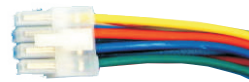


POWERTouch™ 1500

Radio Frequency (RF) Remote Control System Service Manual



System Specifications

- Model # P1500-R** (see pg 2 for model number chart)
- Range
 - 300 Feet Typical
 - Up to 600 Feet
 - Output
 - 4 Relay, Positive, 5A
 - Optional - Ground, 0.2A
 - Input Signal
 - 2 (+12v) A1 & A2
 - Frequency
 - 433MHz
 - Codes
 - Rolling Codes
 - Secure Encryption
 - Operating Voltage
 - 12VDC
 - 24VDC
 - Current
 - 5 Amps Max per Output, (Relay, POS)
 - 0.2A Max per Output, (Transistor, GND)
 - 5 Amp Input
 - Antenna
 - Fixed - Standard (shown)
 - Optional - TNC Whip
 - Flex Whip / Roof Mount
 - Flex Whip / Glass Mount
 - Harness
 - 9" Standard, 8 pin, 18 Gauge
 - Battery
 - All transmitter styles
 - Coin Style, Lithium, CR2032
 - 100,000 1-second pulses
 - 10 year shelf life



P1000-TM1



P1000-TM2



P1000-TM4



P1000-TK1



P1000-TK2



P1000-TK4

TK & TF Series
Sealed
Transmitters



P1000-TF2



P1000-TF2-LK



P1000-TF4



P1000-TX2(S)



P1000-TX4(S)

← (S) Denotes Manual ON/OFF Switch

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System Operation

Each time a button is pressed on the transmitter, the corresponding output will turn On. For example, if button #1 is pressed, output #1 will turn On as long as the button is held.

If an input signal is sent to inputs A1 or A2, the corresponding output will turn On as long as the signal is present. (A1 = Output #1 is ON. A2 = Output #2 is ON)

Each output is factory set as momentary.

Installation

Receiver Installation

Determine mounting location of receiver and antenna - typically under the dash or behind a wall.

Antenna Installation

1. The antenna must be installed in an open, non-metal area in order to receive RF (radio frequency) transmissions.
2. Antenna range will be reduced if located:
 - A) within 6 feet of a large motor
 - B) near large bundles of wires
 - C) near other RF devices
 - D) touching any metal

To Increase Antenna Range

- A) Install exterior mount NMO Antenna
- See page 4 for accessory antenna options

Receiver Model Number Chart

Receiver Model	4 - Relays Positive Output	4 - Transistors Ground Output	12VDC	24VDC	Fixed Antenna	TNC Antenna	A1 & A2 Switch Inputs			
1510-R	X		X		X		X			
1511-R	X		X			X	X			
1520-R	X			X	X		X			
1521-R	X			X		X	X			
1530-R		X	X		X		X			
1531-R		X	X			X	X			
1540-R		X		X	X		X			
1541-R		X		X		X	X			

Code Enrollment

ENROLLING NEW TRANSMITTERS - Self-Learning Receiver

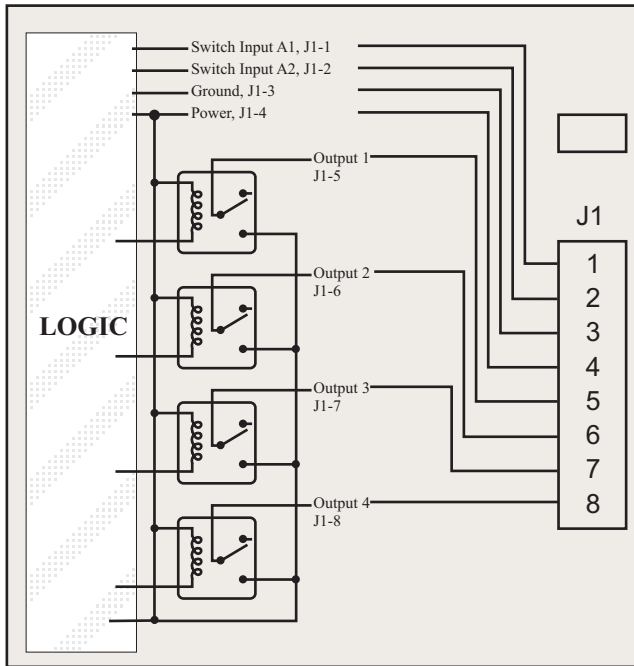
1. Remove and reconnect power to unit. This will automatically place unit into LEARN mode for 5-seconds.
2. Press any button on transmitter once. Wait 5-seconds and confirm the transmitter has been enrolled by pressing any button and verifying the correct output turned ON.

