ARMOR

USER'S GUIDE | REVISION B

MODEL X10gx TABLET COMPUTER

DRS
TECHNOLOGIES

ARMOR X10gx TABLET COMPUTER

PORT REPLICATOR

UNIVERSAL DOCK WITH KEYBOARD TRAY

RF DOCK

BATTERY CHARGER

DESK DOCK

BREAKOUT BOX

VEHICLE POWER SUPPLY

COMPACT KEYBOARD

To learn more about ARMOR accessories, please call 1-888-872-1100

ARMOR X10gx TABLET COMPUTER

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Notice:

- NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
  - -- Reorient or relocate the receiving antenna.
  - -- Increase the separation between the equipment and receiver.
  - -- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
  - -- Consult the dealer or an experienced radio/TV technician for help.

- This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Changes not expressly approved by DRS Tactical Systems could void the user's authority to operate the equipment.

- For body-worn operation, this computer has been tested and meets the FCC RF exposure guidelines when used with ARMOR supplied accessories, or accessories designed specifically for this product. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

- This X10gx tablet computer has been tested for compliance with ATEX directive 94/9/EC.

- This Class B digital apparatus complies with Canadian ICES-003, Issue 4 June 7, 2004 and RSS-210, Issue No 7 (June 2007) and No 5 (Nov 2001).

- Cet appariel numérique de la classe B est conforme à la norme NMB-003, No. 4, June 7, 2004; et CNR-210, No 7 (June 2007) et No 5 (Nov 2001).

- [In Canada], this product is restricted to indoor use due to its operation in the 5.15 to 5.25-GHz frequency range. Industry Canada requires this product to be used indoors to reduce the potential for harmful interference to co-channel mobile satellite systems.

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- To prevent radio interference to the licensed service [in Canada], this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing.

- Pour empêcher que cet appareil cause du brouillage au service faisant l'objet d'une licence, il doit être utilisé a l'intérieur et devrait être placé loin des fenêtres afinde fournir un écran de blindage maximal. Si le matériel (ou son antenne d'émission) est installé à l'extérieur, il doit faire l'objet d'une licence.

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DRS TECHNOLOGIES

DECLARATION OF CONFORMITY

We, DRS Tactical Systems, Inc., 1110 West Hibiscus Blvd., Melbourne, FL 32901, USA Phone: 321-727-3672, *declare under our sole responsibility that the product,*

Model Number
T2130

Product Name
Armor X10gx

To which this declaration relates to is in conformity with the following standards, specifications and directives:

Standards

- **EN60950-1:2006** (Safety of Information Technology Equipment, EU)
- **Council Recommendation 1999/519/EC of 12 July 1999** Limitation of exposure to the general public to electromagnetic fields (0Hz to 300 GHz)
- **EN 301 893: V1.4.1 (2007-07)** (Broadband Radio Access Networks (BRAN); 5 GHz high performance RLAN)
- **EN 300 328: V1.7.1 (2006-10)** (Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband transmission systems)
- **EN 301 908-1 V3.2.1** (Part 1: Harmonized EN for IMT-2000, introduction and common requirements, covering essential requirements of Article 3.2 of the R&TTE Directive)
- **EN 301 908-2 V3.2.1** (Part 2: Harmonized EN for IMT-2000, CDMA Direct Spread (UTRA FDD) (UE) covering essential requirements of Article 3.2 of the R&TTE Directive)
- **EN 301 511 V9.0.2** (Global System for Mobile communications (GSM); Harmonized EN for mobile stations in the GSM 900 and GSM 1800 bands covering essential requirements under Article 3.2 of the R&TTE Directive (1999/5/EC))
- **EN 301 489-1, V1.6.1 (2005-09)** (Part1; EMC for Radio Equipment and Services, Common technical requirements)
- **EN 301 489-17, V1.2.1 (2002-08)** (Part 17; EMC for Radio Equipment and Services, Specific conditions for Wideband data)
- **EN 301 489-07 V1.3.1** (Part 7: Specific conditions for mobile and portable radio and ancillary equipment of digital cellular radio telecommunications systems (GSM and DCS))
- **EN 301 489-24 V1.4.1** (Part 24: Specific conditions for IMT-2000 CDMA Direct Spread (UTRA) for Mobile and portable (UE) radio and ancillary equipment)
- **EN55022:2006+A1:2007** (Information Technology Equipment-Radio disturbance characteristics-Limits and methods of measurements)
- **EN55024:1998+A1:2001+A2:2003** (Information Technology Equipment-Generic Immunity characteristics-Limits and methods of measurements)
- **EN 61000-3-2: 6** (Limits for Harmonic Current Emissions)
- **EN 61000-3-3:2008** (Limits, Limitations of Voltage Fluctuations and Harmonic Flicker)

Directives

- **DIRECTIVE 2006/95/EC** (Low Voltage Directive)
- **DIRECTIVE 2004/108/EC** (EMC Directive)
- **DIRECTIVE 2002/96/EC** (Waste of Electrical and Electronic Equipment)
- **DIRECTIVE 2002/95/EC** (Restriction of Hazardous Substances)
- **DIRECTIVE 1999/5/EC** (Radio and Telecommunications Terminal Equipment)

Lary Beaulieu, Senior Vice President
Printed Name and Title

7/13/2010

Signature and Date

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ARMOR X10gx TABLET COMPUTER

WARNING SUMMARY

This device is a Class I, Division 2, Groups A-D, T5 product. The ARMOR X10gx complies with all applicable industrial health and safety requirements. However there are certain safety considerations such as battery safety that you need to be aware of. Please read and comply with all warnings and cautions in this guide and in all other X10gx documentation.

A " ⚠ **Warning!**" notice indicates a condition or action that could possibly result in injury or death to the user. A " ⚠ **Caution!**" notice indicates a condition or action that could result in loss of data or damage to equipment.

⚠ **WARNING!**

EXPLOSION HAZARD – DO NOT DISCONNECT WHILE CIRCUIT IS LIVE UNLESS AREA IS KNOWN TO BE NON-HAZARDOUS.

AVERTISSEMENT-RISQUE D'EXPLOSION. NE PAS DÉBRANCHER TANT QUE LE CIRCUIT EST SOUS TENSION, À MOINS QU'IL NE S'AGISSE D'UN EMPLACEMENT NON DANGEREUX.

⚠ **WARNING!**

EXPLOSION HAZARD – BATTERIES MUST ONLY BE CHANGED IN AN AREA KNOWN TO BE NON-HAZARDOUS.

AVERTISSEMENT-RISQUE D'EXPLOSION - AFIN D'ÉVITER TOUT RISQUE D'EXPLOSION, S'ASSURER QUE L'EMPLACEMENT EST DÉSIGNÉ NON DANGEREUX AVANT DE CHANGER LA BATTERIE.

⚠ **WARNING!**

Do not drop or mishandle the batteries, immerse them in water, or subject them to high heat. Doing so could increase the risk of explosion or leakage, and possibly cause injury.

⚠ **WARNING!**

The lithium-ion batteries used in this equipment contain material that is hazardous to your health. If battery contents come in contact with the eyes, IMMEDIATELY flush the affected area with clean water for 15 minutes and have someone else summon medical attention for you. Unaffected persons should assist the affected individual in the vital first flushing of the eyes.

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⚠️ **WARNING!**

If battery material comes in contact with the skin, flush the affected area with clean water and seek immediate medical treatment.

⚠️ **WARNING!**

Place all shipping bags and packing materials safely out of the reach of small children, especially infants and toddlers. These items may pose a choking or suffocation hazard.

⚠️ **WARNING!**

Do not disable the power switching function if the X10gx will be used in a hazardous location (HAZLOC), regardless of the docking station used.

⚠️ **WARNING!**

Changes or modifications not performed by, or expressly authorized by, DRS Tactical Systems, Inc could be hazardous to your health, could cause damage to the equipment, could void your warranty or could result in all of the above.

⚠️ **CAUTION!**

Use this product only in vehicles that can supply a constant source voltage of 11 to 28 VDC (16 VDC nominal) ± 2% at 6 amps. Voltage sources outside this range could cause unstable operation or result in permanent damage to the computer.

⚠️ **CAUTION!**

DO NOT connect the DC power supply from a Rapid Battery Charger into the computer or docking mechanism. This power supply is 24 VDC and will cause permanent damage to the computer.

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⚠️ **CAUTION!**

DO NOT connect the computer to more than one power source at a time such as with the AC adapter connected to the computer and vehicle power connected to the docking station. Permanent damage to the X10gx batteries or to the computer itself may result.

⚠️ **CAUTION!**

Use only the battery originally supplied with your ARMOR X10gx or one recommended by DRS. The use of any other battery could create a hazardous condition and possibly damage your computer. Dispose of used batteries according to the instructions in [Disposing Of Your Batteries](#).

⚠️ **CAUTION!**

Recharging the battery must only be carried out in a non-hazardous area using the supplied AC adapter. The definition of hazardous areas can be found in Standard EN 60079-10.

⚠️ **CAUTION!**

DO NOT use this unit in classified areas unsuitable for its safety ratings. NE PAS UTILISER CETTE UNITÉ EN ZONES AINSI CLASSÉES IMPROPRES À SA COTE DE SÉCURITÉ

⚠️ **CAUTION!**

When using IEEE 802.11a wireless LAN [in Canada], this product is restricted to indoor use due to its operation in the 5.15- to 5.25-GHz frequency range. Industry Canada requires this product to be used indoors for the frequency range of 5.15 GHz to 5.25 GHz to reduce the potential for harmful interference to co-channel mobile satellite systems. High power radar is allocated as the primary user of the 5.25- to 5.35-GHz and 5.65 to 5.85-GHz bands. These radar stations can cause interference with and/or damage to this device.

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1 Welcome and Introduction

Thank you for purchasing the ARMOR X10gx Rugged Tablet with Intel® Core Duo™ Mobile technology. Your X10gx is the latest addition to the ARMOR line of durable, reliable, and easy-to-use tablet computers.

The X10gx is housed in our new magnesium alloy chassis and has sealed external connectors that are rated IP 67 level protection from dust, dirt, water and other damaging elements. Its hot-swappable battery access means you can change the batteries without the need for tools and without interrupting normal computer operations. In addition, you now have the functionality of both a touch screen and an active pen screen at your fingertips.

The ARMOR X10gx gives you the power of a desktop computer in a rugged portable tablet computer. The X10gx can be mounted in a vehicle or it can be used on a desktop, on the ground, held on the lap, or held in the crook of the arm. You can write and perform operations directly on the screen, work with a virtual on-screen keyboard, or attach a USB keyboard (compact keyboard, standard-sized USB keyboard, or Bluetooth keyboard).

We take pride in providing high-quality products and superior customer service. Thank you for choosing the DRS ARMOR X10gx Tablet Computer, and for your trust in the ARMOR line of products.

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Your ARMOR X10gx Purchase

Your purchase includes the items and accessories shown in Figure 1. Please confirm that all of these items are present and in good condition. **NOTE:** Your hard drive is shipped already installed in the computer.

Contact your ARMOR X10gx Tablet Computer sales representative if any item is missing or damaged.

TABLET COM PUTER

ACTIVE PEN WITH TETHER

SHOULDER STRAP

BATTERY (1 OR 2)

AC ADAPTER

ARMOR CLOTH

QUICK START GUIDE

Figure 1. ARMOR X10gx Components and Accessories

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ARMOR X10gx Documentation

The following documents are installed on your ARMOR X10gx Tablet Computer in PDF format. To access these documents, double-click on the appropriate icon on the desktop.

- **ARMOR X10gx User's Guide –** Provides operating information and descriptions of all controls and indicators. It contains necessary procedures to setup and operate the ARMOR X10gx.

- **ARMOR X10gx Quick Start Guide –** Provides information to help you get your ARMOR X10gx computer up and running as quickly as possible. A printed copy is also packed with your computer

About This Guide

This manual contains the majority of the information you will need to setup and maintain your ARMOR X10gx Tablet Computer. However, should you need additional technical information, please visit our web site at: www.drsarmor.com, or call DRS Technical Support toll-free at 1-888-872-1100.

This guide is written for the Windows 7 operating system, except where noted.

> ### ⓘ NOTE
> *All references to front/rear, left/right and top/bottom locations in this guide are relative to the front (or face-on) view of the computer as it appears when it is set up for operation.*

Viewing, Navigating, and Printing this Guide

This guide can be viewed interactively on your X10gx using Adobe PDF Reader or it can be printed to paper. To view this guide on the computer, click on the User's Guide icon on the desktop. You can click on any Figure or Table reference and on the blue underlined text, or links, to navigate within the guide or to access resources on the Internet. Links to internet resources will change color after the first access to indicate the link has been recently used; links to information within the document will not change color. The latest version of Adobe PDF Reader is available for downloading free from www.adobe.com.

