

JNIOR Series 3

A Network I/O Resource
Utilizing the JAVA™ Platform

Beacon Manual

Release 2.0

NOTE: JNIOR OS 3.4 or greater required

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1 Beacon Overview

Beacon is a software feature that allows the JNIOR to communicate over the local Ethernet network segment for configuration purposes regardless of the IP configuration of the JNIOR. **The default IP address for each new JNIOR is 10.0.0.201** which may or may not work on your local Ethernet network. With Beacon, you can just plug the JNIOR(s) onto your Ethernet network (or with newer PCs connect it directly to your PC) and run the JNIOR Beacon Receiver software on your PC.

The Beacon Receiver software will identify JNIORS on the local network regardless of your local IP scheme. From the Beacon Receiver software on your PC, you can easily configure the IP address of your JNIOR.

The Beacon Receiver software is also part of the JNIOR Support Tool. You can only have one copy of Beacon running on the same PC at a time meaning if the JNIOR Support Tool is running, you cannot launch the standalone Beacon software.

The JNIOR operating system version 3.x contains the JNIOR side of the software to work with the Beacon receiver program.

NOTE: You can still configure your JNIOR IP settings using the RS-232 serial port and a serial cable as described in the JNIOR Getting Started Manual.

2 Installing the Beacon Receiver Software

The Beacon Receiver software is provided by INTEG as an installation package on the JNIOR CD. Please double click on the installation file and it will be installed on your PC in C:\Program Files\INTEG\JNIOR Beacon. Navigate to the Start – Programs – INTEG – Beacon and there will be a link to launch the program.

Updates to Beacon will install over the current version. You do not need to uninstall the old version first unless specifically requested by INTEG with the update.

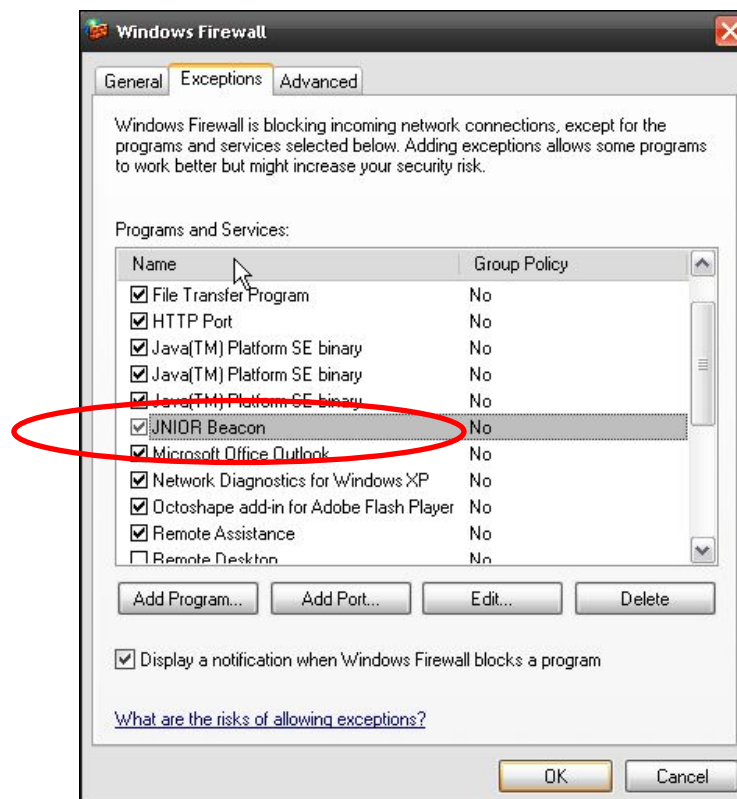
Beacon may not work across routers or where proxy servers are used or wherever other methods may restrict UDP packets from getting through. Beacon communicates using UDP packets over port 4444, so please make sure this port is available. You can also manually enter a list of IP addresses into Beacon. Beacon will then try to send the packet directly to this IP address. This may help find JNIORS located across a VPN connection, router, etc.