OR

1. Remove cover from receiver enclosure.
2. Locate LEARN switch (*small, push-button style switch located in the corner of the printed circuit board*).
3. Press and release the LEARN switch
The Red LEARN LED next to the switch will flash
4. Press any button on NEW transmitter.
6. Red LEARN LED double blinks to confirm enrollment.
7. Press any button on the new transmitter to confirm that the new transmitter code has been enrolled.
8. Replace receiver enclosure cover.

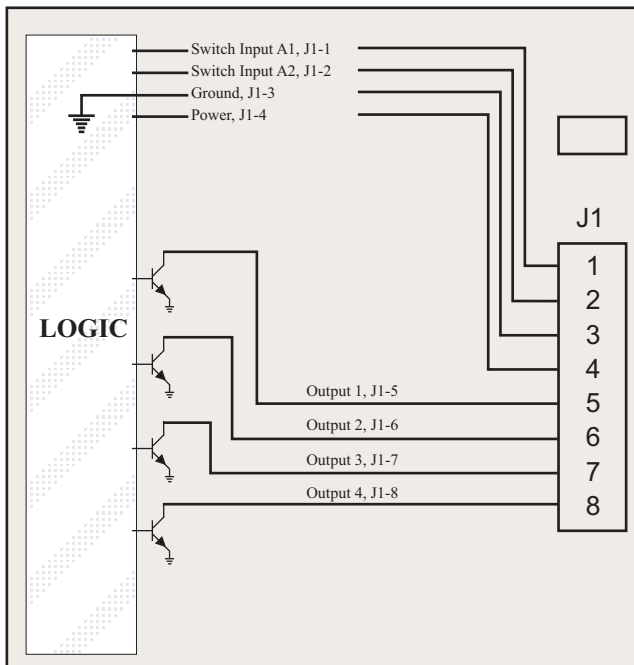
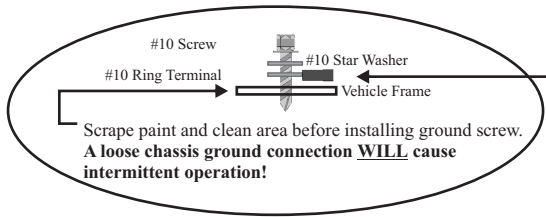
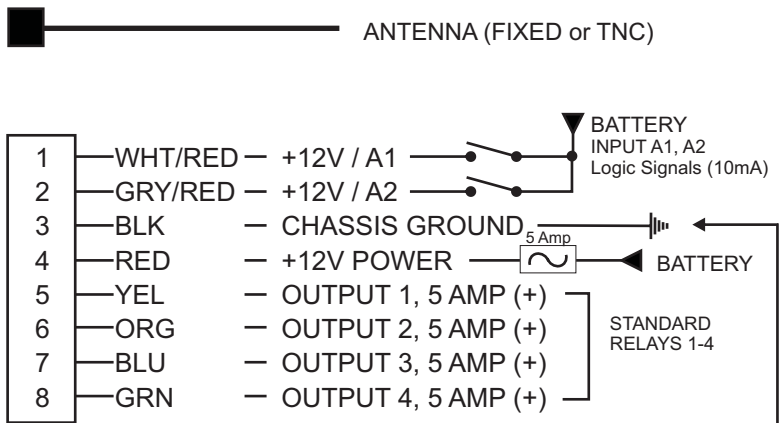
Erasing Enrolled Codes

1. Press and hold the LEARN switch (*see # 2 above*) for 10-seconds.
2. Red status LED will flash while holding LEARN switch
3. Release LEARN switch when Red LED double flashes to confirm ALL transmitter codes are erased.



