

# TREK-550



## Intel® Atom™ In-Vehicle Computing Box

### Features

- Supports 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



## 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   |
| Physical          | System Memory          | 1 x 200-pin SODIMM socket; Supports up to 2 GB industrial DDR2 400/533 memory module   |
|                   | Dimensions (W x H x D) | 266 x 149 x 69.7 mm  |
| Storage           | Weight                 | 2 kg   |
|                   | Compact Flash          | 1x Type II (externally accessible)   |
| Display interface | Smart Display Port     | Design compatible with TREK-303H, 7" smart display signal includes: <ul style="list-style-type: none"> <li>18-bit LVDS out</li> <li>2 x RS-232 ports</li> <li>Mono audio out</li> <li>1 x USB host</li> <li>12V DC output @ 1A output</li> </ul> |
|                   |                        | I/O  |
| Communication     | WWAN                   | GPRS - Cinterion MC55i (option), CDMA - Sierra Wireless 5728V (option) and HSDPA-MC8790V (option), with SMA connector for external antenna   |
|                   | WLAN                   | Optional, supports 802.11 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 5S  |
|                   | 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  |
| G sensor          | Protocol               | NMEA (Input/Output, ASCII, 0183.2.3 (compatible to 3.0))<br>UBX (u-blox proprietary protocol)<br>(Note: Dead Reckoning optional)   |
|                   | LED                    | Built-in <ul style="list-style-type: none"> <li>Power (Red)</li> <li>Storage Access (Green)</li> <li>WLAN data transfer (Green)</li> <li>WWAN link (Green)</li> <li>GPS operation (Blue)</li> </ul>  |

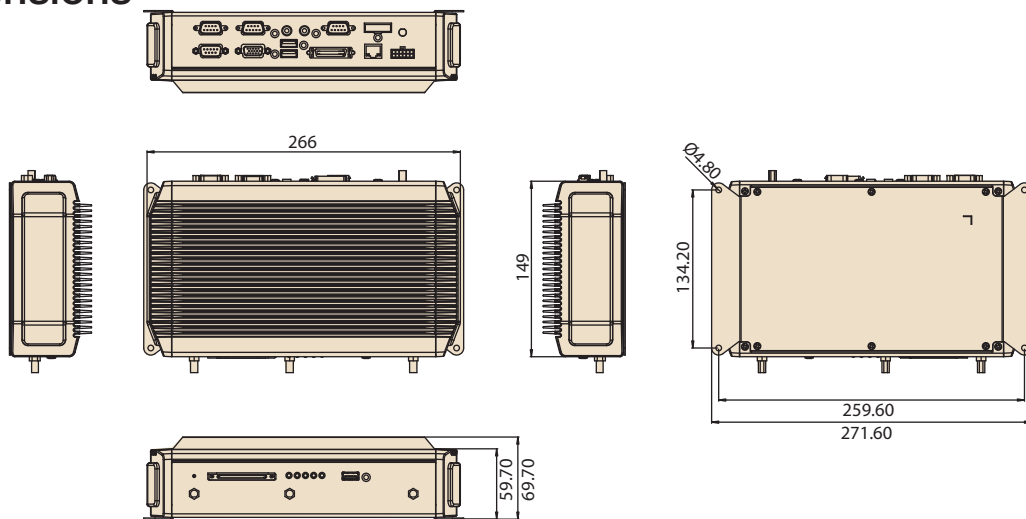
# TREK-550

## Specifications Cont.

|                  |                          |  |
|------------------|--------------------------|--|
| 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><ul style="list-style-type: none"> <li>▪ Power on delay, 2 sec default</li> <li>▪ Power off delay, 5 sec as default</li> <li>▪ Delay time controllable by SW configuration</li> <li>▪ Low voltage protection</li> </ul> |
| Environment      | HW Reset                 | 1 reset button   |
|                  | IP Rating                | IP 31  |
|                  | Operating Temp.          | -30° C ~ +70° C  |
|                  | Storage Temp.            | -40° C ~ +85° C  |
| Certifications   | Vibration/Shock          | MIL-STD-810G/ 202A, Method 516.5, EN60721-3 (5M3) compliant  |
|                  | EMC                      | CE, FCC, IC  |
| Mechanical       | Safety                   | CE, CB   |
|                  | Vehicle Power Regulation | E-mark, SAE J1455, SAE J1113, ISO7637-2 level IV compliant   |
| Mechanical       | Material                 | Top cover (Aluminum extrusion)   |
|                  |                          | Side cover (PC)  |
|                  |                          | Bottom & I/O cover (metal)   |

## Dimensions

Unit: mm



## Ordering Information

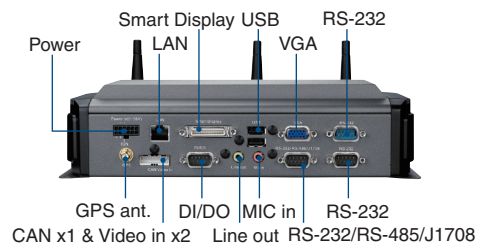
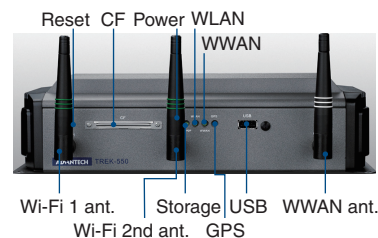
| Part Number    | Description                                     |
|----------------|---|
| TREK-550-00A1E | Intel Atom Z510PT 1.1 GHZ GPRS Barebone         |
| TREK-550-01A1E | Intel Atom Z510PT 1.1 GHZ HSXPA CDMA Barebone   |
| TREK-550-10A1E | Intel Atom Z520PT 1.3 GHZ GPRS Barebone         |
| TREK-550-11A1E | Intel Atom Z520PT 1.3 GHZ HSXPA / CDMA Barebone |
| 9668TREK20E    | Cinterion MC55i 4 Band GPRS Kit                 |
| 9668TREK21E    | Sierra Wireless 5728V CDMA Module Kit           |
| 9668TREK22E    | Sierra Wireless 8790V HSUPA Module Kit          |
| 9668TREK23E    | 802.11 B/G/N Module Kit                         |
| 9668TREK25E    | u-blox LEA-5S GPS Module Kit                    |

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

## Packing List

| Description                                    | Part Number    | Quantity |
|--|----------------|----------|
| TREK-550                                       |                | x1       |
| CAN/Video-in cable (15 cm)                     | 1700018743     | x1       |
| Power cable (1.8 m)                            | 1700018306     | x1       |
| Startup manual CD                              | 2068055000     | x1       |
| Cable clip for Mic in, line out, USB host, LAN | 1990018848T000 | x6       |

## I/O Connectors





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