If you have **Windows Firewall** (or another firewall package) enabled, you may receive the following pop-up when you first launch Beacon. This is because Beacon sends out a

message on the network to ask all JNIORs to report in and the JNIORs send a message back. **PLEASE click on the UNBLOCK button to register Beacon with Windows Firewall to allow the Beacon messages through.**



If you already launched Beacon and clicked on the Keep Blocking button, then you can go to the Windows Control Panel and click on the Windows Firewall icon to unblock the program. When the Windows Firewall pop-up is displayed, click on the Exceptions tab and then 'check' the box for Beacon and click OK. If the JNIOR Beacon name is not listed, but there is a 'blank name', click the Edit button and verify this is the Beacon program and then check the box to unblock it.



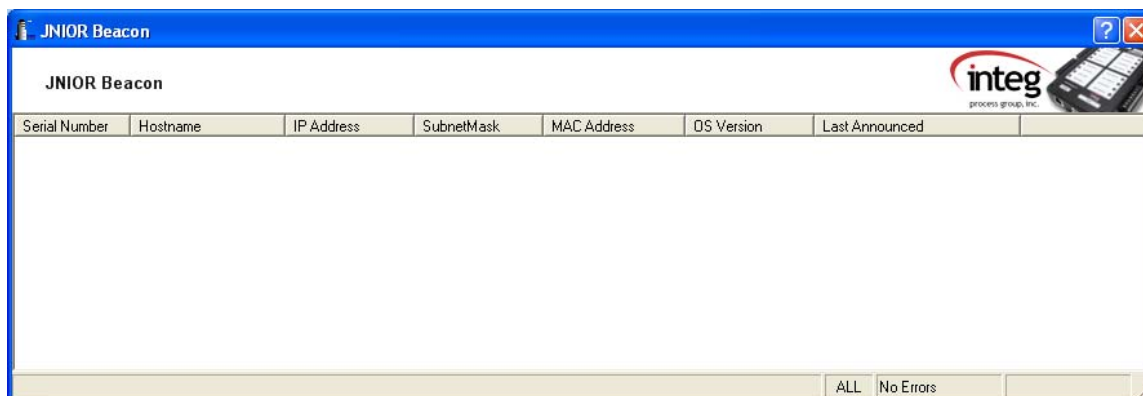
3 Utilizing Beacon

You can launch the Beacon Receiver software on your PC before you connect your JNIOR to the Ethernet network or afterwards. If you launch the Beacon Receiver software first and then power-up the JNIOR while connected to the Ethernet network, the new JNIOR will automatically display upon completion of boot-up. If the JNIOR is already connected to your network and powered up, then you can issue a command from the Beacon Receiver software to query “all” (or “new”) JNIORS.

You can connect one or many new JNIORS to the Ethernet network and use Beacon to configure them one at a time. Each JNIOR can be indentified via its unique serial number or by using the Identify function.

3.1 Main Window

When you launch the Beacon Receiver software on your PC, the following Window will be displayed:

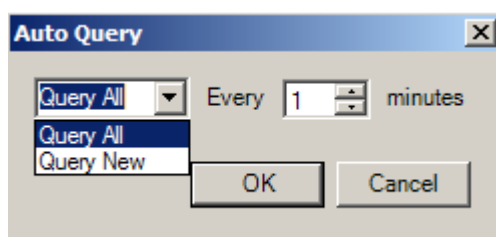


By 'right clicking' in the Window, the following pop-up will be displayed:



The following commands are available:

- 1) **Query All** – By selecting this function, a message will be sent out over the Ethernet asking “All” JNIORs (with Beacon enabled) to report in.
- 2) **Query New** – By selecting this function, a message will be sent out over the Ethernet network asking all JNIORs still configured as “New” (with Beacon enabled) to report in.
- 3) **Auto Query** – By selecting this function, a new pop-up will be displayed allowing you to send out the request for “All” JNIORs or “New” JNIORs (with Beacon enabled) to report in on a regular (configurable) time period. The following pop-up is displayed:



You may want to enable this function temporarily if you are adding and deleting JNIOs to your network and want to continuously know the status of all the JNIOs. The Beacon main window does not update (refresh) automatically unless this feature is enabled.

