



INSTALLATION GUIDE

RoomPro ONE
RoomPro AV

All-In-One Classroom AV Solutions

License Agreement

This document and its contents are furnished "as is" for informational purposes only, and are subject to change without notice. Projection Guys, Inc. does not represent or warrant that any product or business plans expressed or implied will be fulfilled in any way. Any actions taken by the user of this document in response to the document or its contents will be solely at the risk of the user.

PROJECTION GUYS, INC. MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, WITH RESPECT TO THIS DOCUMENT OR ITS CONTENTS, AND HEREBY EXPRESSLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR USE OR NON-INFRINGEMENT. IN NO EVENT SHALL PROJECTIONGUYS BE HELD LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH OR ARISING FROM THE USE OF ANY PORTION OF THE INFORMATION.

Copyright © 2010 by Projection Guys, Inc. All rights reserved.

This document may not be reproduced, photocopied, displayed, transmitted or otherwise copied, in whole or in part, in any form or by any means now known or later developed, such as electronic, optical or mechanical means, without the written agreement of Projection Guys, Inc. Any unauthorized use may be a violation of domestic or international law.

Trademarks and Copyright

RoomPro AV, RoomPro ONE and the RoomPro Technologies logo are trademarks of Projection Guys, Inc. All other product or company names mentioned are used for identification purposes only, and may be trademarks of their respective owners.

TABLE OF CONTENTS

SAFETY INSTRUCTIONS	2
INTRODUCTION.....	3
About RoomPro Technologies.....	3
ABOUT THIS GUIDE	4
RoomPro Package Components	4
Accessories.....	5
System Specifications and Features	5
INSTALLATION PLANNING	6
Tools and Materials	6
Site Preparation	6
INSTALLATION.....	8
Step 1: INSTALLING THE CEILING ENCLOSURE	10
Step 2: MOUNTING THE PROJECTOR	12
Step 3: INSTALLING THE INFRARED (IR) MICROPHONE SYSTEM.....	13
Step 4: INSTALLING THE CONTROL PANEL.....	14
Step 5: FINAL ASSEMBLY AND ADJUSTMENT	15

SAFETY INSTRUCTIONS

To avoid potential equipment damage and/or serious injury, READ AND FOLLOW all safety precautions when installing the RoomPro system. WARNINGS are located throughout the procedural steps in this guide, and are repeated below for emphasis.

- **USE A CERTIFIED ELECTRICIAN FOR POWER CONNECTIONS.** The RoomPro system uses standard 110VAC power. Obtain the services of a certified electrician when supplying and connecting power to the Ceiling Enclosure. BE SURE electrical installation complies with local building codes. Improperly installing and/or connecting power to the system may result in EQUIPMENT DAMAGE, serious INJURY and/or DEATH.
- **DO NOT INSTALL ALONE.** The Ceiling Enclosure weighs approximately 25 pounds, and requires at least two people to install. DO NOT install alone.
- **USE SUITABLE LADDERS.** Use proper ladders or support platforms when installing the RoomPro Ceiling Enclosure. DO NOT stand on chairs, tables or other unsuitable surfaces.
- **SUPPORT THE CEILING ENCLOSURE PROPERLY.** DO NOT allow the full weight of the Ceiling Enclosure to rest on the tile grid of the ceiling. The Ceiling Enclosure is designed to be suspended at FOUR POINTS by suspension wires (secured to rafters or other suitable mounting points) and to rest LIGHTLY on the tile grid.

INTRODUCTION

About RoomPro Technologies

Thank you for choosing RoomPro Technologies. We are a Wisconsin-based manufacturer of all-in-one classroom control and microphone solutions. Founded on the idea that classroom audio-visual technology should be teacher, installer and budget-friendly, we released RoomPro AV—the industry's first projector mount with integrated speakers.

That initial design led to further development of a complete audio-visual system with infrared (IR) wireless microphone: RoomPro ONE. Equipped with a built-in, two-channel IR microphone that offers optimized voice enhancement, this fully integrated solution includes all the benefits of a high-quality wireless microphone system *plus* a complete control system in ONE affordable package.

Our solutions are engineered and built right in Wisconsin, with strong ties to the surrounding community. We proudly contract the services of the local Opportunity Development Center for product assembly, affording us the privilege of helping to provide a fundamental sense of accomplishment and pride for adults with developmental disabilities or other employment barriers.

RoomPro Technologies is community-oriented and 100% customer-focused. We are dedicated to providing you with an outstanding level of service and support. And we understand successful implementation starts with successful installation. So we are pleased to offer you this step-by-step guide to a safe and successful installation.

Thank you again for choosing RoomPro.