To print this guide to paper, use the Adobe Reader "Print "menu options for best results.

Terminology Used in this Guide

As the result of long use and the evolution of the Windows operating system, some functions and buttons may be called by more than one name and some of these names are used interchangeably, which can lead to confusion. The following list provides some of the more common examples you may encounter in this manual:

Standby = Stand By = Sleep

OEM Button = Side Button = Windows Security Key Button

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<u>Please Help Us Maintain Top Quality Documentation</u>

This guide was produced with the latest information available and verified for accuracy at the time of its release. However, mistakes are possible, and product updates may supersede the information in this guide. We encourage you to contact DRS Technical Support toll-free at 1-888-872-1100 with suggestions and corrections so that we can maintain the highest quality documentation possible for you and for future customers.

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2   Getting to Know your ARMOR X10gx

The X10gx is the latest addition to the ARMOR line of rugged, reliable, and easy-to-use tablet computers. The X10gx is housed in our new magnesium alloy chassis and has sealed external connectors that are rated IP 67 level protection from dust, dirt, water and other damaging elements. Its hot-swappable battery access means you can change the batteries without the need for tools and without interrupting normal computer operations. In addition, you now have the functionality of both a touch screen and an active pen screen at your fingertips.

Processing

Your ARMOR X10gx Tablet Computer is equipped with an Intel® 1.2 GHz SU9300 Ultra-Low Voltage Core 2 Duo processor incorporating the Intel Montevina architecture for high performance. The tablet comes equipped with two 200-pin mini SODIMM modules that support up to 4 GB of random access memory (RAM). Windows® 7, 64 bit is the standard operating system, or the X10gx can be configured with Windows XP or Linux Red Hat operating systems in either 32 or 64 bit mode.

Data Storage

The ARMOR X10gx is equipped with a 1.8" solid-state drive (SSD). The standard solid state drive size is 32 GB but other sizes are available. For information on available drive capacities, please contact DRS Tactical Systems toll free at (888) 872-1100.

Dual-Mode Display

The X10gx is offered in both Dual Mode and Pen configurations. ARMORUtils provides configuration control of the Dual Mode screen as Touch Only, Pen Only, or default Touch with Pen autosense. In touch mode, you use a finger-tip or passive stylus pressed directly on the screen surface to steer the cursor and activate options. For pen mode, the unit's digitizer senses the proximity of the pen (~1cm). The refined positioning of the cursor in Pen mode increases accuracy and makes signature capture functions possible.

Video Graphics

An Intel Gx4x Express Chipset supports Generation 5 GMA graphics. The graphics subsystem supports both LVDS and VGA video standards for internal screen resolutions of 1024 x 768 pixels (XGA) and 800 x 600 pixels (SVGA) at 32 bpp color depth.

The X10gx provides dual monitor support at the following resolutions:

- SVGA (800x600)
- XGA (1024X10gx68)
- WXGA (1280X10gx20, 1280x800)
- SXGA (1280x1024)
- WXGA+ (1440x900)
- WSXGA+ (1680x1050)
- UXGA (1600x1200)
- WUXGA (1920x1200)

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Wireless

The ARMOR X10gx comes standard with embedded Wireless Local Area Network (WLAN) and Bluetooth®, with support for WWAN and GPS.

WLAN Capability

The X10g is equipped with integrated Wi-Fi® 802.11 a/b/g/n wireless LAN module that operates on the 2.4 and 5 GHz bands.

Bluetooth® Capability

The X10gx has a built-in Bluetooth module that allows you to connect to wireless peripherals such as a keyboard, mouse, printer or scanner.

Optional WWAN Capability

The X10gx can accept a PCI-e mobile broadband radio that supports the following networks:

- CDMA2000 and EVDO mobile communications at 850/1900 MHz bands
- HSPA on 850/1900/2100 MHz bands
- GSM/GPRS/EDGE on 850/900/1800/1900 MHz bands

Optional GPS Capability

The X10gx can be equipped with a global positioning system (GPS) receiver. This receiver uses GPS satellites to calculate its current location and elevation. This information is then used by installed applications.

Audio

Two internal speakers are provided, plus two sets of noise-cancelling microphones. An audio jack is provided on the right side so you can connect a set of headphones, an external speaker or an external microphone.

Batteries

One or two battery packs can be installed in compartments in the back side of the X10gx, as shown in

Figure 5. The X10gx batteries are high efficiency lithium-ion batteries that are "hot swappable." That is, if you have two batteries, you can replace one battery while the tablet operates on the other battery. With this capability, you do not have to shut down the computer or interrupt your current operating session in order to replace a battery. The X10gx can operate as long as 4 hours on two fully charged batteries. Each battery has an LED "fuel gauge" that indicates the current or remaining charge.

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<u>Flexspace™</u>

The X10gx has additional space and flexible interfaces to allow the addition of custom cards and modules for extended capabilities. Refer to **Flexspace** for a more detailed description of the Flexspace concept.

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Key Features

The following paragraphs and images describe the principal components, controls, indicators, connectors and accessories of the ARMOR X10gx.

ℹ️ NOTE

All references to front/rear, left/right and top/bottom locations in this guide are relative to the front (or face-on) view of the computer as it appears when it is set up for operation.

ARMOR X10gx TABLET COMPUTER

Front and Top Panel Features
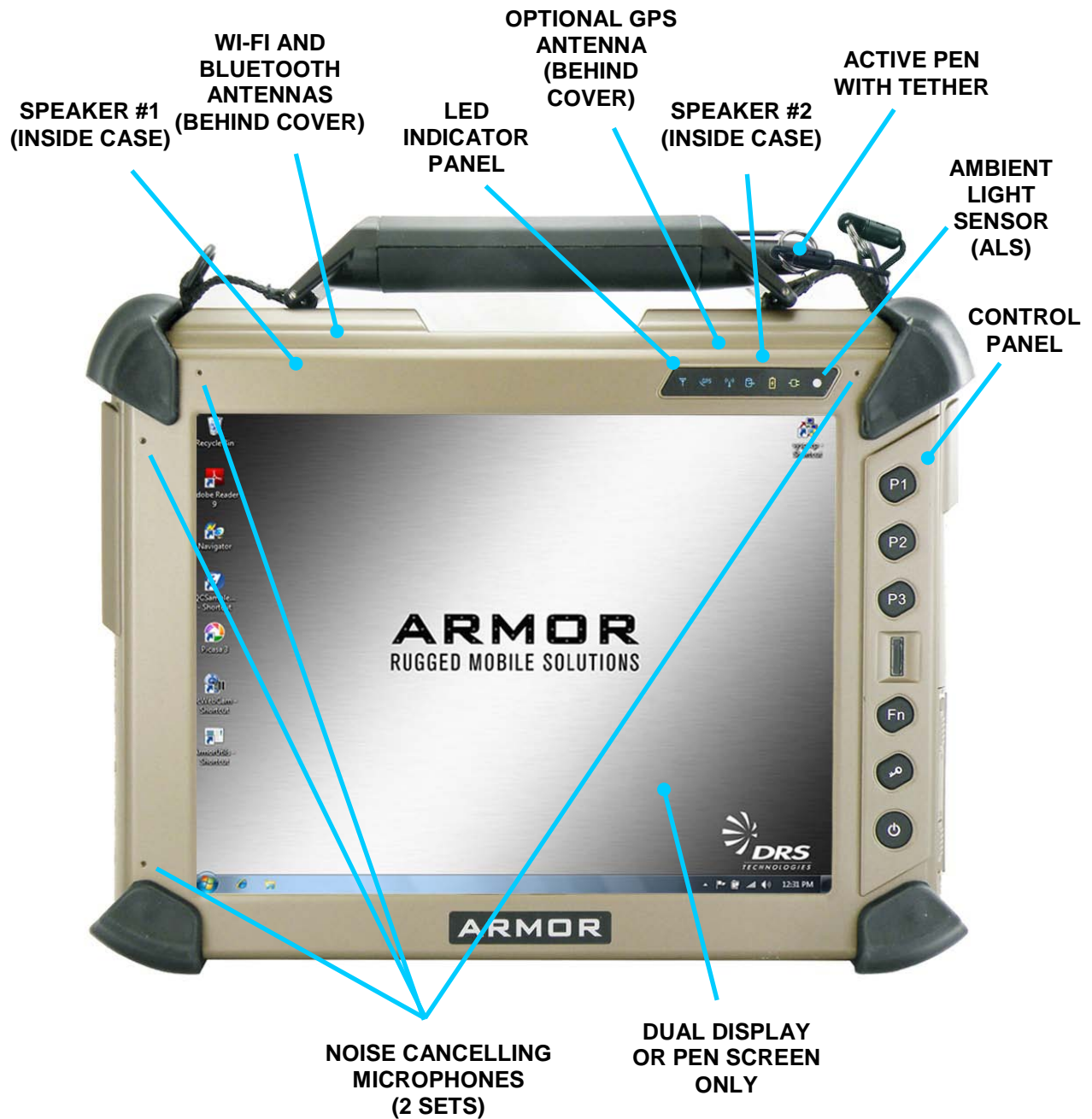
Figure 2. Front Panel Features

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Controls

There are 6 momentary contact push buttons located on the control panel on the right side of the X10gx display, as shown in Figure 3.

PROGRAMMABLE BUTTON P1

PROGRAMMABLE BUTTON P2

PROGRAMMABLE BUTTON P3

FINGERPRINT SCANNER SENSOR

FUNCTION BUTTON

WINDOWS SECURITY KEY BUTTON

POWER BUTTON
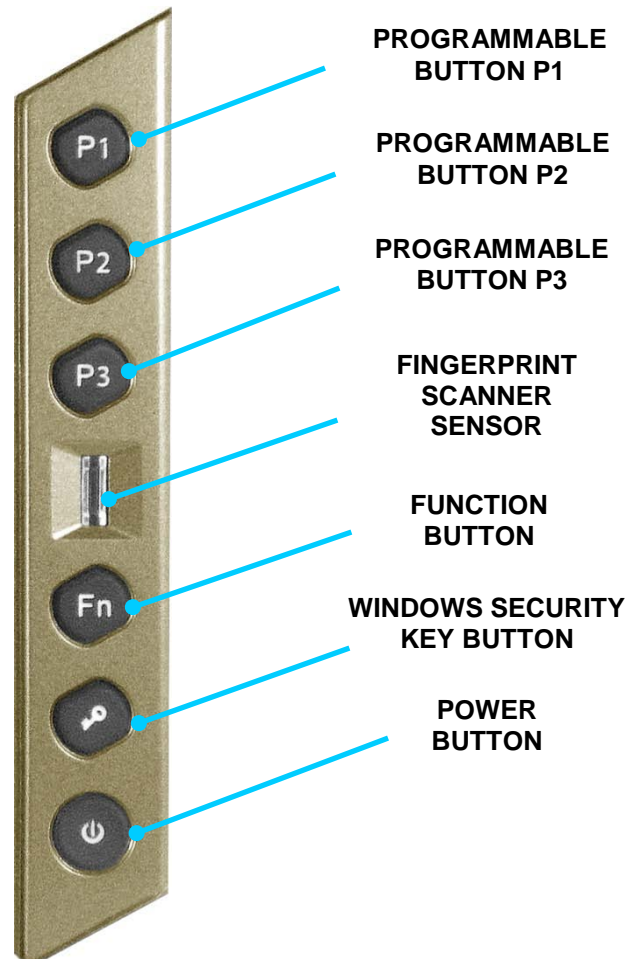
Figure 3. X10gx Control Panel

Programmable Buttons P1, P2, P3

These buttons can be used to control different functions such as controlling brightness or changing volume level. Press and release a button to activate or toggle the function. Refer to Programmable Button Settings Dialog Window for information on how to select available options.

These buttons are also used to manually activate the battery fuel gauges (see Manually Activating the Fuel Gauges.

Fingerprint Scanner

The fingerprint scanner sensor is used with security software to allow you to log onto the computer or gain access to specific applications. Use of the scanner requires specialized software that is not provided with the X10gx.

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Fn (Function) Button

This button is used with programmable buttons P1, P2 and P3 to activate three additional functions. Press and release the **Fn** button and then press and release **P1**, **P2** or **P3** to activate the function. Refer to Programmable Button Settings Dialog Window for information on how to select available options for each combination.

Windows Security Key Button

This button is also called the "Side Button" or "OEM" Button. Pressing this button generates the SAS scan code and invokes the **CTRL-ALT-DEL** command, which opens the Windows Task Manager screen.

Power Button

The **Power** button is a momentary press button that turns the computer on or off. It is also used to restore your session if the computer has reverted to sleep mode.

Indicators

There are six LED status indicators located on the indicator panel at the upper right of the X10gx display as shown in Figure 4 (**NOTE:** The seventh object to the far right of the panel is the ambient light sensor (ALS), not an LED).

