


Using the UHBX-8X to send an IR command learned from the HR-4P

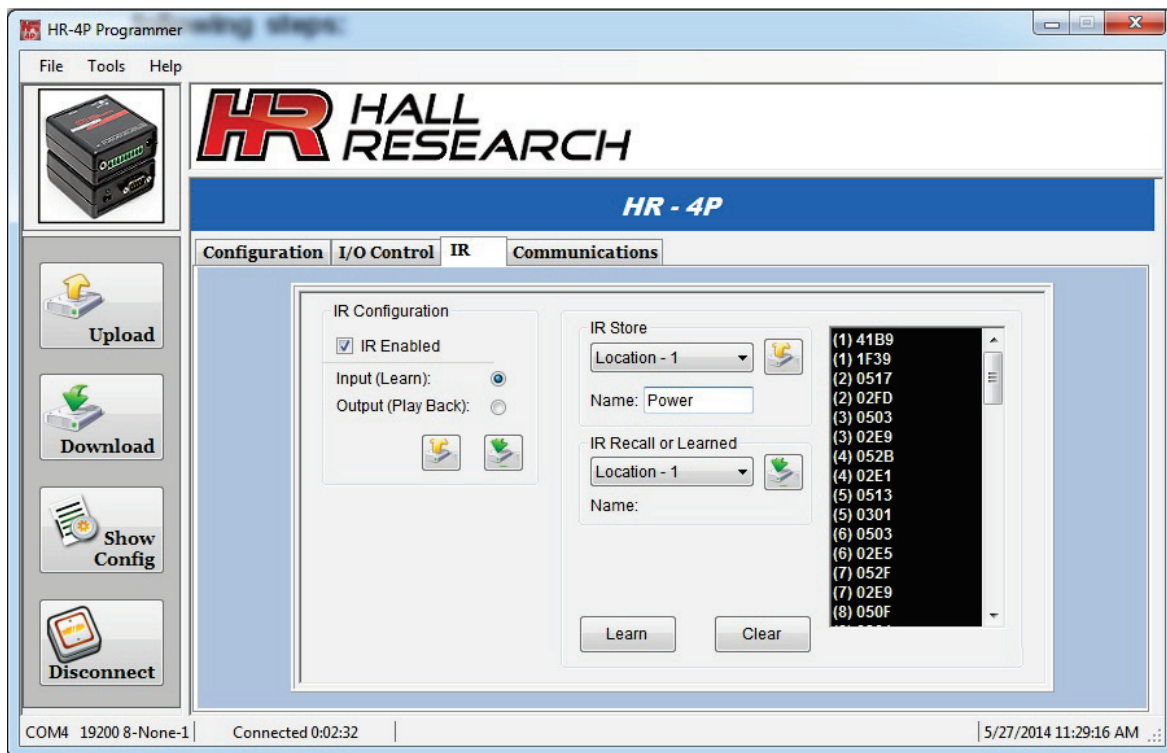
What you will need to learn an IR command:


HR-4P Programmable RS-232, IR, and I/O Controller
 CIR-DET-D2 IR Receiver Cable (Demodulated Type 2)

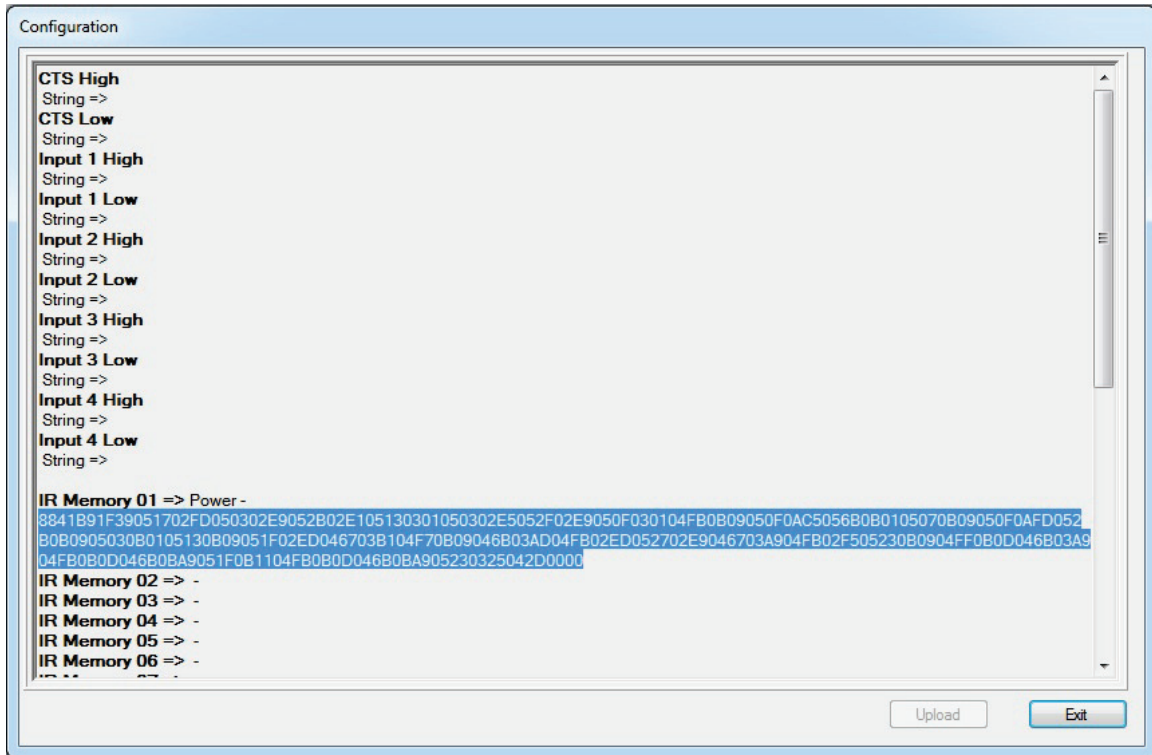
Step 1: Learning your IR timing using the HR-4P

- First, we learn an IR code from the remote control using the HR-4P GUI and store it into the unit at any location using the button. 