Sincerely,

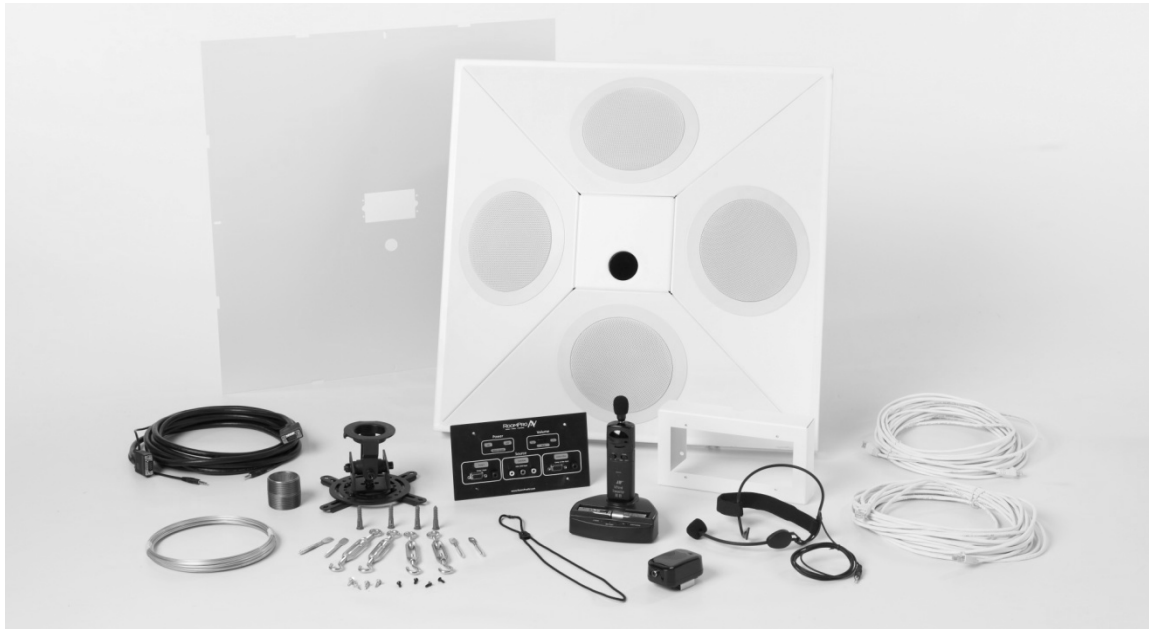
A handwritten signature in black ink, appearing to read "Dean Olds", with a stylized flourish at the end.

Dean Olds
President, RoomPro Technologies

ABOUT THIS GUIDE

READ THIS GUIDE COMPLETELY BEFORE BEGINNING INSTALLATION. This guide provides the procedures and instructions necessary to install and operate your RoomPro ONE AV system. Be sure to follow ALL SAFETY PRECAUTIONS during installation.

RoomPro Package Components



The RoomPro Package includes:

- Ceiling speaker enclosure with integrated Hi-Fidelity speakers and 40-watt amplifier
- Enclosure lid with single-gang cutout and fastening screws
- Universal projector mount and tube adaptor
- Three-input user control panel (2 VGA with Audio, 1 Composite with Stereo Audio) with fastening screws
- Infrared (IR) pendant-style microphone with lanyard and two-pack of rechargeable batteries*
- IR sensor and cable*
- Charger for microphone and batteries*
- Teacher-optional behind-the-head style headset with adjustable mic boom*
- Two (2) 35' plenum CAT5e cables for connecting user panel to ceiling enclosure
- 6' projector cable pack (RS-232, VGA, Composite)
- 25' VGA w/Audio
- Mounting hardware (turnbuckles, wire, and screws)

* RoomPro ONE package only

Accessories

Optional Accessories for the RoomPro system include:

- Surface-mount wall box for control panel
- USB Powered 2-Port VGA Video Splitter
- Additional IR microphone(s) with lanyard and rechargeable batteries
- Flush-mounting kit for solid ceilings

For pricing and availability, contact RoomPro Technologies or your nearest authorized reseller.

System Specifications and Features

- | | |
|-----------------------------|--|
| ■ Amplifier | - 40 watts Stereo at 4 Ohm |
| ■ Speakers | - Four 5-1/4" poly woofers with butyl surround |
| ■ Sensitivity | - 91 dB |
| ■ Frequency Response | - 50 Hz - 20,000Hz |
| ■ All-Metal Enclosed System | - For easy above-ceiling installation |

INSTALLATION PLANNING

Before beginning installation, make sure that you have the necessary tools and materials on hand, and that pre-installation site preparation has been accomplished:

Tools and Materials

In addition to the contents of the RoomPro system, you will need the following tools and materials:

- Phillips head screwdriver
- Pliers or vice grips
- Wire cutters
- Velcro or double-sided tape
- Drill
- Utility knife
- 1-1/2" pipe wrench
- Wiremold Raceway, 500/700 series, small (see INSTALLATION Step 4 for details)

Site Preparation

A schematic/wiring diagram of a typical RoomPro installation is shown in *Figure 1 – RoomPro One Schematic/Wiring Diagram*.

NOTE *The RoomPro Ceiling Enclosure is designed for installation in a 2' x 2' or 2' x 4' grid-type drop-in ceiling. If you do not have this type of ceiling, please contact your local authorized dealer or RoomPro Technologies for a special "flush mount" kit.*

Determine the location for the Ceiling Enclosure

Refer to the documentation for your projector to determine the correct distance from the display screen at which the project must be mounted. Remove the ceiling tile from this location, as well as the adjacent tiles, to provide sufficient workspace during installation.

