Technical Support Department

Technical Bulletin

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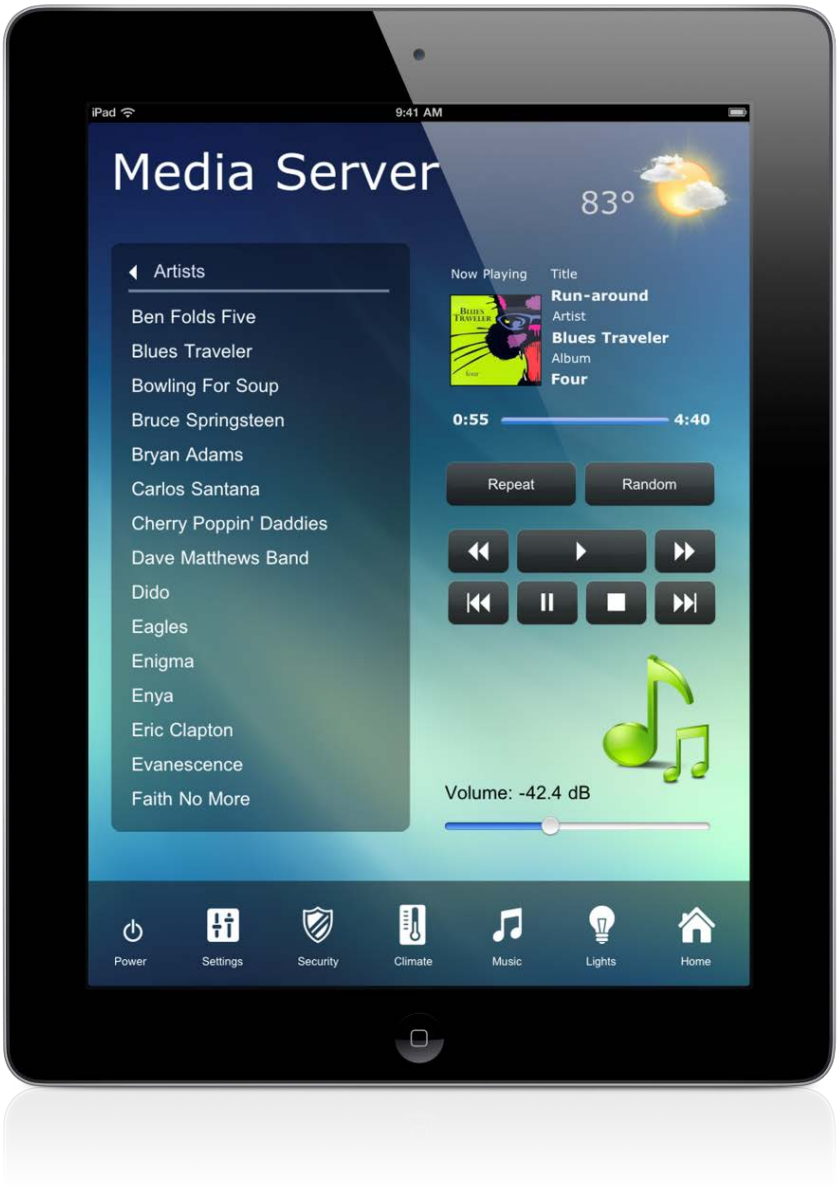
RTiPanel Setup Guide



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RTiPanel Overview and Requirements

RTiPanel is an iOS application that is designed to run on iPad and iPhone devices. This application communicates with RTI's XP series control processors to provide full control of your RTI system right from your iPad or iPhone. The RTiPanel application is designed to run on LAN and WAN networks giving full control and two-way feedback from anywhere in the world. A license is required for every Apple device in order to communicate. Licenses may be purchased from the RTI online store, or by contacting your local distributor.

Software Requirements:

- Integration Designer programming software version 8.2 or higher
- Any version of XP-3 processor firmware.
- Firmware 1.1 or higher for the XP-6 control processor
- Firmware 3.0 or higher for the XP-8 control processor

Hardware Requirements:

- The RTiPanel for Apple® devices is programmed on a PC based computer running Windows XP or higher
- Apple® iPad®, iPhone® and iPod touch® device
- RTI XP3, XP6, or XP8 control processor
- When using an XP8 processor, you must install an SD card into the front on the XP8. The SD card provides additional file space needed to store RTiPanel data files.

