How to Set Up Your Wireless Network for Use with ETC Mobile Applications

ETC has several mobile applications which interact with various ETC systems for wireless control and/or configuration. This guide will walk you through the general setup of your wireless network to ensure proper connectivity.

Additional app-specific information can be found by clicking one of the product names below:

- iRFR and aRFR
- Echo Access
- Paradigm Mobile Button Station
- CEM3 Web Interface*
- Paradigm Architectural Control Processor (PACP) Web Interface*
- Paradigm Central Control Processor (PCCS) Web Interface*
- Net3 Conductor Web Interface*

ETC has a set of standard network IP addresses, including appropriate defaults:

ETC Default Network IP Addresses

*To access the Web Interface for CEM3, PACP, PCCS, or Net3 Conductor follow the instructions in this article and open an internet browser on a PC connected to the wireless router or access point. Type in the IP address of the device to access their interfaces. Refer to the help systems for these products on how to use their respective Web Interfaces.

Network Configuration

All of ETC’s mobile applications can be connected through either a wireless router or wireless access point. As wireless networking hardware changes frequently, ETC does not recommend a particular model of router or access point. Instead, ETC offers these guidelines for configuration.

The same Router or Access point could also be used for multiple ETC mobile applications and hardware on your lighting network. This guide assumes that the network is on an isolated network specifically for lighting data. ETC does not recommend shared network environments – contact ETC Technical services if you have questions.

An existing ETC system setup should be taken into consideration before altering settings for use with new equipment.

Choose Your Wireless Equipment
Wireless Router

Wireless routers are by far the most common Wi-Fi networking device. These devices typically have an Internet, Ethernet or WAN (wide area network) port on them, as well as LAN (local area 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 Point

A wireless access point (WAP) can also be used. These act as a translator between the wired and wireless, with very little filtering or processing. Devices that connect to the access point are essentially on the same network as the wired devices.

Note that access points will typically end up transmitting all multicast or broadcast information on the network. This means that level data from sACN, EDMX, and ArtNet may be sent over wireless, consuming bandwidth. In larger installations, this can become problematic and affect Wi-Fi remote connection, performance, and responsiveness.

DHCP

One device in the system should be configured to assign 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 Net3 Conductor or an Eos-family, or Congo/Cobalt-family console. When both a console and Net3 Conductor are present, Net3 Conductor is preferred. If you have multiple consoles and no Net3 Conductor, ETC recommends choosing the console assigned as Primary (for Eos Family devices) or Server (for Congo and Cobalt Family devices).

Enabling DHCP on Net3 Conductor
Enabling DHCP on Eos or Cobalt Family Consoles

For additional information on how IP addressing is used in ETC products, watch the following Bobblehead Fred video: Demystifying the Network or: How I Learned to Love My Lighting Network from a Bobblehead

Connect Your System Together

The recommended setup varies based on your system.

- If you have an existing lighting network with a DHCP server, use either the “Existing Network (with DHCP) with a Router” or “Existing Network (with DCHP) with an Access Point” examples.
- If you have an existing lighting network with no DHCP server, use the “Existing Network (without DHCP)” example.
- If you do not have any existing network infrastructure, use the “No Network” example.
- All examples assume ETC’s default IP scheme is in use on the lighting network. If a non-default IP scheme is used, you’ll need to consult with the system integrator and/or facility IT personnel.
  - IP Address – 10.101.x.x
  - Subnet Mask – 255.255.0.0

https://support.etcconnect.com/ETC/FAQ/How_to_Set_Up_Your_Wireless_Network_for_Use_with_ETC_Mobile_Applications

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Existing Network (with DHCP) with a Router

- Requirements:
  - Existing DHCP server (Net3 Conductor, Eos-family console, or Cobalt/Congo-family console)
  - Router set to factory default settings
    - Router assigns IP addresses to its local ports and wireless devices
    - ETC recommends setting a wireless security password if one does not exist
- Connect your router:
  - With the router powered off, connect its WAN port to a core switch in your system
  - Power the router on
  - Once fully booted, connect your phone or tablet to the wireless network

The router will assign your device an IP address from its default range, which is most often in the 192.168.x.x or 10.0.x.x ranges. The Subnet Mask is typically 255.255.255.0.

Existing Network (with DHCP) with an Access Point or Router in Access Point Mode

- Requirements:
  - Existing DHCP server (Net3 Conductor, Eos-family console, or Cobalt/Congo-family console)
  - Access point (AP), or router switched to AP mode, set to factory default settings
    - ETC recommends setting a wireless security password if one does not exist
- Connect your access point:
  - With the access point powered off, connect its Ethernet port to a core switch in the system
  - Power the access point on
  - Once fully booted, connect your phone or tablet to the wireless network

The DHCP server on the lighting network will assign an IP address to any wireless device that connects to the access point. If the lighting network is using default settings, your device will get an IP address in the 10.101.x.x range, with a Subnet Mask of 255.255.0.0.

Existing Network (without DHCP)

- Requirements:
  - NO Existing DHCP server
  - Router or access point
- Connection:
  - Connect router’s LAN port, or access points Ethernet port to a core switch in the system
  - Using the devices setup guide, assign a static IP address in the 10.101.x.x range, with a subnet mask of 255.255.0.0
Assign static IP addresses to your mobile devices in the 10.101.x.x with a subnet mask of 255.255.0.0

Note: It is critical that all devices have a unique IP address.

See the link below for default ETC IP addresses. If your lighting system is using non-default IP addresses, consult with your system integrator and/or facility IT personnel.

ETC Default Network IP Addresses

No Network

If you do not have any existing network infrastructure, ETC recommends installing a small unmanaged switch between your ETC hardware and the router/access point. Depending on proximity of the equipment to each other, you may need to hire a certified electrician to install additional network cable and Ethernet ports in your walls to support the new addition. Once the proper infrastructure is in place, follow the proper instructions above depending on the presence of a DHCP server.

Connecting Your Wireless Device

Connect to the wireless network as you would any other Wi-Fi network.

Android (enabling Wi-Fi may vary between devices and/or Android versions)

- Click on the Settings icon
- Choose Wi-Fi, and tap the toggle to turn it on
- Tap on your network to connect. If you have enabled a passphrase, enter it when prompted
- For additional help on connecting your Android device, see the support page from Google: [Connect to Wi-Fi Networks](https://support.etcconnect.com/ETC/FAQ/How_to_Set_Up_Your_Wireless_Network_for_Use_with_ETC_Mobile_Applications)
- Due to the variety of processes for doing so in Android, to assign a static IP address, ETC recommends contacting the manufacturer of your device for instructions.

iOS

- Click on the Settings icon
- Choose Wi-Fi, and tap the toggle to turn it on
- Tap on your network to connect. If you have enabled a passphrase, enter it when prompted
- For additional help on connecting your iOS device, see the support page from Apple: [Connect to Wi-Fi on your iPhone, iPad, or iPod Touch](https://support.etcconnect.com/ETC/FAQ/How_to_Set_Up_Your_Wireless_Network_for_Use_with_ETC_Mobile_Applications)
- To assign a static IP address to your iOS devices, open your Settings app, select Wi-Fi, and tap on the blue "I" symbol on the right side of your connection.
  - At the top of the page select Static, and enter the required IP information.
Connect Your ETC Mobile Application to the Hardware

Click one of the product links below to get to app-specific instructions for final connection.

- iRFR and aRFR
- Echo Access
- Paradigm Mobile Button Station

CEM3 Web Interface*
Paradigm Architectural Control Processor (PACP) Web Interface *
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