KAT

TRAXX

OWNER'S MANUAL

KAT

RADAR · LASER · G-FORCE

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INTRODUCTION

Thank you for purchasing the TRAXX developed by KAT Inc. TRAXX is the first and unique sophisticated device in the world, which has radar/laser detection, vehicle performance meter and Safety alarm features.

We are pleased to have you as a valued customer and hope you will be delighted with your TRAXX. This manual provides all the information you need for putting the TRAXX to work for you.

> **WARNING**: Always obey all local and federal laws when using this device to measure the performance of your vehicle. Use only in designated areas with care and do not take your eyes off the road when you measure acceleration. TRAXX records the results after the run. We are not responsible for any accident or injures that occur while using this device. Drive safely.
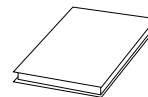
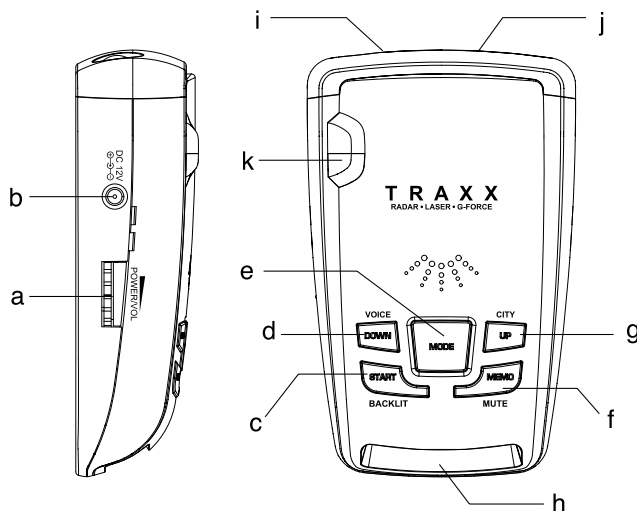# WHAT'S IN THE PACKAGE
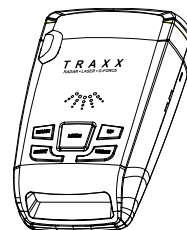
TRAXX

WINDSHIELD BRACKET & SUCTION CUPS

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c. Start Button/ Backlit Button
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j. Radar Antenna
k. Rear Laser Detection Lens

INSTALLATION

For the best performance of acceleration features, mount TRAXX on the windshield centered between driver and passenger. TRAXX must be positioned straight across the vehicle. Do not angle the device toward the driver. The front of the device does not have to be perfectly level. This device automatically compensates for mounting angles up to 30 degrees from level.

Adjust the device on its windshield bracket until it is approximately level. It is important that the device stays in position during use. If the device moves too easily, attach suction cups firmly.

For the best performance of radar detector feature, select the proper location for the device where it has a direct view of the road. The radar antenna and laser lens are located behind the rear panel of the device. The antenna and lens should not be obstructed by metal or metallic surface and should be pointed at the horizon for accurate long range detection.

· Choose a location that does not block the driver's vision.
· Mount the device in a level position.
· Do not mount the device behind metal surfaces, windshield antenna, wiper blades, ornaments or mirrored glass.
· Headed windshields, currently available as an option on some Ford or GM vehicles act as an impenetrable barrier to radar signals.
· Do not mount the device where the driver or passenger might collide in the case of an abrupt halt.

Note: Whichever mounting method you choose, remember to place the device out of view when you leave your vehicle. This keeps the device out of sight from thieves and prevents exposure to extremely high temperatures.

Caution: On some newer model cars, a plastic safety coating has been applied to the windshield. The suction cups may leave permanent marks on the windshield once they are removed. Check your vehicle owner's manual to see if your car has the plastic safety coating.

