AudioReQuest Crestron™ XY Touch Screen Guide

Version 1.0.0

Control of AudioReQuest™ devices from a Crestron control system through Video Input and XY Overlay

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Revision History

Revision Number	Changes
1.0.0	Initial Version

Introduction:

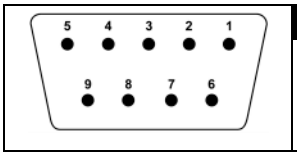
This document explains how to interface all models of AudioReQuest Digital Music Servers with Crestron control systems via the AudioReQuest video output using the AudioReQuest XY Touchscreen Demo program version 1.0.0.

Control of the AudioReQuest in this manner requires the following:

- AudioReQuest running firmware 2.1.0 or higher
- RS232→USB converter (see below for supported models)
- Available COM port on the Crestron processor

The serial ports on the AudioReQuest are reserved for standard 2-way control and will **NOT** work with this program. In order to control the AudioReQuest using this program, you **MUST** attach an RS232→USB converter to one of the AudioReQuest's USB ports and connect a serial cable between the converter and the Crestron processor.

Serial Cable Pinout (Female →Female RS232 cable)



Pin (ARQ Side)	Pin (Control Side)
2*(Rx)* →	3*(Tx)*
3*(Tx)* →	2*(Rx)*
5*(GND)* →	5*(GND)*

COM Settings

Connection to the RS232→USB converter requires a **Female→Female NULL MODEM** serial cable. You **CANNOT** use the **serial ports** on the AudioReQuest with this program.

Crestron Port Settings	
Parameter	**Value**
Baud	9600
Data Bits	8
Stop Bits	1
Parity	None
Flow Control	None

Supported RS232→USB Converters

Brand	Description	Mfg Part Number	Price	Vendor Name	Vender Sku
IO Gear	USB 1.1 to PDA/Serial Converter Cable	GUC232A	~$30	CompUSA	50177640
			~$35	Buy.com	10262122
Tripp Lite	RS232 to USB Converter	U209-000-R	~$20	Buy.com	10277371

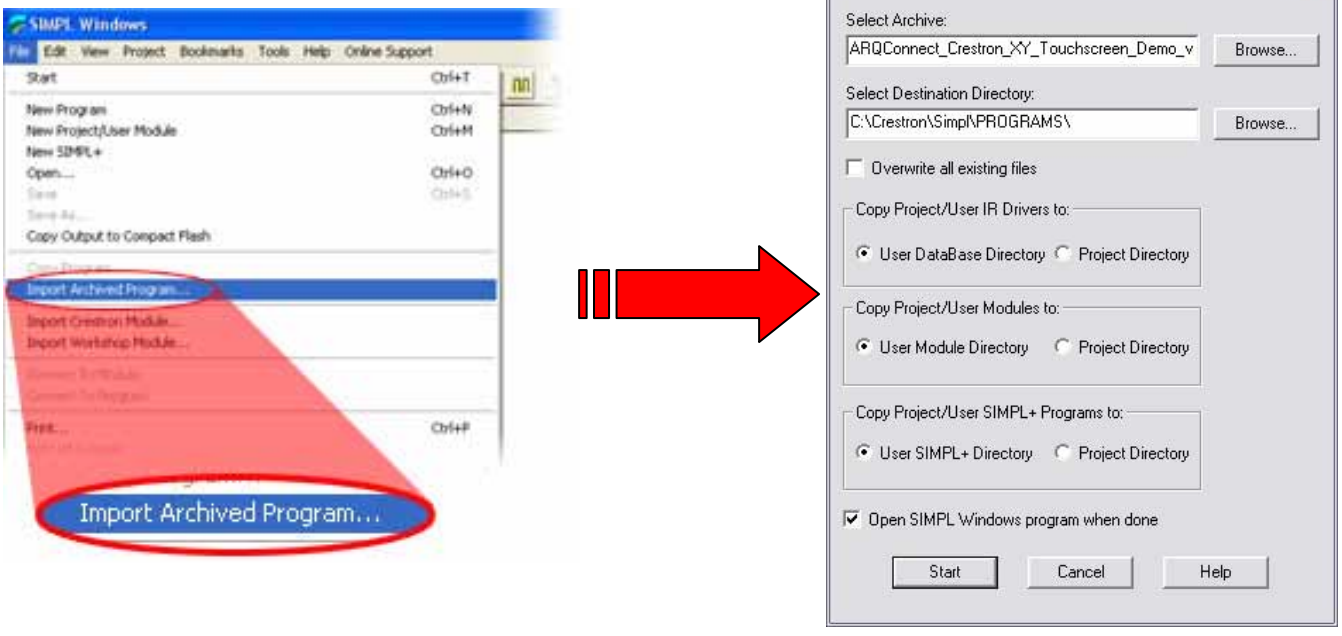
WHAT TO DO FIRST:

Do Not Unzip The Demo Program You Download!!!

