,1

```

#### Example File 2:

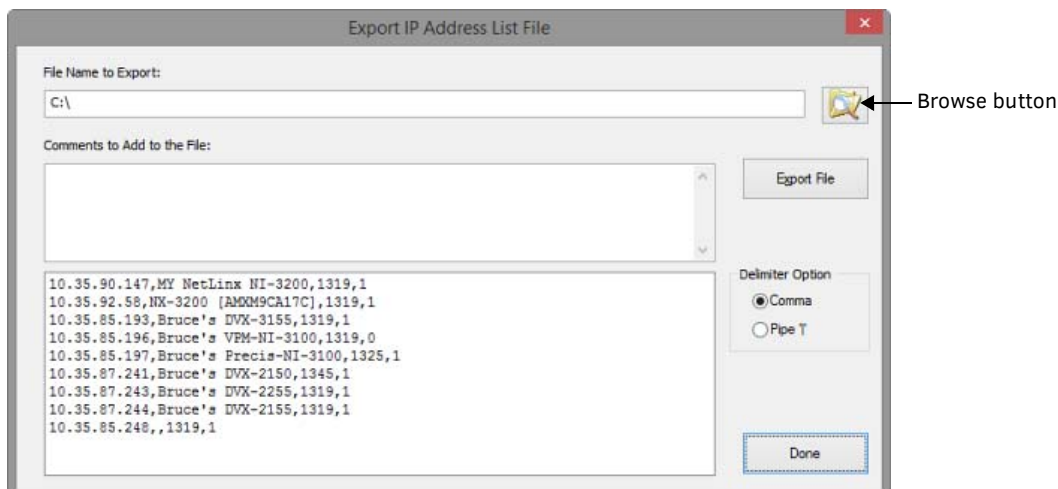
```

#-----
# South Campus Meeting Rooms
#-----
10.24.94.24|First Floor-Ben Hogan Room|1319|1
10.24.94.37|Second Floor-Arnold Palmer Room|1319
10.24.94.33|Third Floor-Board Room|1319|1

```

## Exporting an IP Address List File

1. In the *Communication Settings* dialog, click on **Export IP Address List File**. This selection opens the *Export IP Address List File* dialog (FIG. 69):



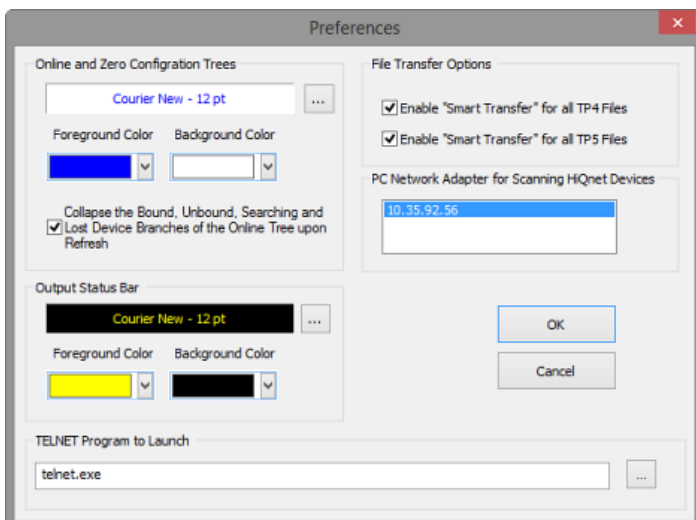
**FIG. 69** Export IP Address List File dialog

2. In the *File Name to Export* field, enter a name for the exported file.
3. Optionally, enter any comments that might prove helpful in the *Comments to Add to the File* field.
4. Select either *Comma* or *Pipe "|"* as the delimiter to use in the exported file (default = Comma).
5. Click the **Browse** button to specify the target directory for the exported file, in the *Save As* dialog.
6. Also in the *Save As* dialog, select either *TXT* or *CSV* as the desired file type for the exported file (default = *CSV File*).
