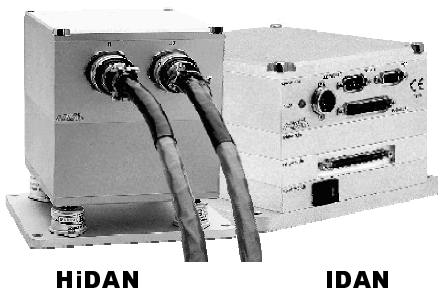


PC/104 Shortform

PC/104 & PC/104+ products and systems for demanding industrial and mobile applications

IDAN™ HiDAN™



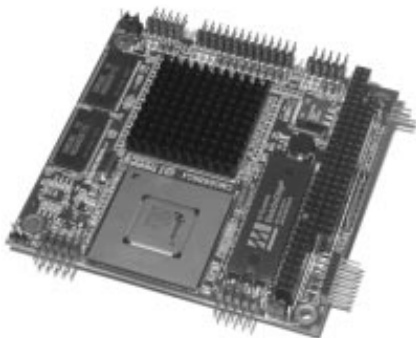
HiDAN

IDAN

RTD presents the **IDAN™** and **HiDAN™** enclosure system based on stacking frame mounted modules. This construction is the ideal solution for many mobile and industrial applications working under extreme environmental conditions of temperature, vibration and shock. Each PC/104 module has external I/O connectors through its own frame, or as in **HiDAN™** through robust military connectors in the "connector frame". The RTD **IDAN™** and **HiDAN™** system can be used to integrate any RTD standard PC/104 or PC/104+ module. Both **IDAN™** and **HiDAN™** have received wide acceptance in marine, aerospace, military and industrial applications worldwide.

Single board computers

CMC/CMM17686GX300 300MHz Pentium class MMX CPU, PC/104+ bus, SVGA with 2D-accelerator (CMM-type), 32-256MB SDRAM, SSD-socket, ECP-parallel port, watchdog timer, 2 serial ports (RS232/485/422), RTC, keyboard, PS/2 mouse, speaker, operating temperature -40 to +85°C (CMC-type)



CMD/CMG17686GX300 300MHz Pentium class MMX CPU, PC/104+ bus, 32-256MB SDRAM, 2 SSD-sockets; 2 serial (RS232/485/422) / 2 USB (CMD); SVGA with 2D-accelerator and 1 serial port (RS232/485/422) / 2 USB (CMG). Both have ECP-parallel port, watchdog timer, RTC, keyboard, PS/2 mouse, speaker, operating temperature -40 to +85°C (CMD-type)

CMC/CMM/CMD/CMG1686GX300 300MHz Pentium class MMX CPU, PC/104 bus, SVGA with 2D-accelerator (CMM/CMG-type), 32-256MB SDRAM, SSD-socket, serial ports (RS232/485/422), USB, ECP-parallel port, watchdog timer, RTC, keyboard, PS/2 mouse, speaker, operating temperature -40 to +85°C (CMC/CMD-types)

CME/CMK6586DX100 100/66MHz CPU, 16/32 MB DRAM, 10Base-T **NE2000 Ethernet (CME)**, AN82527 based isolated **CAN-Bus bus (CMK)**, SSD-socket, 2 software selectable serial ports (RS232/485/422), ECP-parallel port, watchdog

CMG16686GX300HR-128

timer, Fail-Safe boot ROM, RTC, keyboard, speaker

CMH/CMi/CMV6586DX133 200/100/66MHz CPU, DRAM 16/32 MB (CMV and CMi-types), 32 MB (CMH-series), IDE and floppy (CMi-type), SSD-socket (2 on CMV-type), 2 software selectable serial ports (RS232/485/422), ECP-parallel port, watchdog timer, Fail-Safe boot ROM, RTC, keyboard, speaker.

100/66MHz CMK, CMi, CMV and 200MHz CMH CPU operating temperature is -40 to +85C, CME is always 0 to +70C.

