

# TREK-570

## Compact In-Vehicle Computing Box for Fleet Management



### Features

- Supports real-time rear-view monitoring
- Dual independent display/audio output for both driver and passenger for IVI and digital signage applications
- Rugged platform with 5M3 shock and vibration tolerance, -30 ~ 70°C wide temperature without airflow
- Vehicle diagnostic interface with configurable protocols support: CAN (J1939, OBD-II/ISO 15765) and J1708 (J1587)
- Built-in GNSS, optional WLAN, Bluetooth, LTE WWAN

### Introduction

The TREK-570 is a compact and cost-effective in-vehicle computing box, powered by an Intel Atom® E3826 SOC. It can be seamlessly paired with TREK-303/306 in-vehicle smart displays through a single-cable connection. Designed for fleet management applications, the TREK-570 boasts a wide operating temperature range and a MIL-STD-810G certification, ensuring resistance to shock, vibration, and durability in harsh environments.

An intelligent vehicle power management (VPM 2.0) chip is included in the TREK-570 to safeguard against transient voltage (ISO 7637-2/SAE J1455/SAE J1113). This chip also enables programmable functions, including ignition on/off, delay on/off, and low battery monitoring. The device provides various I/O options for integrating CANbus devices and peripherals, such as a tire pressure monitoring system. Dual CAN bus ports support diverse protocols (J1939, OBD-II/ISO 15765) for streamlined vehicle diagnostics and driver behavior management.

Equipped with built-in wireless communication technologies (WLAN, WWAN, Bluetooth), the TREK-570 facilitates vehicle tracking and real-time data transmissions to a centralized control center. Additionally, it supports dual independent displays/audio outputs, making it suitable for in-vehicle infotainment and digital signage applications.

Moreover, the TREK-570 comes with Advantech's DeviceOn/iService software, a next-generation unified device management solution based on the WISE-DeviceOn platform. With support for batch operations and multi-device control, DeviceOn/iService ensures easy device configuration and deployment, facilitating convenient remote device management.

### Specifications

|         |                                  |                                                                                                                                                                                                                                                                                                                             |                                                                                                       |
|---------|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Core    | Processor                        | Intel Atom® E3826, dual-core, 1.46 GHz                                                                                                                                                                                                                                                                                      |                                                                                                       |
|         | Memory                           | 1 x 4 GB DDR3L SODIMM 1600 MHz, non-ECC                                                                                                                                                                                                                                                                                     |                                                                                                       |
|         | Graphics                         | Integrated 2D/3D graphics engine                                                                                                                                                                                                                                                                                            |                                                                                                       |
|         | Operating System                 | Win10 IoT LTSC, Linux Ubuntu 16.04                                                                                                                                                                                                                                                                                          |                                                                                                       |
| Storage | mSATA                            | 1 x 32 GB UMLC, SQFlash mSATA, with support for system bootup                                                                                                                                                                                                                                                               |                                                                                                       |
| Display | Smart Display Ports <sup>1</sup> | 1 x 12V/2A power output for TREK-30x<br>1 x 18-bit LVDS with 800 x 480/1024 x 768 resolution and automatic detection<br>1 x Line-Out2 (for TREK-30x speakers)<br>2 x UART (TX/RX, TX/RX/RTS) (for touchscreen, hot keys, and brightness/light sensor control)<br>1 x USB 2.0 Type-A<br>1 x Power button<br>1 x Reset button |                                                                                                       |
|         |                                  | VGA                                                                                                                                                                                                                                                                                                                         | 1 x DB15 (up to 2560 x 1600 resolution)                                                               |
|         |                                  | HDMI <sup>2</sup>                                                                                                                                                                                                                                                                                                           | 1 x HDMI (up to 2560 x 1600 resolution)                                                               |
|         |                                  | Edge AI                                                                                                                                                                                                                                                                                                                     | 1 x full size, mini PCIe (PCUe/USB 2.0) for edge AI; supports up to Hailo 8R (13 tops)                |
| I/O     | Vehicle I/O                      | 2 x CAN bus with raw CAN, J1939, and OBD-II/ISO 15765 support (configurable via firmware)<br>1 x J1708 with J1587 support<br>1 x 4-wire RS-485 with auto flow control                                                                                                                                                       |                                                                                                       |
|         |                                  | 2 x 4-wire RS-232<br>4 x Isolated DI (dry contact)<br>4 x Isolated DO (open collector output, driven by relay)<br>1 x CVBS-In (for real-time rear view monitoring)<br>1 x Line-Out <sup>3</sup><br>1 x Mic-In                                                                                                               |                                                                                                       |
|         | Generic I/O                      | 1 x USB 3.0 Type-A (rear side, with cable clip)<br>1 x USB 2.0 Type-A (rear side, with cable clip)<br>1 x High-speed full RS-232, DB-9 (Pin 9 = ring, 12/5 V @0.5 A in BOM; optional via jumper setting)<br>1 x Giga LAN, with locking RJ-45 connector                                                                      |                                                                                                       |
|         |                                  | LED Indicators                                                                                                                                                                                                                                                                                                              | 5 x LEDs: 1 x Power (red), 1 x Storage (yellow), 1 x WLAN (green), 1 x WWAN (green), 1 x GPS (yellow) |
|         | Power Button                     | Via TREK-30x in-vehicle smart display; system is powered on by vehicle ignition as a default                                                                                                                                                                                                                                |                                                                                                       |
|         | Reset Button                     | 1 x Reset button (rear side)                                                                                                                                                                                                                                                                                                |                                                                                                       |
|         |                                  |                                                                                                                                                                                                                                                                                                                             |                                                                                                       |

