Solutions for Tactical and Military Applications

DIGITAL TECHNOLOGIES FOR A BETTER WORLD

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Eurotech Solution – Our Value Proposition

- Faster project completion – using standard high-quality and MIL- certified COTS product
- EU design/production, global presence with strategic partnerships
- Protect your investment – 5 to 15 product lifetime management
- Reduced downtime – extended operating temperature, rugged construction, structural heat dissipation, shock protection
- High integration – cost, size and power consumption advantage
- Reasonable NRE for modifications – standard architectures support easy personalization with custom features
- Guranteed compatibility, qualifications and performance

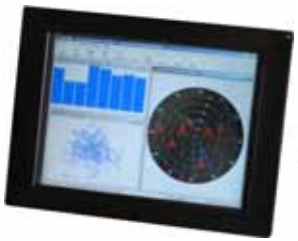
Eurotech Group Products
for Tactical and Defense Applications

- High reliability OEM modules and system components
- Rugged DuraCOR integrated central units
- DuraNET and DuraMAR – CISCO networking routers, switches
- Versatile DuraVIS displays for military applications
- Zypad wrist worn wearable computing
- Cluster and grid supercomputers
- ODM systems

OEM Modules
PXA and x86

DuraCOR
central units

DuraNET
Swiches/Routers



DuraVIS
displays

Zypad wearable
computing

Cluster and Grid
Supercomputers

Targeted Applications

- Onboard computing, networking and data processing
- Maintenance, logistics and materials handling
- C4I systems and communications
- Mission, status processing/recording computers
- Security, surveillance, vision processing
- Onboard (MFD) displays

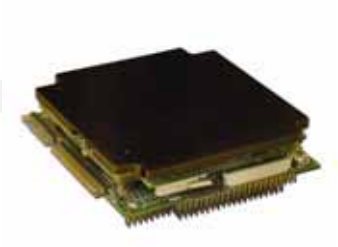
Platforms



OEM Modules – Design Principles

- Extended operating temperatures -20 to +70°C or -40 to +80/85°C
- Committed to compliance MIL-STD-461/1275/704/810
- Extended temperature range (ETR) through qualification test
- Products designed for mass production and automated testing
- Design and production to sustain long product lifetime
- Extensive use of SMD technology, no sockets nor SODIMM memory
- Structural heat dissipation supported for high performance CPUs
- Fanless designs - modules and systems
- High peripheral integration – minimal system board count
- Dedicated interface modules for best EMI, filtering and protection

Intel ATOM CPU



PC/104 CPU

MPEG-4 compressor

PSU

OEM Modules – Product Overview

- CPU
  - 333MHz AMD Geode
  - Marvell PXA270
  - 400MHz Celeron
  - 1GHz Celeron M and 1.4MHz Pentium M
  - 1.6GHz ATOM
- MPEG-4 and JPEG-2000 hardware video compressors
- Isolated analogue and digital I/O expansion
- Solid state mass storage
- MIL-STD-1553 and ARINC-429 bus controllers
- CAN, 5 x Ethernet interfaces and switches
- Precision L1/L2/Glonass GPS-receivers
- Avionics and military vehicle power supplies
- Rugged 3D shock-protected enclosures

