

GETAC M230

Rugged Notebook



Sales Kit

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Brief Introduction

The GETAC M230 is the latest ultra slim model of the GETAC Rugged Notebook family. Powered by Intel® Centrino® Mobile Technology and Core™ Duo processor you can have the best wireless access and performance in various applications. Equipped with 14.1" or 15" Sunlight Readable LCD screen, the M230 may be applied outdoors as well as indoors without being affected by direct sunlight. At the same time, you can switch from built-in WLAN to an optional 3G communication solution to maintain accessibility to network without adding any extension modules. In tough environments security always matters, and the M230 has a built-in TPM 1.2 chip and Smart Card reader¹ to protect your valuable data. The magnesium alloy case, shock-mounted hard drive, and spill-resistant keyboard and touch pad make the M230 Mil-Std 810F and IP54 compliant to withstand any mishap.

Selling Points

Sunlight Readable LCD

GETAC Sunlight Readable LCD is the latest state-of-the-art LCD technology that improves LCD performance significantly. Normally, a standard LCD is often difficult to view due to reflections from direct sunlight and its low brightness. GETAC Sunlight Readable solution increases the LCD brightness to 450nits¹ by improving the efficiency of the LCD backlight without increasing power consumption while reflections caused by direct sunlight or other light sources are simultaneously reduced. By combining these two enhancements GETAC Sunlight Readable LCD can meet the requirements for rugged use.

Trust Platform Module (TPM) 1.2

Trust Platform Module (TPM) is a micro controller that follows the standard formed by Trusted Computing Group (TCG) in enhancing security by combining S/W and H/W functions to encrypt and decrypt protected files. A user can apply a private key and a public key simultaneously for double protection. This gives the user the ability to share files without being exposed to other unauthorized users. The M230's TPM 1.2 security solution provides complete security from theft or software attack.



¹ Please refer to Sunlight Readable Brightness Specifications on page 11.

Fully Rugged

GETAC's M230 is the best "Built to Survive" rugged notebook on the market. The M230's full magnesium alloy case and tough rubber corner bumpers enables the M230 to survive 3-foot drops (26 times) on steel plate, thus exceeding MIL-STD 810F standards. The shock mounted hard drive in the M230 can absorb shock forces without damaging the HDD's disk surface in rough conditions, and the M230 is even equipped with an active protection function that includes protection from damages to the HDD resulting from sudden drops. Sealed I/O ports and doors make the M230 IP54 compliant in the event of being caught in a rain shower.

Versatile Wireless Access

In today's world more and more jobs and tasks are performed and completed on the Internet, and to provide users with the best wireless access environment, the M230 provides wireless communication abilities, or WLAN, with 802.11 a/b/g, Bluetooth, 3G communication, and GPS are also available in the M230. Users do not need to plug external module or antenna to get access.