In addition, there are two LED arrays (fuel gauges) located on the back panel that indicate the current charge of each battery.

The functions of these indicators and the function of the ALS are described below.

Figure 4. Indicator Panel

WI-FI Indicator

A blue LED that is on steady when the WI-FI radio is powered on and enabled, and is off when the X10gx is in standby or hibernate mode, or is powered down.

GPS Indicator

A blue LED that is on steady when the GPS module is powered on and enabled, and is off when the X10gx is in standby or hibernate mode, or is powered down.

Wireless Wide Area Network (WWAN) Indicator

A blue LED that is on steady when the WWAN radio is enabled and connected, and off when the radio is not connected.

Drive Activity Indicator

A blue LED that is on intermittently when the hard drive is accessed.

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Battery Status Indicator

This indicator has the following conditions:

- Off when the tablet is powered up and external power is not connected.
- A steady amber color when external power is connected and the battery is fully charged.
- Flashing at a 1 second rate when the battery is charging.
- Flashing at a slow rate (1 second on/2 seconds off) when the X10gx is in standby mode.
- A steady red color if a system error occurs, such as an overvoltage, undervoltage or overcurrent condition or a battery failure.

Power Indicator

A blue LED that is on steady whenever power is applied to the ARMOR X10gx and is off when power is shut down.

Ambient Light Sensor (ALS)

The ALS senses changes in surrounding light levels and adjusts the display brightness accordingly. If the ambient light level increases, the display brightness will increase proportionally; if the light level decreases, the display brightness will decrease proportionally.

Speakers and Microphones

Speakers

The X10gx has two sealed internal speakers located under the antenna covers at the top of the computer (see Figure 1). The speakers broadcast audible alerts generated by the operating system and application software and can be used to play back music or video sound tracks, although at a considerably reduced sound quality.

If a headset or external speakers are plugged into the right-side panel audio jack (Figure 13), the internal speakers are disabled. The sound quality through a pair of headset speakers or external speakers meets the Microsoft Windows 7 requirements for a PC audio system.

Microphones

The X10gx is equipped with two sets of noise-cancelling microphones (see Figure 1) that are activated in pairs depending on the orientation of the screen. In the landscape position, the tablet is oriented with the long axes of the screen horizontal and the control panel on the left or right. In this position, the two microphones normally on the top of the front panel are activated.

If you rotate the screen to the portrait mode, the two microphones located in what is normally the left side of the front panel are now activated. In portrait mode, the tablet is held with the control panel either at the top or bottom of the screen.

If an external microphone is plugged into the audio jack on the right side of the computer, the internal microphones are disabled.

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Rear Panel Features

The rear panel of the X10gx houses compartments for two batteries, a hard drive and a RAM memory module, as shown in

Figure 5.

There is also a built-in webcam, a 50-pin docking connector and two RF docking connectors to connect external wireless and/or GPS antennas.
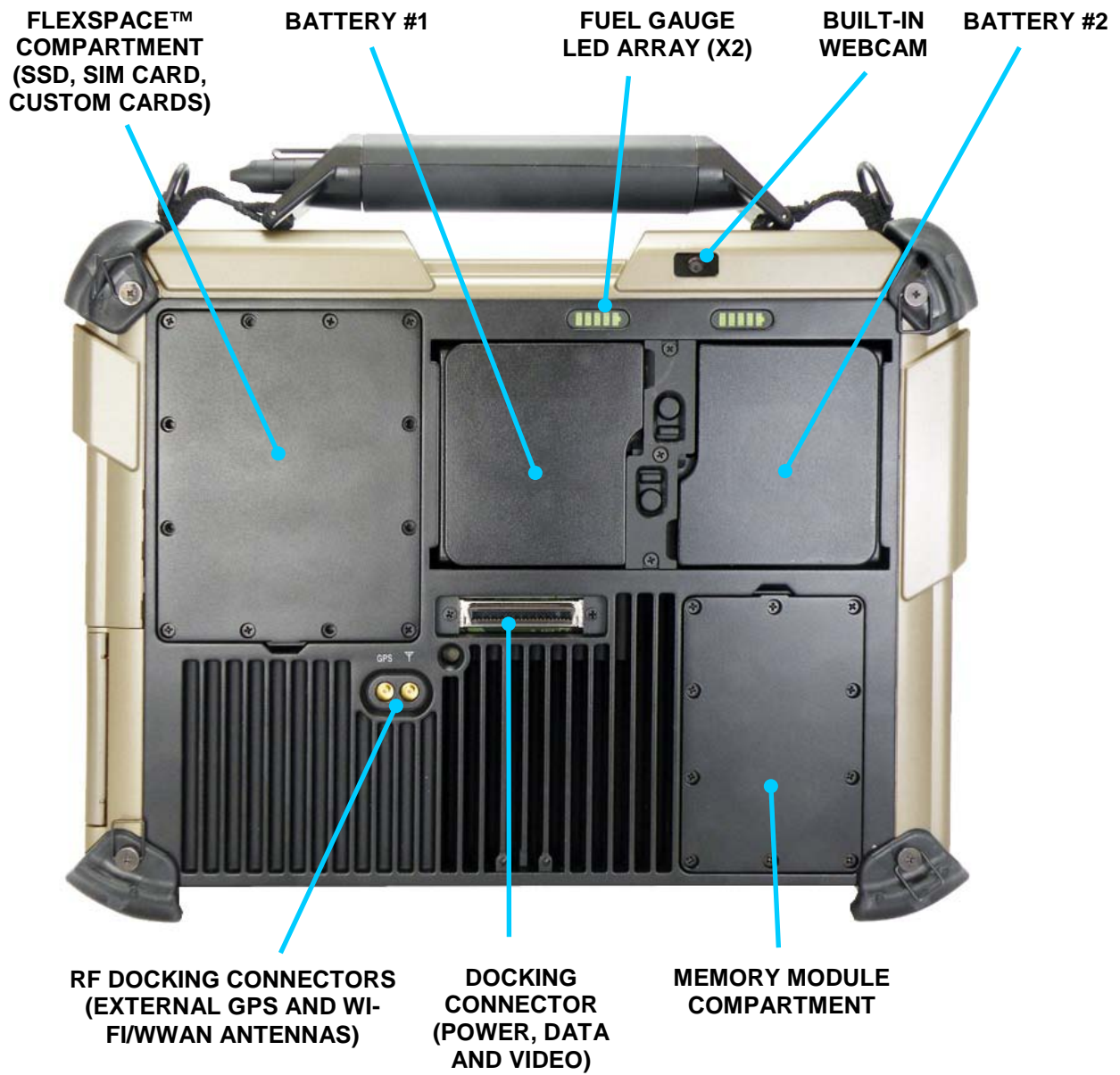
Figure 5. Rear Panel Features

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Battery Compartments

There are two battery compartments on the rear panel, as indicated in Figure 6. These compartments are sealed against moisture and dirt and provide quick and easy access for battery replacement. A battery "fuel" gauge (LED array) is provided for each battery to indicate the current charge level.
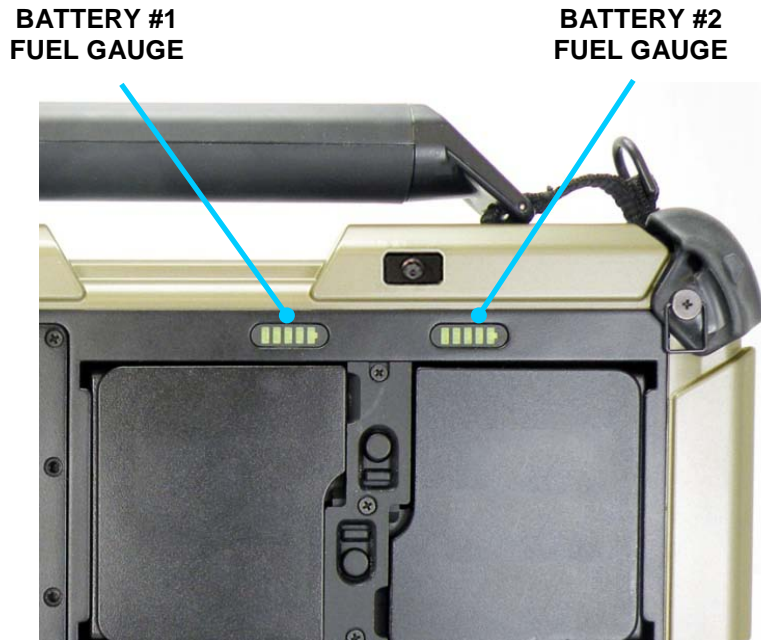
Figure 6. Fuel Gauge Indicators

Fuel Gauge LEDs

Each fuel gauge array consists of 5 LEDs and each LED represents approximately 20% of the total charge of the battery as follows:

LED #5 - 81-100%
LED #4 - 61-80%
LED #3 - 41-60%
LED #2 - 21-40%
LED #1 - 01-20%
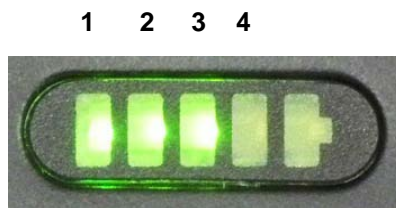
The fuel gauge LEDs are active whenever power is applied to the tablet and the tablet is not in sleep or hibernation mode. The LEDs in each array turn on from *left to right* as the charge increases. When all five LEDs are on steady <u>and</u> the Battery Status indicator is off, the battery is fully charged. If a battery is not installed, the gauge for that battery will be off.

As the battery is used, the LEDs will turn off from *right to left*. If the battery charge drops below 10%, LEDs 2-5 will be off and LED #1 will flash.

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Manually Activating the Fuel Gauges

When the tablet is turned on and external power is connected, the fuel gauges are active regardless of the operating state of the tablet. When the tablet is turned off or is in low-power mode (sleep/standby or hibernate) and external power is not available, the fuel gauge LEDs will not be active.

You can activate the gauges for a period of 5 seconds by pressing any of the programmable buttons (P1 – P3) on the control panel.

Flexspace™ Compartment

The Flexspace compartment is a sealed compartment located at the upper right rear panel of the X10gx. It normally houses the solid-state drive (SSD) and a SIM card. This compartment is shown in Figure 7 with the cover removed. The SIM card socket is located underneath the hard drive, as shown in Figure 8.

> ⚠️ **CAUTION!**
>
> *This compartment should only be accessed by a qualified technician in a controlled environment.*

SOLID-STATE
HARD DRIVE
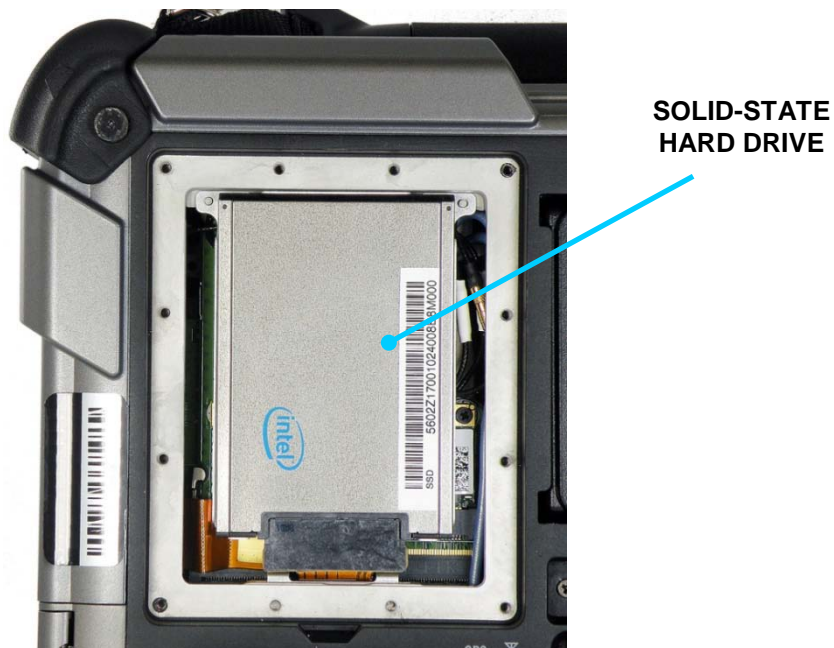
Figure 7. Flexspace™ Compartment

ARMOR X10gx TABLET COMPUTER

Subscriber Identity Module (SIM) Card Socket

The X10gx is equipped with a Subscriber Identity Module (SIM) card socket located behind the SSD (Figure 8). A SIM card is a small electronic card that contains your subscriber ID, billing information, and network permissions. The card allows you to easily transport your subscriber information to another computer or subscriber device.

You must have a SIM card installed in order to use your Gobi radio to connect to a WWAN network. For instructions on installing a SIM card, refer to Installing your SIM Card.

