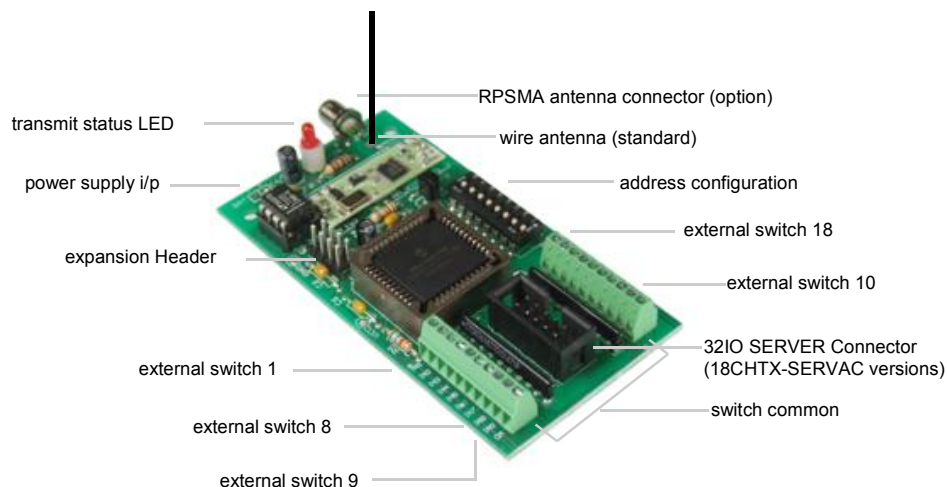


18CHTX 18 Channel Wireless RF Transmitter



Description

The 18CHTX wireless (AM or FM) RF remote control transmitter features eighteen screw terminal inputs for connection to external switches. Up to 256 unique DIP switch configurable address settings allow for multiple units to operate within the same environment. All the necessary data encoding required for reliable operation with the companion RF remote control receivers is performed by the on-board microcontroller. The 18CHTX is companion to the 10R8D (ten relay + eight digital outputs) receiver. It is also compatible with our 16CHRX receiver, the 18CHRX receiver and the SRX series 1,2,3 and 4 channel remote control receivers. When used together with the compatible receiver boards, up to eighteen independent wireless remote control operations may be performed.

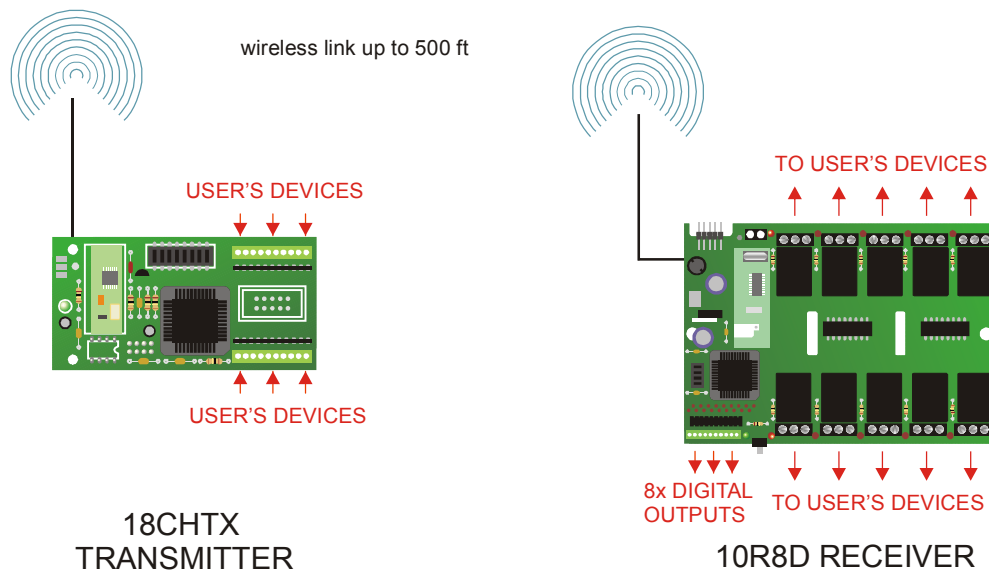
Features:

- 6-12 Vdc operation,
- Ultra low standby current (14 uA)
- 18 switch (dry contact) inputs
- 256 unique address combinations
- 433.92 MHz FM and AM versions
- 868MHz FSK version
- Crystal controlled frequency stability (FM versions)
- SAW controlled stability (AM version)
- Screw terminal inputs for external switch connection
- Compatible with 10R8D, 16CHRX and 1,2,3,4CH-SRX receivers
- Typical range up to 700ft (FM versions): 300ft (AM versions)
- RPSMA antenna connector
- PCB size: 45.78mm(1.8in.) x 88.9mm (3.5in.)

