Remote Control User Guide

• Setting Up DashBoard™ Remote Control

For openGear™ Frames Equipped with Cobalt® Cards

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Remote Control User Guide

This guide provides instructions for setting up and using DashBoard™ to provide the following card functions:

Setting Up DashBoard™ Remote Control *(page 4)*

- Provides instructions for setting up and using DashBoard™ remote control for HPF-9000, OG3-FR, and 8321 frames equipped with Cobalt® cards. Also provides helpful troubleshooting tips.

Managing Frames Using a Log *(page 26)*

- Provides a blank Frame Log Form and instructions that help ensure an orderly setup and installation process when using DashBoard™.

Note: For remote control setup of frames using a Cobalt® OGCP-9000 or OGCP-9000/CC Remote Control Panel, refer to the appropriate Remote Control Panel product manual (OGCP-9000-OM or OGCP-9000-CC-OM, as applicable).

Note: For information about uploading firmware to a Cobalt® COMPASS™ card, from the Cobalt® web site, go to **Support ➜ Firmware**, and click on the firmware update guide link.

Note: Various frames described here use different Network Controller Cards depending on the frame model as listed below. Please note the network controller model for your frame in the instruction sections that follow..

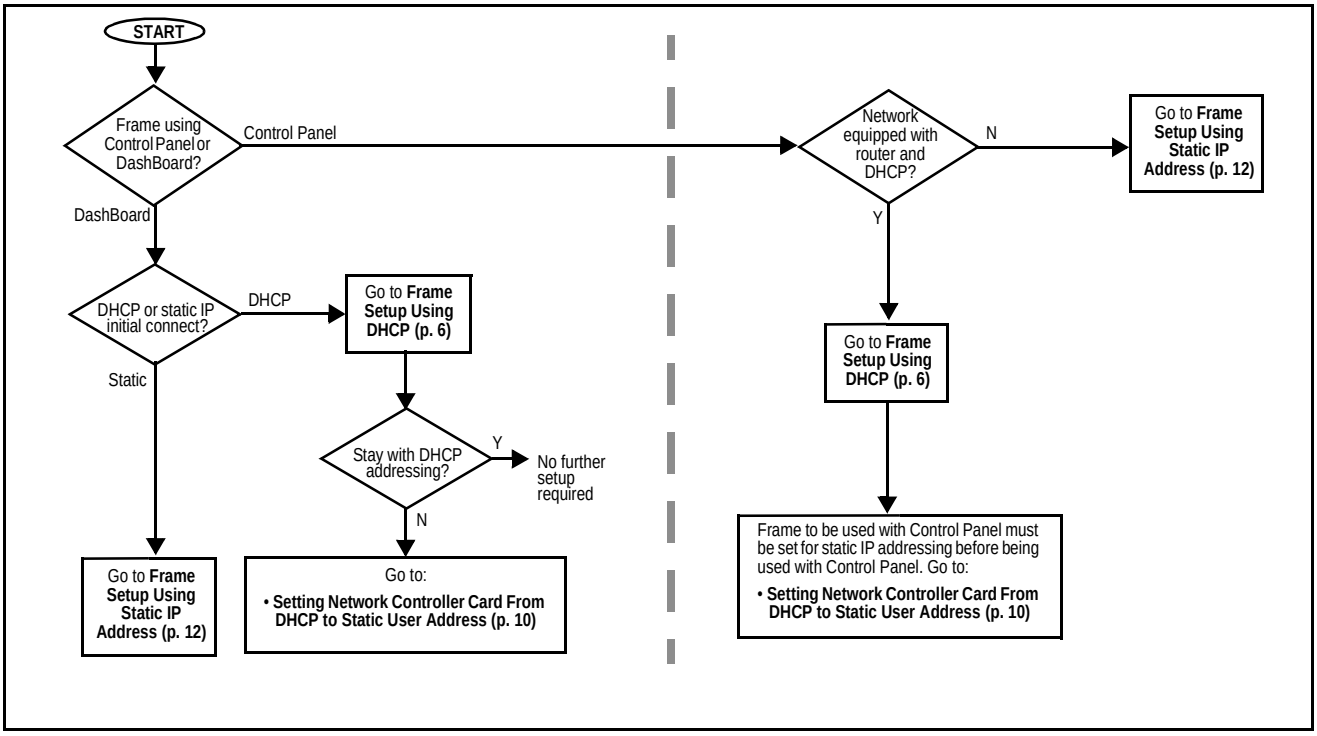
Frame Model	Network Controller Card Model
HPF-9000	HPF-FC or MFC-8320-N (Note)
OG3-FR	MFC-8322-N
Note: MFC-8320-N Network Controller Card has been replaced by HFP-FC. Earlier HPF-9000 frames may have MFC-8320-N installed. If replacement of an MFC-8320-N is required, the HPF-FC card has the same fit and offers most functions of the MFC-8320-N card.	

Setting Up DashBoard™ Remote Control

Before the cards can be used with DashBoard™, the frame and the computer running DashBoard™ must be set up to communicate ("connect") with each other as described in this section.

Note:
- Instructions in this guide assume the frame and its Network Controller Card are installed, powered, and cabled to the network in which it is to operate. To communicate with DashBoard™, the frame must have a Network Controller Card installed.
- Various frames use various Network Controller Cards (as identified on page 3 of this guide). Setup for any of the cards is very similar. Where setup procedure differences exist between the cards, these differences are noted.
- Full functionality as described in this guide requires DashBoard version 4.0.0 or higher to be installed on host computer(s).

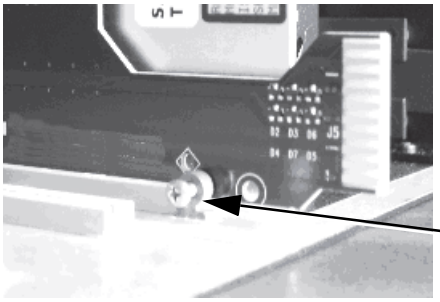
The flowchart below shows what's required to set up remote control for connecting the card/frame to a Cobalt® Remote Control Panel or DashBoard™, along with corresponding references to procedures in this section.



To set up remote control, in most cases it is likely the Network Controller Card will need to be removed from its frame to access mode switch settings. Unlike user card fitment into a frame slot, the Network Controller Card uses a locking retainer to prevent its accidental removal (as when removing a user card).

Unlock the card from the frame as shown below.

HPF-FC or MFC-8320 Card

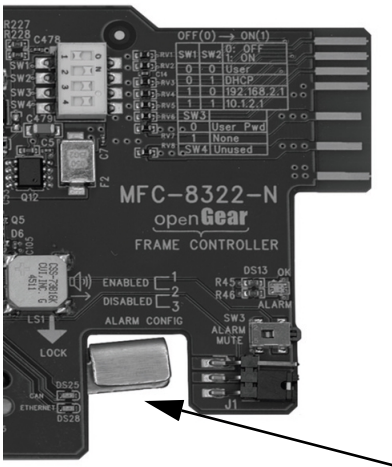


Front of Card

Unlock the card by fully loosening the captiive retaining screw near the front of the card. Card can then be pulled from slot.

Reverse this step to re-install and lock the card.

MFC-8322 Card



Front of Card

Unlock the card by lifting the card lock tab **up**. Card can then be pulled from slot.

Re-install the card and lock it by lowering lock tab until fully down.

Frame Setup Using DHCP

DHCP provides the simplest method of connecting frames to the LAN. However, it is typically recommended that frame connections be changed to use static IP addresses after the initial connection is established.

If it is desired to change the address to a static IP address after all frames have been connected in this procedure, follow the instructions in this procedure to change the address to a static IP address after the frame has connected.