7. Click **Save** to close the *Save As* dialog and return to the *Export IP Address List File* dialog. Note that the file path, file name and file type for the exported file are indicated in the *File Name to Export* field.
8. Click **Export File** to export the List of IP Addresses File according to the options selected. Click *Done* to close the *Export IP Address List File* dialog without exporting the file.
9. Click **OK** to close this dialog.

Once the file has been exported, it is available to be imported via the *Import IP Address List File* option in the *Communication Setting* dialog.

## Setting Program Preferences

Select **Options > Preferences** to open the *Preferences* dialog (FIG. 70). Use the options in this dialog to set various program-level preferences for RPMLoader:



**FIG. 70** Preferences dialog

The options in the *Preferences* dialog include:

## Online and Zero Configuration Trees

These options set the fonts and colors used in both the Online Tree Bar and the Zero-Configuration Bar:

- **Font:** Click the Browse button (...) next to the Font window to select a Font, Font Style and Size to use (via the *Font* dialog).
- **Foreground Color:** Click the arrow button to select the color for the Foreground (text) color.
- **Background Color:** Click the arrow button to select the color for the Background color.
- **Collapse the Bound, Unbound, Searching and Lost Device branches of the Online Tree upon Refresh:** This option is enabled by default, to prevent the constant display of potentially large numbers of NDP devices, as may be the case on some networks.

## Output Status Bar

These options set the fonts and colors used in the Output Status Bar:

- **Font:** Click the Browse button (...) next to the Font window to select a Font, Font Style and Size to use (via the *Font* dialog).
- **Foreground Color:** Click the arrow button to select the color for the Foreground (text) color.
- **Background Color:** Click the arrow button to select the color for the Background color.

## TELNET Program to Launch

Use this option to specify a Telnet program to launch for use with Serial File Transfers in RPMLoader (default = telnet.exe). To select a different program, click the Browse button to invoke the Open dialog. Locate and select the desired .EXE and click Close to close the dialog and save your changes.

## File Transfer Options

These options control whether to use Smart Transfer for TP4 (TPDesign4) and TP5 (TPDesign5) files. Smart Transfer reduces the transfer time by only replacing those panel files that have been updated (relative to the files already loaded in the panel). Any bitmaps, sound files and fonts that all already resident on the target panel are not included in the transfer.

- Click **Enable Smart Transfers for all TP4 Files** to enable or disable the Smart Transfer feature for TPD4 files (default = enabled).
