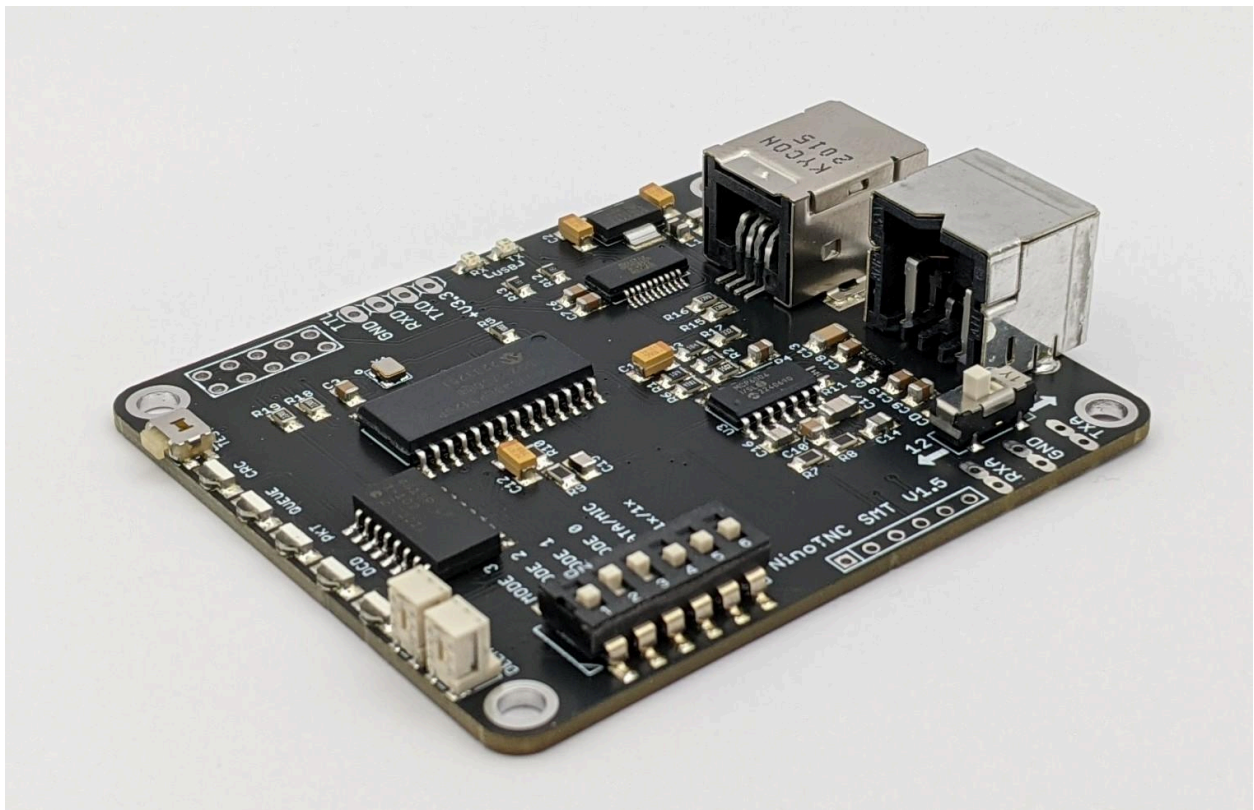




RPC Electronics, LLC

SMT NinoTNC

Multi-Speed Multi-Mode KISS Modem



User Manual

Rev A. (April 2024)

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1. Introduction

Thank you for purchasing the SMT NinoTNC! This is a fully assembled and tested SMT (surface mount technology) version of the popular NinoTNC kit designed and produced by Nino Carillo KK4HEJ and Tadd Torborg KA2DEW

Thank you to the individuals who helped with the testing and refining of the SMT NinoTNC:

