

DEVICE PROVIDER SETUP GUIDE

Use this *Setup Guide* to install the Monarch® RFID Device Provider with the Microsoft® BizTalk® RFID software using the Monarch® 9855® RFMP or Monarch® 9855® HF printer.

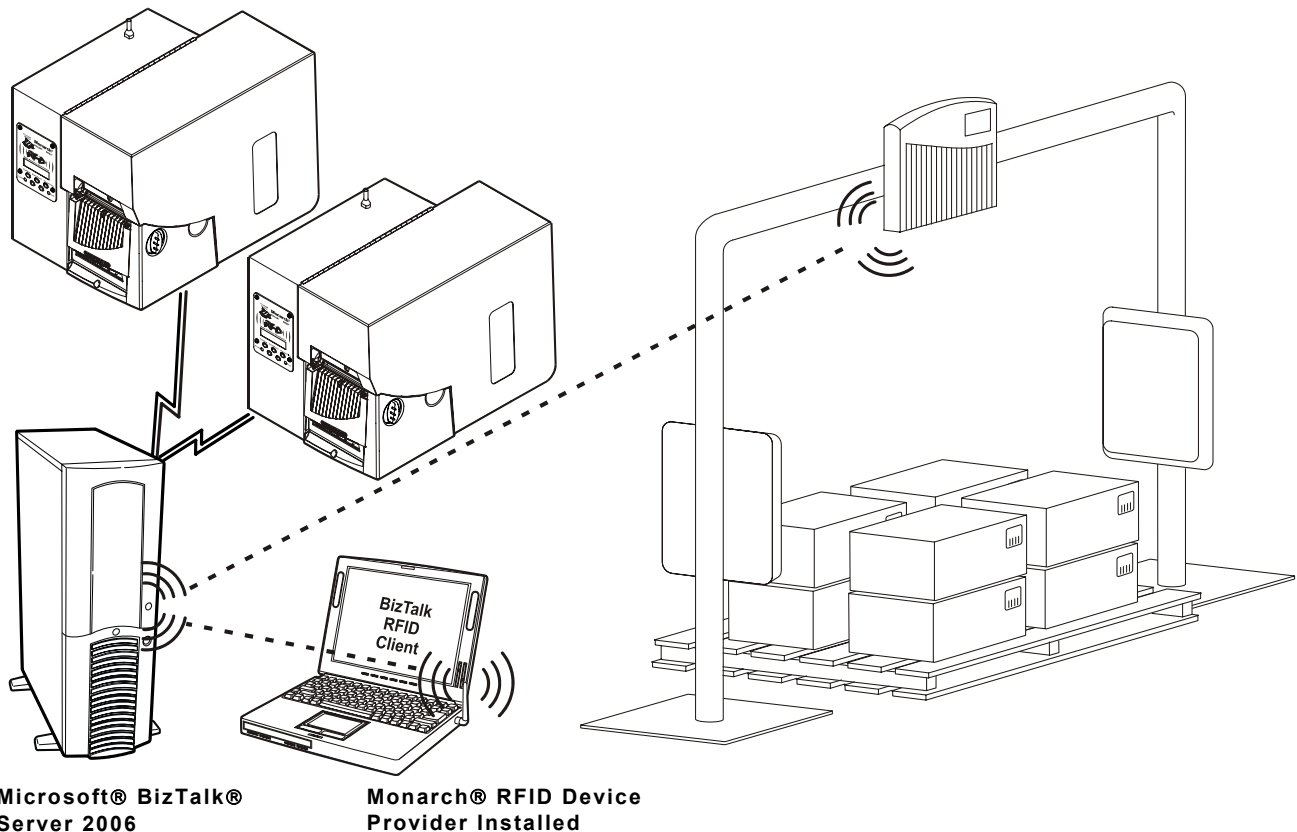
Information in this document supersedes information in previous versions. Check our Web site (www.monarch.com) for the latest documentation and release information.

This *Setup Guide* contains information about

- ◆ installing the provider.
- ◆ using print templates.
- ◆ viewing or setting device properties.
- ◆ troubleshooting the provider.

Our device provider resides on your server and communicates between the Monarch RFID printer (version 5.3 or greater) and the Microsoft BizTalk RFID Infrastructure. For information about using the Microsoft BizTalk RFID software, refer to your Microsoft documentation.

The following illustration shows how the Monarch RFID device provider integrates with the Microsoft BizTalk Server software, the 9855 RFID printer, and other RFID peripherals.



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Audience

This manual is written for the System Administrator who sets up printers on the network and is familiar with the Microsoft BizTalk RFID software.

Getting Started

Before installing our device provider, Microsoft BizTalk RFID must be installed and running on your network. Refer to Microsoft's BizTalk Web site (www.microsoft.com/biztalk/default.msp) for information about the software and its system requirements.

Our device provider is written for the Monarch 9855 RFMP or Monarch 9855 HF network printer. The printer communicates via a wireless or Ethernet connection.