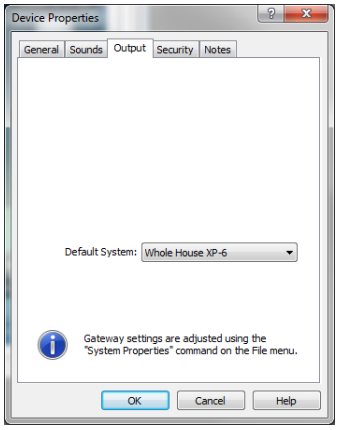
Network Requirements:

- Local Apple® devices must be connected to the same Ethernet network as the XP series control processor.
- Apple® devices requiring remote access must have an Internet connection.
- Use of the RTiPanel from a remote location requires Internet access for the XP series processor with **a static IP address from the Internet Service Provider** (ISP). If a static IP address is not possible, then a dynamic DNS service will need to be used. (See the Remote Access section for details.)

Licensing Requirements:

- **A license is required for each® iPad®, iPhone® or iPod touch® device.**

  -In the event that a customer replaces an Apple® device, rebooting the XP processor will "free" up the license being used by the old device. When RTiPanel is installed and connected to the XP processor, the license will have been transferred to the new Apple® product.



Note: Systems in which communication with multiple XP processors is required (on the same network), a single RTiPanel license communicating with a "main" XP processor is all that is required. When programming in ID, go to the Device Properties of the Apple® device and select "Output" verify that the Default System is set to the XP processor containing the RTiPanel license. Click OK. As with native RTI control devices, alternate processor communication can be selected for individual buttons (Button Properties, Output tab). The "main" XP processor will receive commands and will transfer communications via Ethernet to other XP processors on the network as required. In the event that communication with multiple XP processors on a single button press is required, use of the "System Macro Triggers" Driver Utility can initiate a serial command to be sent from the main processor to a secondary XP processor to initiate a System Macro.

- Licenses may be purchased online at http://www.rticorp.com/dealers/rtipanel_dealer.html, or by contacting your local RTI distributor.

Basic Integration Designer Programming

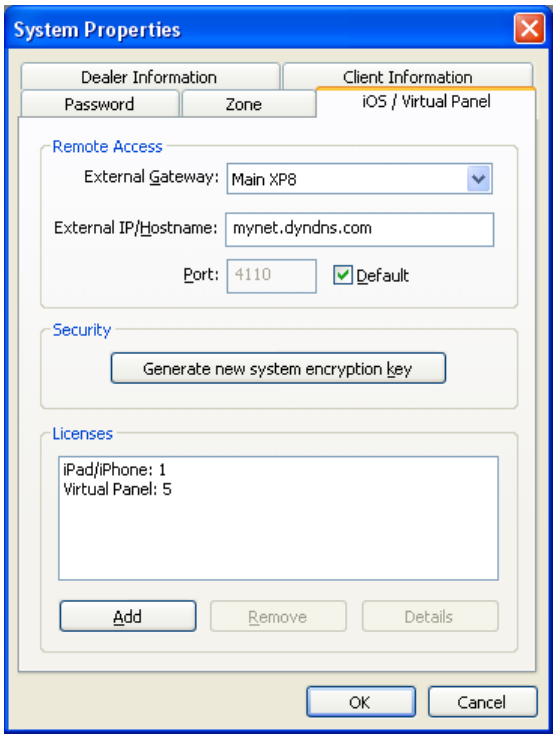
Creating a system that includes an RTiPanel device starts with a system file containing an XP series processor. From there, you simply add the Apple device like you would any other RTI device. Next, add an RTiPanel license and your ready to connect.

Adding an RTiPanel Device to System

From the 'Device' menu select 'Add New'. In the 'Add New' dialog box, find the 'Virtual Controls' section. Choose the Apple device you wish to add to the file.

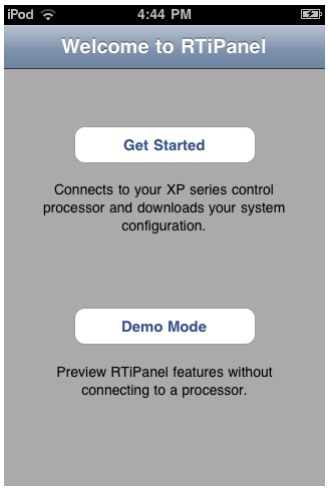
Adding RTiPanel Licenses to System

From the 'File' menu select 'System Properties'. Go to the 'iOS/Virtual Panel' tab. Find the 'Licenses' section. Press the 'Add' button to add your license file.



