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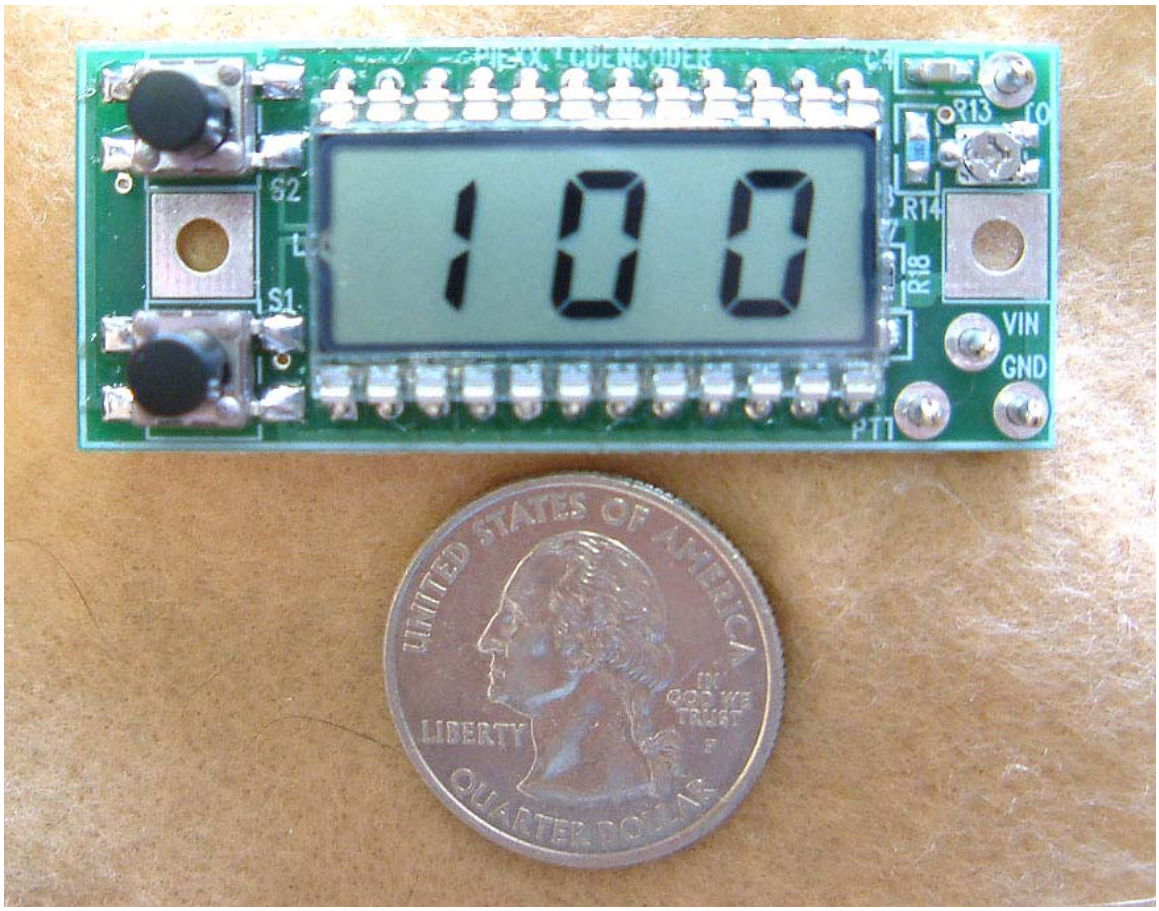
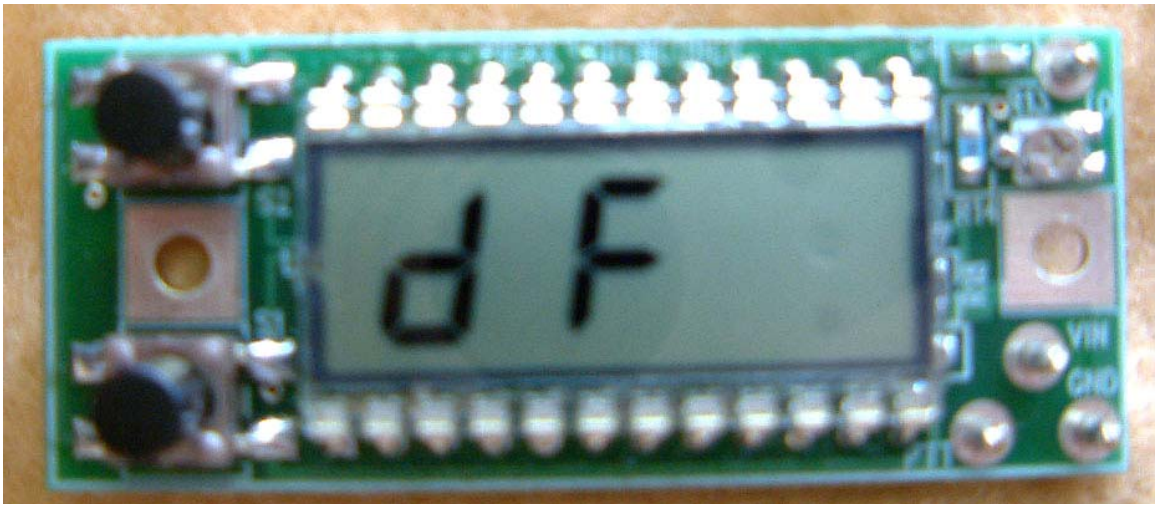
PIEXX LCDENCODER
Installation Instructions