DuraCOR™ Product Overview

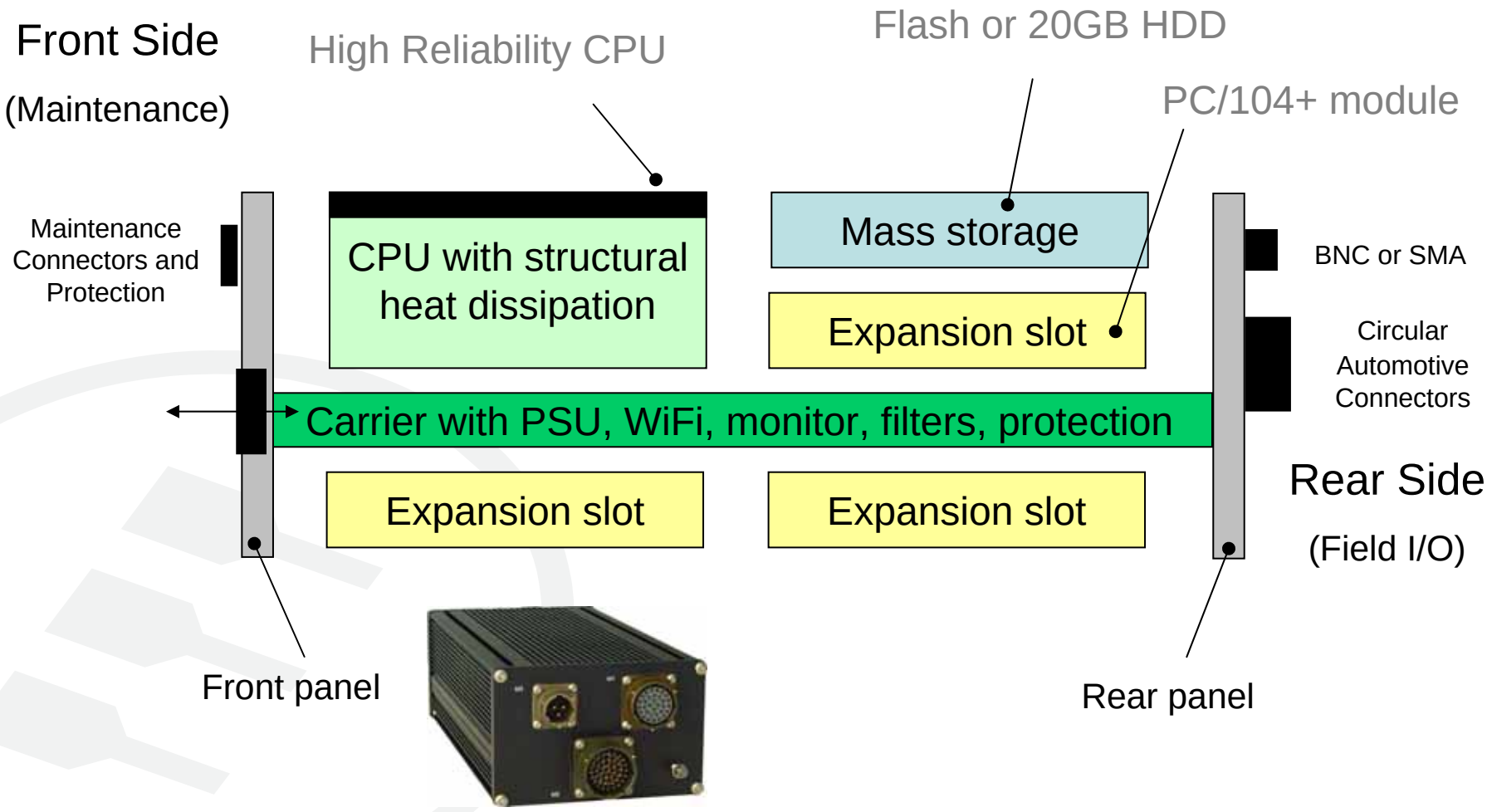
DuraCOR Series Rugged Central Units

- +12/24V and 28V avionics and vehicle installations
- 1GHz Celeron M, 1.4GHz Pentium M and 1.6GHz ATOM
- Internal monitoring and diagnostics system
- -40 to +70/85°C operating temperature
- Structural heat dissipation
- Flash Disk-on-Module for OS, application and storage
- Serial, USB, Video, keyboard PS/2,Gbit/10100Mbit Ethernet
- Application specific – expansion CAN, Video, Analog I/O, MIL-STD-1553b