Installing the Monarch RFID Device Provider

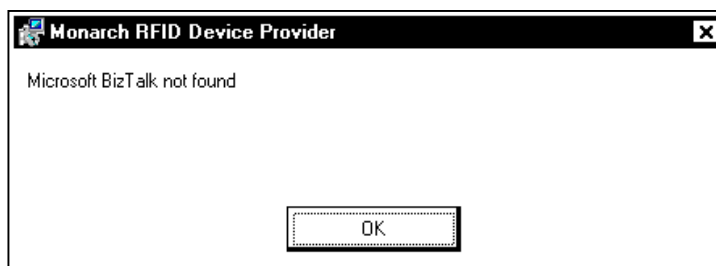
Follow these steps to install the Monarch RFID device provider:

1. Download the [MonarchRfidDp \$xx\$.zip](#) file from our Web site (www.paxar.com/products/BarcodeRFID/BizTalkServer.html) and save it to your hard drive.

Note: The xx in the filename indicates the software version of the device provider. For example, 10 indicates version 1.0.

2. Extract the files to your hard drive.
3. Turn on the printer and make sure it is connected to the network running the Microsoft BizTalk software. Refer to the *MonarchNet2™ Operating Instructions* for network setup information.
4. Double-click the `setup.msi` file from the list of extracted files.

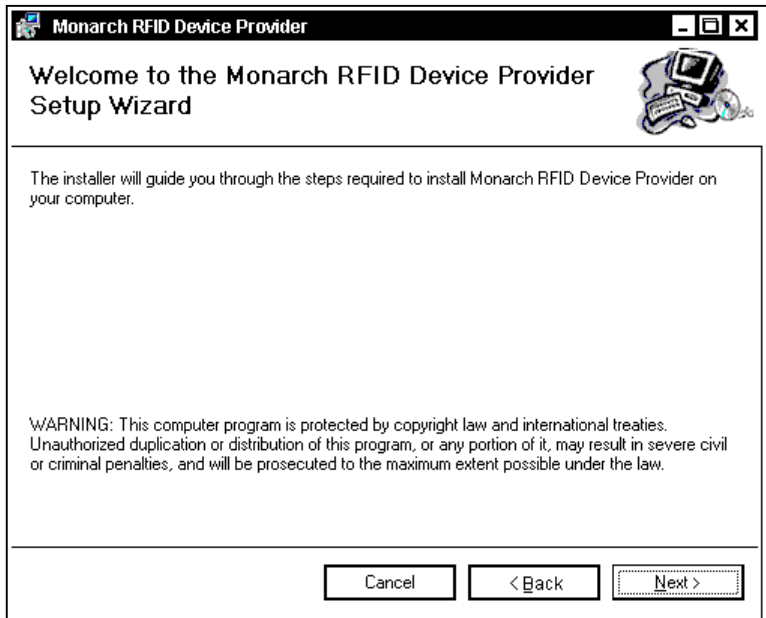
If the Microsoft BizTalk software is not already installed, you see



Click **OK**. The following message, "The installer was interrupted before Monarch RFID Device Provider could be installed. You need to restart the installer to try again." appears.

Click **Close** to exit the installer and install the Microsoft BizTalk software before continuing.

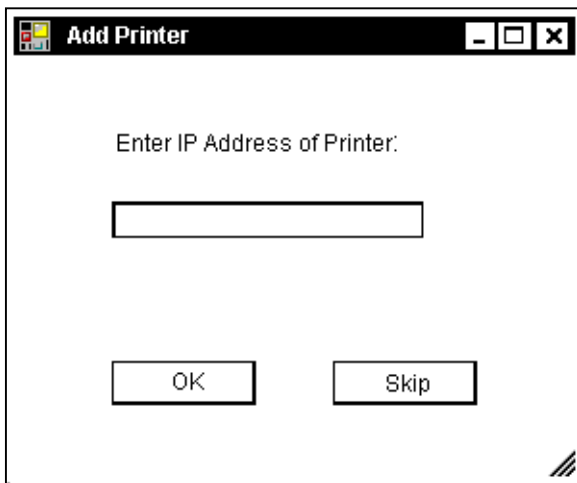
If your system has Microsoft BizTalk software installed, the Device Provider Setup Wizard appears.



5. Click **Next** to continue and follow the on-screen instructions to install the provider.

Note: On the Introduction screen, select "Add single device" for this installation. See "Adding Devices" to install multiple devices.

6. When you see **Add Printer**, enter the IP Address of your RFID printer.



Note: The Add Printer screen may appear behind the Setup Wizard screen.

7. Click **OK** to continue.

Click **Skip** to add multiple printers later through the RFID Manager. See "Adding Devices" for more information.