The PIEXX LCDENCODER is a general purpose CTCSS tone encoder board that has a direct reading LCD display to show the current operating tone frequency. The LCDENCODER is easy to install as it requires only a 5-16VDC power source and a connection between the Tone Output and your transceivers audio in circuitry. Optionally you can connect the PTT line to enable / disable the tone output except when in transmit mode.

Connection: Connecting the PIEXX LCDENCODER is very easy, simply apply power between VIN (+5 to +16VDC) and the ground pins of the LCDENCODER board. The CTCSS tone generated is available on the TO or Tone Out pin. This tone output needs to be connected into your transceivers audio input. Please consult your transceivers owners manual to make this connection. If you wish, you can connect the PTT enable line to your transceivers PTT line. This PTT input signal level must be between ground an +16VDC, and can be set up to allow CTCSS tone generation on either a high or low state or it can be disabled for continuous CTCSS tone generation.

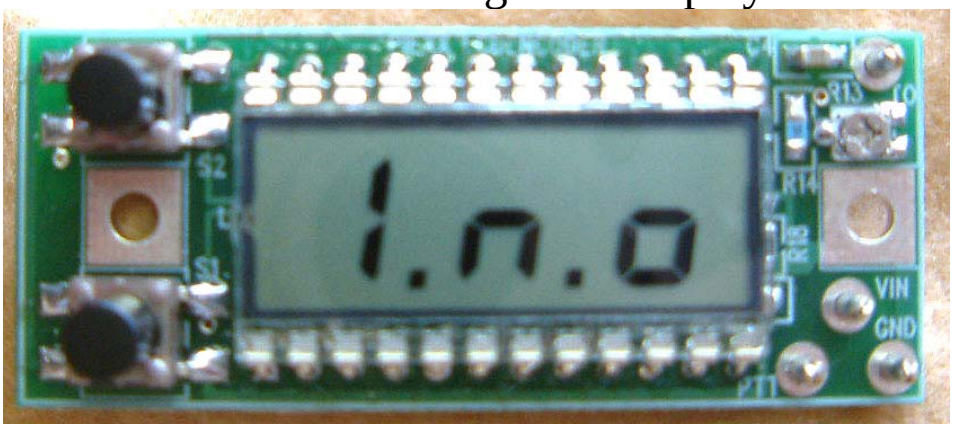
Setup: There are two setup parameters you can adjust on the LCDENCODER, Display orientation and PTT input configuration. In order to enter the setup mode, press and hold both buttons for 2 seconds, the display will change to **dF.**



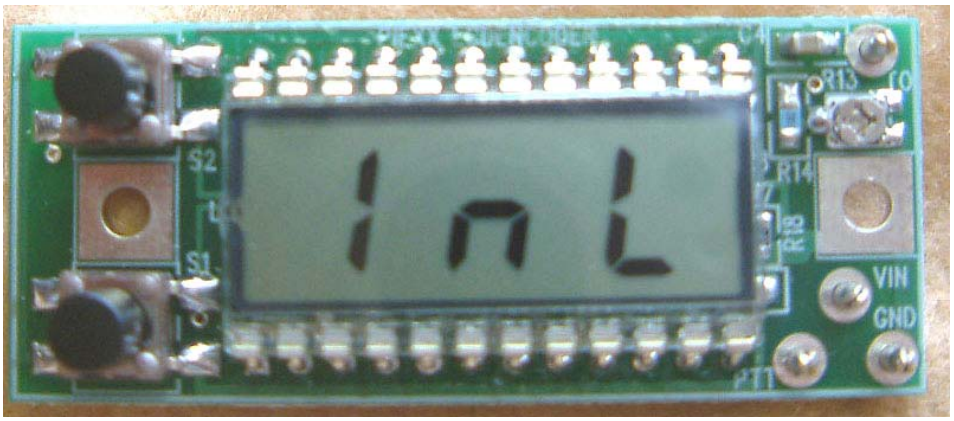
dF stands for display Flip. If the dF is upside down, flip the board over so it reads correctly. To flip the display, press the top button. Please be aware that not only is the display flipped, but which button is top is also flipped, so if the dF display is upside down you will need to press the bottom button to get it right side up again. That is, you make the selection with the top button when the display is showing

correctly. Once you have the display reading correctly, press the bottom button to move to the PTT input selection.