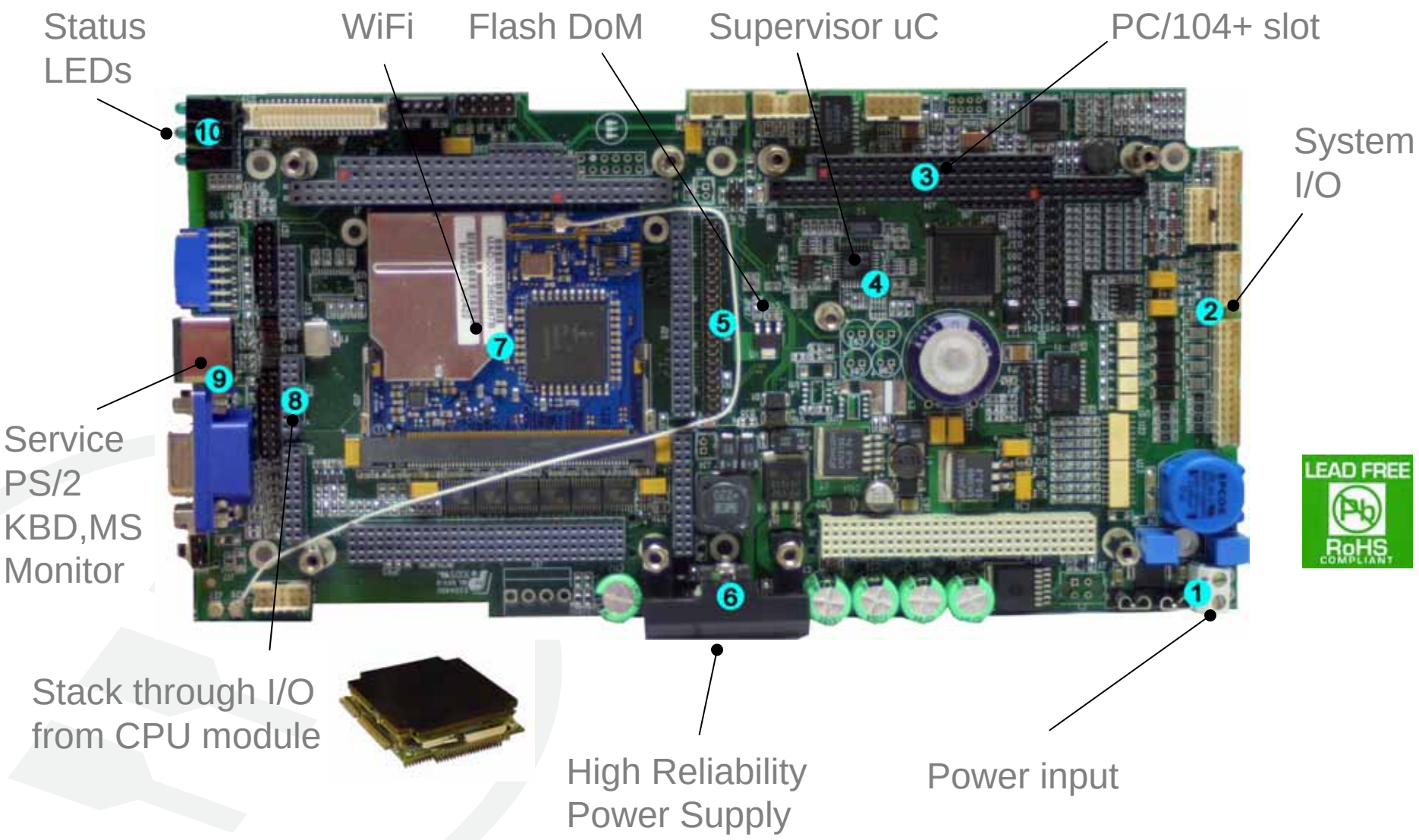
DuraCOR™ System Philosophy

- Dedicated systems for rugged computing applications
- Standard OS - Linux, WinCE, eXP or VISTA (VxWorks)
- Modular structure adapts to project specific requirements
- Design and production supporting long product lifetime
- Rugged sealed I/O connectors
- Structural heat dissipation for CPU and power supply
- Wide operating temperature: -20 to +70°C or -40 to +80/85°C
- Compliance with MIL- and EN-standards
- High peripheral integration, versatile interfaces
- Extensive EMI filtering and self-recovering protection
- uC - based diagnostic monitoring system “Guardian”

DuraCOR™ Extended System Construction



DuraCOR™ Carrier Features



DuraNET™ Product Overview

DuraNET 1059

- 24V vehicle or 28V aircraft installations
- 5 x 10/100Mbit unmanaged Ethernet ports full or ½ duplex
- Any port serving as uplink

DuraNET 2955

- 24V vehicle or helicopter installations
- 12 x 10/100Mbit switched and 2 x Gigabit uplink ports
- CISCO Catalyst 2955T-12 Switch with CISCO IOS®

DuraNET 3825

- 100/240 VAC input voltage 300W power consumption
- 16 x 10/100Mbit Ethernet switched ports
- 2 x Gigabit Ethernet routed ports
- 8 x RS-232 sync/async serial ports
- CISCO 3825 Integrated services router with IOS ® and CATALYST ® layer 2 LAN switching

