# TREK-550

ADVANTECH DLoG
Competence in Mobile Computing


## Intel eMenlow In-Vehicle Computing Box

### Features

- Win CE 6.0, WES 2009, XP and Linux (Ubuntu 10.04/2.6.34)
- Automotive grade working temperature range (-30 to 70° C)
- Rich I/O including CAN, LAN, RS-232, RS-485, J1708, 4DI/4DO (isolated), Line out, Mic in, USB, and Video-in
- Built-in communication modules, including GPRS/HSDPA/CDMA, WLAN & Bluetooth
- GPS with AGPS and dead reckoning technology (Gyro & speed line)
- Certifications: CE/FCC/E-mark, MIL-STD-810G, ISO 7637-2, SAE J1455, SAE J1113 regulations
- Dual independent display/audio output for both driver and passenger
- Ignition on/off delay; SW controllable for car power management

PTCRB E 13 RoHS COMPLIANT 2002/95/EC

## Introduction

The TREK-550 is a dedicated box computer for industrial vehicle fleets, transport trucks, buses and taxis. TREK-550 combined with variety of I/O connectors can be connected to devices like OBD-II or TPMS (Tire Pressure Monitoring Systems). Dual display/dual audio interfaces supporting different resolutions can deliver different applications to different displays; eg: one application to a fleet driver and another to a digital signage application.

Built-in wireless communications (WWAN, WLAN, BT) enable TREK-550 to send important driver/vehicle/location/cargo information back to the control center. TREK-550 can also operate in extreme environments with features like a wide working temperature range (-30 to 70° C). TREK-550 also uses a special design to handle the critical issue of in-vehicle power. Special power protection (ISO7637-2/SAE J1455 Class A/ SAE J1113) and car power management software (Ignition on/off, delay on/off, low battery monitor) prevent electrical noise and surges from impacting the system, guarding against damage from transient car power. TREK-550 also supports a rear view monitor via a video port connection. With this feature, drivers can monitor the environment on both sides of the truck in real-time for driving safety. TREK-550 can also support dead-reckoning, meaning the truck can still be traced even when the driver is driving in a tunnel.

## Specifications

| | | |
|---|---|---|
| System | CPU | Intel Atom XL Z510PT 1.1 GHz (Z520PT 1.3 GHz is optional) (Industrial grade) |
| | Chipset | Intel LE82US15EE |
| | System Memory | 1 x 200-pin SODIMM socket; Supports up to 2 GB industrial DDR2 400/533 memory module |
| | OS | Windows Embedded Standard 2009, Windows CE 6.0, Windows XP |
| Physical | Dimensions (W x H x D) | 266 x 149 x 69.7 mm |
| | Weight | 2 kg |
| Storage | Compact Flash | 1x Type II (externally accessible) |
| Display interface | Smart Display Port | Design compatible with TREK-30 X Series<br>▪ 18-bit LVDS out<br>▪ 2 x RS-232 ports<br>▪ Mono audio out<br>▪ 1 x USB host<br>▪ 12V DC output @ 1A output |
| I/O | CAN | 1 x CAN 2.0 A/B (J1939 protocol is ready, 2500Vrms isolation protection) via box header |
| | Video In | 2 x composite video inputs for rear view monitor; bypass to digital display port; doesn't support video recording (NTSC, PAL, SECAM with automatic format detection) |
| | USB Host | 3 x USB host ports type A connectors with cable clip (front I/O panel x1; rear I/O panel x2) |
| | Mic In | 1 x Mic-in jack with cable clip |
| | Line Out | 1 x line out jack with cable clip |
| | COM Ports | ▪ 2 x full function RS-232 ports, 5 V @ 500 mA, 12 V @ 250 mA, ping9, jumper selected<br>▪ 1 x 4-wire RS-232, 1 x RS485, 1 x J1708 |
| | Isolated DI/DO | ▪ 4 x isolated dry contact digital inputs via DB9 (2500 Vrms protection)<br>▪ 4 x relay drivers via DB9 |
| | VGA Output | 1 x VGA output via DB-15 (independent display) |
| | LAN | 1 x 10/100/1000 Ethernet (with LEDs) via DB9 with cable clips |
| Communication | WWAN | GPRS - Cinterion MC55i (option), CDMA -Sierra Wireless 5728V (option) and HSDPA-MC8090/MC8092 (option), with SMA connector for external antenna |
| | WLAN | Optional, supports 802.11 a/b/g/n, with SMA connector for external antenna (through internal Mini PCI Express) |
| | Bluetooth | Optional, supports Bluetooth Class II, Version 2.0 + EDR, antenna built-in |
| GPS | Model | ublox industrial grade LEA-6S |
| | RF Receiver Type | 50 channels GPS L1 frequency, C/A code |
| | Cold Start | 29 s |
| | Warm Start | 29 s |
| | Hot Start | <1 s |
| | AGPS | <5 s |
| | Acquisition | 160 dBm |
| | Protocol | NMEA (Input/Output, ASCII, 0183,2.3 (compatible to 3.0)<br>UBX (u-blox proprietary protocol)<br>(Note: Dead Reckoning optional ) |
| G sensor | | Built-in |

Remark: New TREK-550 is with Advantech DLoG logo.