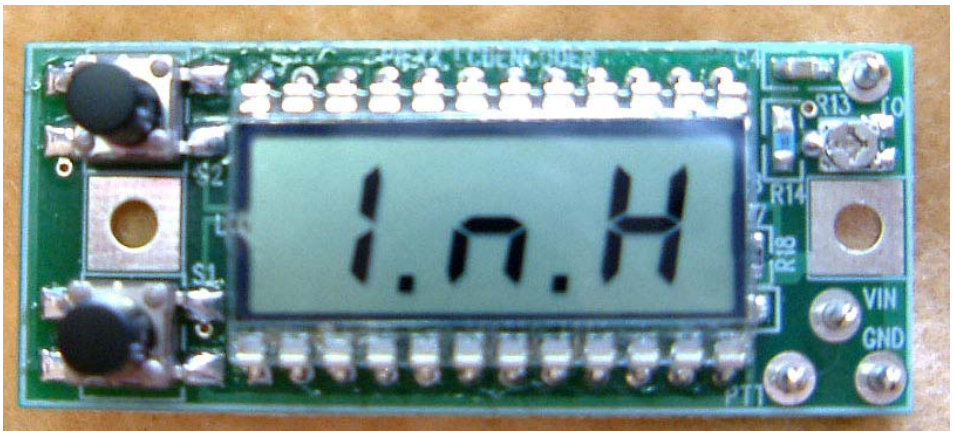
When you are in the PTT selection mode the display will show one of the following three displays:



Ino – CTCSS tone generation continuously, regardless of PTT input signal level.



InL – CTCSS tone generation when the PTT input line is pulled to a ground level.



InH - CTCSS tone generation when the PTT input line is floating or has a positive value

You can switch between the three modes by pressing the top key. You may notice that sometimes the decimal points are showing (the decimal points could be on the top of the display if you have dF set to a particular flip mode). The decimal points show when the CTCSS output is enabled, that is, both a tone is selected and the PTT input is in the active state. You will never see the decimal points unless a tone frequency is selected (more on this in the operations part of this document).

Once you have the PTT input mode set correctly, press both buttons simultaneously to exit the setup mode.

Operation: Operation of the LCDENCODER consists of simply selecting the appropriate CTCSS tone for your particular repeater. To go to a higher CTCSS tone frequency, press the top button. Lower CTCSS tone frequencies are selected by pressing the down button. If you hold the up or down button, the LCDENCODER will scroll through the frequencies until the highest, 254.1Hz, or the lowest, oFF is reached. The oFF display, located at the lowest tone frequency, indicates that the CTCSS tone generator is disabled; no tone will be produced. You should be aware that the CTCSS tone generated is that shown in the Tone List table below, even though only the 3 digits of the whole part of the tone frequency are displayed. So, for example, if you see 103 on the display the actual tone generated is 103.5 Hz.

Once you have a tone selected. you may save that tone as the power up tone for the LCDENCODER by pressing both button simultaneously (press them don’t press and hold the buttons or you may end up in the setup mode!).

Specifications:

Power requirements: 5 – 16 VDC @ 10mA, negative ground.
Output Impedance: 10K ohms
Output: 1V peak to peak into 10K load, Sin wave.

Tone List:

67.0 Hz	94.8 Hz	131.8 Hz	171.3 Hz	203.5 Hz
69.3 Hz	97.4 Hz	136.5 Hz	173.8 Hz	206.5 Hz
71.9 Hz	100.0 Hz	141.3 Hz	177.3 Hz	210.7 Hz
74.4 Hz	103.5 Hz	146.2 Hz	179.9 Hz	218.1 Hz
77.0 Hz	107.2 Hz	151.4 Hz	183.5 Hz	225.7 Hz
79.7 Hz	110.9 Hz	156.7 Hz	186.2 Hz	229.1 Hz
82.5 Hz	114.8 Hz	159.8 Hz	189.9 Hz	233.6 Hz
85.4 Hz	118.8 Hz	162.2 Hz	192.8 Hz	241.8 Hz
88.5 Hz	123.0 Hz	165.5 Hz	196.6 Hz	250.3 Hz
91.5 Hz	127.3 Hz	167.9 Hz	199.5 Hz	254.1 Hz

150.0 Hz (military)