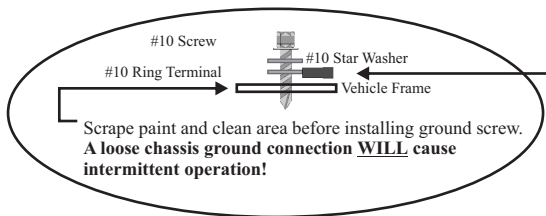
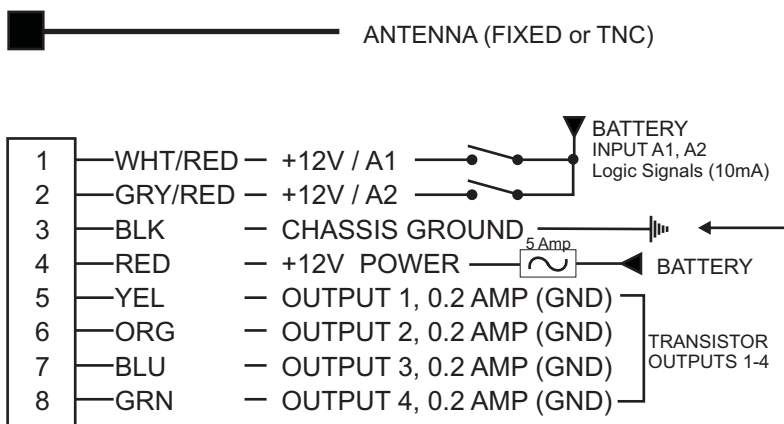
Call Factory for Custom Applications
TouchTronics, Inc.
 1-800-294-2570

P1510 RELAY POSITIVE OUTPUTS



Call Factory for Custom Applications
TouchTronics, Inc.
 1-800-294-2570

P1530 TRANSISTOR GROUND OUTPUTS



TouchTronics, Inc. Warranty Policies and Procedures

- 1) Each individual product is warranted under the TouchTronics Limited Warranty program for 1 full year from date of purchase or a *maximum* of 2 years from the date of manufacture.
- 2) No product will be covered under the TouchTronics Limited Warranty program that has a manufacture date older than 2 years.
- 3) To receive technical support or warranty service, call our technical support center during regular business hours. 1-800-294-2570
- 4) To enable our technical support staff to better serve you, please have the following information available when you call.

Date Of:		Product Information:		Vehicle Information:	
Purchase		Model Number		Dealer Name	
Installation		Serial Number		Dealer Phone	
				Make / Model	

Fill in all pertinent information at the time of purchase or installation.

Technical Support Via Web Site / Email www.touchtronics.com Techsupport@touchtronics.com or 'Contact Request' link on the web page	Technical Support Numbers Indiana Local 1-574-294-2570 Toll Free 1-800-294-2570 Fax 1-574-293-1611	Sales Support Phone 1-800-294-2570 Fax 1-574-293-1611 Email sales@touchtronics.com
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Accessories	Minimum Orders: \$25.00	Call Factory for Current Pricing and Availability
ANT11405-1	TNC, Wire Whip Antenna (see pg 1)	
ANT10430-2	Glass Mount Antenna Kit, 14 foot cable	
ANT11514-1	Flex Whip Antenna Kit, 5 foot cable, roof mount	
ANT11514-2	Flex Whip Antenna Kit, 14 foot cable, roof mount	

Limited One (1) Year Warranty

Section One
 Seller will warrant any product originally manufactured or assembled and sold by seller for a period of up to **TWO YEARS** (24 months) from the original date of manufacture or **ONE YEAR** (12 months) from the original retail sale or O.E.M. in-service date.

Section Two
 The following are in lieu of all warranties; expressed; implied; or statutory, including but not limited to, any implied warranty of merchantability of fitness for a particular purpose and of any other warranty obligation on the part of seller. Seller, except as otherwise hereinafter provided, warrants the goods against faulty workmanship or defective materials for a period of up to **TWO YEARS** (24 months) from the original date of manufacture or **ONE YEAR** (12 months) from the original retail or O.E.M. in-service date.

Seller's sole and exclusive liability shall be (at seller's option) to repair; replace; or credit buyer for such goods which are returned by buyer during the applicable warranty period set forth above, provided that (I) seller is promptly notified in writing or by phone upon discovery by buyer that such goods failed to conform and an explanation of any alleged deficiencies, (II) such goods are returned to seller, (III) seller's examination of such goods shall disclose that such alleged deficiencies actually exist and were not caused by accident, misuse, neglect, alteration, improper installation, unauthorized repair or improper testing. If seller elects to repair or replace such goods, seller shall have a reasonable time to make such repairs or replace such goods.

