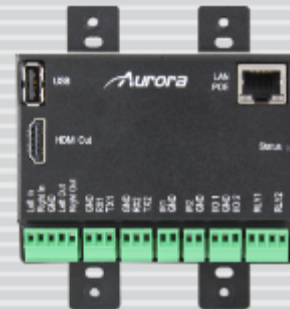


QUICK START  
GUIDE



# QX Series Quick Start Guide

## QX Series Control Systems



Manual version: 20160325

## SAFETY INSTRUCTIONS

Please review the following safety precautions. If this is the first time using this model, then read this manual before installing or using the product. If the product is not functioning properly, please contact your local dealer or Aurora for further instructions.

The lightning symbol in the triangle is used to alert you to the presence of dangerous voltage inside the product that may be sufficient to constitute a risk of electric shock to anyone opening the case. It is also used to indicate improper installation or handling of the product that could damage the electrical system in the product or in other equipment attached to the product.

The exclamation point in the triangle is used to alert you to important operating and maintenance instructions. Failure to follow these instructions could result in injury to you or damage to the product.

### **Be careful with electricity:**

- **Power outlet:** To prevent electric shock, be sure the electrical plug used on the product power cord matches the electrical outlet used to supply power to the Aurora product. Use only the power adapter and power connection cables designed for this unit.
- **Power cord:** Be sure the power cord is routed so that it will not be stepped on or pinched by heavy items.
- **Lightning:** For protection from lightning or when the product is left unattended for a long period, disconnect it from the power source  
Also follow these precautions:
- **Ventilation:** Do not block the ventilation slots if applicable on the product or place any heavy object on top of it. Blocking the airflow could cause damage. Arrange components so that air can flow freely. Ensure that there is adequate ventilation if the product is placed in a stand or cabinet. Put the product in a properly ventilated area, away from direct sunlight or any source of heat.
- **Overheating:** Avoid stacking the Aurora product on top of a hot component such as a power amplifier.
- **Risk of Fire:** Do not place unit on top of any easily combustible material, such as carpet or fabric.
- **Proper Connections:** Be sure all cables and equipment are connected to the unit as described in this manual.
- **Object Entry:** To avoid electric shock, never stick anything in the slots on the case or remove the cover.
- **Water Exposure:** To reduce the risk of fire or electric shock, do not expose to rain or moisture.
- **Cleaning:** Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.
- **ESD:** Handle this unit with proper ESD care. Failure to do so can result in failure.

**FCC**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interferences received, including interference that may cause undesired operation.

**Trademarks**

*All trademarks in this document are the properties of their respective owners.*

# 1. GETTING READY

Thank you for choosing our QX control system. To connect, set up and configure your equipment you will need:

## **SOFTWARE:**

1. YIPI5: Your-IP-Interface - PC application for QX GUI programming:

You can download YIPI5 from: <http://portal.auroramultimedia.com/documents/category/software>

2. WOVE: WACI-Offline-WEM-Editor - PC application for Event Manager programming:

This application is optional but highly recommended. You can also program Event Manager using web browser through setup pages.

You can download WOVE from: <http://portal.auroramultimedia.com/documents/category/software>

3. FTP client: For uploading and downloading files from the QX controller:

Any FTP client will work. We recommend FileZilla FTP client.

You can download FileZilla FTP client from: <https://filezilla-project.org/download.php>

4. Java drivers:

Make sure you have latest Java drivers installed.

You can download Java from: <http://java.com/>

Optional for troubleshooting:

5. Hercules serial terminal:

You can download Hercules from: [http://www.hw-group.com/products/hercules/index\\_en.html](http://www.hw-group.com/products/hercules/index_en.html)

6. TFTP32 or 64: For upgrading firmware on the QX controllers:

You can download the right version (32 or 64 bit) from:

<http://portal.auroramultimedia.com/documents/category/tftp-firmware-upgrade>

You can download latest firmware for your product from:

<http://portal.auroramultimedia.com/documents/category/firmware>

7. AngryIP - For IP scanning:

You can download AngryIP from: <http://angryip.org/>

## **HARDWARE:**

1. PC connected directly or via router/switch to the QX controller

2. USB-to-serial adapter & serial cable - for accessing Boot Menu and troubleshooting

3. Electronic meter - for RS232 cable troubleshooting

## 2. CONNECTING YOUR QX WITH THE PC

### **With router (which supports DHCP):**

Use Ethernet cable to connect LAN port on the QXT with the router. The QXT comes with a dynamic IP by default (DHCP enabled). Just confirm your PC is set to DHCP as well. You can do it in your PC's Control Panel > Adapter's Network Settings.

