

INSTALLATION INSTRUCTIONS

789-44 CONNECTING BLOCK

The Model 789-44 provides a quick low cost means of connecting Xantech IR receivers and keypads to four single or four dual emitters, with a power supply, in an infrared repeater system. It can also provide emitter expansion for various Xantech devices, such as the 590, 710, 792-10, 795-20, 796-20, etc.. The STATUS terminal provides a convenient tie point for voltage to drive the STATUS indicator on certain Xantech products, such as the 780-80 IR Receiver (refer to **Fig. 3**).

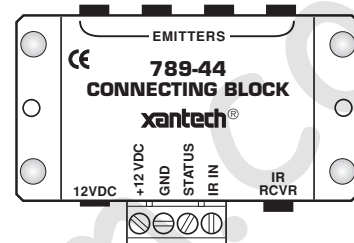


Fig. 1 Model 789-44 Connecting Block

SPECIFICATIONS

- Inputs: 1 - Screw type 4-terminal plug-in. 1 - IR Receiver "IR RCVR" 3.5mm stereo mini jack. (**See Caution Note, Fig. 4**)
- Outputs: 4 - Emitter ports (3.5mm mono mini jacks) parallel driven.
- Contains a 470 Ohm resistor in series with each emitter output.
- Xantech 282, 283, 284 & 286 Mini Emitters may be used.
- Power requirements: 12 volts DC. Uses 781RG or 782-00 Power Supplies. **Note:** A power supply is not connected to the 789-44 when it is used as an emitter expander.
- 2.1 mm coaxial power jack.
- Dimensions: 2-15/16" W x 1-3/4" D x 13/16" H

INSTALLATION

Fig. 2, illustrates a typical installation using the 789-44 in an IR repeater system. A variety of Xantech IR receivers and a keypad are shown. When configuring a system, please keep the following items in mind:

1. More IR receivers may be wired in parallel, in the same manner as shown, up to a maximum of twelve. More than twelve is not recommended since IR noise picked up by the many IR receivers may cause erratic operation and reduce remote control range.

Note: This restriction does not apply to Xantech SmartPad keypads. These may be added virtually without limit, provided power supply requirements are taken into consideration. See item 3.

2. Be sure to connect the +12V, IR OUT and GND of each IR Receiver and keypad to the respective **+12VDC, IR IN** and **GND** of the connecting block as shown.
3. Xantech SmartPads may be used by themselves or together with IR receivers as shown. When you do this however, the higher current requirements of the keypads must be taken into consideration as follows:
 - a) Each 730-00 keypad draws 65 mA. A SmartPad_{2 or 3} draws 85ma.
 - b) Each IR receiver draws 10 to 20 mA (check specs. on actual model).
 - c) The max. current for proper operation from the 781RG Power Supply is 200 mA.
 - d) The max. current from the 782-00 Power Supply is 1000 mA.
 - e) When using combinations of keypads and receivers, do not exceed the max. current of the power supplies as noted above.

3. (Cont'd)

- For example, 2 keypads and several IR receivers could be used with one 781RG Power Supply and 12 keypads and 8 (or more) receivers could be used with one 782-00 Power Supply.

NOTE: To avoid current "hogging", **never** connect regulated power supplies, such as the 781RG or the 782-00, in parallel!

- CAUTION:** Do not use unregulated 12V power supply adapters from other manufacturers. These may deliver excessive voltage to the IR receivers and cause them to "latch-up". When this occurs, the "talkback" LEDs and 283 Blink IR's (if used) will stay on continuously!
- For clarity, connections in **Fig. 2** are shown going to a 3-conductor bus in a "daisy chain" fashion. In an actual installation, however, it is recommended that 4-conductor "home-runs" be pulled from each room to the 789-44 Connecting Block in the main room. The home-runs maintain higher power supply voltage to each IR receiver and keypad, and the extra 4th wire can be used for "STATUS" if desired (refer to **Fig. 3**).
 - The "IR RCVR" jack on the 789-44 allows the 490-30 (and other Xantech IR Receivers with a cable having a 3.5 mm stereo mini plug) to be plugged directly into the 789-44. You can do this when the 789-44 Connecting Block is within reach of the 7-foot cable, such as when installing the 490-30 in a cabinet where the controlled equipment is behind closed doors.