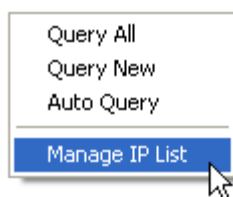
- 4) **Manage IP List** – Allows you to manually enter a list of JNIO IP addresses.

When you issue a query and your JNIO is not listed, there are several possible reasons:

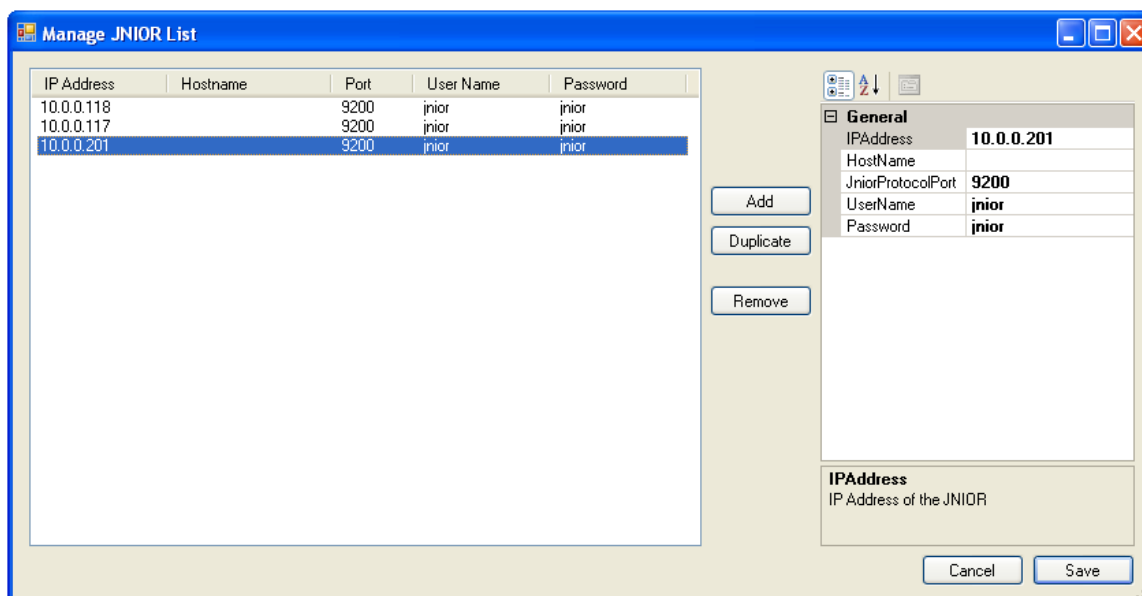
- 1) Your JNIO does not have the proper JNIO operating system (3.1 or greater)
- 2) Beacon was disabled on your JNIO
- 3) The JNIO is on the other side of a network device that is blocking UDP packets
- 4) Your PC firewall is preventing the UDP packets from being accepted.

If your JNIO is not listed, but you know it is available on the other side of a router or through a VPN connection, etc., then you can manually enter your IP address into a table. Beacon will then send the packet directly to this IP address and the JNIO will respond. If this message is successful, the data for your JNIO will be filled in on Beacon.