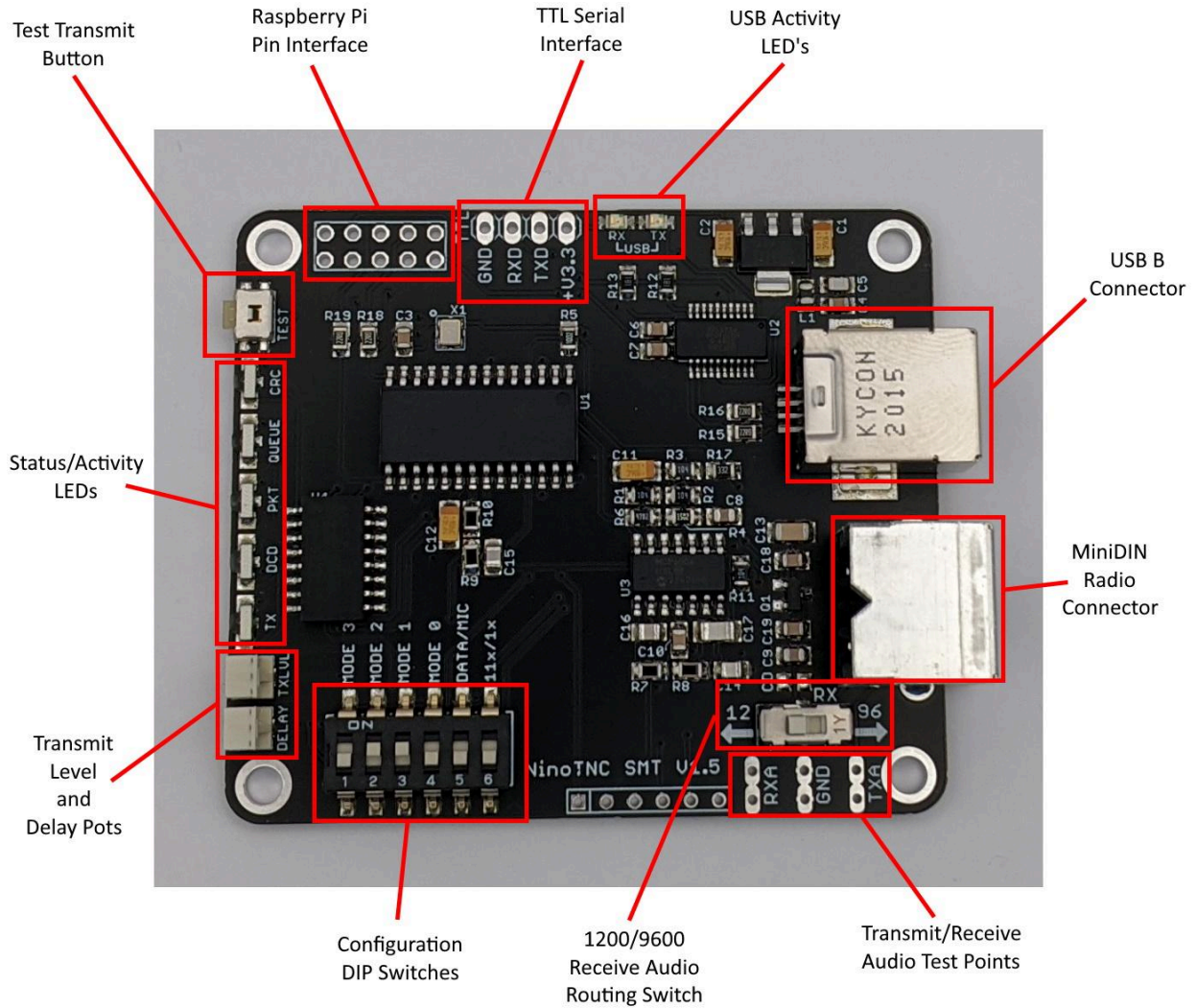
Nino Carillo KK4HEJ

Tadd Torborg KA2DEW

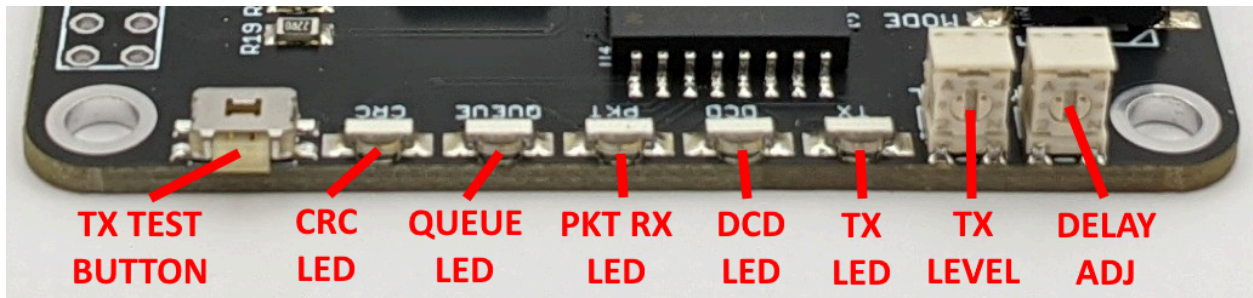
Mark Cohen K6EF

Steve Stroh N8GNJ

2. Device Overview



Front Edge



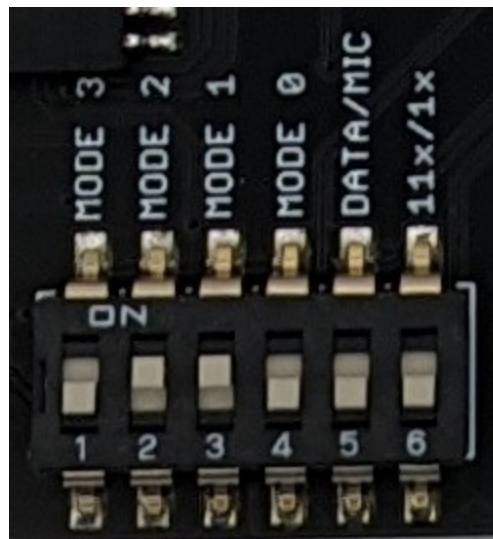
Receive Audio Routing Switch



This switch is important because it determines which receive audio pin on the miniDIN radio port is used to route the audio from your radio to the modem. In some cases, it prevents you from having to modify or physically change a cable that might have been previously made for one speed.

Most radios that have standard miniDIN packet ports have a menu selection for determining which pin on the radio end will have the audio present. This is typically filtered audio for 1200 baud (Pin 5) and unfiltered or discriminator audio for 9600 baud (Pin 4). In the case of a radio that provides the audio on a single pin, you just have to make sure your switch matches that. When in doubt, start with the “12” position and match everything to that, if possible.

Mode/Speed/FEC DIP Switches



The bank of six DIP switches sets the mode, speed and FEC. It also sets the transmit and receive audio ranges.

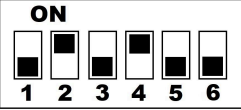
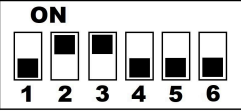
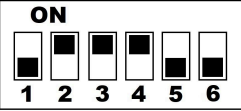

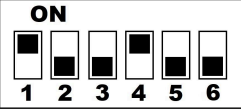
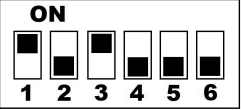
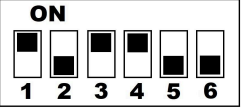
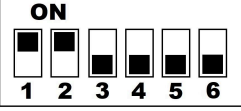
