GETAC M230N Info Pack

M230N
Rugged Notebook

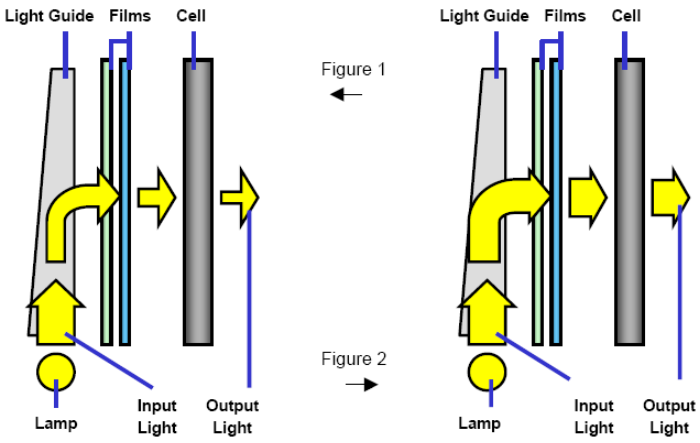
Introduction

The GETAC M230N 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 M230N 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 optional 3G communication solution to maintain accessibility to network without adding any extension modules. In tough environments security always matters, and the M230N has a built-in TPM 1.2 chip and Smart Card reader to protect your valuable data. The magnesium alloy case, shock-mounted hard drive and spill-resistant keyboard and touch pad make the M230N Mil-Std 810F and IP54 compliant to withstand any mishap.

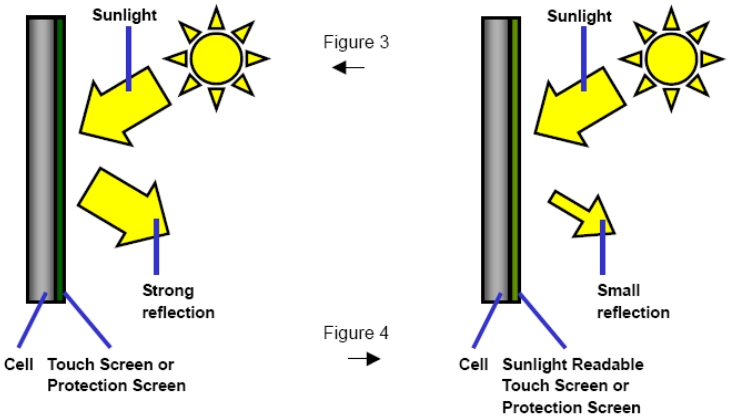
Sunlight Readable LCD

GETAC Sunlight Readable LCD is the latest state-of-the-art display 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 solutions increase the LCD brightness to 450nits by improving efficiency of the LCD backlight without increasing power consumption. 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.

The below diagram illustrates how GETAC's sunlight readable technology enhances image quality.



In addition, GETAC's sunlight readable technology reduces glare from reflected light. Normally, LCD displays with a standard touch screen or protective screen are clear in opacity, resulting in glare from strong light sources. GETAC's sunlight-readable technology provides a complete and total solution by extending the benefits of sunlight readable technology to both touch screen and protected glass displays.



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

Original image on screen with good brightness and contrast.

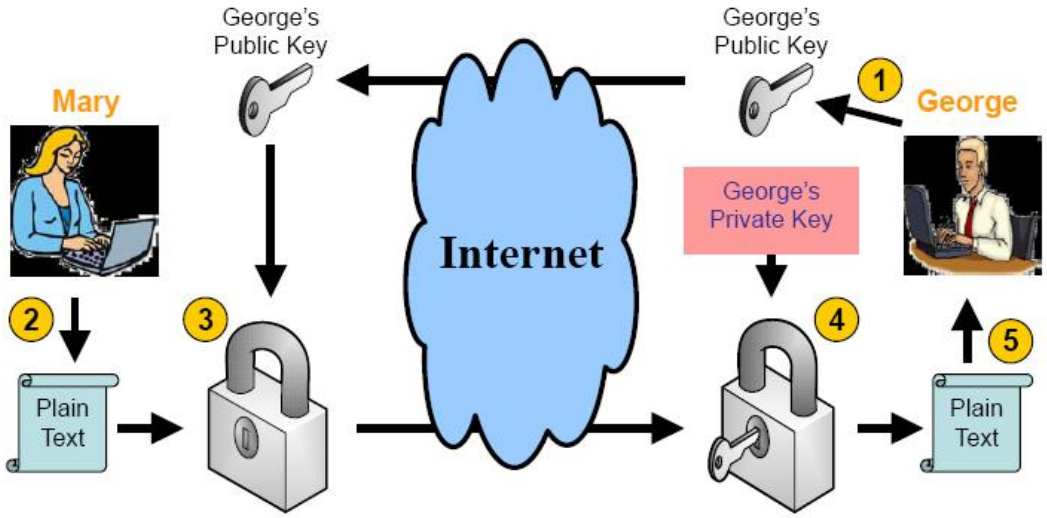
GETAC Sunlight Readable LCD, with fair contrast and brightness, can still be read in direct sunlight.