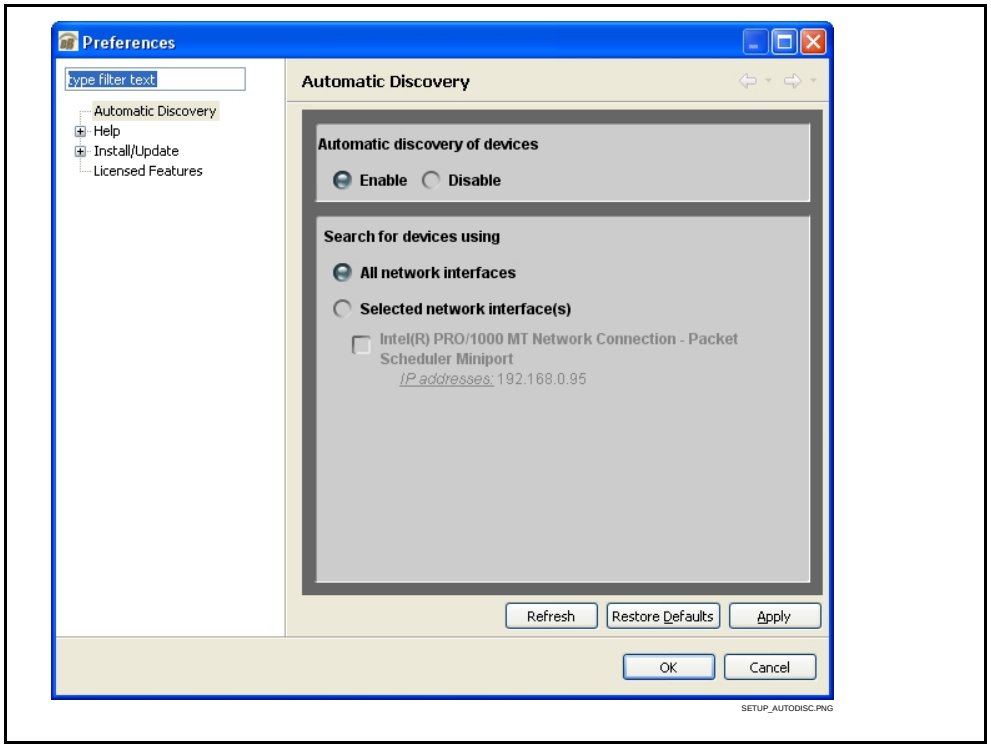
▸ Obtain and Install DHCP Server (if not present)

1. If the LAN connecting the frame(s) to DashBoard™ is not already configured with a DHCP server, obtain and install a DHCP server ("TFTP32" or an equivalent is suitable).

▸ Install and Set Up DashBoard™ (if not present)

2. On the computer connected to the frame LAN, go to the Cobalt Digital Inc. website: www.cobaltdigital.com and download DashBoard™. Follow the on-line instructions.

3. Open DashBoard™. Under **Window → Preferences...** make certain Automatic discovery of devices **Enable** button is selected (as shown below).



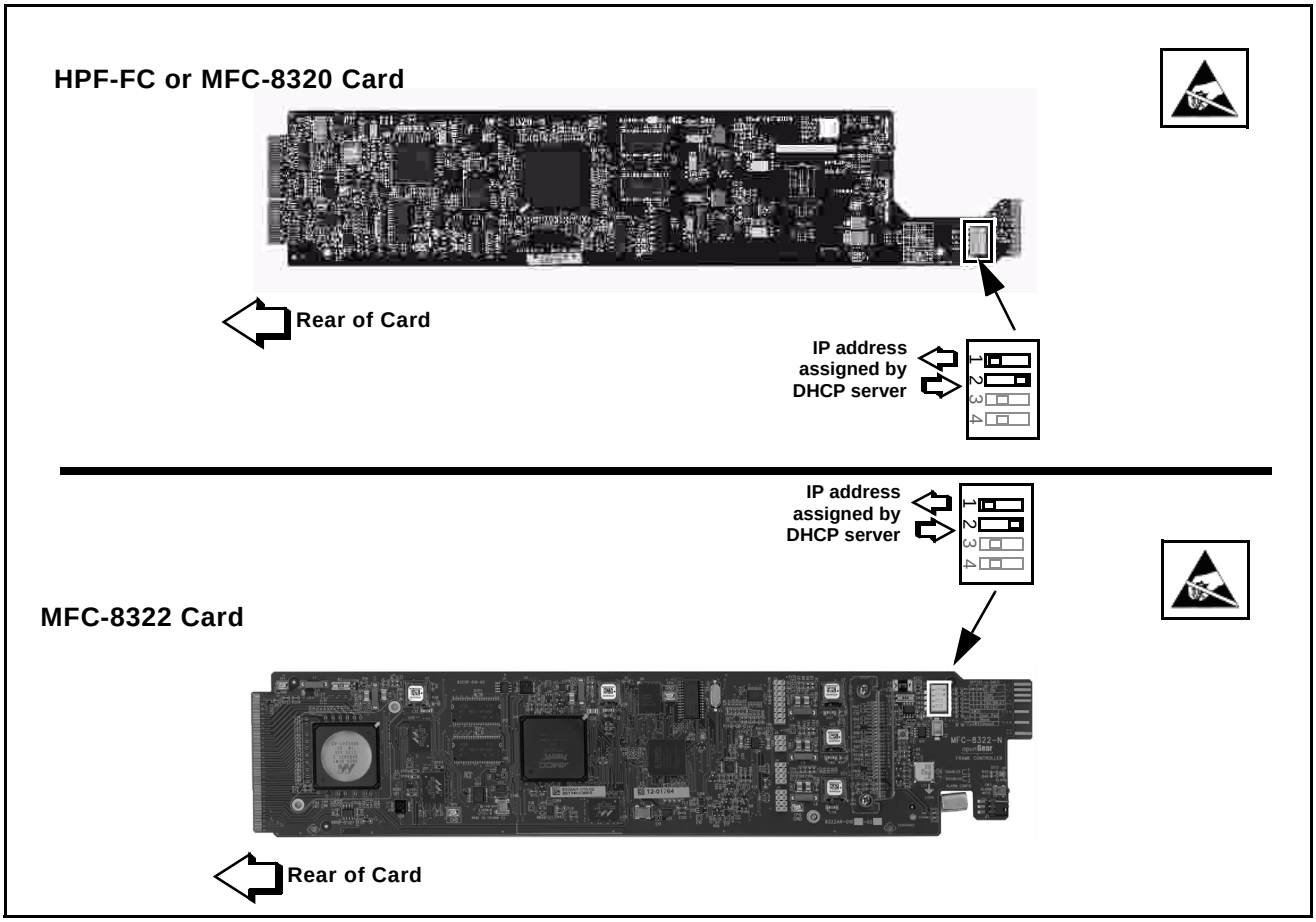
Set Network Computer for DHCP

Note:
- If connecting multiple frames using DHCP, allow adequate time to correlate the frame's network card serial number and its DHCP-assigned IP address before proceeding to the next frame. If frames are connected too rapidly without considering this, it may be difficult to correlate frame instances in DashBoard™ and the DHCP-assigned addresses with the physical identity of the frames.
- It is recommended to also identify each frame with its network card serial number and its assigned IP address. This can be easily done using the Frame Log Sheet included in the back of this manual. See Managing Frames Using a Log on page 23 for more information.

4. On the computer where DashBoard™ is installed, make certain TCP/IP Properties DHCP settings are as follows:
   - **Obtain an IP address automatically**
   - **Obtain DNS Server address automatically**

Set Network Controller Card for DHCP

5. On the Network Controller Card, make certain switches are set to the **IP address assigned by DHCP server** position as shown below.

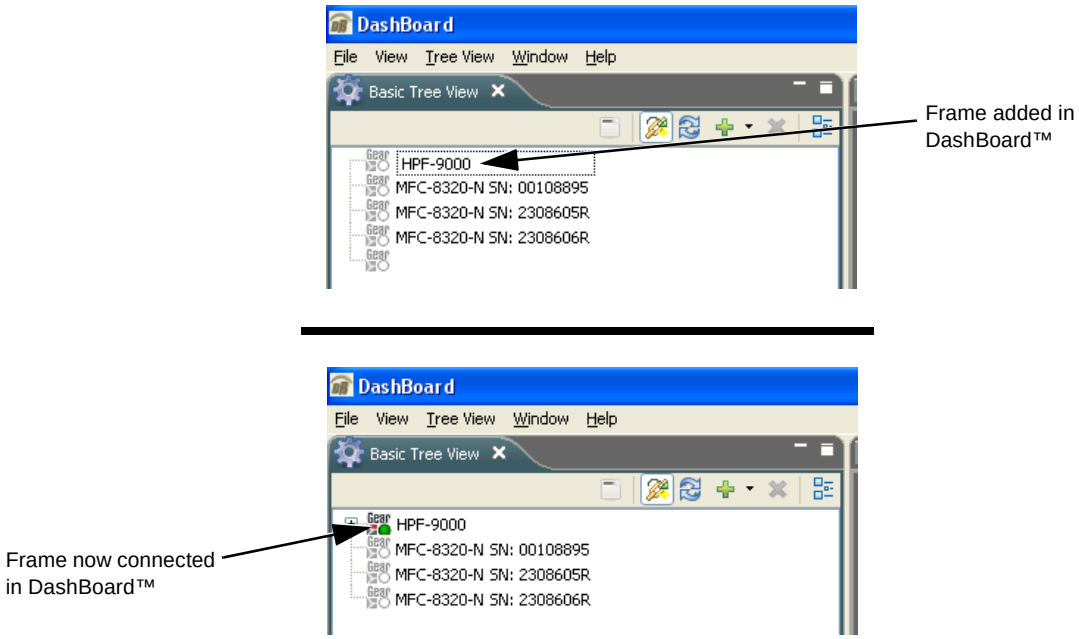


6. Connect the frame to the LAN.

7. Install the network card in the frame and power-up the frame. Wait for the network card to fully boot (red LED turns off).