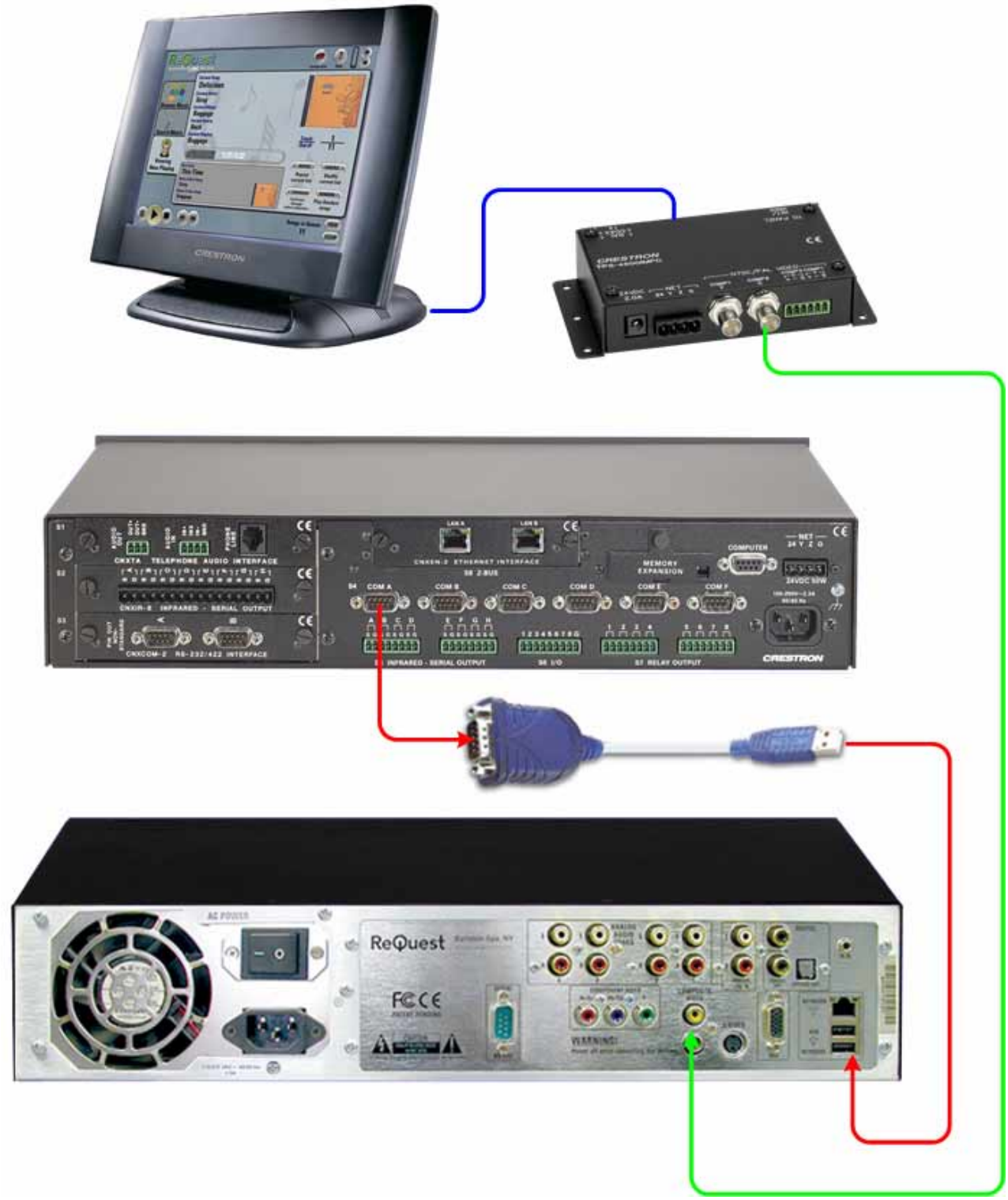
1. Download ARQConnect_Crestron_XY_Touchscreen_Demo_v1_0_0.zip from www.request.com.
2. Open SIMPL Windows.
3. Select **Import Archived Program** from the **File** pull-down menu
4. Click **Browse** and find the zipped file you downloaded in step 1 above.
5. Click **Start** to import the file.