Peripheral I/O boards

CM112HR/CM110HR SVGA (Flat panel and CRT monitor), C&T 65545 controller, IDE and FDD (CM112HR)



GPS6160HR

channel GPS, NMEA-0183 and binary format outputs, 16C550-UART, DGPS-input (GPS140HR), low power GPS (1.4W for GPS6160HR)

CM7110HR PC/104+ C&T 69030 based video controller for CRT and flat panels, 4MB SDRAM, 2048x1024 16M colors or 1600x1200 64K colors, onboard LCD bias voltage. Supports EL, Plasma, TFT and SSTN panels

CM17326 PC/104+ bus frame grabber board, 6 composite or 3 SVHS inputs, PAL/SECAM/NTSC video format support

CMT6104 PCMCIA ATA-drive interface with onboard IDE controller

CMT106/CMT107 20GB 2.5" hard disk with with onboard IDE controller and FDD (CMT107 version)

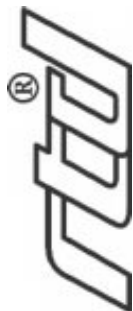
CMT6106/CMT6107 2.5" hard disk interface with onboard IDE controller and FDD (CMT6107 version)

GPS6160HR/GPS140HR GPS Receiver Fastrax iTrax02 or Conexant 12

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PC/104 Shortform



Analog and digital I/O boards

DM17520HR PC/104+ 1MHz, 16 analog inputs; 12-bit resolution, 1-8K FIFO, 1K channel gain table, PGA 1/2/4/8/16/32 gain, pacer/burst clock, 2 12-bit D/A 1K FIFO, 6 timer/counters, 8 port, 8 bit programmable I/O

DM6420HR AT-bus 500KHz, 16 analog inputs; 12-bit resolution, 1-8K FIFO, channel gain table, PGA, pacer clock, DMA, two 12-bit D/A, 6 timer/counters, 8 port programmable, 8 bit programmable digital I/O



DM6418HR

DM6430HR AT-bus 100KHz, 16 analog inputs; 16-bit resolution, 1-8K FIFO, channel gain table, PGA, pacer clock, DMA, one 16-Bit D/A, 6 timer/counters, 8 port programmable, 8 bit programmable digital I/O

DM5414/6414 100KHz, 32 analog inputs; 12-bit+sign resolution, 4 12-bit D/A, 3 timer/counters, 32 digital I/Os 16 I/O and 8 port, 8 bit programmable, 4 data acquisition sequencers with window comparators and watchdog modes

DM5408 200KHz, 16 analog inputs; 12-bit resolution, 1K FIFO, channel gain table, PGA, pacer clock, DMA, data marker, two 12-bit D/A, 16 bit programmable digital I/O, 6 timer/counters

DM5416 100KHz, 16 analog inputs; 16-bit resolution, 1K FIFO, channel gain table, PGA, pacer clock, 16-bit D/A with 100KHz throughput, 8 port programmable, 8 bit programmable digital I/O, 3 16-bit timer/counters

DM6418HR AT-bus 250KHz, 16 simultaneously sampling 14-bit analog inputs with enhanced input protection, two 12-bit D/A, 3 timer/counters, 8 port programmable, 8 bit programmable digital I/O, all digital I/O 24V tolerant

DM5300 16 channel 10 to 18-bit V/F-converter, PGA, 2 12-bit D/A, 3 timer/counters, 16 digital I/O (8255)

DM5210/6210 40KHz, 16 analog inputs with 12-bit resolution, gain, 3 timer/counters, 16 digital I/O (8255)

DM6620HR AT-bus, 4 analog outputs; 100KHz 12-bit resolution and 1K FIFO, 8 port programmable, 8 bit programmable digital I/O; six 16-bit timer/counters

DM5604/6604 8 12-bit analog outputs with selectable range and 12-bit resolution, 24 digital I/O (8255)

DM5602/6602 4 12-bit analog outputs with 4-20mA current or voltage output, 24 digital I/O (8255)

DM5806 24 general purpose digital I/O (8255), three 16-bit timer/counters (8254)

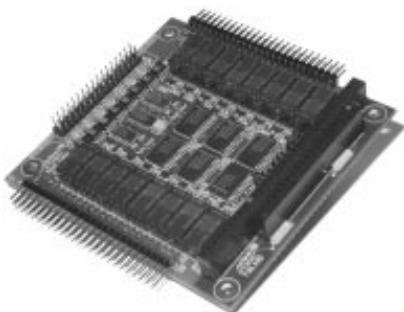
DM5810/6810 48-bit programmable digital I/O, three 6-bit timer/counters (8254)

