RF*Tek-200* 2-Function Wireless Control System

Installation and Instruction Manual

General Specifications:

Hand Held Transmitter:

Operating Voltage	– 9VDC Alkaline battery
Operating Temperature	– -30°C to +100°C
Normal battery life	– ?? Hours
Operating Frequency	– 433MHz

Vehicle Mount Receiver:

Operating Voltage	– 9 to 16VDC
Operating Temperature	– -30°C to +100°C
Max Relay Current Output	– 10Amp

Key Features of the RF*Tek* 2-Function Wireless Control System

Hand Held Transmitter:

- 100Ft Range
- Internal antenna
- Standard replaceable 9V battery
- Replaceable legend inserts
- Switch backlighting
- E-Stop mode indicators
- Ergonomically designed housing
- Power down feature for battery conservation

Vehicle Mount Receiver:

- Internal antenna
- Able to learn up to 4 remotes
- Environmentally sealed
- Audible diagnostic tones
- Visual LED diagnostics

Basic System Components:

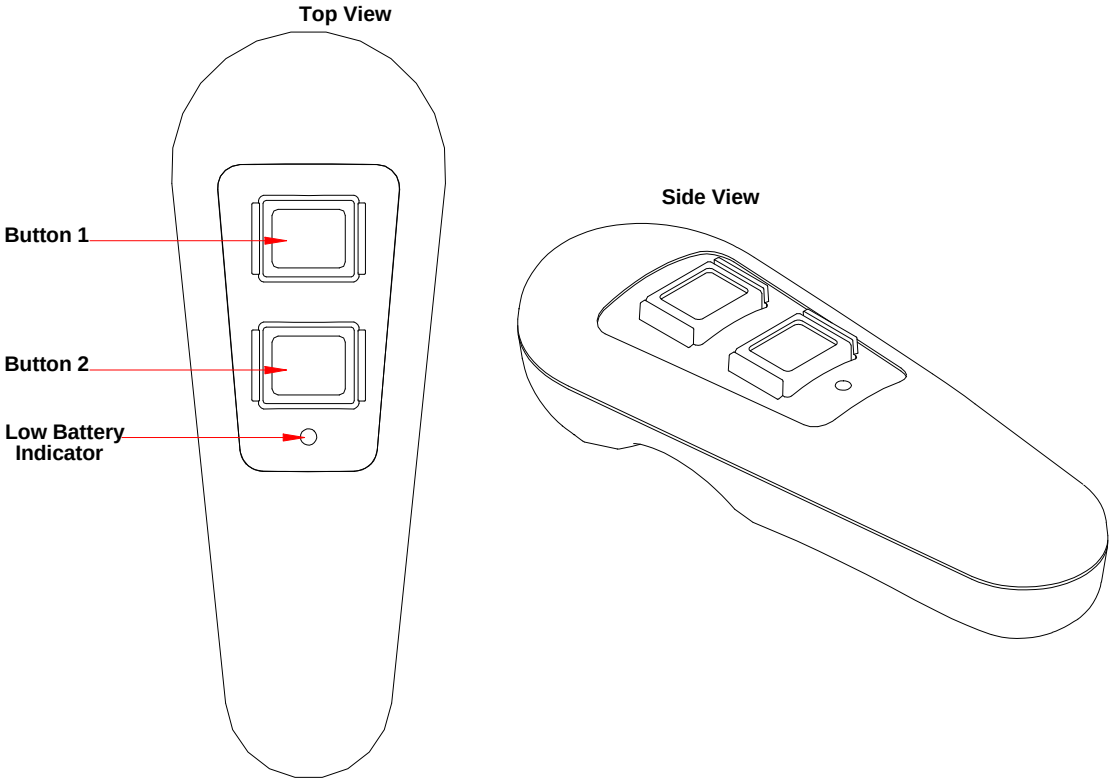
Qty	Description	Part#
1	2-Function Transmitter	RFT-200
1	2-Function Receiver	RFR-200

Basic System Overview:

The 2-Function RF*Tek* System was designed primarily for Tow Truck applications to control the bed winch. For this reason only one function will be used at a time, the winch will only be winding in or pulling out. If at any time both buttons are pressed together, the remote transmitter and the receiver will go into the Emergency Stop mode (described below).