Following the above steps is CRITICAL to the success of your project. Although it is typically sufficient to simply copy the files to the appropriate place on your hard drive, SIMPL Windows performs better when the file is imported.

Importing the file will unzip the project, placing the .smw, .umc and .usp files in the appropriate places, and open our demo program in SIMPL Windows. This program works as a complete solution with our touch panel designs, which are also available on our website. If you have any questions or problems, call (800) 236-2812 for further assistance.



Setting Up the Hardware



Setting Up the Software

If you are integrating the XY module into an existing program or if you would like to add a second module to control an additional AudioReQuest, the following steps will help you get started.

1. From the Symbol Library, select the **ARQConnect XY Module v1_0** module and drag it into your Logic folder under Program View (**Figure 1**)
2. Double-click on the ARQConnect XY module to open it into detail view.
3. Double-click on the COM port that you will be using for this AudioReQuest to open it into detail view (**Figure 2**)
4. Connect the **[TX$]** line on the COM port to the **AUDIOREQUEST-XY-TX$** line on the module
5. Connect the **[RX$]** line on the COM port to the **AUDIOREQUEST-XY-RX$** line on the module
6. Double-click on the touch panel that will be used to open it into detail view
7. Connect the **SCREEN-PRESS** input to the XY Module to the digital join you have assigned to the slider (see **Setting Up the Touch Screens** for more info)
8. Switch to the Analog signals
9. Connect the **X-COORDINATE** and **Y-COORDINATE** inputs on the XY module to the primary and secondary analog joins you have assigned to the slider (see **Setting Up the Touch Screens** for more info)
10. If desired, connect the **[CALIBRATE-STEP]** output from the XY module to the analog join you have assigned to the message box (see **Setting Up the Touch Screens** for more info)
11. If desired, connect the **[CALIBRATING]** output from the module to other logic to know when the panels are being calibrated.

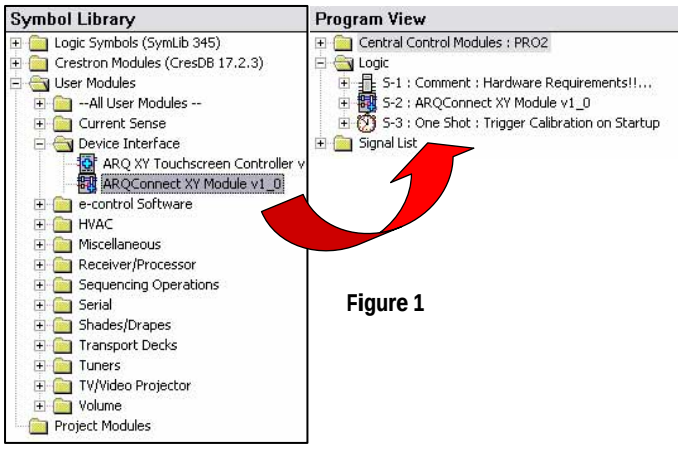


Figure 1

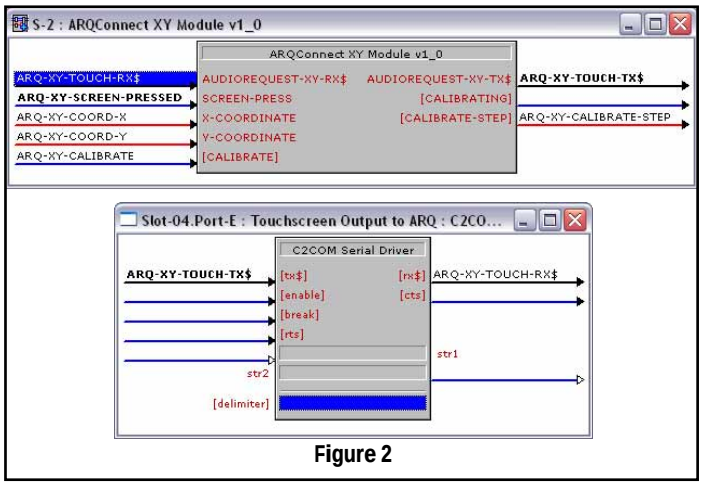
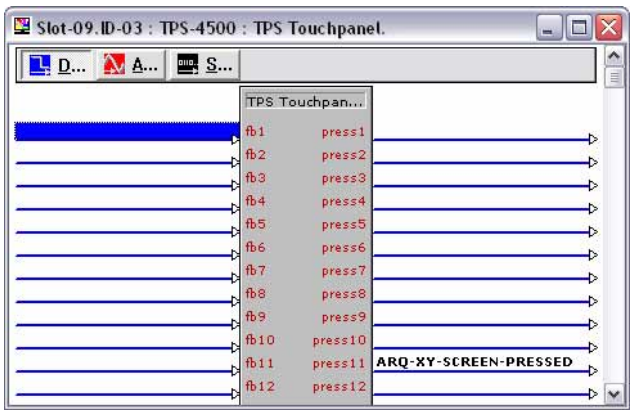
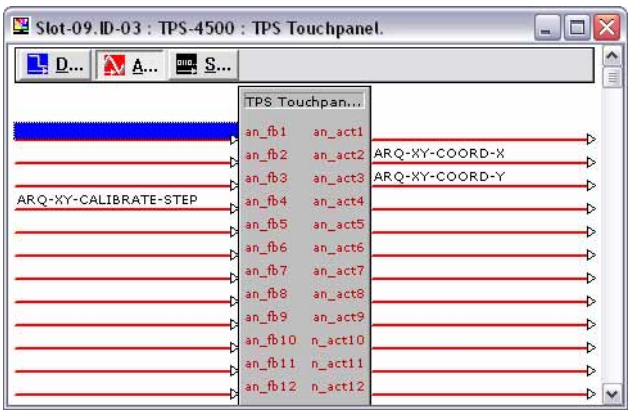