## Specifications Cont.

|                                               |                                                 |                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RF                                            | WLAN + Bluetooth                                | IEEE 802.11a/b/g/n/ac/ax + Bluetooth V5.X via full mini PCIe slot (optional high-power WLAN/WLAN roaming available upon request)                                                                                                                                                                           |
|                                               | WWAN                                            | 4G (LTE, HSPA+, GSM/GPRS/EDGE, EV-DO Rev. a1, 1xRTT) Sierra AirPrime WP76XX via full mini PCIe slot (default: WP7610 for US/WP7607 for EU)                                                                                                                                                                 |
|                                               | GNSS                                            | Built-in uBlox MAX-M8Q (Max-M8U module is by project based)/w GPS/GLONASS/BeiDou 3 in 1 module                                                                                                                                                                                                             |
|                                               | Antenna                                         | 5 x SMA-type antenna holes for GPS, Wi-Fi+Bluetooth MIMO, WWAN/LTE MIMO <sup>4</sup>                                                                                                                                                                                                                       |
| Power                                         | Input Voltage                                   | 12/24 V vehicle power (6 ~ 32 V <sub>DC</sub> input) (ISO 7637-2 and SAE J1113 compliant)                                                                                                                                                                                                                  |
|                                               | Intelligent Vehicle Power Management (iVPM 2.0) | System power on/off/hibernate management (programmable ignition on/off delay)<br>Supports wake-up events: wake on alarm (RTC), wake by call/SMS, wake by G-sensor, and wake by DI (DIO & DI1)<br>System power protection (low voltage protection for vehicle battery)<br>System monitoring and diagnostics |
| Mechanical                                    | Dimensions (W x H x D)                          | Standalone unit: 230 x 72 x 118 mm (9.05 x 2.83 x 4.64 in)<br>With IP54-rated I/O cover: 230 x 72 x 198 mm (9.05 x 2.83 x 7.79 in)                                                                                                                                                                         |
|                                               | Weight                                          | Standalone unit: 2.0 kg (4.4 lb)<br>With IP54-rated I/O cover: 2.7 kg (5.95 lb)                                                                                                                                                                                                                            |
| Environment                                   | IP Rating                                       | IP30 (optional IP54-rated I/O cover available upon request)                                                                                                                                                                                                                                                |
|                                               | Vibration/Shock                                 | MIL-STD-810G, EN60721-3-5 (5M3)                                                                                                                                                                                                                                                                            |
|                                               | EMC                                             | CE, FCC, CCC                                                                                                                                                                                                                                                                                               |
|                                               | Safety                                          | UL/cUL, CB                                                                                                                                                                                                                                                                                                 |
|                                               | Vehicle Regulations                             | E-Mark (E13)                                                                                                                                                                                                                                                                                               |
|                                               | RF Regulations                                  | CE (R&TTE), FCC ID, PTCRB                                                                                                                                                                                                                                                                                  |
|                                               | Operating Temperature                           | -30 ~ 70°C w/o airflow                                                                                                                                                                                                                                                                                     |
|                                               | Storage Temperature                             | -40 ~ 80°C                                                                                                                                                                                                                                                                                                 |
| DeviceOn/iService<br>Remote Device Management | Operating System                                | Windows 10                                                                                                                                                                                                                                                                                                 |
|                                               | Common Controls (Reboot, Shutdown)              | ✓                                                                                                                                                                                                                                                                                                          |
|                                               | Remote desktop                                  | ✓ (VNC)                                                                                                                                                                                                                                                                                                    |
|                                               | Device-Specific Controls (Audio, Backlight)     | ✓*                                                                                                                                                                                                                                                                                                         |
|                                               | Connection Status                               | ✓                                                                                                                                                                                                                                                                                                          |
|                                               | Hardware Status                                 | ✓*                                                                                                                                                                                                                                                                                                         |
|                                               | Hard Disk Status                                | ✓*                                                                                                                                                                                                                                                                                                         |
|                                               | Batch Operation Support                         | ✓                                                                                                                                                                                                                                                                                                          |
|                                               | OTA Storage Management                          | FTP                                                                                                                                                                                                                                                                                                        |
|                                               | OTA Software Updates                            | ✓                                                                                                                                                                                                                                                                                                          |
|                                               | Software Watchlist                              | ✓                                                                                                                                                                                                                                                                                                          |
|                                               | Software Start/Stop                             | ✓*                                                                                                                                                                                                                                                                                                         |
| *Dependant on device model                    | Peripherals Watchlist                           | ✓*                                                                                                                                                                                                                                                                                                         |