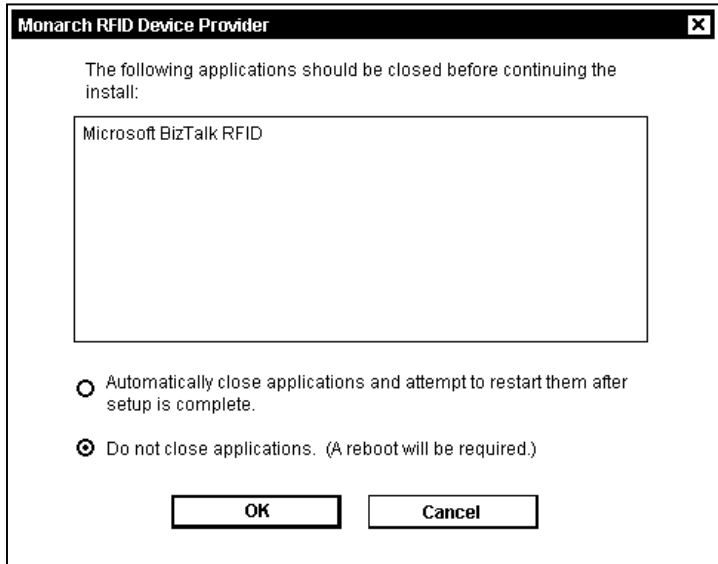
8. When the installation is finished, "Installation Complete" appears on the screen. Click **Close** to exit the Device Provider Setup Wizard.

The Monarch RFID Device Provider (**Monarch9855**) is automatically registered and started.

Note: The provider is installed in the same directory where Microsoft BizTalk is installed; for example,
C:\Program Files\Microsoft BizTalk RFID\Providers\Monarch\Bin

For Microsoft® Windows Vista™ Installations

During installation, you may see



1. Select **Do not close applications**.
 2. Click **OK**. There is no need to reboot. Follow the on-screen instructions to install the provider.
 3. When you see Add Printer, enter the IP Address of your RFID printer.
- Note:** The Add Printer screen may appear behind the Setup Wizard screen.
4. Click **OK** to continue.

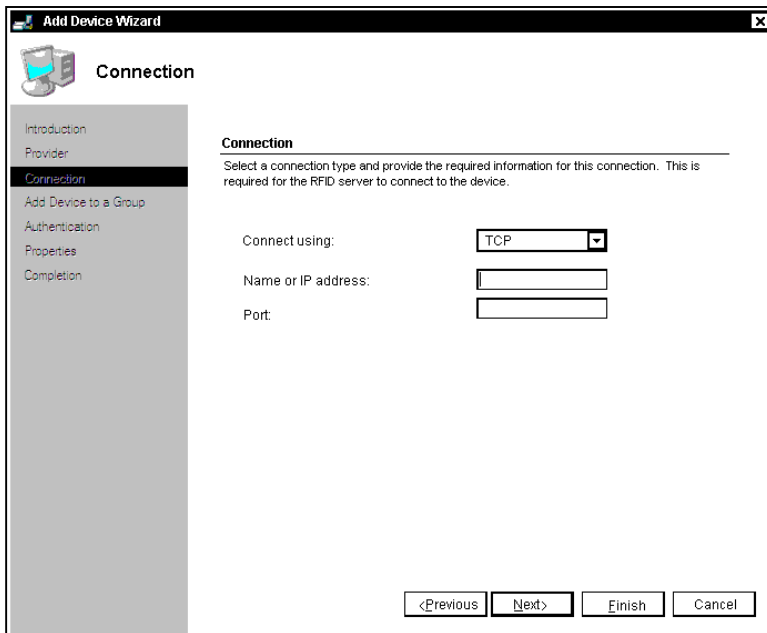
Adding Devices

You can add additional Monarch printers (RFID or non-RFID) and RFID peripherals using RFID Manager. For complete details, refer to your Microsoft BizTalk RFID documentation.

Note: The Microsoft screens shown may change without notice.

Adding a TCP Device

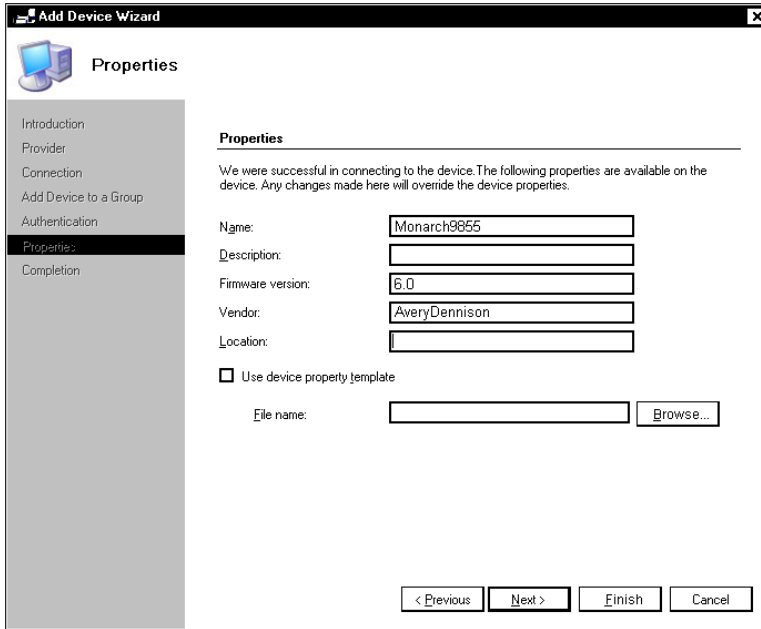
1. Run the RFID Manager.
2. Right-click the Devices node.
3. Select **New Device...** The Add Device Wizard appears.
4. Select **Add a single device** and click **Next**.
5. Select **Monarch** from the available providers list and click **Next**.



