

PRO DIGITAL INSTALLER GUIDE ADDENDUM

1. PURPOSE

The purpose of this document is to provide important guidelines to supplement the FrontRow Pro Digital Installer Guide.

2. ADDITIONAL INSTALLATION GUIDELINES

This addendum does not replace the guidelines and requirements described in the FrontRow Pro Digital Installer Guide. **This addendum assumes the Pro Digital system is installed in compliance with all federal, state and local codes.**

Today's classroom is filled with technology ranging from computers to interactive white boards, to document cameras, televisions and DVD players. This presents a noisy electrical environment which may negatively influence the performance of the Pro Digital system. The following guideline will help you to maximize performance of your system and should be followed for every installation.

1. SPEAKER WIRES

- a. **MINIMIZE** speaker wiring and save time by daisy-chaining in parallel left and right speakers (figure 1). Running individual speaker wire from each speaker to the terminal block on the receiver is not required.
- b. **DO NOT** coil up the excess speaker wire. Excess speaker wire should be trimmed and used for other speakers, if possible.
- c. **AVOID** bundling sensor cables and speaker wires together (except for final run from ceiling to receiver unit). We recommend leaving at least 6 in. (15cm) between the two whenever possible.

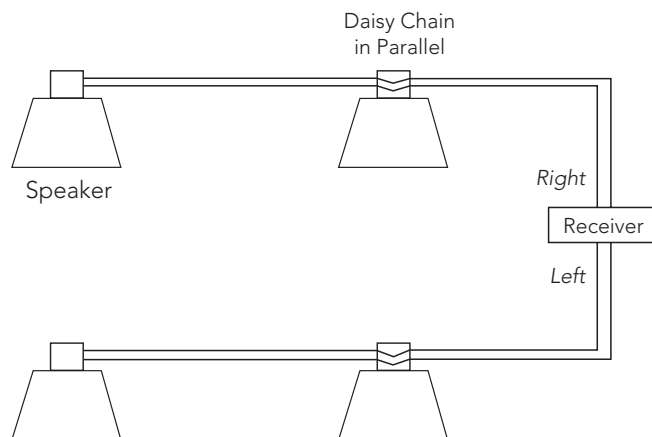


Figure 1: Speaker Connections

2. **SENSOR & SENSOR CABLE.** The sensor and sensor cable are critical elements in the system and the most sensitive to electrical noise.

- a. **DO NOT** shorten OR lengthen the sensor cable. Its factory-specified length is critical to the performance of the system.
- b. **DO NOT** use a splitter with the sensor cable.
- c. **DO NOT** use a different cable.
- d. **DO NOT** alter the RCA connectors on the cable.
- e. **AVOID** routing the sensor cable next to other cables or electrical systems (e.g., other electrical conduit, Ethernet cable, video cable, fluorescent light ballast, etc.). Leave at least 6 in. (15cm) space around the sensor cable.
- f. The sensor cable is UL listed. Excess cable can be coiled, tied and placed safely in a plenum space. **DO NOT** place the sensor coil near other cables or electrical systems (e.g., other electrical conduit, Ethernet cable, video cable, fluorescent light ballast, etc.).
- g. Route the sensor cable AWAY from the speaker wires as far as practical. We recommend leaving at least 6 in. (15cm) between the two whenever possible.

3. **RECEIVER.** The receiver has a built in sensor that works like the dome or wall sensors. To maximize the reception of the internal sensor, it must be mounted so it can “see” as much of the room as possible.

- a. Place the receiver at the instructors eye level (approximately 5-6 ft. [1.5-2m] from the floor). The receiver may be placed on a shelf, however we recommend using the FrontRow receiver tray.
- b. If mounted less than 5 ft. (1.5m) from the floor, the receiver should be mounted parallel to the floor. If mounted 6 ft. (2m) or higher from the floor, the receiver should be angled downward slightly.
- c. Secure the receiver tray to ensure it can't easily be rotated or angled into a less than optimal position.
- d. **DO NOT** place the receiver in direct sunlight as it will greatly reduce performance.
- e. **DO NOT** bundle the FrontRow power supply (or any power supply) along with the speaker or sensor cable.
- f. **DO NOT** bundle the FrontRow power supply (or any power supply) directly next to OR on top of the receiver.

4. **SENSOR MOUNTING.** Assessing the individual characteristics of the environment is critical to achieving the best performance. Plan sensor placement by reviewing the [Installer Guide](#); STEP 1, section 2, "Planning Sensor Placement". Poor coverage planning can dramatically reduce the performance of the system.

