



Custom-Configured Performance that Maximizes Your Productivity!

- Our DuraMax base platforms can be adapted or built-to-order, to suit your exact requirements.
- GPS functionality enhances versatility and usability in the field.
- Rapid turnaround, with low up-front costs and low order minimums.
- Large, bright screens with exceptional sunlight readability.
- 8-10 hour battery life.
- Built around the robust Intel XScale processor and user-friendly WindowsCE platform.
- Backed by 60+ years of Grayhill customization cross-expertise with hardware, packaging, wireless technology and testing.
- ISO-accredited production and in-house testing facility streamlines production time to save you money!



Custom Mobile Solutions

Base Unit Specifications and Ratings

Physical

Dimensions: 7.95" x 3.5" x 1.7" max
Weight: 1.25 lbs. with battery
Status LEDs: 1 on face of unit
Stylus: In-strap storage slot (strap attached to device)
Slimline boot available

Keypad

Illuminated keypad
10 Numeric, 1 Power, 4 Arrow, 2 Enter, 1 Backspace, 5 Hotkeys

Electronics

Processors: Intel XScale 416 MHz (520MHz Optional)
On-Board Flash Storage: 64MB Typ. (128MB Optional),
used for persistent storage and persistent registry
On-Board Memory: 64MB Typ. (128MB Optional)

Audio

Built-in microphone and speaker

Display

Technology: Color TFT transfective
Readability: sunlight readable
Size: 3.5 diagonal
Resolution: QVGA 320x240 (VGA optional 640x480)
Brightness: 200 nits (LED Backlight)
Color Depth: 16 bit

Touchscreen

Technology: 5 wire resistive
Ruggedness: Industrial strength - Passes EN50021 high level
impact with 500g load, 20 times

Ports

Docking station connector

Battery

Battery Life: 8-10 hours
Battery Size: 15.5 WHr (Optional 21WHr)
Hot-swappable with 2 min. of ride-through without losing data

Operating System

Windows CE.NET 5.0

Internal/Wireless Options

802.11b Wireless; Bluetooth Class 1 Ver 1.2; Camera w/ Flash 1.3
mpix; IRDA Slow and Highspeed; Compact Flash; SD; Vibe Motor

Installed Applications

Windows Media Player, Internet Browser (Internet Explorer
Type), Windows Explorer, Control Panel and Control Panel
Applets, Soft Input Panel (On Screen Keyboard)

Installed Services

ActiveSync, Microsoft Windows Networking, FTP server,
Complete power management

Installed Components

MFC (Microsoft foundation classes), .NET Compact Framework,
Scripting support (JavaScript and VB Script)

Installed Support

802.11x, Bluetooth, Irda, Camera
USB Support for mouse, Keyboard, Mass storage, ActiveSync

Environmental

Operating Temperature: -20 to 60 C per IEC 60068-2-14, test Nb
Storage Temperature: -20 to 60 C per IEC 60068-2-2, test Bb
Product not to be used or stored in temperature over 60 C max
Thermal Shock: -20 to 60 C per IEC 60068-2-14, test Na
Humidity: 95% non-condensing, per IEC 60068-2-3,
Severity 10 days
Vibration: 2.0 G acceleration sinusoidal 10-150 Hz, each axis,
per IEC 60068-2-6, test Fc, and MIL-STD 810F, method 514.5,
procedure I, 10-500 Hz, each axis
Mechanical Shock: 50 G for 11 ms, half sine, each axis, per
IEC 60068-2-27, test Ea, 3 shocks in each axis
Seal Test (with port covers on): NEMA 4X rating per NEMA 250,
IP67 per IEC 60529 section 14.2.7, Sand and dust per
NEMA 250
Salt Spray: Per NEMA 250, method 5.9.1
UV: Per MIL-STD-810F, method 505.4, procedure II
Display/Touchscreen Impact: per EN50021, high-level impact
with 500g load, 20 times
Drop Testing: 6 foot drop MIL STD 810F, method 516.5,
procedure IV, 26 times for a single unit onto concrete