The screenshot shows the 'Add Device Wizard' window with the 'Connection' step selected in the left-hand navigation pane. The main area is titled 'Connection' and contains the following text: 'Select a connection type and provide the required information for this connection. This is required for the RFID server to connect to the device.' Below this text are three input fields: 'Connect using:' with a dropdown menu set to 'TCP', 'Name or IP address:' with an empty text box, and 'Port:' with an empty text box. At the bottom of the window are four buttons: '<Previous', 'Next>', 'Finish', and 'Cancel'.

6. Enter the **IP Address**.
7. Set the **Port** as 9100.
8. Click **Next**.
9. The Device Group is optional. Click **Next**.
10. Click **Next** to skip the Authentication screen.

11. Enter or change the printer's **Name**. For example, enter **Monarch9855**.
 The printer's name cannot contain any of the following characters: / \ : * ? " < > or | .



12. Click **Next**.
 13. Click **Finish** to complete the installation and exit the Add Device Wizard.

About Print Templates

The RFID Manager refers to "print templates," which is another term for an MPCLII tag or label format. Two example templates are included to verify successful installation of the device provider. Template 500 contains one text field. Template 501 contains one text field and one RFID field.

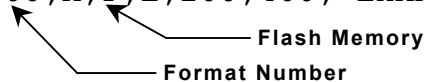
Creating Print Templates

You should create your own print templates following the MPCLII structure. Refer to the *9800™ Packet Reference Manual* for more information about creating templates (formats).

Note: If you create an RFID template, the RFID data field must be field number 999. Templates must be saved in the printer's flash memory so the RFID Manager can access them.

Make sure all your templates have a different format number. For example,

```
{ F, 500, A, F, E, 200, 400, "EXAMPLE" | ... }
```



Example:

```
{ F, 501, A, F, E, 200, 400, "EXAMPLE" |  
T, 1, 40, V, 90, 65, 0, 1, 1, 1, B, L, 0, 0 |  
X, 999, 24 |  
R, 30, L, "0" |  
T, 3, 24, V, 77, 65, 0, 1, 1, 1, B, L, 0, 0 |  
R, 4, 999, 1, 24, 1, 1 | }
```

Format header
 Text field
 RFID data field (999) with up to 24 characters
 Option 30 – pads RFID data with a "0" to the left
 Text field
 Copy option – copies data from RFID field into text field

Using Print Templates

To print templates, refer to the Microsoft BizTalk RFID documentation for instructions. The Microsoft screens may change without notice.

See "Troubleshooting" for more information about using an existing RFID format as a template.

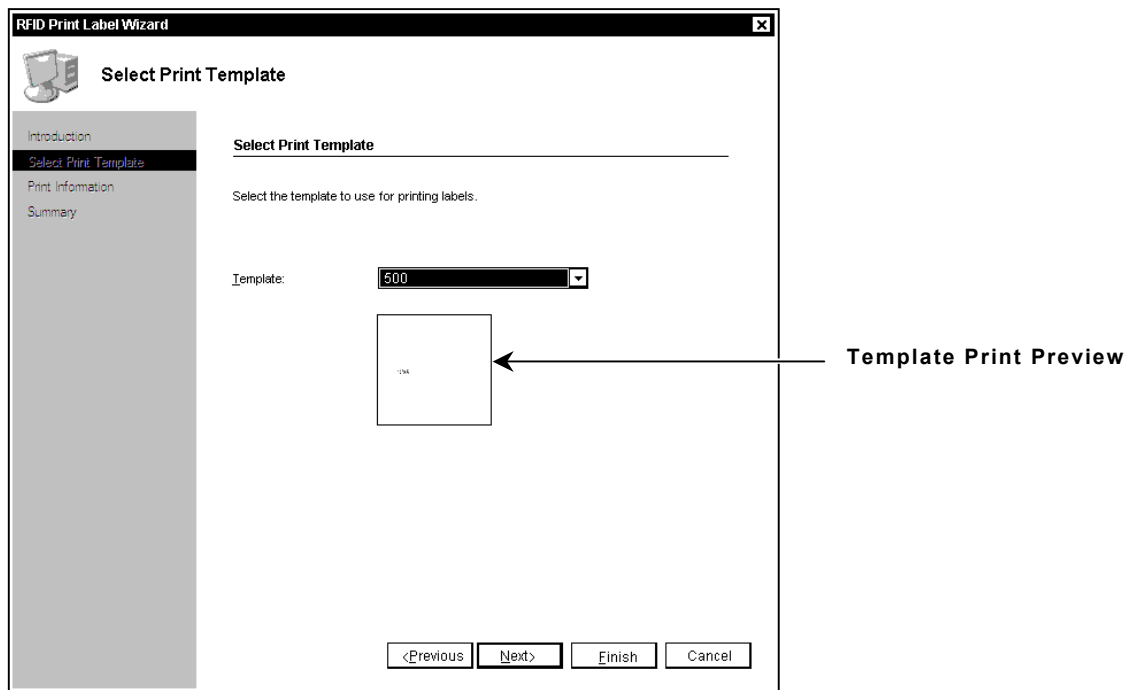
1. Run the RFID Manager.
2. Click the **Devices** node if the Monarch9855 device does not automatically appear.
3. Right-click on the **Monarch9855** and select **Print**, then **Print Label...**

The RFID Print Label Wizard appears.

