

# User Manual For TMU (Preliminary)

## 1. Overview

TMU(Telematics Unit, Model name: LT-10MCGVH) is pre-equipped on the vehicle factory to provide customer with various services such as Economic Driving Coach, Safety and Security, Roadside Assistance, etc.

## 2. Operation

User can trigger various services TMU provides with by pressing one of 3 buttons on the Inside Mirror

### 2.1. SOS – Emergency Assistance

In the event of an emergency (*e.g.*, medical, fire, police, or minor accident that doesn't trigger an ACN call), the customer can press the SOS button in the vehicle that connects the vehicle occupant(s) to a Response Specialist who is able to determine the location of the vehicle and contact the nearest PSAP (Public Safety Answering Point) to provide Emergency Assistance quickly and efficiently.

### 2.2. PTT – Push To Talk

User can trigger SR(Speech Recognition) operation by pressing PTT button in order to get serviced various function such as Economic Drive Coach, Turn by Turn Navigation and TMU information quarry.

#### 2.2.1. SR Command – 'Route Summary'

Show the route summary

#### 2.2.2. SR Command – 'Cancel Route'

Cancel the current route

#### 2.2.3. SR Command – 'Suspend Route'

Suspend the current route

#### 2.2.4. SR Command – 'Resume Route'

Resume the previously suspended route

#### 2.2.5. SR Command – 'Route Preview'

Preview the route for the desired destination

#### 2.2.6. SR Command – 'Save Destination'

Save the desired destination with the voice name tag.

#### 2.2.7. SR Command – ‘Navigate To’

Choose the saved destination or start the navigation

#### 2.2.8. SR Command – ‘Daily Route’

Start the navigation for the saved daily route

#### 2.2.9. SR Command – ‘Destination List’

Show the list of saved destinations

#### 2.2.10. SR Command – ‘Voice Guidance’

Turn on/off the voice guidance

#### 2.2.11. SR Command – ‘Reroute’

Recalculate the route for the current destination

#### 2.2.12. SR Command – ‘Setup’

Set various parameters of TMU such as distance unit, voice prompt, notifications

#### 2.2.13. SR Command – ‘Help’

List entire SR command set.

### 2.3. IVR – Interactive Voice Recognition

User can connect to service provider center by pressing IVR button in order to use various services. When the voice call is connected between user and service provider center by IVR button, user will be directed to automatic response system or to response specialist.

## 3. Modem Function

### 3.1. SMS

TMU utilizes most of services by SMS transfer. When SOS or IVT button is pressed or vehicle related events occurs, TMU sends SMS to desired destination – service center or emergency center.

### 3.2. Voice Call

TMU utilizes MT(Mobile Terminated) Call in general use case. When SOS or IVR button pressed, TMU sends SMS to desired destination then wait for the incoming call from the destination. TMU will receive incoming call automatically after SMS is sent. For the

exceptional case, TMU utilizes MO(Mobile Oriented) Call in order to send DTMF when in emergency case the service center or emergency center is not responding for the SMS TMU sent.

### 3.3. Packet Data

TMU utilizes TCP/IP connection with service center to transmit/receive packet data through network in the case where destination/route data needs to be downloaded.

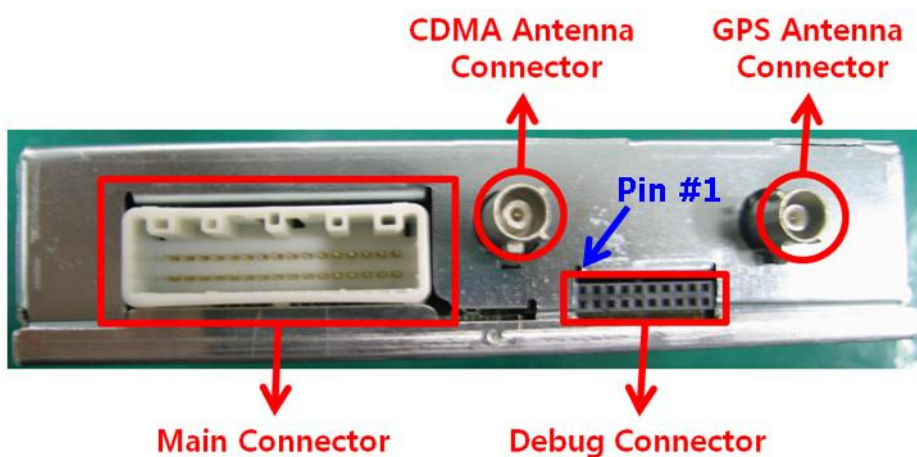
### 3.4. DTMF

TMU utilizes MO Call to send DTMF when in emergency case the service center or emergency center is not responding for the SMS TMU sent.