To enter your IP list, right click in the white area of Beacon and the following pop-up will be displayed:



Once you select Manage IP List, the following box will be displayed:

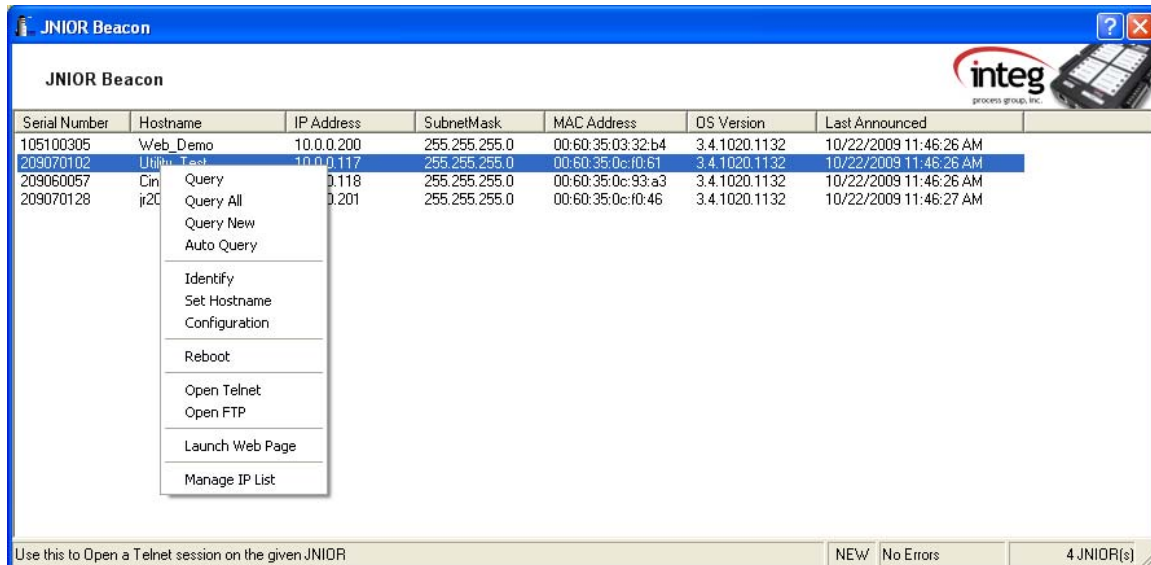


You can Add, Duplicate or Remove JNIORS from the list. You must enter the JNIOR IP address, username and password. The default JNIOR protocol port (9200) is automatically displayed and can be changed, if required.

After you click on the Save button, the list of IP addresses will be displayed in Beacon and Beacon will send a direct message to each JNIOR to see if it can be found. If it is found on the network, the JNIOR will respond and Beacon will display the appropriate information.

3.2 Beacon Functions

After issuing the Query All or Query New command, a list of the JNIOs available on the network with Beacon enabled will be displayed. By ‘right clicking’ on a JNIO in the list, a new pop-up will be displayed.



The following commands are available:

- 1) **Query** – send a query command only to the selected JNIO
- 2) **Query All, Query New and Auto Query** – same as described previously
- 3) **Identify** – You can connect multiple new JNIOs at the same time even though they have the same IP address. If you are not sure which JNIO is which, you can compare the serial numbers (it is unique for each JNIO) and/or you can select the Identify function. This will cause the amber LED to rapidly flash for 5 seconds on the selected JNIO. The amber LED is next to the green power LED.
- 4) **Set Hostname** – By selecting this function, a pop-up will be displayed that will allow you to enter the hostname for this JNIO. The Hostname will be listed on the Beacon Receiver window under the Hostname column. It will help you to identify the JNIO. The Hostname can also be used by network servers.
- 5) **Configuration** – By selecting this function, the configuration pop-up will be displayed and allow you to configure a variety of items on your JNIO. These items are described in the next section of this manual.
- 6) **Reboot** – By selecting this function, you will be able to reboot the JNIO.