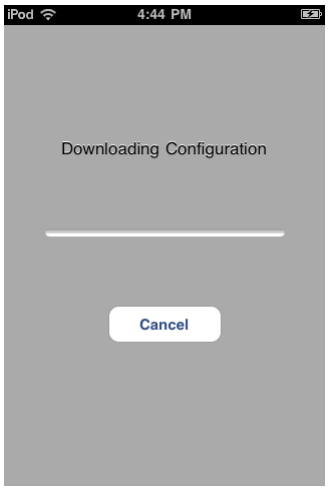
Configuring ® iPad®, iPhone® or iPod touch® Device

Configuring your Apple device is quick and easy. Start by downloading the RTiPanel app from the iTunes app store. When you start the application you will see a screen with two buttons. Choose the 'Get Started' button.



The next screen will show a list of RTI XP processors that are on the LAN and are available to connect to. If you are configuring remotely, you can add the DNS hostname directly by selecting the '+' button in the upper-right corner of the screen.

Once a server has been selected, it will provide a list of devices compatible with the hardware running the RTiPanel app. If the RTiPanel is running on an iPhone4 device, the list will show both iPhone and iPhone4 devices.



Finally, select the desired device. The configuration will be downloaded to the device and the device will be "configured". The RTiPanel app will check-in with the server after each connection is made to determine if a new configuration is available. If a new configuration is available, it will be downloaded automatically by the RTiPanel app.

Reconfiguring Device

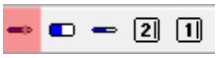
In the event that the RTiPanel needs to connect to a different server, the configuration can be reset. Resetting the configuration will cause the RTiPanel to return to the "Welcome" screen, allowing you to go through the configuration steps again. The "Reconfigure" option automatically resets itself to "Off" when you go back to the RTiPanel app. A customer who has XP processors in multiple homes and wishes to switch the system being controlled would use the reconfigure setting to change the XP processor being communicated with.

Advanced Integration Designer Programming

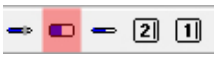
There are several features that are unique to Apple® device programming. These programming tools will appear in the bottom left tool pallet within the Integration Designer programming software only when programming an Apple® device.

Gauge Drawing Tool 

To add a gauge object to a page, select the gauge drawing tool in the lower-left corner of the Integration Designer window. Now select the 'Draw Button' tool. Draw the gauge on the page to the desired size. The orientation of the gauge will change depending on the size of the button. To make the gauge orientation bottom-to-top, simply draw the button tall and skinny. Gauge objects are for feedback only. You cannot place a command onto the gauge object.

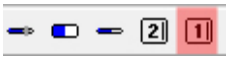
Slider Drawing Tool 

To add a slider object to a page, select the slider drawing tool in the lower-left corner of the Integration Designer window. Now select the 'Draw Button' tool. Draw the slider on the page to the desired size. The orientation of the slider will change depending on the size of the button. To make the slider orientation bottom-to-top, simply draw the button tall and skinny. Once the slider has been created, driver commands and feedback variables can be assigned.

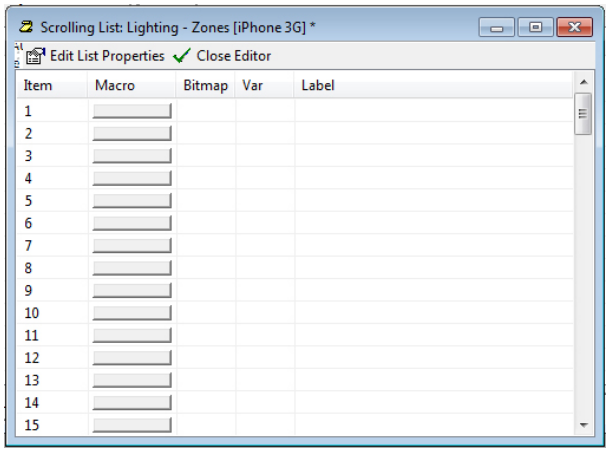
Toggle Button Drawing Tool 

To add a Toggle Button object to a page, select the switch object drawing tool in the lower-left corner of the Integration Designer window. Now select the 'Draw Button' tool. Note that while the actual button can be drawn to the desired size, the toggle button graphic itself is a fixed size. Once the toggle button has been created, driver commands and feedback variables can be assigned.

