

# INSTALLATION INSTRUCTIONS

## 490 SERIES MICRO LINK™ INFRARED RECEIVERS

These small IR receivers have been designed primarily for mounting in panels, doors, cabinets, etc. for control of A/V equipment behind closed doors. They may be mounted in walls, ceilings, wall speakers, etc. - anywhere an inconspicuous appearance is desired. Their high sensitivity allows placement behind speaker grilles and still receive IR commands up to 20 feet away. If longer range is necessary, a 1/2-inch hole must be drilled in the grille to allow unobstructed entry of the IR signal. The model versions covered by these instructions are as follows:

- 490-00** Standard version, with brass bezel and 7 ft. three-conductor ribbon cable.
- 490W-00** Same as the 490-00 except with white bezel.
- 490DW-00** J-box version of the 490W-00. Includes a Decora™ insert for single gang mounting. *DECORA IS A REGISTERED TRADEMARK OF LEVITON.*
- 490-30** Quick connect version of the 490-00. 7-foot cable with 3.5 mm stereo mini plug for direct plug-in to Xantech Connecting Blocks, such as the CB12, CB20, 789-44, 791-44, etc.
- 490W-30** Same as 490-30 except with white bezel.

Each version in the 490 series has the same features and specifications as follows:

### FEATURES

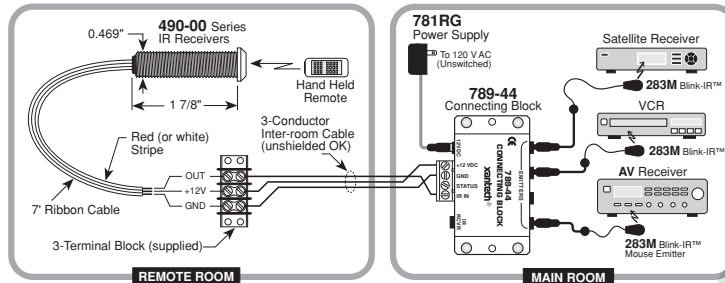
- Very small size, only 2 inches deep.
- Works in normal 3-wire mode or 2-wire phantom power mode.
- Phantom mode requires 792-10 power module.
- System testing talk-back LED.
- Includes 3-terminal block for easy extension of 7 ft. ribbon cable.
- 20 units may be powered by one 781RG power supply.
- RF Grid included for EMI interference reduction.
- SUN490 Sunscreen filters available separately. Order these to help with sunlight and stray IR problems. They fit easily under the bezel.

### SPECIFICATIONS

- Infrared modulation frequency bandwidth: 30 - 100 kHz.
- Reception range: > up to 30 feet, depending on local conditions.
- Nominal reception angle: 55 degrees off axis for 50% range reduction.
- Cable requirements: 3-conductor. Use 24 gauge up to 200', 22 gauge up to 600', 20 gauge up to 2000', 18 gauge up to 5000' -- unshielded OK).
- Maximum transmission length: One mile using 18 gauge wire.
- Maximum current output: 100 mA.
- Dimensions: 1/2" diameter x 2" deep.
- Power requirements: 12 volts DC @ 10 mA.

## INSTALLATION

**Model 490-00 Series.** These units are intended to be wired to the input terminals of Xantech Connecting Blocks or other devices, using the supplied 3-terminal block in the remote room location. A 3-conductor cable (refer to specifications above), is run to the main room. Connections are then made to a Xantech connecting block, power supply and emitters as shown in the following illustration of a typical basic system:

