

ETC Setup Guide

aRFR/ iRFR for Eos Family Consoles

Overview

The aRFR/iRFR application is for remote control of Eos Family consoles via an Android or iPhone/iPad device.



Note: *The document does not apply to the original aRFR/ iRFR application, which is now rebranded as aRFR Classic and iRFR Classic. For information about setup of those applications, please go to <http://www.etcconnect.com/Support/Articles/aRFR-How-to-Setup-Your-Wireless-Network.aspx>*

aRFR/iRFR requires that your lighting console be on a wireless network using a wireless router or an access point. As wireless networking hardware changes frequently, ETC does not recommend a particular model of wireless router or access point.

Wireless routers have an Internet or WAN (wide area network) port and local network ports. Their function is to operate a local network, wired and wireless, and route data as needed between that network and the bigger network connected to the WAN port.

Wireless access points act as a translator between the wired and wireless networks, with very little filtering or processing. Devices that connect to the access point are essentially on the same network as the wired devices.



Note: *It is recommended that you use an isolated network specifically for lighting data. ETC does not recommend shared network environments. Please contact ETC Technical Services at the office nearest you if you have questions. A list of ETC offices is given at the bottom of this page.*

Topology

There are many different ways to layout a lighting network system. At the basic level, there are two simple topologies that are used for wireless remotes:

- Single Console
- Existing Network

Single Console

For a single console topology, you can plug your wireless router or access point directly into your console's network port.

Existing Network

Connect the router's WAN port or the access point to a core switch in your system. If two switch ports are not available next to the console, ETC recommends installing a small, unmanaged switch between the console, wall port, and router.



Note: *The router or access point should be kept from being a point of failure for show-critical level information like sACN, EDMX, or ArtNet data. Connecting the router or access point to a switch is preferred. You should not connect the console to the router, and then use another port on the router to connect to the rest of your lighting system.*



Corporate Headquarters ■ Middleton, WI, USA ■ Tel +608 831 4116 ■ Service: (Americas) service@etcconnect.com

London, UK ■ Tel +44 (0)20 8896 1000 ■ Service: (UK) service@etcceurope.com

Rome, IT ■ Tel +39 (06) 32 111 683 ■ Service: (UK) service@etcceurope.com

Holzkirchen, DE ■ Tel +49 (80 24) 47 00-0 ■ Service: (DE) techserv-hoki@etcconnect.com

Hong Kong ■ Tel +852 2799 1220 ■ Service: (Asia) service@etcasia.com

Web: etcconnect.com ■ © 2017 Electronic Theatre Controls, Inc.

Product information and specifications subject to change. ETC intends this document to be provided in its entirety.

4250M2262 ■ Rev B ■ Released 2017-10

ETC Setup Guide

aRFR/ iRFR for Eos Family Consoles



CAUTION: *Access points will normally transmit all multicast or broadcast information on a network. The level data from sACN, EDMX, and ArtNet may be sent over the wireless network, which would consume bandwidth. In larger systems, this can become problematic and affect WiFi remote connection, performance, and responsiveness.*

Configuring Your Wireless Network

Enabling On Your Console

On your console, you will need to enable RFR, and allow wireless RFR connections. It is recommended that you also make your console visible to the aRFR/ iRFR application. Visible to iRFR allows your console to be automatically detected by the application. If not used, you will need to manually configure a connection to your console.

In the Eos Family application, go to **Setup>Desk>RFR Settings> Allow RFR Connections** and make sure RFR Connections and Visible to iRFR are both enabled.

In the ECU, go to **Settings>Network>Interface Protocols>WiFi Remote**, and enable WiFi Remote on the port that you will be connecting your wireless router or access point.

Finding Your Console's IP Address

Before configuring the application, you should know the console's IP address for the network port where the wireless router or access point is connected if you are manually configuring a connection.



Note: *If using Visible to iRFR, the application will identify the consoles by their name and IP address, so it is useful to know the device names and addresses to ensure that you are connecting to the right one. The console's name can be found by navigating to **Settings>General>Device Name**.*

In the ECU, navigate to **Settings>Network**. The IP address(es) will be listed at the top of the page.

DHCP

One device in the system should be configured to hand out IP addresses to other devices in the system. This service is called DHCP, or Dynamic Host Configuration Protocol. In an ETC system, the DHCP service is run on either a console or Net3 Conductor appliance. Net3 Conductor is preferred. If you have multiple consoles and no Net3 Conductor appliance, it is recommended that you choose the console assigned as Primary. You can enable DHCP in **Settings>Network>DHCP Service**.