- Click **Enable Smart Transfers for all TP5 Files** to enable or disable the Smart Transfer feature for TPD5 files (default = enabled)

## PC Network Adapter for Scanning HiQnet Devices

Use this option to select which NIC to use when scanning for HiQnet devices (only if your PC has multiple NICs).



# Using the BSS Configuration Wizard

## Overview

When you build a project with a BSS BLU-102 or BLU-103 device, the *BSS Configuration Wizard* option is displayed in the RPMLoader Tasks Bar, under Start (FIG. 71):

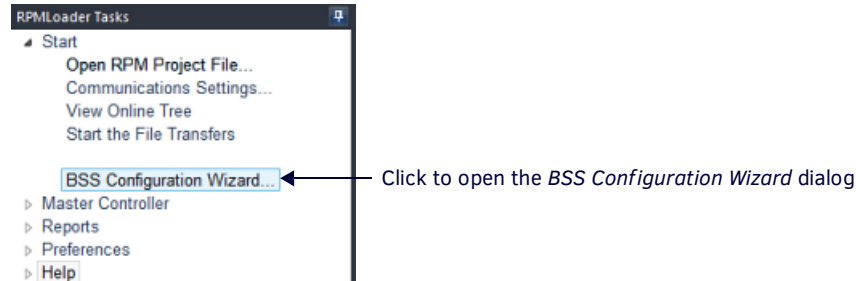


FIG. 71 RPMLoader Tasks Bar - BSS Configuration Wizard

Click this option to open the *BSS Configuration Wizard* dialog. Use the options in this dialog to configure BSS BLU-102/103 device(s) in the RPM project:

1. Select **BSS Configuration Wizard** to open the *BSS Device Configuration Wizard* dialog (FIG. 72):

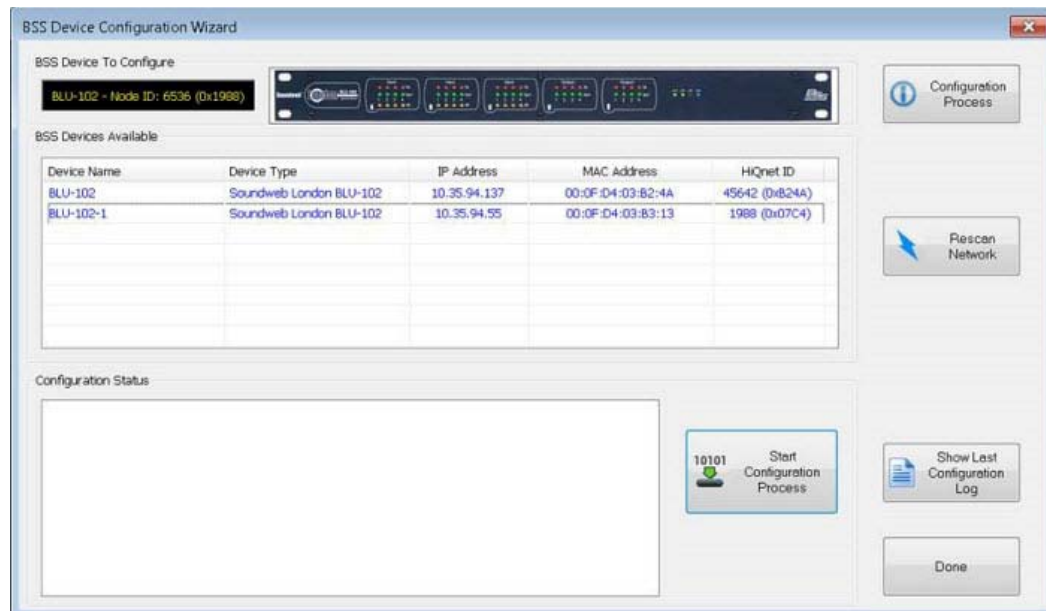


FIG. 72 BSS Configuration Wizard dialog

2. In the **BSS Devices Available** section, select a BLU-102/103 device to configure. Note that the selected device is indicated in the *BSS Device To Configure* field.
  - If you plug in your BSS device after this dialog is opened, select **Rescan Network** to search for new devices that have come online. To view or edit the PC Network Adapter that is used to scan HiQnet devices, see the Preferences dialog (see page 38).
  - If multiple PC Network Adapters (NICs) are detected on your PC, use the *NIC IP Addresses to Select* option to select which NIC to use when scanning for HiQnet devices (FIG. 73). If your PC only uses one NIC, then this option is not displayed.

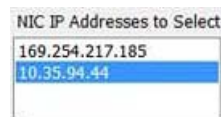


FIG. 73 BSS Configuration Wizard dialog - NIC IP Addresses to Select option

3. Click **Start Configuration Process**. This initiates a series of file transfers to the BLU-102/103 device, resets the device's Node ID, and configures the device to work with RPM.
  - This process should take 5-10 seconds to complete. Progress is indicated in the *Configuration Status* window.
  - The *BSS Configuration Report* will automatically be displayed afterwards. This report provides a summary of the configuration settings on the BLU-102/103 device.



4. After you exit the wizard, the Online Tree will refresh automatically to indicate the BLU-102/103 device that was configured, under the heading **HiQNet Devices** (FIG. 74):



FIG. 74 RPMLoader Online Tree indicating a BLU-102 (HiQNet device)

**NOTE:** It may be necessary to refresh the Online Tree again to see the BLU-10x device show up after it has rebooted.

### Rescan the Network

Click to scan the network for BLU-102/103 devices. If a BSS device is plugged in after the BSS Device Configuration Wizard dialog is opened, click **Rescan Network** to search for any devices that may have come online.