Network Centric Mobile Operability

Satellite
Coverage

Tactical
Radio

802.11 Wifi
Coverage

LOCAL
IP NETWORK

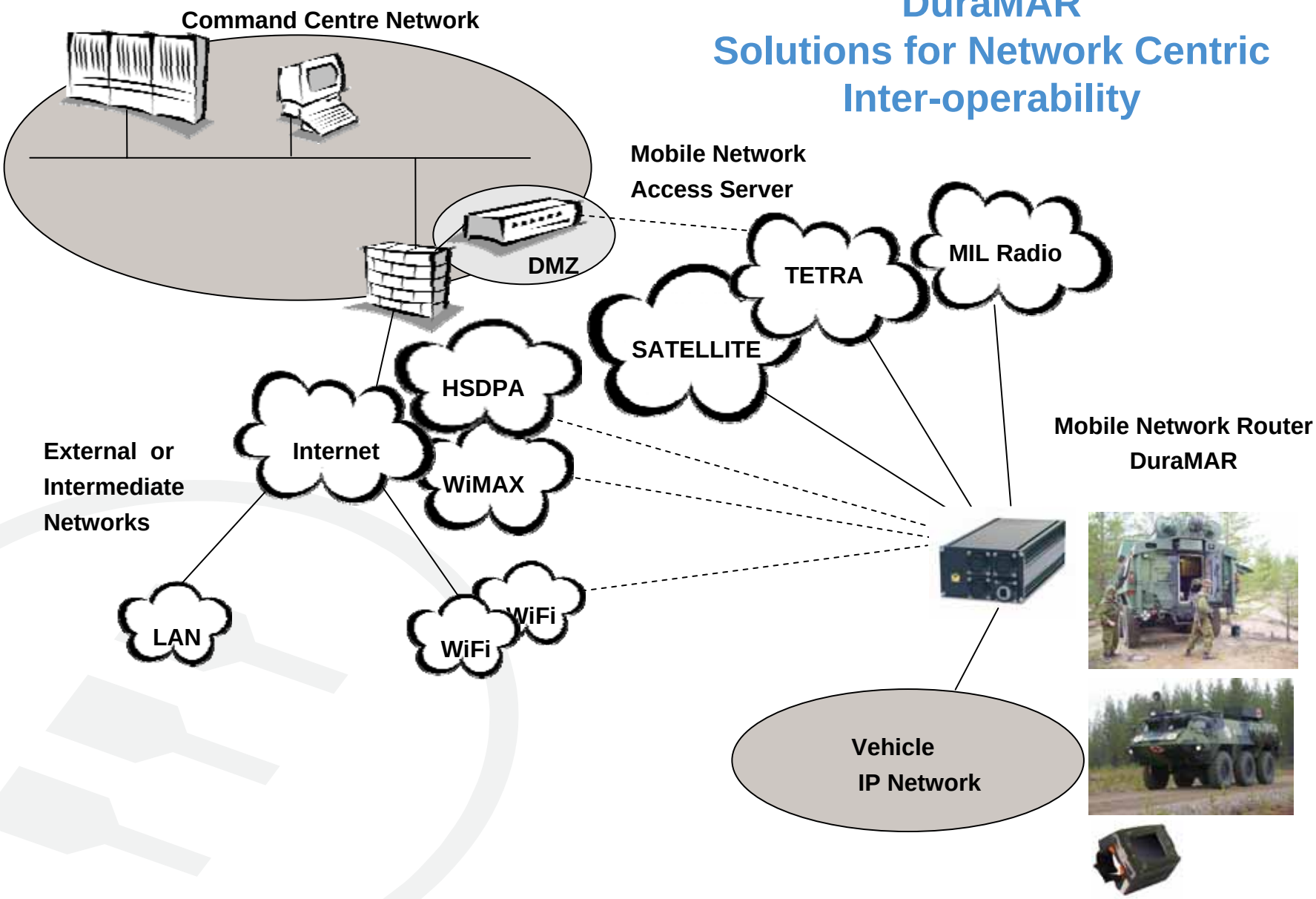
Wired
Ethernet

Tactical
Radio

IP Network

= Router

DuraMAR
Solutions for Network Centric Inter-operability



DuraMAR 2000 Series
Mobile Access Router Product Philosophy

- Ready off-the-shelf solution for seamless Mobile IP
- Fully integrated – router, communication interfaces, power supply
- Versatile configurations:
  1. Standalone CISCO MAR , MARC module from 3220
  2. CISCO 3220 based MAR with communications controller
     - Tactical radio with high speed USB or serial port
  3. Embedded Mobile Access Router
     - Tactical radio – serial and USB
     - TETRA or satellite radio
- Modular internal architecture
- New communication technologies easy to adopt
- Upgradeable in HW and SW
- Purpose built and qualified for military applications

DuraMAR 2000 Mobile Access Router Product Matrix

- **DuraMAR 2100**
  - **CISCO 3200 based Mobile Access Router**
- **DuraMAR 2200**
  - **Embedded Mobile Access Router**

DuraMAR 2100 Product Highlights

- CISCO IOS - Advanced IP services & interoperability
- Rugged implementation of CISCO MAR
  - 3220 MARC
  - 3220 FESMIC
  - Standard 3220 ports to external devices
- Supports use of external wireless terminals
  - 10/100Mbit Ethernet connectivity
  - Serial port expansion
- -40 to +85°C operating temperature
- Isolated military power supply
- Rugged enclosure and MIL-connectors
- SNMP diagnostics, remote monitoring and control
- MIL-STD-461/810 and 1275 qualified