Supply power to the selected location

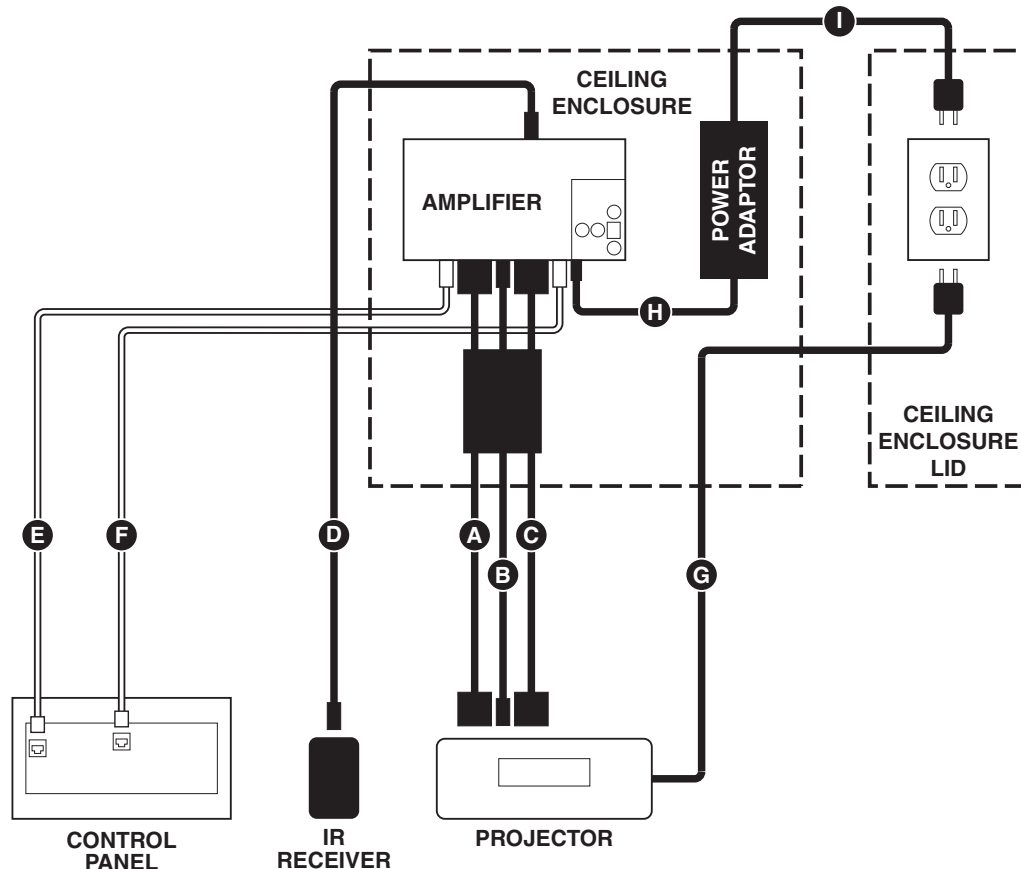
WARNING! *USE A CERTIFIED ELECTRICIAN FOR POWER CONNECTIONS. The RoomPro system uses standard 110VAC power. Obtain the services of a certified electrician when supplying and connecting power to the Ceiling Enclosure. BE SURE electrical installation complies with local building codes. Improperly installing and/or connecting power to the system may result in EQUIPMENT DAMAGE, serious INJURY and/or DEATH.*

The RoomPro System uses standard 110VAC power. The source of this power should be considered to avoid interference with lighting and other noise possibilities. The Ceiling Enclosure lid provides a cutout for installation of a single-gang electrical box. The box should be fitted with a dual outlet; one to supply power to the Ceiling Enclosure electronics, and one to supply power to the projector.

Determine the location for the Control Panel.

NOTE The Wall Panel is a low-voltage device. It does not require a separate power source.

The Control Panel can be installed “in-wall” (flush mounted) using a standard 4-gang electrical box (not provided), or it can be “surface mounted” using the optional Surface Mount Wall Box. The RoomPro system is supplied with 35’ Cat5 cables for connecting the Ceiling Enclosure electronics to the Control Panel. This allows the Control Panel to be installed up to 30’ from the Ceiling Enclosure. If it is necessary to mount the Control Panel more than 30’ from the Ceiling Enclosure, please contact your local authorized dealer or RoomPro Technologies to obtain longer cables (purchased separately). Cables of up to 150’ may be used, if necessary.



- A** – Amplifier OUTPUT – VGA to Projector INPUT
- B** – Amplifier OUTPUT – COMPOSITE to Projector INPUT
- C** – Amplifier OUTPUT – RS-232 to Projector INPUT
- D** – Amplifier IR DOME to IR Receiver
- E** – Control Panel PORT A to Amplifier UTP INPUT PORT A
- F** – Control Panel PORT B to Amplifier UTP INPUT PORT B
- G** – Projector Power to Facility Power
- H** – Amplifier POWER +12V to Power Adaptor
- I** – Power Adaptor Power to Facility Power

