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# **Color Touch Screen Installation Guide for the Prism TM2 and TM2J Units**

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## OVERVIEW

The purpose of this document is to provide the VSRs with instructions on how to install the Color Touch Screen (CTO) device with both the Prism TM2 and Prism TM2J hardware.

## KIT COMPONENTS

The following is a list of components necessary for the installation of the CTO.

- Prism Unit
  - TM2 with 2.0.130.12 firmware
  - OR*
  - TM2J unit with xxxxx firmware (at time of publication a production firmware build has not been compiled.
- Combo antenna
- CTO and mounting hardware
- CTO cable
- Main Power cable for TM2/TM2J
- GPS Antenna – through-hole or magnetic mount or a combo glass mount antenna
- Wiring harness – Standard TM2/TM2J harness with 8-pin connector or VLU to Prism adapter

## PRE-INSTALLATION VEHICLE INSPECTION

Ensure that all major electrical and mechanical components are in working order. This will include:

- Headlamps
- Air conditioner
- Dome lights
- Turn signals
- Radio
- Windshield wipers
- Start vehicle engine if possible
- Identify warning lights on the dash

## PREPARATION INSTALLATION FORM

Prior to installation the following information must be completed:

- Record the unit's IP and vehicle ID onto the installation form.
- Affix the pre-printed label onto the installation form.

After the installation is complete a copy of the installation form is given to the customer. The other copy must be returned to Teletrac Customer Care Center to be placed in the customer's folder.

## INSTALLATION INSTRUCTIONS

All VSRs will receive a CTO programming kit that includes the following;

- Installation Instructions
- SD Card reader for USB connection
- One package of 20 **SD Slot Labels**

**Note:** Due to the importance of the connections, it is **MANDATORY** that all connections must be either **SOLDERED** or **CRIMPED** with the proper crimping tool. Under **NO** circumstances should tape, Scotch-Loc, or T-Tap connections be used for wrapping. The CTO feeds from the Ignition On-Line for power; therefore, it is important to have a solid source of ignition. Without a sufficient "Ignition On-Line" power, the CTO device may behave erratically.

Locate suitable locations for the Prism TM2/TM2J and GPS/GPRS combo antenna.

1. Connect the antennas and route the cable to the TM2/TM2J's location. Place it at least four feet away from any other antennas.
  - **Note:** If placing on the bottom, the cable must always be routed away from the antenna and the cable should **NEVER** be routed **ALONG** it.
2. If a **WEDGE antenna** is used, be sure to place it on the passenger side of the windshield.
3. If a **Roof Mounted antenna** is used, the installation requires a hole be drilled on the vehicle.
  - **Note:**
    - The exact size on the drilled hole is 7/8 inch in diameter.
    - The coax must be run behind the panels.
    - Avoid any blockage or overhead racks that may hinder GPS signal.
    - Be sure not to drill into a double metal segment of the roof.
    - Apply a layer of silicone around both of the antenna bases.
    - Apply tamper-proofing to all connectors (nail polish, paint, etc.)
4. Connect the Prism TM1/TM2 wiring harness as recommended below.
  - **For Safety purpose:**
    - Remove the fuse from the fuse box until installation is complete.
    - Never tap into existing power or ignition wires use by other aftermarket devices.
  - **Ground** – Locate chassis ground within one foot of the TM2 placement.
    - If the chassis has sound absorbent materials, be sure to scrape off the materials.
    - Always use a star washer when attaching to chassis ground.
  - **Run Constant +12 Volt Wire** – Attach one end of the fuse holder to determine the power source.
    - Recommend to have the starter solenoid (main +12 volt) terminal place behind the fuse box or battery distribution block of the end compartment behind dash.

- DO NOT use the existing factory wires attached for grounding. This may cause interference.
- **Run Ignition Wire** - Attach one end of the fuse holder to determine a +12 volt (using a Multi-meter) ignition switch source that will be set as ground.
  - Recommend to have it places behind the ignition cylinder, fuse box or the starter solenoid in the engine compartment.

**\*\*TIP:** Use a voltmeter to make sure the voltage of the attached line **DOES NOT** get dropped to zero while the engine is starting (Cranking). This line will be referred as the “True Ignition”.

5. Mount the TM2/TM2J to vehicle’s chassis with mounting bracket.
6. Secure the unit with four screws or four cable ties.
7. Zip-tie any excess wire slack around the fuse holder to prevent tampering.
8. Attach Prism wiring harness to the Prism TM2/TM2J.
9. Verify all wires are **soldered** or **crimped**.
10. Connect the GPRS and GPS connectors to the Prism TM2/TM2J.
11. Attach the main power and insert the fuse you removed in step #5.
12. Confirm the unit receives GPS and GPRS signals.
13. Turn the vehicle key to the ON position and verify the CTO is active.
14. Properly secure the CTO by using the supplied double- side tape.
15. Secure the bracket with screws.
  - \* Be sure to have customer approval before securing the bracket with screws.

## CABLE AND FUNCTION

It is important to determine if the CTO will be “Messaging Enabled”. If the CTO will be used as a message display terminal (MDT) you must use the correct cable. The messaging cable will be tagged indicating it is “message ready”. If messaging will not be used, please use the cable without a tag.