Optional Accessories

External antenna
- SD memory cards: 32MB, 64MB, 512MB and 1GB
Power cable with cigarette lighter adaptor
3.7V lithium-ion rechargeable battery
External battery charger
Stylus pens
Carrying case
Clip-on I/O module with external power, USB and serial ports

GPS Characteristics

14 parallel channels (L1 code and carrier phase)
Integrated real-time DGPS: WAAS or EGNOS
Update rate: 1 Hz
RTCM SC-104 real-time correction support, RTCM version
2.1 (9.2 & 1.2)
Protocol: NMEA 0183 v 3.0

Ultra-ruggedness that's
GPS-enabled for maximum
versatility

Fully submersible

Survives repeated 6-foot
drops onto concrete

Top of its class in outdoor
screen readability

Adapt this existing DuraMax
base unit, or have our
engineers design a mobile
solution that's custom-built
for your application



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Slimline boot available

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Illuminated keypad
10 Numeric, 1 Power, 4 Arrow, 2 Enter, 1 Backspace, 5 Hotkeys

Electronics

Processors: Intel XScale 416 MHz (520MHz Optional)
On-Board Flash Storage: 64MB Typ. (128MB Optional),
used for persistent storage and persistent registry
On-Board Memory: 64MB Typ. (128MB Optional)

Audio

Built-in microphone and speaker

Display

Technology: Color TFT transfective
Readability: sunlight readable
Size: 3.5 diagonal
Resolution: QVGA 320x240 (VGA optional 640x480)
Brightness: 200 nits (LED Backlight)
Color Depth: 16 bit

Touchscreen

Technology: 5 wire resistive (stable over time)
Ruggedness: Industrial strength - Passes EN50021 high level
Impact with 500g load, 20 times

Ports

Docking station connector (Not user accessible):
Sealed with USB Host/Client, RS-232 and power

Battery

Battery Life: 5 hours (Optional 10 hours)
Battery Size: 10.5 WHr (Optional 21WHr)
Hot-swappable with 2 min. of ride-through without losing data

Operating System

Windows CE.NET 5.0

Internal/Wireless Options

802.11b Wireless; Bluetooth Class 1 Ver 1.2; Camera w/ Flash 1.3
mpix; IRDA Slow and Highspeed; Compact Flash; SD; Vibe Motor

Installed Applications

Windows Media Player, Internet Browser (Internet Explorer
Type), Windows Explorer, Control Panel and Control Panel
Applets, Soft Input Panel (on screen keyboard)

Installed Services

ActiveSync, Microsoft Windows Networking, FTP server,
Complete power management

Installed Components

MFC (Microsoft foundation classes), .NET Compact Framework,
Scripting support (JavaScript and VB Script)

Installed Support

802.11x, Bluetooth, Irda, Camera
USB Support for mouse, Keyboard, Mass storage, ActiveSync

Environmental

Operating Temperature: -20 to 60 C per IEC 60068-2-14, test Nb
Storage Temperature: -20 to 60 C per IEC 60068-2-2, test Bb
Product not to be used or stored in temperature over 60 C max
Thermal Shock: -20 to 60 C per IEC 60068-2-14, test Na
Humidity: 95% non-condensing, per IEC 60068-2-3,
Severity 10 days
Vibration: 2.0 G acceleration sinusoidal 10-150 Hz, each axis,
per IEC 60068-2-6, test Fc, and MIL-STD 810F, method 514.5,
procedure I, 10-500 Hz, each axis
Mechanical Shock: 50 G for 11 ms, half sine, each axis, per
IEC 60068-2-27, test Ea, 3 shocks in each axis
Seal Test (with port covers on): NEMA 4X rating per NEMA 250,
IP67 per IEC 60529 section 14.2.7, Sand and dust per
NEMA 250
Salt Spray: Per NEMA 250, method 5.9.1
UV: Per MIL-STD-810F, method 505.4, procedure II
Display/Touchscreen Impact: per EN50021, high-level impact
with 500g load, 20 times
Drop Testing: 6 foot drop MIL STD 810F, method 516.5,
procedure IV, 26 times for a single unit onto concrete

Certifications (all pending formal certification)