Last updated : 12-Nov-2013

# TREK-550

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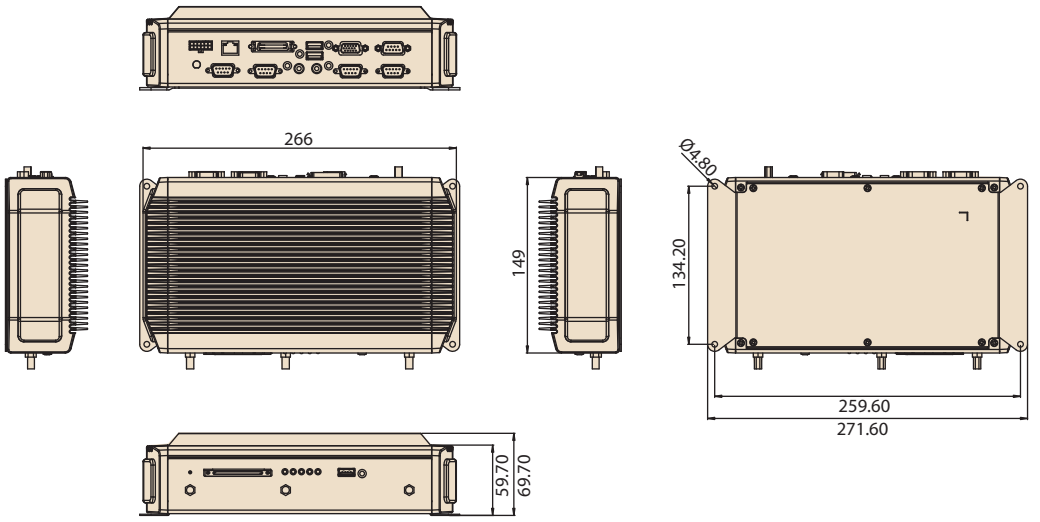
| | | |
|---|---|---|
| LED | LED Indicator | ▪ Power (Red)<br>▪ Storage Access (Green)<br>▪ WLAN data transfer (Green)<br>▪ WWAN link (Green)<br>▪ GPS operation (Blue) |
| Car Power Design | DC-input | Supports 12/24 V car power system by ISO7637-2 & SAEJ1113 (6V ~ 36V wide DC input) |
| | Power Management | Power on/off delay,<br>▪ Power on delay, 2 sec default<br>▪ Power off delay, 5 sec as default<br>▪ Delay time controllable by SW configuration<br>▪ Low voltage protection |
| | HW Reset | 1 reset button |
| Environment | IP Rating | IP 31 |
| | Operating Temp. | -30° C ~ +70° C |
| | Storage Temp. | -40 °C ~ +85° C |
| | Vibration/Shock | MIL-STD-810G/ 202A, Method 516.5, EN60721-3 (5M3) compliant |
| | EMC | CE, FCC, IC |
| Certifications | Safety/ RF | CE, CB, PTCRB |
| | Vehicle Power Regulation | E-mark, SAE J1455, SAE J1113, ISO7637-2 level IV compliant |
| Mechanical | Material | Top cover (Aluminum extrusion)<br>Side cover (PC)<br>Bottom & I/O cover (metal) |

## Dimensions

Unit: mm




## Ordering Information

| Part Number | Description |
|---|---|
| TREK-550-00A2E | Intel Atom Z510PT 1.1 GHZ GPRS Barebone |
| TREK-550-00A2E | Intel Atom Z510PT 1.1 GHZ HSXPA CDMA Barebone |
| TREK-550-10A2E | Intel Atom Z520PT 1.3 GHZ GPRS Barebone |
| TREK-550-11A2E | Intel Atom Z520PT 1.3 GHZ HSXPA / CDMA Barebone |
| 9668TREK20E | Cinterion MC55i 4 Band GPRS Kit |
| 9668TREK21E | Sierra Wireless 5728V CDMA Module Kit |
| 9668TREK66E | 802.11 B/G/N Module Kit |
| 9668TREK64E | TREK 550 BT module kit |
| 9668TREK68E | Sierra Wireless 8090 HSUPA for USA only |
| 9668TREK69E | Sierra Wireless 8092 HSUPA |
| 9668TREK70E | Ublox LEA-6S GPS module |

(Note: Module kits include RF, antenna and internal cable )

## Packing List

| Description | Part Number | Quantity |
|---|---|---|
| TREK-550 | | x1 |
| CAN/Video-in cable (15 cm) | 1700021556-01 | x1 |
| Power cable (1.8 m) | 1700018306 | x1 |
| Cable clip for Mic in, line out, USB host, LAN | 1990018848T000 | x6 |
| Cap Plug-Power for TREK-550 | 199021213T000 | x1 |

## I/O Connectors