8. By default, DashBoard™ is set to automatically connect to devices. The frame should now appear in the Basic Tree View pane (added frame “HPF-9000” as shown in the example below).

   (If necessary, right-click on the frame and select **Connect**. The frame is now connected to DashBoard™.)



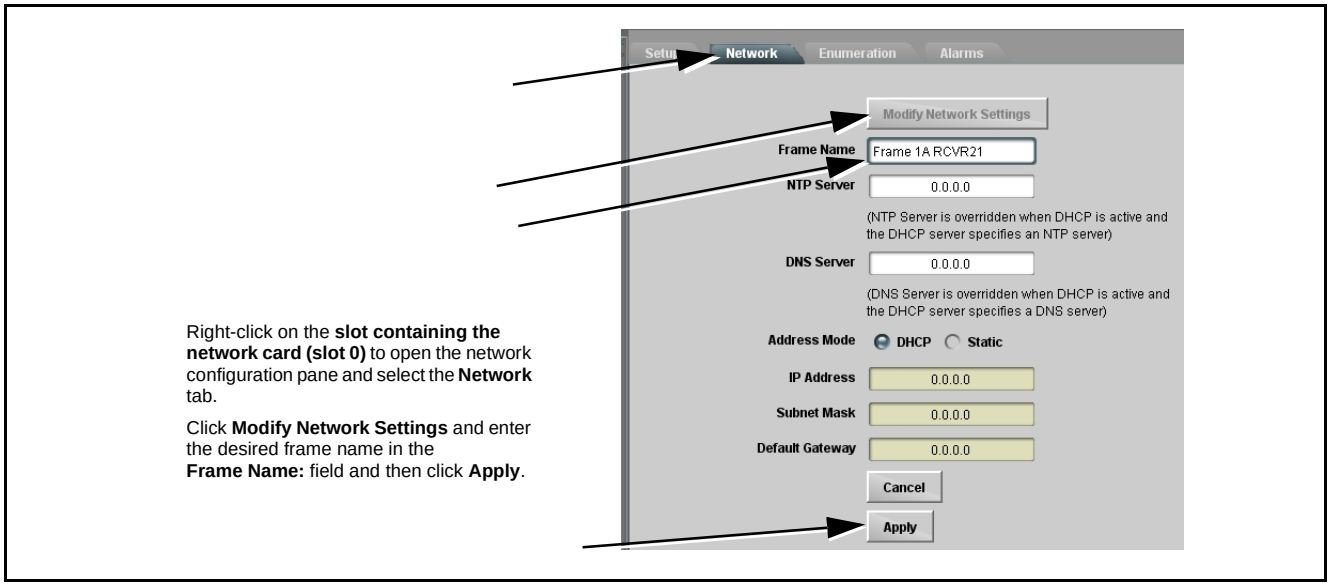
Note: • DashBoard™ may not be able to connect to the frame if firewalls or network segment controls are used between the computer running DashBoard™ and the frame. (DashBoard™ and the network card use TCP/IP and can be used with routers.)

• If DashBoard™ does not discover the added frame as described above, perform frame setup as described in Frame Setup Using Static IP Address on page 12. Also note that automatic discovery only works for frames within the subnet.

9. If desired, the frame name displayed in the Basic Tree View pane can be changed as shown below.

Note: In the next step make certain the frame's network card is given a unique name correlating to the frame physical identity.

As shipped, a Network Controller Card and its controlled frame supplied by Cobalt® are identified in DashBoard™ by the card/frame part number as shown in the examples in this section; therefore, no other action needs to be done unless a custom unique name is desired. Note that frames and/or network cards obtained from other vendors may not be similarly identified and may require a unique name before proceeding.

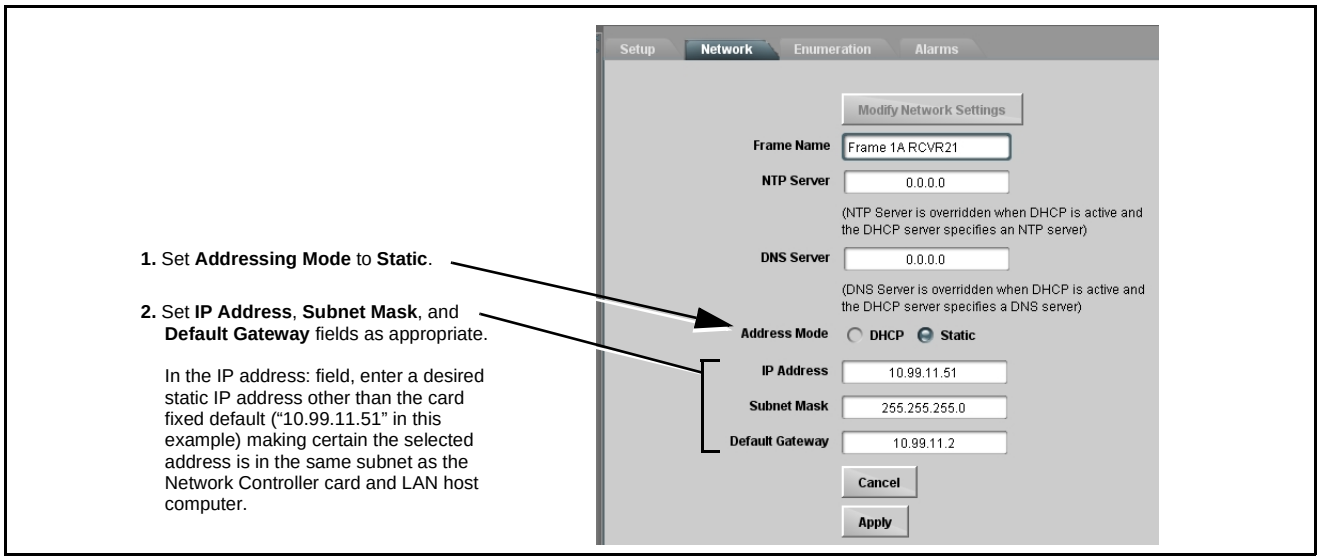


10. Depending on setup desired, proceed as follows:

- To keep setup as **DHCP IP address**, no further setup is required. The frame is now ready to access and control cards. Proceed to the appropriate product manual(s) for card operating instructions.
- To change to **static IP address**, depending on network card model, go to Setting Network Controller Card From DHCP to Static User Address.

