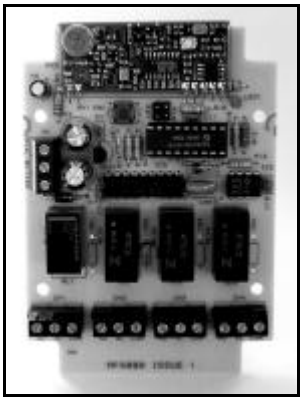
RF RECEIVER DECODER SYSTEMS

FEATURES

- AM or FM Rx/DECODER SYSTEM
- 'EASY LEARN' TRANSMITTER FEATURE
- MOMENTARY OR LATCHING OUTPUTS
- LED INDICATION OF DATA RECEPTION
- RECEIVER/DECODER LEARNS UP TO 8 OR 16 TRANSMITTER ENCODERS
- 418MHz & 433MHz AVAILABLE
- REQUIRES NO RADIO LICENCE



AM FEATURES

- RANGE 45 - 70 METRES
- 'HIGH SECURITY' PROTOCOL AVAILABLE.

FM FEATURES

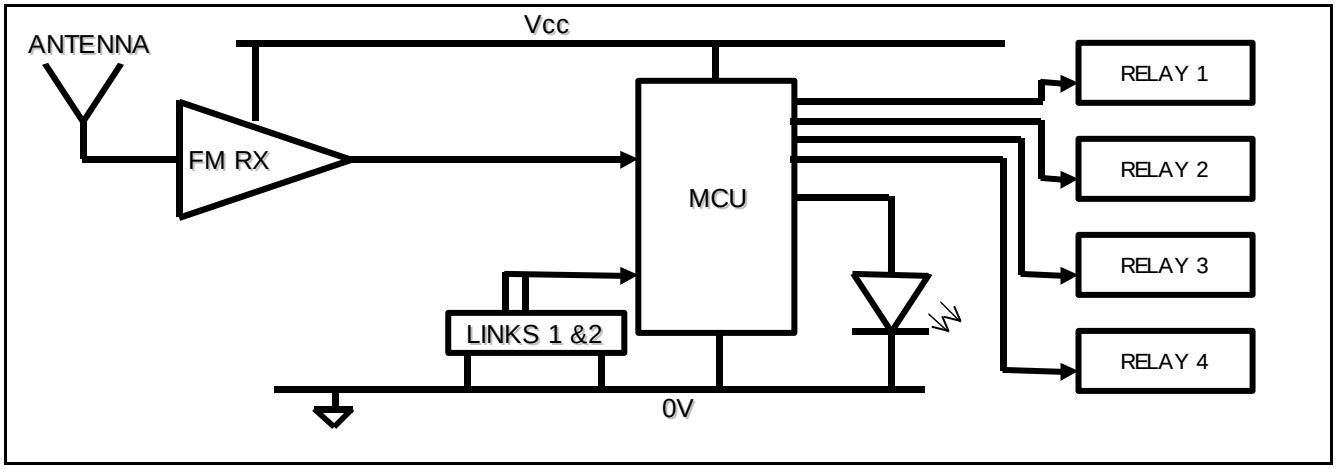
- RANGE UP TO 200METRES
- 'HIGH SECURITY' PROTOCOL.