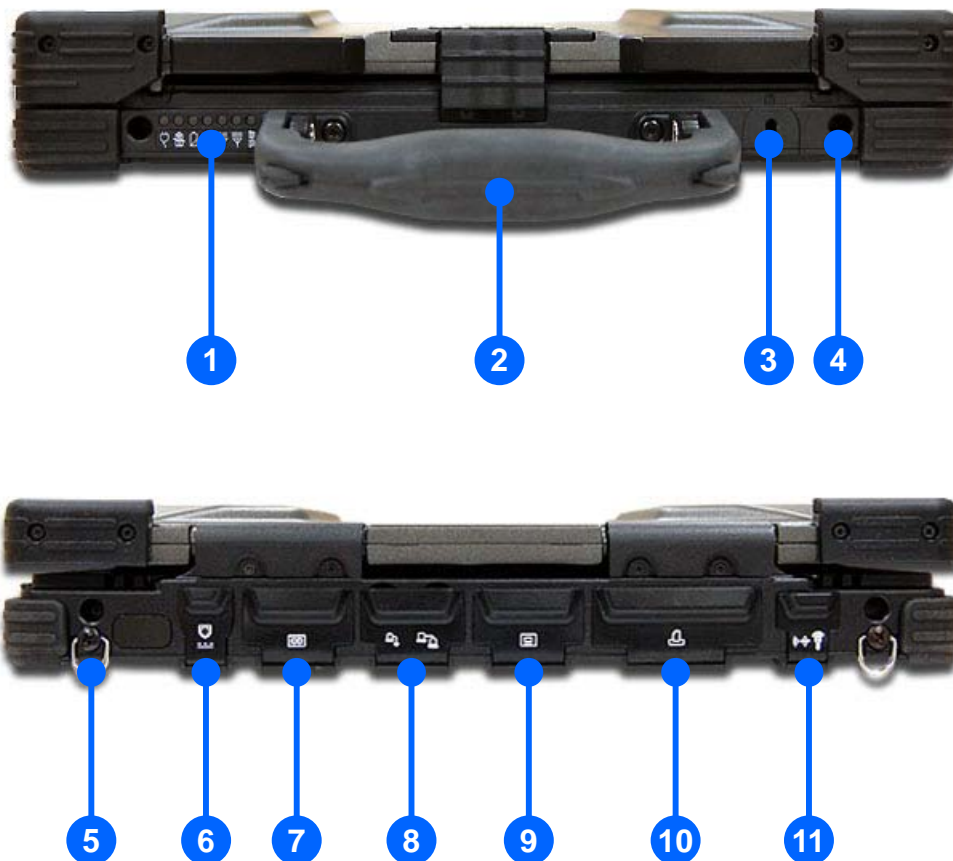
Product Photos



- 1 Bluetooth antenna
- 2 LCD
- 3 Power button
- 4 HDD & Media Bay
- 5 Touch pad
- 6 LED indicators

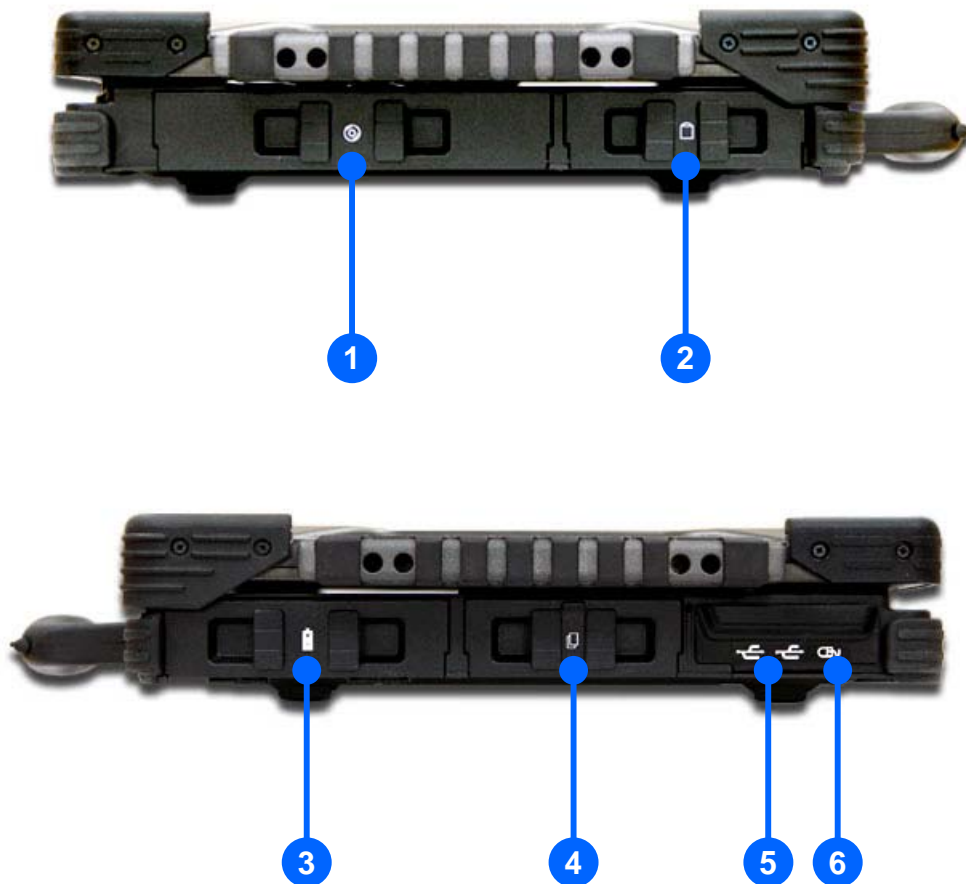
- 7 WLAN antenna
- 8 GPS antenna
- 9 3G communication antenna
- 10 Keyboard
- 11 Battery, PCMCIA & USB
- 12 Handle