Operation of the 18CHTX transmitter with the 10R8D receiver

The 18CHTX is compatible with the 10R8D receiver to provide a remote control link with 10 relay outputs and 8 digital outputs. The 18CHTX will be activated upon connecting an external dry contacts such as switches between a COMMON input screw terminal (10 or 20) and screw terminal inputs 1- 9 and screw terminal inputs 11-19 via. Inputs 1 to 9 on the transmitter map wirelessly to 8 digital outputs on the 10R8D receiver and inputs 9 to 18 are mapped to the 10 relay outputs on 10R8D receiver. In addition, a combination of any 2 or more outputs (digital or relay) on 10R8D can be activated by simultaneously connecting 2 or more inputs on the 18CHTX . In standby, the 18CHTX transitions to power saving mode, which provides over 4 years of standby life from a standard 9V alkaline battery.

Refer to the 10R8D receiver manual for details on all the operational features and functions, including latched or pulsed outputs, automatic transmitter receiver pairing, user configurable “transmitter switch to receiver output” mapping and RSSI (Received Signal Strength Indication).



Operation of the 18CHTX transmitter with the 1,2,3 or 4CH-SRX receivers

The 18CHTX wirelessly controls the relay outputs of the SRX series receivers. This combination provides the ability to individually control multiple remote SRX receivers. An application may comprise of a single 18CHTX transmitter controlling up to 18 individual 1CH-SRX receivers located at 18 different remote points within a radius of up to 700ft open field, or a single 18CHTX may control up to 8 individual 2CH-SRX receivers plus 2 1CH-SRX receivers. The same principle applies to the ability of the 18CHTX controlling a mix of 1, 2,3 and 4CH-SRX receiver modules.

The 18CHTX inputs 17 and 18 require special attention when used with the 1CH-SRX series receivers. The SRX receiver's 4 position DIP switch settings allow for the mapping of its relay output (outputs) to the corresponding 18CHTX inputs 1-16. However, to map the 18CHTX inputs 17 and 18 to the SRX receiver's relay output, DIP switch 7 and 8 of the 8 position DIP switch and the 4 position DIP switch of the SRX receiver are to be configured as follows:

SRX Receiver's 8 Position DIP Switch 7	SRX Receiver's 8 Position DIP Switch 8	SRX Receiver's 4 Position DIP Switch	SRX relay is mapped to 18CHTX input #
ON	OFF	ALL OFF	17
OFF	ON	ALL OFF	18

From the above table it is evident that inputs 17 and 18 of the 18CHTX will control two **1CH-SRX** receivers where one receiver is controlled by input 17 and the second receiver is controlled by input 18.

To summarize, the 18CHTX inputs 1-16 will control any combination of 1,2,3 and 4 CH-SRX receivers whereas inputs 17 and 18 can only control the 1CH-SRX receivers.

Refer to the SRX series receiver manual for details on configuring the address and channel DIP switches and additional features and functions of the SRX series receivers. The graphic on the following page shows the 18CHTX communicating with four 4CH-SRX receivers.