## 4. Test Setup for TMU



<Fig. 1 TMU Top View>

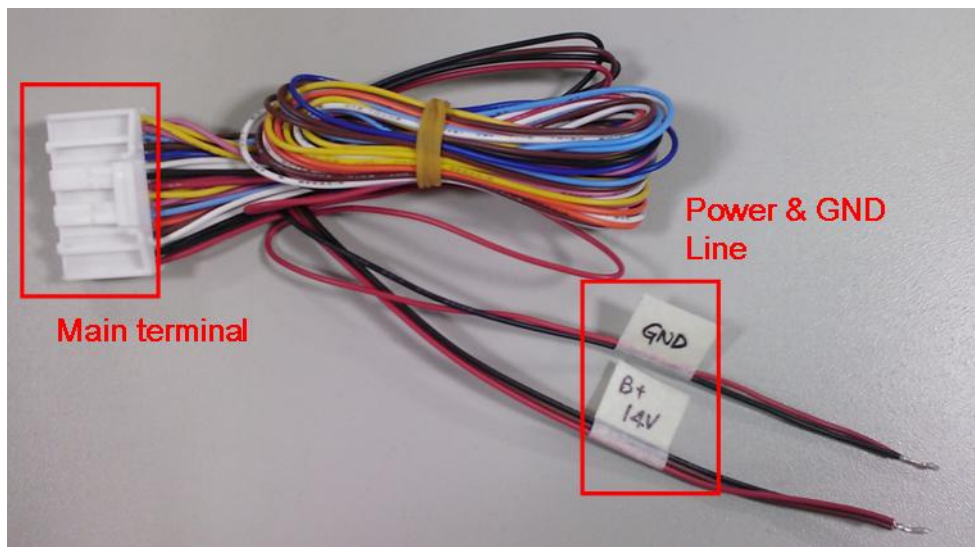


<Fig. 2 TMU Front View>

### 4.1. Connect main cable & Power connection.

- Connect the <Fig. 2>- Main Connector & the <Fig. 3>- Main terminal
- GND Line in the <Fig. 3>- Power & GND Line links ground pin in Power Supply.

- B+14V Line in the <Fig. 3>- Power & GND Line links 14V-power.



<Fig. 3 TMU Main Cable>

#### 4.2. Connect GPS & CDMA Antenna.

- CDMA & GPS Antenna in the <Fig. 4> are connected to CDMA & GPS Antenna connector in the <Fig. 2>

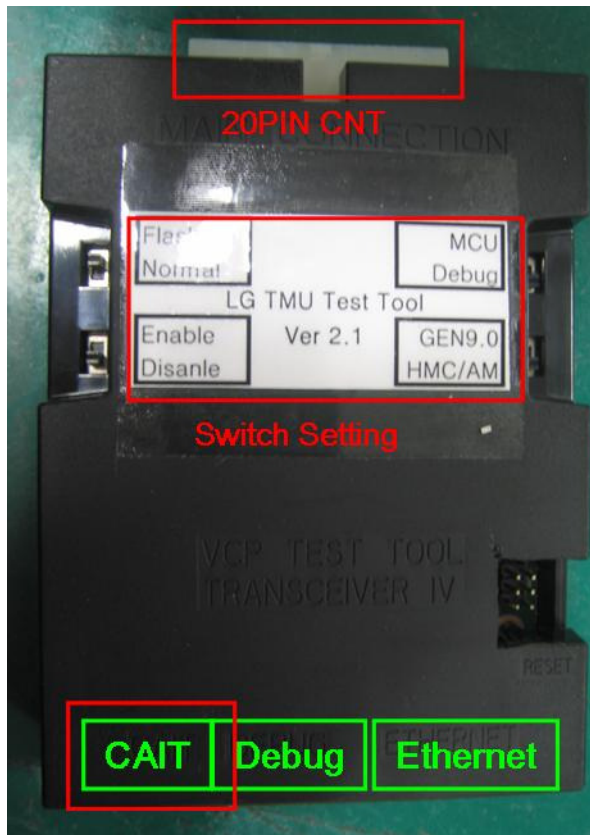


<Fig. 4 Antenna>

“In order to comply with FCC RFx requirements, the EUT must be installed such that there is a minimum separation distance of 20 cm between the antenna and all persons during normal operation. The maximum cellular gain cannot exceed 9.72 dBi and the PCS antenna gain cannot exceed 7.73 dBi.”