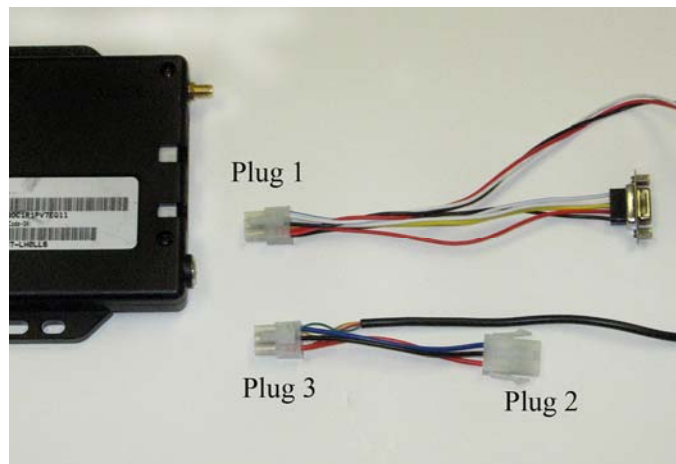
## WIRING FOR A CTO

Because the CTO has its own power connector in order to facilitate its wiring, the following steps are to be followed;

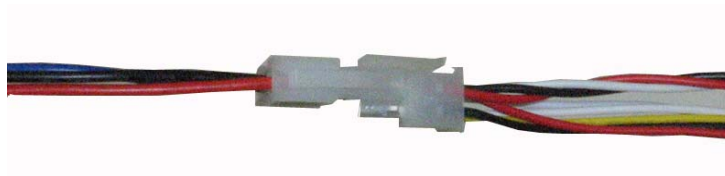
- 1) Install the TM2/TM2J as normal, ensuring that all the rules are followed and make sure that the TM2/TM2J comes on and it registers with the network.
- 2) Disconnect the 6 pin power plug from the TM2/TM2J and connect it into the 3 pin female plug coming from the CTO pig tail loom. Make sure that the lock of the 6 pin power Molex locks onto the tab of the 3 socket.
- 3) Connect the 6 pin side of the pigtail from the CTO into the TM2/TM2J. See the following pictures.

- 4) Confirm the CTO configuration. If the CTO will do messaging the GREEN Cable on PLUG 3 must be connected to the RED wire. If the CTO will not do messaging, then the Green wire must be connected to the BLUE wire.
- 5) Based on picture below, perform the following steps:
  - a) Remove Plug 1 from the TM2/TM2J.
  - b) Connect Plug 1 into Plug 2.
  - c) Connect Plug 3 into the TM2/TM2J. This will ensure that the CTO will receive Power/ Ground and control signal. Note; the existing DB9 will no longer be usable, if you need to perform diagnostics or repairs simply reconnect Plug 1 into the TM2/TM2J.

The power connector (6-Pin) is the same for both the TM2 and TM2J. The same connection procedure will apply.



Connection Detail



#### SUITABLE LOCATIONS FOR PRISM MOUNTING

**Note:** The Prism will **NOT** be placed on the driver side area. Use the system layout as reference to where the wiring harnesses routing and connection points. Avoid places with extreme vibration, heat, moisture and dust. All installed equipments will be concealed.

- A flat surface.
- Under dashboard (**Always on the Passenger side**).

- In vehicle trunk where luggage and other items will not come into contact with the unit.
- Behind passenger seat.
- The console or behind the glove compartment.
- Inside the overhead console.
- The coax for the antennas must be run behind the panels and in pillars.
- Obtain customer approval for the MDT and antennas mounted locations.

#### SUITABLE LOCATIONS FOR THE CTO

The same rules and precautions that apply for the installation of MDTs will apply for the CTO.

- Place the CTO within easy reach of the driver.
- Avoid the top of the dashboard. It is illegal in some states and if any holes are drilled they can not be easily repaired.
- Avoid angles where too much glare will be a problem.

#### CTO MOUNT

When attaching the CTO utilizing the standard “Adhesive Large Flange Mount” it is important that the surface be free of dust, grease or any other contaminant that will impede the proper bond of the tape to the dashboard or glass.



#### STEEL BRACKET

If utilizing the steel bracket (screw on type), it is designed to be adhered to the vehicle using the supplied double sided tape or simply by running two screws thru the supplied holes. If

using screws be sure to obtain customer authorization prior to drilling into a dashboard. MDT installation rules apply.

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#### INSTALLING THE BRACKET TO THE CTO

Remove the bottom screws of the CTO mount to gain access to the silver Phillips screw inside the mount. Remove and replace it with the Steel Bracket utilizing the long screw - provided-. Secure the screw and align the CTO mount.



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#### MOUNTING BRACKET OPTIONS

An optional Suction Cup Type Mount for glass surfaces is available by special order.  
Part Number: 331-0124





## PROTECTING THE SD CARD SLOT

Always use the SD Card Slot tape to protect the SD card from moisture, dirt and tampering. If reprogramming the SD card be sure to place a new sticker before leaving the vehicle. The stickers are available through Distribution and do not have a part number. Simply order the labels as part of the van stock order.



The CTO will already arrive with a programmed SD card. If you need to reprogram the SD card, please refer to document 1554-0504 00 - *CTO w/Messaging Software Update Instruction*.