4. Click **N**ext to skip the Introduction screen.

The Select Print Template screen appears.

Note: Print Preview takes several seconds to load. No hourglass appears while the preview is loading.



5. Select the template from the drop-down menu. All templates (formats) saved in the printer's flash memory appear in the list. For example, select **500**.

6. Click **N**ext. The Print Information screen appears.

The screenshot shows the 'RFID Print Label Wizard' window with the 'Print Information' tab selected. The window title is 'RFID Print Label Wizard'. The left sidebar contains a navigation menu with 'Print Information' highlighted. The main area is titled 'Print Information' and contains the following fields and controls:

- Count:** A numeric input field with the value '1' and a spinner control.
- Pass code:** A text input field.
- Access code:** A text input field.
- Confirm access code:** A text input field.
- Kill code:** A text input field.
- Confirm kill code:** A text input field.
- Lock targets:** A dropdown menu with 'Both' selected.
- Input for variable fields in the printer template:** A section containing a 'Variable Fields' list box (currently empty) and a 'Variable Fields' text input field.


At the bottom of the window are four buttons: '<Previous', 'Next>', 'Finish', and 'Cancel'.

7. Select the number of labels to print for the **C**ount.

Note: Click **C**ancel after the labels print to exit the RFID Print Label Wizard when printing more than one label.

8. Our device provider does not support the other settings. Leave the boxes blank for **P**ass code, **A**ccess code, **C**onfirm access code, **K**ill code, **C**onfirm kill code, and **L**ock targets.

9. Click the down arrow in the **V**ariable Fields box. Then, click the empty box next to field 1.

10. Click  to enter the field's data. A pop-up window appears.

The screenshot shows a small dialog box titled '1'. The dialog box contains the following fields and controls:

- Value:** A text input field containing 'Sample Text Field'.
- Increment Information**
- Increment By:** A numeric input field with '0' and a spinner control.
- Start Position:** A numeric input field with '0' and a spinner control.
- End Position:** A numeric input field with '0' and a spinner control.
- Data Format:** A dropdown menu with 'Decimal' selected.

At the bottom of the dialog box are two buttons: 'OK' and 'Cancel'.

11. Enter the data for field 1 in the **V**alue box.

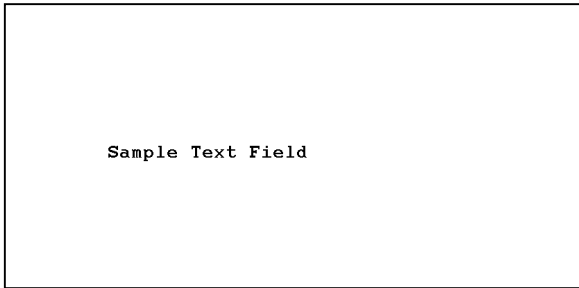
12. Select **I**ncrement Information to use an incrementing field.

13. Select the **I**ncrement **B**y amount, **S**tart **P**osition, **E**nd **P**osition, and the **D**ata **F**ormat of the increment.

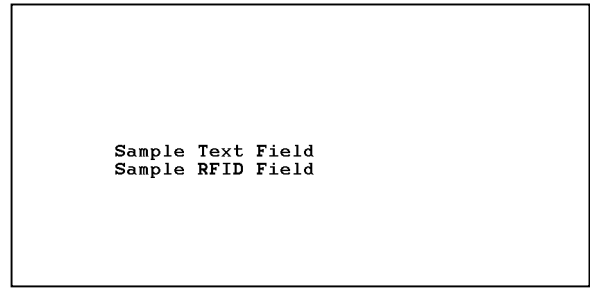
14. Click **O**K.

