

TREK-674

Compact In-Vehicle Computing Box for Fleet Management and Surveillance



Features

- Equipped with DeviceOn/iService software for remote device management
- Vehicle diagnostics interface with configurable CAN (J1939, OBD-II/ISO 15765) and J1708 (J1587) protocols
- Embedded Stretch S7 video encoder supports up to 8 analog video inputs and 4 audio inputs
- Built-in GNSS, WLAN, Bluetooth, and WWAN (with dual SIM cards) modules
- Wide operating temperature range (-30 ~ 70 °C/-22 ~ 158 °F)
- MIL-STD-810G and 5M3 certified for shock and vibration tolerance
- Easily paired with TREK in-vehicle smart displays (TREK-303/306) via a single-cable connection

DeviceOn/iService

Introduction

TREK-674 is a compact vehicle-grade, dual-core computing box designed to provide high-quality video surveillance and fleet management for police, ambulance, fire engine, and bus fleets. The inclusion of GNSS, WLAN, Bluetooth, and WWAN (with dual SIM cards) modules allows remote monitoring and vehicle tracking even in tunnels. TREK-674 also features several vehicle protocols (J1939, OBD-II/ISO 15765) for vehicle diagnostics and driver behavior management, and supports up to 8 channel camera inputs for high-quality H.264 D1/30fps/ch recording. The USB 3.0 port, dual SIM card sockets, and Cfast slots are front-facing to ensure ease of maintenance. Meanwhile an external swappable SSD tray is provided for video data backups.

Moreover, TREK-674 is equipped with Advantech's DeviceOn/iService software, which is a next-generation unified device management solution based on the WISE-DeviceOn platform. With support for batch operations and multi-device control, DeviceOn/iService enables easy device configuration and deployment for convenient remote device management.

Specifications

Core	Processor	Intel® Atom™ E3827 (dual core, 1.75 GHz)
	Memory	1 x SODIMM socket Up to 8 GB DDR3L-1066/1333 non-ECC memory (2 GB default)
	Graphics	Integrated 2D/3D graphics engine
	Video HW Encoder	Stretch S7 with H.264 MJPEG support; up to D1 resolution (30fps) per channel
	Operating System	WES7, Win10 IoT LTSB (32 bit), WES8, and Linux Ubuntu 14.04 Kernel 3.19.0 (32 bit) upon request
Storage	CFast	1 x externally accessible CFast slot with cover and supports system boot up 16 GB, UMLC SQFlash CFast (default)
	SSD	1 x externally accessible 2.5" SSD tray with key-lock protection, supports system boot up 64 GB, UMLC SQFlash SSD (default)
Display	Smart Display Port ¹	12V/2A power output for TREK-30x 1 x 18-bit LVDS (800 x 480/1024 x 768 resolution with auto-detection) 1 x Line-Out2 (for TREK-30x speakers) 2 x UART (TX/RX, TX/RX/RTS) (for touchscreen, hot keys, brightness, and light sensor control) 1 x USB 2.0 Type A 1 x PWR button 1 x Reset button
	VGA	1 x DB15 (up to 2560 x 1600 resolution)
I/O	Vehicle I/O	2 x CAN bus (supports raw CAN, J1939, OBD-II/ISO 15765; configurable via firmware) 1 x J1708 (supports J1587)
	Generic I/O	1 x RS-485 with auto flow control 1 x 4-wire RS-232 4 x Isolated DI (dry contact) 2 x Isolated DO (open collector output, driven by relay) 1 x Line-Out ² 1 x Mic-In
	Standard I/O	1 x USB 3.0 Type A (front) 2 x USB 2.0 Type A (rear, with cable clip) 1 x High-speed full RS-232, DB-9 (Pin 9 = ring, 12/5 V @0.5A is BOM optional via jumper setting) 2 x Giga LAN, with locked-type RJ45 connector
RF	Video/Audio Input (Via DVI-I Connector)	8 x Video inputs with video compression, H.264, MJPEG support, and up to D1 resolution (30fps) per channel 4 x Audio inputs with G.711 audio compression
	LED Indicators	5 x LEDs: Power (red), Storage (yellow), WLAN (green), WWAN (green), and GPS (yellow)
	Power Button	Via TREK-30x in-vehicle smart display; system power on by ignition as default
	Reset Button	1 x Reset button (front)
	WLAN + Bluetooth	IEEE 802.11a/b/g/n + Bluetooth V4.0 combo module via full-size mini PCIE slot (Optional high-power WLAN/WLAN for roaming available upon request)