Screen with normal LCD is difficult to read in direct sunlight.

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 software and hardware 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 M230N's TPM 1.2 security solution provides complete security from theft or software attack.

Using TPM, the user may lock files on the hard disk by the private key generated by the TPM micro-controller, and the user sets the password.



The private key is unique and cannot 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 a user wishes to release protected files to authorized personnel, the unathorised user can request a public key from the authorised user to lock and unlock the file. The public key can be transmitted via the internet without risk from hackers.

Fully Rugged

GETAC's M230N is the best "Built to Survive" rugged notebook on the market. The M230N's full magnesium alloy case and tough rubber corner bumpers enable the M230N to survive 3 feet 26 times drop on steel plate, thus exceeding MIL-STD 810F standards. It's schock mounted hard drive in the M230N can absorb shock forces without damaging the hard drive disk surface in rough conditions, and the M230N is even equipped with an active protection function to expand protection including damages on the hard drive from sudden drops. Sealed I/O ports and doors make the M230N IP54 compliant in event of being caught in a rain shower.

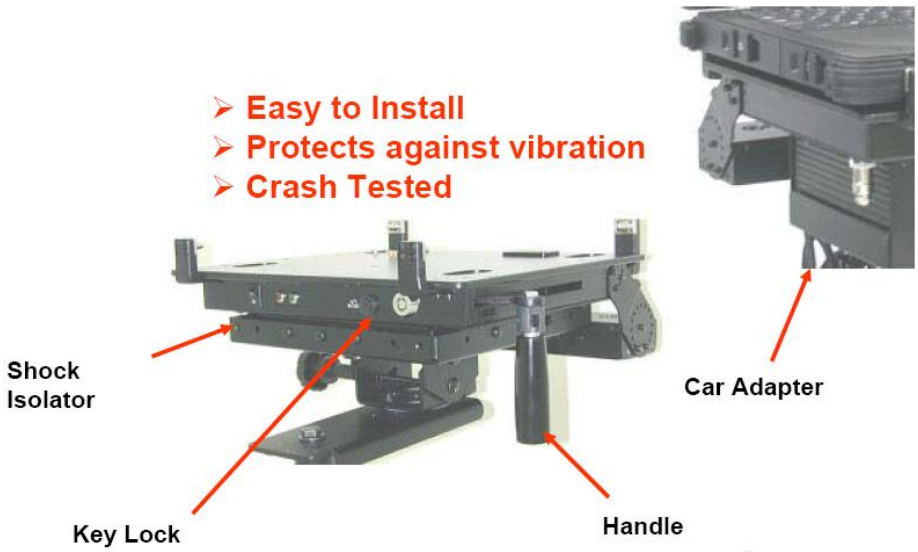
Versatile Wireless Access

In the Internet 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 M230N provides wires communication abilities, or WLAN, with 802.11a/b/g, Bluetooth, 3G Communication, and also GPS are also available in the M230N. Users do not need to plug external module or antenna to get access.