<sup>1</sup> When paired with TREK-303/306 via a single-cable connection

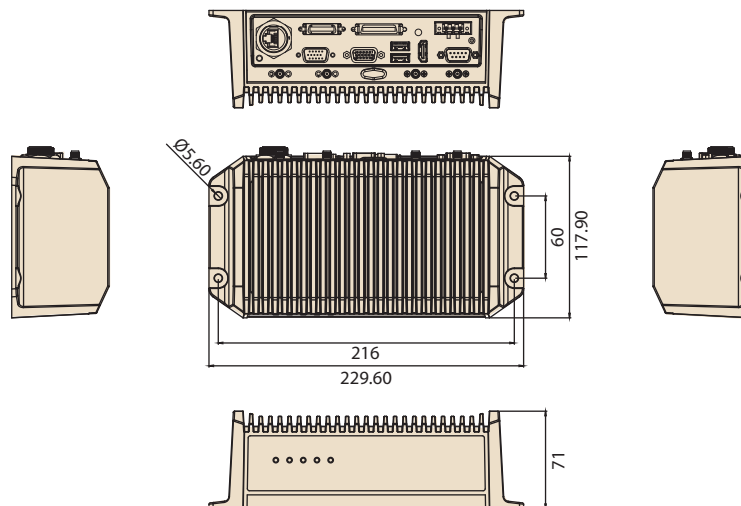
<sup>2</sup> BYT-I can support dual independent displays (smart display + VGA, smart display + HDMI, or VGA + HDMI).

<sup>3</sup> Supports dual independent audio streams. The Line-Out interfaces of the smart display ports and generic I/O are driven by different audio codecs.

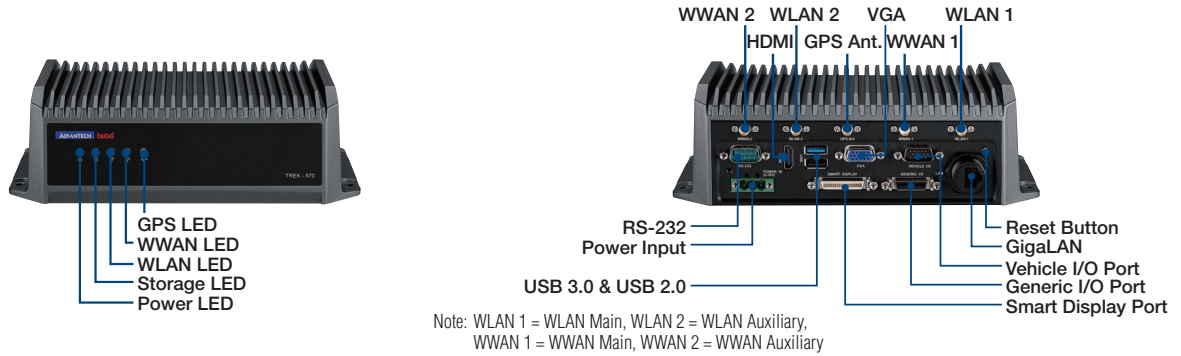
<sup>4</sup> The box-side connector is RP-SMA, female (external female thread with male internal pin)