### Show Last Configuration Log

Click to display the most recent Configuration Log (.txt) file (FIG. 75):

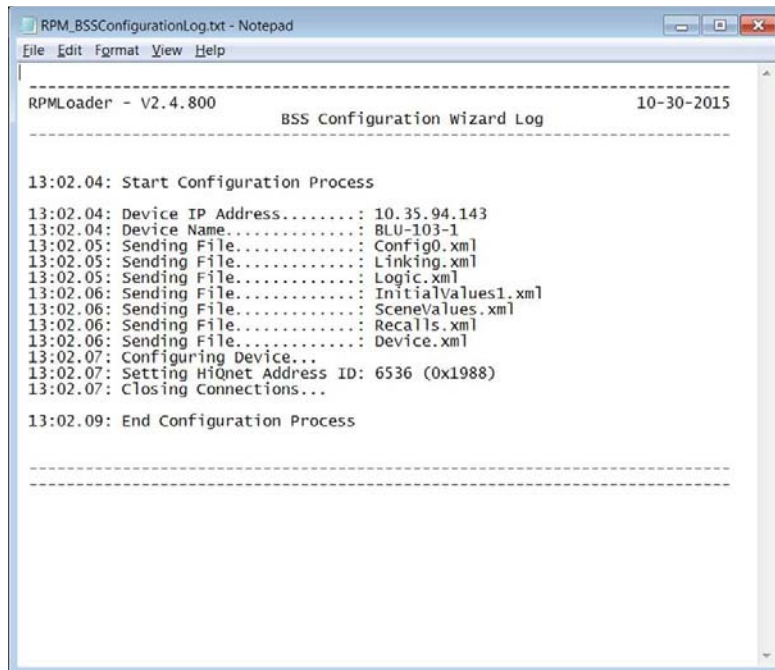


FIG. 75 Sample Configuration Log file

# Troubleshooting

## Overview

This section outlines common troubleshooting tasks that can be performed in case you have trouble using RPMLoader.

### Cannot Communicate with the Master Controller

RPMLoader Project Files that are generated by the RPM Web Application file come with the communications setting already defined. However, if you need to select a different network address for your control system, use the options in the *Communication Settings* dialog. Refer to the *Connecting to a Master Controller* section on page 11.

### Error During a File Transfer - Invalid Device Mapping

A file may not transfer to a device if the device mapping is invalid. Device mapping information (D:P:S) consists of a *Device* number, a *Port* number and a *System* number (see *Device:Port:System (D:P:S)* on page 23). To change the D:P:S:

1. Select the device within the File Transfer List Bar (see FIG. 54 on page 30).
2. Right-click to open the context menu, and select **Device Mapping**. This opens the *Enter DPS* dialog (FIG. 36 on page 22).
3. Enter the correct D:P:S and click **OK**.
4. After changing the device mapping, deselect all the files that did transfer successfully and make sure the problem file is selected on the File Transfer List.
5. Start the file transfer process again to send the file to the device.

If you are not sure of the correct device number, select **View the Online Tree** in the *Start Tasks* window. The Online Tree Bar will list the devices that are online with the Master Controller. From there, you can see which device number is correct for the device in question. Refer to the *Device Mapping* section on page 22.

### Error During a File Transfer - Device is Offline

If a device is "offline" with a Master Controller and a file will not transfer:

1. Select the **View the Online Tree** option in the *Start Tasks* window.
2. The Online Tree Bar will appear on the right and you will see all the devices that are online with the Master Controller.

### Need to Change a Configuration Parameter on a Master

If there is a need to further investigate the configuration of a Master Controller, select the **Launch Configuration Page** option in the *Master Controller* Tasks window. This will open the Web Configuration page of the connected NetLinX Master within your default browser. See *Opening the Master Controller's Configuration Page* on page 16.

