



# UTS-X Installation Guide

(For Professional Installers Only)



## UTS Tracking Device Installation Instructions

**NOTE: PLEASE READ INSTALLATION INSTRUCTIONS  
CAREFULLY AS CHANGES HAVE BEEN MADE IN AN EFFORT  
TO IMPROVE QUALITY & SERVICES**

## UTS-X Installation Guide

### UTS-X SPECIFICATIONS

**Location Technology:** GPS, 12 Channel L1 C/A code

**Accuracy:** 5 meter CEP

**Wireless Networks:**

- GSM/GPRS (850/1900)
- CDMA 1xRTT (800/1900)
- iDEN
- 802.11 through Ethernet Port

**Size:** 5.6" x 4.9" x 0.9" (140 x 125 x 24 mm)

**Weight:** 12oz (340g)

**Power Input:** 8 – 30 Vdc

**Power Consumption:**

- Full operating mode: 95 mA @ 12.8 Volt
- Low power active mode: < 10 mA @ 12.8 Volt

**Environmental:**

- Operational Temp: -20° C to +60° C
- Storage Temp: -40° C to +85° C
- Humidity: 5% to 95% non condensing
- Shock and Vibration: SAE J1455
- EMC/EMI: SAE J 1113

**Processing capability:**

- 50 Mips equiv at full power

**Memory capacity:**

- Flash Memory: 1M – 8M Bytes (2M Std)
- NVSRAM: 512k – 4M Bytes (1M Std)

**List of Input/Output**

- 1 10Base-T Ethernet Port (NAT router, VPN pass-thru)
- 1 8wire RS-232 serial Port (AT, PPP, custom)
- 1 Analog input port (0 to 15volt)
- 4 Discrete input sensor ports (2 12v sense, 2 GND sense)
- 4 Relay drive outputs (250mA)
- 2 Software controlled 12v output ports (1A)
- SMA GPS antenna connector (3V supply)
- SMC GSM/PCS antenna connector
- External SIM socket (GPRS/iDEN models only)

**On Board Sensors**

- Temperature sensor
- Voltage sensor
- Motion sensor

**Communication protocols:**

- IP, ICMP, UDP, TCP, DNS, DHCP, PPP, TFTP, SMTP





## UTS-X Installation Guide

### Please Read:

-After the installation of the UTS X Device, please login to [www.totallocate.com](http://www.totallocate.com) with you username and password to verify that the unit has reported its location.

- Please note the device serial number (i.e. SN: 0000001001111). This is the number that identifies the unit to our network. Please keep an accurate record of this number as to where it is installed.

- Install the Stealth Combo Antenna in a location where the embossed GPS is facing up towards the sky with no metallic obstructions between it and the sky. Most commonly, the antenna is placed with in a vehicles dashboard as close to the top of the dash as possible.



Stealth Combo Antenna

**Contact UTS at 1-800-990-6077 or 480-990-0980 should you need any assistance.**





# UTS-X Installation Guide

## **FCC Compliance**

This device complies with part 15 of the FCC rules Operation and 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.

## **FCC RF Exposure Information**

**Warning:** To satisfy the FCC RF exposure requirements, a minimum separation distance of 20 cm must be maintained between the antenna and the operator. The antenna supplied with this device must be used for installation and operation. Substitution of other antennas must be approved by the manufacturer for compliance to radiation safety limits where the antenna gain, including any cable loss, must not exceed 3 dBi.

**Cautions:** All persons must be at least 20 cm from the transmitting antenna to meet FCC RF exposure limits.

## UTS-X Installation Guide

### 1. VERIFY INSTALLATION CONTENTS

You must have the proper tools before installing the UTS X device.

#### UTS X Installation Contents



- Antenna
- Wiring harnesses
- Optional Ethernet adapter

#### Wiring Harness Key



**Red:** Connect to 12V Constant

**White:** Connect to Vehicle's True Ignition (+12v = ON, floating = OFF)

**Black:** Connect to Ground

#### Optional Installation Contents

- Self-tapping screws
- Fuse packs
- Butt Connectors
- Tie Wraps
- Star Washers



## UTS-X Installation Guide

### 2. VERIFY VEHICLE DETAILS

Note all important vehicle details, including vehicle #, VIN #, vehicle model and year.

### 3. INSPECT VEHICLE FOR DAMAGE

Before installing, do a thorough inspection of the interior and exterior of the vehicle, noting any obvious vehicle damage. Mark damage here:

#### Exterior Damage

Dents \_\_\_\_\_  
Windshield cracks \_\_\_\_\_  
Chips \_\_\_\_\_  
Broken side mirrors \_\_\_\_\_  
Other \_\_\_\_\_

#### Interior Damage

Headliner rip \_\_\_\_\_  
Broken door handles \_\_\_\_\_  
Torn seats \_\_\_\_\_  
Other \_\_\_\_\_

***REPORT DAMAGE TO VEHICLE MANAGER/ OWNER!***

### 4. VERIFY VEHICLE OPERATION

Verify normal vehicle operation before proceeding with installation. Perform basic checks on vehicle's engine, electrical, and lighting system.