Figure 2





Setting Up the Touch Screens

If you are integrating this interface into your own panels, the following steps will help you get it running successfully.

1) Draw a video button and size it according to your design (**Figure 3a**)
2) Draw a slider the same size and in the same location as the video window (**Figure 3b**)
3) Double-click on the slider to edit its properties
    a. Switch to the Appearance tab (**Figure 4a**)
    b. Set the **Face** and **Indicator** to **Video**
    c. Set the **Frame** to **None**
    d. Switch to the Design tab (**Figure 4b**)
    e. Set the **Indicator Type** to **None**
    f. Set the **Dimension** to **2D**

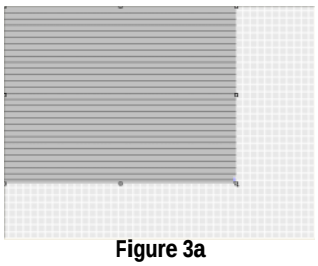


Figure 3a

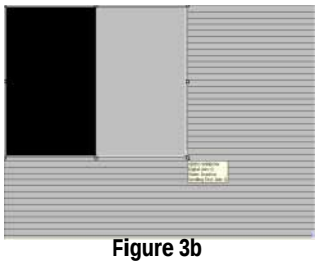


Figure 3b

The following steps describe how to include the Calibration help. You may skip to step 9 if you do not wish to include this.

4) Draw a Border slightly smaller than the Slider from step 2 above
5) Set the **Face** to **Video**
6) Set the Analog Join to the one connected to the **[CALIBRATION-STEP]** output from the module
7) Switch to the Text tab and delete all text from Mode 0
8) Add 4 new modes and set the text for each similar to the following:

Text	Alignment
Touch Upper Left	Upper Left
Touch Upper Right	Upper Right
Touch Lower Left	Lower Left
Touch Lower Right	Lower Right

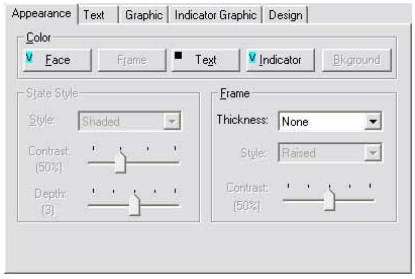


Figure 4a

9) Save, Compile, and Upload

After the program uploads, you may need to calibrate the touch screen. Depending on the design of you program, this may be triggered automatically when the processor boots or you may need to trigger it manually through Test Manager.

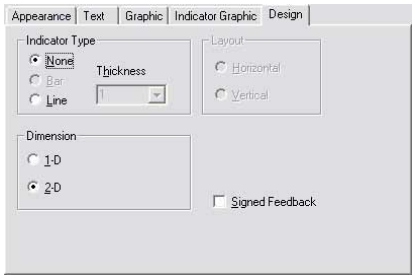


Figure 4b

To trigger calibration manually:

1) Connect a signal to the **[CALIBRATE]** input to the module
2) Right-click the signal and select **Set Watch** from the context menu
3) Save the program
4) If the signal was not already connected to the **[CALIBRATE[** input, you will need to re-upload the program
5) Open Test Manager
6) Locate the signal that you created and double-click it to pulse it
7) If you have created a calibration help text box, it will now be displayed telling you to press in the upper left corner
8) Once calibration is finished, you can test the program
9) Repeat steps 1-8 until you are satisfied with the calibration results