Figure 1 – RoomPro One Schematic/Wiring Diagram

INSTALLATION

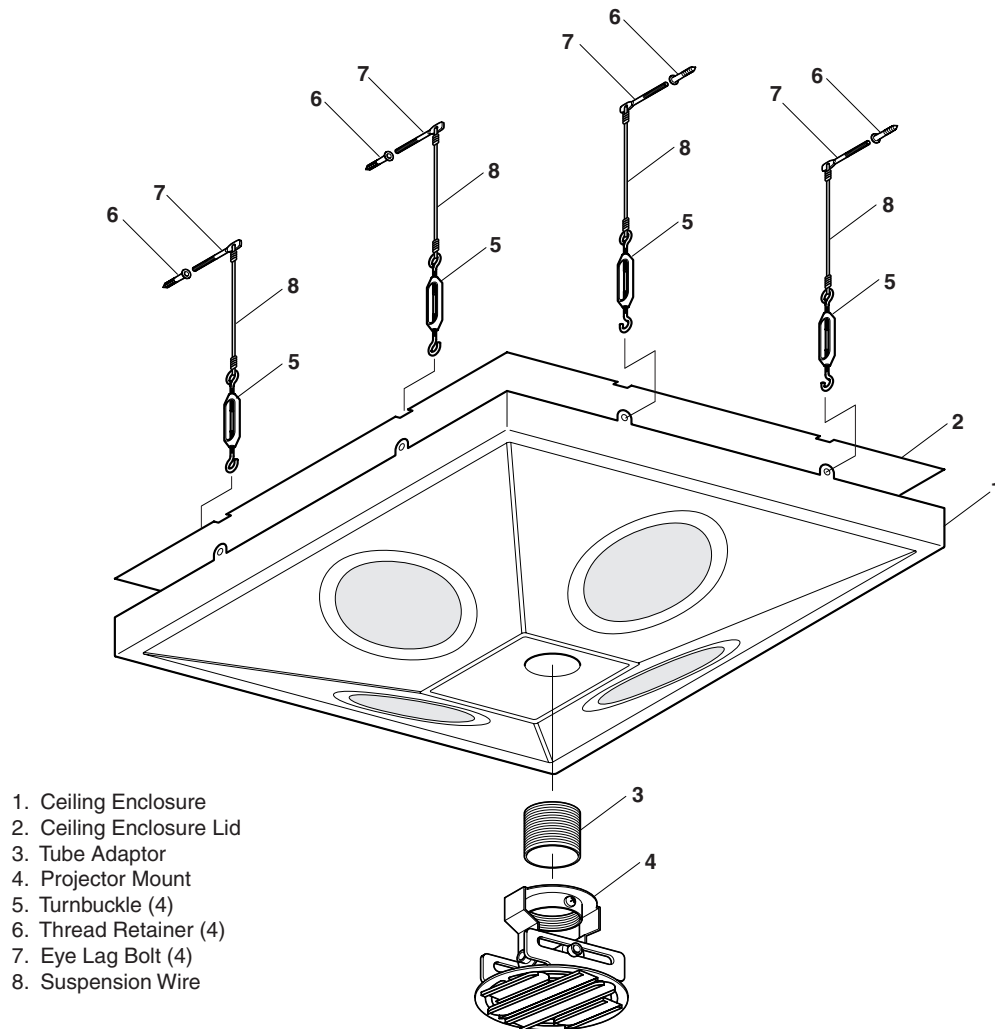


Figure 2 – Ceiling Enclosure Installation

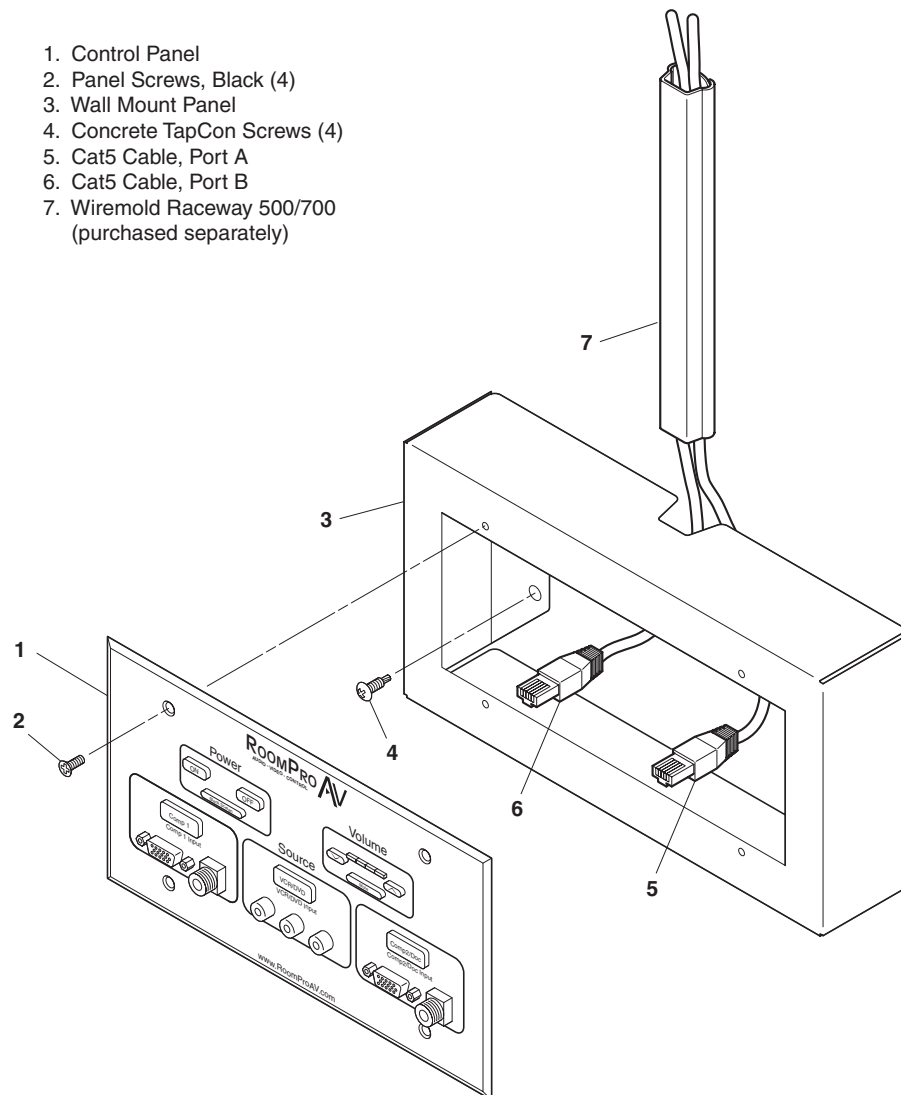


Figure 3 - Control Panel Installation (Wall Mount Option)

Installation of the RoomPro system is accomplished in five steps:

Step 1 – Installing the Ceiling Enclosure

Step 2 – Mounting the Projector

Step 3 – Installing the Infrared (IR) Microphone System (RoomPro ONE system only)

Step 4 – Installing the Control Panel

Step 5 – Final Assembly and Adjustment

See *Figure 2 – Ceiling Enclosure Installation* and *Figure 3 - Control Panel Installation (Wall Mount Option)* for general installation requirements. Install the RoomPro system in accordance with the following procedures and your local and state codes.

WARNING! ***DO NOT INSTALL ALONE.** The Ceiling Enclosure weighs approximately 25 pounds, and requires at least two people to install. DO NOT install alone.*

WARNING! ***USE SUITABLE LADDERS.** Use proper ladders or support platforms when installing the RoomPro Ceiling Enclosure. DO NOT stand on chairs, tables or other unsuitable surfaces.*

Step 1: INSTALLING THE CEILING ENCLOSURE

1. Select the Anchor Points

NOTE *The Ceiling Enclosure is designed to be suspended at FOUR SEPARATE ANCHOR POINTS (for even weight distribution) by suspension wires secured to rafters or other suitable anchoring points.*

