IP65 200m Analogue Wireless Video & Audio Link Pair

RF200V

User Manual

Please read these instructions carefully before operating the unit and keep for further reference.

genie

Contents

1.0 Introduction

Please read this instruction carefully before operating the product and keep it for further reference. All examples and pictures used here are for reference only.
The contents of this manual are subject to change without notice.

The Genie RF200V is a high quality 7 channel 5.8GHz audio / video wireless interface. Designed for the CCTV industry the RF200V is enclosed in a small IP65 rated enclosure, has a built in signal strength meter, status indicator, directional patch antennas and two digital inputs for an external input and a tamper circuit.

The tamper circuit monitors lid removal for both the transmitter and receiver, an external tamper input to the transmitter and it also detects the loss of a paired transmitter; either through power failure or signal jamming.

The transmitter's digital input channel has been designed for a connection to a PIR or door contact etc, the signal is then transmitted to the receiver and output via a set of volt free contacts. The volt free output can also be programmed with a timer period from 1 second to 30 minutes, which is activated after the input has switched off. A typical use for this could be a control signal to drive external lighting.

The RF200V incorporates a very simple programming system were a single switch allows the RF channel to be changed, pairing of a transmitter to a receiver, programming of the output timer and selection of the status monitor. Connections to both the transmitter and receiver are via a 10-way rising clamp connector for the power, audio / video signals, digital tamper and input / output channels.

Both the transmitter and receiver are supplied with a robust wall / pole (additional U bolts required) mounting bracket to allow X and Y movement. When used in conjunction with the internal 7 bar signal strength meter, reliable links can be achieved.

1.1 Product Features

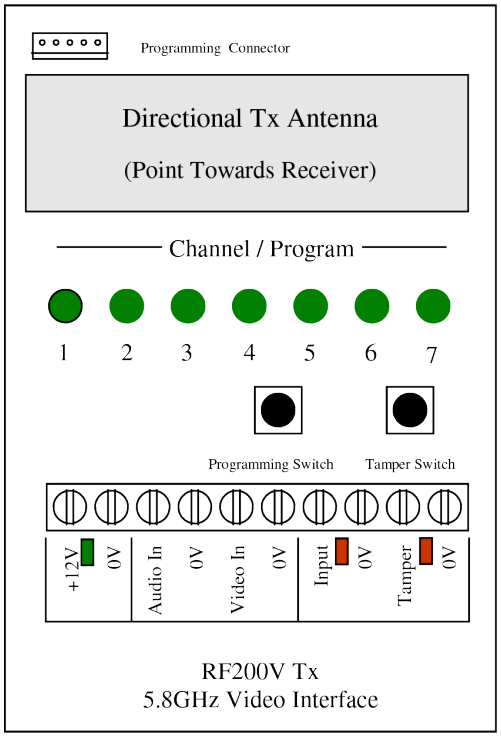
- 5.8GHz
- IP65 rated
- 7 RF channels
- 12 volt operation
- High quality audio & video
- 200m range (Line of site)
- 7 LED signal strength meter (RSSI)
- Digital input for PIR, external switch etc
- Volt free outputs for both tamper and input channels
- Directional antenna on receiver (Reduced interference)
- LED status to monitor transmitter
- Heavy duty receiver wall bracket for X & Y movement
- Tamper monitors case switches, external input & loss of transmitter

1.2 Specification

Electrical	Operating Voltage	11—13V DC (Max)
	Operating Current (Transmitter)	160mA (Max)
	Operating Current (Receiver)	200mA (Max)
	Relays Maximum Working Voltage	30V AC / DC
	Relay Contact Type	Volt Free
	Relay 1 & 2 Max Current	1A
	Input & Tamper Input	12V Active Low
Transmitter	Operating Frequencies	5.740 ~ 5.860GHz
	Transmit Power	<= 14dBm
	Video Input	1Vpp
	Audio Input	1.5Vpp
	Audio / Video Modulation	FM—FM
Receiver	Operating Frequencies	5.740 ~ 5.860GHz
	RF Input Level	-85 ~ -10dBm
	Video Output	1Vpp (50Hz ~ 5.5MHz)
	Audio Output	1.5Vpp (50Hz ~ 20KHz)
Others	Case Size without Aerial and Grommet	115 × 65 × 40mm
	Ingress Protection	IP65
	Temperature Range	-10 to +55°C
	Relative Humidity	95% (Non-Condensing)

