

## Introduction

ezRoom is a complete AV control and audio reinforcement system designed to be both flexible and easy to use. For the best installation experience, we strongly recommend you follow the guidelines here to avoid multiple trips to the installation site. Read this guide first as an overview, then drill down to individual installation guides as needed for specific projects and configurations.



## Before going onsite

### 1 Pre-configure devices

- a) Get a list of IP Addresses from the school to be used for the ezRoom equipment. Ask the school to reserve these IP addresses before you get on site. After installation, system configuration will be much easier if you can access all your devices from anywhere on the school network, rather than getting on a ladder to connect a network cable to each device.
- b) Assign the appropriate IP address and device name to each device. Connect an Ethernet cable directly from your computer to the device and type in the default IP address of the device into your browser (see Appendix for default IP addresses). Label each device with the IP address and room number so you know where each device is to be installed.
- c) Gather up the control codes for all projectors and displays you will be controlling, as well as any other devices (such as the HDMI 4x4 switch). If possible, pre-program one set of devices with the desired configuration, so you spend less time on site doing this.



### 2 Have a design plan:

- a) Know your design plan: All your wiring connections and general room placement for ezRoom enclosures, control panels, wall plates, cameras, etc. Ideally, this is defined in the scoping phase of the project. Ensure you have all the right cables and cable lengths. Make sure the plan adheres to [ADA requirements for accessibility](#).

### 3 Is the school ready?

- a) Ensure that electrical has been installed at the site for each room. For ceiling-based ezRooms, this may mean that a duplex has been installed above the drop ceiling, ready to be connected to the back of the ezRoom. Have a plan for connecting to electrical.
- b) Is the network ready? Reserved IP addresses and network drops to each room? Without power and a working network, there will need to be additional trips to complete installation and configuration.

### 4 Gather Documentation

- a) Download and print out a copy of every installation and configuration guide you will need on-site, in case there is no internet access. FrontRow [Manuals and Guides can be found here](#), but it may be faster to just search (upper right) depending on what you are looking for. Bring contact information for FrontRow technical support: 800-227-0735.