One-Way List Drawing Tool



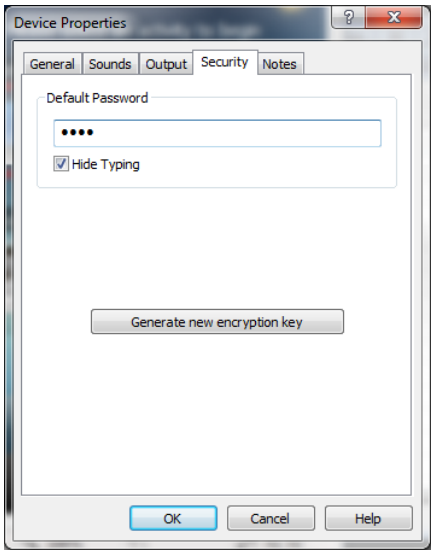
To add a One-Way List object to a page, select the static list object drawing tool in the lower-left corner of the Integration Designer window. Now select the 'Draw Button' tool. Draw the one-way list object on the page to the desired size. A one-way list can then be populated by right clicking on the scrolling list object and selecting "Edit Scrolling List". A programming menu similar to the illustration below will appear and allow for the creation of macro commands to be executed when an item from the list is selected. Button Text and bitmap fields are also available for customization of the scrolling list. One-way scrolling lists can be an ideal interface for control requirements that would otherwise require many fixed buttons (ex: favorite music or tv stations, surround modes from an A/V receiver).



Two-Way List Drawing Tool

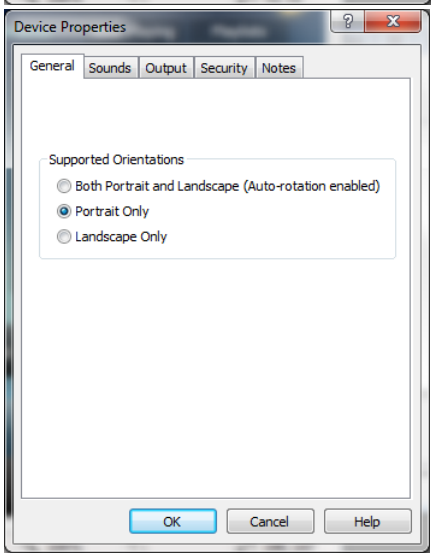
To add a Two Way List object to a page, select the static list object drawing tool in the lower-left corner of the Integration Designer window. Now select the 'Scrolling List Object' tool. Draw the two-way list object on the page to the desired size. Once created, driver commands and item list feedback variables can be assigned to the list for two-way communication with compatible desired equipment. Additionally, the button text properties (text size, font, alignment) can be adjusted by right clicking on the two-way list button, and selecting "Edit Properties".

Note: Two-way lists are programmed differently on iOS devices compared to native RTI controllers. This is due to the fact that RTiPanel is exposing some of the native capabilities of the iOS scrolling lists. There is no need to account for a progress bar, or Scroll/Page up or down commands on iOS devices. The progress indicator is built into the iOS list, and swiping allows for quick, intuitive navigation through the contents of the list.



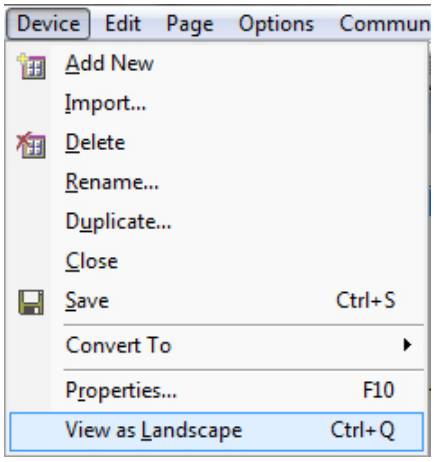
RTiPanel Password

RTiPanel can provide secure access via the "Security" tab of the Device Properties for each Apple® device. When RTiPanel application is open and the password option has been enabled, a prompt will ask for the password entry before the user interface is presented. Note that the password prompt will only be initiated upon starting of the RTiPanel application. If the RTiPanel has been opened and is running in the background of iOS, a "new" prompt will not be required when the user chooses to use the RTiPanel application. In the event that secure access to the control interface is important, the user should completely close RTiPanel in iOS after each use (i.e. RTiPanel should not be still running in the background).