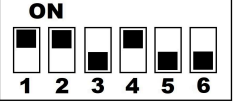
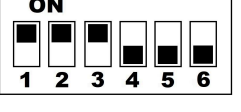
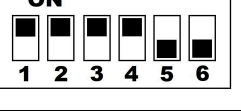
DATA/MIC - This is used to set the transmit audio level range. In most cases “MIC” will provide adequate transmit audio. In some cases, such as commercial grade radios, more transmit audio might be required. Set the switch to the “DATA” position and this will provide a higher level of audio to adjust. The fine adjustment is made with the front panel TX AUDIO adjustment potentiometer.

11x/1x - This is used to set the receive audio coming from the radio. The “1x” position will provide the audio from the radio untouched, as is. When in the “11x” position, the audio coming from the radio is amplified before going to the modem. This can be useful in cases where a data radio with a fixed output level is being used and may be just a bit too low.

4. DIP Switch Configuration Table

(Switches 5 and 6 are not addressed in this table. See above)

SWITCHES	OP SW1	AFSK/GFSK SW2	HI/LO SW3	AX25/IL2P/CRC SW4
	OP A	GFSK 9600	HI	AX25
	OP A	GFSK 9600	HI	IL2P
	OP A	GFSK 9600	LO	IL2P/CRC
	OP A	GFSK 4800	LO	IL2P
	OP A	GFSK 4800	HI	IL2P/CRC

	OP A	DPSK 2400	HI	IL2P
	OP A	AFSK 1200	LO	AX25
	OP A	AFSK 1200	LO	IL2P
	OP B	BPSK 300	HI	IL2P/CRC
	OP B	QPSK 600	HI	IL2P/CRC
	OP B	BPSK 1200	LO	IL2P/CRC
	OP B	QPSK 2400	LO	IL2P/CRC
	OP B	AFSK 300	HI	AX25
	OP B	AFSK 300	HI	IL2P
	OP B	AFSK 300	LO	IL2P/CRC
	OP B	BPSK 1200	LO	IL2P