NOTE *The four anchoring points MUST be independent of any other systems or objects and designated exclusively for the RoomPro Ceiling Enclosure. DO NOT create any shared anchoring points.*

NOTE *The Ceiling Enclosure has been designed with a 3" offset hole for the tube adaptor and projector mount. This provides added flexibility through the rotation of the Ceiling Enclosure when planning for optimum projector placement.*

- Double check the Ceiling Enclosure placement to ensure the correct distance from the display screen to the lens of the projector (see projector documentation).
- Determine the best location for the four anchor bolts above the drop ceiling. The anchor bolts should be located roughly above the associated mounting lugs on the Ceiling Enclosure and spaced to ensure proper weight distribution. See *Figure 4 – Ceiling Enclosure Mounting Requirements*.

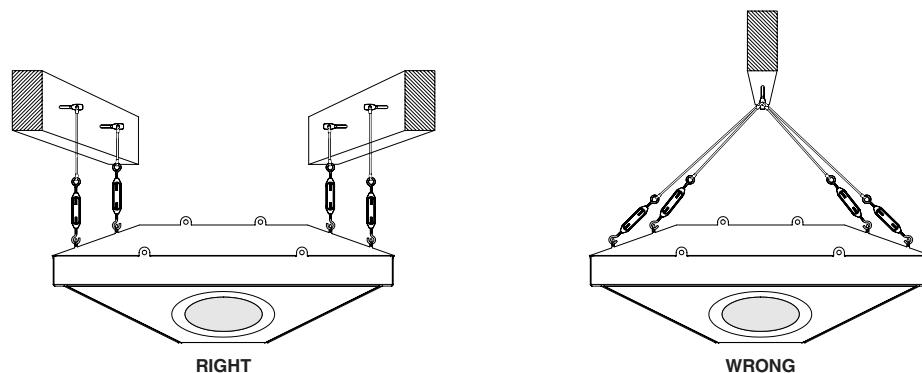


Figure 4 – Ceiling Enclosure Mounting Requirements

2. Install the Lag Bolts

- **For wood beams or rafters:** Screw the supplied eye lag bolts securely into the beam or rafter. See *Figure 5 – Lag Bolt Installation*.
- **For concrete beams or rafters:** Drill a 1/4-in. diameter X 1-1/2-in. deep pilot hole at each selected anchor point. Use a hammer to tap a plastic thread retainer into each pilot hole. Hand-thread an eye lag bolt into each retainer, then use pliers or vice grips to tighten the bolts fully. See *Figure 5 – Lag Bolt Installation*.