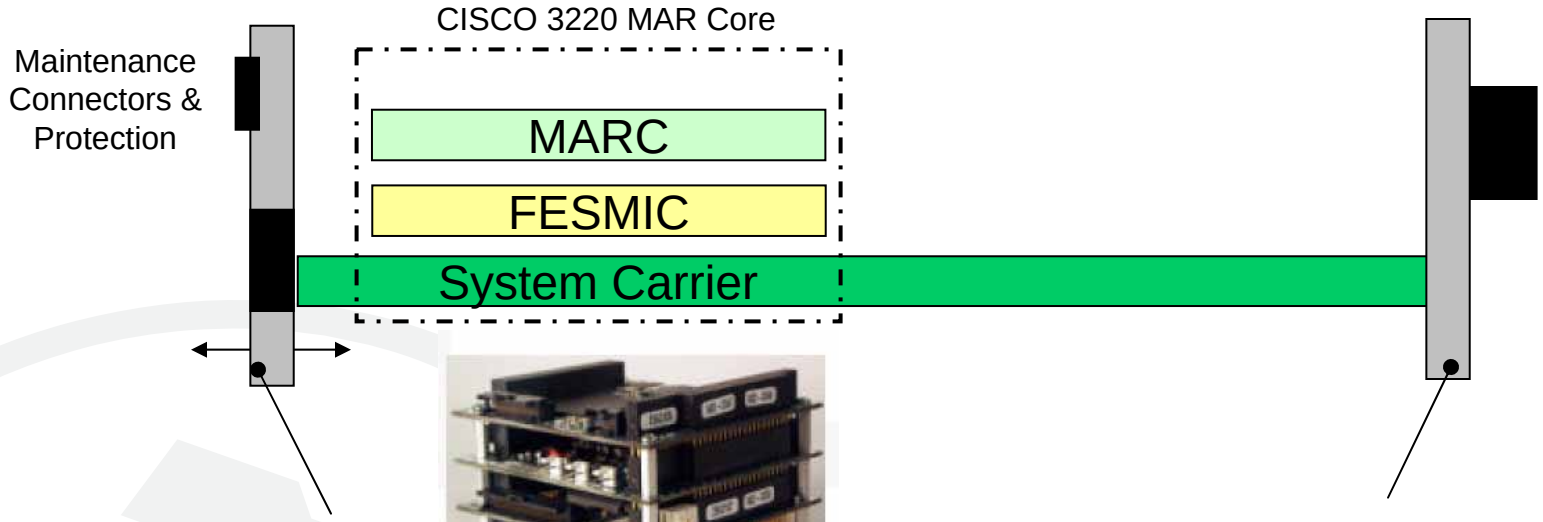
DuraMAR 2100 Structure

Front Side

(Maintenance)

Rear Side

(Field)



DuraMAR 2000 Mobile Access Router Product Matrix

- DuraMAR 2100
  - CISCO 3200 based Mobile Access Router
- DuraMAR 2200
  - Embedded Mobile Access Router

DuraMAR 2200 Product Highlights

- Embedded software MAR implementation
  - Linux with networking software
  - Open X86 PC controller core
- External device connectivity
  - 10/100Mbit Ethernet, 2 x Serial ports
- Communication interfaces
  - Tactical radio – serial or USB interface
  - TETRA or satellite modem
  - 802.11 WiFi (Optional)
  - MIL-STD-1553 (Optional)
- -40 to +85C operating temperature range
- Vehicle class power supply

DuraMAR 2200 MAR Implementation

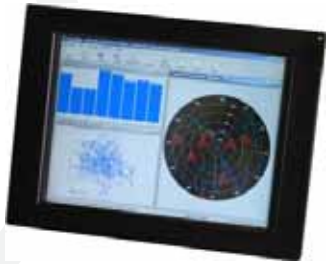
- VPN and encrypted tunnels
- Configurable communication path selection
- Path health monitoring
- Seamless and transparent switchover between wired or wireless communication paths
- Link aggregation
- Policy routing of traffic
- DHCP/DNS services
- SNMP diagnostics, remote monitoring and control
- GPS data stream redirection

DuraMAR 2200 System interfaces

- Power
  - 8 to 36Vdc military class power supply
- Ethernet
  - Routed 10/100Mbit Ethernet
- Wireless
  - Optional 802.11 WiFi
  - Optional 12-channel GPS
- Serial
  - 2 Asynchronous RS232 serial ports
- Utility
  - USB 1.1 for configuration and set-up

DuraVIS™ Display Design Philosophy

- Ready off-the-shelf display for rugged computing applications
- Compatible with all Eurotech DuraCOR Systems
- Wide operating temperatures: -20 to +70°C
- Compliant with MIL-STD-810, MIL-STD-1275/704 and MIL-STD-461
- Precision machined aluminum enclosure
- Wide adjustment range backlight 100% -> 5% and OFF
- Internal Enhanced isolated MIL-class isolated PSU
- Analogue or LVDS display interface and
- Resistive touchscreen or pushbuttons
- D-type or MIL I/O connectors (custom connectors available)
- Adaptable for custom system requirements
- Extended lifetime 5 to 15 years upon request