.
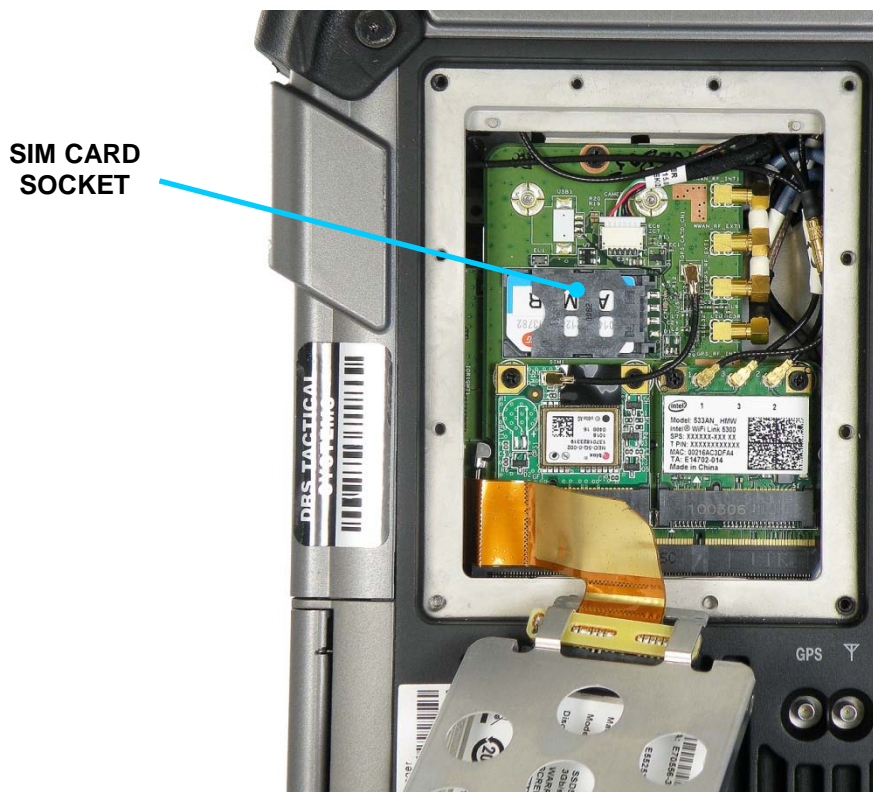
Figure 8. SIM Card Socket

ARMOR X10gx TABLET COMPUTER

Memory Module Compartment

Your X10gx contains up to 4 GB of random-access memory (RAM) using two 200-pin mini SODIMM modules. These modules are located in a sealed compartment on the lower left rear panel of the computer, as shown in Figure 9. **NOTE:** When 4 GB modules become available, the X10gx will support up to 8 GB of RAM with a 64 bit operating system such as Windows 7.

ⓘ NOTE

This compartment should only be accessed by a qualified technician in a controlled environment.
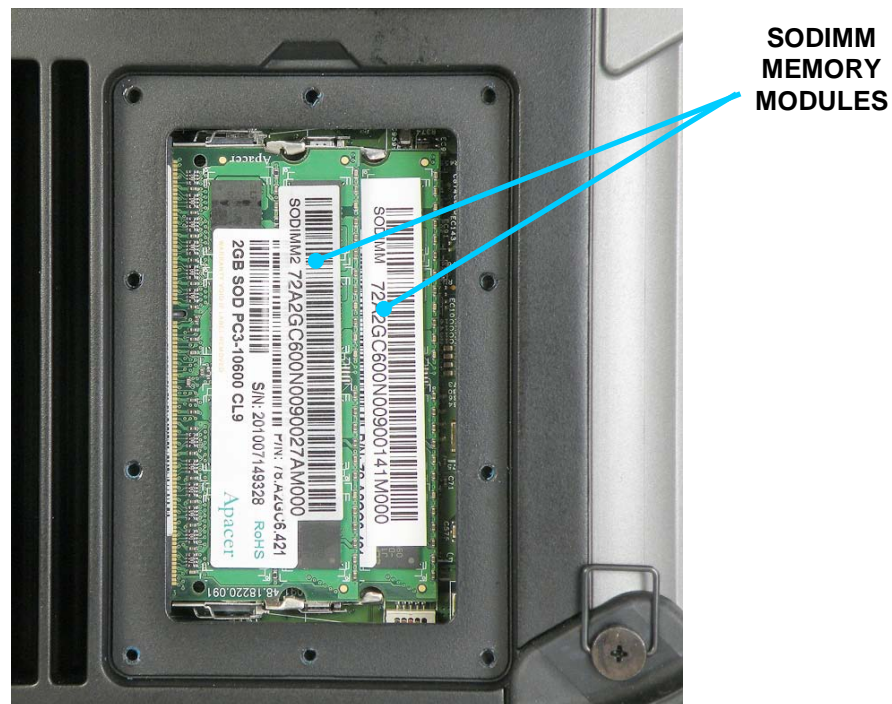
Figure 9. RAM Memory Module Compartment

ARMOR X10gx TABLET COMPUTER

Built-In Webcam

The X10gx has a built-in 2 megapixel camera located on the back side of the top left antenna cover (Figure 10). The camera is equipped with an autofocus lens and can be used to capture still images, movies and barcodes. The camera saves still images in JPEG format at 1280 x 1024, 800 x 600 and 640 x 480 pixel resolutions. Movies are saved in Windows Media Video (.wmv) format.

For information on using the webcam to capture still and video images or for reading bar codes, refer to Using the Webcam.

.

WEBCAM
LENS

Figure 10. Built-in Camera

Docking Connectors

The X10gx can be connected to a number of docking stations including desk docks, vehicle docks and the port replicator. While docked, the tablet receives external power and data through the 50-pin docking connector shown in Figure 11. If external antennas are used for GPS and WWAN or WLAN, these antennas are connected through the two RF docking connectors.

This RF antenna support is currently only available with the X10gx vehicle dock shown in Figure 24.

POWER AND
DATA DOCKING
CONNECTOR

RF DOCKING
CONNECTORS

GPS

Figure 11. X10gx Docking Connectors

ARMOR X10gx TABLET COMPUTER

Left Side Panel Features

On the left side of the tablet, support for a second display is provided with a DisplayPort® cable connector. A GB Ethernet port and two USB 2.0 ports are also located on this side of the tablet. An AC adapter port is provided to connect an external power supply.

SECONDARY WI-FI AND OPTIONAL FLEXSPACE ANTENNAS (BEHIND COVER)

AC ADAPTER PORT

ETHERNET PORT

DISPLAYPORT CONNECTOR

USB PORTS
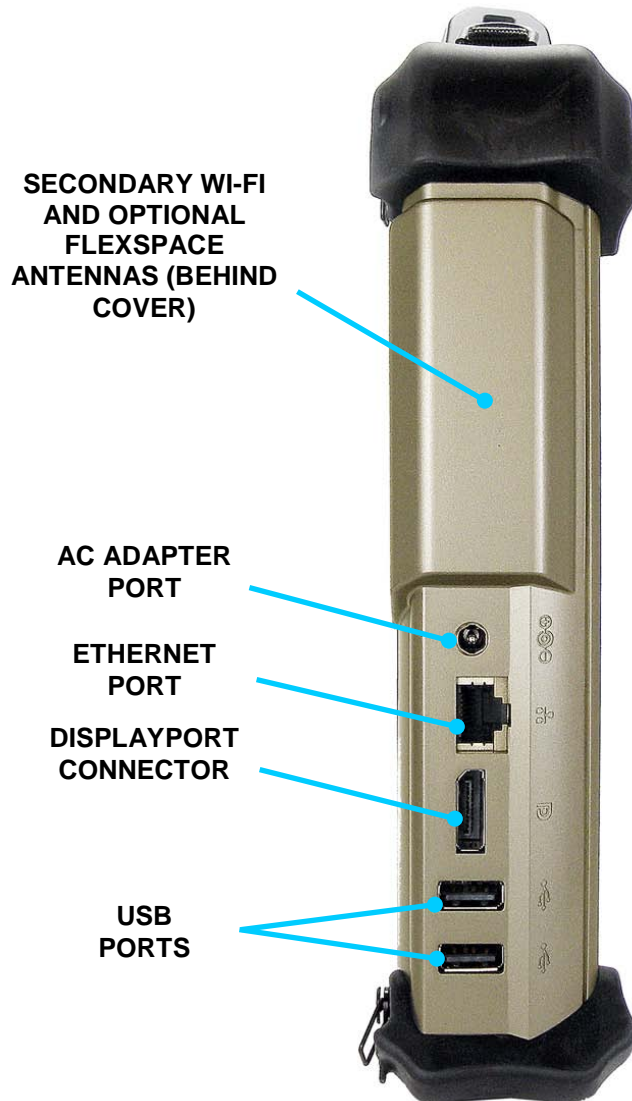
Figure 12.   Left Side Panel Features

ARMOR X10gx TABLET COMPUTER

Right Side Panel Features

On the right side of the tablet, there is an audio jack that can accommodate a pair of headphones, a pair of external speakers or an external microphone. There is also a 9-pin serial port connector for RS-232 serial data and a standard USB connector.

Removable Card Support

The bottom cover opens to reveal a compartment for three different types of removable digital cards. There is a slot for a single PCI ExpressCard 34/54 (or, as a factory installed option, a single Type I/II PCMCIA card). A slot is also provided for a high capacity Secure Digital card and one for a ISO/IEC 7810 FIPS 201 compliant Smart Card.

SECONDARY WI-FI ANTENNA (BEHIND COVER)

HEADPHONE/ SPEAKER/ MICROPHONE JACK

RS-232 SERIAL PORT

USB PORT

PCI EXPRESS CARD SLOT

SECURE DIGITAL HIGH CAPACITY (SDHC) CARD SLOT

COVER RELEASE LATCHES

SMART CARD SLOT

Figure 13. Right Side Panel Features

ARMOR X10gx TABLET COMPUTER

Bottom Panel Features

The bottom panel of the tablet has two docking station mount points and houses the Bluetooth antenna.
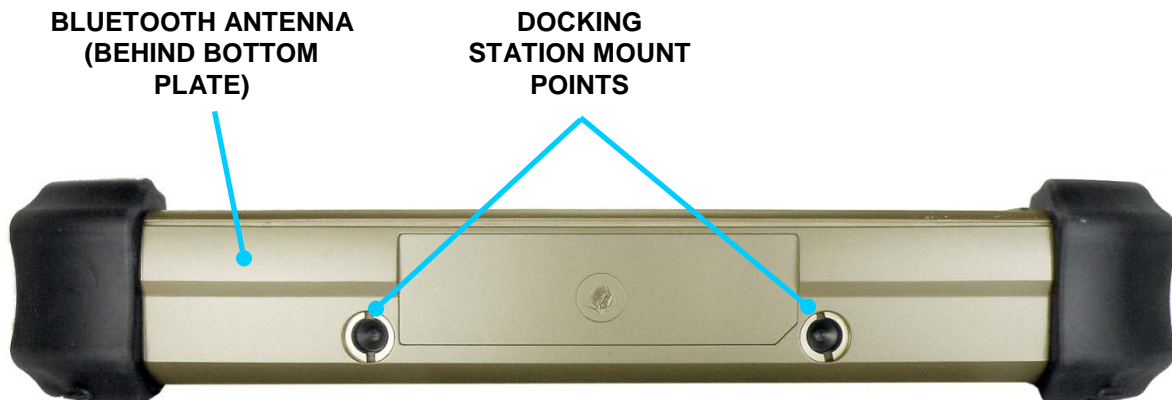
Figure 14. Bottom Panel Features

ARMOR X10gx TABLET COMPUTER

Included Components, Accessories and Support

Batteries

The ARMOR X10gx ships with two 2400 mAh rechargeable batteries (Figure 15). These are high efficiency lithium-ion batteries that are "hot swappable." That is, if you have two batteries installed, you can replace one battery while the tablet operates on the other battery. With this capability, you do not have to shut down the computer or interrupt your current operating session in order to replace a battery.

The X10gx can operate as long as 4 hours on two fully charged batteries and up to 2.5 hours on a single battery.

Figure 15. ARMOR X10gx Battery

Figure 16. Solid-State Hard Drive

ARMOR X10gx TABLET COMPUTER

RAM Memory Modules

Your X10gx contains 4 GB of random-access memory (RAM) in two 2 GB 200-pin mini SODIMM modules, as shown in Figure 17.

Figure 17. RAM Memory Module

Active Pen with Tether

The active pen that comes with your X10gx (Figure 18) has circuitry that interacts with the digitizer assembly built into the tablet display. The digitizer detects the pen tip close to the screen and activates certain functions like steering the cursor or performing a right click action if the pen is allowed to hover for a few seconds. Pressing the tip to the screen activates a tip switch that performs a left-click action.

