

25 Tone CTCSS Decoder Kit

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CTCSS decoder kit with Binary outputs

Our CTCSS decoder kit can decode the 25 CTCSS tones listed below to a 5 bit binary output.

Rapid decode in just a few cycles of the incoming CTCSS tone, therefore the kit can rapidly output the CTCSS tone in use on a radio system.

It also has a rapid acting tone valid output (CN2 Pin 4)

The outputs are 0 to 5V and should not be loaded more than 5mA. Please see the circuit diagram for pin locations.



Binary Outputs

Tone (Hz)	CN2 Pin No.				
	6	14	13	12	11
67.0	0	0	0	0	1
69.3	0	0	0	1	0
71.9	0	0	0	1	1
74.4	0	0	1	0	0
77.0	0	0	1	0	1
79.7	0	0	1	1	0
82.5	0	0	1	1	1
85.4	0	1	0	0	0
88.5	0	1	0	0	1
91.5	0	1	0	1	0
94.8	0	1	0	1	1
97.4	0	1	1	0	0
100.0	0	1	1	0	1
103.5	0	1	1	1	0
107.2	0	1	1	1	1
110.9	1	0	0	0	0
114.8	1	0	0	0	1
118.8	1	0	0	1	0
123.0	1	0	0	1	1
127.3	1	0	1	0	0
131.8	1	0	1	0	1
136.5	1	0	1	1	0
141.3	1	0	1	1	1
146.2	1	1	0	0	0
151.4	1	1	0	0	1

For best performance the decoder needs to be fed with un-filtered RX audio, so that sub-audio frequencies are not removed before the decoder.

On the back of many Amateur Radio transceivers there is a 6 pin Packet Radio (TNC) connector, this often has an RX audio output for use with a 9600 baud TNC and is usually un-filtered.

We can offer a cable with the 6 pin plug already fitted.

The input sensitivity' preset should be adjusted to just past the detection point on a good signal. Complete kit of parts including pre-programmed PIC micro and gold plated PCB.

Runs from 8 to 16V DC at a few mA.

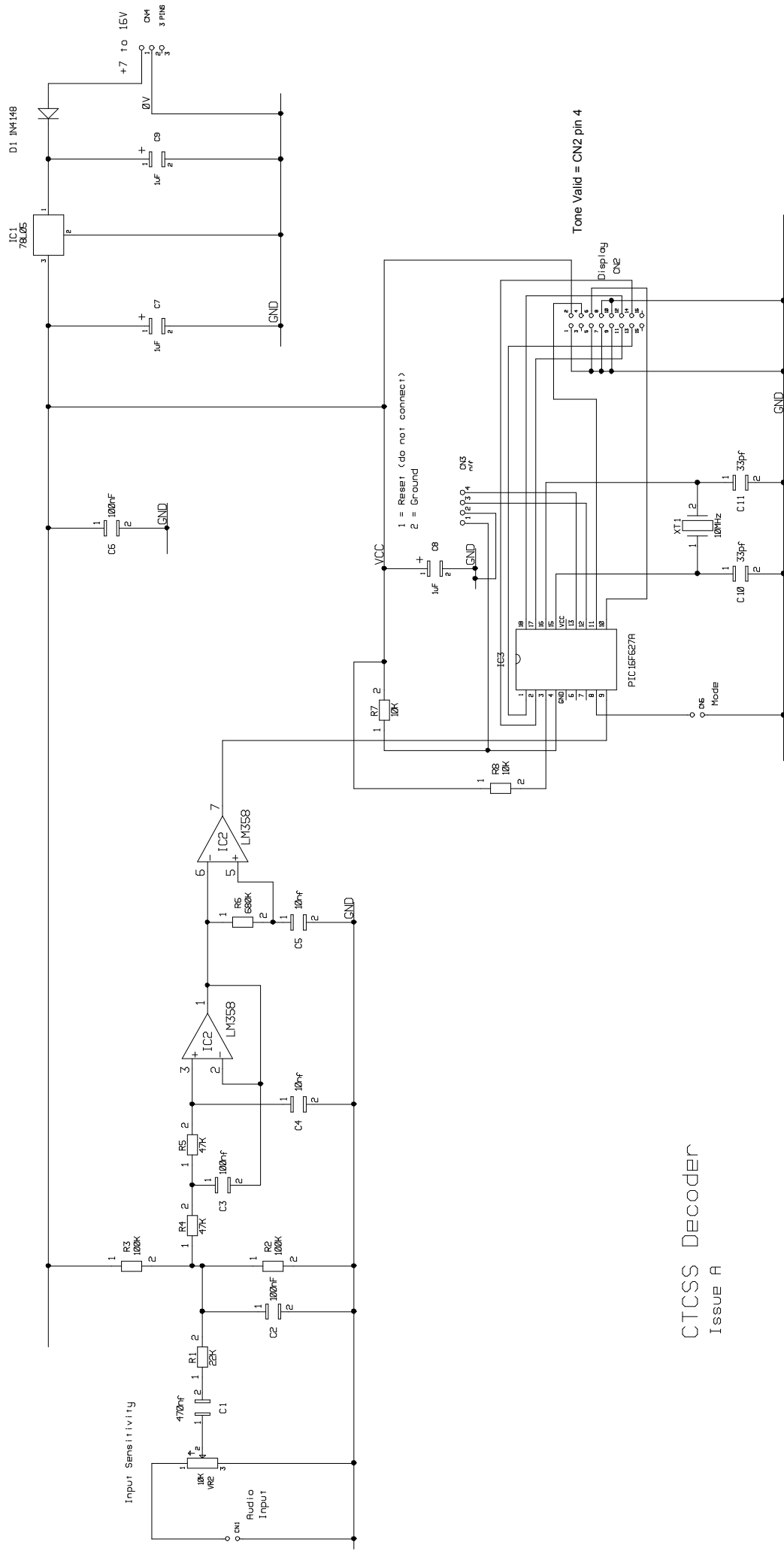
PCB size approx. 58mm x 32mm x 12mm assembled

CTCSS Decoder Parts List

IC1	78L05
IC2	LM358A
IC3	PIC16F627A (programmed)
D1	1N4148
D2	Not Fitted
XT1	10MHz crystal
R1	22K
R2, 3	100K
R4, 5	47K
R6	680K
R7, 8	10K
VR1	Not Fitted
VR2	10K variable
C1	470nF (marked 474)
C2, 3, 6	100nF (marked 104)
C4, 5	10nF (marked 103)
C7, 8, 9	1uF observe polarity
C10, 11	33pf
CN1	2 pins
CN2	7+7 pins (supplied as 3+3 & 4+4)
CN3	4 pins
CN4	3 pins
CN5	Not Fitted

Also supplied:-

CTCSS display PCB Issue B
Crystal insulator pad



CTCSS Decoder
ISSUE A