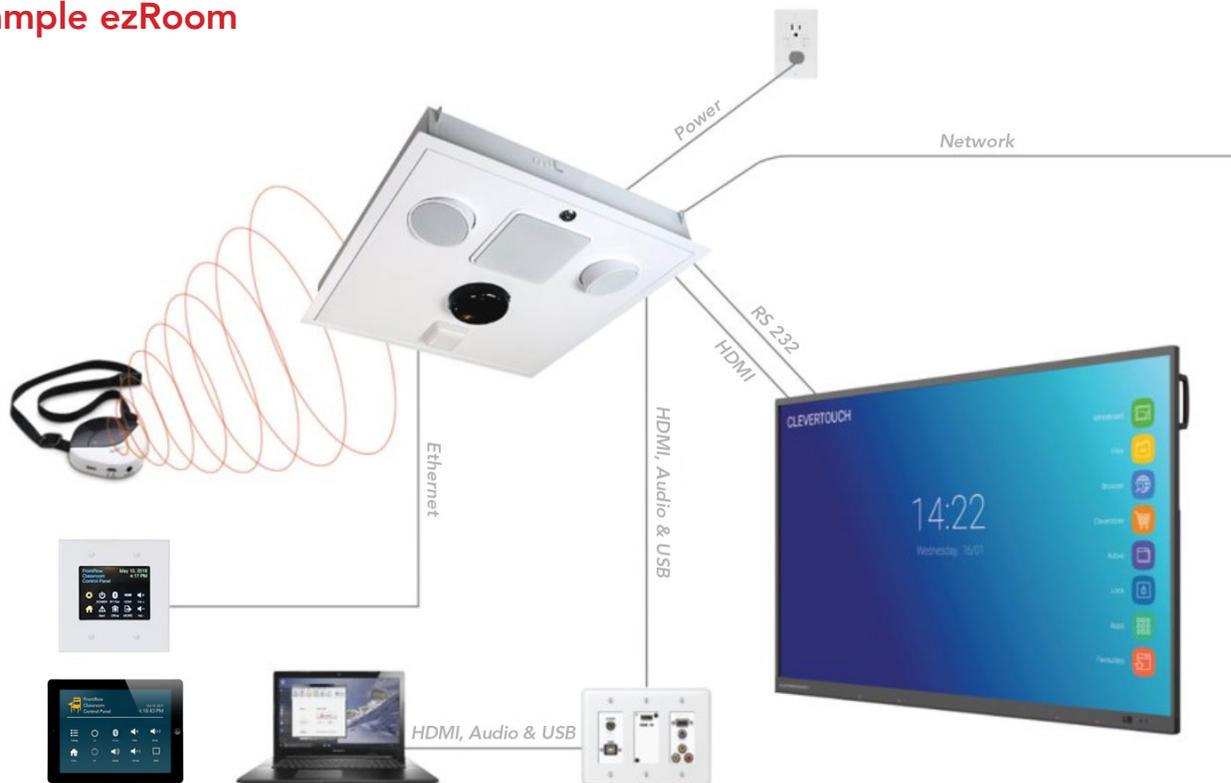
## Tools & Equipment

Along with the FrontRow equipment and cables, make sure you have the necessary tools to perform the job. For example:

- A Laptop computer with internet access
- Ethernet cable for connecting directly to devices
- Surplus Ethernet (Cat5e or Cat6) cabling, (with termination tools and RJ45 connectors if trained in this)
- Speaker cabling
- Screwdrivers, pliers, and wire-cutters
- Measuring tape
- Cordless drill and appropriate bits
- Hammer and rubber mallet
- Reciprocating saw, drywall saw, utility knife or other tools for cutting drywall and ceiling tiles
- Decora wall plates
- Cable ties, double-stick padded tape
- Assorted screws and hardware
- Batteries for display and projector remotes in case needed
- Portable label printer
- Fish tape wire puller
- Duct tape
- Your mobile phone (of course!)
- And... the list of IP addresses and assigned rooms!



## Example ezRoom



## On-Site: Installation Workflow

To save time, it is highly recommended that you completely install, configure, and test at least one classroom before moving to other rooms, in case you need to make changes to the physical setup, or to the device programming. The first room is your prototype. Then you can move on to other rooms, knowing the next rooms will be successful.



To build an ezRoom classroom, you can follow the below steps in approximate order, depending on the scenario.

- 1 In the first classroom, choose your device locations and pull all your cables to where you will be installing devices – ezRoom enclosure, sensors, cameras, AV wall plates, speakers, and control panels. Install your single, dual, and 3-gang boxes where AV wall plates and control panels will be installed.
- 2 Install the ezRoom enclosure.
  - a) Knock out the holes you will need in the ezRoom enclosure, prep the cable bushings and clamps as needed.
  - b) Follow the included instructions for securing the ceiling or wall enclosures to the support structures, allowing for the electrical outlet as needed. **IMPORTANT: Failure to properly secure the ceiling enclosure with the included wire harnesses could result in injury or death! Follow all local building and electrical codes.**
  - c) Connect HDMI, speaker wires, 3.5mm audio, USB, sensor, and RS-232 cables to the appropriate components in the enclosure.
- 3 Install the room speakers (if using distributed speakers)
  - a) Cut tile as needed for circular ceiling speakers.
  - b) Follow the included instructions for securing the lay-in ceiling speakers or wall speakers to the support structures.  
**IMPORTANT: Failure to properly secure the ceiling speakers with the included wire harness could result in injury or death!**
- 4 Install the ceiling sensor
  - a) If using an IR based system and the sensor is not already mounted to the ezRoom enclosure or to the IR wall speakers, follow the instructions that came with the device to install the ceiling or wall mount IR sensors.
  - b) Connect the sensor cables to the sensors
- 5 Install the wall plates and control panels
  - a) Connect the cables in the wall to the wall plates and control panels, secure to the wall boxes, then cover with the Decora plates.
  - b) Label the wall plates if further clarity is needed for inputs, outputs, or sources.
  - c) Connect the teacher's computer to the wall plates (USB, HDMI, etc).
- 6 Install the camera (optional)
  - a) Mount the camera to the back of the room and connect the cabling following the instructions provided.
- 7 Connect power to the ezRoom enclosure, and RS-232 to the classroom display or projector.
- 8 Connect your laptop to the network and open a tab with the IP address of each network device you want to program (For example: CB6000, CB2000, ICR-01, CM900).
  - a) Follow the instructions in the appropriate configuration guides to program each device
  - b) Ensure that you have the control panel pointing to THAT room's CM900/ICR-01 IP address (so you control that room, not another room).
  - c) If using Conductor, make sure you've entered the appropriate Shortcut for the Conductor server for communication.
  - d) Configure your microphone buttons settings, ClassLight settings, Audio and page override behaviors, control panel buttons, display commands and projector baud rates, etc.