• Windshield Mounting

1. Attach bracket to windshield
2. Bend bracket for correct detection angle
3. Plug power cord into the device
4. Attach bracket to device
5. Plug power cord into cigarette lighter

WINDSHIELD
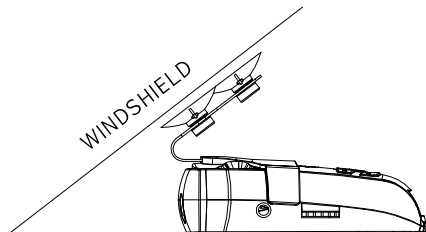
• Dashboard Mounting

1. Peel protective paper off one side of hook-loop
2. Tape on device's bottom
3. Peel top paper off
4. Place device on dash board
5. Plug power cord into the device and cigarette lighter

DASHBOARD
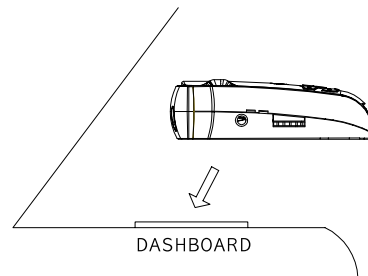
• Power and Volume Control

The TRAXX is designed to operate on most DC12V negative ground vehicle electrical system. The power cord provided with the device has a cigarette light socket plug at one end and a small connector at the other.

To turn on the TRAXX, connect power and rotate the wheel controller, located on the side of the device, until you hear it click. To turn it off, rotate the wheel controller in the opposite direction. You can control volume level with this wheel

HOW DOES IT WORK?

The TRAXX measures the performance of your vehicle by sensing acceleration forces. It uses a three-axis accelerometer to measure acceleration. This digital three-axis accelerometer sensor tracks your vehicle's acceleration and cornering forces. This device analyzes data and calculates corrected G-Forces for the G Meter operation, speed and distance data. The result is the most accurate.

The TRAXX provides distinct visual and voice alerts to warn you of the presence of X, K and all kinds of Ka band radar guns in the front and rear of you. This model also provides the benefit of 'undetectability' by alerting you to the presence of VG-2 (The Radar Device device).

The TRAXX has Safety alarm mode for safe driving. You can set safety level of lateral G-force. TRAXX gives warning sound and visual blinking whenever you exceed your level setting.

WHAT CAN IT MEASURE AND DETECT?

• TRAXX can measure the followings:
1. Time to go from 0 to 60MPH (0 to 100Km)
2. Speed at the end of 1/4 mile (400m)
3. G-Force
4. Peak and Average Horsepower

• TRAXX can detect the followings:
1. X, K and Superwide Ka band radar guns
2. Laser guns (Laser speed monitoring devices)
3. VG-2 undetectability

SET-UP

If this is the first time the device is powered since installation or if the orientation has changed, please move the vehicle to a level place and calibrate the three-axis accelerometer. Press Mode button to go G-FORCE mode and complete calibration by pressing START button.

To accurately measure horsepower, the correct vehicle weight and the correction factor for the vehicle must also be entered to allow a horsepower calculation. To enter set-up mode, press MEMORY button for three (3) seconds at any mode of G-FORCE / 0 TO 60/ 1/4mile except Radar Detector mode until default weight of 2000lbs shows in the display. Please enter your vehicle weight and each correction factors.

SETUP ITEM	MIN	MAX	DEFAULT	STEP
VEHICLE WEIGHT (LBS)	25	16000	2000	5
HP FACTOR	1.00	2.00	1.00	0.01
HP MIN SPEED (MPH)	10	60	30	1
HP MAX SPEED (MPH)	30	100	50	1

• SET-UP FOR METRIC USE

You can set up your TRAXX for US or Metric unit and calculate engine power in HP or PS (metric horsepower). When pressing 'DOWN' button and turn on the Power at the same time, it displays current engaged mode. Press UP/DOWN button to toggle 'US' or 'METRIC' and press 'MEMORY' button to select. The factory default is 'US'. Please enter its metric calculation factor. When 'US' or 'METRIC' is changed each other, its measurement will be changed as follows.