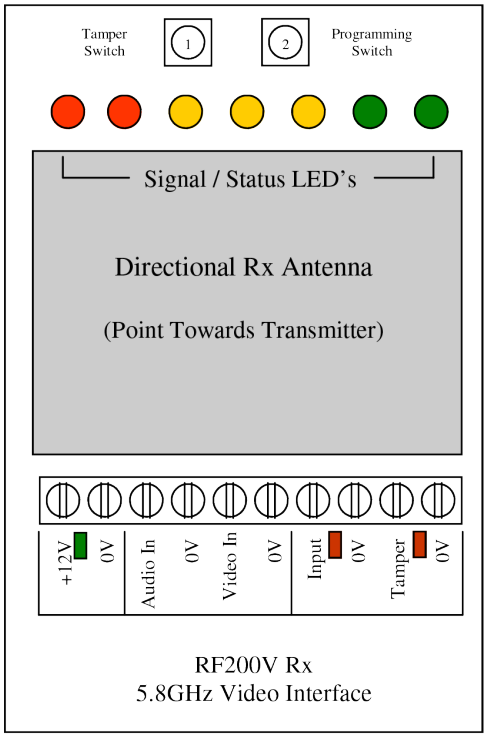
2.1 Transmitter and Receiver Hardware Layout

Transmitter



= Power / Status LED's = Channel LED's

Receiever



= Power / Relay LED's = Channel / Signal / Status LED's

3.1 Transmitter Programming

To change the RF channel of the RF200V transmitter:

1. Hold down the program switch for 3 seconds until the channel light starts flashing.
2. Once the channel light is flashing release the program button.
3. A single press on the program switch will change the RF channel by one.
4. To save the new channel, hold down the program switch for 3 seconds until the channel LED stops flashing.

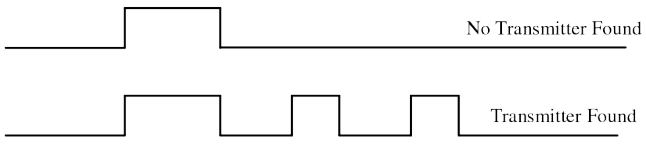
At any point you wish to exit programming mode without saving the new settings, hold down the tamper switch until all LED's extinguish.

3.2 Receiver Programming

To enter program mode follow the steps below:

1. Hold down the program switch for 3 seconds until the yellow LED's start to flash, then release the program switch.
2. While the yellow LED's are flashing, either the power or input LED will flash too. The power LED indicates "Program RF Channel" and the input LED indicates "Program Output Timer". Briefly pressing the program switch toggles between these two modes.
3. To program the selected option hold down the program switch for 1 second, and the green LED's will flash twice to indicate the mode has been selected. Depending which option has been selected follow options 4 or 6.
4. If "Program RF Channel" has been selected, the power LED and one of the seven status LED's will flash to indicate the current RF channel. To change the RF Channel, briefly press the program switch. If a RF200V transmitter has been found the RF channel LED emits one long pulse followed by two short pulses. If no transmitter has been found the RF LED emits only one long pulse.

   Example:



5. To save the current channel hold down the program switch for 3 seconds. If the two green LED's flash twice a valid RF200V transmitter has been saved and paired, but if the two RED LED's flash twice only the RF channel has been saved (no transmitter found).