#### 4.3. LG Test Tool Setting.

- Check the switch setting in LG test tool: Reference <Fig. 5-2>

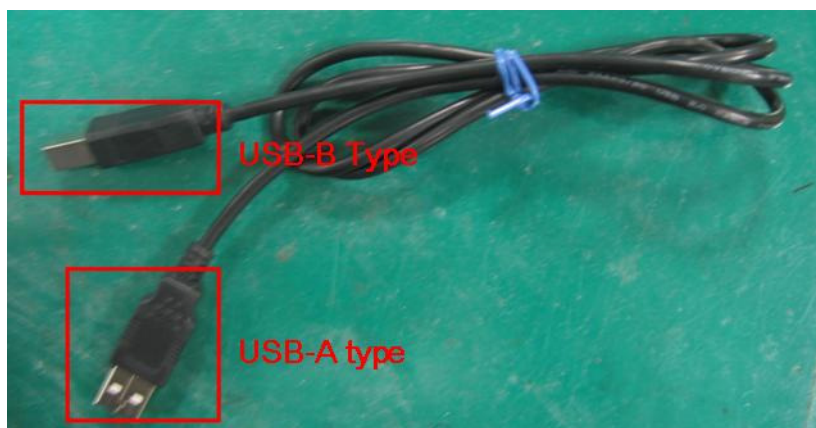


<Fig. 5-1 LG TMU Test Tool>

Flash		MCU
Normal		Debug
LG TMU Test Tool		
Enable	Ver 2.1	GEN9.0
Disanle		HMC/AM

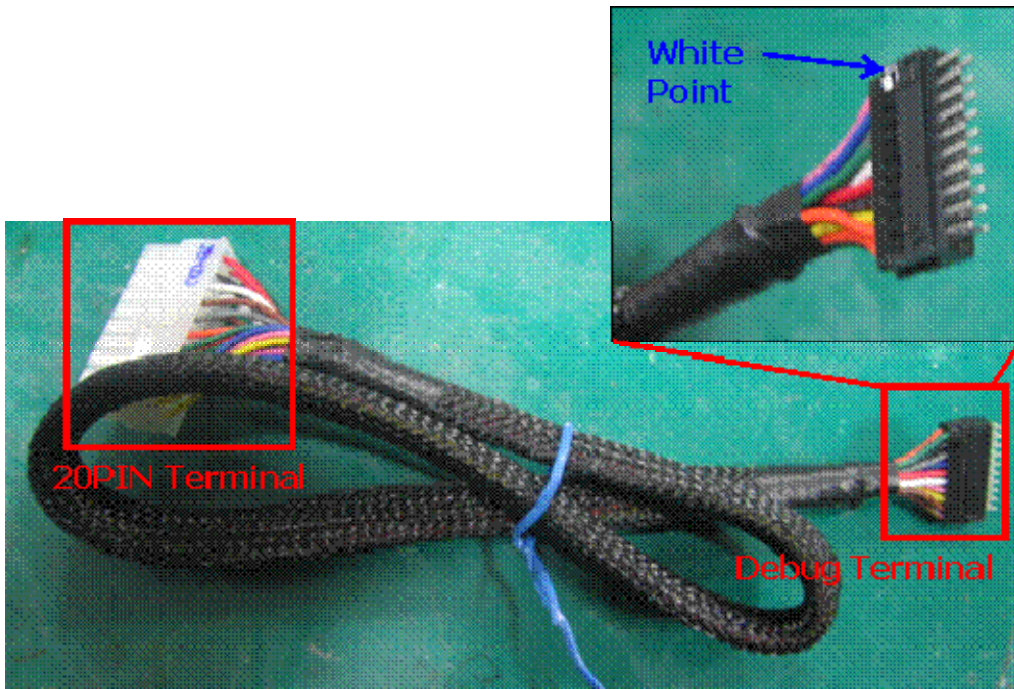
<Fig. 5-2 Initial Switch Setting>

- CAIT port in the LG TMU Test tool should be connected to PC with USB cable as <Fig. 6>



<Fig. 6 USB Cable>

- 20Pin Terminal in the <Fig. 7> is connected to 20Pin Connector in the <Fig. 5-1>.



<Fig. 7 LG TMU Test Tool Cable>

#### 4.4. Connection TMU & LG TMU Test Tool.

- Debug Terminal in the <Fig. 7> is connected to Debug connector in the <Fig. 2>

**# Caution : White Point in Debug terminal matches Pin #1 in the <Fig 2.>** <