**The QXP controller does not have a touch panel and it comes with a static IP address of: 192.168.1.10**

### **With Ethernet switch (which does not support DHCP):**

Set a static IP address on your PC and QX, eg:

PC's IP: 192.168.1.11

Subnet: 255.255.255.0

Gateway: 192.168.1.1

QX IP: 192.168.1.10

Subnet: 255.255.255.0

Gateway: 192.168.1.1

### **Directly from PC to the QX (no DHCP):**

Set a static IP address on your PC and QX.

### **Finding IP address on the QXT:**

1. The Kiosk window can be configured to open up automatically when the controller is powered up. Kiosk is just a web browser which opens up in full screen. If it's a brand new unit or it was restored to factory settings you will see a default home page showing basic information like the IP address, etc.

From this page you can:

- Close Kiosk - you will get access to Windows CE desktop on the QXT. From there you can go to Control Panel > Network Settings for IP configuration
- Enable Kiosk - set Kiosk to boot up automatically after controller's reboot
- Disable Kiosk - disable Kiosk from booting up automatically after reboot
- Help

**Once you know QX's IP address (eg. 192.168.1.10) you can use your PC's web browser:**

**http://192.168.1.10/setup**

**username: admin**

**password: admin**

2. If your QXT does not show the default home page you can connect a USB keyboard and press left Alt + F4. This will close the Kiosk window and you will get access to the Windows CE desktop.

3. Without knowing the IP address you can access the setup pages using host name, eg:

[http://QXT\\_1/setup](http://QXT_1/setup)

[http://QXP\\_1/setup](http://QXP_1/setup)

(these are default host names which can be changed in SETUP > Network Settings).

4. Run an IP scanner like AngryIP (please refer to software section in Chapter 1).

5. Access controller's Boot Menu (please refer to the Boot Menu instructions in Chapter 6).

### 3. SETTING UP THE QX CONTROLLER

Depending on the project you are working on, you will need different functions on the QX controller. Send any questions you have to support@auroramm.com

Our programmers and engineers can assist you with choosing the right equipment, wiring, control protocol, etc.

The most basic setup includes:

1. Date and time in: SETUP > Time Settings
2. IP configuration in: SETUP > Network Settings
3. XMLRPC server port and Browser's Home Page in: SETUP > Network Settings (bottom page).

**The XMLRPC server port is used for connection between GUI and the controller. It needs to be set to: 2996.** Make sure it's set up correctly if you have a brand new unit or if you just restored it to factory settings.

Your browser's home page (below XMLRPC server port) is the link that will be used for accessing GUI from the Kiosk web browser. Depending on how you uploaded your GUI files the link should be either:

