

SUNIT



innovations



SUNIT



Dedicated to providing innovative, reliable and ingenious In-vehicle Computer, AVL and Telematics technology

Sunit Oy is dedicated to providing its customers with innovative In-vehicle Computers, Telematics and AVL solutions that offers technical excellence and reliability using its extensive experience and technical expertise to develop the range of In-vehicle Computers to customer's needs.

In the year 2000 Sunit was rewarded on the award of the **Best European Small Enterprise Initiative** in the competition of **The European Awards for the Spirit of Enterprise** by European Commission and JEE.

Sunit in-vehicle computers are used for many applications and across a wide number of industries. A typical applications are Police and Fire services, Emergency Services, Public transports as Taxis, Transport logistics, Ware-

house logistics, Road maintenance services, Timber harvesting logistics, Harbour logistics, Custom and coast-guard services, and other Commercial and utility vehicles.

As a strategic partner to the automotive industry Sunit develops and produces customer tailored In-vehicle Computer, AVL and Telematics solutions for instance to Scania - one of the leading truck manufacturers worldwide.

Sunit On-board Computer family comprises a comprehensive range of purpose built fixed mounted computer models for commercial and utility vehicles. Related to the model and application requirements, each system can be equipped with a display from 6,4 inch up to 12,1 inch. Sunit In-vehicle computer model range comprises Sunit d and Sunit c series computer units with a remote displays and a standard Din car radio size dashboard

mountable computer unit or alternatively with a separate universal surface mountable computer unit. By this modulated product family you will find the ideally suited On-board computer model for virtually any kind of In-vehicle application.

Sunit On-board computers fulfil vehicle industry requirements and are verified in accordance with vehicle industrial ISO, IEC and EMC standards. Users and operating environment required demands are taken into account through the development of the products. This has resulted into unique features like integrated circuits of GPS navigation and GPRS communication, standard CAN-bus interface to vehicle's own control network, intelligent guidance of computer start & stop according to vehicle utilization mode, Integrated TV and Radio receivers, 2x30 amplifier, automatic display light adjustment according to the display environment light, controlled power management, smart battery backup system, withstanding

shocks and vibration, sustaining widely varying temperature and humidity, embedded technology in compact, light and rugged configuration.

With its strong background in technical excellence, Sunit continues to develop innovative, reliable and ingenious solutions in the In-vehicle Computer, AVL and Telematics fields to meet customer's needs.



Processor

Intel Celeron M processor
Ultra low voltage 1,0V technology
Embedded 64MHz Multimedia Processor
Embedded Series

RAM Memory

256 MB RAM Type DDR Soldered

Hard Disk Drive

Automotive 20/30 GB HDD,
Processor & I2C controlled preheating, cooling and
Power-Moding
Wide operating temperature range

Navigation

Integrated GPS receiver, NMEA standard: VTG, RMC, GGA,
GSA, GSV.

Data communication

Internal GPRS-standard communication for PC
applications plus Telematic use without PC-applications
during Stand-By Mode

Interfaces

COM1, Standard Dsub9 connector
2 x USB 2.0
1 x PS2 on display for Sunit mini keyboard
GPS antenna
GPRS / GSM antenna
Digital display interface
Vehicle power connector: Power input,
digital input 1 Car Alarm In, vehicle IGN15, Wake-Up
2 x 30 W Stereo out

Keyboard, Mouse, Touch Screen

Std mini-AT or ultra mini-AT keyboard with
86 buttons including WIN buttons, keyboard
store pocket
Glidepoint touch pad, dust and waterproof
Touch screen
Option: Small Hand Held Keyboard with lighted buttons,
PS/2 connection, function-, numeric- and arrow buttons,
Ctrl, Alt, Del, Enter and Esc buttons, Dashboard
mounting bracket
Option: programmable 4 button keyboard

Operating System

Windows® XP, Linux®

Power Supply

Operating voltage 12 VDC

Power consumption 10 W, when pre-heating is OFF.
Internal filtrations of supply voltage's fluctuation and breaks according to vehicle standard Power Moding

Power ON / OFF

Ignition controlled automatic PC Start and Stop Delay features

- 2 x general inputs (Ignition, Wake-Up)
- Phone call wakeup feature in Stand By mode
- Watchdog for the O/S states
- General IO control available at Windows API

Auto Start, Standby and Stop Delay settings

- Windows Interface on Control panel for
- * Auto Start mode
 - * Switch off delay time
 - * Standby mode

Power Moding

Controlled by monitoring the Vehicle Ignition with supervising of the operating temperature and supply voltage.
Includes ON, OFF, Standby states and Internal Diagnostics. Intervals of each state are individually adjustable. On Standby state, where Phone and Data-inputs are activated for wakeup power to ON-state by incoming calls, alarm or equivalents, the system consumes extremely low power.