Front View & Back View



- | | | | |
|---|---------------------------|----|-----------------------|
| 1 | LED indicator | 7 | Serial port |
| 2 | Handle | 8 | RJ11 & RJ45 |
| 3 | Kensington lock | 9 | External VGA |
| 4 | Vehicle docking guide pin | 10 | Parallel port |
| 5 | Strap hook | 11 | Line out & Microphone |
| 6 | DC in | | |

Left/Right Side View

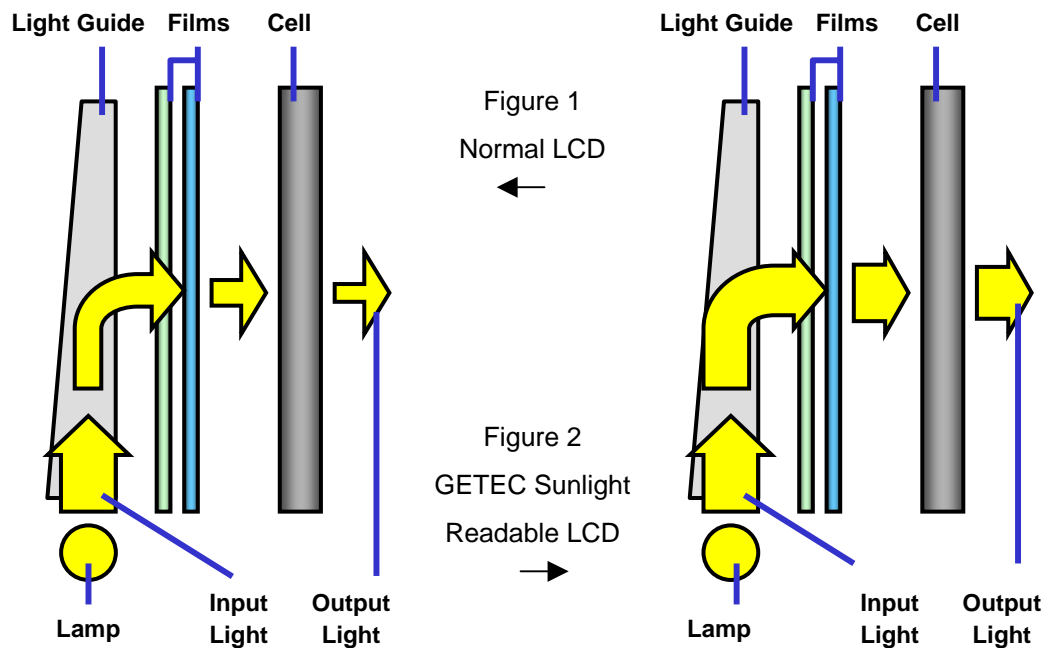


- | | | | |
|---|-----------------|---|------------------------|
| 1 | Media Bay | 4 | PCMCIA |
| 2 | Shock mount HDD | 5 | USB 2.0 x 2 |
| 3 | Battery | 6 | PS/2 (or option 1394B) |