Setting Network Controller Card From DHCP to Static User Address

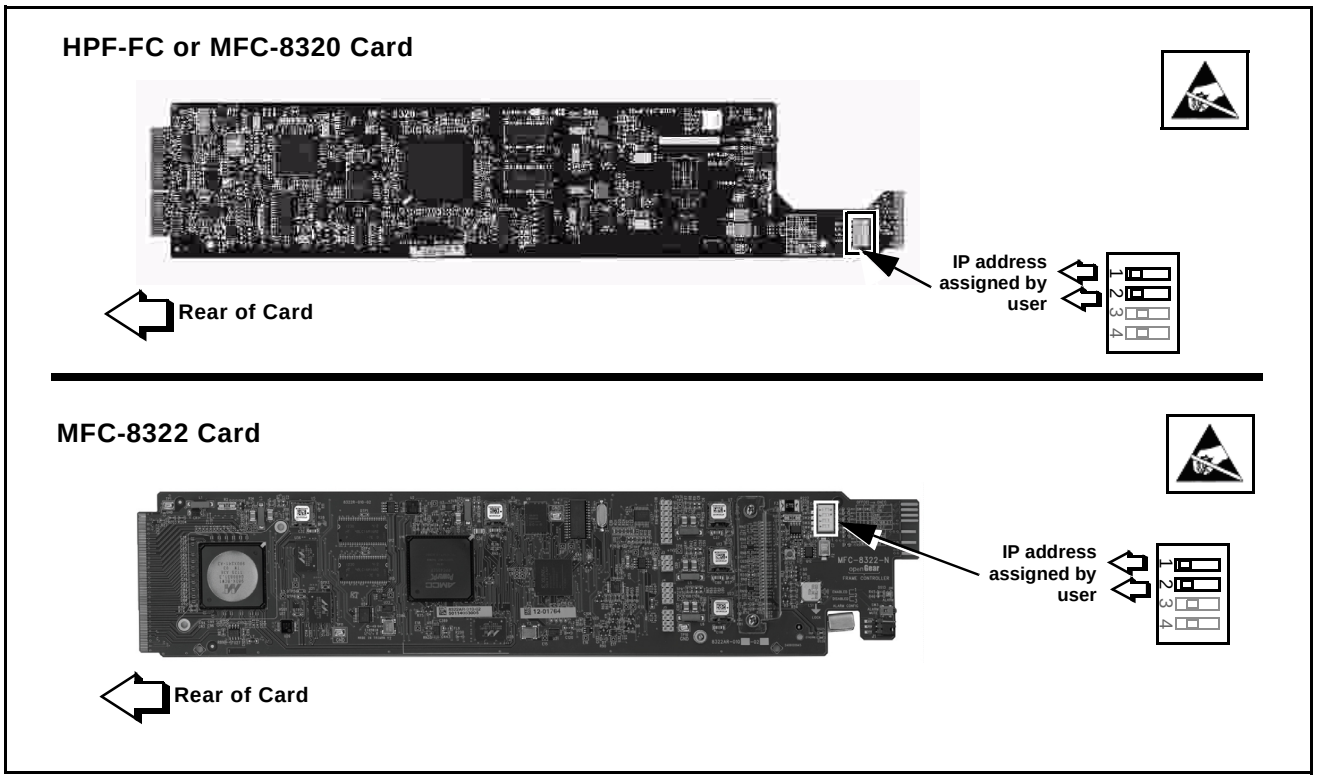
1. On Network Controller Card **Network** configuration pane, perform the settings shown below. (Where present, click **Modify Network Settings** to open dialog.)



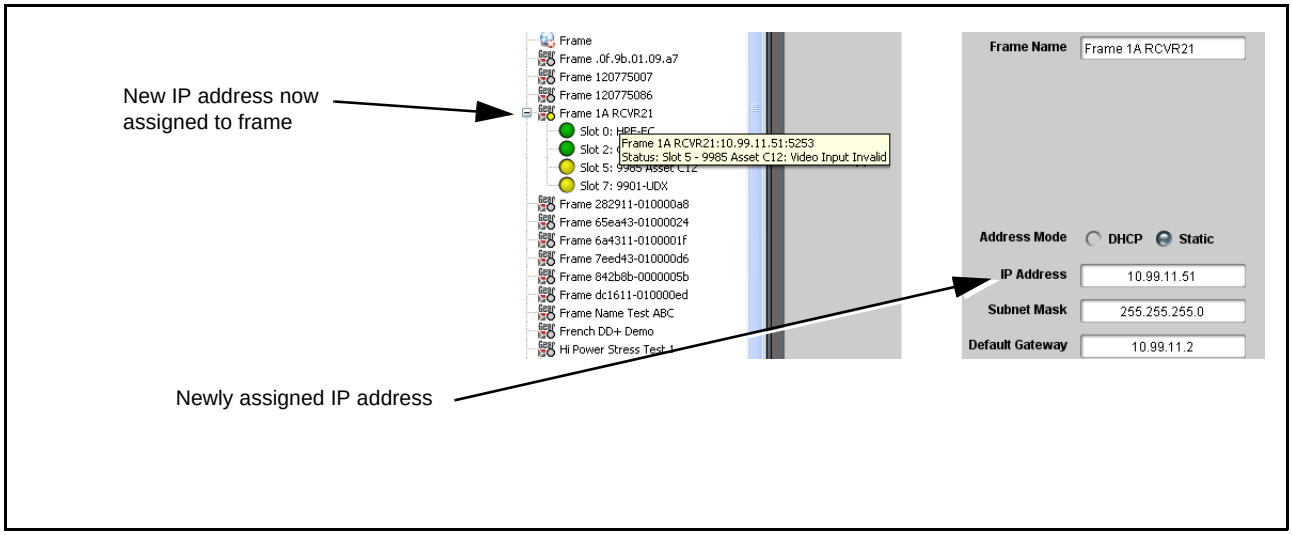
2. On **Network** configuration pane, click **Apply**.

Note: (MFC-8320-N only) The card will momentarily go offline; **wait for the card to come back online before proceeding**.

3. Remove the card from its slot and set DIP switches as shown below.



4. Re-insert the card. When the card again comes online, the frame now shows connection to DashBoard™ with the assigned static IP address (“10.99.11.51” as shown in the example below).



5. The frame is now ready to access and control cards. Proceed to the appropriate Product Manual(s) for card operating instructions.

Frame Setup Using Static IP Address

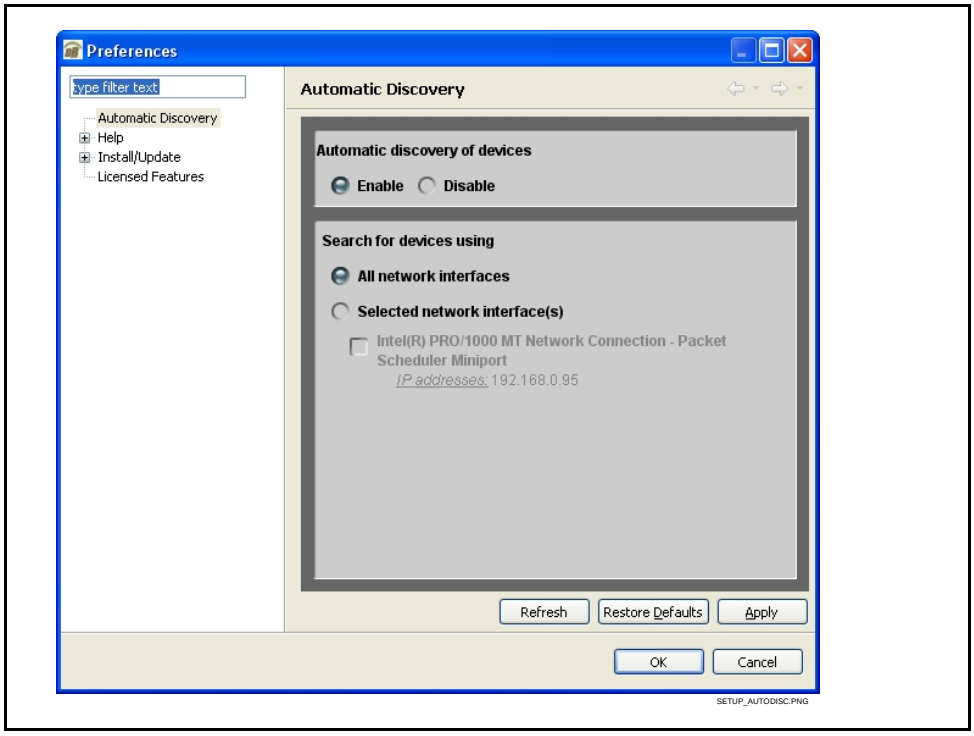
This procedure provides instructions for using the manual mode for adding a frame to DashBoard™. In this mode, the frame is set to use a static IP address, and DashBoard™ is set to look for and connect to a specific frame address. This mode is useful where network problems or resource availability prevent DHCP usage.

Note: If static IP addresses are to be used, carefully follow this procedure. If the procedure is not followed as specified, DashBoard™ may lose all communication with the frame, thereby requiring the procedure to be repeated in its entirety.

▸ Install and Set Up DashBoard™ (if not present)

1. If not already performed, install DashBoard™ on the computer connected to the frame LAN as described in steps 2 and 2 in **Frame Setup Using DHCP** on page 6.