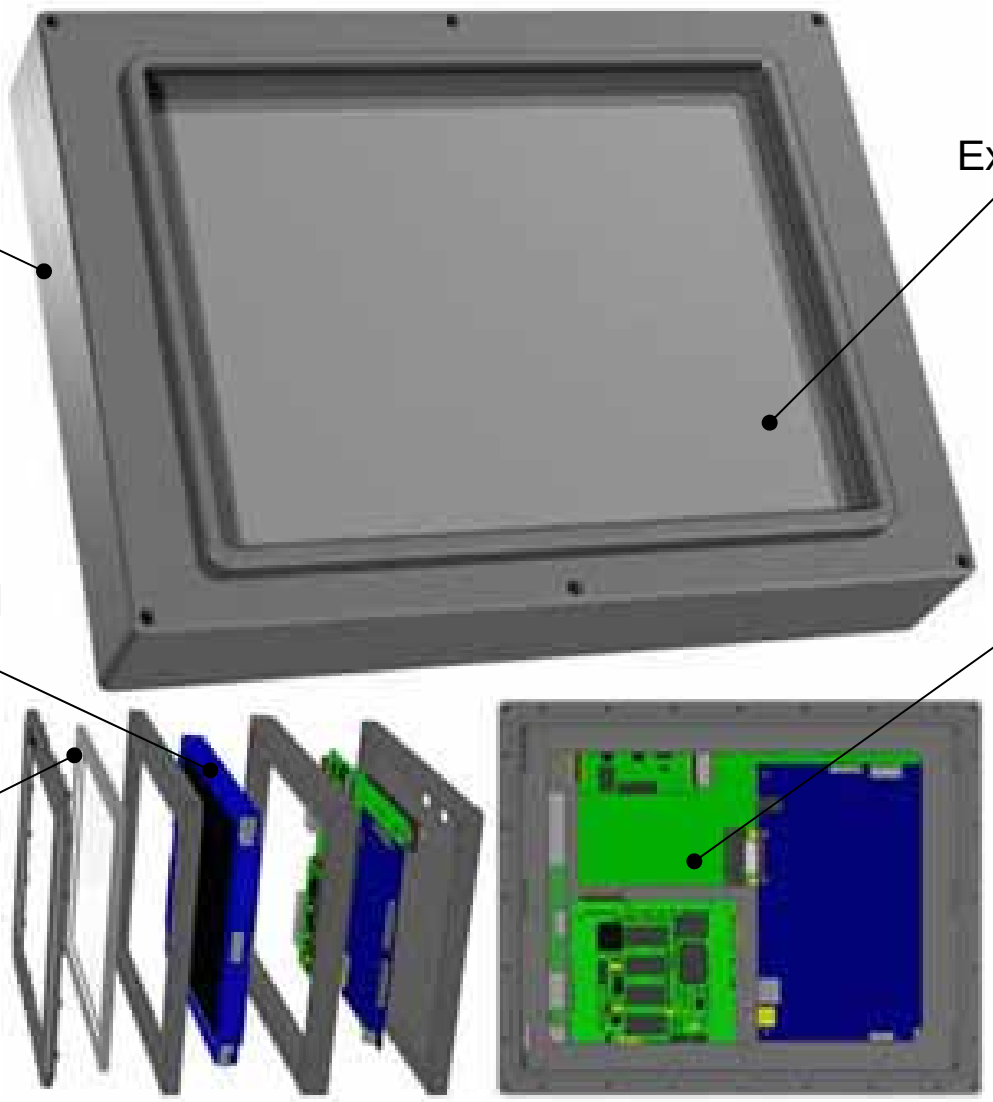
DuraVIS™ Mechanical Construction

Sealed enclosure

High reliability Extended temperature LCD

Display shock and vibration protection sleeve

Control Electronics (and CPU)



Back View

Touchscreen or protective cover

DuraVIS™ Product Family Overview

DuraVIS 3400

- +12V/24V and +28V Avionics and vehicle applications
- 10.4” Active matrix display
- 800 x 600 SVGA or 640 x 480 VGA resolutions
- Touchscreen with serial interface
- Optional CPU Integrated inside
- 400 nit brightness
- 9-45Vdc supply voltage (16-80V upon request)

DuraVIS 3010

- +24V and +28V systems
- 6.5” Active matrix display
- 640 x 480 VGA resolution
- RS-170 Radar/Night vision system input
- Six pushbuttons or USB touchscreen
- 850 nit brightness
- 18-36Vdc supply voltage

DuraVIS™ Project Specific Products

DuraVIS 4X00 Series (Avionics MFD)

- Project product – special conditions for availability apply
- +28V MIL-STD-704 Avionics PSU
- 6.4” Active matrix display, illuminated buttons
- 640 x 480 VGA resolution with 850 nit brightness
- Lexan display cover
- 3D shock and vibration protected display and computer in floating card cage
- Optional internal 333/400MHz embedded x86 CPU
- Additional features: I/O, MIL-STD-1553 & GPS
- Expandable with Eurotech PC/104 modules
- Standard ¼ -turn DZUS fastner, rail mountable custom mechanical solutions available upon request

Zypad™ Wearable Computing Applications

- Healthcare and logistics
- Service, repair and maintenance
- Telecommunications and C3i
- Intelligent soldier

ZYPAD™

Zypad™ WL1100 Wearable Computer
General Features

Architecture	Standard Professional PDA platform - PXA270
Operating System	Windows CE 6.0 or Linux 2.6 kernel
Memory/Storage	128 MB RAM/ 128 MB FLASH – Mini STDIO Memory Module
Display	240 x 320 QVGA 3,5” TFT 256k colors with touch screen Automatic contrast and brightness control
Keyboard	11 backlit keys
I/O	2 USB ports (Host and Device), Audio Output
Wireless Connectivity	Bluetooth WiFi ZigBee
Positioning	Integrated SIRF STAR III GPS receiver and antenna
Weight	290g (including battery)
Sensors	Internal 2D accelerometer