Emissions and Susceptibility: CE per EN55011 / CISPR 11,
Class A (3 meter) and EN61000-6-2; FCC Part 15 Class A;
European Union EMC Directive
Hazardous Location: UL 1604 (Class 1 Div 2), Groups A,B,C,D;
CAN.CSA C22.2 no. 157 for use in Class I, Division 2,
Groups A,B,C,D
Safety: CSA C22.2 No. 1010.1-92, Safety requirements for
electrical equipment for measurement, control and laboratory
use; UL 508 requirements for industrial control equipment;
CSA C22.2 No 950; EN60950; IEC950

Optional Accessories

External antenna
- SD memory cards: 32MB, 64MB, 512MB and 1GB
Power cable with cigarette lighter adaptor
3.7V lithium-ion rechargeable battery
External battery charger
Stylus pens
Carrying case
Clip-on I/O module with external power, USB and serial
ports

Optional GPS Characteristics

14 parallel channels (L1 code and carrier phase)
Integrated real-time DGPS: WAAS or EGNOS
Update rate: 1 Hz
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Custom Mobile Solutions

Base Unit Specifications and Ratings

Physical

Dimensions: 10.0" x 8.75" x 1.75" max
Weight: 4.2 lbs. with battery
Status LEDs: 2 on face of unit
Stylus: In storage slot in strap attached to device

Electronics

Processors: Intel Xscale 400MHz
On-Board Flash Storage: 32MB Typ. (64MB Optional), used for persistent storage and persistent registry
On-Board Memory: 64MB Typ. (128MB Optional)

Display

Technology: Color TFT with engineered filters
Readability: Sunlight readable
Size: 8.4" diagonal
Resolution: SVGA (800x600)
Brightness: 400 nits (CCFL)
Color Depth: 16 bit

Touchscreen

Technology: 8 wire resistive (stable over time)
Ruggedness: Industrial strength – passes EN50021 high level impact with 500g load, 20 times

Ports

PCMCIA (PC-card)
Power
Ethernet 10/100 (RJ45)
USB host (type A receptacle)
Audio out (3.5mm stereo headset jack)
Docking station connector (not user-accessible); sealed with USB host/client and power

Battery

Battery life: 8 hours *
Battery size: 4000 mAh at 11.1 volts

Operating System

Windows CE.NET 4.2

Installed Applications

Windows Media Player, Internet Browser (Internet Explorer Type), Windows Explorer, Control Panel and Control Panel Applets, Soft Input Panel (on-screen keyboard)

Installed Services

ActiveSync, Microsoft Windows Networking, FTP server, Complete power management

Installed Components

MFC (Microsoft foundation classes), .NET Compact Framework, Scripting support (JavaScript and VB Script)

Installed Support

802.11x
USB support for mouse, keyboard, mass storage, ActiveSync

Environmental

Operating temperature: -20 to 60C per IEC 60068-2-14, test Nb
Storage temperature: -20 to 60C per IEC 60068-2-2, test Bb
Product not to be used or stored in temperatures over 60C max
Thermal shock: -20 to 60C per IEC 60068-2-14, test Na
Humidity: 95% non-condensing, per IEC 60068-2-3, severity 10 days
Vibration: 2.0 G acceleration sinusoidal 10-150 Hz, each axis, per IEC 60068-2-6, test Fc, and MIL-STD-810F, method 514.5, procedure I, 10-500 Hz, each axis
Mechanical shock: 50 G for 11 ms, half sine, each axis, per IEC 60068-2-27, test Ea, 3 shocks in each axis
Seal test (with port covers on): NEMA 4X rating per NEMA 250, IP67 per IEC 60529 section 14.2.7, sand and dust per NEMA 250
Salt spray: Per NEMA 250, method 5.9.1
UV: Per MIL-STD-810F, method 505.4, Procedure II
Display/touchscreen impact: per EN50021, high level impact with 500g load, 20 times
Drop testing: 4 foot drop MIL-STD-810F, method 516.5, procedure IV, 26 times for a single unit

Certifications

Emissions and susceptibility: FCC Part 15 Class A
Hazardous location: UL 1604 (Class 1 Div 2), Groups A,B,C,D; CAN.CSA C22.2 no. 213 for use in Class I, Division 2, Groups A,B,C,D
Safety: UL 508, CSA C22.2 No. 142



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