AKRX42-SX Receiver Instructions

Description
The AKRX42-SX is a self-contained 433.92MHz rolling key receiver designed to be directly interfaced with any devices or controllers able to utilise a dry contact relay signal. With it's 2 on-board 1 Amp (max resistive) 125 VAC rated dry contact relay outputs, this receiver can be connected across existing push buttons connected to various door and gate controllers or used to switch power directly to a vast number of electrical or electronic products.
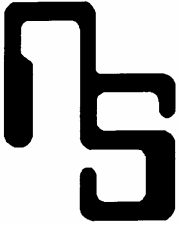
Power Supply Configuration
This receiver is capable of being powered with voltages ranging from 12 – 28 volts AC or DC. To operate receiver on 12-28VAC or >=12VDC, place the power link (near the heatsink) on **HV**. To operate on a 12V battery, place the power link on **LV**. This will enable the relays to continue operating with a supply voltage down to 10V.

Channel Setting
The receiver can learn up to 4095 unique (2 or 4 button) transmitters and can be used in either a one or two output configuration. The table below shows all possible configuration options that can be set by selectively placing links across the **L1**, **R2**, **L3** and **R4** pins.

Links				Output Configuration				Description
L1	**R2**	**L3**	**R4**					
OFF	OFF	OFF	OFF	B1-C1	B2-C2			Buttons 1 & 2, 2 Channel
ON	OFF	OFF	OFF	B1-C1				Button 1 only, 1 Channel
OFF	**ON**	OFF	OFF	B2-C1				Button 2 only, 1 Channel
ON	**ON**	OFF	OFF	B1-C1	B2-C1			Buttons 1/2, 1 Channel
OFF	OFF	**ON**	OFF	B3-C1	B4-C2			Buttons3 & 4, 2 Channel
ON	OFF	**ON**	OFF	B3-C1				Button 3 only, 1 Channel
OFF	**ON**	**ON**	OFF	B4-C1				Button 4 only, 1 Channel
ON	**ON**	**ON**	OFF	B3-C1	B4-C1			Buttons 3/4, 1 Channel
OFF	OFF	OFF	**ON**	B1-C1	B3-C1	B2-C2	B4-C2	Buttons 1/3 & 2/4, 2 Channel
ON	OFF	OFF	**ON**	B1-C1	B3-C1			Button 1/3, 1 Channel
OFF	**ON**	OFF	**ON**	B2-C1	B4-C1			Button 2/4, 1 Channel
ON	**ON**	OFF	**ON**	B1-C1	B2-C1	B3-C1	B4-C1	Buttons 1/2/3/4, 1Channel
OFF	OFF	**ON**	**ON**	B1-C1	B2-C1	B3-C2	B4-C2	Buttons 1/2 & 3/4, 2 Channel
ON	OFF	**ON**	**ON**	B1-C1	B2-C1			Button 1/2, 1 Channel
OFF	**ON**	**ON**	**ON**	B3-C1	B4-C1			Button 3/4, 1 Channel
ON	**ON**	**ON**	**ON**	B1-C1	B2-C1	B3-C1	B4-C1	Buttons 1/2/3/4, 1 Channel

Example: If the fourth last option (OFF, OFF, ON, ON) were selected, then buttons 1 and 2 of the Airkey would trigger relay 1 on the receiver, while buttons 3 and 4 of the Airkey would trigger relay 2 on the receiver.

If 2 channel Airkeys are used, B1 referrers to the left hand button while B2 referrers to the right hand button.

Relay Operation
This receiver can be configured to either activate the on-board relay(s) for half a second each time a valid transmitter is activated or alternatively cause the relay to change state from either currently on-to-off or currently off-to-on each time a valid transmitter is activated. The latter function is commonly known as flip-flop and is activated by installing the link that is labelled **FF**. If this is not present, the receiver will revert to its standard (momentary) mode of operation.

Programming
Before any transmitters are learnt into the receiver, press and hold the **CLR** button on the receiver for about 2 seconds. The red light on the receiver will illuminate to indicate that all memory locations have been cleared and the receiver is ready to accept new transmitters.

Next press and hold the **ADD** button. The red light will illuminate for as long as the **ADD** button is depressed. To learn in transmitters, simply press one of the buttons of the transmitters to be added. If the transmitter is newly learnt, the red light will twinkle for between about half and several seconds and then blink off for about half a second to indicate a successful learn. If the transmitter has already been learnt or is faulty, the light will not twinkle or blink off and that transmitter will not be added. Up to 4095 transmitters total can be added if and when required. A new transmitter can be added at any time by simply pressing the **ADD** button and one of the transmitter's buttons. An alternative method of adding transmitters is to fit a jumper or dry contact switch across pins 2 and 3 (labelled **A**) on the **ICSP** connector.

Automatic Replace
If an Airkey has been lost or stolen, a replacement can be ordered provided the serial number of the original Airkey is known. A near identical Airkey can then be supplied such that when it is used, it will automatically replace the lost Airkey and continue to operate without loss of continuity and without needing to access the receiver. After being automatically replaced, the lost Airkey is permanently deleted from the receiver memory and cannot be re-used.

Antenna
An ideal antenna for this receiver is an insulated wire 160mm in length connected to the **ANT** terminal of the receiver.