In our example we are going to learn the code for the Power button on the remote.



- Next, click the **Download** button to recall that learned IR code from the HR-4P unit back into the HR-4P GUI using the button 
- When the download is done, click the **Show Config** button to display IR code in HEX.
- Then, select the HEX bytes for the **Power** button and copy them to your clipboard for sending them after the **IS9<cr>** command of the UHBX-8X. These hex bytes should be followed by 0x17 and 0x0D to indicate the end of hex string.



In the above picture the bytes are 88, 41, B9, etc.

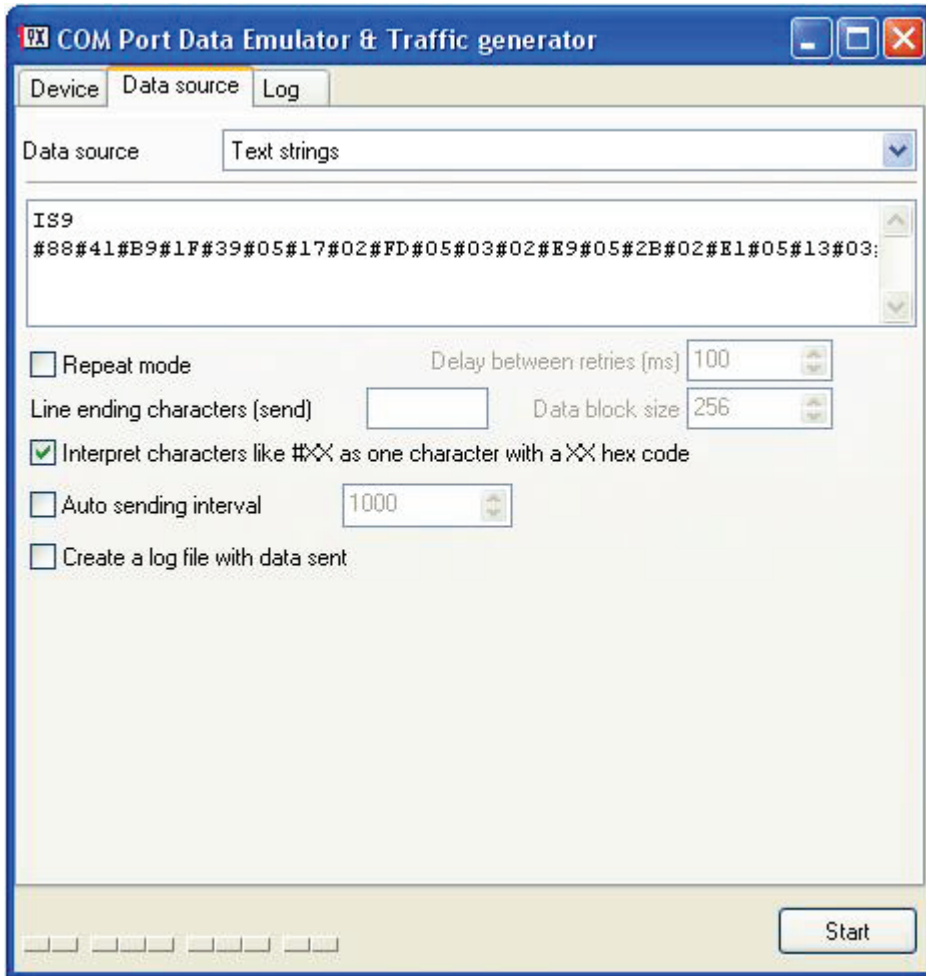
Step 2: Using the IS9 Command to send IR signal from the learned timing

- **Command:** IS9<cr> *Stands for IR Send Detailed Timing (HR Protocol)*
 This command should be followed by a string of hex bytes to be sent out. The user has 1-5 seconds to enter any hex bytes from 0x00 to 0xFF. The maximum number of bytes being sent out can't exceed 160 .
 The terminal characters indicating the end of string are 0x17 followed by 0x0D. If the user has more than 160 bytes to send, he/she has to use multiple commands.

Response: OK <cr>

Example: Using Com Port Data Emulator

You can use whatever terminal emulator program you are familiar with to send out the command and the hex bytes. The program you use must be able to send ASCII as well as Hex bytes. In this example we are using a free program called Com Port Data Emulator. It requires # before hex bytes. So to send the power command using this program we have to send IS9 followed by carriage return and then send the learned bytes like #88#41#B9 ... and make sure to remember to append #17#0D to indicate the end of the command.



IS9
 #88#41#B9#1F#39#05#17#02#FD#05#03#02#E9#05#2B#02#E1#05#13#03#01#05#03#02#E5#05#2F#02#E9#05#0F#03#01#04#FB#0B#09#05#0F#0A#C5#05#6B#0B#01#05#07#0B#09#05#0F#0A#FD#05#2B#0B#09#05#03#0B#01#05#13#0B#09#05#1F#02#ED#04#67#03#B1#04#F7#0B#09#04#6B#03#AD#04#FB#02#ED#05#27#02#E9#04#67#03#A9#04#FB#02#F5#05#23#0B#09#04#FF#0B#0D#04#6B#03#A9#04#FB#0B#0D#04#6B#0B#A9#05#1F#0B#11#04#FB#0B#0D#04#6B#0B#A9#05#23#03#25#04#2D#00#00#17#0D

NOTE: # being added as a prefix to each HEX byte as required for the COM Port Data Emulator software.