DM5812/6812 24-bit programmable digital I/O, 24 port programmable digital I/O, 3 16-bit timer/counters

DM5814/6814 3 16-bit incremental encoder inputs, 6 digital I/O, 22 digital inputs, 3 16-bit timer/counters

DM5816/6816 9 8-bit TTL-level PWM-outputs, 9 digital outputs, three 16-bit timer/counters

Galvanically isolated digital I/O boards



DM6956HR

DM5852HR/6852HR 8 isolated N-channel Mosfet outputs, 4 optocoupler inputs, 24 general purpose digital I/O (8255)

DM5854HR/6854HR 8 isolated inputs with three ranges, 4 optocoupler outputs, 24 general purpose digital I/O (8255)

DM5856HR/6856HR 16 optocoupler inputs +5 to +30V range, 16 optocoupler outputs +5 to +30V range

DM5858HR/6858HR 32 optocoupler inputs with a +5 to +30V input range

DM5952HR/6952HR 16 power relay outputs, 60VA switching capability up to 240VAC/DC

DM5956HR/6956HR 16 60VA power relay outputs, 16 optocoupler inputs with a +5 to +30V range

Motion control and motor interface boards

ERES104 2 Channel syncro/resolver/inductosyn interface with programmable 5W 400Hz-1.6KHz excitation; frequency and amplitude adjustable, 10-16 bit resolution, sockets for 11.8V or 90V syncro scaling resistors

ESC629/ISC629 2 Channel DC-Servo motor controller with position, velocity and acceleration control, programmable PID controllers with incremental encoder feedback and two onboard 60V 6A MOSFET H-bridges for direct motor control; 24 general purpose 8255 based TTL level digital I/O. ISC629 option with galvanical isolated High Power MOSFET H-bridge power stage.

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PC/104 Shortform

**PC/104 & PC/104+
products and systems
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and mobile applications**

Power supply boards



EPWR104HR

EPWR104HR 25/50W automotive power supply with +8 to +40V input range, +5V, $\pm 12V$, -5V outputs

HPWR104HR 75W high output power supply with +8 to +30V input range, +5V, $\pm 12V$, -5V outputs

IPWR104HR-35W Isolated 35W supply with +18 to +36V or a +38 to +72V input range; +5V, $\pm 12V$, -5V outputs

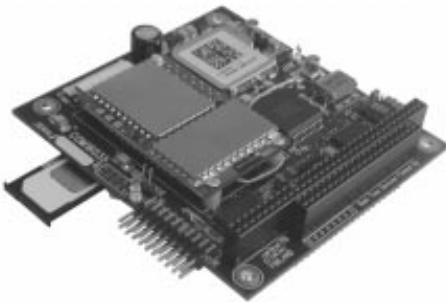
IPWR104HR-60W/-100W Isolated 60W or 100W power supply with 18V to 36V or 33V to 72V input range, +5V, $\pm 12V$, -5V outputs

UPS25 UPS with 25W 8-cell NiCd/NiMh charger, input voltage 10 - 40VDC, advanced power monitoring, backlight control and software shutdown. Designed for RTD **EPWR104HR** or **HPWR104HR** power supplies.

Network and communication boards

COM16035/COM17035 900/1800MHz **GSM** (COM16035) or **GPRS** (COM17035) modem with 16C550 UARTs, onboard or external SIM socket, **12 channel GPS receiver**, 16 digital I/O and temperature sensor. Features include 9.6/14.4 Kbaud data rate (GSM) or 10 to 50 kbaud datarate (GPRS), group 3 fax, full SMS services.

GSM35/GPRS35 Wireless 900/1800MHz **GSM** (GSM35) or **GPRS** (GPRS35) modem with 16C550 UART, onboard or external SIM socket, 16 digital I/O and temperature sensor. Features include 9.6/14.4 Kbaud data rate (GSM) or 10 to 50 kbaud datarate (GPRS), group 3 fax services, SMS and SMS cell broadcast.