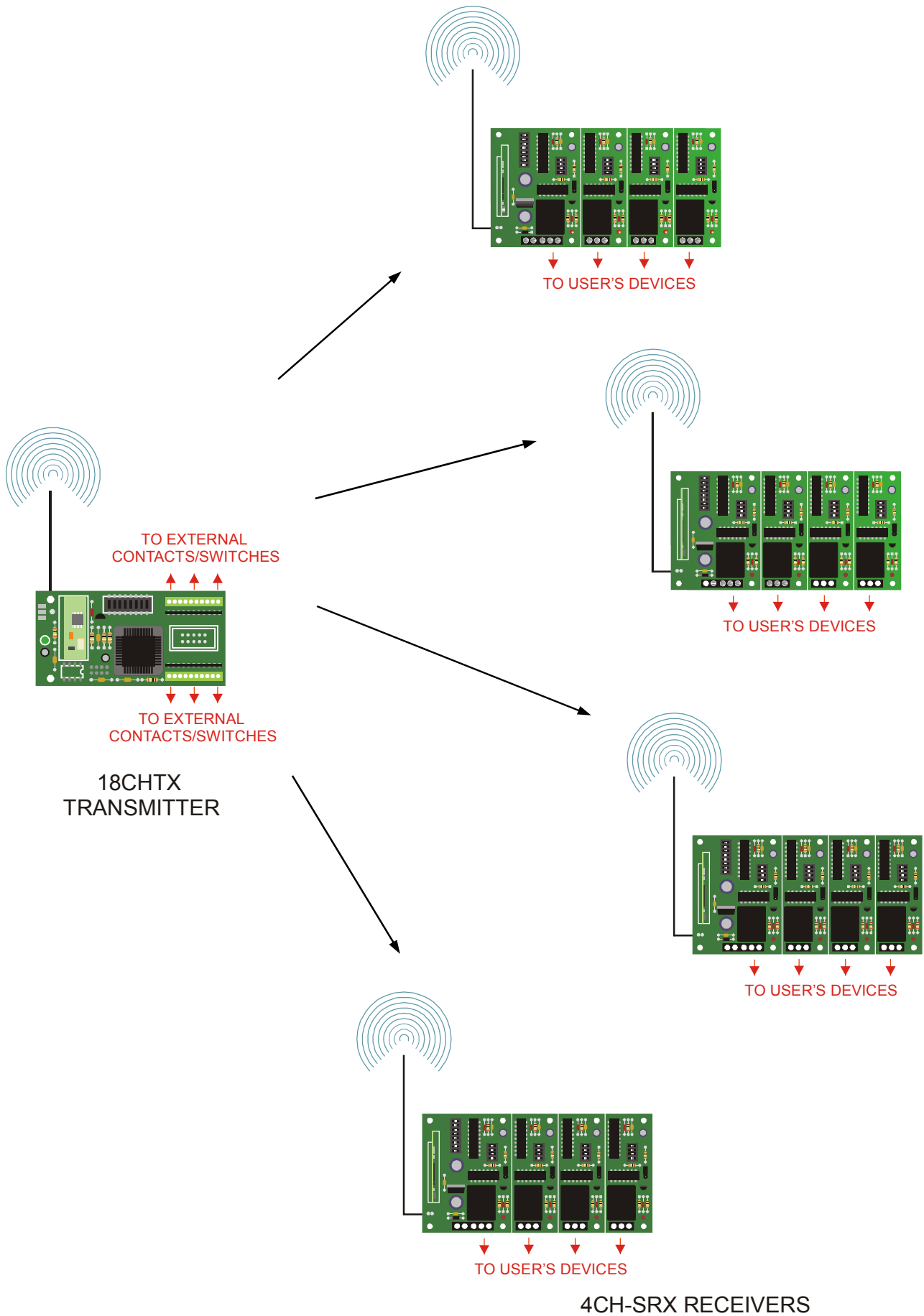
Typical Configurations for a single system address: *(capacity may comprise of up to 255 systems)*

18CHTX with 18 external switch inputs controls **eighteen** separate remote 1CH-SRX receivers

18CHTX with 18 external switch inputs controls **eight** separate remote 2CH-SRX and **two** 1CH-SRX receivers

18CHTX with 18 external switch inputs controls **four** separate remote 4CH-SRX and **two** 1CH-SRX receivers

18CHTX with 18 external switch inputs controls **a combination** of separate remote 1, 2, 3 and 4CH-SRX receivers



Configuring the SRX series receiver output channels

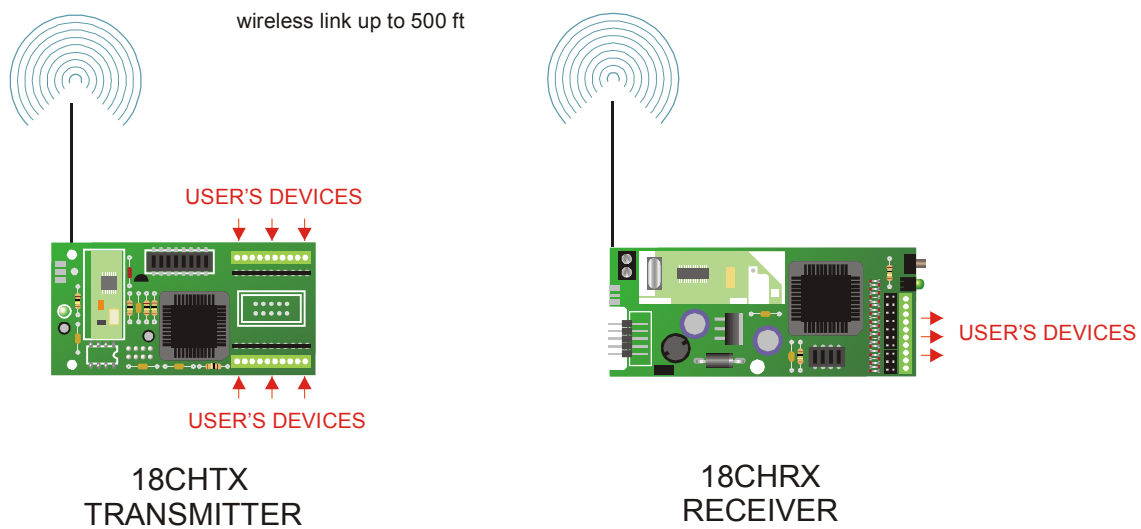
When using the SRX series receivers with the 18CHTX transmitter, the table below provides the settings for the 4 position DIP switches that correspond to the 18CHTX screw terminal switch inputs.