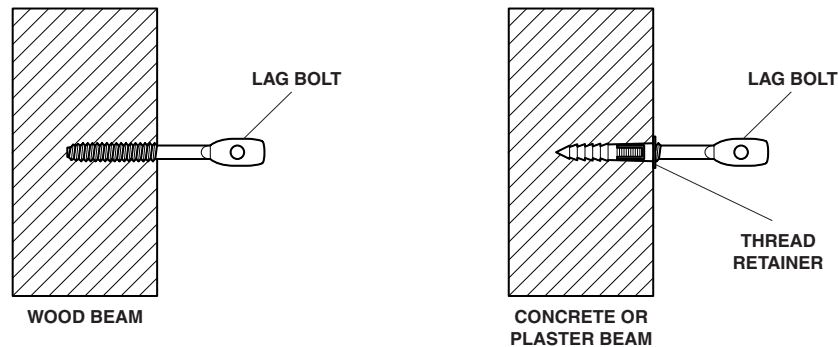


Figure 5 – Lag Bolt Installation

3. Connect the Suspension Wire

- Cut a length of suspension wire to reach from one eye lag bolt to several inches below the ceiling tile.
- For each eye lag bolt, insert the suspension wire through the hole in the bolt, loop the end downward, and wrap *at least five turns* around the main suspension wire. See *Figure 6 – Suspension Wire Installation*.

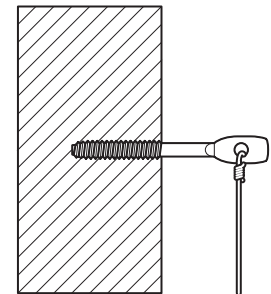


Figure 6 – Suspension Wire Installation

4. Mount and Adjust the Ceiling Enclosure

WARNING! *SUPPORT THE CEILING ENCLOSURE PROPERLY. DO NOT allow the full weight of the Ceiling Enclosure to rest on the tile grid of the ceiling. The Ceiling Enclosure is designed to be suspended at FOUR POINTS by suspension wires (secured to rafters or other suitable mounting points) and to rest LIGHTLY on the tile grid.*

- Have one or two helpers lift and support the Ceiling Enclosure in its proper position (slightly resting on the ceiling grid).
- Loosen the ends of each turnbuckle until there is minimal thread remaining in the middle.
- Insert the "hook" end of each turnbuckle into the appropriate mounting lugs on the Ceiling Enclosure. See *Figure 7 – Turnbuckle Installation*.
- Insert the loose end of each suspension wire through the loop end of its associated turnbuckle, loop the end upward, and wrap *at least five turns* around the main suspension wire. Cut off any excess from the end of each suspension wire. See *Figure 7 – Turnbuckle Installation*.

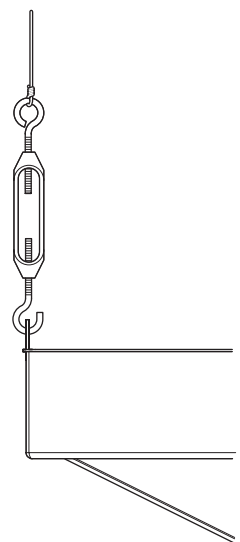


Figure 7 – Turnbuckle Installation

- Tighten each turnbuckle to remove any slack from the suspension wires. When properly adjusted, the Ceiling Enclosure will rest *lightly* against the ceiling grid.

Step 2: MOUNTING THE PROJECTOR

1. Install the Tube Adaptor

- Thread the projector mount tube adaptor into the receptacle in the bottom of the Ceiling Enclosure.
- Use a 1-1/2" pipe wrench to tighten the tube adaptor until secure (approximately half way into the Ceiling Enclosure).

2. Assemble the Projector Mount and Attach the Projector

- The projector mount comes with separate assembly and installation instructions. Refer to the instructions provided with the projector mount to assemble and secure the mount to the projector.
- Make sure sliding adjustment mechanism is turned to parallel or perpendicular position for left-to-right or front-to-back adjusting, depending on desired projector positioning for optimum projection.

3. Install the Projector Mount and Projector

- Loosen the setscrew in the projector mount collar.
- Thread the full projector mount assembly onto the tube adaptor until the top flange of the projector mount is secured tight to the tube adaptor.
- Align the projector to the projection surface (refer to your projector documentation for proper alignment).
- Tighten the setscrew in the projector mount collar.

4. Connect the Projector Cables

NOTE *The three projector cables (6' VGA, 6' serial, 6' composite) are bundled together to allow for easy routing and connection.*

- Route the projector cable bundle through the tube adaptor. BE SURE to route the cables through *one at a time*. Begin with the VGA cable, followed by the serial cable, and finally the composite cable.
- Connect the VGA, serial and composite cables to the appropriate ports on the projector, and ensure the cables are connected securely. BE SURE to check the cable connections at the amplifier in the Ceiling Enclosure. See *Figure 1 – RoomPro One Schematic/Wiring Diagram*.
- Route the projector power cable up through the tube adaptor and into the Ceiling Enclosure. Connection of the projector power cable is accomplished in Step 5.

Step 3: INSTALLING THE INFRARED (IR) MICROPHONE SYSTEM

NOTE Readjustment of the IR receiver following installation may be necessary to determine the optimal mounting location. Changing the position of the receiver will have a significant effect on the range of the IR microphone. If you experience weak audio during use, reposition the receiver until satisfactory results are obtained.