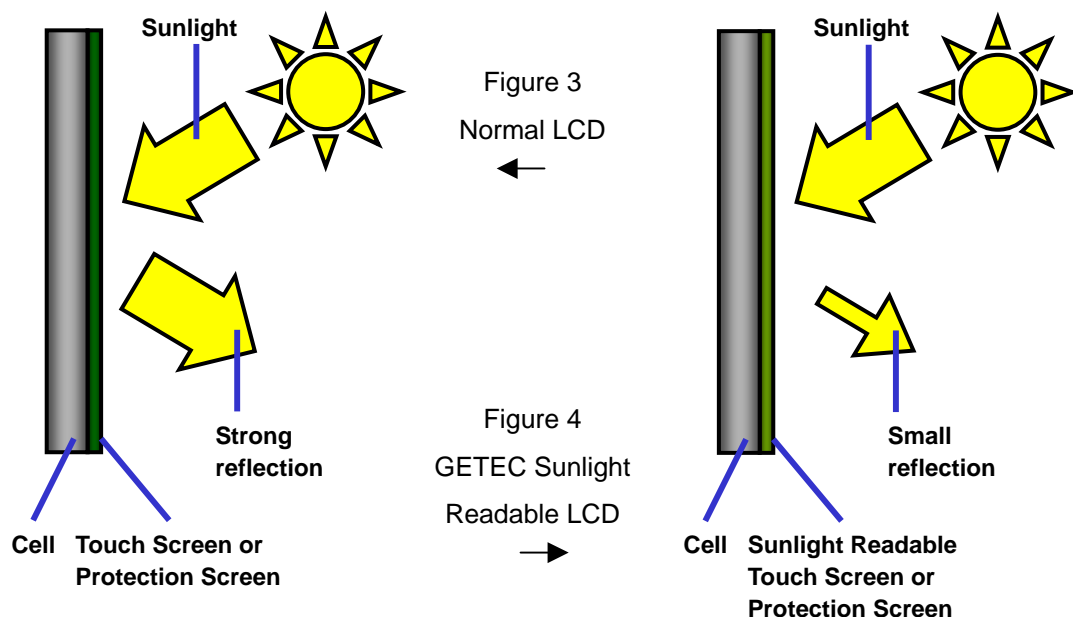
M230 Technology Briefs

Sunlight Readable LCD

GETAC's Sunlight Readable technology can increase the LCD backlight module light efficiency without increasing its lamp power consumption. Normally, light transmission is lost in standard LCD's as shown in Figure 1. Conversely, Figure 2 illustrates how GETAC's Sunlight Readable LCD technology allows for more light transmission.



In addition, GETAC's Sunlight Readable technology reduces glare from reflected light. Normally, LCD with normal touch screen or with some protection, are clear in opacity, resulting in glare from strong light sources. GETAC's Sunlight Readable technology provides complete and total solution by extending the benefits of Sunlight Readable technology to touch screen and protection glass.



Brighter LCD and less reflection make the GETAC Sunlight Readable solution more readable under strong light.



Figure 5

Note: This image is a simulation to illustrate effects of Sunlight Readable technology; actual condition may vary.

TPM (Trust Platform Module)

TPM is a security micro-controller that integrates H/W and S/W functions to encrypt and decrypt files that users want to protect. The user may lock files in the HDD by the “private key” generated by TPM micro-controller, and the user sets the password. The private key is unique and will not be duplicated. In the event of a file being lost or stolen, the file cannot be opened since the password and private key will not be available. Even if the password is available, the file will remain inaccessible because the private key cannot be duplicated. If the user wants to release protected files to authorized personnel, the user can request for a “public key” from he authorized person to lock and unlock the file. The “public key” can be transmitted through the Internet without risk from hackers. Figure 6 below illustrates the process to protect file with TPM.