## System Test



- 1 TEST, TEST, TEST! TEST all room functions!
  - Microphone levels and button actions
  - Page override (if using 70V or analog system)
  - Display control (on/off, switch inputs, etc)
  - Control panel buttons and actions
  - Auxiliary device levels
  - ALD output
- 2 If using Conductor, this would be a good time to configure Conductor with a minimal configuration so that you can test paging and intercom audio levels, ClassLight, and call actions before you download and save your master configuration files.
  - a) Configure your server IP address and basic setup (follow the installation guide).
  - b) Scan for all devices in Conductor and add them to the Device list.
  - c) Select your “prototype” room and perform your tests.
- 3 If everything works, download the configuration files from the ezRoom components and save them on your computer. These are your “master” configuration files that can be copied to every other room, speeding up the entire process.
- 4 If you have access to the Teacher’s computer or iOS device, install and configure the local software. If you don’t have access, please provide a USB with all software to the system administrator, including PDF instruction manuals.
  - a) Teacher Edition Capture (using Class2Home cable kits)
  - b) Teacher Edition Control (works with all systems)
  - c) Mic Settings App (ICR-01 based systems)
  - d) LessonCam Control (LessonCam)
  - e) FrontRow Control for iPad/iPhone
  - f) Test the software!!
- 5 Leave important documents for the teacher!
  - a) Don’t leave the teacher in the dark. Leave behind the Quick Start pages, Button Assignments, and other User Guides that are appropriate.
  - b) Provide the Technical User Guides and Configuration Guides to the Technology Administrator, AV Team, or IT Team for future reference.
- 6 Now, duplicate these steps for each classroom.
  - a) Install everything.
  - b) Upload the master configuration files to the appropriate devices for that room (don’t overwrite the IP addresses though!).
  - c) Test everything.
  - d) Install software and leave behind any documentation.
- 7 If using Conductor, install and configure your zone devices and other endpoints (CM800, IP Speakers, etc), then finish your Conductor setup (maps, bell schedules, zones, alerts, announcements, etc). Test everything!
- 8 Train teachers, administrator, and front office personnel on use of the system. Leave no question unanswered.
- 9 Congratulations! Great job – and thanks for choosing FrontRow.

## Appendix

### Setting your computer to a fixed IP address (not necessary in later operating systems):

- Windows: <https://www.hellotech.com/guide/for/how-to-set-static-ip-windows-10>
- Mac: <https://www.hellotech.com/guide/for/how-to-find-ip-address-on-mac#>

### Default IP addresses:

- CB2000, CB6000 – 192.168.1.104
- ICR-01, CM900, CM800, CMP500 – 192.168.1.103
- Conductor DRS5000 Server – 192.168.1.99
- Admin Station PC – 192.168.1.98