15. Repeat these steps to enter data for each field on the template.

16. Click **Next**. The template prints to the RFID printer.

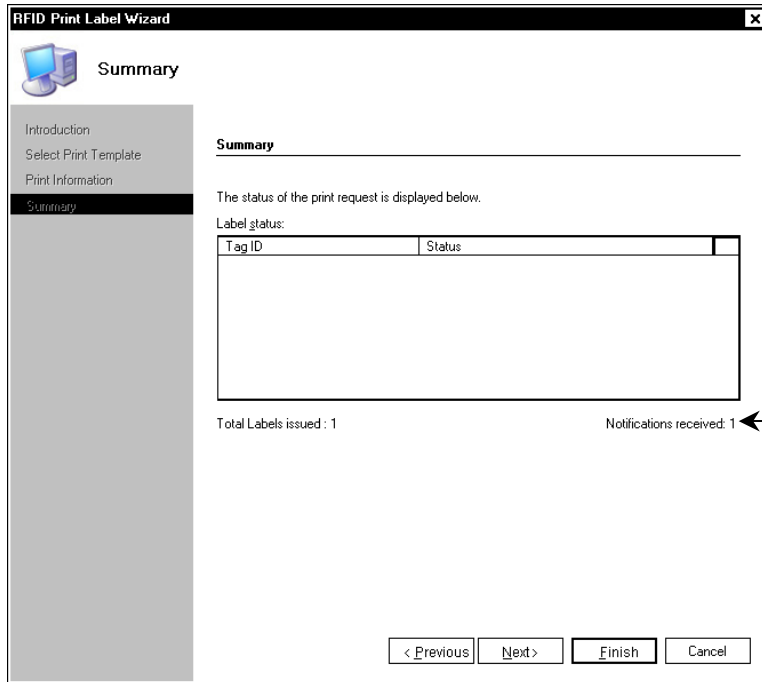


Template 500 Sample



Template 501 Sample

17. Click **Finish** to exit the RFID Print Label Wizard.



Tag Printed Notification

18. To receive notifications, you must be using printer firmware version 6.0 or greater. See "Receiving Notifications" for more information.

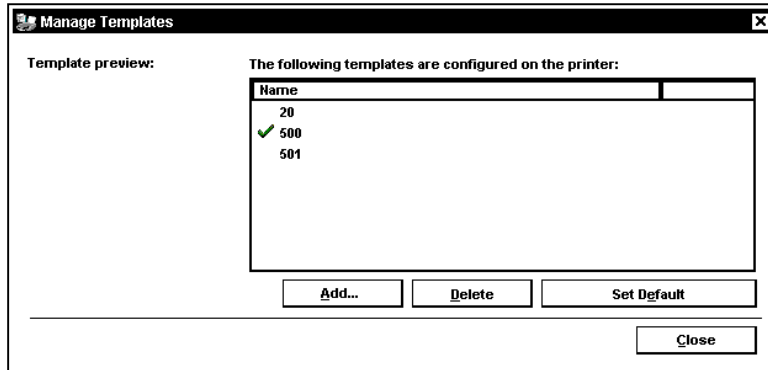
Note: The RFID Manager refreshes notifications received every 30 seconds.

Managing Templates

To print templates, refer to the Microsoft BizTalk documentation for instructions.

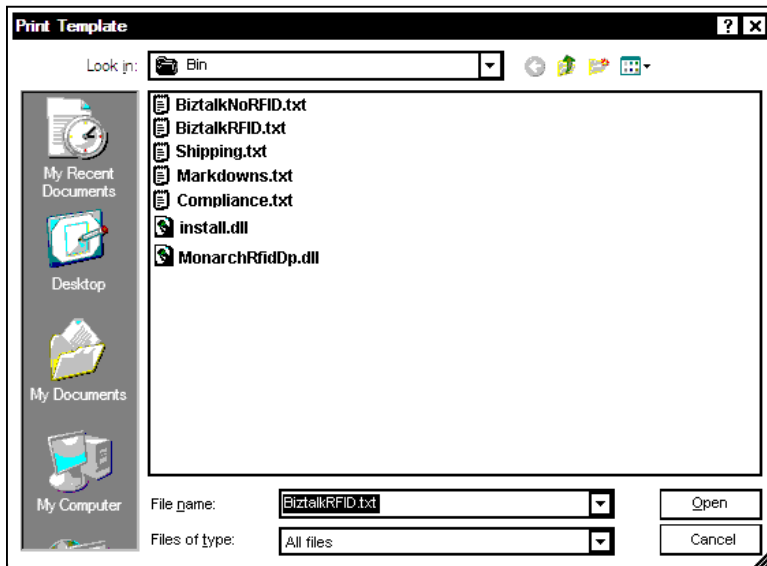
Note: The Microsoft screens shown may change without notice.

1. Run the RFID Manager.
2. Click the Devices node if the Monarch9855 device does not automatically appear.
3. Right-click on the **Monarch9855** and select **Print**, then **Manage Templates...**



The available templates appear in the list. All templates (formats) saved in the printer's flash memory appear in the list.

4. Click **Add...** to add templates. Browse to the directory where the template is saved.



5. Select the template file to add and click **Open**.
6. Click **Close** to exit.

Rebooting the Device

You may need to reboot (restart) the printer if the printer stops responding.

1. Run the RFID Manager.
2. Click the **Devices** node if the Monarch9855 device does not automatically appear.
3. Right-click on the **Monarch9855** and select **Reboot**.
4. Click **Yes** to reboot or **No** to cancel. If you select **Yes**, it may take up to one minute for the printer to restart.

Receiving Notifications

To receive notifications, you must use printer firmware version 6.0 or greater.

- ◆ Set the Windows® Firewall on the Microsoft® BizTalk® Server 2006 computer to receive data on UDP Port 9126.
- ◆ The provider automatically changes the SNMP Trap IP Address to the address of the Microsoft® BizTalk® Server computer. If you experience any problems receiving TagPrinted notifications, make sure the Trap IP Address is set to the correct BizTalk Server computer. Do not set this field manually, because the provider overrides the setting.

Viewing Device Properties

After you add a device, you can view its properties.

1. Run the RFID Manager.
2. Click the **Devices** node if the Monarch9855 device does not automatically appear.
3. Right-click on the **Monarch9855** and select **Properties**.