The pen also has a side button that can be programmed for a number of different functions (refer to the X10gx User's Guide for detailed information). It's default function is right-click. The pen is stored in the tablet's carrying handle and is secured to the handle by a flexible tether.

TIP SWITCH   SIDE BUTTON

TETHER

Figure 18. The ARMOR X10gx Pen

ARMOR X10gx TABLET COMPUTER

AC Adapter

This +15 VDC, 4.8 amp power supply or "AC Adapter" is used to recharge the batteries and can be used to power the unit. A European power cord is available.

Figure 19. AC **Adapter**

ARMOR Cloth

This microfiber cloth is specially designed to clean the display screen of dust and fingerprints. See Caring For the Display Screen for important information about using this cloth with the X10gx display.

Figure 20. ARMOR Microfiber Cleaning Cloth

ARMOR X10gx TABLET COMPUTER

Flexspace Device Support

The X10gx provides flexible space, called the "Flexspace", with I/O capability for the integration of custom cards and modules such as an radio frequency ID (RFID) tag reader or contactless card reader, or an additional Smart Card reader, as illustrated in .

The Flexspace compartment can provide up to 3 PCI-e card slots, 3 USB 2.0 ports, 6 general purpose I/O (GPIO) connections to the docking connector and 2 GPIO connections to the processor. The antenna panel on the right side of the X10gx can house a custom antenna or be modified to provide additional I/O connectors.

For more information on Flexspace capabilities with the ARMOR X10gx, contact DRS Tactical Systems, Inc. toll free at 800-872-1100.

RFID TAG READER OR CONTACTLESS CARD READER

ADDITIONAL SMART CARD READER OR INTERFACE CONNECTORS
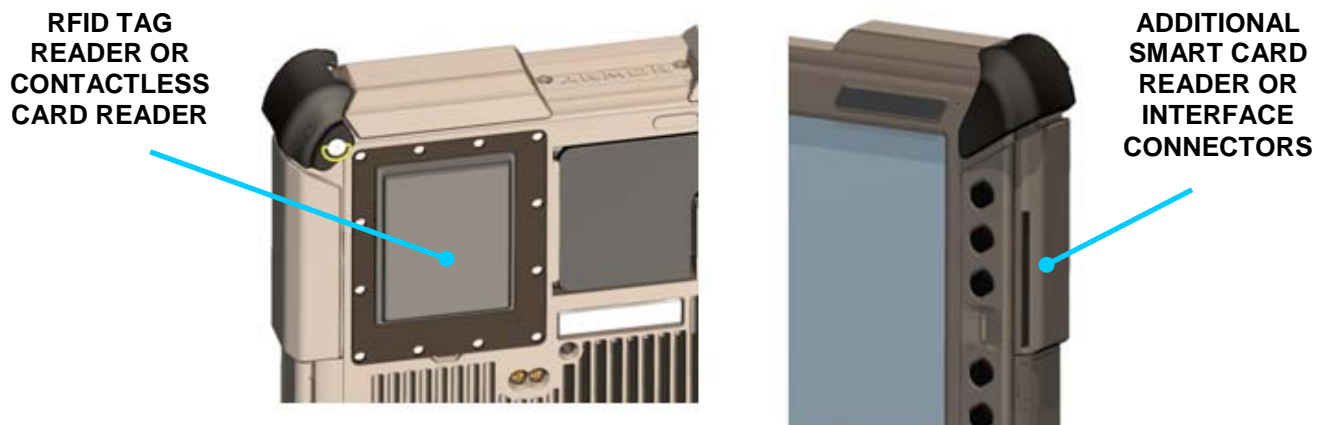
Figure 21. X10gx Flexspace™ Concepts

ARMOR X10gx TABLET COMPUTER

Optional Accessories for Your X10gx

There are a number of optional accessories that extend the capabilities of the X10gx or make it easier for you to use and maintain.

Compact Keyboard

A reduced-size USB keyboard is available for use with the ARMOR X10gx computer. The keyboard is approximately half the size of a standard keyboard and can be mounted on a special platform for use with a vehicle docking station or connected to a desk docking station to conserve space on a table or desktop.

Two-Bay External Battery Charger

A two-bay battery charger is available for faster and more convenient battery charging. Each battery bay has a charging time of approximately 2.5 hours. The external charger is also handy for recharging spare battery packs or batteries kept in storage.

Two types of external battery chargers are available from DRS: a sequential charger that rapidly charges each battery and a "smart" battery charger with a calibration feature.

A European power cord is available for both types, and a DC power cable is also available for use in a vehicle or other mobile environments.

Vehicle Power Supply

Two styles are available from DRS for use in the United States: a hard-wired version that can be directly connected to the vehicle fuse panel, and a plug-in version that can be plugged into the lighter socket.

These power supplies convert 11-16 VDC vehicle power to a regulated 15VDC, 5 amp output.

HARD-WIRED VERSION

PLUG-IN VERSION

ARMOR X10gx TABLET COMPUTER

Docking Stations

There are a number of docking stations available to support and enhance the X10gx, either for the desk top or for use in a vehicle.

🛈 **NOTE**

The parallel port is not supported by the X10gx on any docking station or the port replicator.

🛈 **NOTE**

If you are using an ARMOR legacy docking station, you must configure the BIOS to disable automatic power switching. Refer to ARMOR Legacy Docks .

Desk Dock

The desk dock (Figure 22) holds the X10gx at a comfortable viewing angle on a desktop or table and provides connections for a second display or external video device, a second USB port and three serial com ports, plus an external power jack. These connections are accessible from the rear of the dock. The X10gx can be quickly undocked for portable use.

Figure 22. ARMOR X10gx Desk Dock

ARMOR X10gx TABLET COMPUTER

Port Replicator

The Port Replicator provides essentially the same features as the desk dock in a more compact form. It has connections for a second display or external video device, a second USB port and two serial comm ports, plus an external power jack. A parallel port is included but is not supported by the X10gx.

The port replicator is attached to the X10gx docking connector and supports the computer at a comfortable viewing angle, as shown in Figure 23.

Figure 23. Port Replicator

X10gx Vehicle Docks

There are two vehicle docks available that are specially designed for the X10gx: an **RF dock** and a **Non-RF dock**. The RF dock (P/N 9800F26200-0000) is equipped with two RF docking connectors to allow the X10gx to use an external wireless antenna and an external GPS antenna. The non-RF dock (P/N 9800F26200-1000) does not have the RF connectors.

Figure 24 shows the X10gx RF dock with its breakout box. The breakout box splits out the various signal lines from the docking connector and routes them to standard interface connectors on the box. It is connected by a cable to the docking connector at the back of the vehicle dock.

The X10gx dock can be mounted on a vehicle cab wall, console or on a ball mount assembly. There are four mounting holes in the dock that meet the VESA 100 mm hole pattern, as shown in Figure 24. There is also a mounting bracket (DRS P/N 0410F49462-0000) that can be attached to the back of the dock so it can be mounted vertically on a horizontal surface or on a ram ball plate, as shown in Figure 25 and Figure 26.

ARMOR X10gx TABLET COMPUTER

VESA 100 MM MOUNTING HOLES (X4)

EXTERNAL ANTENNA DOCKING CONNECTORS
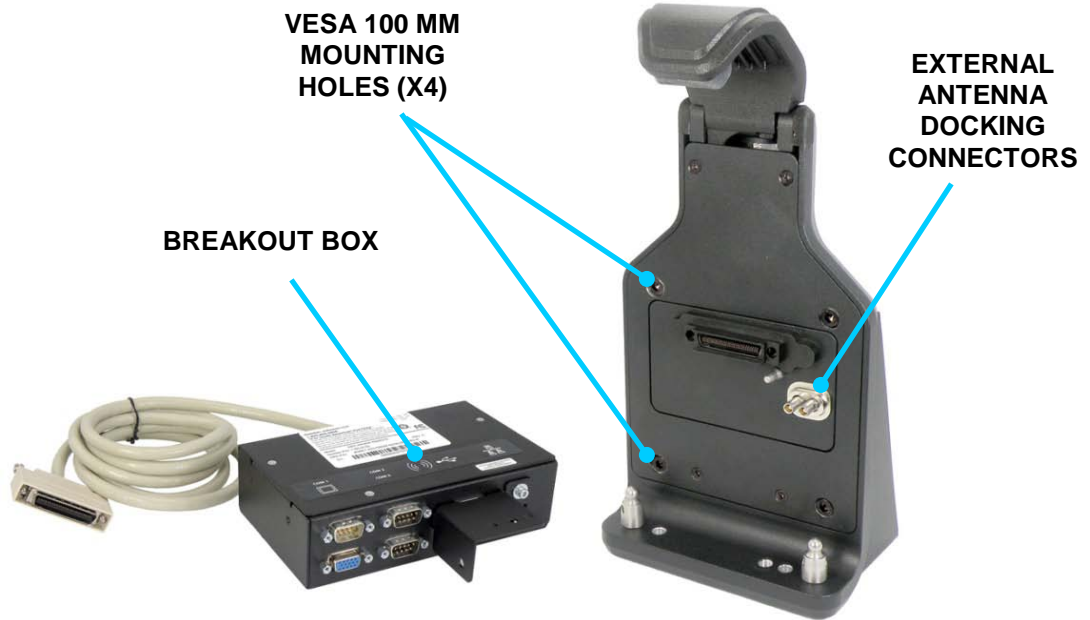
BREAKOUT BOX

Figure 24. X10gx RF Dock and Breakout Box

Figure 25. X10gx Vehicle Dock on a Ball Mount Assembly

ARMOR X10gx TABLET COMPUTER

OPTIONAL MOUNTING
BRACKET P/N
0410F49462-0000

BALL PLATE
VERTICAL

BALL PLATE
HORIZONTAL
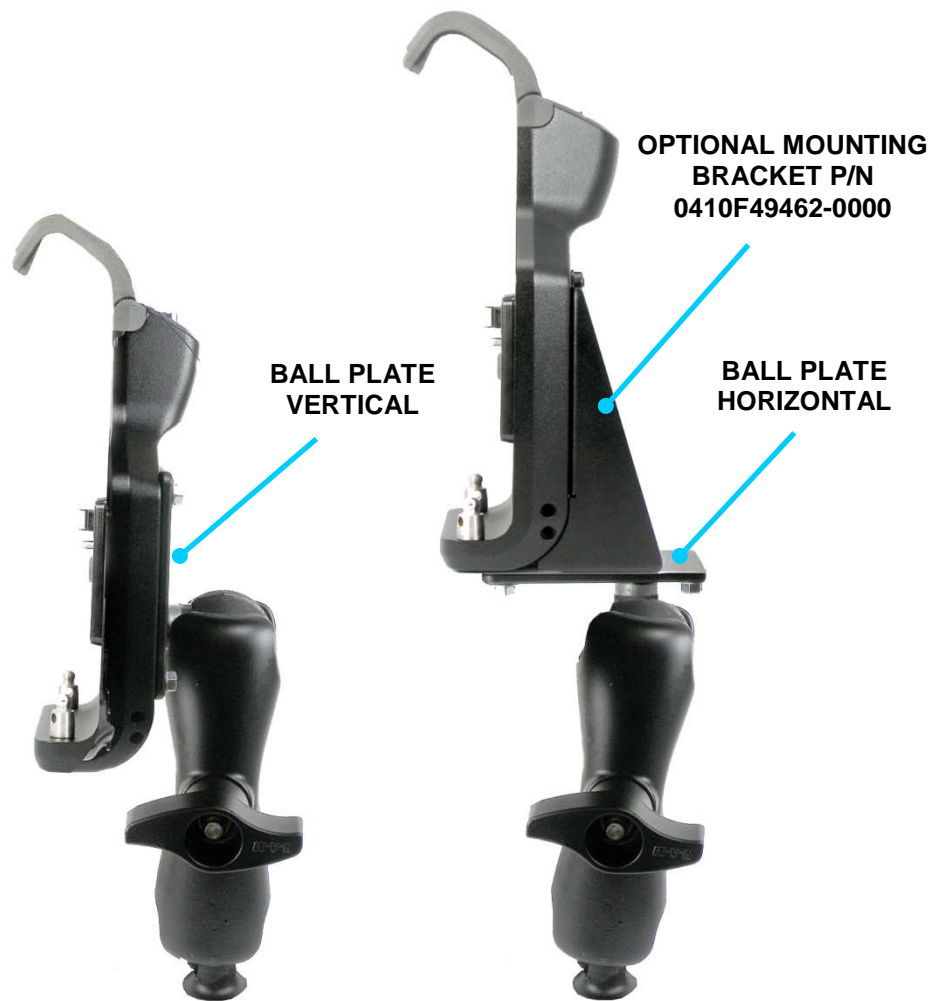
Figure 26. X10gx Docking Station Attached to Ball Mount Assembly

ARMOR X10gx TABLET COMPUTER

Legacy Vehicle Docks

The X10gx can also be used with the Universal, Swivel and Aviation docks (Figure 26) that were designed for the original ARMOR X10 tablet. However, these docks do not provide connections to external RF antennas.