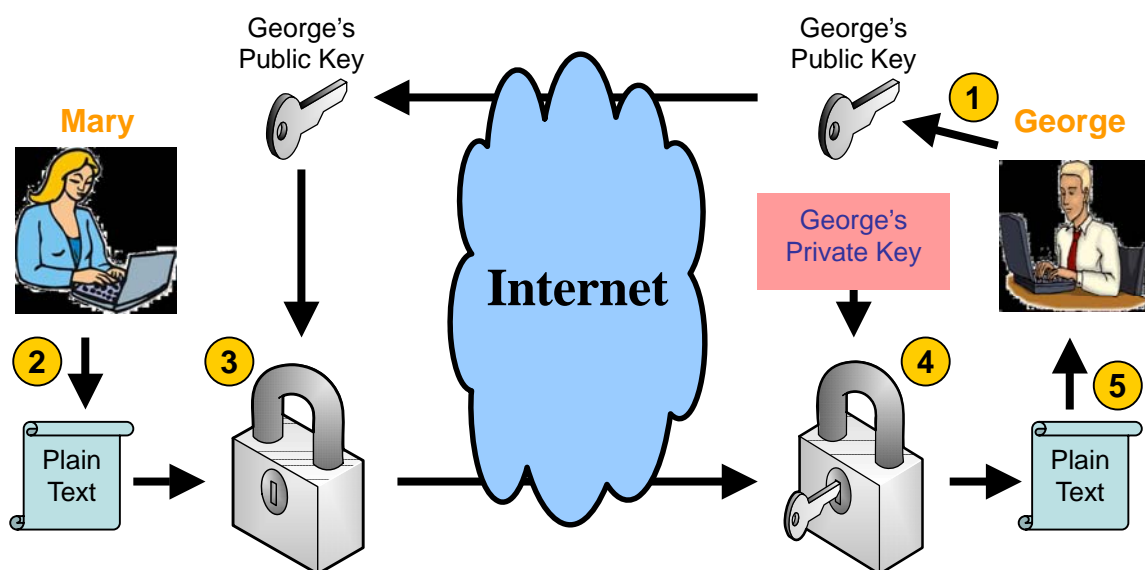


Figure 6

System Specifications

Model	M230-4	M230-5
Processor		
Intel® Core™ Duo LV Processor	1.66 GHz	1.66 GHz
FSB	667 MHz	667 MHz
2 nd level cache	2M	2M
Chipset		
Northbridge	Intel® 945GM	Intel® 945GM
Southbridge	ICH7-M	ICH7-M
WLAN	Intel® PRO/Wireless 3945 a/b/g	Intel® PRO/Wireless 3945 a/b/g
Memory		
DDR2 (SO-DIMM x 2)	512MB or above, max 2G	512MB or above, max 2G
VGA Controller		
Intel® GMA950	STD	STD
ATI® M54	Option	Option
Display		
TFT LCD	14.1" XGA (1024 x 768)	15.0" SXGA+ (1400 x 1050)
Sunlight Readable	Option	Option
LCD Protection screen	STD	STD
Touch screen	Option	Option
HDD		
SATA 1.5G 5400 RPM	80GB or above	80GB or above
Media Bay ^(Note 2)		
Combo	STD	STD
DVD Dual	Option	Option
FDD	Option	Option
2 nd battery pack	Option	Option
Keyboard		
Water proof membrane	STD	STD
Water proof rubber backlight	Option	Option
Touch pad (capacitance type)	STD	STD
PCMCIA	Type II x 2	Type II x 2
Audio		
Azalia 32 bits audio digital controller	STD	STD
Speaker (2Wx2)	STD	STD
I/O Port		
Serial port	X 1	X 1

² There is only one device in Media Bay at one time.

