

# H-ITT RX2200 instruction manual

H-ITT • 420 Shearer Blvd • Cocoa, Florida • 32922

Rev 1.0

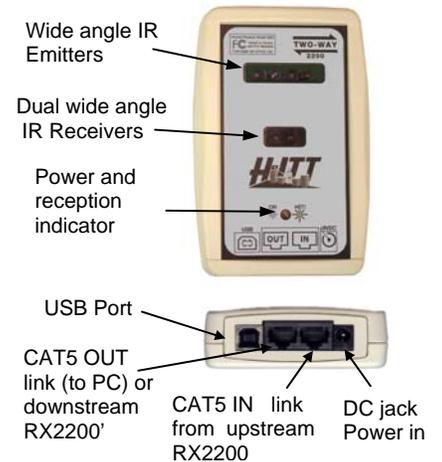
## GENERAL:

The RX2200 communicates with all H-ITT 13 button Infrared (IR) clickers. The H-ITT acquisition program, version 1.9.1 or higher should be installed on your Computer to use all features of the RX2200. The software is free and can be downloaded from H-ITT.com. The RX2200 communicates with student's clickers via infrared signals, much like your TV remote. As such, the RX2200 must be installed so that each seat in the classroom has a clear line-of-sight view so students can point their remotes at the RX2200 without having obstructions in the path. In a typical classroom of 50 or fewer students a single RX2200 will provide full coverage when installed properly. In larger classrooms, multiple RX2200 units can be linked together and mounted strategically around the room so that the line-of-sight and the range of the IR communication link is maintained. The Initial set up is to make sure the RX2200 communicates with clickers, and interfaces through your PC to accept clicker responses. Once operation is established, then Mounting the RX2200 and testing to make sure all seats in a classroom have access to secure communications is suggested.

## INITIAL SET-UP:

The RX2200 provides either USB or Serial communications ports. Connect either of these ports to your classroom PC (do not connect both). The USB connection provides power to the unit, so this is the only connection needed. If the serial port is used, the unit must also have an external power supply connected, H-ITT part# AC-9VDC-US, (or -INT for international power outlet types), a CAT5 cable from the RX2200 "OUT" port, and a CAT5 to DB9 serial adapter, H-ITT part# AC-ADPT-F. If using the USB port, you may need to install a driver for the USB port in your PC to communicate with the H-ITT response system software. (reference USB driver section below for more information).

Power up the RX2200 by connecting the USB cable to a PC (that is powered up) or connect the external power supply to the DC power jack. The RED power light will turn on. Once powered up, press a button (A/1 through J/0) on an IR clicker and notice the RED power indicator light blinks bright. This indicates the RX2200 is up and running and ready to operate. Test for communicating with the software: With H-ITT CRS, use the Acquisition program start up screen. Under Base units and Com ports (at the bottom of the screen) the clicker's serial number and key pressed will appear to the right of the Com Port the RX2200 is connected to. With H-ITTShow, select the Com Port that the RX2200 is connected to from the Options>Keypad tab. Then click the Test button, the clicker's serial number will appear in the test window when the A/1 button on a clicker is activated.



## MOUNTING THE RX2200.

**Permanent classroom mounting:** If the classroom is equipped with a resident PC, and you want to connect to this PC to operate the H-ITT System, then follow these instructions: Before mounting the unit, determine the best location so that all seats in the classroom have a clear line-of sight view to the face of the RX2200. You can mount the RX2200 to a wall in the desired location using the provided swivel mount. Depending on the wall material you may need a drill and 5/32" concrete drill bit to attach the swivel mount. Attach the RX2200 to the swivel mount, and align (point the face) towards the center of the classroom.



**Removable mounting:** This is a typical method when you use a lap top type computer and take the RX2200 with you to different class rooms. Attach the RX2200 to the flip up back of your lap top with the Velcro strips provided. Make sure the RX2200 is positioned in a line of sight for all seats in the classroom.



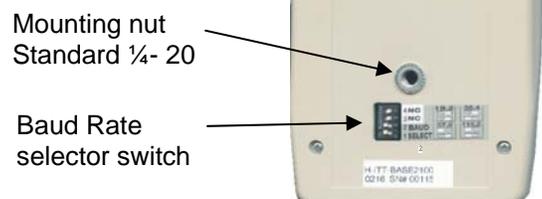
Note the mounting nut on the back of the RX2200 is a 1/4-20 thread type that is standard for camera tripods which provides for versatile mounting based on using standard equipment.

## SETTING THE BAUD RATE:

The DIP switch positions 1 and 2 are used to set the baud rate of the RX2200. The default setting is 19.2K baud, which matches H-ITT's software defaults. Changing the baud rate on the TX2200 requires a matching baud rate setting in the software.

Table 2, SWITCH SETTINGS and resulting BAUD RATES.