Seller's warranties as herein above set forth shall not be enlarged, diminished, or affected by, and no obligation or liability shall arise or grow out of, sellers rendering of technical advice or service. Damage to products caused by the customer or during installation cannot be claimed under this warranty. All devices returned that are not covered under the seller's warranty policy, will be charged a minimum of \$25.00 for evaluation plus additional charges for components and labor to repair the device not to exceed the original selling price. Seller considers the following to be typical examples of customer or installation damage: burned or broken traces on the printed circuit board, burned or damaged components, dirt or water residue on the printed circuit board or inside the case, modifications by the customer, broken cases or housings and dead batteries

Section Three
 A return material authorization number (RMA) must be issued by seller before any product is returned for evaluation or repair. Warranty repairs must be completed at authorized repair facilities.

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FCC Compliance and Advisory Statement. This hardware 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. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed or used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: 1) reorient or relocate the receiving antenna; 2) increase the separation between the equipment and the receiver 3) connect the equipment to an outlet on a circuit different from that to which the receiver is connected; 4) consult the dealer or an experienced radio/TV technician for help. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. Where shielded interface cables have been provided with the product or specified additional components or accessories elsewhere defined to be used with the installation of the product, they must be used in order to ensure compliance with FCC regulations.

Canadian DOC Statement. This digital device does not exceed the Class B limits for radio noise emissions from digital apparatus specified in the interference-causing equipment standard entitled "Digital Apparatus," ICES-003 of the Department of Communications.

This device complies with RSS-210 of Industry Canada. Operation is subject to the following two conditions: 1) this device may not cause interference, and 2) this device must accept any interference, including interference that may cause undesired operation of the device.

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Déclaration FCC. Cet équipement a été testé et déclaré conforme à la section 15 du règlement de la FCC. Son fonctionnement est soumis aux conditions suivantes: 1) l'équipement concerné ne doit pas causer d'interférences dangereuses, et 2) il doit accepter toute interférence reçue, y compris les interférences risquant d'engendrer un fonctionnement indésirable. Cet équipement a été testé et déclaré conforme aux limitations prévues dans le cadre de la catégorie B des appareils numériques défini par la section 15 du règlement de la FCC. Ces limitations sont stipulées aux fins de garantir une protection raisonnable contre les interférences gênantes en installation résidentielle. Cet équipement génère, utilise et diffuse des ondes radio, et s'il n'est pas installé ni utilisé en conformité avec les instructions dont il fait l'objet, peut causer des interférences gênantes avec les communications radio. Cependant, nous ne pouvons vous garantir qu'une interférence ne se produira pas dans une installation particulière. Si cet équipement produit des interférences graves lors de réceptions radio ou télévisées qui peuvent être détectées en allumant et en éteignant l'équipement, vous êtes invités à les supprimer de plusieurs manières: 1) Réorienter ou déplacer l'antenne de réception; 2) Augmenter la distance séparant l'équipement et le récepteur 3) Connecter l'équipement à un circuit différent de celui auquel le récepteur est connecté; 4) Contacter votre revendeur ou un technicien radio/TV qualifié. Toutes modifications ou tous changements effectués sans l'accord exprès de la partie responsable de la conformité aux normes pourraient contraindre l'utilisateur à ne plus utiliser son équipement. Afin d'assurer la conformité avec les règlements FCC, les câbles d'interface blindés fournis avec le produit doivent être utilisés, ainsi que tout autres composants ou accessoires également spécifiés, lors de l'installation du produit.

Déclaration du Ministère des Communications Canadien. Cet appareil numérique est conforme aux limitations concernant l'émission d'interférences radio par des appareils numériques de catégorie B, telles que stipulées dans le cadre de la norme Appareils numériques ICES-003 édictée par le Ministère canadien de l'industrie.

Cet équipement a été déclaré conforme à la norme RSS-210 édictée par le Ministère canadien de l'industrie. Son fonctionnement est soumis aux conditions suivantes: 1) l'équipement concerné ne doit pas causer d'interférences, et 2) il doit accepter toute interférence reçue, y compris les interférences risquant d'engendrer un fonctionnement indésirable.