USB 2.0	X 2	X 2
External VGA	X 1	X 1
PS/2 (or 1394B) ^(Note 3)	X 1	X 1
Parallel port	X 1	X 1
RJ-45	X 1	X 1
RJ-11	X 1	X 1
Microphone	X 1	X 1
Line out	X 1	X 1
IrDA	Yes	Yes
Docking port (POGO)	Yes	Yes
DC in	Yes	Yes
Communication Interface		
10/100/1000 base-T Ethernet	STD	STD
56K ITU V.92 modem	STD	STD
Intel® PRO/Wireless 3945 a/b/g	STD	STD
GPS (with antenna)	Option	Option
EVDO ^(Note 4)	TBD	TBD
Bluetooth	Option	Option
Security		
TPM 1.2	Option	Option
Smart Card Reader ^(Note 5)	TBD	TBD
Kensington lock	STD	STD
Power		
Adapter (90W, 100-240V, 50/60Hz)	STD	STD
Li-Ion Smart battery 7200mAh	STD	STD
Operating system	Microsoft® Windows® XP Professional	Microsoft® Windows® XP Professional
Physical		
Dimension	328x272x46mm (12.9"x10.7"x1.8")	338x286x46mm (13.3"x11.3"x1.8")
Weight ^(Note 6)	4.15kg (9.14lbs)	4.4kg (9.7lbs)
Accessories		
Carrying bag	Option	Option
Primary battery pack	Option	Option
Media Bay 2 nd battery pack	Option	Option
Battery charger	Option	Option
Port replicator (USB I/F)	Option	Option

³ PS/2 is STD, with 1394B as option

⁴ M230 EVDO option with Sprint is under development, and will be available later than MP.

⁵ M230 Smart Card reader is under development, and will be available later than MP.

⁶ Main battery, DVD Dual and 80GB HDD are included. Real weight could vary according to configuration.

Vehicle docking	Option	Option
Vehicle mount	Option	Option
Car adapter	Option	Option
Port on vehicle docking		
Serial port (from USB I/F)	X 2	X 2
Parallel port (from USB I/F)	X 1	X 1
BNC S-Video (from USB I/F)	X 1	X 1
USB	X 2	X 2
Docking port (POGO)	X 1	X 1
Microphone	X 1	X 1
Line-out	X 1	X 1
GPS/WLAN pass through antenna	X 2 (x1 for each)	X 2 (x1 for each)
Features of docking		
Start car ignition	Yes	Yes
Charge via car adapter	Yes	Yes
Power on indicator	Yes	Yes
2W x 2 stereo speakers	Yes	Yes
Special option		
Low temperature -20°C option	Option	Option

Environmental Test Specifications

Item	Test Criteria
Temperature	According to IEC 68-2-1,2,14 / MIL-STD-810F, Method 501.4, 502.4 <ul style="list-style-type: none"> Operating: 0°C (32°F) to 55°C (131°F) -20° (4°F) to 55°C (low temperature option) Non-operating: -40°C (-40°F) to 70°C (158°F)
Humidity	According to IEC 68-2-30 / MIL-STD-810F, Method 507 45% to 95% RH, non-condensing
Altitude	According to IEC 68-2-13/ MIL-STD-810F, Method 500.4 <ul style="list-style-type: none"> Operating: 15,000ft Non-operating: 40,000ft Attitude change rate: 2,000ft/min
Shock	According to IEC 68-2-27/ MIL-STD-810F, Method 516.5
Drop	According to IEC 68-2-32 / MIL-STD-810F, Method 516.5
Vibration	According to IEC 68-2-6 / MIL-STD-810F, Method 514.5
ESD	According to IEC1000-4-2

Enclosure	According to IEC 529, NEMA, MIL-STD-810F, Method 506.4, 510.4 IP 54 compliance
Regulation	FCC, UL, CUL, TUV, CE, CB, CCC, PSE, WHQL, BSMI, e-Mark
Others	MIL-STD-461E (option)

Sunlight Readable LCD Brightness Specifications

Model	Condition	Brightness
M230-4	Sunlight Readable + protection screen	450 nits
	Sunlight Readable + touch screen	425 nits
M230-5	Sunlight Readable + protection screen	340 nits
	Sunlight Readable + touch screen	320 nits

All brightness specifications are "typical", average numbers calculated from samples, and not every panel can reach the specification. Measurement method please refers to LCD panel specifications.