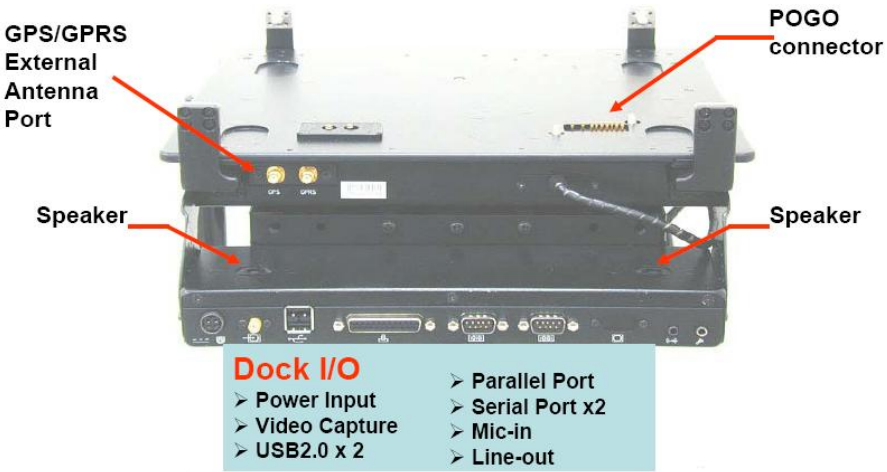
Vehicle Dock

GETAC developed a robust vehicle dock for the M230N. The dock offers very secure, stable and reliable features for the M230N when installed in various vehicles. The dock's isolator counteracts against vibration and shock caused by erratic road conditions, keeping the M230N firmly seated on the vehicle dock even in violent crashes or emergency braking situations. The dock is equipped with a full range voltage (12-32V) power supply, making it suitable for installation in a wide range of mobile applications. I/O replication is also available.

Vehicle Dock Front View



Vehicle Dock Rear View



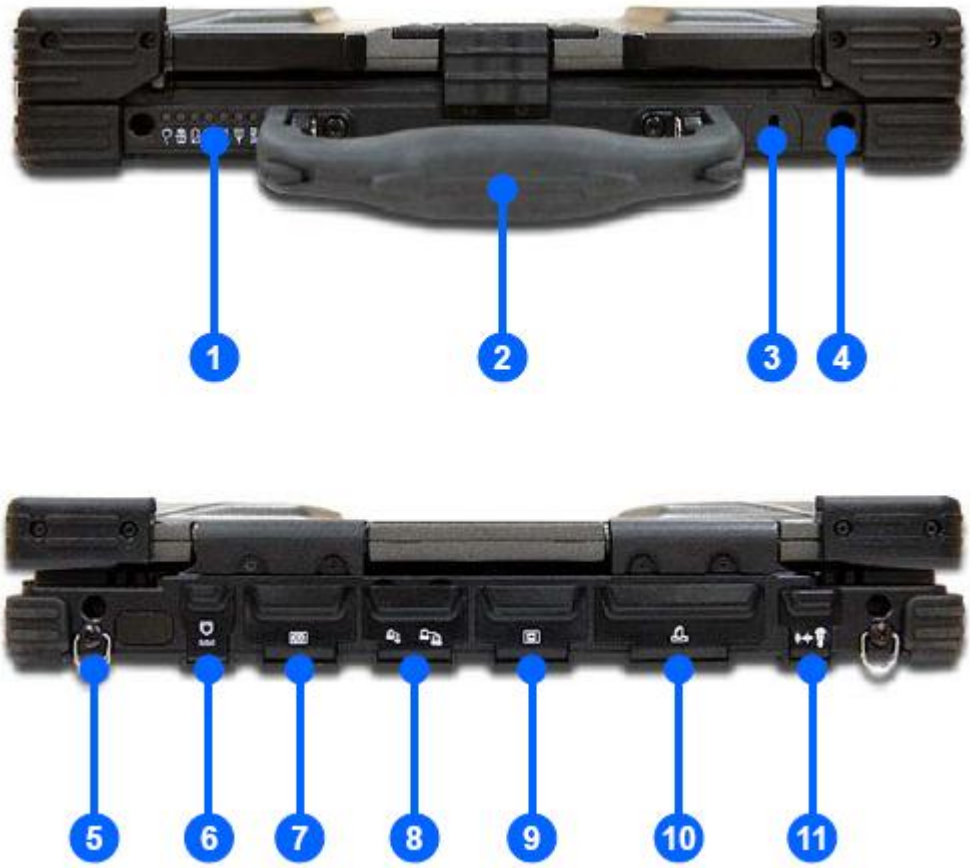
Key Features of the M230N

- Sunlight Readable 14.1” or 15” LCD display
- The lightest and thinnest fully rugged notebook
- Die-Cast Magnesium Alloy Casting
- Fan-less Design
- Individually Sealed Ports
- Shock mounted removable hard disk
- Tested & Certified MIL-STD 810F and IP54 Optional MIL-STD 461E