The Universal dock can be equipped with a platform to support a compact keyboard and/or joystick to make it easier to perform functions while operating in a vehicle. A variety of mounting systems are also available. Figure 27 shows the X10gx mounted in a universal dock on a ball mount assembly with keyboard tray attached.

Figure 27. ARMOR Legacy Vehicle Docks

ARMOR X10gx TABLET COMPUTER

Figure 28. X10gx Mounted in a Universal Dock with Keyboard Tray and Keyboard

For information on these and any other ARMOR X10gx accessories, please contact your ARMOR sales representative or call DRS Tactical Systems toll free at 1-888-872-1100.

ARMOR X10gx TABLET COMPUTER

3   Getting Started

The information in this section will help you get your X10gx set up and configured for operation. Please read all warnings, cautions and notes prior to each procedure or step.

> ⚠ **CAUTION!**
>
> *Use this product only in vehicles with a regulated voltage supply of +11-28 VDC ± 2%. Voltages outside this range could cause unstable operation or result in permanent damage to the computer.*

> ⚠ **CAUTION!**
>
> *Use only the external AC Adapter provided with your ARMOR X10gx or an equivalent model approved by DRS. Attempting to use a different model power supply could result in equipment damage.*

> ⚠ **CAUTION!**
>
> *DO NOT connect the computer to more than one power source at a time (such as both an AC adapter and docking station) or permanent damage to the battery and/or computer may result.*

ARMOR X10gx TABLET COMPUTER

Installing the Batteries

ⓘ NOTE

If your X10gx has only one battery pack, install it in the Primary Battery compartment.

The first step to getting your X10gx operating is to install and charge the batteries. If you do not plan to use your computer immediately, we recommend you store the batteries in a safe place until needed (see How to Store Batteries When Not in Use).

The battery compartments are located on the rear of the unit, as shown in Figure 28. Follow the procedure in Table 1 to install the batteries. I

PRIMARY BATTERY COMPARTMENT (BATTERY #1)   **SECONDARY BATTERY COMPARTMENT (BATTERY #2)**
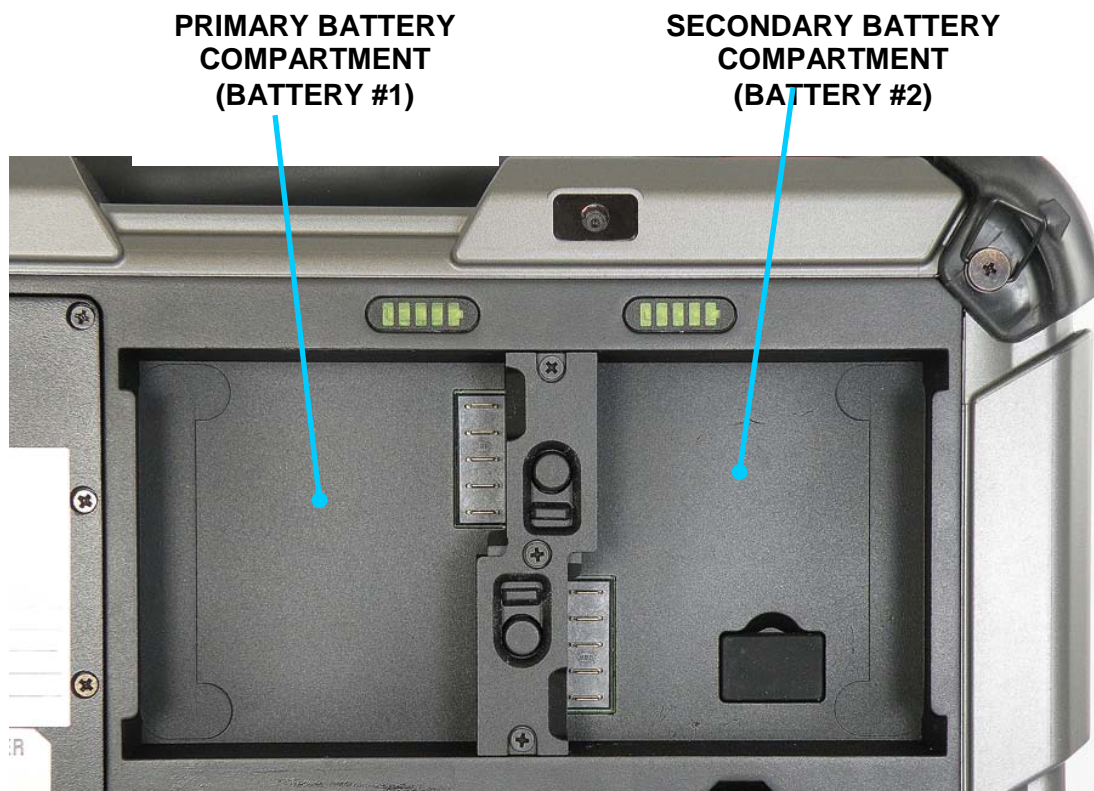
Figure 29. ARMOR X10gx Battery Compartments

ARMOR X10gx TABLET COMPUTER

Table 1. Install the Battery Packs

STEP	ACTION	CONDITION OR INDICATION
1.	Locate the bottom latch between the two battery compartments on the back of the unit, as shown in Figure 29 .	
2.	Press in and hold the button while sliding the latch down.	
	⚠ **CAUTION!** *Do not force the battery into position. If the battery will not slip easily onto the connector, pull it slightly toward the center compartment wall and press in gently.*	
3.	Position the first battery as shown in Figure 29 and gently press down on the battery until the connector seats.	

Figure 30. Battery Positioned for Insertion

BATTERY #1 LATCH

ARMOR X10gx TABLET COMPUTER

STEP	ACTION	CONDITION OR INDICATION
4.	Slide the latch up until the button pops out. The battery is now locked in place.	
5.	If your X10gx has only one battery, go to Step 9.	
6.	If your X10gx has two battery packs, slide the top latch open.	
7.	Install the second battery and press down until the connector seats.	
8.	Slide the latch down until the button pops out.	
9.	Connect the AC adapter to the AC adapter port on the left side of the tablet and allow the batteries to charge until all fuel gauge LEDs are on steady and the battery status LED on the front panel is off. This will take from 2–4 hours.	You can power up and operate the X10gx while the batteries charge, but the total charging time may be longer depending on the initial charge of the batteries and the power demands of the computer.

ARMOR X10gx TABLET COMPUTER

Turning On Your X10gx for the First Time

Press and release the **Power** button on the control panel. If this is the first time the computer has been started since you received it, the Microsoft Out-of-Box Experience (OOBE) setup instructions will appear after the computer boots up. Follow these instructions to configure your Windows operating system software.

Turning the X10gx On Normally

Turn the computer on by pressing and releasing the **Power** button. The ARMOR X10gx will perform self-checking routines during the start-up process. All units are configured at the factory to automatically boot to the Microsoft Windows desktop unless a custom configuration has been requested.

Putting the Computer in Sleep Mode

To put the tablet into sleep mode, press and release the **Power** button while the tablet is operating. Press and release the **Power** button again to return to your session.

When the computer is in sleep mode, the screen will be dark but the status LEDs will still be active. The computer will continue to run normally in the background and your session will be held in suspension.

Turning the Computer Off Normally

To turn the tablet off normally, select **Start → Shut down** from the Windows desktop. The computer will perform a normal shutdown.

NOTE

Do not press and release the Power button to turn off the computer. This will only put the computer into sleep mode and the screen will go dark. This could be mistaken for a power off condition while the computer is actually still running and consuming battery power.

Emergency Shutdown

If an emergency condition occurs where the computer needs to be shut down immediately, press and hold the **Power** button for more than five seconds. This procedure should only be used in emergencies because improperly shutting down Windows may result in corruption of the operating system and/or the loss of data.

ARMOR X10gx TABLET COMPUTER

Indicator State Summary

Table 2 lists all states for the various X10gx indicators. Refer to <u>Indicators</u> for a description of each LED.

Table 2. LED Indication Summary

LED	IF THE INDICATION IS:	AND THE POWER MODE IS:	AND EXTERNAL POWER IS:	AND BATTERY IS:	THIS MEANS:
Fuel Gauge (green)	Single LED on steady	Power on	Disconnected	Installed	Total charge is maximum at that level
	Single LED on steady	Power off	Connected	Installed	Total charge is maximum at that level
	Single LED off	Power on	Connected or Disconnected	Installed	Total charge is below this level
	Single LED off	Power off	Disconnected	Installed	No status
	LED # 1 (far left) blinking at 1 second rate	Power on	Connected or Disconnected	Installed	Battery is below 10% charge level (almost depleted)
Battery Status (amber/red)	Off	Power on	Disconnected	Installed	External power is disconnected
	On steady amber	Power on/off	Connected	Installed	Battery is fully charged
	Flashing amber at 1 sec rate	Power on/off	Connected	Installed	Battery is charging
	Flashing at slow rate (1 sec on/2 sec off)	Power on	Connected or disconnected	Installed	Computer is in standby mode
	Steady red	Power on	Disconnected	Installed	A system error has occurred

ARMOR X10gx TABLET COMPUTER

LED	IF THE INDICATION IS:	AND THE POWER MODE IS:	AND EXTERNAL POWER IS:	AND BATTERY IS:	THIS MEANS:
	Steady red	Power on	Connected	Removed	A system error has occurred
Drive Activity LED (blue)	Flashing intermittently	Power on	Connected or Disconnected	Installed	Processor is accessing the hard drive

ARMOR X10gx TABLET COMPUTER

Accessing and Using the GPS Receiver

Click on the U-Center™ desktop icon or select **Start → All Programs → u-center**. The U-Center application opens as shown in
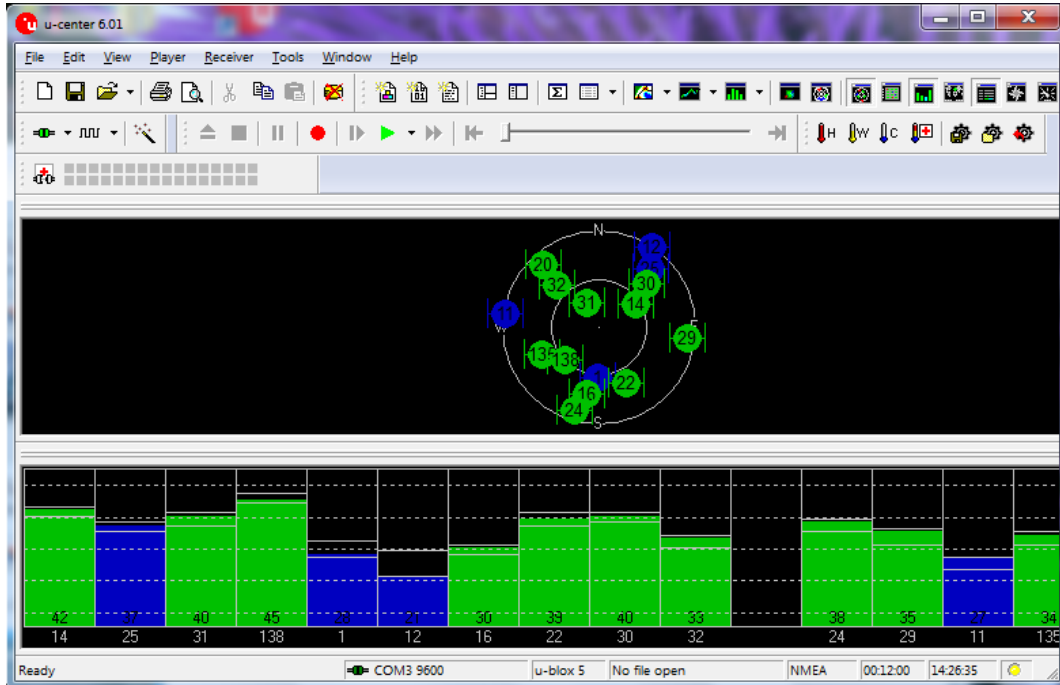
Figure 31. U-Center GPS Application Window

The diagram in the center shows the approximate positions of satellites that are within range of the receiver. The graph at the bottom of the page shows the relative signal strength of each satellite. A green bar indicates acceptable signal strength; a blue bar indicates marginal reception. You must have at least four satellites with acceptable signal strength to generate reliable position data.

Click on the **Help** tab for guidance on accessing, interpreting and using the GPS information.