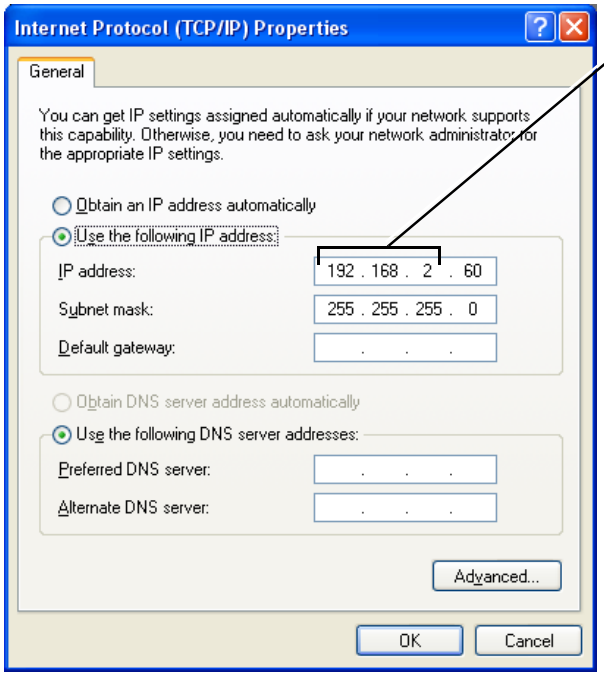
2. Open DashBoard™. Under **Window → Preferences...** make certain Automatic discovery of devices **Enable** button is selected (as shown below).



Note: It is recommended to identify each frame with its network card serial number and its assigned IP address. This can be easily done using the Frame Log Sheet included in the back of this manual. Refer to Managing Frames Using a Log on page 26 for more information.

Set Network Computer for Static IP Addressing

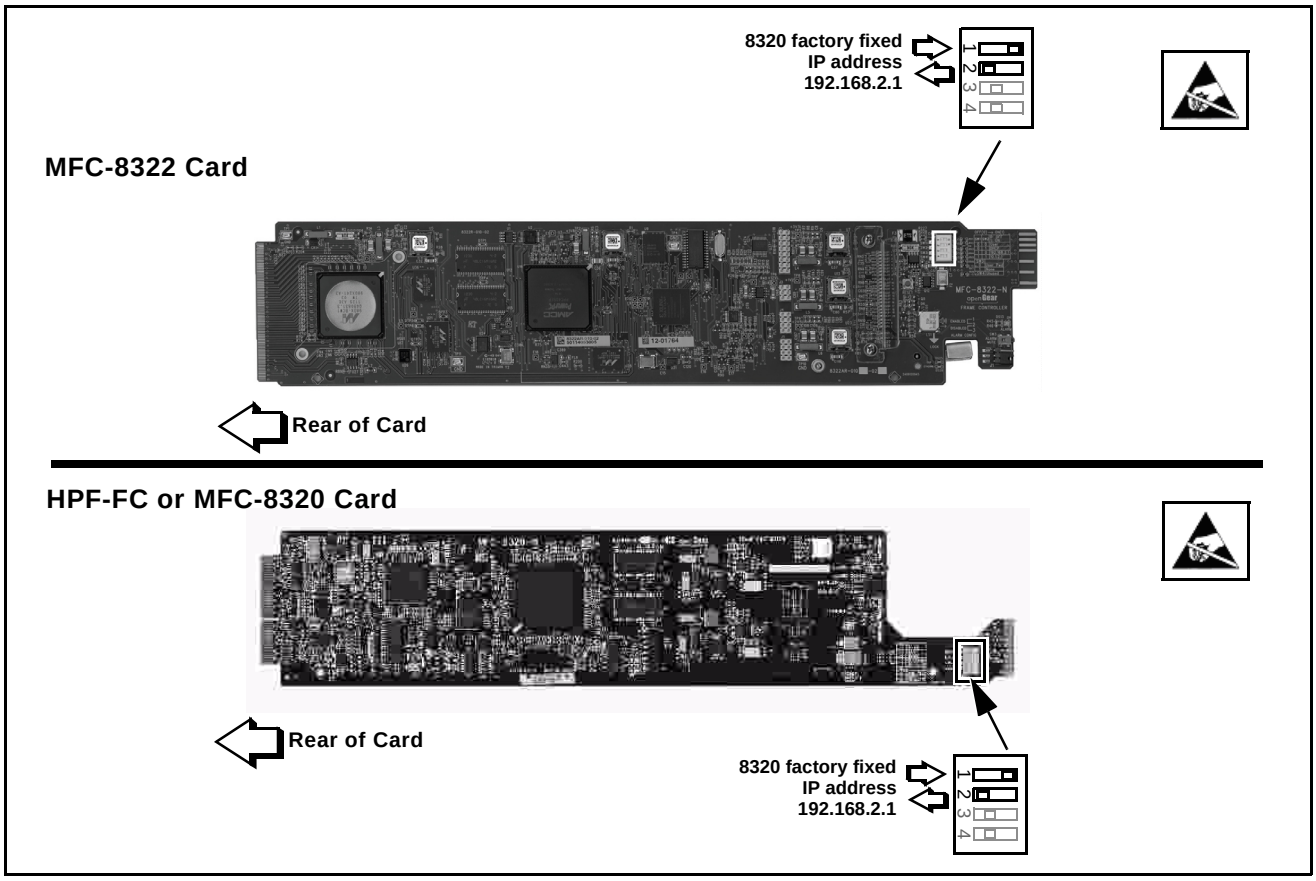
3. As shown below, set the frame LAN computer to add static IP addressing that is on the same network as the network card default static IP address of 1**92.168.2.x**.



Note: When using a frame static IP address, if not already done it is recommended to isolate the LAN segment containing the frame, the hosting computer, and intermediate hubs or switches from other parts of the network. This prevents a potential conflict between the frame and any other node that might also have this address.

Set Network Controller Card for Initial Factory Fixed IP Address

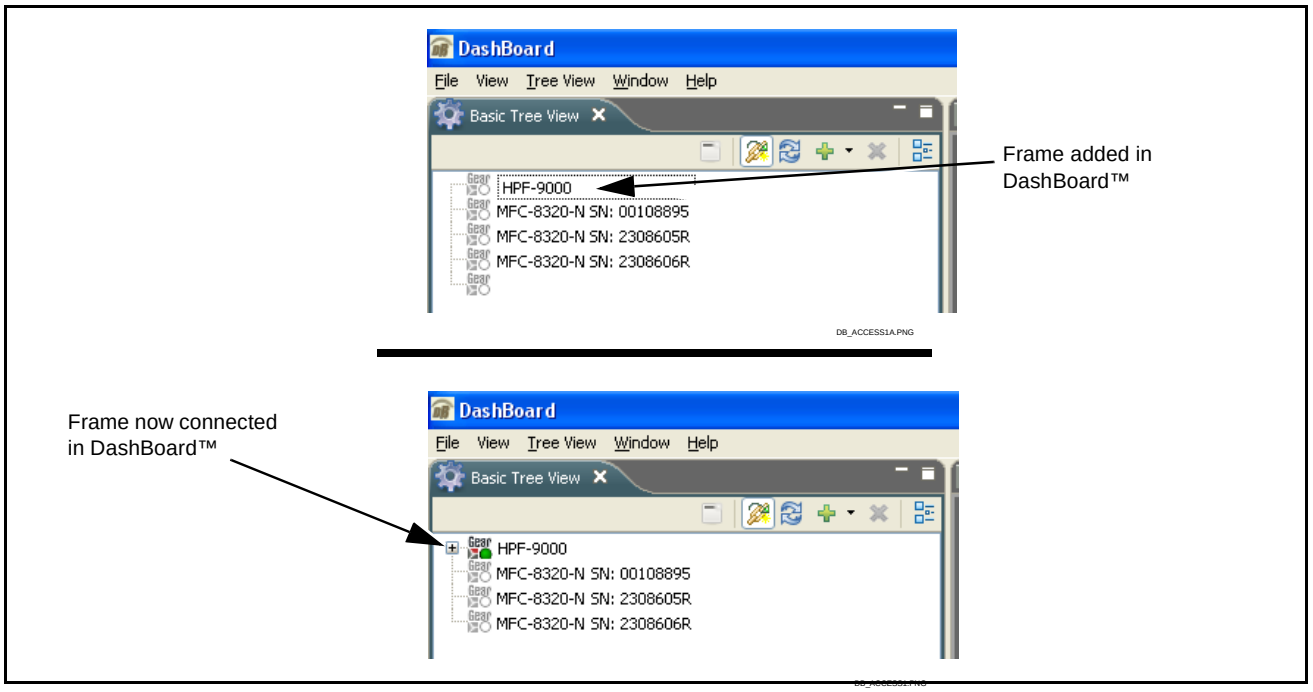
4. Set network card DIP switch to the **factory fixed static IP address** position as shown below. This establishes the initial connection between the card and the network computer.