You see the General Properties screen. Our provider supports the **Name**, **Vendor** and **Firmware version**. The **Name** is entered when the device is installed. **Vendor** and **Firmware version** are generated by the provider and cannot be changed.

4. For the Network Properties, you can enter the **IP address** and specify the **Port** number.

The screenshot shows the 'Monarch9855 Device Properties' dialog box with the 'Network' tab selected. The left sidebar contains a tree view with 'Network' highlighted. The main area is titled 'Network' and contains the following fields:

- Device IP Configuration:** Two radio buttons: 'Obtain IP address dynamically via DHCP' (selected) and 'Use IP configuration specified below'. A 'Details' button is next to the DHCP option.
- IP address:** A text input field.
- Subnet mask:** A text input field.
- RFID Server - Device Connectivity:** A section header.
- Connection Type:** A dropdown menu with 'TCP' selected.
- IP or name:** A text input field containing '10.192.10.192'.
- Port:** A text input field containing '9100'.

At the bottom of the dialog are three buttons: 'OK', 'Cancel', and 'Apply'.

5. Click **OK** when finished.

Setting Properties

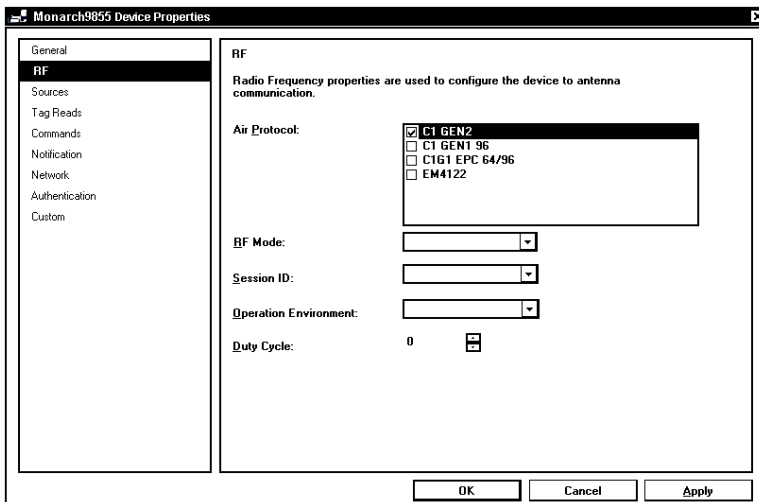
You can set RF Properties and Custom Properties for the 9855RFMP or 9855HF printer.

Note: After you set properties, reboot (restart) the printer. See "Rebooting the Device" for more information.

RF Properties

To set the RFID Air Protocol on the 9855RFMP or 9855HF printer:

1. Run the RFID Manager.
2. Click the **Devices** node if the Monarch9855 device does not automatically appear.
3. Right-click on the **Monarch9855** and select **Properties**. You see the General Properties screen.
4. Click **RF**. You see the RF Properties screen.



5. The previously selected **Air Protocol** is checked.
 6. To select a different protocol, uncheck the selected protocol.
- Note:** Only one protocol may be active at a time. **Do not** select more than one protocol.
7. Check the protocol you need. The **Air Protocols** vary between the 9855RFMP and 9855HF printers.
 8. Click **OK** when finished.

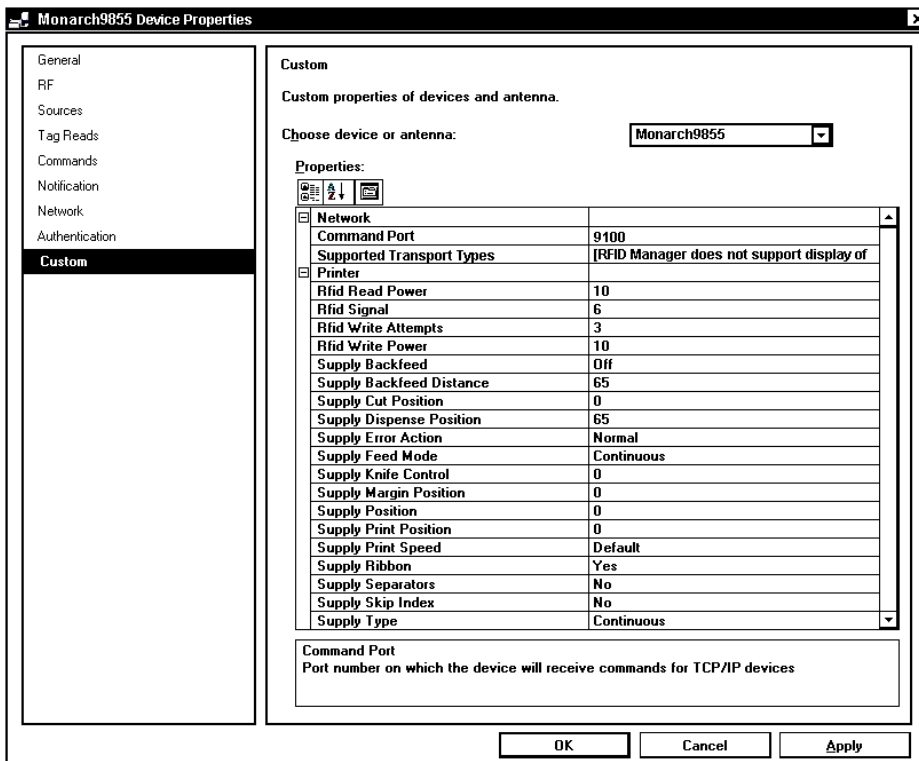
Custom Properties

You can use the RFID Manager to view/set custom properties for RFID setup and supply setup at the printer, such as the supply type or print speed.