- US: Time to go from 0 to 60MPH / METRIC: 0 to 100Km
- US: Speed at the end of 1/4 mile / METRIC: 400m

SETUP ITEM	MIN	MAX	DEFAULT	STEP
VEHICLE WEIGHT (KG)	10	7000	900	2
HP FACTOR	1.0	2.0	1.0	0.01
HP MIN SPEED (KPH)	1.5	100	50	1
HP MAX SPEED (KPH)	50	160	80	1

WARNING: Changing any of this SET UP between US and Metric deletes all stored data in the memory and user's setting such as vehicle weight and vehicle correction factor. Please do SET-UP process whenever you change it.

• Vehicle Weight

You must enter the weight of your vehicle. This information is available in your vehicle's manual. You should add the weight of the driver, passengers and cargo plus any additional equipment added to the vehicle.

Press the UP or DOWN button until the correct weight is shown. Holding either button for 1 second causes the weight to change rapidly. Press Start button to store the setting.

2000lbs		900kg

• Horsepower Factor

This is a correction factor you can set for an approximate conversion from wheel horsepower to engine horsepower. Factory default is 1.00.

The TRAXX is affected by drive train losses, rolling resistance and aerodynamic drag which determine the vehicle's performance. Manufacturers' ratings list a higher engine horsepower which is not reduced by these other real-world factor so you may need to increase the wheel horsepower readings to approximately correlate to higher engine horsepower.

After storing vehicle weight, it automatically goes to Horsepower Factor. Display flashes previously set value. Press the UP and DOWN buttons until the vehicle correction shows in the display. Press Start button to store the setting.

HPF 1.00		PSF 1.00

• Horsepower Speed Range

You must select the speed range for horsepower calculations. The TRAXX will calculate the average horsepower over this range and the peak horsepower within this range.

The setup item HP MIN SPEED sets the speed that the TRAXX starts measuring horsepower. The setup item HP MAX SPEED sets the speed that the TRAXX stops measuring horsepower.

After storing horsepower factor, it automatically goes to this Speed Range. Display flashes previously set value. Set the minimum speed for the average horsepower measurement by pressing the UP or DOWN buttons. Press START button to store it. Set the maximum speed for the average horsepower measurement by pressing the UP or DOWN buttons. Press Start button to store it.

HPmin 30		PSmin 50
HPmax 50		PSmax 80

The maximum of the HP MIN Speed cannot exceed the minimum of the HP MAX speed.

The device enters G-Force mode after setup and the display shows the current G-Force reading. G-Force can be zeroed at any time by pressing START button.

$$\boxed{\text{-.00} \leftarrow \text{.00}}$$

MODE OPERATION

TRAXX has two operation modes, which are COMBO and ACCELEROMETER.

Combo mode: There are four(4) operations in Combo mode. Press Mode button to select Radar Detector mode or G Force mode or 0-60 Mile mode or 1/4 Mile mode.
If the TRAXX receives Radar or Laser signal when it is in accelerometer operation, it stops measurement and gives Radar or Laser warning. We recommend you to select Radar Detector mode while driving.

Accelerometer mode: There are three(3) operations in Accelerometer mode. Press mode button to select G-Force mode or 0-60 Mile mode or 1/4 Mile mode. Radar-Laser detection is not active in Accelerometer mode. We recommend you to enter Accelerometer mode when you measure acceleration.

COMBO	ACCELEROMETER
RADAR DETECTOR MODE	G-FORCE MODE
G-FORCE MODE	
0 TO 60 MILE / 0 TO 100Km	0 TO 60 MILE / 0 TO 100Km
1/4 MILE / 400 METER	1/4 MILE / 400 METER

The factory default is Radar Detector mode in Combo.

Press Mode button for three(3) seconds to change the mode between COMBO and ACCELEROMETER.

• CALIBRATION

Calibration is performed automatically when you press START button at G-FORCE mode.