6. If "Program Timer" has been selected, the input LED flashes and the status LED's indicate the selected option. To change the timer option briefly press the program key. The timer options are as follows:

LED No	Meaning
LED's Off	No Timer is enabled
LED1 on	1 Second Delay
LED2 on	3 Second Delay
LED3 on	5 Second Delay
LED4 on	10 Second Delay
LED5 on	20 Second Delay
LED6 on	30 Second Delay
LED1 & 7 on	1 Minute Delay
LED 2 & 7 on	3 Minute Delay
LED 3 & 7 on	5 Minute Delay
LED 4 & 7 on	10 Minute Delay
LED 5 & 7 on	20 Minute Delay
LED 6 & 7 on	30 Minute Delay

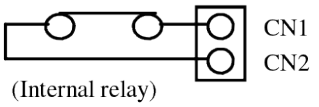
7. To save the new timer setting, hold down the program switch for 3 seconds. The 2 green LED's will flash twice to indicate the new setting has been saved.

If at any point you wish to cancel out of the programming mode hold down the tamper switch until all of the LED's switch off; this will exit programming mode without saving the current setting.

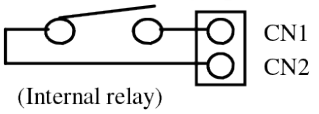
4.1 Receiver

When the tamper circuit is healthy the output contacts are normally closed but under a fault condition the tamper contacts become open circuit. The tamper LED flashes when the receiver tamper switch is activated but if a tamper fault is detected with the transmitter, the tamper LED stays 100% illuminated. Relay contacts are volt free.

Normally Closed - Tamper ok

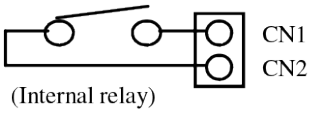


Normally Open - Tamper Fault

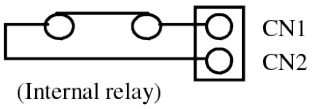


The output relay is activated when an input is triggered on a paired transmitter. The output status LED will also illuminate. Contacts are volt free.

Normally Open - Input off



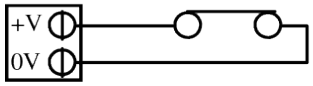
Normally Closed - Input triggered



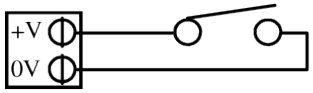
4.2 Transmitter

The tamper circuit is a normally closed circuit and is activated by a break. Typical wiring diagrams are shown below:

Normally Closed - Idle State

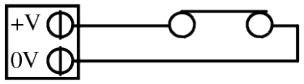


Normally Open - Tamper Triggered

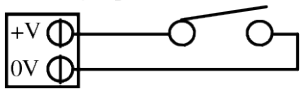


The external input is a normally open circuit. To activate the input short circuit the input. Typical wiring diagrams are shown below:

Normally Closed - Input Activated



Normally Open - Idle State



5.0 Receiver Signal / Status LED's

The RF200V signal / status LED's have a few meanings. While the RF200V is not in programming mode by briefly pressing the programming switch selects one of three options.

1. Signal strength (default), this mode displays the signal level being received from the transmitter. We recommend 2 ~ 3 bars of signal for a reliable link.
2. Transmitter status. This mode displays the status of the received transmitter. The table below shows the LED meanings (Note: If a transmitter is not paired video and audio will be present but the input and tamper channels will not work).

LED No	Meaning
LED1 (Red)	Transmitter case tamper switch activated
LED2 (Red)	Transmitter external tamper input activated
LED3 (Yellow)	Transmitter input activated
LED4 (Yellow)	Connected to a paired RF200V
LED5 (Yellow)	Detected a RF200V (Not necessarily paired)
LED6 & 7 (Green)	Flashing—indicates display status mode

3. Display currently selected RF channel. In this mode only 1 LED will flash. This LED is the currently selected RF channel. To change the RF channel refer to the programming section. Briefly pressing the program switch again returns back the signal strength mode.

If options 2 or 3 are left selected for more then 1 minute then the RF200V will default back to the signal strength mode.

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