DESCRIPTION

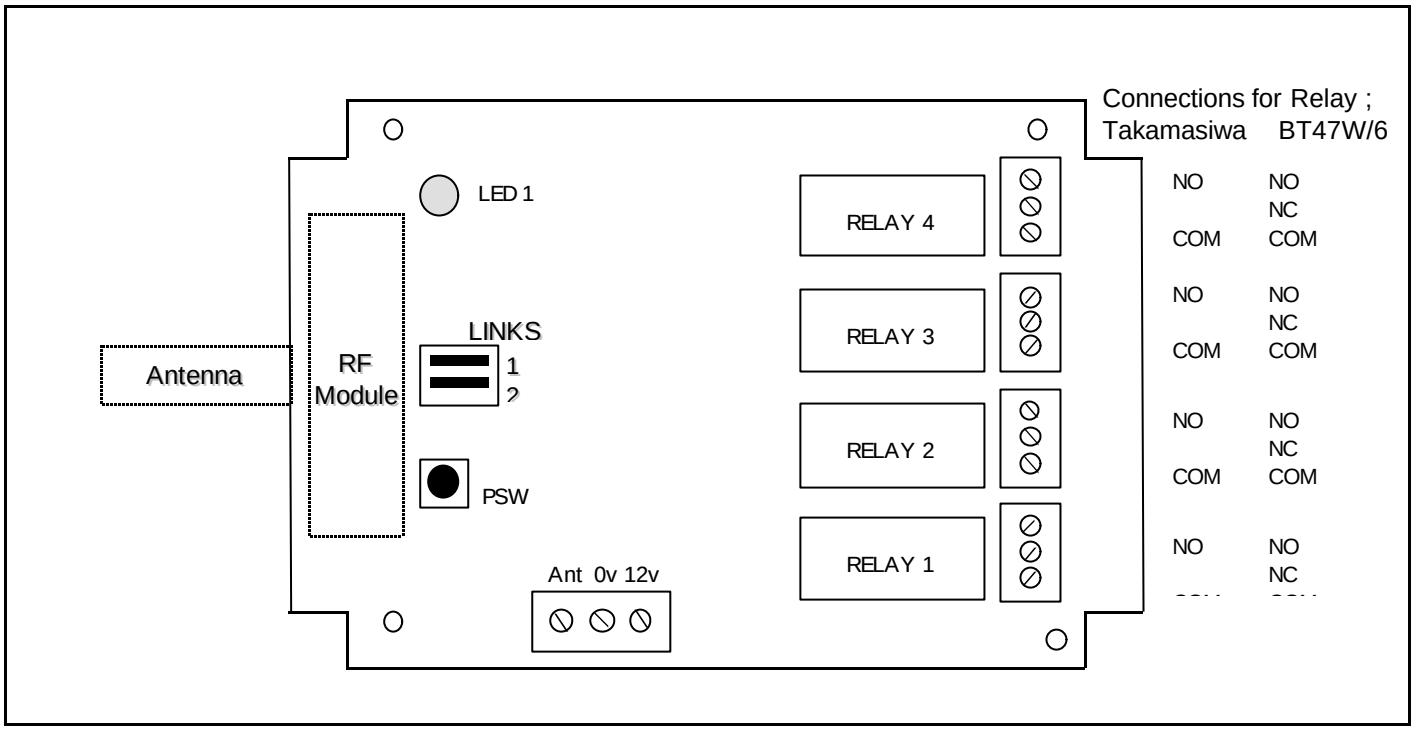
The RF Solutions decoders are compact modular receiver/decoder boards containing an AM or FM Receiver coupled to a microprocessor, which is used to capture and decode R.F. Data from the matching Transmitter encoders. As a system it enables the user to "bolt on" a remote control system to an application with a simple interface and minimal configuration set-up.
Supplied as either an FM 'high security' or AM with the option of 'standard' or 'high security' and 'long range', the range achieved can be up to 200metres or 70 metres respectively. Each decoder incorporates an 'easy learn' feature enabling it to learn the transmitter encoder signature identification as it is transmitted. This is a simple secure procedure with the decoder able to learn up to sixteen 'standard' or eight 'high security' transmitter encoders (memorised even if the power is removed).
The relays provide 1A @ 50Vdc, however may be replaced by relays with contacts rated 5A @ 240Vac. The relay outputs for each of channel are set to either momentary or latching by two links on the board.

The decoder is supplied as either a board level product or in a black ABS plastic enclosure which may be upgraded to IP55 by fitting a rubber seal, it requires only the power and relay connections in the receiver to be made. Screw terminals are provided for this.