## Dimensions

Unit: mm



## System I/O



## Ordering Information

| Part Number      | Description                                     |
|------------------|-------------------------------------------------|
| TREK-570-00A1E   | TREK-570 FL Intel BYT E3826 barebone unit       |
| TREK-570-LWBXA1E | TREK-570 FL W/LTE (EU)/GPS/WLAN/BT/W10 IoT LTSB |
| TREK-570-LWBXB1E | TREK-570 FL W/LTE (US)/GPS/WLAN/BT/W10 IoT LTSB |

Note: Linux OS image is available upon request

## Packing List

| Part Number   | Description                         |
|---------------|-------------------------------------|
| 1700019031    | Power cable, 2 m                    |
| 1700023050-11 | Generic I/O cable                   |
| 1700023051-01 | Vehicle I/O cable                   |
| 1654011716-01 | Waterproof RJ45 locking kit         |
| 1750007724-01 | 3-in-1 (LTE/GPS/Wi-Fi) antenna, 3 m |
| 1750007723-01 | Wi-Fi antenna, 3 m                  |

\* Power cable, Generic I/O cable and Vehicle I/O cable are all included in both full sku units

\* Waterproof RJ45 locking kit is included in barebone and full sku units

\* 3-in-1 antenna and Wi-Fi antenna are included in both full sku units

## Optional Accessories

| Part Number      | Description                                                                  |
|------------------|------------------------------------------------------------------------------|
| TREK-303R-HA0E   | TREK-303 7" WVGA in-vehicle smart display                                    |
| TREK-306P-HA0E   | TREK-306P, 10.4" XGA PCAP Smart Display                                      |
| 1700020007       | M cable SCSI-36P(M)/SCSI-36P(M), 2 m, for TREK-303                           |
| 1700020008       | M cable SCSI-36P(M)/SCSI-36P(M), 5 m, for TREK-303                           |
| 1700019464       | A cable 1*3P-5.08/DC jack+SW, 155 mm, for in-house testing                   |
| 96PSA-A65W19V1-1 | Adaptor 100-240 VAC, 60W, 12 V, 5A, w/o PFC FSP060-DBA, for in-house testing |

## RF CTOS Kits

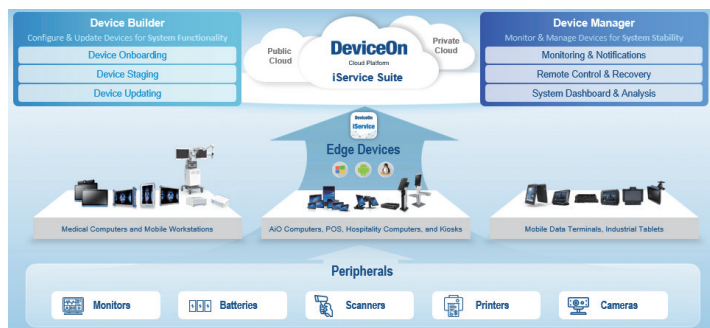
| Part Number | Description                                   |
|-------------|-----------------------------------------------|
| 98R8T57006E | TREK-570 WLAN kit (802.11a/b/g/n/ac BT combo) |
| 98R8T57007E | TREK-570 LTE module kit for US(WP7610)        |
| 98R8T57008E | TREK-570 LTE module kit for EU(WP7607)        |

\*These RF kits are without antenna

## Embedded OS

| Part Number    | Description                                    |
|----------------|------------------------------------------------|
| 20708WX6ES0045 | Img WIN10 LTSB-6(Atom) TREK-570 V1.01 7MUI x64 |

# DeviceOn - iService Suite



## Introduction

Advantech's DeviceOn - iService Suite is an advanced remote device management solution that enables you to centrally manage your devices, minimizing the need for expensive on-site visits and saving your valuable time and resources. Device Builder ensures that your devices are always up-to-date with the latest configuration and software updates, reducing the risk of data breaches and other security threats. Meanwhile, Device Manager helps to ensure that your devices are functioning correctly, reducing downtime and enhancing productivity.