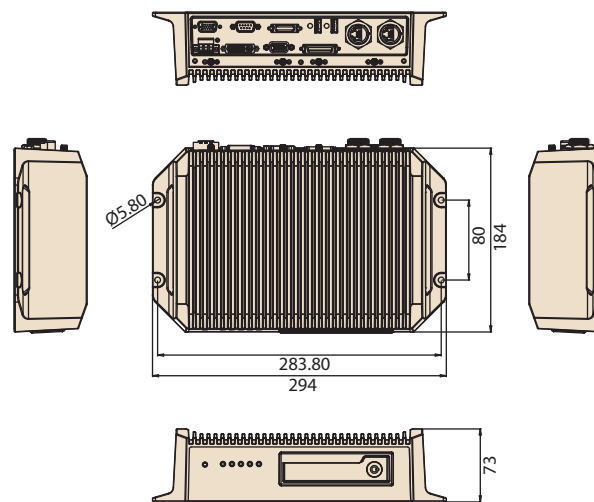
Specifications Cont.

RF	WWAN	4G (LTE, HSPA+, GSM/GPRS/EDGE, EV-DO Rev a1, 1xRTT); Sierra Wireless MC73xx via full-size mini-PCIe slot (MC7354 for US/MC7304 for EU as default) 2 x external accessible mini-SIM card sockets (selectable) with cover	
	GNSS	Built-in u-blox MAX-M8W GPS/GLONASS/BeiDou module with A-GPS support (Optional LEA-6R or Neo-M8L (dead reckoning) available upon request)	
	Antenna	4 x SMA-type antenna holes for GPS, Wi-Fi+BT, WWAN/LTE MIMO ³	
Power	Voltage input	Supports 12/24 V vehicle power, 9 ~ 32 V _{DC} input (ISO 7637-2 and SAE J1113 compliant) System power on/off/hibernate management (programmable ignition on/off/delay)	
	Intelligent Vehicle Power Management (iVPM 2.0)	Supports wake-up events: wake-on-alarm (RTC), wake-on-call/SMS, and wake-on-G-sensor System power protection (vehicle battery low voltage protection) System monitoring and diagnostics	
Mechanical	Dimensions (W x H x D)	294 x 73 x 184 mm (11.57 x 2.87 x 7.24 in)	
	Weight	3.5 kg (7.71 lb)	
Environment	IP Rating	IP30	
	Vibration/Shock	MIL-STD-810G, EN60721-3(5M3)	
	EMC	CE, FCC, CCC	
	Safety	UL/cUL, CB	
	Vehicle Regulation	E-Mark (E13), SAE J1455, ISO 7637-2, SAE J1113	
	RF Regulation	CE (R&TTE), FCC ID	
	Operating Temperature	-30 ~ 70 °C (-22 ~ 158 °F)	
DeviceOn/iService Remote Device Management	Storage Temperature	-40 ~ 80 °C (-40 ~ 176 °F)	
	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	✓