5. Connect the frame to the LAN and power-up the frame.

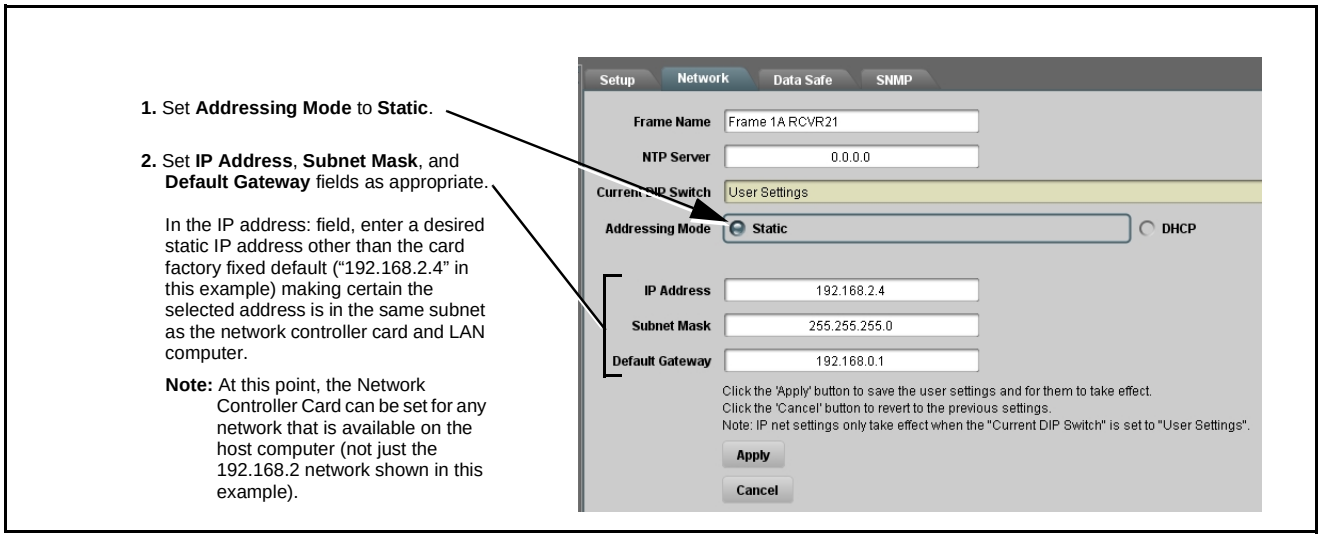
6. Install the network card in the frame. Wait for the network card to fully reboot (red LED turns off).

7. The added frame should now appear in the Basic Tree View pane. If necessary, right-click on the frame and select **Connect**. The frame is now connected to DashBoard™.



Set Network Controller Card to Desired Unique Static IP Address

8. On Network Controller Card **Network** configuration pane, perform the settings shown below. (Where present, click **Modify Network Settings** to open dialog.)



Note: Do not leave the IP address as the factory default 192.168.2.1. If other frame are to be installed later, the IP address being left at default will conflict with subsequent frames installed as described here.

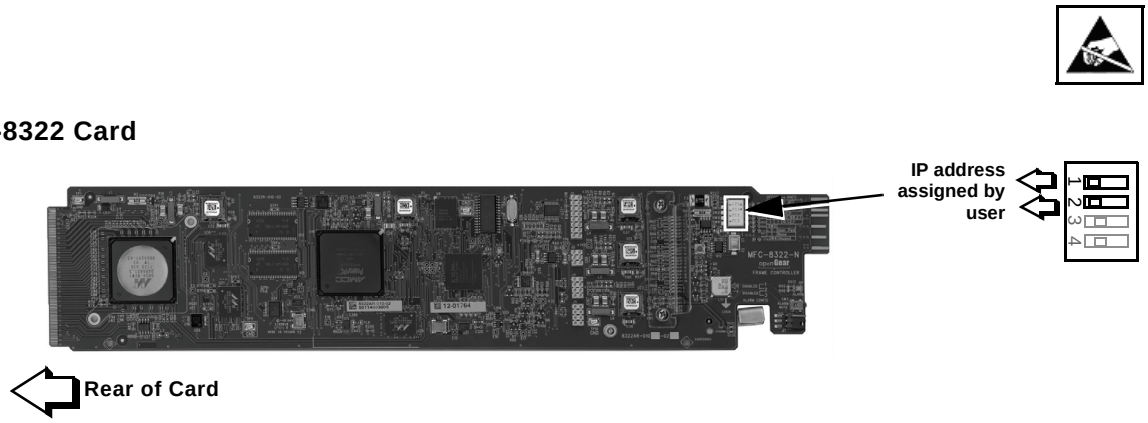
9. On **Network** configuration pane, click **Apply**.

Note: (MFC-8320-N only) The card will momentarily go offline; **wait for the card to come back online before proceeding**.

10. Remove the card from its slot and set DIP switches as shown below.

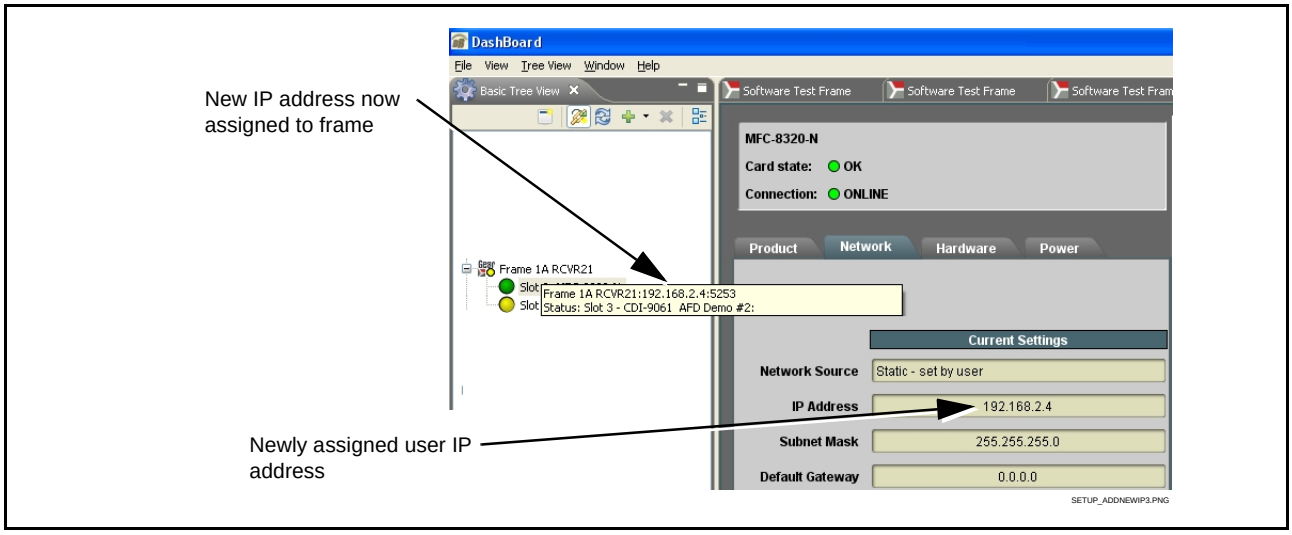
HPF-FC or MFC-8320 Card

MFC-8322 Card



Note: Time required for card to come back online depends upon amount of frames connected to DashBoard™.