## UTS-X Installation Guide

### 5. VERIFY POWER SOURCES / CONNECTION POINTS

**Power sources must be properly identified before installation.**

**Identify Constant Power Source.** *With ANY vehicle, remove any covering around the steering column and use a digital voltmeter to identify wiring and voltage.*

**General guideline for Ford and GM vehicles:**

White	Stop Light Switch
Green	R.R. Lamp
Yellow	L.R. Lamp
Purple	Turn Signal Flasher
Brown	Flasher
Dark Blue	L.F. Lamp
Light Blue	R.F. Lamp
Black	Horn
Orange	Ignition Switch
Dark Green	Ground
Tan	Ground
Red	<u>battery 12</u> V

***Again, always check vehicle specifications and test with a digital voltmeter before installations!***

## UTS-X Installation Guide

### PERFORMING THE INSTALLATION

#### 1. Connect Wiring Harness and Secure Device



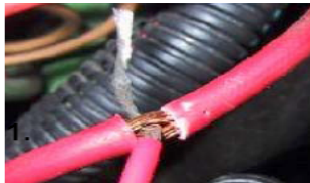
Connect wiring harness to device. Place device into an acceptable location and secure using [self-tapping screws](#) and 2 or more [tie wraps](#). It is preferable to secure device in a hidden, secure location away from moving parts.

Suggested locations:

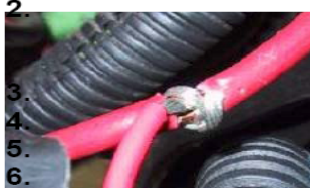
- Underneath steering column
- Underneath passenger side dash
- Behind radio
- Behind glove box
- Discrete trunk locations

#### 2. Poke and Wrap

After finding all relevant wiring sources, strip wiring insulation accordingly to expose wires, and connect wiring using a standard 'poke and wrap' method.



**Poke.** Use [butane soldering iron](#) or [wire cutting tool](#) to expose wires. "Poke" wires from wiring harness through vehicle wiring. See *Wiring Key*.



**Wrap.** Wrap wires neatly around vehicles wires.



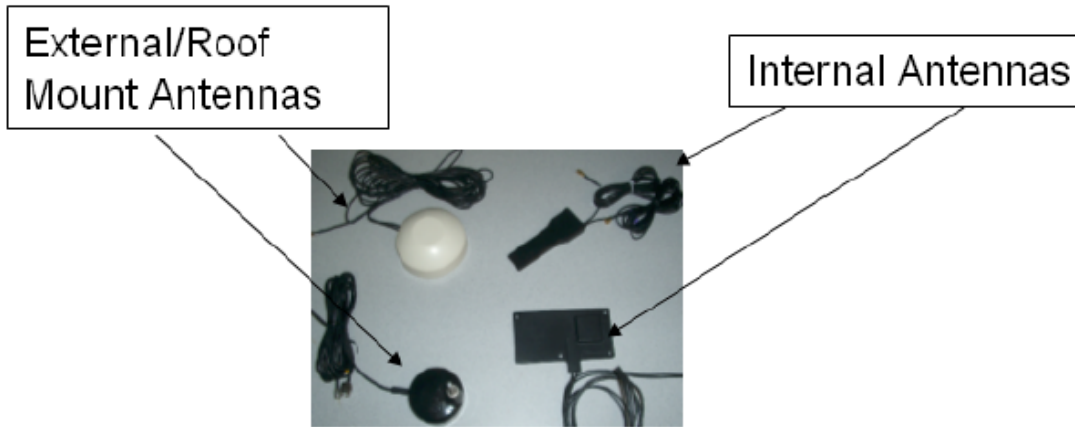
**Secure.** Place [insulation tape](#) around exposed wires. Use optional [tie wrap](#) for added security.

#### 3.

**Run Wiring Harness to proper Antenna Location**

## UTS-X Installation Guide

Antenna types:



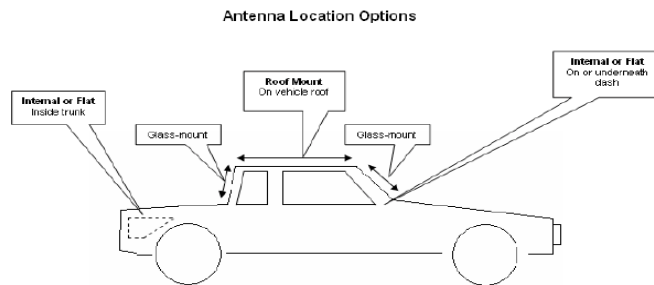
### Connect wiring to the UTS X device.