Configuring Your Wireless Router or Access Point

The following guidelines should be used when configuring your wireless network:



Note: *Please refer to your device's documentation for the configuration steps and terminology used for your device. These guidelines are general and not specific for a particular device.*

- Most routers are running a DHCP server for their local ports and wireless devices. This is not the same as the DHCP server used by your console or Net3 Conductor. **It is recommended that you leave this setting on.**
- The WAN port should be set to listen for a DHCP address. (Receive internet address automatically).

ETC Setup Guide

aRFR/ iRFR for Eos Family Consoles

- Turn off any wireless security features, such as securing the network with a passphrase, while configuring the network.



Note: *Once your system is up and running, you may feel free to turn these on to keep unwanted devices off the network.*

- Turn off any additional settings such as Broadcast Storm Detection or Block Multicast.



Note: *The application uses ports 3033, 3034, 3035, and 3036 for TCP and UDP communication. Most devices do not need specific configuration for this, unless you are specifically filtering data.*

Bringing the Network Online

- 1: Be sure that the DHCP server is on the network and running, whether this is done using Net3 Conductor or a console. Consoles should be powered on but waiting in the Welcome Screen.
- 2: Plug the router or access point into the network via the WAN port and plug it in to power. The router or access point will boot and receive a valid IP address from the DHCP server to communicate on the lighting network.
- 3: You may now launch your console's software.

Connecting Your Wireless Device

On Your Android or iOS Device

- 1: Click on the Settings icon for the OS.
- 2: Choose Wi-Fi.
- 3: Click on your network to connect. If you have enabled a passphrase, enter it when prompted.

Your device will connect and acquire a DHCP address from the router. If using an access point, the console or Net3 Conductor will supply an address through the access point.

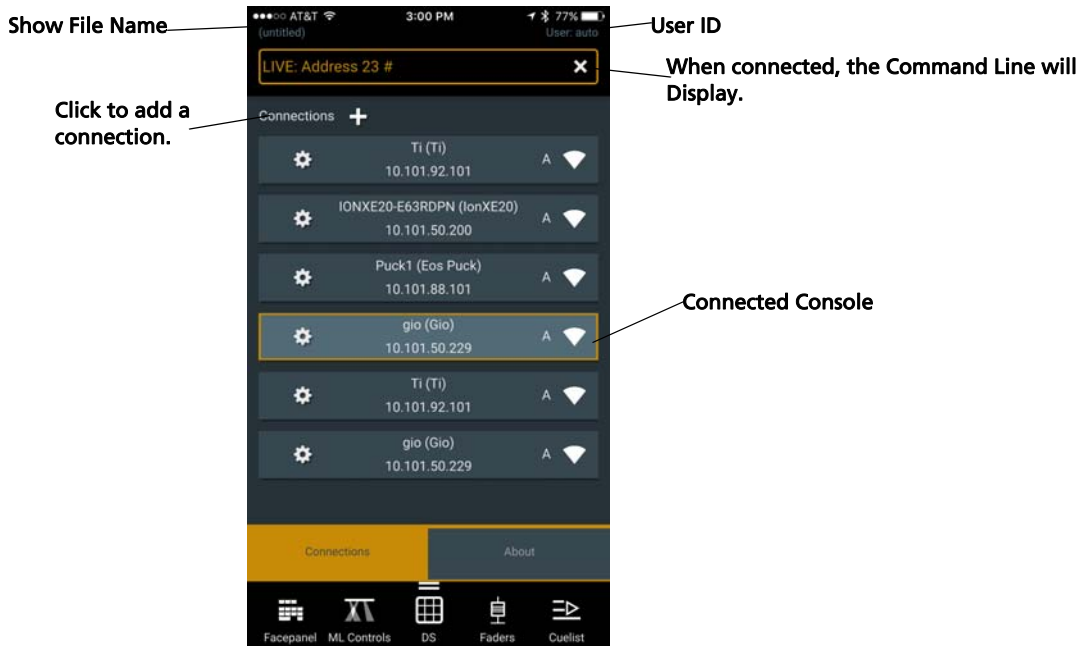
Connecting with the iRFR or aRFR Application

Once you are on the network, you will need to connect to a console using the iRFR or aRFR application.