ARMOR X10gx TABLET COMPUTER

Audio Adjustments

Speakers

Double-click on the <u>orange</u> speaker icon 🔊 in the task bar tray. The Realtek® HD Audio Manager window opens with the **Speakers** main tab (top of page) open and the **Speaker Configuration** sub-tab displayed, as shown in Figure 31. Adjust your speaker/headset volumes as desired.

Select the **Sound Effects** sub-tab to select special effects.

Select the **Default Format** sub-tab to choose your default sound format.
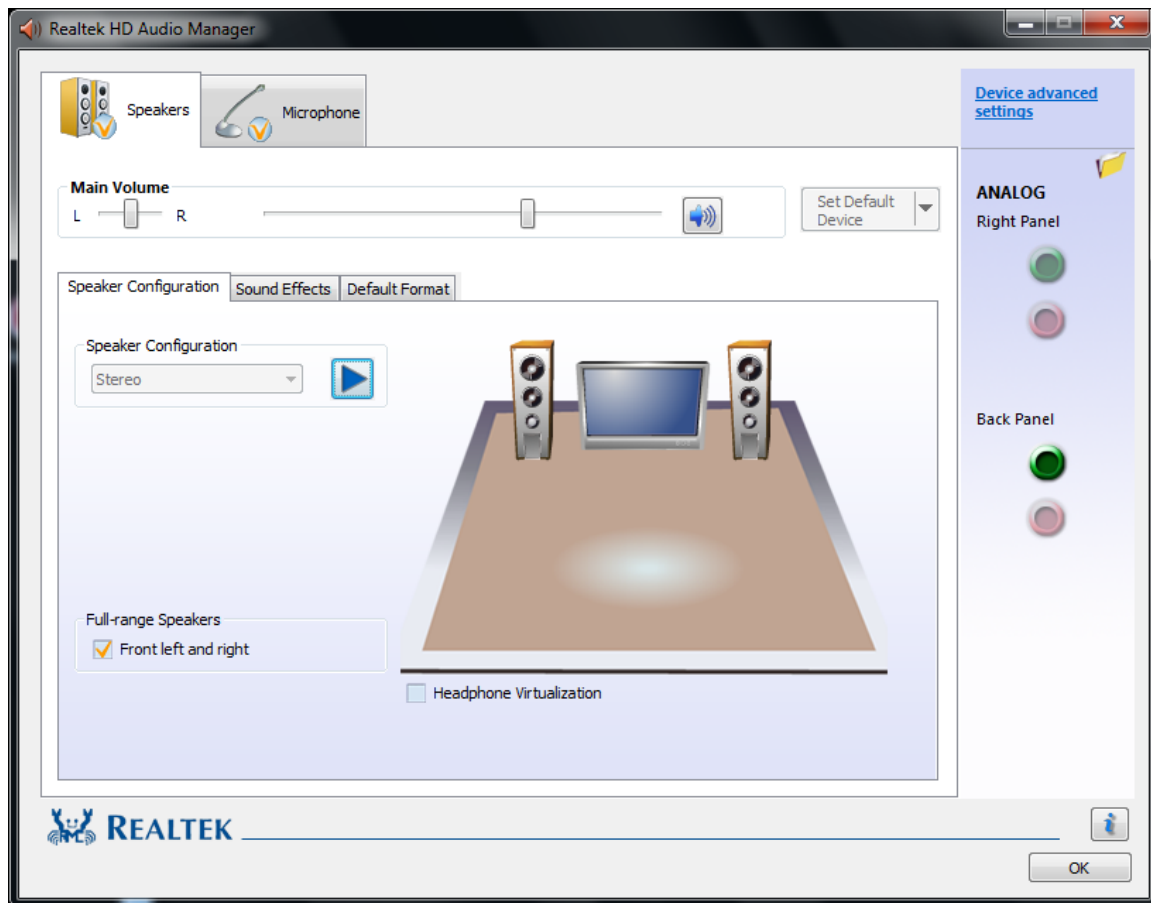
Figure 32. Realtek HD Audio Manager - Speakers Main Tab

ARMOR X10gx TABLET COMPUTER

Microphones

Click on the **Microphone** main tab at the top of the page. The Microphone main tab opens with the **Microphone Effects** sub-tab displayed, as shown in Figure 32. Set up and adjust your microphones.

Click on the **Default Format** sub-tab to select a default sound format for your microphones.
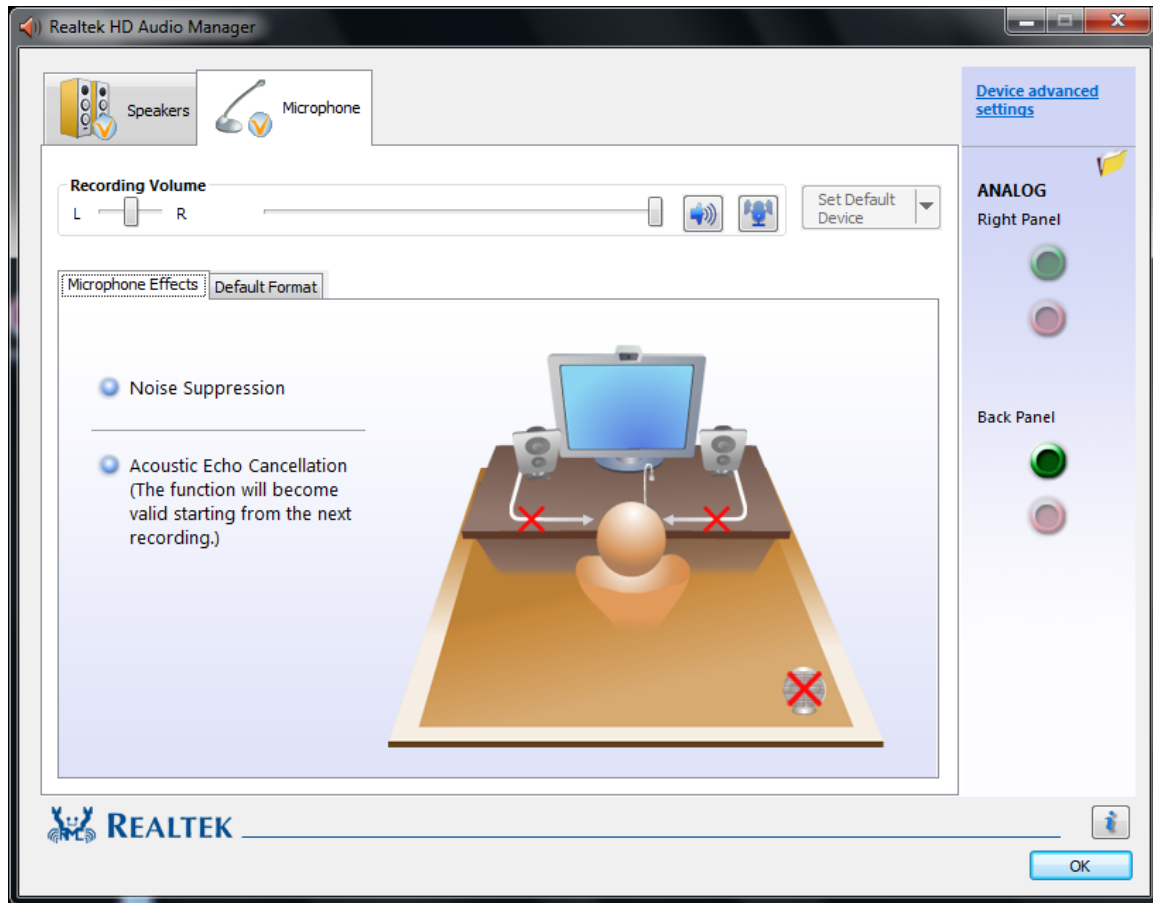
Figure 33. Microphone Main Tab

ARMOR X10gx TABLET COMPUTER

Using the X10gx in a Vehicle Dock

X10gx RF and Non-RF Vehicle Docks

There are two vehicle docks specially designed for the X10gx: the RF dock and the non-RF dock (see X10gx Vehicle Docks). Both have an automatic power switching feature, but only the RF dock has the capability to connect to external antennas.

Automatic Power Switching Feature

In earlier X10 series tablets, the 5 VDC power pins in the docking connector were always active to ensure power to the docking stations. Both the RF and Non-RF docks have a "dock sense" pin that tells the X10gx when it is docked. This allows the X10gx to turn off power to the docking pins when the tablet is undocked, and turn power back on when it is docked.

The X10gx RF Dock

If you have the X10gx RF dock (DRS P/N 9800F26200-0000), you will be able to connect your X10gx tablet to external WWAN and GPS antennas, which will dramatically improve reception. These antennas are automatically switched into the tablet antenna circuits by an RF multiplexer when the tablet is docked and switched out when it is undocked. Either one or both antennas can be enabled using the Wireless Devices dialog in ARMORUtils (Figure 33). Follow the instructions in Table 3.
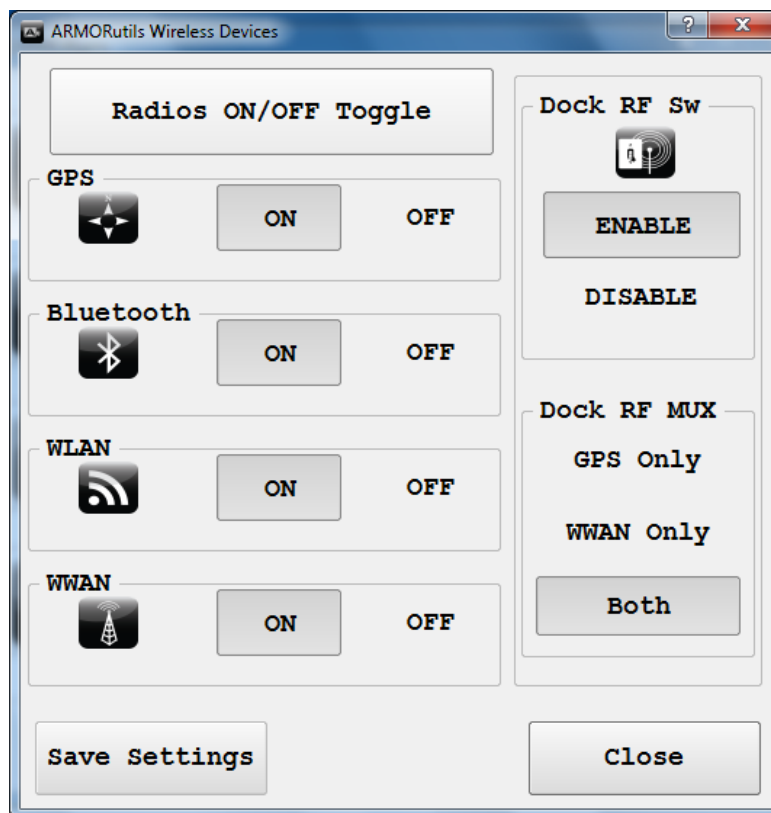
Figure 34. External Antenna Selection Options in ARMORUtils

ARMOR X10gx TABLET COMPUTER

Table 3. Configuring the External Antennas

STEP	ACTION	CONDITION OR INDICATION
1.	In the **Dock RF MUX** panel, select **GPS Only**, **WWAN Only** or **Both**	When the tablet is docked, only the antennas that are selected will be utilized.
2.	Press the **Docking RF Sw Enable** or **Disable** button to enable or disable the antenna configuration that is selected in the **Dock RF Mux** panel.	

NOTE

If you have an X10gx RF dock installed but are __not__ using external antennas, you must set the Dock RF Sw to "Disable" in order to use the tablet's internal antennas.

The X10gx Non-RF Dock

The Non-RF dock (DRS P/N 9800F26200-1000) has all the features of the RF dock but without the external antenna connections.

NOTE

If you have an X10gx Non-RF dock installed, you must set the Dock RF Sw to "Disable" in order to use the tablet's internal antennas.

ARMOR X10gx TABLET COMPUTER

ARMOR Legacy Docks

There are also a number of legacy docks that can be used with the X10gx (see Docking Stations). If you are using a legacy docking station, whether it be a desk dock, vehicle dock or port replicator, power must always be available at the tablet docking connector pins, so the automatic power switching feature needs to be disabled in the BIOS.

To disable the power switching feature, follow the procedure in Setting the BIOS for Power Operation with Legacy Docks.

ARMOR X10gx TABLET COMPUTER

Operating the X10gx Display

Your ARMOR X10gx has a dual display that includes both an active pen screen and a touch screen. When you first receive your X10gx, both screens are enabled, so regardless what type of screen you're familiar with, you can go right to work.

Refer to Display Management for instructions on setting the display brightness and for other display options.

Dual Screen Mode

In dual mode, the touch screen is initially active by default and the pen screen is disabled. You can operate the touch screen with a fingertip or an inert stylus just like any other touch screen.