**If device is installed towards front of vehicle** (i.e.-beneath steering column or dash) run wiring harness through vehicle head liner so that wires are not exposed or easily tampered with.

**If device is installed towards rear of vehicle**, place wires discretely under trunk carpeting. Alternatively, antenna may be mounted discretely close to the rear windshield.

**Please note that the antenna should have a relatively clear view of the sky.**  
**Please see diagram below for acceptable locations.**

Antenna Locations	
Antenna Type	Acceptable Locations
Internal/Flat	Under carpet in rear trunk or front side dash (above or below dash panel).
Roof Mount	Roof/top of vehicle
Glass Mount	Rear windshield or front windshield.





## UTS-X Installation Guide

### 4. Install Antenna

Use standard 2-way radio antenna installation method for internal or glass mount antenna options. For externally mounted roof mount antennas, please use these guidelines:

- Remove head liner where installation will take place.
- Drill ½ inch hole where roof mount antenna will be mounted.
- Remove any filings/shavings where antenna will be mounted.
- Route antenna wiring through vehicle head liner to area where antenna will be mounted.
- Apply silicone sealant around exterior antenna area. Secure antenna accordingly.

### 5. Test Equipment for Functionality

Any **GREEN** light indicates that the device is functioning properly. Any **RED** light indicates a malfunction. **Please see key below for details.**

**Note: TO TEST FUNCTIONALITY OF DEVICE, you must first turn the ignition OFF, then turn key ignition back ON (starting the engine is not necessary). Then read the corresponding light codes. If wired correctly, once the device powers ON, it should not power OFF if the ignition is turned back OFF.**

<b>GREEN</b>	<b>DESCRIPTION</b>
OFF	Power Down Mode
FLASH	Low Power Mode
SLOW	Full power; Ignition OFF
FAST	Full Power, Ignition ON



## UTS-X Installation Guide

RED	DESCRIPTION
OFF	No faults detected
1-1	License Key Expired
2-1	GSM Module Fault
2-2	No SIM Inserted
2-3	No GSM Signal
2-4	Network not found
3-1	GPS Module Fault
3-2	GPS Antenna OPEN/ SHORT
3-3	GPS No Track (0 sats)
3-4	GPS No Fix (<3 sats)
3-5	GPS No Time

### 6. Install any Optional Equipment

Install any optional equipment, such as the Ethernet cable adapter. Plug Ethernet cable into laptop and test Internet connectivity.

## UTS-X Installation Guide

### UTS X CONNECTOR PIN DEFINITIONS

#### PWR Connector

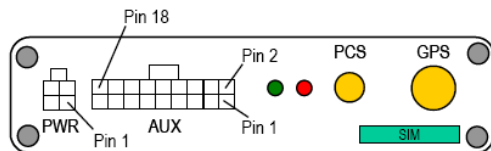
Pin	Harness Wire Color	Description
1	Red	+12 Supply
2	White	Ignition Sense (+12v)
3	Black	GND
4		MFG Test

#### DATA Connector

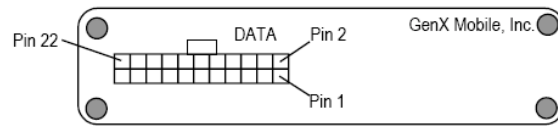
Pin	Harness Wire Color	Description
1	Black	UART RxD
2	Brown	UART TxD
3	Red	UART RTS
4	Orange	UART CTS
5	Yellow	UART DSR
6	Green	UART DTR
7	Dark Blue	UART GND
8	Light Blue	Ethernet Tx_P
9	White/Blue	Ethernet Tx_N
10	Dark Orange	Ethernet Rx_P
11	White/Orange	Ethernet Rx_N
12	Black	GND
13		Reserved
14		Reserved
15		PCP_+3.3V
16		Switched 12v output 2
17		GND
18		CBL_DET
19		PCP_TxD
20		PCP_RST
21		PCP_RxD
22		PCP_PRG

#### AUX Connector

Pin	Harness Wire Color	Description
1	Blue	SW1 Input (12v sense)
2	Yellow	SW2 Input (12v sense)
3	Purple	SW3 Input (GND sense)
4	White	SW4 Input (GND sense)
5		GND
6	White/Brown	Relay1 (negative coil drive)
7	Orange	Relay +12v coil supply
8	Green/Yellow	Relay2 (negative coil drive)
9		Relay4 (negative coil drive)
10		Switched +12V output 1
11		Relay3 (negative coil drive)
12		GND
13		Speaker output (+)
14		Speaker output (-)
15		Microphone Input (+)
16		Microphone Input (-)
17		GND
18	Brown	Analog Input (0 – 15V)



Front Panel



Rear Panel