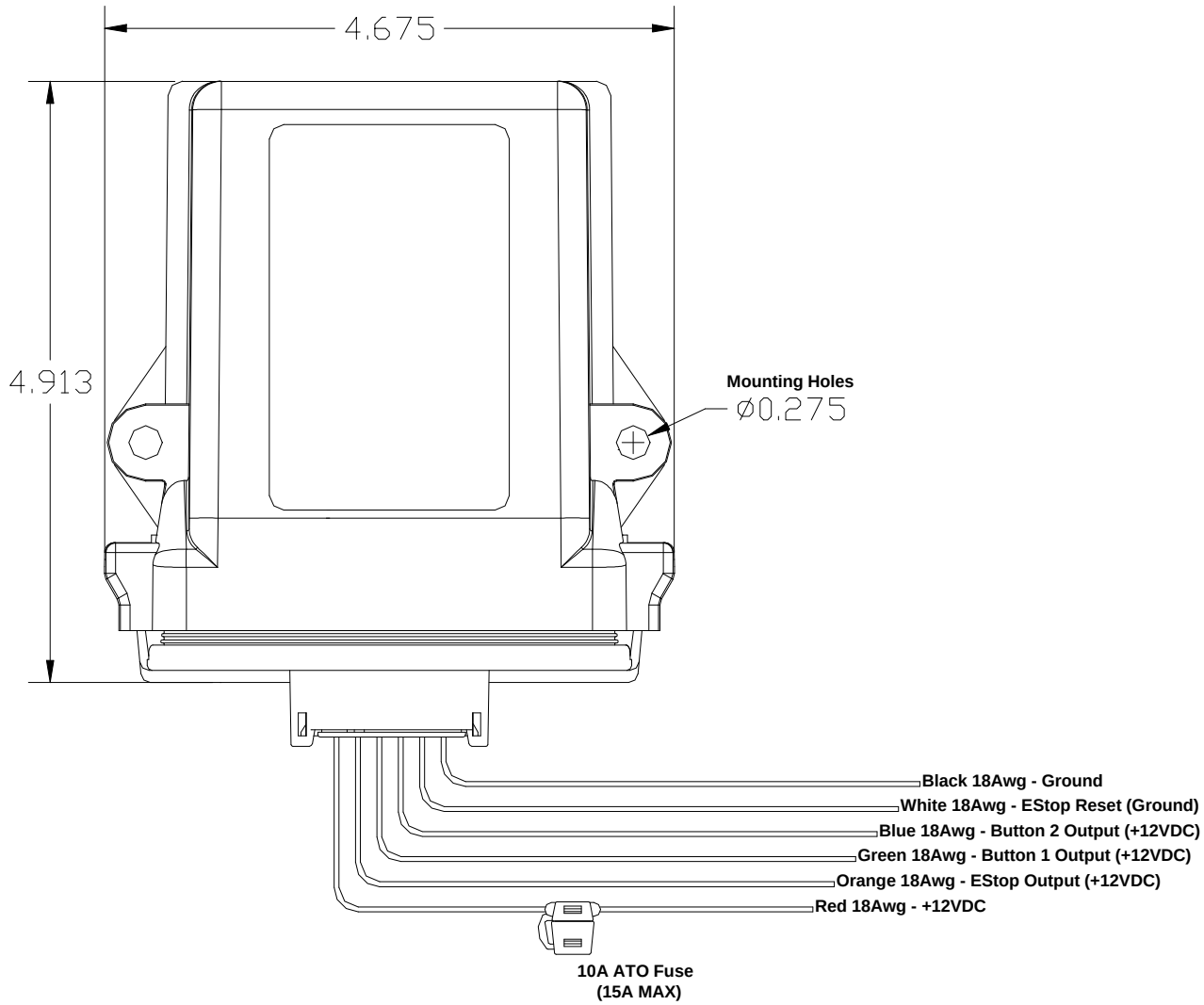
Hand Held Remote

Button 1 is a momentary function and it will turn on relay output 1 of the receiver as long as the button is held down. Button 2 is a momentary function and will turn on relay 2 output of the receiver as long as the button is held down. When the remote is not in use the backlight will be off and the remote will be powered down to conserve battery power. When a remote button is pressed the backlight will turn on for 5 seconds to conserve battery life. If the buttons are used again the backlight will turn on only while a switch is pressed. After 10 seconds the remote will completely shutdown. Pressing any button will power the remote back up. A replaceable 9V alkaline battery powers the remote. To access the battery remove the three screws from the back of the remote and separate the two halves.



Vehicle Mount Receiver:

There are three relay outputs from the receiver, Button1 relay, Button2 relay, and E-Stop relay. Each relay has a +12VDC output rated for 10A maximum output current. Each relay has an LED diagnostic indicator, if the LED is on the output of the relay should be on. The System itself has and LED indicator, this LED will blink when the system is on and active. The receiver is able to learn up to four different remote transmitters. To program a remote, press and hold the “Learn” button on the receiver. The Red Lear LED will turn on steady. Now press and hold a button on the remote transmitter until the Red Learn LED starts to blink. Release the “Learn” button from the receiver and the button from the remote. The new remote has been learned but it will not be active for 5 to 7 seconds after learning.



E-Stop Emergency Mode:

The third function of the remote and the receiver is the E-Stop mode. If both buttons on the remote transmitter are pressed at the same time the remote and the receiver will go into the E-Stop mode. The Red LEDs on the remote will blink back and forth and no other functions will be available. The receiver will turn off any relay outputs and turn on the E-Stop relay output. The receiver will not respond to any transmitter buttons until the E-Stop mode has been canceled. E-Stop mode is a special emergency function of the RFTek system. For this reason, the transmitter and the receiver will remember that they are in E-Stop mode even after power down or if power is removed. The user must make a conscience decision to cancel E-Stop mode. E-Stop mode can be canceled by holding both buttons down on the remote for 7 seconds. Manual E-Stop cancel can be done at the receiver by grounding the "E-Stop Reset" wire, however the remote will still be in E-Stop mode so it will need to be reset as described above.