• 0 to 60 MILE MODE / 0 to 100KM MODE

Your vehicle must be stopped before you perform any measurement. Pressing start Button to perform an internal calibration. After the calibration is completed successfully, its display shows 'READY' with blinking:

$$\boxed{\textbf{READY}}$$

The measurement begins as soon as the vehicle starts moving and the display shows the elapsed time until 60 MPH (100km) is reached. Then it shows the time to reach 60 MPH (100km).

$$\boxed{\textbf{4.75 sec}}$$

Pressing the UP or DOWN button once causes the display to show average horsepower between the two speeds chosen in setup.

HPavg289   **PSavg293**

Pressing the UP or DOWN button again shows the peak horsepower reached during the measurement.

HPpk 306   **PSpk 310**

• 1/4MILE MODE / 400M MODE

Pressing Start Button to perform an internal calibration. After the calibration is completed successfully, its display shows 'READY' with blinking:

READY

The measurement begins as soon as the vehicle starts moving and the display shows current elapsed time. At the end of 1/4 mile (400m), the speed reached is displayed.

96MPH   **154KPH**

Pressing the UP or DOWN button causes the display to show the time for 1/4 mile (400m).

14.35sec

Pressing the UP or DOWN button causes the display to show average horsepower between the two speeds chosen in setup.

HPavg289   **PSavg293**

Pressing the UP or DOWN button shows the peak horsepower reached during the test.

HPpk 306   **PSpk 310**

• G-FORCE

Pressing the MODE button until the display shows G FORCE.

The display shows the number of horizontal and forward Gs. The right indicator is sideways acceleration with the arrow indicating direction. The left is forward acceleration. The '+' shows up when speed is increasing and '-' shows up when speed is decreasing.

+.24 ← .34

• ERROR MESSAGES WITH VOICE

· The display scrolls with 'TILT ERR - Adjust Mounting' with voice of 'Tilt error, adjust mouning'
  → Please check its mounting and calibrate again. It should be tilted more than 30 degrees during calibration.

· The display scrolls with 'ERR - Must be stationary' with voice of 'Must be stationary'
  → There is vibration during calibration.

· The display scrolls with 'DecelerationERR' with voice of 'deceleration error'
  → The speed should be decelerated during measurement.

BUTTON OPERATION FOR ACCELERATION MODES

• MODE BUTTON

Press MODE button for three (3) seconds to go COMBO or ACCELEROMETER mode.

Press MODE button to select Radar Device mode or G Force mode or 0-60 Mile mode or 1/4 Mile mode in COMBO mode.

Press MODE button to select G Force mode or 0-60 Mile mode or 1/4 Mile mode in ACCELEROMETER mode.

• START BUTTON

Press START button at each mode for internal calibration.

• MEMORY BUTTON

At the end of 0 TO 60 MILE (0 to 100Km) and 1/4 MILE (400 METER) measurement, press the MEMORY button until the desired memory location, MEMORY# 1~ MEMORY#5 shows in the display. Then press START button to store the new measurement information. The measurements are stored in memory.

Press the MEMORY button to check stored measurement at the MEMORY #1 ~#5, which it toggles from MEMORY#1 to #5 by pressing the MEMORY button, at any time except Radar Device mode and a measurement is not running. Press the UP and DOWN button to scroll the measurement data. Press START or MODE button to exit the MEMORY mode.

Press MEMORY button for three (3) seconds to enter set-up.

• UP AND DOWN BUTTONS

Press UP or DOWN buttons to review data from the MEMORY.

• SAFETY ALARM MODE OPERATION

Hold down MEMORY button and turn on the Power to set up Safety Alarm mode.

  a. The TRAXX displays safety mode on/off: 'SA ON' or 'SA OFF'

  b. Select 'SA ON' or 'SA OFF' by using UP/DOWN buttons. When voice mode is off, 'On' gives "one beep" and 'Off' gives "two beeps" .

    | SA ON | | SA OFF |

  c. Press Memory button to set 'On' or 'Off'. If you select 'Off' by pressing Memory button, the unit exits the safety alarm mode.