COM17035

EFM104HR 56 kbaud data modem / 14.4 kbaud fax, 16C550 UART, 16 digital I/O, EU, US/CAN approved

CM310HR Four 16C550 serial ports, individually jumper configurable for RS232/RS485/422 levels

CM312/CM313HR NE2000 (CM312) or SMC9000 (CM313HR) Ethernet board with 10Base-2 and 10Base-T interfaces. Four individually jumper configurable RS232/RS485/422 16C550 serial ports.

CM17202HR/CM202 100Mbit Intel 21143 (CM17202HR) or 10Mbit NE2000 (CM202) Ethernet controllers

ECAN527DHR Galvanically isolated dual AN82527 CAN bus interface, memory mapped into host memory, 128 byte EEPROM, 14 digital I/O.

ECAN527HR-1/-2 Galvanically isolated AN82527 based CAN bus interface, memory mapped into host memory, 128 byte EEPROM, 6 digital I/O. Optional fiberoptic CAN interface on -2 version boards.

ECAN1000HR Galvanically isolated SJA1000 based CAN bus interface; I/O mapped host interface.

DPM104HR 16-Bit 16KB Dual port SRAM board with two PC/104 AT-busses. This board supports semaphores and interrupts and it is ideal for multiprocessing systems.

Industrial sensor interface boards

TMX32-96 32 input channel 3U Eurocard analog input multiplexer board with CJC temperature sensor and programmable gain, D/A controlled offset adjustment. Versatile input stage adapts to most input signals.

USF4 4 input channel PC/104 multifunction galvanically isolated channel-by-channel configurable sensor interface board with onboard excitation and D/A controlled offset adjustment. Directly interfaces to 4-20mA current loops, PT-100 temperature sensors, thermocouples, strain gauges and other microvolt level signals.

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PC/104 Shortform

**PC/104 & PC/104+
products and systems
for demanding industrial
and mobile applications**

RTD *Mobile ToolKit™* Software



Real Time Devices Finland Oy

Complete Mobile Professional Software Development Environment

Mobile ToolKit Basic Edition

Basic I/O control functions for RTD boards. Uses RTD drivers for GSM/GPRS SMS communication for Windows. Free package included with RTD GSM/GPRS modems.

Mobile ToolKit Professional Edition

Includes all Basic Edition features and advanced I/O-control functions for complete system resource access. The Professional Edition supports all RTD boards in Windows and Linux.

Software licence may be purchased together with all RTD GSM/GPRS modems.

Mobile ToolKit Open Source Edition

Full source code package for the Professional Edition. The package includes full driver source code, ToolKit function source code, as well as the code for SMS communication for the RTD GSM/GPRS modems.

Advanced mobile telematics engine for development and integration into systems requiring mobile connectivity, positioning, data acquisition and control.

Unlimited licence, single purchase.