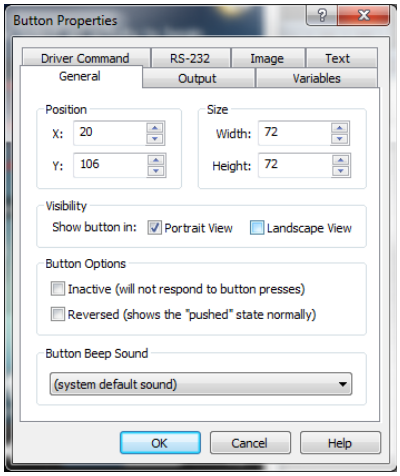
Locking Orientation

RTiPanel supports unique GUI layout for both Portrait and Landscape mode on Apple® devices. Both Portrait and Landscape mode are enabled by default on each Apple® device. The GUI for each orientations must be programmed when both modes are enabled, which in general will require additional programming time. If a fixed graphics orientation is preferred, right click on the Apple® device in the System Workspace of Integration Designer, and select "Edit Properties". From the General tab, select the preferred orientation. Once selected, only the desired orientation needs to be customized in Integration Designer.



Changing View of Orientation

When using both orientations (landscape and portrait) on an Apple® device, the programmer can alternate easily between both views, either by selecting from the Device Menu in the upper left corner of Integration Designer, or by using the shortcut "Ctrl + Q".



Hiding Buttons for an Orientation

When auto-rotation is enabled for the Apple® device, each button will be visible in both Portrait and Landscape mode by default. If a button should only be visible in one orientation, right click on the button, and select "Edit Properties". From the General tab, uncheck the view in which the button should NOT appear.

Video/ Dynamic Images

RTiPanel version 1.0 supports streaming MJPEG images as well as Dynamic Images (ex: Cover Art) while on LAN connection. WAN or 3G video/image tunneling is not currently supported.

Remote Access Setup

Dynamic Name Service

The first step when setting up remote access is to create a Dynamic Name Service (DNS) account with a DNS server like DynDns.com. When setting up your DNS account you will receive a DNS hostname. This hostname is what you will use when setting up the RTiPanel in Integration Designer.

Setting up DynDns Account

Go to the DynDns website (http://dyn.com) . Navigate to the account setup page and create a new account. Enter the IP address found on your router. This IP address is the external address given to the router by the ISP. This IP address will be updated automatically by your router.

Setting up DnyDns on Router

Once you have setup a DynDns account, you must provide your router with the new account information. In your router setup, navigate to the DNS setup page. You may see a list of supported DNS services. Choose 'DynDns'. Then enter the username and password information. The router will log into your DynDns account whenever the IP address changes.

Network Router Setup (Port Forwarding)

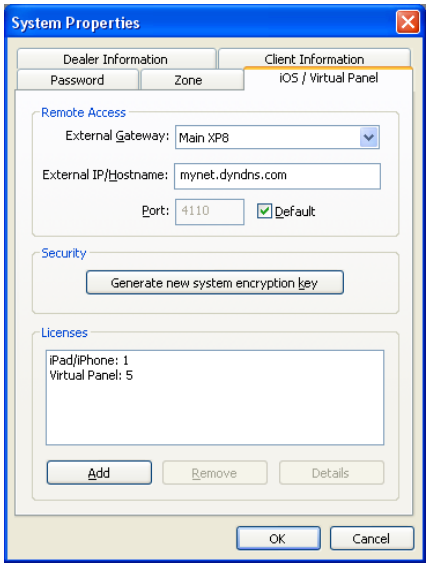
The next step is to setup the port forwarding entry in your router. Logon to your router using a web browser and look for the 'port forwarding' setup. The router must be configured to forward packets from port 4110 to the gateway XP processor. A typical port forward configuration entry would look like this:
Application: RTiPanel
Port: 4110
Destination: 192.168.1.200 (IP address of gateway XP processor)

Integration Designer Setup

The last step is to enter the DNS hostname into your Integration Designer system file.

Setting External Hostname

Under the 'File' menu choose 'System Properties'. On the iOS/Virtual Panel tab, find the 'Remote Access' section. Enter the hostname provided by your DNS account. You can also enter the IP address directly but we do not recommend that.



Setting External Gateway

If you have more than one XP series processor in your file, you can designate which processor will act as the gateway for iOS communications. Remember that the RTiPanel licenses are tied to a particular processor and changing this setting will require new licenses.