    If you select 'On' by pressing Memory, it displays Safety Alarm Level. Press 'UP/DOWN' button to adjust the G-force level. Long button press makes fast level adjustment. Press Memory button to exit this mode.

  d. Factory default is Safety Alarm 'On' and level is '0.6G'. The level can be set minimum 0.2G to maximum 2.0G. Safety alarm 'On'/'Off' and level are stored in the memory.

    | SA 0.6 |

It makes warning sound whenever you exceed your level setting.

RADAR DEVICE MODE OPERATION

• CITY/ HIGHWAY MODE

When TRAXX is in Radar Detector mode, it displays 'HIGHWAY' or 'CITY'. To toggle HIGHWAY/CITY mode, press UP button. In City mode, X band is not detected and K/Ka band sensitivity is lowered. The CITY mode can reduce false alerts, which caused in urban areas by automatic door openers and alarm systems.

CITY		HIGHWAY

• BACKLIGHT ON/OFF

Press START button to turn on/ off the backlight at Radar Device mode.

• VG-2 SELECT

Hold down the START button for three seconds. It will disengage VG-2 feature. To engage it again, press START button for three seconds.

VG2-ON		VG2-OFF

• SELECT TONE

Hold down the MEMORY button for three seconds. The TRAXX will change tone to ALTO or SOPRANO.

ALTO		SOPRANO

• MUTE MODE

Mute can be used when you manually turn the audio alert off. Press MEMORY button to silence the alert sound. To restore audio alarm, press MEMORY button again.

MUTE ON		MUTE OFF

• VOICE ON/OFF

Press DOWN button to turn off voice messages. To restore voice messages on, press DOWN button again.

VoiceOn		VoiceOff

• RADAR/ LASER ALERT DISPLAY

When TRAXX receives each Radar, Laser and VG-2 signal, it displays a detection band with voice alarm. The signal strength level of Radar is displayed as follows.

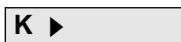|	
X Band Detection	X ▶▶
K Band Detection	K ▶▶▶▶▶▶
Ka Band Detection	Ka▶ ▶
LASER Detection	LASER
VG-2 Detection	VG-2

• TEST MODE

Hold down UP button for three seconds, the TRAXX will demonstrate how it operates when each radar and laser signal is detected.

X Band signal detected operation

X ▶

X ▶▶

X ▶▶▶▶▶▶

K Band signal detected operation

K ▶

K ▶▶

K ▶▶▶▶▶▶

Ka Band signal detected operation

Ka▶

Ka▶▶

Ka▶▶▶▶▶▶

Laser signal detected operation

LASER

VG-2 signal detected operation

VG-2
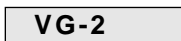
TROUBLE SHOOTING

If the device does not turn on:

1. Check the power cord. Be sure all power connectors are properly installed.
2. Check the fuse that controls power to the cigarette lighter socket. See your vehicles owner's manual
3. The cigarette lighter socket might be dirty. Clean it with fine emery cloth to ensure a good and clean connection.
4. Vehicle electrical problem exists.
5. Make sure that the volume control is in the ON position.

CAUTION: Do not place any metal object other than the cigarette lighter or a cigarette lighter plug in the cigarette lighter socket.

If the device gives a false Radar/Laser alert when the vehicle hits or bumps:

1. Check the vehicle's electrical system, including main battery cable and alternator connections.
2. Install a filter capacitor(470uF. 25volts) on the back of the cigarette lighter socket, across the power connections.

If the receiving Radar/Laser signals are weak:

1. Check the angle of device.
2. Point device to the horizon.
3. Radar antenna / laser sensor is obstructed.
4. Relocate the device.