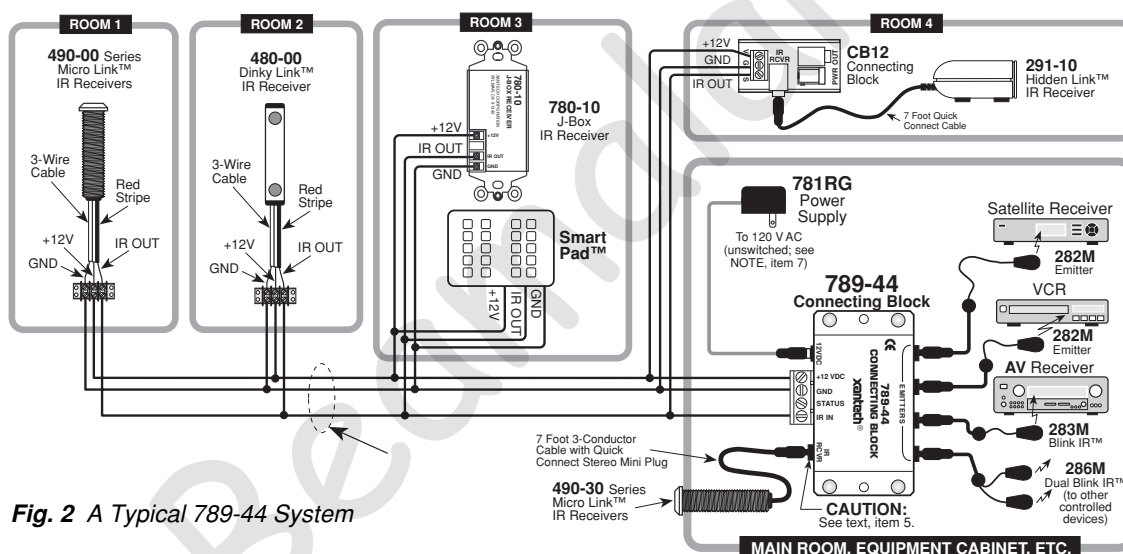


Fig. 2 A Typical 789-44 System

CAUTION: Plug only Xantech IR Receivers equipped with a stereo mini plug into the IR RCVR jack. **Do not** plug in emitters or other devices; it will destroy emitter & damage power supplies!

- The emitter ports are driven in parallel with a 470 Ohm resistor connected in series with each port. The resistors ensure proper current sharing to each emitter. When using less than 4 emitters, you may plug them into any of the 4 emitter ports without regard to order.
- Because of this current sharing feature, you may plug in any combination of the 282, 283, 284 & 286 series of emitters (up to a maximum of 8 individual emitters) to drive the desired number of devices.

NOTE: Be sure the 781RG Power Supply is plugged into an un-switched AC outlet. This maintains the system in "standby" operation so that power-on commands can be sent to the controlled equipment.

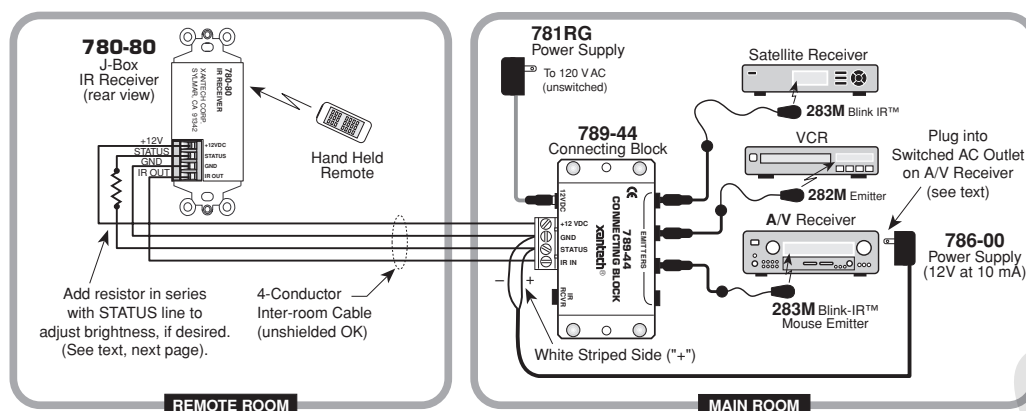


Fig. 3 Using the STATUS terminal in a typical system (see text, pg 4).

Using The "STATUS" Terminal on the 789-44

Fig. 3 illustrates a single zone system where the Status LED on a Xantech 780-80 IR Receiver, in the remote room, shows the ON/OFF status of an A/V receiver.

- The **STATUS** and **GND** terminals on the 789-44 provide convenient tie points for the voltage that drives STATUS indicators on certain Xantech products (such as the 780-80 IR Receiver).

To connect such a system, proceed as follows:

1. Be sure all power plugs for the A/V system are un-plugged before proceeding with the following connections.
2. Plug a 12V adapter, such as the Xantech 786-00 Power Supply, into the **switched** AC Outlet on the back of the A/V receiver (or integrated amplifier, preamp, etc.).
3. The 12V leads of the adapter (cut attached plug off) are then connected between the **STATUS** and **GND** terminals on the 789-44 ("+" to STATUS, "-" to GND).
4. You would then connect the 4-conductor inter-room cable between the 789-44 and the 780-80 as shown in **Fig. 3**.
5. If you wish to adjust the brightness of the Status LED, place a resistor in series with the STATUS lead as shown in **Fig. 3**. Use a value that achieves the desired brightness level (usually 1k Ohm to 10k Ohm, 1/8 watt).

CAUTION NOTE

When using long lengths (>50 ft.) of inter-room shielded cable, it may be necessary to connect a 470 Ohm 1/8 Watt resistor between **IR IN** and **GND** at the connector terminals of the 789-44. Refer to **Fig. 4**.

The resistor discharges the cable capacitance more quickly, allowing IR codes of high bit rates to pass without data loss.

MOUNTING

The 789-44 can be conveniently mounted to a wall or shelf by using the two sheet-metal screws supplied. The unit may be mounted in any orientation to accommodate the installation.

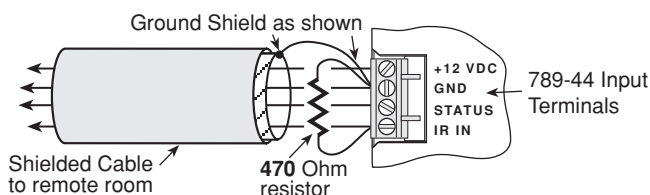


Fig. 4 470 Ohm Capacitance Discharge Resistor