Wire Connections:

Caution: Before attempting any installation or repairs, ensure that the battery Ground terminal has been disconnected.

GROUND (Black Wire) – This wire should be connected directly to the vehicle battery terminal. 18Awg wire is sufficient for this connection.

+12VDC (Red Wire) – This wire should connect to a +12VDC source that will power the unit and the relay outputs to the winch controls. A 10A ATO fuse has been provided to protect the unit and the relay outputs from shorts or over current. A 15A ATO fuse is the maximum size that should be for this connection

BUTTON 1 RELAY (Green Wire) – This connection will turn on and provide a +12VDC output when Button 1 on the remote transmitter is pressed.

BUTTON 2 RELAY (Blue Wire) – This connection will turn on and provide a +12VDC output when Button 2 on the remote transmitter is pressed.

ESTOP OUTPUT (Orange Wire) – This connection will turn on and provide a +12VDC output when the remote transmitter and the receiver go into E-Stop mode.

ESTOP RESET (White Wire) – This connection is used for manual E-Stop mode cancel. The input to this wire is a Ground signal.

Troubleshooting:

Diagnostic LEDs are provided in various locations for visual trouble shooting aids. The Receiver unit also has an audible trouble shooting aid that is detailed below. These aid components are shown in the diagram below.

Problems:

The unit does not operate any functions when buttons are pressed.

1) Verify that Ground (Black Wire) and +12VDC (Red wire) are present at the Receiver unit. If the Receiver is powered and functional LED4, System OK, will be blinking.
2) Verify that the +12VDC fuse is good. As above if the Receiver unit is powered, LED4 will be blinking. Replace the fuse if there is any question about it, the maximum fuse size is 15Amps.
3) Verify that when a button is pressed on the Hand Held Remote the green backlighting turns on. If the green backlight does not turn on replace the 9V battery.
4) Make sure that the Hand Held Remote is close to the Receiver unit. The maximum distance for the Remote is 100 feet with a good battery.