BAUD RATE	DIP SWITCH	
	2	1
19.2K	ON	ON
38.4K	ON	OFF
57.6K	OFF	ON
115.2K	OFF	OFF



## Connecting the RX2200 to your computer:

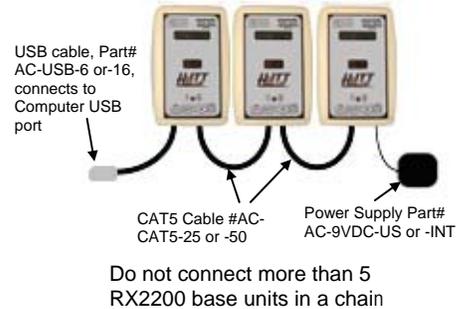
You can connect the RX2200 to your computer using the USB cable (which also provides power to the RX2200) or through a serial connection (which requires an external power supply). The most common is the USB connection with the cable provided. Depending on your operating system (Windows, Mac or Linux) you may need to install USB drivers for the software to properly handle the communications from the RX2200 to your computer. USB drivers vary depending on your computers operating system (Windows or Mac, Linux drivers are built in). Windows and Mac USB drivers are included on the CD supplied with the RX2200, click the link to download/install the appropriate USB driver for your operating system. USB drivers are also provided at H-ITT.COM from the download links where you will find instructions based on your operating system.

**Installing Windows USB drivers** may be confusing because when the RX2200 is first connected a “found new hardware” wizard will pop-up. If you are connected to the Internet, this wizard can locate and install the proper drivers, but if not connected to the net the wizard will return “drivers not found”. To simplify this, we recommend that you download the Windows USB driver “auto installer” to your computer (either from the CD or from H-ITT.COM) and install drivers by double clicking the “auto installer”.exe file.

If your computer does not have a USB port you can connect to your computer’s serial port as follows: Connect a CAT5 cable (H-ITT part# AC-CAT5-25 or -50) to the OUT port. Connect the other end of the CAT5 cable to the H-ITT adapter part# AC-ADPT-F then plug the adapter to a serial port on your PC. The serial data port does not provide power, so you must also connect the power adapter H-ITT part# AC-9VDC-US or -INT to the DC jack on the RX2200 and plug into an AC power outlet.

## Linking RX2200 units together:

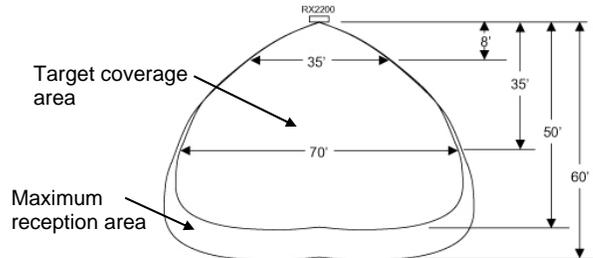
Locate RX2200 units down the sides of the classroom walls, and connect a CAT5 cable between them as shown. A single Power Supply can be connected to any RX2200 in the chain and will provide power to all units. Do not exceed more than 5 units in a chain. Connect the last unit in the chain to the PC via either the USB (shown) or the OUT port with a CAT5 cable and H-ITT adapter for a serial connection. The spacing down the sides of the classroom should consider the IR line-of-sight range, the angle which the students clickers “point” at the face of the RX2200, and the recommended 50 clickers per RX2200 recommendation. Note that the H-ITT CRS software can accept multiple COM port inputs simultaneously, so you can “run” two or more chains into your PC using different Com ports on your computer. In very large installations more than five RX2200 units can be linked together, however a special modification must be made to every 5<sup>th</sup> unit in a long chain to limit the power feed-through to a maximum of 5 units. Contact H-ITT support for more information regarding this option.



## Installation reference information:

The location of the RX2200’s should consider the IR line-of-sight range, the angle which the students remotes “point” at the face of the RX2200, and the recommended 50 clickers per RX2200 recommendation.

The typical “field of view” of the RX2200 is shown here for reference. The target coverage area will provide reliable two-way system operation.

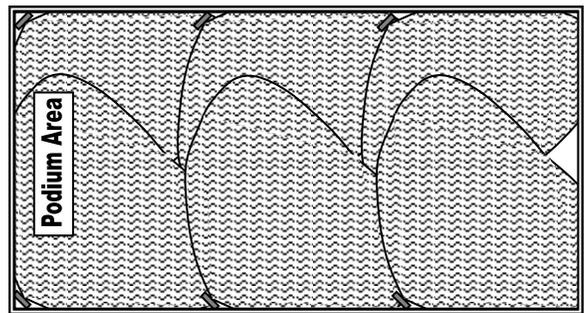


Example of a multiple base installation:

In this example, 6 RX2200 base units are positioned down the sides of the lecture hall, which in this example, is approximately 80’ wide and 150’ feet deep (approximately 12,000 sqft).

This installation would require four 50’ CAT5 cables to link the base chains down the side walls, and two power supplies (one for each chain), and either serial or USB connections to the Computer.

In an IR installation like this, the students need to be instructed to point their remotes at the closest base with the minimum angle towards the face.



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H-ITT Support, contact info:

Additional information regarding installation, applications and software can be found at <http://www.h-itt.com>. You can e-mail [support@h-itt.com](mailto:support@h-itt.com) or call toll free 1-888-322-0089 for technical assistance with any problems installing or using your H-ITT product.

## Technical specifications

Dimensions	L 5.5", W 3.5", D, 1.1"
Weight	6oz.
Power	7VDC to 15VDC, 100Ma typical
IR carrier	455Khz receive / 40Khz transmit
Receive range*	19m typical @ <50 degrees
Transmit range*	20m typical @ <50 degrees
Com port IN	Serial data, CAT5 connection
Com ports OUT	USB and serial. Serial baud selectable from 19.2K to 115.2K, and require an adapter to connect to a computer