- 7) **Open Telnet** – By selecting this function, you will be able to launch a Telnet window to connect to your JNIOR. However, this function may only work after the JNIOR IP address has been set to work on your local network. **(NOTE: This feature does not work with the Windows Vista operating system.)**
- 8) **Open FTP** – By selecting this function, an FTP connection via Windows Explorer will be opened. It may take approximately 20 – 30 seconds to establish the FTP link. However, this function may only work after the JNIOR IP address has been set to work on your local network. **(NOTE: This feature does not work with the Windows Vista operating system.)**
- 9) **Launch Web Page** – This command will launch your web browser and launch the main JNIOR Web page for the selected JNIOR.
- 10) **Manage IP List** – Allows you to manually enter a list of JNIOR IP addresses.

3.3 Configuring a JNIOR

By selecting configuration, the following pop-up will be displayed:

JNIOR Information

Serial Number **209020174**

MAC Address **00:60:35:0b:d4:37**

Enable Beacon ☒

Responds to "Query New" ☒

Auto Announce ☐

☐ Use DHCP

☒ Use the following IP Config

IP Addressing

IP Address: 10 . 0 . 0 . 201

Subnet Mask: 255 . 255 . 255 . 0

Default Gateway: 0 . 0 . 0 . 0

DNS

Primary DNS: 0 . 0 . 0 . 0

Secondary DNS: 0 . 0 . 0 . 0

DNS Timeout: 5000 ms

Domain Name:
for example "integpg.com"

Time Zone: GMT (+0000)

OK Cancel

The following items can be configured:

3.3.1 IP Mode – Fixed or DHCP

The JNIOR has the capability to utilize a fixed IP address or be configured as DHCP and receive the IP address from a server on the network. In most applications, it is recommended that you utilize a fixed IP address so you can always find your JNIOR.

3.3.2 Fixed IP Address

The minimum IP configuration needed in the JNIOR is the IP Address and Subnet Mask. In addition to these settings, you can also set a Default Gateway, Primary DNS, Secondary DNS and DNS Timeout (default is 5000 milliseconds) in case the DNS is not reachable.

3.3.3 Domain Name

The JNIOR has the capability to send an e-mail based on various triggers. (Please see the JNIOR Web Based Interface Manual and Task Manager Manual for additional details on sending an e-mail.) A domain name can be set for the JNIOR that is utilized in the “from address” of the e-mail from the JNIOR. However, because of how the JNIOR e-mail system works, it does not necessarily have to be a valid domain.

In the Beacon configuration window, you can enter a domain name as one word or as “word.secondword”. For example, you could enter INTEGPG or you could enter INTEGPG.COM. However, you cannot enter a space between the two words.

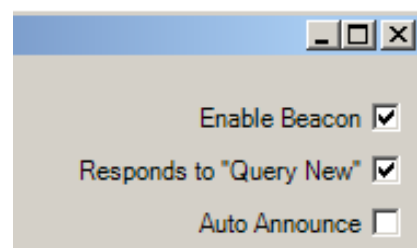
Please note that whatever you enter as the Hostname, it will also become part of the e-mail “from address”, for example, Hostname@INTEGPG.COM.

3.3.4 Time Zone

The JNIOR has a real time clock (battery backed) that is capable of handling various time zones from around the world. On the Beacon configuration window is a pull down listing the valid time zones. Those with an asterisk (*) at the end indicate they handle Daylight Savings Time. By default, the JNIOR time zone is set to GMT.

3.3.5 Beacon Modes

Beacon can operate in several different modes and the mode of operation for each JNIOR can be configured via the check boxes in the upper right corner of the configuration window.



By default, from the factory, Beacon is enabled and set to respond to both the Query All and Query New commands. The configuration flexibility is beneficial once you have multiple JNIOs on your network. After you configure your JNIO, you can “uncheck” the Responds to “Query New” box. Then, when you issue the Query New command, this JNIO will not respond. However, it will still respond to a Query All command.

The Auto Announce box will cause the JNIO to report every 30 seconds. This is different than the Auto Query command because its time frequency cannot be adjusted and the timing is controlled by the JNIO not the PC Beacon Receiver application.

