

FW Receiver Board

RX-DECODER 4 Ch Board L1,L2 &L3 fitted=Master

Programming and Operating Instructions

Introduction

The Arrowhead 4 channel FREEWAVE RX-DECODER is designed to work with the Crow FREEWAVE range of Wireless products. The FREEWAVE Receiver board operates at 433.92Mhz. It receives the transmitted code and sends the code to the RX-DECODER. Multiple receivers can be connected to one RX-DECODER via standard 4 core security cable if a greater coverage area is required.

Multiple RX-DECODERS may be connected to one or multiple receivers thereby allowing the system to be expanded in 4 channel blocks.

Initial Hardware Set-up

With every system there must always be 1 x FREEWAVE receiver and at least 1 x FREEWAVE RX-DECODER configured as the MASTER. The master RX-DECODER must have links L1,L2 & L3 fitted. Any additional RX-DECODERS added to the system must all be slave devices (a slave has links L1,L2 & L3 removed).

NOTE: LINKS L1, L2 & L3 ARE ONLY READ AT POWER-UP SO THEY MUST BE SET IN THE CORRECT POSITION PRIOR TO APPLYING POWER.

On powering up the system, all LEDs on the rx-decoder should be off showing that no transmitter codes are stored. If any of the LEDs Flash for a period of 2 seconds on power up this shows that a transmitter code is stored at that channel.

Learn Mode

The learn function is initiated by shorting out the appropriate learn link 1-4 (see drawing). A momentary short of less than 1 second on one of the 4 learn links will place the RX-DECODER into learn mode for that channel.

The LED on the receiver board and the rx-decoder LED associated with the channel in learn mode will flash to show learn mode is in progress. Operate the transmitter within 30 seconds of entering learn mode until the LED's turn off meaning the transmitter code has been stored for that channel. The output (relay) will activate to show the transmitter was learnt. Handheld Pendant transmitters are learnt when a button is pressed, however the detectors (PIR, REED, SMOKE) will only learn with a tamper activation. A tamper alarm must be generated to learn a Freewave detector. If no valid transmission is received within the 30 seconds the rx-decoder will terminate learn mode and no detector code will be stored. Repeat this process until all transmitters are loaded.

Erase Mode

If a learn link is shorted out for longer than 2 seconds, the stored code for that channel will be erased.

System Operation

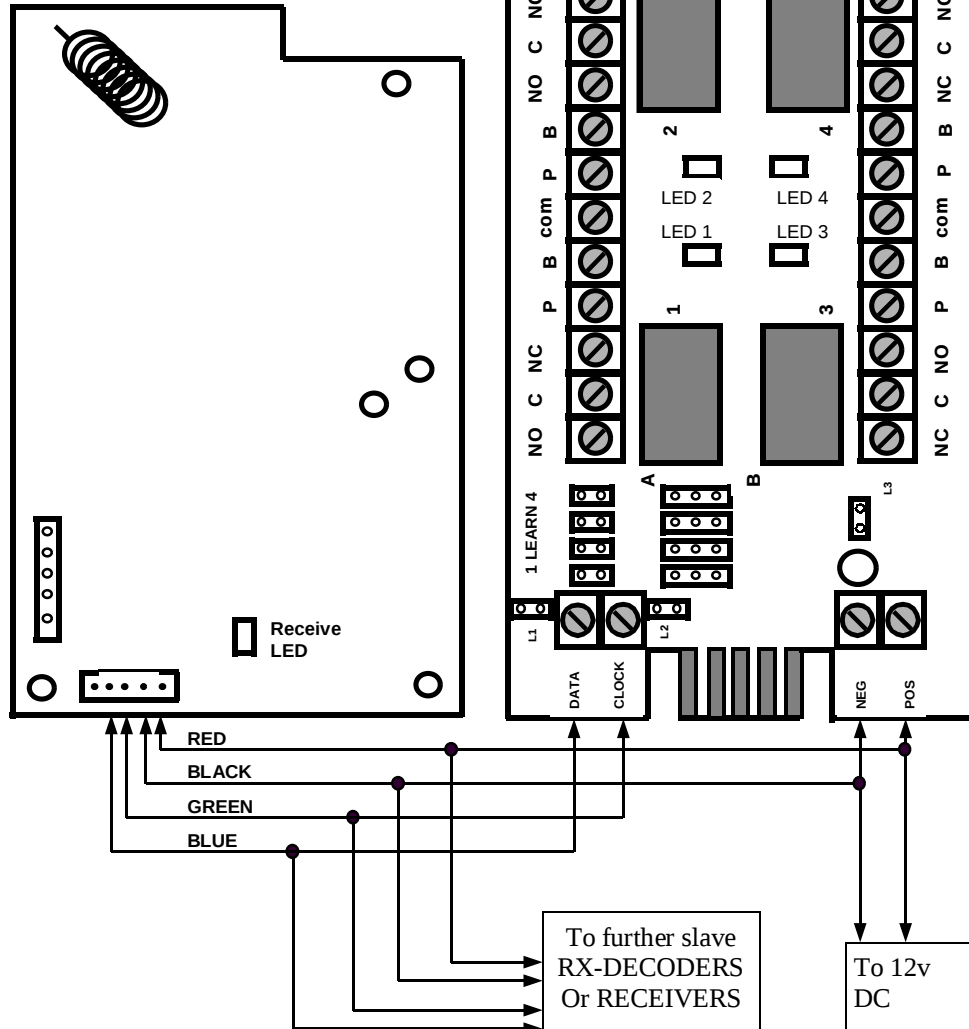
For each channel on the rx-decoder there is a changeover relay and 2 low current transistor outputs (the 2 outputs switch to 0V when turned on).

The transistor outputs are labelled "P" & "B". The "P" output will turn on if the device tamper is activated on that channel. The "B" output will turn on if the device sends a low battery signal.

The Low battery output does not latch, it will operate for 2 seconds on receiving a signal with the low-battery bit active. Each time the rx-decoder receives a battery low signal the "B" output will pulse for 2 seconds.

The "P" output will latch when a tamper is received and will only reset back to normal (turn off) if the alarm has been removed, eg The PIR transmits a tamper sealed signal.

The relay will energise each time an alarm is received from a PIR or SMOKE detector and reset 2 seconds after the signal stops. If the signal is from a REED Switch the relay will turn on when the reed is open and turn off when it is closed. As the Freewave PIR's and Reed Switches send a supervised signal every 12-15 minutes, the rx-decoder can monitor this supervised signal if required. To turn on the supervision monitoring you must short out the "A" and centre pin with a shorting link. As links are only checked at power up the link must be fitted prior to powering the rx-decoder. The channel numbering for the "A" supervise pins follows that of the learn pins. If the "A" and centre pins are shorted out on any of the 4 channels, the rx-decoder will start a 4 hour timer for that channel. If the rx-decoder fails to receive any supervise signals within the four hour period it will pulse the "P" output on that channel for 2 seconds. The supervision failure alarm does not latch. If the supervise signal is still not received in the following 4 hour period the "P" output will pulse again for 2 seconds, repeating every 4 hours until the supervise signal is restored.



Arrowhead
MULTI-CHANNEL FREEWAVE RX-DECODER
Programmable Four-channel Radio Receiver/Decoder

Date: 11-10-2004