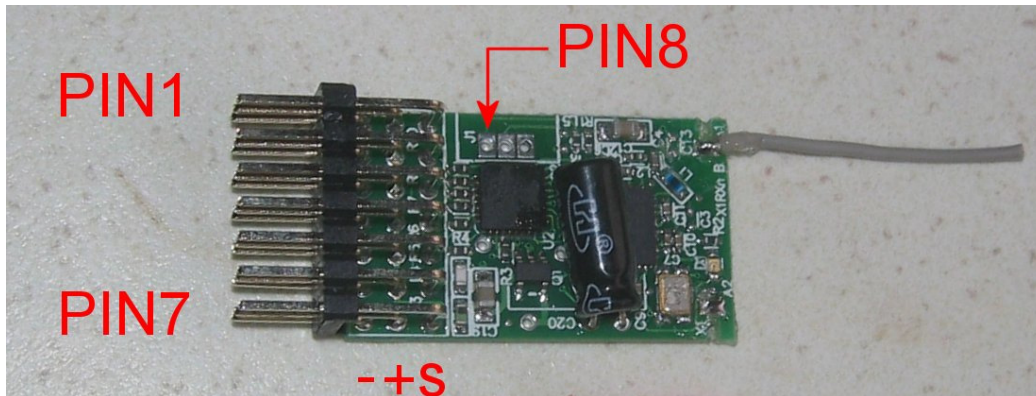# DT 2.4GHz DSM2 TX1-K1 TRANSMITTER INSTRUCTIONS

DESCRIPTION:

Tx1 is an AR6100 type receiver reprogrammed to be a DSM2 short range transmitter.
It transmits twice every 22ms.
It transmits 7 channels with 10bit channel position data.
It requires a serial data feed and it only transmits when that is present.
Users should comply with local regulations relating to transmitters.
Power with 3.3-10v.

PIN CONNECTIONS:

Pin 1   Bind
Pins 2-3   Model number selection
Pins 4-7   Led outputs for model number
Pin8   Serial input

LED:

The transmitter's led flickers fast when no valid serial input is present.
The led stays on solid and is transmitting when there is a valid serial input.

MODEL NUMBER:

Four model numbers can be selected. These create unique bindings with receivers.
Model numbers are based on the current state of Pins 2 and 3 (ie: they are not 'remembered').
Model numbers can be changed at any time but receivers will only respond to the model number used during binding.
Model 1   Pin 2 low, Pin 3 low
Model 2   Pin 2 low, Pin 3 high
Model 3   Pin2 high, Pin 3 low
Model 4   Pin2 high, Pin3 high (default)
The 'high' state is the default. Connect to ground (-) to make 'low'.
Pins 4-7 reveal the current Model number selected. Connect led's between the 'signal' pin and ground (-).

BINDING:
Select the appropriate model number (1-4) at any time.
Hold Pin 1 low for ~2 seconds to enter bind mode (at any time).
The led will flash for ~5 seconds.
Bind is complete as soon as the led comes on solid or flickering fast.

SERIAL INPUT:
The transmitter will only transmit with a valid serial input on Pin 8.
It will stop transmitting ~2 seconds after the serial input stops.
It will start/restart automatically.
It always transmits the most recent data received.
Pin 8 'floats' so requires active/strong highs and lows.

The required serial payload is 16 bytes RS-232 at 115200 baud, 8 bit, no parity, at
    least 1 stop bit, LSB first. It is expected every 22ms but timing is not critical.

Byte 1   Checksum (sum of bytes 2-16 cast to 1 byte)
Byte 2   Not used (can be any value)
Bytes 3-16   2 bytes per channel with following structure 0b000 CCC 9876543210
-   000 = not used (normally zeros)
-   CCC = channel number (0=Thr, 1=Ail, 2=Ele, 3=Rud, 4=Gear, 5=Aux1, 6=Aux2)
-   9876543210 = 10bit channel position

DT receivers with a serial output can be used to provide an input to Tx1 for testing.