- a. **DO NOT** mount the ceiling sensor or wall sensors in direct sunlight as it will greatly reduce performance.
- b. The ceiling sensor must have a clear view of the coverage area and must be mounted parallel to the floor to function optimally (figure 2). If drop lights are used in the room, wall sensors may be a better option. Or, a drop mount* may be used to lower the ceiling sensor.

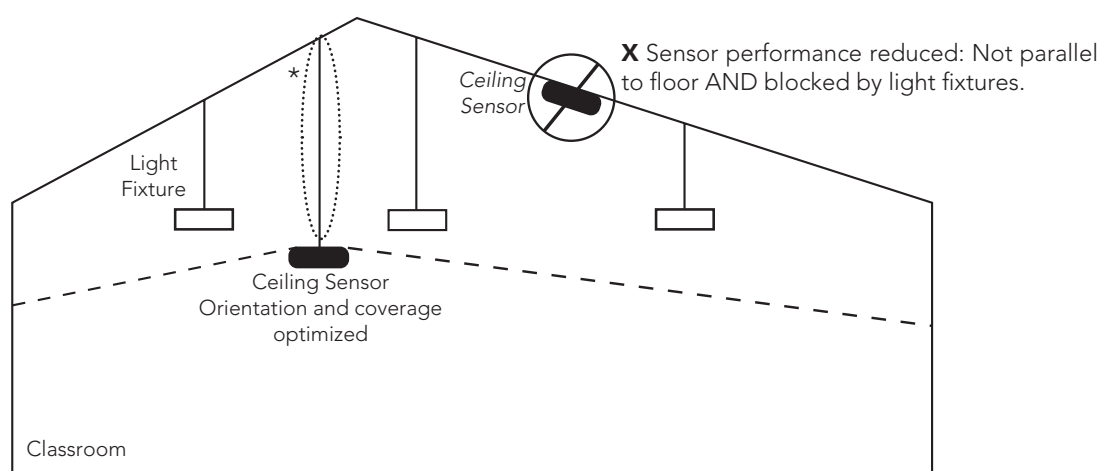


Figure 2: Ceiling Sensor Installation

*not supplied by FrontRow

5. **INTERFERENCE and IR COVERAGE.** The FrontRow Pro Digital system uses infrared light to transmit the voice signal from the microphone to the sensor in the receiver and the ceiling/wall sensors. Proper placement of the receiver and sensors is critical for optimal system performance.

- a. Adjacent classrooms that use FrontRow infrared systems can interfere with each other if the rooms are separated by windows. The windows allow the infrared light to "escape" from the classroom only to be picked up by the sensors in the adjacent classroom, causing interference and "cross talk". Be sure to recommend window covering to the greatest extent practical when using the system.
- b. Direct sunlight can reduce system performance. Be sure to recommend window covering to the greatest extent practical when using the system.
- c. Infrared light has better reflection off of white and glossy surfaces. The ceiling sensor can be placed to help provide coverage in areas where the signal may be weak due to insufficient infrared reflection.

6. **RACKMOUNTING.** The Pro Digital receiver may be placed in a rack using a standard shelf that accommodates the physical dimensions of the receiver. The Pro Digital receiver will not accommodate “wings” or other rack accessories which attach directly to a unit. Airflow should not be restricted in the rack. The following guidelines must be considered when rack mounting the receiver:

- a. **Coverage.** The Pro Digital receiver has an internal sensor that works like the external dome or wall sensor.



The internal sensor can be used alone or in tandem with external sensors. If the location of the receiver in the rack prevents the internal sensor from being fully exposed to the coverage area, the sensor should be disabled*. The internal sensor cannot be disabled in the field. With reasonable notice FrontRow can disable the internal sensor prior to shipment.

When placing the receiver in the rack where exposure to the coverage area is possible, be sure to secure the receiver on the shelf to prevent it from sliding to the rear of the shelf or changing orientation.

- b. **Technical Support.** Contact FrontRow technical support at US: 800.227.0735, CAN: 800.340.9894 if you have any questions regarding installation or troubleshooting.

**Each sensor contributes a small degree of electrical noise in the system. A properly used sensor, one that is exposed to the coverage area, improves system performance far above the electrical noise that is introduced. Conversely, a sensor that is NOT exposed to the coverage area (e.g., receiver placed in a closed rack system), contributes a small degree of electrical noise in the system with no benefit in performance.*