The unit will turn on functions but they will drop out even if the remote button is still pressed.

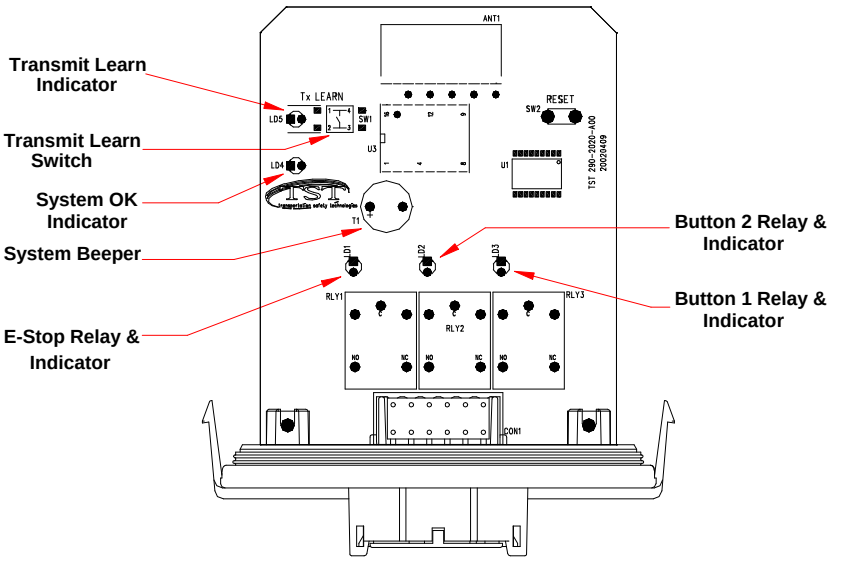
1) Verify the distance from the Remote to the Receiver. The receiver has an audible diagnostic aid. Listen closely to the “beeps”. The receiver will beep once every time a normal function is done. One beep for a button press and one beep for a button release. If the Receiver turns a function off and beeps twice this means that the signal has been lost.
2) Verify that the Hand Held Remote has a good battery.

The Receiver is on but the Hand Held Remote will not activate ay functions.

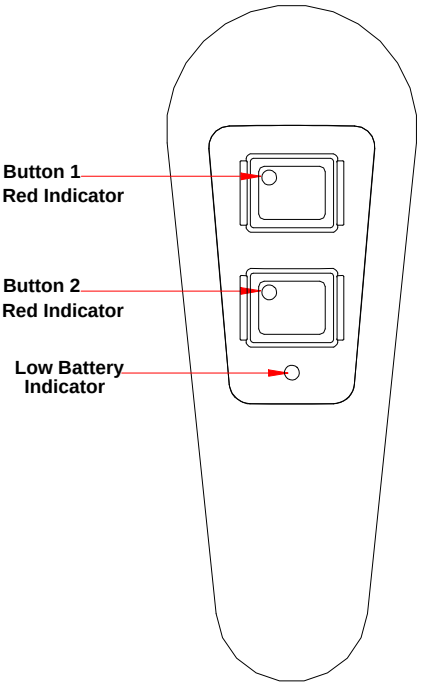
1) Verify that the Remote has a good battery.
2) Verify that the Remote is not in E-Stop Mode. If it is both switch Red LEDs are blinking back and forth the Remote is in E-Stop mode. Follow the direction above in E-Stop Emergency Mode section to cancel E-Stop mode.

If any problems persist or are not listed here, contact TST for assistance (800)-428-4449.

Receiver Unit



Hand Held Remote



AGENCY NOTICE

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

FCC Warning Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

Transportation Safety Technologies
2400 Roosevelt Ave.
Indianapolis, IN 46218-4287
Phone: 317-263-9160
Fax: 317-263-0979