**127.0.0.1**

or

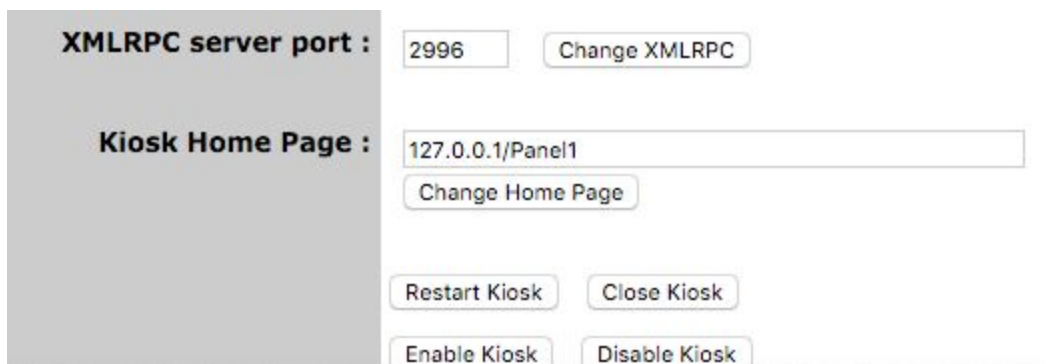
**127.0.0.1/Panel1**

**127.0.0.1/Panel1/index.html** (will work too)

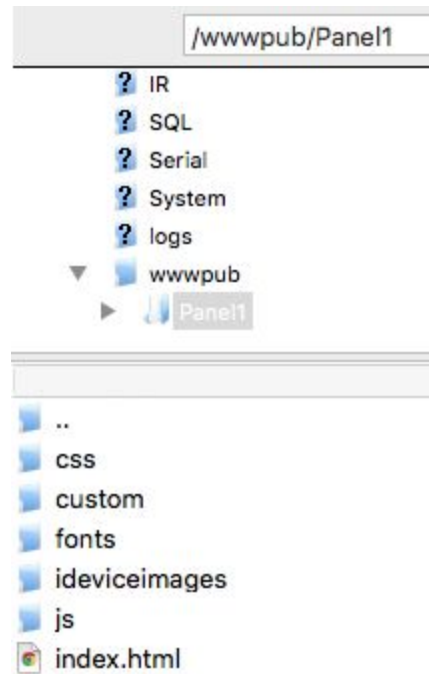
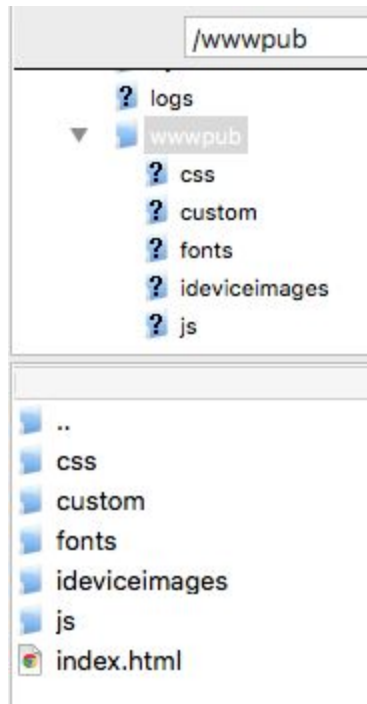
where 'Panel1' is the name of your project folder.

The 127.0.0.1 is the localhost IP address. The Kiosk web browser will connect to its internal web server and it will look for your project's 'index.html' file directly inside 'wwwpub' folder.

If you export your project from YIPI5, the project files will be stored in a subfolder inside 'wwwpub' folder, eg. 'Panel1', so your link needs to reflect that. See below both examples, screenshots from Filezilla FTP client:



The screenshot shows a settings interface with a grey sidebar on the left containing the labels 'XMLRPC server port :' and 'Kiosk Home Page :'. To the right of the sidebar, there are several input fields and buttons. The 'XMLRPC server port' is set to '2996' with a 'Change XMLRPC' button next to it. The 'Kiosk Home Page' is set to '127.0.0.1/Panel1' with a 'Change Home Page' button below it. At the bottom of the interface, there are four buttons: 'Restart Kiosk', 'Close Kiosk', 'Enable Kiosk', and 'Disable Kiosk'.



You can also use the panel's actual IP address which will work but it's not recommended.



## 4. SERIAL, IR, DIO, RELAYS

### SERIAL

When you use serial RS-232 for control you will need to:

1. Confirm that the serial baud rate settings match baud rate on 3rd party device you are connected to via RS-232. You can check these settings in SETUP > Port Setup.
2. Make sure you have correct wiring. When connecting the QX-Series controller with the 3rd party device remember that:

TX pin connects with RX pin

RX - TX

GND - GND

3. Confirm your protocol. Below are sample commands and their format:

!PWRON%0D

%01%02%03%04

In: !PWRON%0D command:

The '!PWRON' are ASCII codes and '%0D' is a hexadecimal for the CR (carriage return).

All ASCII codes need to be terminated with the CR. Many manufacturers don't provide this information in their manuals.

In: %01%02%03%04 command:

These are all hexadecimal values. Just like with the CR (%0D) you need to put a percent '%' sign before each hex code when sending hexadecimals. No additional spaces or quotes are required.

**All commands which consist of hexadecimals only DO NOT require a CR at the end of command.**

You can use serial diagnostics in: DIAGNOSTICS > Serial Diagnostics to check traffic of the serial incoming and outgoing data. Just click the 'Start' button for both.

### IR

The IR port can be used for IR or for IR-Serial control.

You will need to learn IR commands to use IR for control. Go to SETUP > Infrared Learning:

- In Step 1 type name for the new IR (\*.WIR) file.
- In Step 4 type name for the new IR command and click 'Learn'. Now from about 5-10 inches point your IR remote control at the IR learner (top-right side on the QXT). Press the button on the remote control once, wait for about 2 seconds, and press it for the second time. You should see 'Learning Successful' message. Now you can type new IR command name in Step 4 and repeat the procedure.

**Don't hold the button on the remote control for too long. It should be a normal button press as if you were using the remote control on a 3rd party device. If you hold it for too long the command might be learned incorrectly and work repetitively.**

You can test your learned IR commands in: Diagnostics > IR Diagnostics.

If you use your IR port as 1-way serial communication make sure your baud rate is set correctly in SETUP > Port Setup.

### **DIO**

You can change DIO configuration mode in: SETUP > Port Setup. It can be used for voltage output or event triggered based on sensor reading.