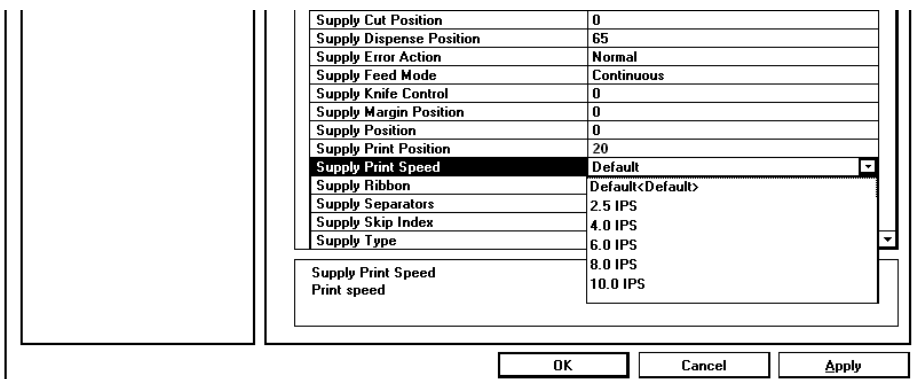
Note: After you set properties, reboot (restart) the printer. See "Rebooting the Device" for more information.

To set custom properties on the 9855RFMP or 9855HF printer:

1. Run the RFID Manager.
2. Click the Devices node if the Monarch9855 device does not automatically appear.
3. Right-click on the **Monarch9855** and select **Properties**. You see the General Properties screen.
4. Click **Custom**. You see the Custom Properties screen.



5. Click on the property you need to change (use the scroll bar if necessary).
6. A drop-down box may appear depending on the selected property. For example, if you select Supply Print Speed, you see



7. Select the setting from the list, for example, Default.
Or, type in the value for the setting, for example, 20, for the Supply Print Position.

8. Click **OK** when finished.

Troubleshooting

This section lists common problems and their solutions.

Problem	Action
Device provider does not install.	Make sure all requirements are loaded and running including the Microsoft BizTalk RFID Manager.
Device does not communicate with BizTalk.	Make sure the communication settings at the printer match those on the network, especially the IP address and Port. Ping the printer to verify communication.
Provider does not start.	Refer to the Microsoft BizTalk RFID documentation for more information about starting the provider.
RFID Print Label Wizard stops responding.	Print Preview takes several seconds to load. No hourglass appears while the preview is loading. Click Cancel after the labels print to exit the RFID Print Label Wizard when printing more than one label.
Device stops responding.	Do not connect more than one provider (server) to the same device (printer).
Printer appears in Device list, but is not connected to the network.	If the device receives a new IP address, (for example, from a DHCP server after a power outage), the printer appears in the Device list, but the Microsoft BizTalk RFID Manager cannot access it. Print a test label on the device to see the new IP address. Reinstall the device with the new IP address.
A label is printed when adding a template.	Do not include batch data in the template. This may occur when using an existing RFID format as a template.
RFID data does not appear in the template.	The RFID data field must be field number 999 . This may occur when using an existing RFID format as a template.
Copy, merge, or pad fields do not appear in template.	If the template contains fields to copy, merge or pad data to or from an RFID field, the RFID field number must be 999 . This may occur when using an existing RFID format as a template.
Unexpected printer configuration.	Do not include any printer configuration data (I packets) in the template. This may occur when using an existing RFID format as a template.

Note: Refer to the *9800™ Packet Reference Manual* (on our Web site) for more information about configuration data (I packets), copy, merge, or pad fields.

You should also make sure the RFID Manager software is running properly before using the provider. You may need to restart the Microsoft BizTalk RFID service:

1. From the Microsoft® Management Console, select **Services**. Highlight **Microsoft BizTalk RFID** in the list.
2. Right-click and select **Start**.
3. Run the RFID Manager.
4. Click the **Devices** node if the Monarch9855 device does not automatically appear.

For additional troubleshooting information, visit our Web site:

www.paxar.com/products/BarcodeRFID/BizTalkServer.html

Viewing Log Files

A log file is created whenever you start the Monarch Provider. You may be able to use the log file for basic troubleshooting.

View the **Monarch.log** file in the following directory:

C:\Program Files\Microsoft BizTalk RFID\Providers\Monarch\Monarch.log

If there is an error in the log file, refer to your Microsoft BizTalk documentation for more information.

Log files from the previous days are stored in the same directory with a date at the end of the filename. For example,

**C:\Program Files\Microsoft BizTalk RFID\Providers\Monarch\
Monarch_23_Jul_07_14_26_26.log**