Dimensions and Weights

Std DIN Car Radio Mounting Case for Dashboard Mounting
Console mounting: 189 (w) x 61 (h) x 177,5 mm (d), 1,8 kg
With DVD-RW: 189 (w) x 80 (h) x 177,5 (d), 2,0 kg

Car Interface & Audio

Audio I/O for Microphone and Stereo Out for External Amplifier

Mounting

Universal surface mounting Computer Casings
Std DIN Car Radio Mounting Computer Case for On-Board Mounting

Shock

IEC 68-2-14 Nb

Vibration

IEC 68-2-64



Corrosion protection

IEC 68-2-30 Db

Cold Weather Start-Up

IEC 68-2-1 Aa

Transient voltages

According to ISO 7637-1, test pulse 5, level 3, vehicle system "load dump"
According to ISO 7637-2 and 3. Test pulse 1a: $V_s = -150V$, $R_i = 10\Omega$, $t_1 = 5s$.
High Active Digital Inputs: $-600V$, 1ms, $R_i = 50\Omega$
Low Active Digital Inputs: $+300V$, 1ms, $R_i = 50\Omega$

Reverse- and over voltages

Reverse battery voltage protection
24V, time not limited (wrong cable connection in 24V systems)
35V, 1 hour (alternator failure)
48V, 20 min (booster start)

Voltage drop, vehicle Engine start

ISO 7637-1, test pulse 4, $V_s = -7V$, $V_a = -6V$, $t_6 = 40ms$, $t_8 = 10s$
ISO 7637-2, test pulse 4, $V_s = -16V$, $V_a = -12V$, $t_6 = 50ms$, $t_8 = 20s$

ESD

IEC 61000-4-2: 1995, level 4 (8kV contact discharge, 15 kV air discharge)

EMC

2004/104/EC

Dry Heat

IEC 68-2-2 Bc.: $90^\circ C/1h$, $85^\circ C/5min$, and $70^\circ C/96h$

Stress Cycling

According to IEC 68-2-14 Nb and simultaneously vibration test according to IEC 68-2-35: 1h $-25^\circ C$, 1h $70^\circ C$, 48h/axle. Rate of temp.change: $3 \pm 2^\circ C/60s$. Number of cycles: 65

Environmental Specs

Humidity 5% - 95% non-condensing
Operation Temperature $-25^\circ C$ to $+55^\circ C$
Storage Temperature $-40^\circ C$ to $+80^\circ C$

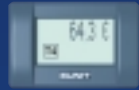
QA Methods

SAE J1939/11 (CAN)
DIN 40050 (IP)
IEC 68-2-38 2/Ad (TMP)
IEC 61000-4-2 (ESD)

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Specifications subject to change without notice.



SUNIT LCD-i



SUNIT 6



SUNIT 7 wide



SUNIT 8



SUNIT 10



SUNIT 12



The Sunit In-Vehicle PCs are available as complete systems, with the end user being able to define exact build requirements for a range of users and variety of vehicle models, which offer different available space. Having a separate system unit and screen unit installations have the same capability, regardless of screen size. A selection of screens is available to allow optimum screen size compared to space available within the vehicle. The selection of screen sizes gives the opportunity to design the system into the vehicle.

You can choose a screen size that best suits the vehicle, the choice of screen resolution also needs to be decided. Different screens sizes support Health and Safety approved installations into vehicles with the same system capability.

Variety of applications for fleet use is designed for touch screen control with keyboards only being used for bulk data input. Sunit offers a range of high brightness colour TFT touch screens for ease use with Sunit In-vehicle Computers.

Enabling to see the screen easily in the high ambient light of a vehicle is as crucial as a full dimming range for night use, screens feature automatic control of brightness and user defined base brightness level settings.

A single display cable connects the screen to the system unit carrying power and display data to the screen and touches input data to the system unit.

Sunit Dual Independent Display Board allows two separate displays to be connected to the Sunit In-vehicle Computer at the same time. This feature enables e.g. digital map on driver's display, while using other application on the other. Applications can be moved from one monitor to another, or can be displayed on more than one monitor simultaneously.

Sunit DDSTWIN Screen Adapter enables slave displays to be connected to the Sunit CAR PC, when same application appears on other screens simultaneously.