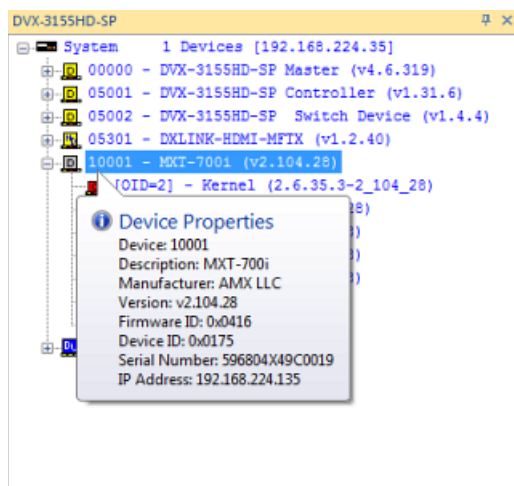
You may also launch a Telnet window for the Master Controller: select the **Launch Telnet Window** option in the *Master Controller* Tasks window. This will launch a telnet session with the Master Controller. See *Opening a Telnet Window* on page 18 for details.

### Need to Change a Configuration Parameter on a Device

When the Online Device Tree is displayed, you can launch a user-defined Telnet window using the IP address of the selected device. Right-click on the device in the Online Device Tree to open the context menu, and select **Launch Telnet Window**. See *Opening a Telnet Window* on page 18 for details.

### Need Detailed Information on a Device

Within the Online Tree Bar, right-click to open the context menu, and select **Device Properties**. This will display a "balloon window" that provides detailed properties for the selected device (FIG. 76):

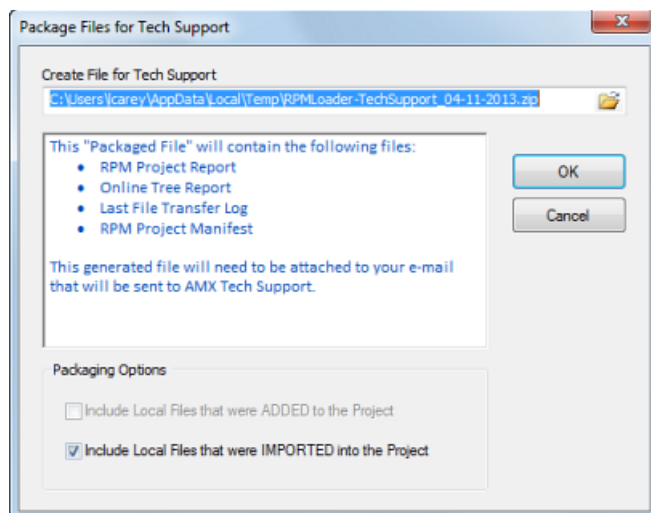


**FIG. 76** Example Device Detailed Properties Display

You can also generate a full report of all the devices (see *Online Tree Report* section on page 32).

## Package Files for Tech Support

In the case that the RPMLoader project fails to work, select **Package Files for Tech Support** from the *Help* Tasks window to access the *Package Files for Tech Support* dialog. Note that this command is also available via the Help Menu (FIG. 77):



**FIG. 77** Package Files for Tech Support dialog

Use the options in this dialog to create a ZIP file containing several key files in the current RPMLoader project, and e-mail the ZIP file to AMX Technical Support. The resulting ZIP file will contain the following:

- Online Tree Report
- RPM Project Report
- Last File Transfer Log

Packaging Options: These options are enabled only if this Project includes at least one local file in the File Transfer list:

- Include Local files that were ADDED to the Project.
- Include Local files that were IMPORTED into the Project.
- See *Adding Files To the File Transfer List* on page 29 for details.

When the **OK** button is pressed a ZIP file is generated, and an e-mail document is automatically generated, with descriptive text loaded into the body of the e-mail. Attach the ZIP file to the e-mail, and send to AMX Technical Support.