### **RELAY**

You can use your relays for controlling projector screens, power sequencers, etc.

## 5. UPGRADING FIRMWARE ON QX CONTROLLER

You can check the current firmware version in: Diagnostics > System Information

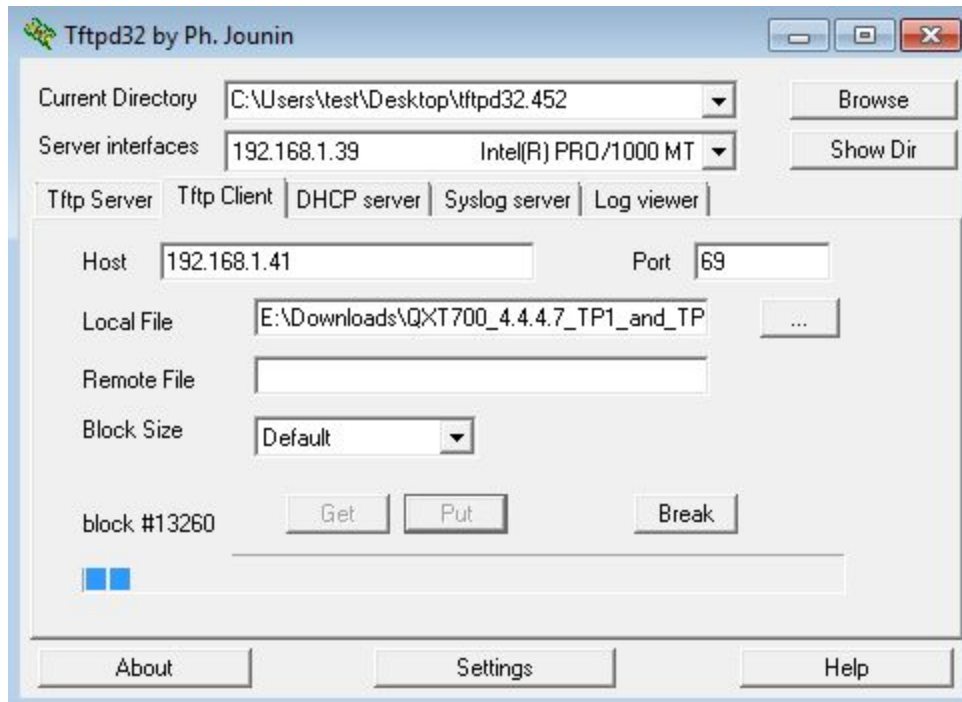
You will need:

1. Windows PC
2. TFTP32 or 64 (please refer to software section on top)
3. Latest firmware

To upgrade firmware:

1. In Diagnostics > Firmware Upgrade click 'Ready to Download Firmware' button
2. In TFTP32 select 'TFTP Client' tab
3. Select your Server interface (your network connection LAN or Wireless), put controller's IP address as host, port 69, first select the bootloader ABT file as the Local File and click 'Put'.
4. When the ABT bootloader file gets loaded, select the AFW firmware file and click 'Put' again.

**Firmware upgrade should take approximately 5 minutes. The unit will boot up when the process is completed. Please don't unplug the power cable or close application during firmware programming.**



## 6. BOOT MENU

When needed, you can restore your controller to factory settings (option 1 in the Boot Menu) from the boot menu if your controller does not work properly (nothing shows up on the screen or has some internal OS issue). You can also load bootloader and firmware which can also resolve many issues with your controller.

### **To access Boot Menu:**

Connect serial 1 port from the QX to your computer with an RS-232 Data Transfer Cable (Null Modem Cable). You can also use a USB-to-Serial adapter. Using Hercules connect to the QX with the Serial Settings: Baud Rate: 115k, Data bits: 8, Parity: None, Stop bits: 1, and Flow control: None.

Press & hold the Setup button while inserting the power connector (you will need to take the screen off the QXT-700 to see the Setup button). The QX Boot Menu will appear on the terminal screen:

- [0] Display Settings
- [1] Reset to Factory Default Configuration
- [2] Configure IP Settings
- [3] Change Password
- [4] Set Host Name
- [5] Download Image Now
- [6] Boot Delay : 3
- [7] Number of Cores : 4
- [8] Save Settings
- [9] OEM Menu
- [L] Launch Existing Flash Resident Image Now

## 7. BASIC EVENT MANAGER PROGRAMMING

Event Manager is used for programming events, actions and variables. It is an integral part of any installation and it is a central point between the buttons on the GUI interface and the actual serial, IR or network commands controlling 3rd party equipment.