FCC INFORMATION

This product has been designed and certificated to comply 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.

Any changes or modifications not expressly approved by K.A.T. Inc. may void your authority to use this product.

FEATURE MEMORY

The TRAXX will automatically remember your settings when the unit is turned off or removed from the power. All features selected are retained in memory.

a. STORED TEST DATA AT MEMORY (#1~#5)

b. BACKLIT ON/OFF

c. BEEP SOUND (SOPRANO-ALTO)

d. HIGHWAY-CITY

e. COMBO-ACCELEROMETER MODE

f. VOICE ON-OFF

g. VG-2 ON-OFF

h. SETUP DATA

i. CALIBRATION DATA

j. SAFETY ALARM ON-OFF

k. SAFETY ALARM LEVEL

FACTORY RESET

Press DOWN button for five (5) seconds to enter Factory Reset. When the display is blinking 'RESET', press START button to reset all data to factory default. If you do not want to factory reset, press MEMORY button to exit.
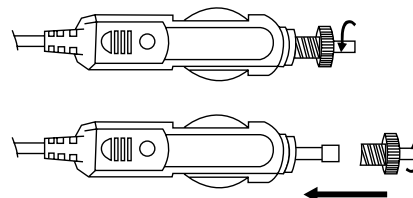
- Clear all measurement data
- Set-up items
- Calibration data

Factory reset default:

a. BACKLIT ON

b. SOPRANO

c. COMBO MODE

d. HIGHWAY

e. VOICE ON

f. VG-2 ON

g. SETUP DATA DEFAULT

h. CALIBRATION DATA DEFAULT

i. SAFETY ALARM ON

REPLACING FUSE

To replace the fuse, unscrew the top of the plug. Remove and check the fuse to see if it has blown. If it has, replace it.

SPECIFICATIONS

RADAR

Receiver Type: Dual Conversion Superheterodyne
Antenna Type: Linear Polarized. Self-Contained
                        Antenna
Device Type: Frequency Discriminator
Frequency of Operation: 10.525GHz/$\pm$50MHz(X-Band)
                        24.150GHz/$\pm$100MHz(K-Band)
                        34.700GHz/$\pm$1,300MHz
                        (Ka Super Wideband)

LASER

Receiver Type: Pulsed Laser Signal Receiver
Device Type: Digital Signal Processor
Opto Sensor: Photo Diode with Convex Condenser
                        Lens

ACCELEROMETER SENSOR

3-axis(x,y,z) with error compensation : +/-2g

GENERAL

Temperature Range: -20°C to + 70°C
Power Requirements: 12~15V DC, 150mA (Negative Ground)
Dimensions HxWxD: 1.2 ″ X 2.9 ″ X 4.6 ″
Weight: appr. 4.0ounces

*Specifications are typical. Individual units might vary.
Specifications are subject to change without notice.

LIMITED WARRANTY

The manufacturer warrants your TRAXX against all defects in materials and workmanship for a period of one (1) year from the date of the original purchase, subject to the following terms and conditions: The sole responsibility of the manufacturer under this Warranty is limited to either repair or, at the option of the manufacturer, replacement of the TRAXX. There are no expressed or implied warranties, including those of fitness for a particular purpose of merchantability, which extend beyond the face hereof. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

SERVICE

If you wish to return the TRAXX, please contact KAT Inc.

Phone: (915) 533-1335
Fax: (915) 533-1344

FCC Compliance Statements

Note: 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 inter-ference in a residential installation.   This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accor-dance with the instructions, may cause harmful interference to radio com-munications.   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:

• Reorient or relocate the receiving antenna
• Increase the separation between the equipment and receiver.
• Connect the equipment into an outlet on a circuit different from that to
  which the receiver is connected.
• Consult the dealer or an experienced radio / TV technician for help.

Warning : Your are cautioned that any change or modifications to the equipment not expressly approved by the party responsible for compli-ance could void your authority to operate such equipment.

Memo