# RPMLoader - Program Reference

## Supported OS/Languages and PC Requirements

### Supported Operating Systems (OS)

- Windows 8.1 (32/64 bit)
- Windows 10 (32/64 bit)

**NOTE:** You must have Power User (or Administrator) rights to install and run all required System files.

### Supported Languages

- English
- German
- Spanish
- French
- Russian

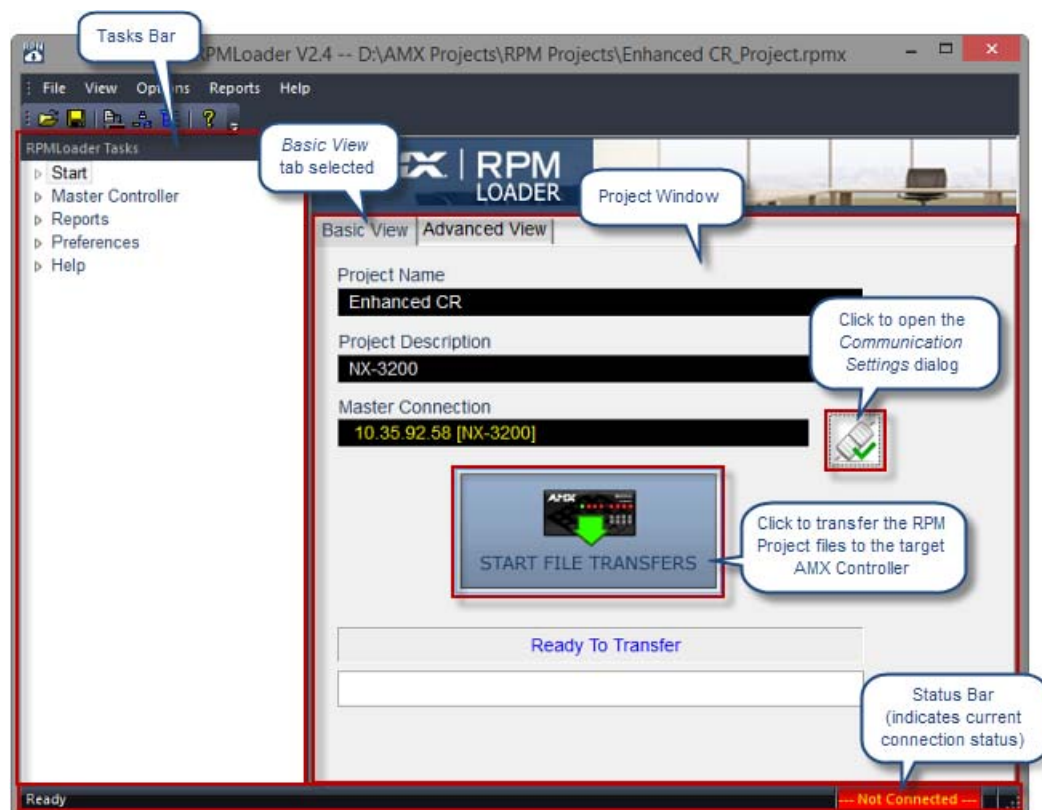
### PC Requirements/Recommendations

- 1.00 GHz Processor (minimum requirement); 1.5GHz or faster recommended.
- 100 MB Free Disk Space
- 1 GB RAM

**NOTE:** RPMLoader requires that the computer on which it is installed have internet connectivity for the purpose of application updates, and local network connectivity for the purpose of transferring system files to the control systems.

## RPMLoader - Basic View (Default Setting)

The RPMLoader UI features two tabs: *Basic* and *Advanced*. By default, RPMLoader opens to the *Basic* view, shown in FIG. 78:



**FIG. 78** RPMLoader (Basic View)

The Basic view provides access to all of the basic functionality of the RPMLoader application. If you are simply transferring a RPM Project to a target AMX Controller, you should only need to work in the Basic view.