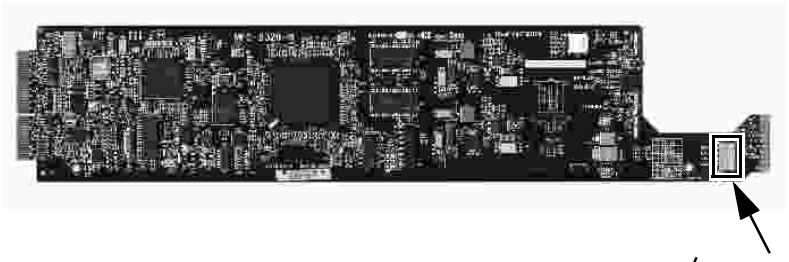
11. Re-insert the card. When the card again comes online, the frame now shows connection to DashBoard™ with the assigned static IP address ("192.168.2.4" as shown in the example on the next page).



12. The frame is now ready to access and control cards. Proceed to the appropriate Product Manual(s) for card operating instructions.

DIP switches SW-1 and SW-2 provide various network settings for the card. For reference, these are described below. Note that for normal installations, manipulation of these switch as shown in the procedures above is all that is required.

HPF-FC or MFC-8320 Card

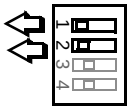


MFC-8322 Card

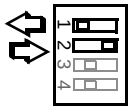
Rear of Card

Note: In all cases using static addressing, typical subnet setting is 255:255:255:0

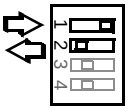
Static IP address assigned by user



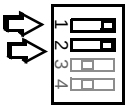
IP address assigned by DHCP



IP address set to factory fixed factory: 192.168.2.1

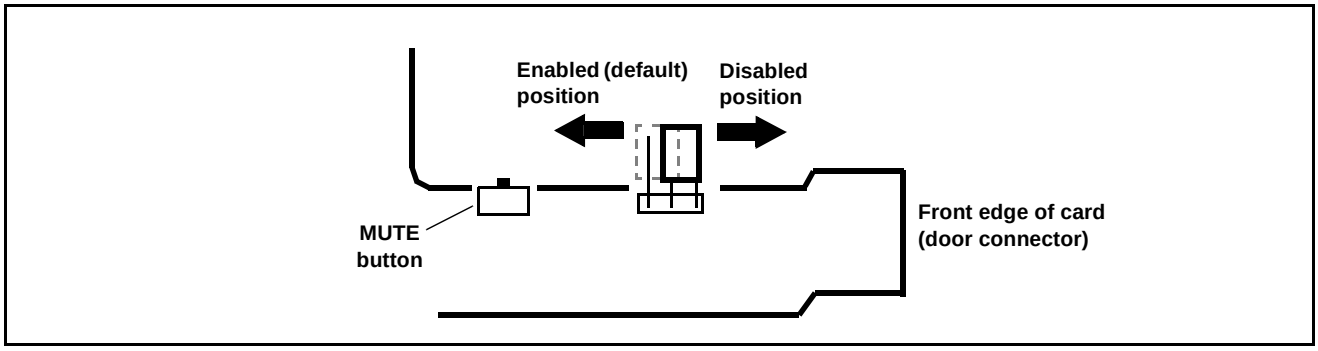


Local/private address set to fixed factory: 10.1.2.1



Setting Network Controller Card to Mute Audible Alarms

The frame has a pushbutton to temporarily mute the “beeper” on the card. However, to persistently mute audible alarms, set the Network Controller Card **ALARM CONFIG** jumper to the **Disabled** position as shown below.



Troubleshooting Network/Remote Control Errors

The table below provides network/remote control troubleshooting information. If the card or its remote connection(s) exhibits any of the symptoms listed in the table, follow the troubleshooting instructions provided.

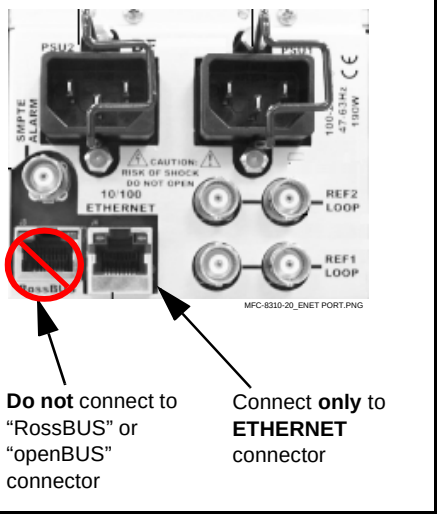
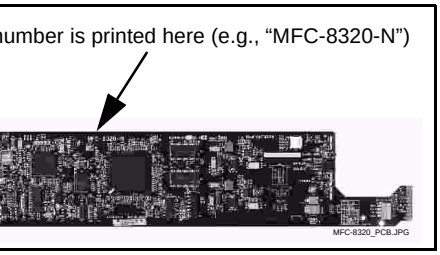
Note: All remote control items described here use industry standard 10/100 Mbps Ethernet for communication between the Network Card/frame and remote control systems such as DashBoard™.

Standard LAN troubleshooting techniques and practices are applicable to this usage. The RJ-45 receptacle that provides the frame connection to the LAN is equipped with an activity status indicator that can be used to determine activity status.

Troubleshooting Network/Remote Control Errors by Symptom

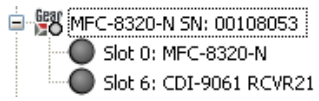
Symptom	Error	Corrective Action
DashBoard™ does not discover newly added frame; newly added frame will not connect to network	• DashBoard™ may not be set to automatically discover added devices	• Make certain DashBoard™ is set to automatically discover devices as specified in Frame Setup Using DHCP on page 6. **Note:** The surest method of establishing a connection is to use static addressing using the network card’s factory fixed IP address to establish initial connection. When connection is established using factory fixed IP address, the connection can then be changed to a unique IP address in accordance with Frame Setup Using Static IP Address (p. 12).

Troubleshooting Network/Remote Control Errors by Symptom — continued

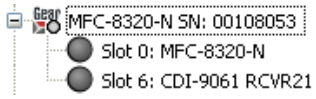
<table>
<tr><th>Symptom</th><th>Error</th><th>Corrective Action</th></tr>
<tr><td rowspan="2">(Continued) DashBoard™ does not discover newly added frame; newly added frame will not connect to network</td><td>• Damaged Ethernet cable or cable mis-connected</td><td>• Make certain the Ethernet cable is properly connected (see below) and showing activity on the LAN switch indicators and the ETHERNET connector indicator on the frame. Use <code>ping</code> or <code>netstat</code> to check the connection.
 
</td></tr>
<tr><td>• Network Controller Card not compatible with frame
Note: The “-S” network controller cards are not suitable for installations where more than one instance of DashBoard™ is to be used. If another user forces a connection to the frame equipped with this network card, the prior user will be disconnected without notice.</td><td>• Especially if network card was not originally shipped with frame, check the network card part number (see below) and make sure it is compatible with the frame.
 

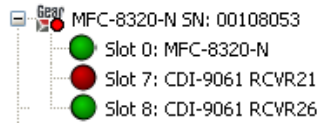
The following are compatible network card/ frame combinations:
<table>
<tr><th>Network Card</th><th>Frame</th></tr>
<tr><td>HPF-FC
MFC-8320-N,
MFC-8320-NS</td><td>8321-CN, HPF-9000</td></tr>
<tr><td>MFC-8322-N</td><td>OG3-FR</td></tr>
</table></td></tr>
</table>

Troubleshooting Network/Remote Control Errors by Symptom — continued

Symptom	Error	Corrective Action
(Continued) DashBoard™ does not discover newly added frame; newly added frame will not connect to network	• Computer-to-frame Ethernet cable is not crossover-type cable	• Some computer NIC cards require a crossover-type cable to properly connect to the Tx and Rx pins used on the openGear frame Ethernet connector. It is generally recommended to use a crossover-type cable in these cases, as the auto-MDIX feature of the frame will adapt to either Rx/Tx orientation when a crossover-type cable is used.
Newly added frame in DashBoard™ that uses static IP address will not activate (icon stays grayed-out)	• Network Card and LAN computer on different networks	• Make certain LAN hosting computer and Network Controller Card are on same network. If factory default initial setup address is used, host computer must use 192.168.2.x network to accommodate the Network Card factory static IP address.
	• Address conflict with other nodes or another Network Card	• Make certain that the LAN segment containing the frame, the hosting computer, and intermediate hubs or switches is isolated from other parts of the network. • Make certain this Network Card or others have not been left with its address mode switch set to the factory fixed static IP address mode.
Previously connected and active frame now shows grayed-out icon in Card Access/Navigation Tree pane for Network Controller Card in DashBoard™. Error randomly occurred with no intervening action. 	Network Controller Card not electrically/physically connected to frame, or communications error	• Make certain the Network Card is properly and fully seated in its frame card slot. Eject the card and reseat the card. • Make certain the frame power supply shows proper operating status. • Make certain the Ethernet cable is properly connected and showing activity on the LAN switch. Use `ping` or `netstat` to check the connection.