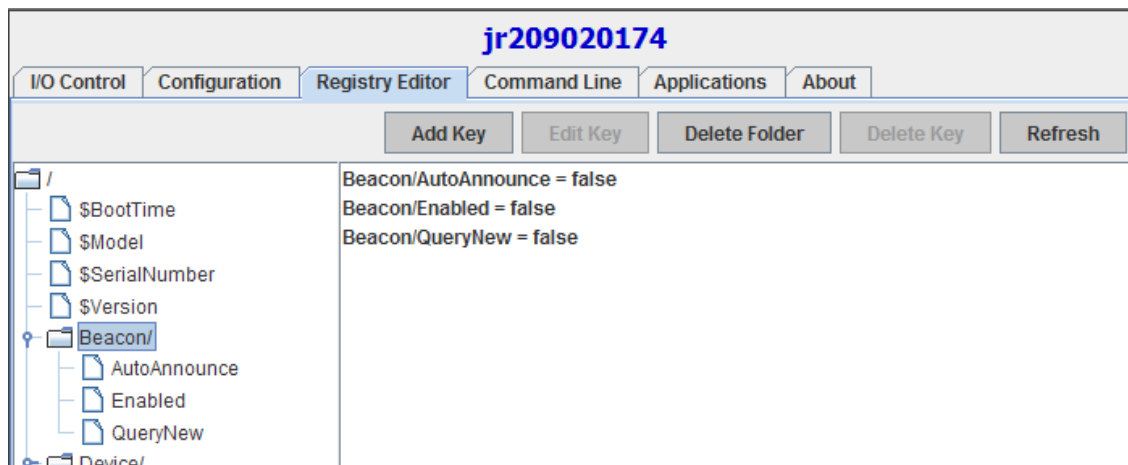
If you “uncheck” the Enable Beacon box, this JNIO will no longer respond to any Query commands. Please see the next section for further details.

3.4 Disabling and Re-Enabling Beacon on the JNIO

Once the Beacon functionality on the JNIO has been disabled via the Beacon configuration window, the JNIO will not respond to queries from the Beacon Receiver program. The Beacon feature can be re-enabled by changing a Registry Key setting in the JNIO. The Registry can be changed via the JNIO Web page or via a Telnet window or HyperTerminal session.

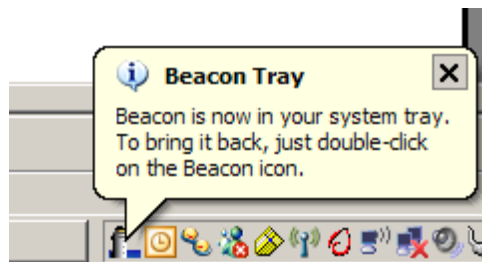
From the JNIO Web page, click on the Registry Editor tab and then the Beacon folder in the left navigation pane. If you click on the Beacon/Enabled key, you can then click on the Edit Key button and change the value from false to true. (See the screen shot below.) You must reboot the JNIO and then Beacon will be re-enabled on the JNIO.

NOTE: The Beacon Registry Keys do NOT show up in the Registry by default. The user must utilize the Beacon configuration actions at least once for the keys to be written. You could disable Beacon without doing this by using a HyperTerminal session or a Telnet Window (Command Line) and typing “registry Beacon/Enabled = false”

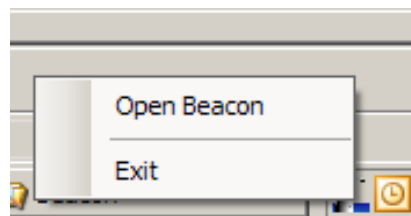


3.5 Closing the Beacon Receiver Program on the PC

When the Beacon Receiver is open, you can 'close' the window by clicking on the X in the upper right hand corner. However, this does not stop the application. Instead, the Beacon icon is displayed in your task bar. You can bring the main window back up by double clicking on the icon.