Zypad™ WR1100 Wearable Computer
Technical Specifications

Architecture	Standard Professional PDA platform, PXA 270, 416MHz
Operating System	Linux with 2.6 kernel
Memory/Storage	256 MB RAM/ 6128 MB FLASH – Micro STDIO Memory Module
Display	640 x 480 VGA 3,5" TFT 256k colors with touch screen Automatic contrast and brightness control
Keyboard	Virtual keyboard, cursor pad
I/O	2 USB ports (Host and Device), Audio Output with AC'97 Codec
Wireless Connectivity	Bluetooth WiFi ZigBee
Positioning	Internal SIRF STAR III GPS receiver and antenna, DGPS/SBAS
Weight	120g wrist support, 640g (including battery)
Sensors	3D accelerometer dead reconing, electronic compass, fingerprint

Rugged High Performance Computing Applications

- Telecommunications and C4i
- Intelligence and data storage
- Military and strategic command
- Radar processing and airspace modeling
- Simulation and training systems
- Demanding engineering and research
- Rescue and recovery management
- Security and network control

HPC – High Performance Computing

- TeraFlop Supercomputers in compact transportable containers
- Proprietary Eurotech technology and silicon
- Application specific configurations
- Modular and expandable architecture
- High speed neworking and interconnection
- Moderate power consumption
- Redundant and stable architecture
- High availability
- Easy maintenence on site

Rugged HPC
Technological Highlights

- Linux or Windows operating system
- High speed networking through Infiniband and Gigabit Ethernet
- Device connection through USB ports
- Stable and secure iSCSI data storage
- Support for network-attached storage

Your expertise lies in THE APPLICATION

Reality:
70% of RYO embedded programs fail and never get to market

Eurotech is an outsourced,

“application-ready” embedded-computer company

that can be strategically deployed as your

“Virtual Design” Solutions House

ODM – Advantage Proposal
“It all adds up!”

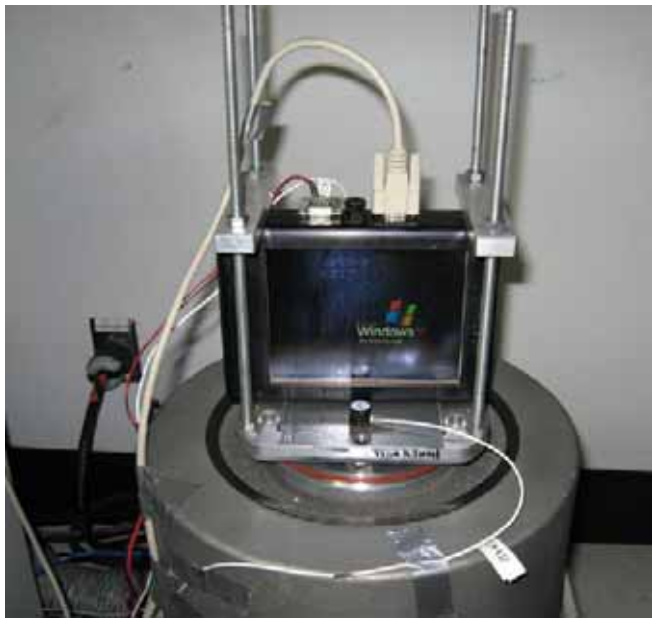
- Combine technologies from multiple sources
  - Eurotech system technology
  - Customers electronics or subsystem
- Reduced design and financial risk
- Accelerated project completion – increased focusing
- Possibility to increase integration and reduce size
- Overall cost optimization :
  - Development and certification
  - Production and quality
  - Service and maintenence
  - Lifecycle management
- Product differentiation strengthens competitiveness
- Higher availability and easier maintenence

ODM – Application Specific System Capabilities

- Custom board design and production
  - Communication and networking
  - Positioning, I/O and power supply design
  - Video and audio processing
- System integration
  - Electronics integration, cabling and connectors
  - Thermal, mechanical and enclosure design
- Adaptation of standard systems
  - Custom connector and I/O
  - Peripheral I/O functionality
  - System expansion
- Full sustom design and development
- Certification and approvals
- Service and maintenance planning

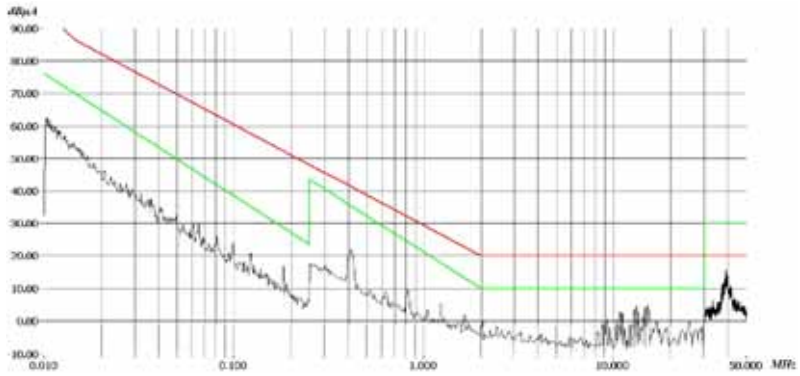
Certification and Compliance - Guarantee of Success