16/18CHTX Switch/ Screw Terminal #	SRX Receiver 4 Position DIP Switch Settings			
	Switch 1	Switch 2	Switch 3	Switch 4
1	ON	ON	ON	ON
2	ON	ON	ON	OFF
3	ON	ON	OFF	ON
4	ON	ON	OFF	OFF
5	ON	OFF	ON	ON
6	ON	OFF	ON	OFF
7	ON	OFF	OFF	ON
8	ON	OFF	OFF	OFF
9	OFF	ON	ON	ON
10	OFF	ON	ON	OFF
11	OFF	ON	OFF	ON
12	OFF	ON	OFF	OFF
13	OFF	OFF	ON	ON
14	OFF	OFF	ON	OFF
15	OFF	OFF	OFF	ON
16	OFF	OFF	OFF	OFF

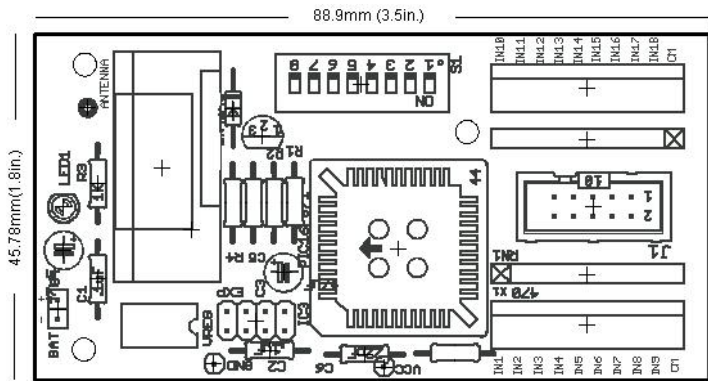
Operation of the 18CHTX transmitter with the 18CHRX receiver

The 18CHTX is compatible with the 18CHRX receiver to provide a remote control link with 18 digital outputs. The 18CHTX will be activated upon connecting external contacts such as a switches to COMMON screw terminal (terminals 10 or 20) and screw terminals 1-9 and between COMMON screw terminals (9 or 18) and screw terminals 10-17. Each of the 18 screw terminal inputs will map to the digital outputs pin header and screw terminals of the 18CHRX. input on the sw. In addition, a combination of any 2 outputs (digital or relay) on 10R8D can be activated by simultaneously connecting 2 inputs on the 18CHTX to a common input. In standby, the 18CHTX transitions to power saving mode, which provides over 4 years of standby life from a standard 9V alkaline battery.

Refer to the 18CHRX product brief and documentation on our website for further details on the 18CHRX receiver.



18CHTX Mechanical Dimensions



Antenna

The 18CHTX is supplied with a 1/4 wave wire whip antenna and also includes a RPSMA connector for attachment of one of our compatible molded RPSMA antenna such as the 1/4-RPSMA and the 1/4RA-RPSMA. The connector also accepts our RPSMA antenna extension cables, RPSMA-XMF, for applications that require off board, panel mounting or remote antenna mounting.

For maximum range, the antenna should be vertically oriented and have as much free space around it as possible. It should be kept well clear of surrounding objects, particularly large metal surface areas. Elevation above ground should also be considered; the further away the antenna is from the ground, the better is the signal radiation.

Power Supply

The 18CHTX requires a DC power supply of 6-16VDC. The 18CHTX is designed as a low power device, drawing only 14uA in standby, and typically 12mA when transmitting. The low current consumption makes the 18CHTX transmitter module ideal for low power battery operated applications.

The module is supplied with a 9V battery snap connector.

Disclaimer:

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