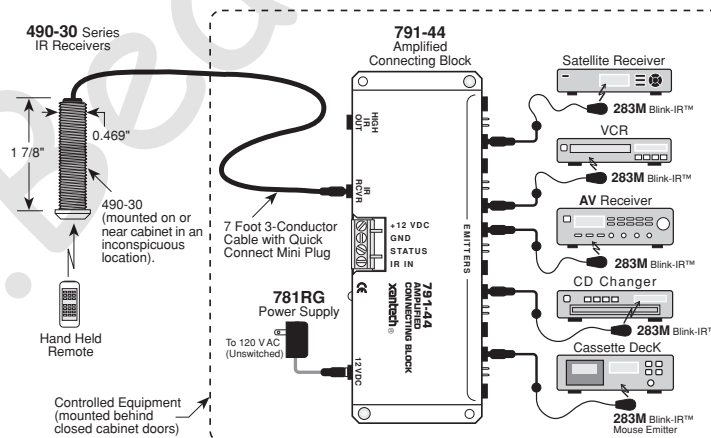


While it is possible to make wired connections without the connecting block, it is not recommended. The connecting block reduces installation time, helps to eliminate errors, allows easy troubleshooting and permits easy system upgrades later, if needed.

Input connections must be made as illustrated. To extend the emitter wires to a more distant location, you may splice in 2-conductor wire, in the wire gauges mentioned under "Specifications", as needed.

**Model 490-30 Series.** These units, equipped with a 7-foot cable and 3.5 mm stereo mini plug, are plugged directly into the "IR RCVR" or "AUX" jack on Xantech Connecting Blocks, such as the CB12, CB20, 789-44, 791-44, etc. The 490-30 should be used in installations where the connecting block is within reach of the 7-foot cable -- such as when installing the 490-30 on a cabinet where the controlled equipment is behind closed doors.

A typical system, with a 490-30, 781RG Power Supply and 282M Emitters plugged into a 791-44 Amplified Connecting Block, is shown in the following diagram:



**Mounting:** Drill a 1/2" hole in any flat surface, such as a cabinet panel. Pass the lead and the body of the 490 through the hole and secure from the rear with the nut (supplied).

Affix the Mini-Emitters, such as the 282, 284, 283 and 286 series, to the IR sensor windows of the controlled equipment in accord with the instructions that come with them.

### 490-30 Cable Connections

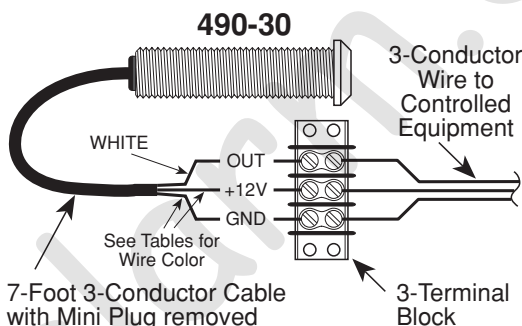
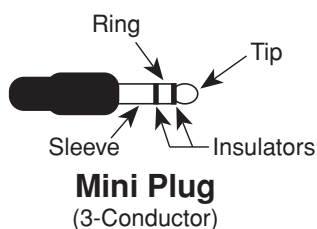
490-30's may also be used where the 7-foot lead is not long enough. In this case, simply cut off the mini plug, strip the leads and connect them to a 3-terminal block in the same way as you would for the 490-00. For correct color identification of wires, refer to the following tables and diagrams:

**Table 1 - Black Insulators (older units)**

| PLUG   | CABLE LEADS | CIRCUIT ITEM |
|--------|-------------|--------------|
| RING   | RED         | GROUND       |
| TIP    | WHITE       | OUTPUT       |
| SLEEVE | BLACK       | + 12 V       |

**Table 2 - Red Insulators (newer units)**

| PLUG   | CABLE LEADS | CIRCUIT ITEM |
|--------|-------------|--------------|
| RING   | BLACK       | GROUND       |
| TIP    | WHITE       | OUTPUT       |
| SLEEVE | RED         | + 12 V       |



### Phantom Power Connections

Some existing installations may have only 2 wires (such as coax) going to a remote room. The 490, when used with a 792-10 Power Module, may be connected for 2-wire phantom power operation as follows:

Additional 490's may be wired in parallel at the 3-terminal block, up to a maximum of three. More than this may cause unreliable results.

**CAUTION:** With any of these systems, be sure the 781 power supply is plugged into an un-switched AC outlet. This maintains the 490 system in "stand-by" operation so that power-on commands can be sent to the controlled equipment.