- ISO 9000:2001 — Quality program
- MIL-STD-810F — Environmental and Shock and Vibration
- MIL-STD-704 — Avionics EMC
- MIL-STD-1275 — Military vehicle EMC
- MIL-STD-461 — Generic Military EMC Emissions , Immunity

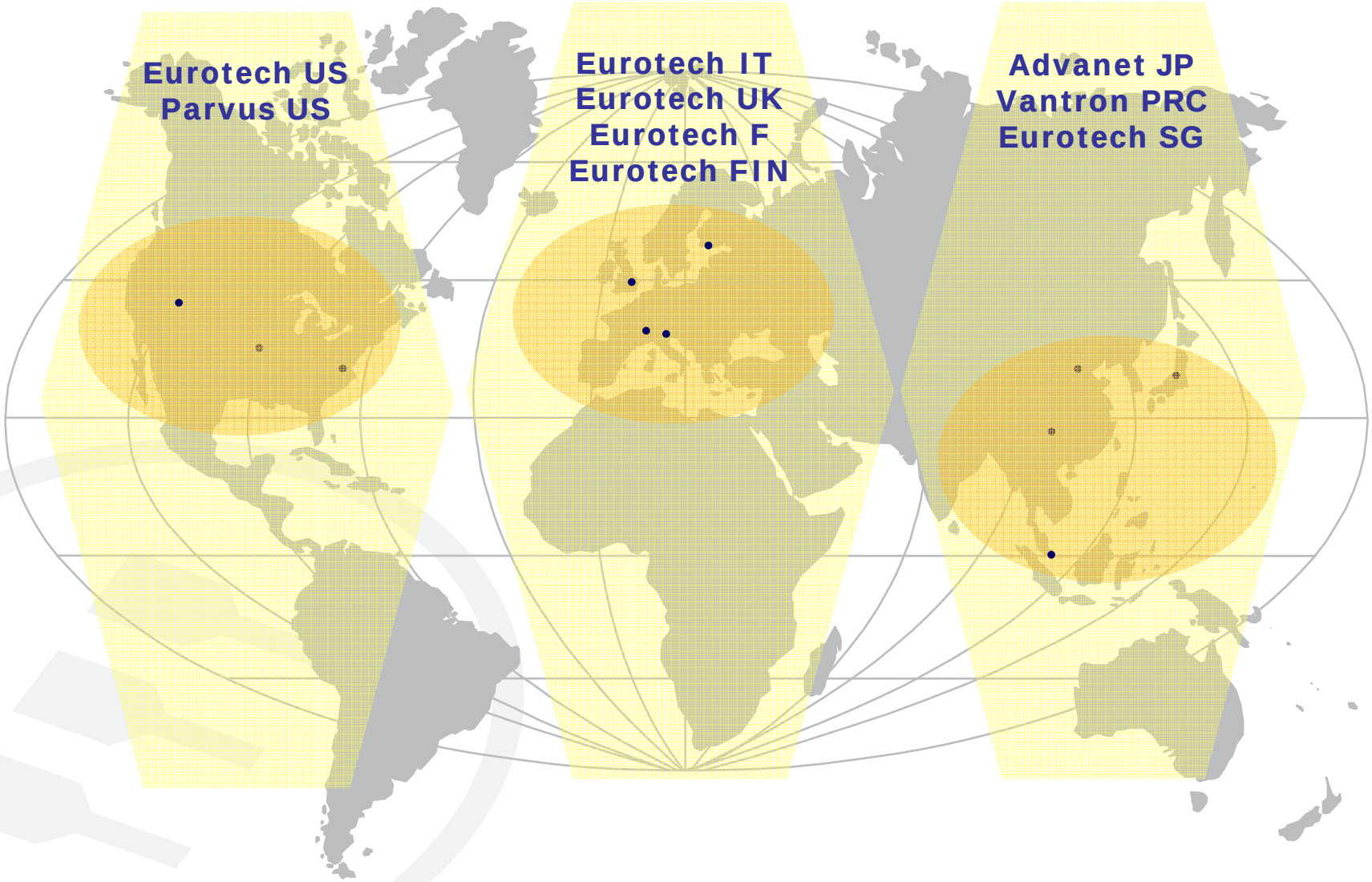


Eurotech path to compliance

- Experience in electronic and mechanical design
- Optimal EMI implementation
- Internal pre-compliance testing
- Accredited compliance certification
- Production quality control procedures



Our Global Footprint



Contact Information

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Kiitos

धन्यवाद

ขอบคุณครับ

Thank You

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