The EM file has a .WEM extension and is stored in the 'Event Manager' folder on the FTP server on your controller. You can download it using FileZilla FTP client. You can switch between different WEM Event Manager files using the drop-down menu located above events table frame in the upper-left corner (below the QX-Series controller's logo). Only the selected WEM is active.

You start programming your project by creating a new event (click 'Add Event'). The event by itself does not perform any function. Inside the event you need to add a new action (Serial, IR, Telnet) which will control the 3rd party equipment. The event is really a place-holder for the action/actions and the event type tells us its trigger method:

- Named Event - can only be triggered manually from either the 'Trigger' button in the Event Manager or from the buttons in GUI
- Clock - gets triggered based on time and date settings
- Timer - gets triggered on time interval
- Variable - can be triggered based on the variable value change
- Serial - can be triggered based on incoming serial data
- DIO - gets triggered based on the reading on the DIO sensor
- Startup - gets triggered every time the unit boots up
- Telnet - can be triggered based on incoming telnet data
- Network - can be triggered based on different network changes
- IR Input - gets triggered based on the incoming Infrared data to the IR sensor

When you create the correct event, you can add 1 or multiple actions. Actions are used to control 3rd party equipment and for local EM calculations and parsing. Each action performs a different function:

- Variable - used to store data into a variable, and also for expressions and parsing
- Serial - used for sending RS232 data
- DIO - used for setting DIO port
- Relay - used for switching relay
- Event - used for triggering other events
- IR Port - used for sending Infrared data (you need to learn or upload WIR files into the 'IR folder first)
- IR Serial - used for sending RS232 data to IR ports (put '%' sign when sending hex codes, eg: %BE%02%0D
- HTTP Post - used for sending data over network with HTTP Post protocol
- E-mail - used for sending emails
- Log - used for storing data into a log file stored in 'Logs' folder on FTP
- Telnet - used for sending Telnet network data
- UDP - used for sending UDP network data

- PJLink - used for controlling 3rd party devices over network (only if they support PJLink network protocol)

In Event Manager you can also create variables which are used to store your data. You have 4 types of variables:

- Number - used for storing numerical data, also used for calculations and parsing
- Schedule
- String - used for storing all ASCII data, also used for data parsing
- Range

How you need to program your EM depends on the project you are working on. You can use expressions, parse data, execute actions based on conditions, etc. You can find additional information by clicking 'Help' in the lower-right corner of the action settings.

We provide programming support. Please send emails to [support@auroramm.com](mailto:support@auroramm.com) with the Event Manager's WEM file and YIPI's exported Y5P file.

# APPENDIX 4 Warranty

## Limited 3 Year Warranty

Aurora Multimedia Corp. ("Manufacturer") warrants that this product is free of defects in both materials and workmanship for a period of 3 years as defined herein for parts and labor from date of purchase. This Limited Warranty covers products purchased in the year of 2009 and after. Motorized mechanical parts (Hard Drives, DVD, etc), mechanical parts (buttons, doors, etc), remotes and cables are covered for a period of 1 year. Touch screen displays are covered for 1 year; touch screen overlay components are covered for 90 days. Supplied batteries are not covered by this warranty. During the warranty period, and upon proof of purchase, the product will be repaired or replaced (with same or similar model) at our option without charge for parts or labor for the specified product lifetime warranty period.

This warranty shall not apply if any of the following:

- A. The product has been damaged by negligence, accident, lightning, water, act-of-God or mishandling; or,
- B. The product has not been operated in accordance with procedures specified in operating instructions; or,
- C. The product has been repaired and or altered by other than manufacturer or authorized service center; or,
- D. The product's original serial number has been modified or removed; or,
- E. External equipment other than supplied by manufacturer, in determination of manufacturer, shall have affected the performance, safety or reliability of the product.
- F. Part(s) are no longer available for product.

In the event that the product needs repair or replacement during the specified warranty period, product should be shipped back to Manufacturer at Purchaser's expense. Repaired or replaced product shall be returned to Purchaser by standard shipping methods at Manufacturer's discretion. Express shipping will be at the expense of the Purchaser. If Purchaser resides outside the contiguous US, return shipping shall be at Purchaser's expense.

**No other warranty, express or implied other than Manufacturer's shall apply.**

Manufacturer does not assume any responsibility for consequential damages, expenses or loss of revenue or property, inconvenience or interruption in operation experienced by the customer due to a malfunction of the purchased equipment. No warranty service performed on any product shall extend the applicable warranty period. This warranty does not cover damage to the equipment during shipping and Manufacturer assumes no responsibility for such damage.

This product warranty extends to the original purchaser only.