1. Mount the IR Receiver

- Determine the desired location for the IR receiver. The receiver should be positioned so the associated cable *will not* interfere with projector operation, and so that the receiver is *clearly visible* from the location from which the microphone will be used. See *Figure 8 – IR Receiver Installation* for possible placement options.

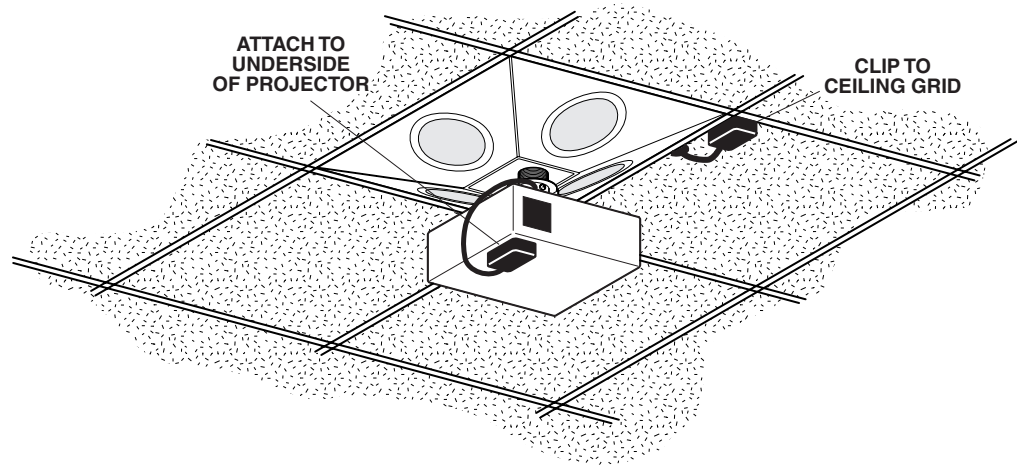


Figure 8 – IR Receiver Installation

- Secure the IR receiver to the selected location using Velcro, double-sided tape, or simply clipping the receiver to the runner on the ceiling grid, depending on desired placement.

2. Connect the IR Cable

- **For IR receiver placement on the Ceiling Enclosure or projector:** Route the IR receiver cable through the tube adaptor and connect to the IR receiver.
- **For IR receiver placement away from the Ceiling Enclosure or projector:** Route the IR receiver cable up through the circular 1/2-inch cutout in the Ceiling Enclosure cover and out over the ceiling to a more desirable location in the room. An optional (grey) cable is provided to support longer distances.
- Ensure the cable is connected securely. BE SURE to check the cable connection at the amplifier in the Ceiling Enclosure. See *Figure 1 – RoomPro One Schematic/Wiring Diagram*.

Step 4: INSTALLING THE CONTROL PANEL

WALL MOUNT OPTION

1. Select a Mounting Location

- Select a location within 35 feet of the Ceiling Enclosure to ensure sufficient cable length from the Ceiling Enclosure to the wall mount panel.

2. Install the Wall Mount Panel

- Using the wall mount panel as a template, mark the position of the four mounting holes at the desired location.
- Drill a 3/16-inch pilot hole for each mounting screw.
- Hold the wall mount panel in position, and secure in place with four concrete tapcon screws. Tighten the screws snugly. DO NOT OVERTIGHTEN.

3. Mount the Conduit (not supplied)

NOTE *It is recommended that you use suitable conduit to enclose the cable run from the ceiling to the Wall panel. The cutout in the top of the wall panel is specifically designed to fit Wiremold Raceway (500/700 series, small). If you do not wish to use conduit to enclose the cable run, proceed to step 4.*

- Cut the conduit to the proper length; from the ceiling to just inside the top of the wall mount panel .
- Refer to the manufacturer's instructions to install the conduit.
- Cut a small hole in the ceiling panel above the conduit.

4. Connect the Cat5 Cables

- Tag or otherwise mark the end of each Cat5 cable with its correct connection point; Port A or Port B.
- Run each Cat5 cable through the circular 1/2-inch cutout in the Ceiling Enclosure cover. Route the cables across the ceiling, through the conduit, and into the wall mount panel. BE SURE to check local and state codes for proper ceiling cable installation.
- Connect each Cat5 cable to its appropriate port on the rear of the control panel.
- Ensure the cables are connected securely. BE SURE to check the cable connections at the amplifier in the Ceiling Enclosure. See *Figure 1 – RoomPro One Schematic/Wiring Diagram*.

5. Install the Control Panel

- Position the control panel (1) in place on the wall panel, and secure in place with four black 6-32 X 1/4 screws.

FLUSH MOUNT OPTION

If desired, the control panel can be "flush-mounted" using a standard 4-gang electrical box (not supplied). Install the electrical box, and any necessary conduit between the box and the Ceiling Enclosure, in accordance with local building code.

Step 5: FINAL ASSEMBLY AND ADJUSTMENT

1. Secure Primary Power Source to the Top Panel

- The RoomPro System uses standard 110VAC power. The Ceiling Enclosure lid provides a cutout for installation of a single-gang electrical box. See INSTALLATION PLANNING for additional details.
- Attach and secure the single-gang electrical box to the lid of the Ceiling Enclosure.
- Connect the power cable for the Ceiling Enclosure amplifier to the power adaptor box (provided by a licensed electrician) in the Ceiling Enclosure.
- Plug the amplifier power cable and projector power cable into the dual-outlet receptacle on the Ceiling Enclosure lid.
- Place the Ceiling Enclosure lid on the Ceiling Enclosure and secure with supplied screws.