Front View

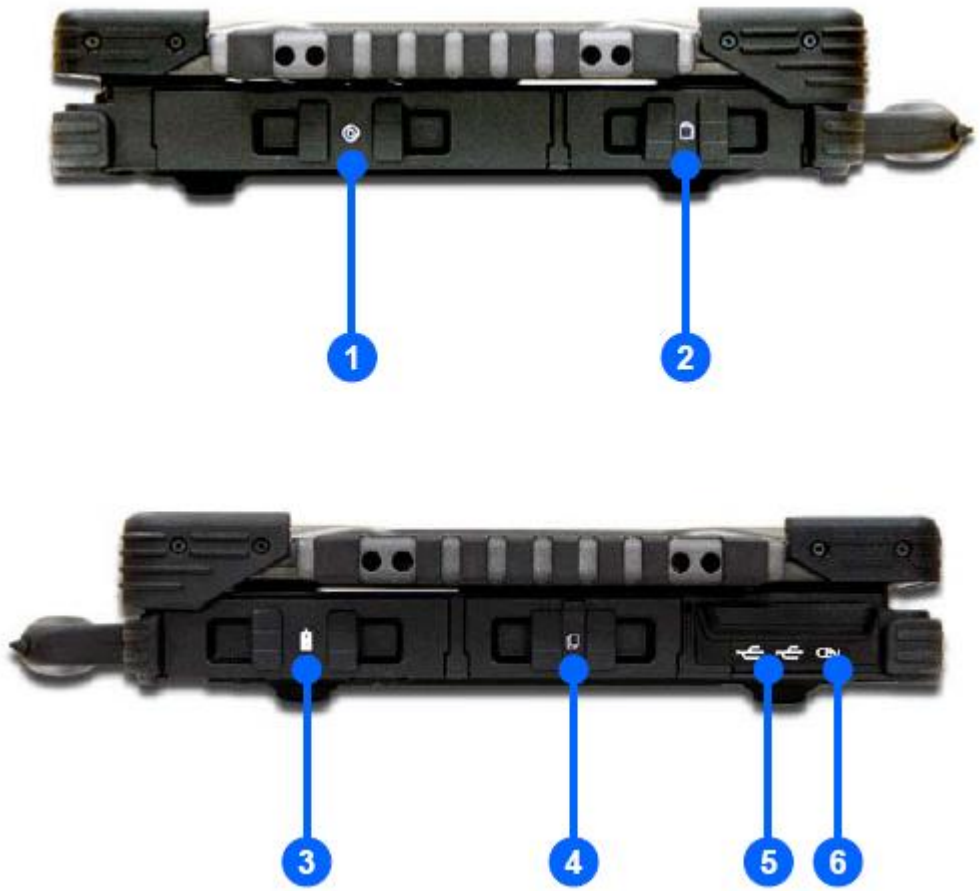
1	Bluetooth antenna	7	WLAN antenna
2	LCD	8	GPS antenna
3	Power button	9	3G communication antenna
4	HDD & Media Bay	10	Keyboard
5	Touch pad	11	Battery, PCMCIA & USB
6	LED indicators	12	Handle

Front & Rear Views



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

Left & Right Side Views



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

System Specifications

Model	M230-4	M230-5
Processor		
Intel® Core™ Duo LV Processor	1.5 GHz	1.5 GHz
FSB	667 MHz	667 MHz
2nd level cache	4M	4M
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)	1024MB or above, max 2G	1024MB 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	120GB or above	120GB or above
Media Bay(Note 2)		
Combo	STD	STD
DVD Dual	Option	Option
FDD	Option	Option
2nd 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

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	STD	STD
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 2nd 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 ● 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 ● 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 toIEC1000-4-2

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.