TREK-676

Modular Computing Box for Surveillance and Fleet Management

Introduction

TREK-676 is the next generation, intelligent, rugged, and modular computer box for surveillance and fleet management. The modular design supports various CPU platforms and RF extensions utilizing automotive grade connectors (FAKRA) for diverse applications, easy installation and customization, with built-in GNSS, WLAN, Bluetooth and WWAN, and via the modular I/O Extension supports Edge AI module, 5G communication or DSRC/V2X module with easier feature expansion. The TREK-676 is a hybrid video surveillance system which supports optional 8 channel 1080p/30fps HD CCTV cameras or 8 Port 802.3af POE Ports for IP Cameras. Video Recording is accessible via external SSD or HDD tray with key-lock protection. The TREK-676 is easily paired with a 2nd Generation TREK in-vehicle smart display via a single-cable connection. The rich I/O includes multiple digital Inputs and outputs with wet and dry configurations, four RS-232/RS-485 ports and dual audio codec with 10W amplifiers to be connected in transportation system. The intelligent vehicle power management system supports 12/24V vehicle power and ignition (on/off/delay) functions, wake-up event control and system health monitoring and diagnostics. The TREK-676 is rugged with the wide operating temperature range from -30 to 70 °C (-22 – 158 °F), and has MIL-STD-810G and 5M3 certified for shock and vibration tolerance.

Features

- Modular design supports Intel® Atom™ Apollo Lake or Intel® Core™ Kaby Lake platform with built-in GNSS for fleet management
- Modular RF extension and automotive grade connector for diverse applications, easy installation and customization
- Modular I/O extension to support Edge AI module, 5G communication or DSRC/V2X module with easier feature expansion
- Video surveillance system supports optional 8-ch 1080p/30fps HD CCTV cameras or 8-port 802.3af PoE ports for IP cameras and optional accessible external SSD or HDD tray with key-lock protection
- Easily paired with 2nd generation of TREK in-vehicle smart displays via a single-cable connection
- Supports 12/24V vehicle power with intelligent vehicle power management system
- MIL-STD-810G and 5M3 certified for shock and vibration tolerance

Specifications

### Core

- Processor: Intel® Kaby Lake (2/4/6 Core; 1.5 GHz)
  - (i7-7500U/i5-7200U/i3-7100U available upon request)
- Memory: 1 x DDR4M socket
  - up to 64GB DDR4 (1666 non ECC memory (4GB default)
- Graphics: Integrated 3D graphics engine

### Storage

- mSATA (SSD)
  - 1 internal mSATA SSD supports up to 32GB UMLC industrial-grade mSATA storage (32GB UMLC details)
- SDD/HDD
  - 1 x 1080p HD CCTV camera or 8 Port 802.3af PoE Ports

### Display

- Smart Display Port 2.0
  - 12V/24V power output for 2nd generation of TREK in-vehicle smart displays

### Sensors

- 1 x Accelerometer and Gyroscope

### Expansion Slot

- Edge AI
  - 1 x 90-pin mini PCIe, 4 expansion available for Advantech VEGA-320 Edge AI module

### I/O Interface

- Vehicle (I/O 2.0)
  - 2 x USB 3.0 (supports VPKM-1608, OBD-II/ISO 15765; configurable via firmware)
  - 1 x 970B (supports J1939)
  - Ignition & Car Battery power input
  - 2 x 9-pin RS-232/485
  - 2 x USB 2.0
  - 8 x Audio Input with G.726/G.711/AAC audio compression
  - 2 x Hi-res signals (Video and Audio)

### Video Surveillance Options

- HD CCTV
  - 8 x HDMI inputs with 4K@2160p/30fps after compression, up to 1080p resolution (30fps) per channel
  - 8 Audio inputs with up to 72kHz 16/24-bit audio compression
  - Power output shared for all cameras is limited by 60W

### Power System

- Voltage Input: Supports 12/24V vehicle power, -30 ~ 32V DC input (56V/24V DC and 72V/36V DC output compliance)

### Mechanical

- Dimensions: 284.2 x 229.3 x 78.0 mm
  - Weight: 4.2Kg (excludes SSD)
TREK-676

Dimensions

Unit: mm

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Specifications Cont.

Environment

- IP Rating: IP30, optional IP65 (C24 cover, project-based)
- Vibration/Shock: MIL-STD-810G, EN60721-3-5M3
- EMC: CE, FCC class B
- Safety: UL61010, CB (EN62305/EN50204)
- Vehicle Regulation: E-Mark, SAE J1455, ISO 7637-2, SAE J1131
- RF Regulation: CE (Europe), FCC: D, IC ID
- Operating Temperature: -30 to 70°C (Atom™ X5-E3940), -20 to 60°C (Core™ i7/i5, -20 to 60°C by project-based)
- Storage Temperature: -40 to 80°C

Accessible Front Door

Flexible Rear I/O

- Key Screw
- VIO 2.0 (GT25-16pin)
- Smart Display Port 2.0 (SDP2.0)
- Generic I/O 2.0 (GT25-40pin)

Order Information

- Part Number
- Description
- QTY

Packing List

- Part Number
- Description
- QTY

Notes:
- The TREK-676 barebone unit excludes Outdoor FAKRA antennas

Optional Accessories

- Part Number
- Description

TREK-676 CTOS Information

- Part Number
- Description

Online Download: www.advantech.com/digital-logistics/