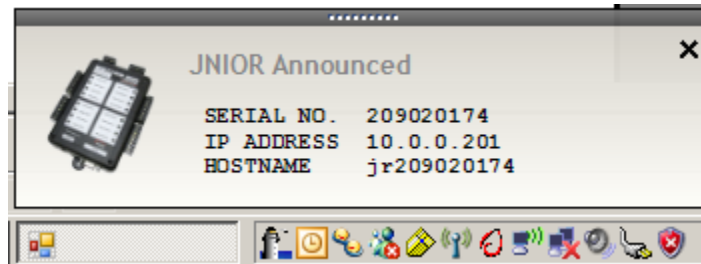


You can shut down the Beacon Receiver application by 'right clicking' on the icon and selecting Exit.

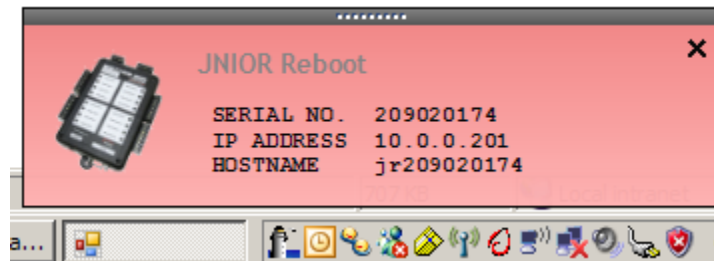


4 Beacon Announcement Window

Whenever the Beacon Receiver program is running on your PC, either being displayed or minimized to your Task Bar, and a JNIOR responds to a Beacon query, a pop-up window will display above your task bar. This pop-up will display the serial number, IP address and hostname of the JNIOR. Multiple JNIORs can report in sequence.

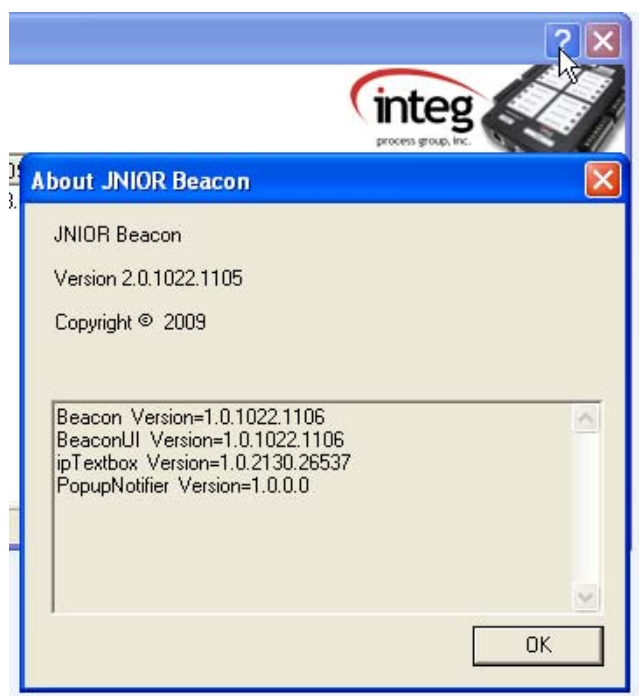


If a JNIOR reboots while the Beacon Receiver program is running on your PC and Beacon is enabled on the JNIOR, a “red” pop-up window will be displayed indicating that the JNIOR has rebooted. A “grey” pop-up window will be displayed when it is done rebooting and announces itself again.



5 Beacon Software Version

If you 'left click' on the '?' in the upper right corner of the Beacon display the following pop-up will be displayed providing you with the current version information.



Summary

Thank you for purchasing the **JNIOR**. Hopefully this manual made the getting-to-know process of your new **JNIOR** very quick and easy. The **JNIOR** has many more wonderful tools and features available, and are explained in detail in the supplied documents.

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