Advantages of using the RTD *Mobile ToolKit*

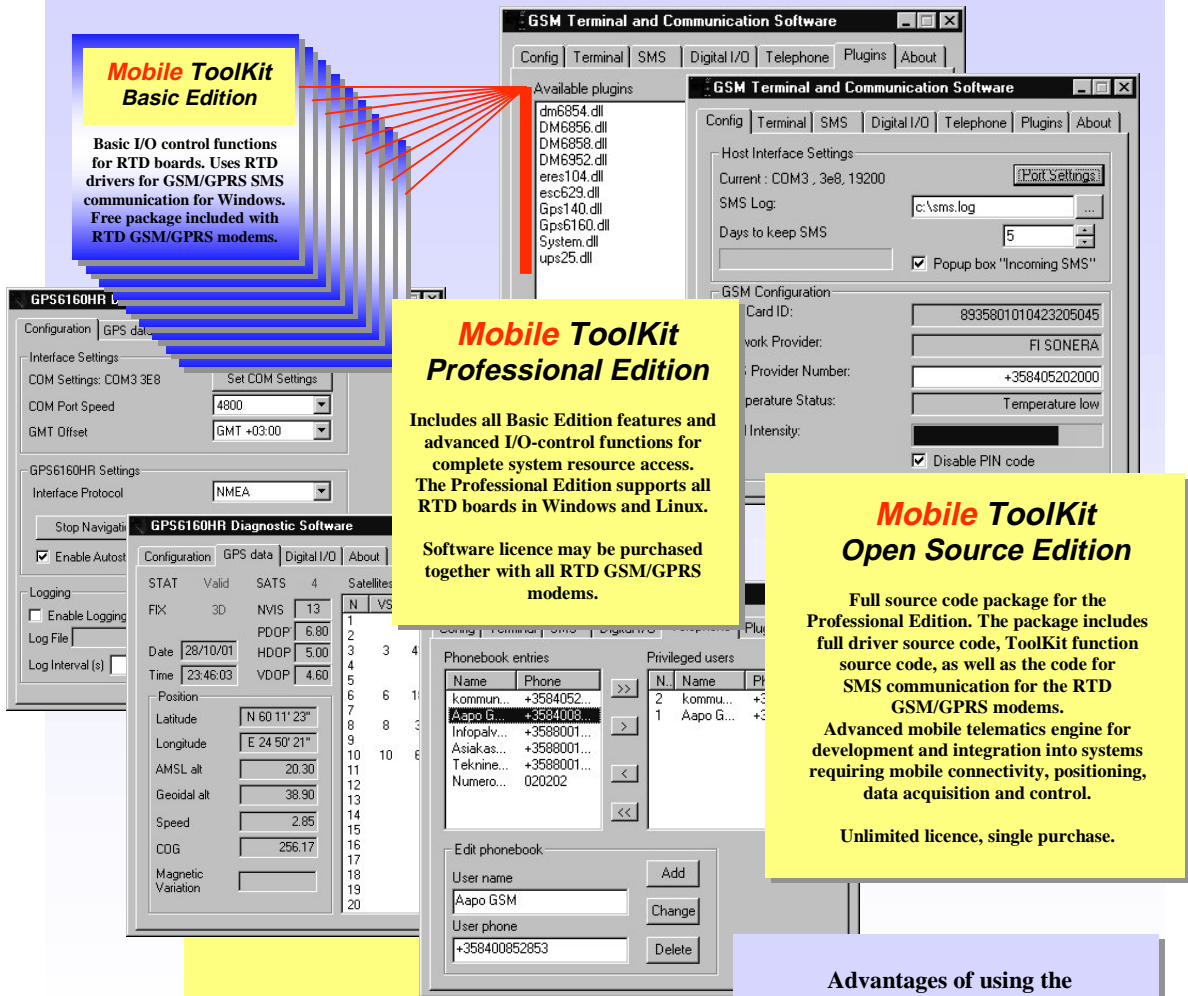
- Reduced system time to market
- Software and hardware optimisation
- Single source for HW and SW
- Guaranteed compatibility with RTD modules
- Customer oriented support and development
- Following RTD ensures your leading position in embedded telematics and wireless application development world wide.

RTD *Mobile ToolKit* Command examples

- Getpos: position, speed, time (Basic)
- Inpos: site, area, zone (Professional)
- Offpos: site, area, zone (Professional)
- Write: analog/digital I/O (Professional)
- Read: analog/digital I/O (Basic)
- Read: CAN, Resolver... (Professional)
- Stat: status CPU, UPS, GPS (Professional)
- Customer defined functions (Professional)

User interface

- GSM/GPRS SMS
- PC SMS Messaging
- Other systems
- Generic services over the Internet



Notes: The HR postscript indicates a standard operating temperature range of -40 C° to +85 C°. All other modules have guaranteed operation from 0 C° to +70 C° unless otherwise specified. More detailed product information is available on our website <http://www.rtdfinland.fi>. Software and drivers for DOS, WIN95/98-2000/NT4.0 and Linux are available from RTD Finland Oy. The RTD-logo, PC/104 and the PC/104+ logos are trademarks of the PC/104 Consortium. Windows is a trademark of Microsoft Corporation. All other trademarks appearing in this document are the property of their respective owners. All rights reserved. Copyright (c) 2002 RTD Finland Oy. All specifications are subject to change without prior notification from RTD.

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