## Key Functions

### Device Builder



#### Device Onboarding

- Support Windows, Linux, Android devices
- Quick enrollment process



#### Device Staging

- OS configuration
- Software/peripheral watchlist
- Device label, alarm rules



#### Device Updating

- Cloud software storage
- Installation package for multiple software updating

### Device Manager



#### Monitoring & Notifications

- Connection/hardware status
- Software/peripheral status
- Failure notifications



#### Remote Control & Recovery

- Reboot & power controls
- Audio & backlight settings
- Screenshots & remote desktop



#### System Dashboard

- Devices working status
- Software version sync status
- Results of scheduled tasks

## Services & Specifications

| Functions List                                                               | OS Platform                   |          |                | Service Type |         |
|------------------------------------------------------------------------------|-------------------------------|----------|----------------|--------------|---------|
|                                                                              | Windows                       | Android  | Linux (Ubuntu) | Builder      | Manager |
|                                                                              | 10, 11                        | 6, 8, 10 | TBD            |              |         |
| Device Onboarding - Enrollment, Locations and Labels                         | ✓                             | ✓        |                | ✓            | ✓       |
| Profile - OS Settings (Kiosk Mode, ON/Off Schedule, others are OS dependent) | ✓ (LTSC)                      | ✓        |                | ✓            | ✓       |
| Profile - Alarm Rules, Software Monitoring, Peripheral Monitoring            | ✓                             | ✓        |                |              | ✓       |
| OTA Update - Installation Packs, Software Cloud Storage                      | ✓                             | ✓        |                | ✓            | ✓       |
| Monitoring - Device Hardware (CPU/RAM/Storage/Battery)                       | ✓                             | ✓        |                |              | ✓       |
| Monitoring - Advanced Battery Management                                     | ✓ (Dependant on device model) |          |                |              | ✓       |
| Monitoring - Device Software (Running Status/CPU & Memory Usage)             | ✓                             | ✓        |                |              | ✓       |
| Monitoring - Peripherals & Display (Connect Status)                          | ✓                             |          |                |              | ✓       |
| Control - Audio volume & Backlight                                           | ✓                             | ✓        |                |              | ✓       |
| Control - Screenshot, Reboot, Shutdown                                       | ✓                             | ✓        |                |              | ✓       |
| Control - Schedule Tasks                                                     | ✓                             | ✓        |                |              | ✓       |
| Control - Remote Desktop                                                     | VNC                           |          |                |              | ✓       |

## Ordering Information

| Ordering P/N   | Cloud Type        | Description                                             |
|----------------|-------------------|---------------------------------------------------------|
| 36CSDOISSASP01 | SaaS subscription | DeviceOn - iService Suite device annual fee (365 days)  |
| 36CSDOISPSRP01 | On-premise server | DeviceOn - iService Suite device license (perpetual)    |
| 36CSDOISPSRP02 | On-premise server | Software and installation fee for new server deployment |
| 36CSDOISPSRP03 | On-premise server | Annual maintenance fee after warranty                   |

# Tento produkt můžete zakoupit u společnosti AutoCont IPC a.s.



## AutoCont IPC a.s.

Váš dodavatel průmyslových počítačů, komponent a speciálních průmyslových IT systémů.

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### PRŮMYSLOVÉ POČÍTAČE

*fanless embedded PC, do racku, ...*



### POČÍTAČE S DISPLEJEM

*panelové PC, terminály, do vozidel, ...*



### AUTOMATIZACE A SBĚR DAT

*převodníky, karty, moduly, switche, ...*



### PERIFERIE A KOMPONENTY

*monitory, klávesnice, desky, skříně, ...*



### NOTEBOOKY A TABLETY

*odolné, windows, android, IP65, ...*



### INFORMAČNÍ KIOSKY

*interiérové, venkovní, ...*



### MEDICÍNSKÁ TECHNIKA

*počítače, tablety, LCD, klávesnice, ...*



### SOFTWAREVÁ ŘEŠENÍ

*pro výrobu, zaměstnance, kiosky, ...*



### PŘEJÍT DO E-SHOPU

[eshop.autocont-ipc.cz](http://eshop.autocont-ipc.cz)



### DOPRAVA ZDARMA

Doprava zdarma v ČR a SR při objednávce nad 10 000 Kč bez DPH nebo nad 400 EUR.



### PRODLOUŽENÁ ZÁRUKA

Záruka 2 roky na vyráběné počítače s možností jejího prodloužení až na 5 let.



### ODMĚNA ZA VĚRNOST

Pravidelní zákazníci u nás nakupují za nižší ceny. Výše slevy se odvíjí od realizovaného obrátu.



### SERVIS ON-SITE A IN-TIME

K projektovým dodávkám nabízíme rozšířenou podporu a servis s garancí výměny zařízení do 48 hodin.