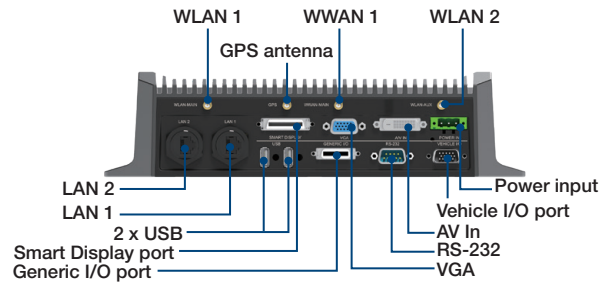
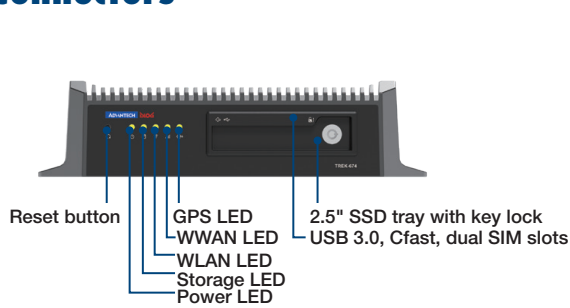
Note: DeviceOn/iService software must be downloaded from the Advantech website at <https://www.advantech.com/search?q=DeviceOn%2FiService&st=support&sst=Utility>

Dimensions

Unit: mm



I/O Connectors



Note: WLAN 1 = WLAN main, WLAN 2 = WLAN auxiliary, WWAN 1 = WWAN main

Ordering Information

Part Number	Description
TREK-674-LWB7A0E	TREK-674 w/LTE(EU)/GPS/WLAN/BT/SSD/WES7
TREK-674-LWB7B0E	TREK-674 w/LTE(US)/GPS/WLAN/BT/SSD/WES7

Note: WES8, Win10 IoT LTSB and Linux OS images are available upon request.

Packing List

Part Number	Description
1700019031	1 x 2M power cable
1700023050-11	1 x generic I/O cable, 2M
1700023051-01	1 x vehicle I/O cable, 30 cm
1700022702-01	1 x Audio/Video cable, 20 cm
1654011716-01	2 x waterproof RJ45 locking kit
1750007724-01	1 x 3-in-1 antenna (LTE/GPS/Wi-Fi), 3M
1750007723-01	1 x Wi-Fi only antenna, 3M
1990018848T000	2 x USB cable clips

Optional Accessories

Part Number	Description
TREK-303R-HA0E	7" WVGA in-vehicle smart display
TREK-306D-HA0E	10" WVGA in-vehicle smart display
1700020007-11	2M smart display cable
1700020008	5M smart display cable
1700020128	5M power cable
1700019464	Power cable, 155 mm (for in-house testing)
96PSA-A60W12V1-1	Adapter AC 100 ~ 240 V, 60 W, 12 V 5A w/o PFC (for in-house testing)

DeviceOn/iService

Unified Remote Device Management Software



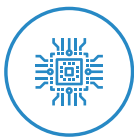
Features

- Supports Advantech devices equipped with Windows, Android, and Linux OS
- Flexible device, location, user, and permissions management
- Enables remote monitoring and control of hardware, software, and peripherals
- Supports over-the-air (OTA) firmware and software updates
- Ensures quick, easy, and secure device onboarding
- RESTful APIs for third-party system integration

Introduction

Advantech's DeviceOn/iService is a next-generation unified device management solution based on the WISE-DeviceOn platform. Designed to enable centralized monitoring and remote management, DeviceOn/iService supports Advantech devices equipped with Windows, Linux, or Android operating systems. The software also supports the management of applications and integrated peripherals, such as a barcode scanner, card reader, camera, and printer. Users can remotely access and control connected devices, take screenshots, rollout OTA upgrades, and use remote desktop capabilities for troubleshooting from any location at any time. Moreover, DeviceOn/iService supports batch operations to facilitate the management of multiple devices simultaneously for easy and convenient device configuration and deployment.

Total Management



Devices & Hardware

- Windows, Linux, Android
- Hardware, storage, battery



Software & Peripherals

- Software monitoring & access
- Screens, USB devices, printers



Open for Expansion

- Peripheral integration
- Open APIs for integration

Remote Access



Real-Time Monitoring

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



Remote Controls

- Power controls
- Audio, backlight controls
- Software controls



Troubleshooting

- Screenshots
- Remote desktop support

Operational Efficiency



OTA updates

- System/software updates
- File repository management
- App store



Batch Controls

- 1-to-many batch reboot, etc.
- Time-saving tasks



Setup Booster

- Software/peripheral watchlist
- Roles, rule templates

Note: Some functions may vary according to the product

System Architecture