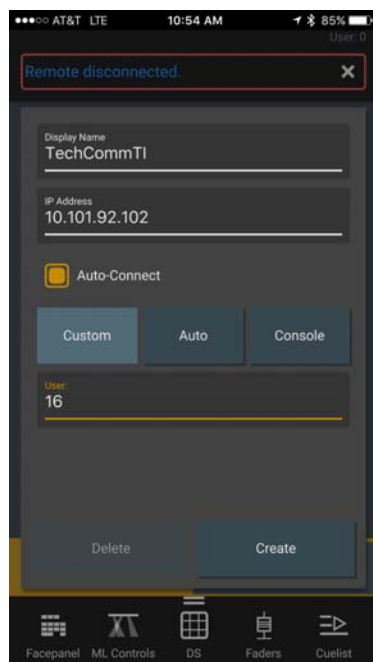
- 1: Launch the app on your device. The application will display a connections display.
- 2: The display will show the automatically found consoles if Visible to iRFR has been enabled. The consoles will be identified by their name and IP address. Tap on a console to connect to it.
 - a: To see the configuration information for a console, tap on the gear icon to the left of its name.
 - b: To disconnect from a console, tap on the console's name.

ETC Setup Guide

aRFR/ iRFR for Eos Family Consoles



- 3: If your console is not in the list or Visible to iRFR is not enabled, click **Connections +** to add it.
- 4: Choose a display name for the connection and enter it in the Display Name field. This can be any logical name for you to know which console you are intending to connect to and does not need to match the console's device name.



- Auto-Connect - the application will automatically connect to this console on startup. Default will appear under the console's gear icon when Auto-Connect is enabled.
- Custom - you can assign the user ID number.
- Auto - the application will assign a random user ID number that is out of the range of other user ID numbers used.
- Console - the console's user ID will be used.
- Delete - removes the saved connection.
- Create - only displays when a new connection is being made. Tap to save the connection.
- Update - only displays when a connection is being edited. Tap to save the updated connection.

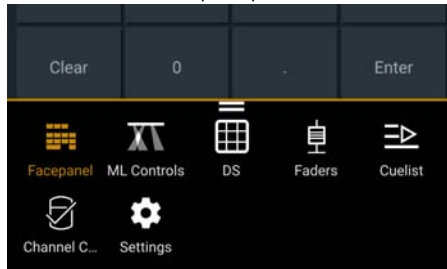
- 5: Enter the console's IP address under IP Address.
- 6: Click **Create** to save the connection information.

ETC Setup Guide

aRFR/ iRFR for Eos Family Consoles

- 7: Tap on the created console in the Connections display to connect to it. You are now ready to use the aRFR/iRFR application.

The bottom part of the screen shows the various displays available to you. To access the Settings and Channel Check tabs, swipe up on the bottom toolbar.



Note: To delete multiple created connections, go to *Settings > About > Clear Device Storage*.

Focus Wand

aRFR and iRFR v4.0.0 added a new feature, Focus Wand, which can assist in configuring and controlling Augment3d (added in Eos Family software v3.0.0).

Focus Wand Setup

Focus Wand first requires that you connect the aRFR or iRFR app to your Eos Family console by following the connection instructions earlier in this guide.

Once the connection has been established, ensure that Augment3d is enabled on your console by navigating in the CIA to **Setup > System Settings > Users**.

Augment3d Reference Point Images

Focus Wand uses unique Reference Point Images to synchronize with Augment3d and orient the mobile device within the 3D model.

- 1: Print at least four AR Target images to place in your space. Images can be exported from Eos Family Software v3.0.0 and later by navigating in the CIA to **File > Export > Augment3d Reference Point Images**.
- 2: Place the images at points in your space that are easily measured and encompass as much of the floor as possible. Note which image is placed where, and their orientations. Alternatively, you can place the images on FPE Points that already exist in your Augment3d model.
- 3: In Augment3d, either create new Reference Points at the locations you placed the images, or at the locations of existing FPE Points. Assign each point its associated image, ensuring that the image selected and its orientation match their real-world counterparts.
- 4: Scan the images using Focus Wand to synchronize your mobile device with Augment3d.

Using Focus Wand and Augment3d

For information on using Focus Wand to configure and control Augment3d, please see the onboard tutorials available in the app's About menu.

For information about Augment3d, please see the Eos Family v3.0.0 documentation available at etcconnect.com.