2. Re-Install the Ceiling Tiles

- Re-install all ceiling tiles removed during installation.
- If your ceiling uses 2' X 4' tiles, use a sharp utility knife to trim one tile to 2' X 2', and install this tile next to the Ceiling Enclosure using a 2-foot ceiling grid brace to ensure proper ceiling replacement.

3. Connect Classroom Computer to the Control Panel

- **For laptop computers:** Connect one end of the supplied VGA with Audio cable to the video and audio output jacks of the computer; then connect the other end of the VGA with Audio cable to the Computer 1 video and audio input jacks of the Control Panel. See *Figure 9 – Laptop Computer Connection*.

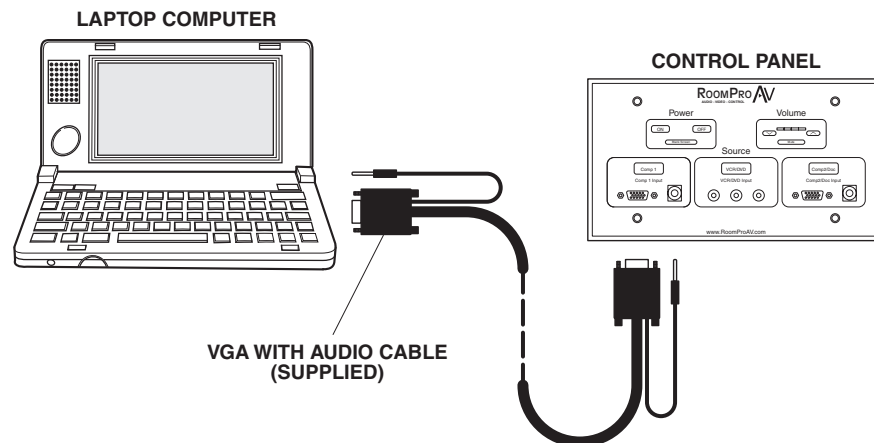


Figure 9 – Laptop Computer Connection

- **For desktop computers:** You will need a USB-powered 2-port VGA splitter (purchased separately). Connect the single-port end of the splitter to the video (monitor) output on the computer and connect the USB plug to the USB port of the computer. Next, connect the VGA cable from the computer monitor to the top port of the splitter. Then connect one end of the supplied VGA with Audio cable to the side port of the splitter and the audio output jack of the computer; connect the other end of the VGA with Audio cable to the Computer 1 video and audio input jacks of the Control Panel. See *Figure 10 – Desktop Computer Connection*.

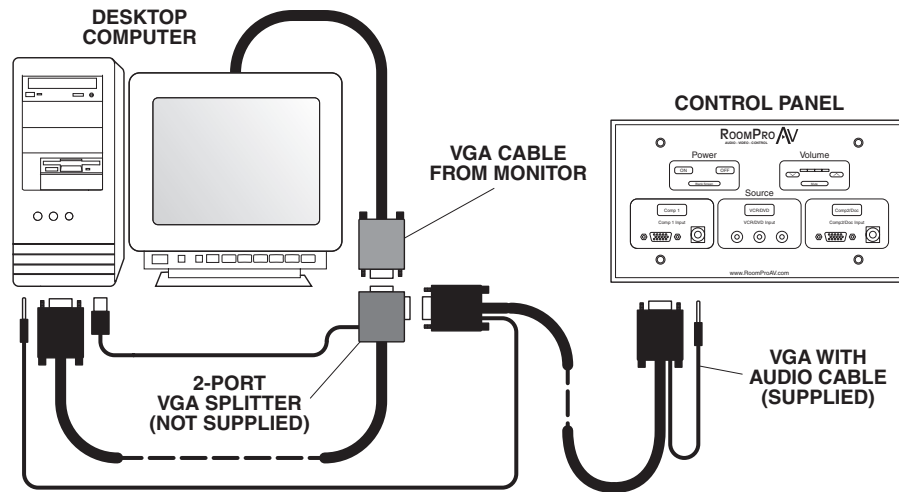


Figure 10 – Desktop Computer Connection

4. Test the Installation

- Turn the system on at the Control Panel; wait for the projector to fully warm up.
- Make any necessary realignment or adjustment to the projector to achieve desired projection.
- Test the installation by selecting the different buttons on the Control Panel. Consult the table below to verify button selection and corresponding projector command.

Control Panel	Projector Command
Power On	Projector On
Power Off	Projector Off
Freeze (Virtual Control Panel Only)	Projector Freeze Screen (If available)
Comp 1 Input	VGA (Computer) 1 Source
VCR/DVD Input	Composite Video Source
Comp 2/Doc Input	VGA (Computer) 1* Source

*Switching between the two VGA Inputs on the Panel is done within the RoomPro system resulting in only one VGA source being used at the projector.

- Power the system off and repeat.



RoomPro Technologies

**264 West Grand Avenue
Wisconsin Rapids, WI 54495**

1-800-980-3381