BLOCK DIAGRAM



DECODER CONNECTIONS



The PCB has been designed to accept the following relays;

Takamasiwa type JV12	rated 240Vac @ 5A (NO, COM contacts only)
BT47W/6	rated 1A @ 50Vdc (NC, NO, COM contacts)

Provision has also been made for a transorb to be fitted (component ident TS1-4) which will connect across the NO and COM contacts.

AM SYSTEM OPERATION (TWO SWITCH KEYFOB)

LH SWITCH	RH SWITCH	BOTH SWITCHES
RELAY 1 O/P	RELAY 1 O/P	RELAY 1 O/P
RELAY 3 O/P	RELAY 2 O/P	RELAY 4 O/P

RELAY OPERATION TABLE

LINK 1	LINK2	RELAY 1 O/P	RELAY 2 O/P	RELAY 3 O/P	RELAY 4 O/P
OPEN	OPEN	MOMENTARY	MOMENTARY	MOMENTARY	MOMENTARY
OPEN	CONNECTED	MOMENTARY	MOMENTARY	LATCH	LATCH
CONNECTED	OPEN	MOMENTARY	LATCH	LATCH	LATCH
CONNECTED	CONNECTED	LATCH	LATCH	LATCH	LATCH

Note : In momentary mode the relay will operate for as long as the transmitter switch is held on.

ADDITIONAL TRANSMITTER/ENCODERS

The AM ‘standard’ decoder has the capacity to ‘learn’ a total of 16 unique transmitter encoders.

The AM ‘High Security’ and FM decoder has the capacity to ‘learn’ a total of 8 unique transmitter encoders.

LEARNING A NEW TRANSMITTER

1. Hold down the programming switch (PSW).
2. Depress the transmitter once, LED on the reciver will flash. (PSW is still depressed).
3. Wait for LED to stop flashing.
4. Depress the transmitter again, LED will turn off. (PSW is still depressed).
5. Release the programming switch (PSW).
6. This transmitter will now operate the system.
7. To completely erase the transmitters, press SW five times in succession, LED will remain on for approximately 5 seconds while the transmitter(s) are being erased.

SYNCHRONISATION ('High Security' versions only)

This equipment requires the transmitter and receiver to be synchronised. If the transmitter has been pressed more than 50 times outside the range of the receiver, the receiver will loose synchronisation with the transmitter. To re-synchronise:

1. Press the transmitter key for two seconds within range of the receiver,
2. Release the key momentarily, and press the key again.

TECHNICAL SPECIFICATIONS

Dimension	DECODER PCB	DECODER ENCLOSED
Length	74	112mm (149 inc ANT)
Width	112	83mm
Depth	15	38mm

Storage Temperature; -10 to +70° Celsius. Operating Temperature; 0 to +55° Celsius.

ELECTRICAL CHARACTERISTICS	MIN	TYPICAL	MAX	DIMENSION
Supply Voltage for +12 v	9	12.0	16.0	V
Supply Current :				
AM Quiescent		9		mA
AM all relays operating		250	270	mA
FM Quiescent		19		mA
FM all relays operating		260	275	mA
Relay Rating BT47W/6 (@ 12Vdc)			2	A
Relay Rating BT47W/6 (@ 50Vdc)			1	A
Relay Rating JV12 (@ 240Vac)			5	A

PART No	DESCRIPTION
AM(S)-DS3-433	AM 'Standard' format decoder as PCB
AM(S)-DS3C-433	AM 'Standard' format decoder supplied in enclosure
AM(S)-DH3-433	AM 'High Security' format decoder as PCB
AM(S)-DH3C-433	AM 'High Security' format decoder supplied in enclosure
FM-DH4-433	FM 'High Security' format decoder as PCB
FM-DH4C-433	FM 'High Security' format decoder supplied in enclosure
DX4C-SEAL-KIT	Enclosure rubber seal (to IP55)
S = AM Superhet Receiver – Upto 70 metres	

Should you require further assistance, please call;

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R F Solutions Ltd is a member of the Low Power Radio Association.