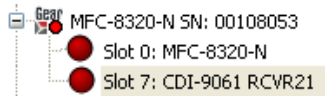
Troubleshooting Network/Remote Control Errors by Symptom — continued

Symptom	Error	Corrective Action
Previously connected and active frame now shows grayed-out icon in Card Access/Navigation Tree pane for Network Controller Card in DashBoard™. Error occurred immediately after applying DashBoard™ Network Configuration page changes, or when host computer/network had network setting changes applied. 	DashBoard™ has lost its connection to the frame. If a frame is set in Dashboard™ as using DHCP, **do not** change the setting to static IP address (“Use DHCP: No”) without following the **entire** procedure for static address usage (DashBoard™ will not forward from DHCP-assigned addresses to a static address)	• Try removing and re-inserting the network card, and then repeating by closing and opening DashBoard™ again. • Re-establish connection by re-connecting the frame to Dashboard™ using factory fixed static IP address 192.168.2.1 as described in Frame Setup Using Static IP Address on page 12. Then, reconfigure the frame for DHCP in accordance with the instructions provided in the procedure.

DashBoard™ shows red icon in Card Access/Navigation Tree pane for **user card** (Network Controller Card OK).
 
	See “Corrective Action” to the right	• **If other cards in the same frame show connection**, the card showing red icon may not be communicating with Dashboard™. Check the following:
		  • Make certain the card is installed in the intended frame and slot location.
		  • Make certain the card is properly and fully seated in the frame card slot. Eject the card and reseat the card.
		  • Card may be experiencing error other than network-related. Check the card’s status in its Card Info pane.
		• **If all other cards in the same frame do not show connection**, the remote control system may not be connecting to the LAN. Check the following:
		  • Make certain the Ethernet cable is properly connected and showing activity on the LAN switch. Use `ping-` to check the connection.

Troubleshooting Network/Remote Control Errors by Symptom — continued

Symptom	Error	Corrective Action

DashBoard™ shows red icon in Card Access/Navigation Tree pane for **Network Controller Card**.
 
	Network Controller Card LAN settings may be incorrect in DashBoard™ Network Configuration screen	• **If cards in another frame display properly**, the remote control system may not be connecting to the frame containing the cards. Check the following:
		  • Make certain the IP settings for the frame specified in the DashBoard™ Network Configuration screen agree with the settings for the frame.
		• **If cards in another frame also do not display properly**, the remote control system may not be connecting to the LAN. Check the following:
		  • Make certain the Ethernet cable is properly connected and showing activity on the LAN switch. Use `ping-` to check the connection.

Managing Frames Using a Log Form

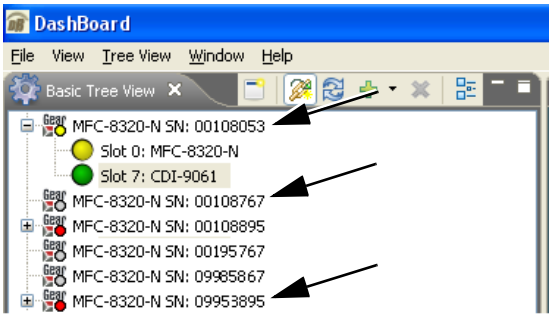
Consideration should be given to a means of correlating the frame physical identification/location with its remote control identity in DashBoard™.

Especially when using DHCP to connect frames, a large number of frames may suddenly connect and appear in the DashBoard™ Basic Navigation Tree without any means of correlating each frame instance in DashBoard™ with the actual frame hardware.

To help prevent this, it is recommended that an orderly installation process be used that correlates the frame's physical identity (rack location, function, etc.) with its instance as displayed in DashBoard™. A blank **Frame Log Form** is provided on the inside back cover of this guide that can be used for documenting the installation.

Using a Log for Managing Frames

The example below shows how to use the Frame Log Form. Photocopy or print copies of the Frame Log Form to document the frame correlation to its name in DashBoard™. The form is equipped with on-line form fields that allow the form to be filled out as a PDF soft copy. Save the form page using the Adobe® Acrobat® save options.



SETUP_MULTFRAME_EX.PNG

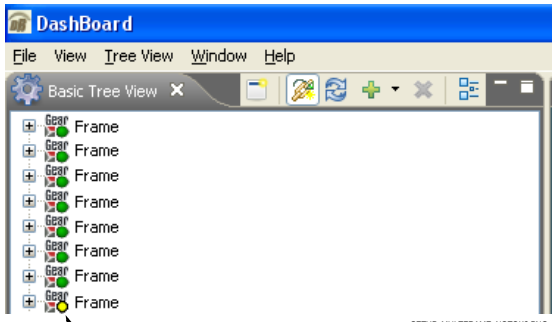
In the example here, each frame's DashBoard™ instance is correlated to its physical identity using the form.

Each rack is identified on the form with a number, with its frames identified with a suffix letter. Additional information such as network ID can also be included.

Using this method of correlating a frame's physical identity with its DashBoard™ name, the frame can be easily located in both DashBoard™ and the physical plant should it need any further attention.

Rack ID	Frame ID	Remote Control System	
		Network ID	Remarks:
1	1A MFN SN 00108053	❑ DHCP ☒ Static IP ADDR: 192 . 168 . 1 . 15 Netmask: 255 . 255 . 255 . 0 Gateway: 10 . 0 . 1 . 1	Post-production backend room 125
1	1B MFN SN 00108767	❑ DHCP ☒ Static IP ADDR: 192 . 168 . 1 . 16 Netmask: 255 . 255 . 255 . 0 Gateway: 10 . 0 . 1 . 1	Post-production backend room 125
1	1C MFN SN 09953895	❑ DHCP ☒ Static IP ADDR: 192 . 168 . 1 . 17	Post-production backend room 125

Log_Example_B.pdf



SETUP_MULTFRAME_NOTOK2.PNG

Without an orderly and documented means of connecting frames to the network, many frames may connect with no correlation to the frame's physical identity (especially if DHCP is used without adequate consideration of keeping track of connections). In this example, although the frames are connected to DashBoard™, the frame becomes "lost" from its physical identity.

Also note that in cases where a Network Controller Card does not have a unique name, the only unique identification of the card/ frame will be its IP address (which typically may have no correlation to its physical identity).

Note: If a frame becomes "lost" after installation, its instance in DashBoard™ can be identified by opening the frame's fan door, thereby causing an alert (yellow icon) for the corresponding frame in DashBoard™. The frame for which the door was opened can then be correlated to its instance in DashBoard™ by taking note of the instance displaying a "Fan Door Open" alert.

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Frame Log Form

Use this form to document the frame correlation to its name in DashBoard™. Fill in the blanks for other information that can also be recorded as desired.

Sheet __ of __

Date: _____

Site: _____

Personnel: _____

Rack ID	Frame ID	Remote Control System	
		Network ID	Remarks:
		❑ DHCP ❑ Static IP ADDR: ___.___.__.___ Netmask: ___.___.___.__ Gateway: ___.___.__.___	
		❑ DHCP ❑ Static IP ADDR: ___.___.__.___ Netmask: ___.___.___.__ Gateway: ___.___.__.___	
		❑ DHCP ❑ Static IP ADDR: ___.___.__.___ Netmask: ___.___.___.__ Gateway: ___.___.__.___	
		❑ DHCP ❑ Static IP ADDR: ___.___.__.___ Netmask: ___.___.___.__ Gateway: ___.___.__.___	
		❑ DHCP ❑ Static IP ADDR: ___.___.__.___ Netmask: ___.___.__.___ Gateway: ___.___.__.___	
		❑ DHCP ❑ Static IP ADDR: ___.___.__.___ Netmask: ___.___.__.___ Gateway: ___.___.__.___	
		❑ DHCP ❑ Static IP ADDR: ___.___.__.___ Netmask: ___.___.__.___ Gateway: ___.___.__.___	

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