## RPMLoader - Advanced View

FIG. 79 represents the RPMLoader *Advanced View*, which shows the *File Transfer List* and *Online Tree* bars (in addition to the Project Window, which is available via the Basic view). Use the *Basic View* and *Advanced View* tabs in the Project Window to switch views. Additionally, use the options in the View menu to show the Output Status and Zero-Configuration bars if desired.

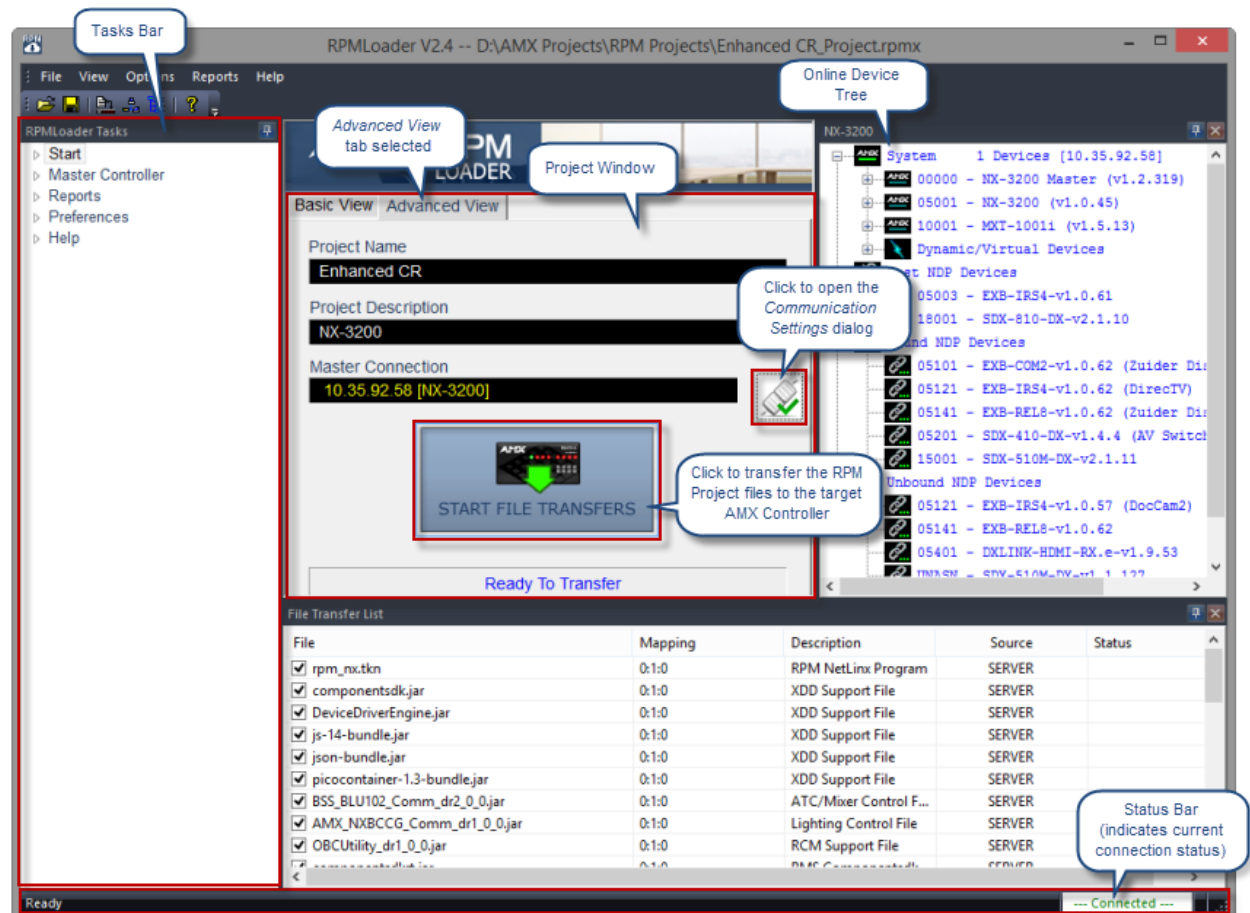


FIG. 79 RPMLoader (Advanced View)



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