However, as soon as you move an active pen (like the one that comes with your X10gx) within approximately 1 cm of the screen surface, the touch screen will turn off and the pen screen digitizer will turn on. Now you are in pen screen mode, and will remain so until you lift the pen more than 1 cm from the screen. At that time, the display will quickly change back to touch screen mode. This switching action is completely automatic and you will not notice any effects from it.

Single Screen Mode

Currently, the option to operate in touch screen only mode or pen screen only mode is not available but will be implemented in the future.

Working with the Pen Screen

When the pen screen is active, you can steer the cursor and perform many functions by simply hovering close to the screen without actually touching it. Other functions are initiated by pressing the tip to the screen surface to activate the tip switch or by pressing the side button switch (see Table 4).

Your X10gx Pen

The pen that comes with your X10gx (Figure 18) is stored in the tablet's carrying handle and has circuitry that interacts with the digitizer assembly built into the pen screen. The digitizer detects the pen tip close to the screen and activates certain functions like steering the cursor or performing a right click action if the pen is allowed to hover for a few seconds. Pressing the tip to the screen activates a tip switch that performs a left-click action.

The pen also has a side button that can be programmed for a number of different functions. It's default function is right-click.

ARMOR X10gx TABLET COMPUTER

Using the X10gx Pen with the Pen Screen

Table 4 lists mouse-type objectives you can perform using the X10gx pen with the pen screen.

ⓘ NOTE

This description assumes the side button is set for the right-click function.

Table 4. Pen Screen Actions.

MOUSE OBJECTIVE	PEN ACTION
Select option or tab or open submenus. Fill selection boxes. Activate buttons. Deselect highlighted objects (touch next to the object).	Tap once
Selects multiple objects.	Touch pen tip to display and drag box around objects
Highlight the object or option.	Hover over object or option
Move an object on the desktop.	Touch an object and move it with the pen.
Start an application or open a folder.	Tap twice
Highlight option, open menu options.	Hover tip near screen until option menu opens -or- Press side switch and touch object or option

Pen Adjustments

You can change attributes related to use of the pen (e.g. side switch action, enabling a click sound, etc.). Refer to the Pen and Touch Utility and the Pen Tablet Properties Utility for Windows XP for an explanation of these attributes.

Pen Screen Calibration

After a period of normal usage, the screen may need to be calibrated with the pen to ensure the pen tip is aligned with the cursor over the entire screen area. To perform this calibration, refer to Display Management.

ARMOR X10gx TABLET COMPUTER

Working with the Touch Screen

When the touch screen is active, the pressure of a stylus tip or fingertip against the screen is used to duplicate actions with a two-button mouse.

> ### 🛈 NOTE
>
> *Tapping with a stylus tip requires only light to moderate pressure. It is possible to damage the pen tip and/or the display by pounding the tip against the surface with too much force.*

Using a Stylus or Fingertip with the Touch Screen

Table 5 lists mouse-type objectives you can perform using a stylus or fingertip with the touch screen.

Table 5. Stylus Actions.

MOUSE OBJECTIVE	STYLUS ACTION
Select tabs or open sub-menus. Highlight a label or option. Fill selection boxes. Activate buttons.	Tap once
Deselect highlighted objects or release multiple objects	Tap outside the object(s)
Start an application or open a folder.	Tap twice
Move an object on the desktop.	Press over an object, hold contact with display, drag pen and release pressure.
Open menu options.	Press over icon or option and hold contact with display without moving pen.
Select multiple objects.	Press and hold contact with display, drag box around objects.

Touch Screen Adjustments

You can change touch attributes related to use of the pen (e.g. touch area and tap speed.). Refer to the Pen and Touch Utility for Windows 7 and Using the Touch Settings Utility for Windows XP for an explanation of these attributes.

ARMOR X10gx TABLET COMPUTER

Touch Screen Calibration

 NOTE

You will not be able to use the pen that came with your X10gx to calibrate the touch screen since the calibration routine will detect the active pen tip and not allow you to proceed. Use your fingertip or a passive stylus designed for touch screens.

After a period of normal usage, the touch screen may need to be calibrated with the stylus to ensure the actual touch point matches the position of the cursor. To perform this calibration, refer to Display Management.

ARMOR X10gx TABLET COMPUTER

Entering Data Using the Input Panel

Accessing Input Panel in Windows 7

The input panel is a virtual keyboard and handwriting entry tool that is located on your desktop. It is normally hidden just off the left side of the display but the edge appears when you tap on the screen with an active pen, stylus or fingertip, as shown in Figure 34.

HIDDEN INPUT PANEL KEYBOARD
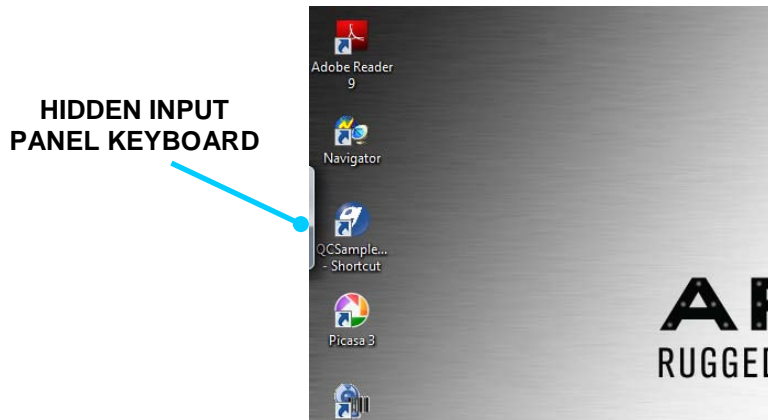
Figure 35. Location of the Input Panel

Touch the edge of the input panel to fully open it on the desktop as shown in Figure 35. The input panel has two modes: handwriting and keyboard entry. These are selectable by the two mode icons at the upper left corner. **NOTE:** The panel will always open in the last mode used.

Opening Input Panel with a Gesture

You can also use a side-to-side gesture to open the input panel. **Select Start → Control Panel → Pen and Touch**, then highlight **Start Tablet PC Input Panel** in the Pen Actions panel and click on **Settings**. When the Start Input Panel Gesture Settings window opens, check the **Enable start Input Panel gesture** option.

ARMOR X10gx TABLET COMPUTER
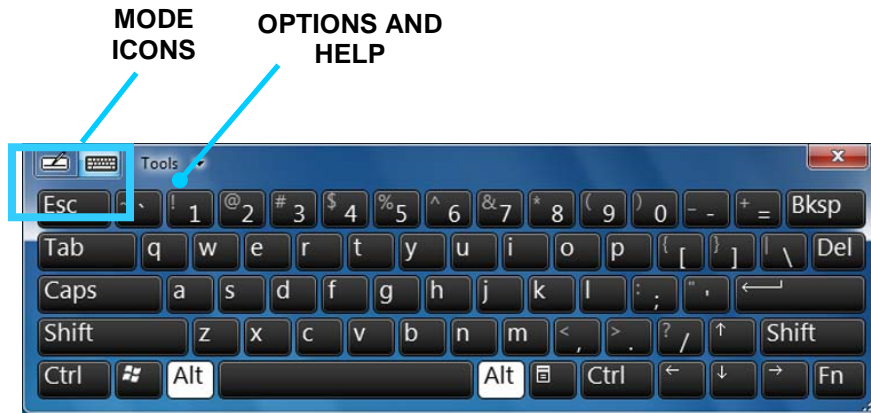
Figure 36. Input Panel

Click on the Tools menu for handwriting options and for information on how to set up and use Input Panel.

Editing Documents in Windows 7

When you tap on an open text document such as a WordPad document, a keyboard icon will appear on the screen. Tap on the icon to open the input panel.

ARMOR X10gx TABLET COMPUTER

Accessing Input Panel in Windows XP

Tap on the **Input Panel** icon in the task bar to open the Input Panel frame, as illustrated in Figure 36.

Mode
Buttons

Configuration
Options and Help
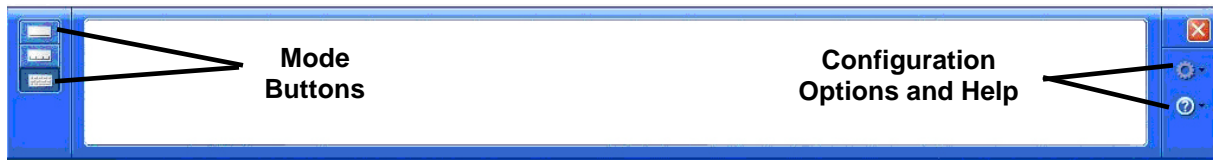
Figure 37. Input Panel with No Mode Showing (for illustration purposes only)

Using the Input Panel, you can write notes in your own handwriting or enter data one character at a time with the digital pen or the stylus.

The Input Panel has three modes for entering data: **On-Screen Keyboard mode**, **Character Pad mode** and **Writing Pad mode**. Each mode has a button on the left side of the panel. The Input Panel will always open in the last mode that was selected or used.

Writing Pad

Pressing the top mode button opens the Writing Pad (Figure 37) within the Input Panel. In this mode, you can enter text by using the stylus in your own handwriting, or "ink". The Writing Pad is especially useful for tasks such as taking notes or adding text to an existing text file. As you write, the Input Panel expands to accommodate more text as needed. If you want to convert ink to text, the Input Panel does so dynamically.
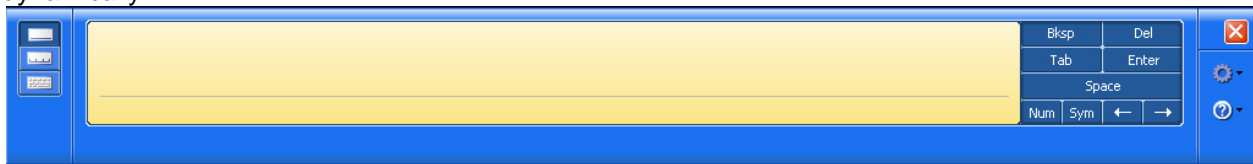

Figure 38. Writing Pad Mode

Character Pad

Pressing the middle button opens the Character Pad (Figure 38). The character pad can also convert your ink to text so that it can be inserted into a program, but this mode is used to enter one letter at a time using the stylus. The Character Pad is particularly useful when you need high accuracy—for example, when you're entering an email address or a URL. The characters that you enter into the character pad are immediately converted to text, so you can spot errors immediately.
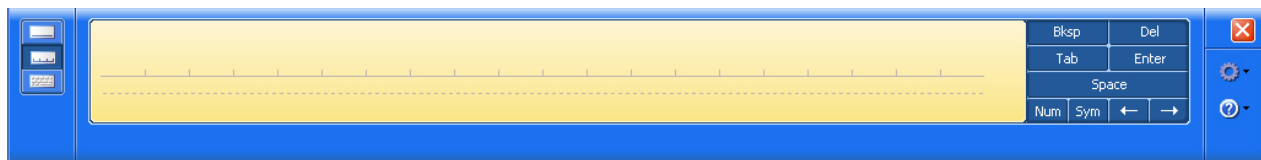
Figure 39. Character Pad Mode

On-screen Keyboard

Use the on-screen keyboard (Figure 39) when you don't want to use ink but you do want to use the pen, or when you're using a Tablet Computer without an attached keyboard. Simply tap the letters on the keyboard to form words. The Input Panel enters the text directly in the field or at the insertion point of the active program. The on-screen keyboard is especially useful for entering small amounts of text, such as passwords and file names.

ARMOR X10gx TABLET COMPUTER

Figure 40. On-Screen Keyboard Mode

Customizing the Input Panel

You can customize the Input Panel based on your personal preferences, such as automatic text insertion, changing the ink thickness, and adjusting the amount of space between lines in the writing area. Click on

the   icon to open a submenu and select **Options**.

ARMOR X10gx TABLET COMPUTER

Using the Webcam

Capturing Images and Video

Image and video capture is performed using the built-in webcam and image capture software. Your X10gx is provided with a version of Picasa 3™ image editor to demonstrate the image capture process. Follow the procedure in

Table 6 to capture and save a still image or movie using this software.

🛈 NOTE

Remove the blue protective film from the webcam lens before using the camera.

Table 6. Capturing a Still Image or Video

STEP	ACTION
1.	Double-click on the **Picasa 3 icon** on the desktop to open the Picasa application window, as shown in Figure 40.
2.	Click on the "Capture photos or video…" button in the options bar. A Capture dialog window will open displaying the current webcam image.
3.	To capture the image as a **still image**, click on the **camera** button below the image. Each capture will appear as a thumbnail at the bottom of the window.
4.	When finished, click on the **Done** button to access editing and correction options or to save or upload your images.
5.	To capture moving video, click on the **Record** button below the image. The capture window will change to a viewer with options to view, save and upload your captured video.
6.	To return to the main window, click on the **Back to Library** button.
7.	Refer to the Picasa Help resources for detailed instructions.

ARMOR X10gx TABLET COMPUTER
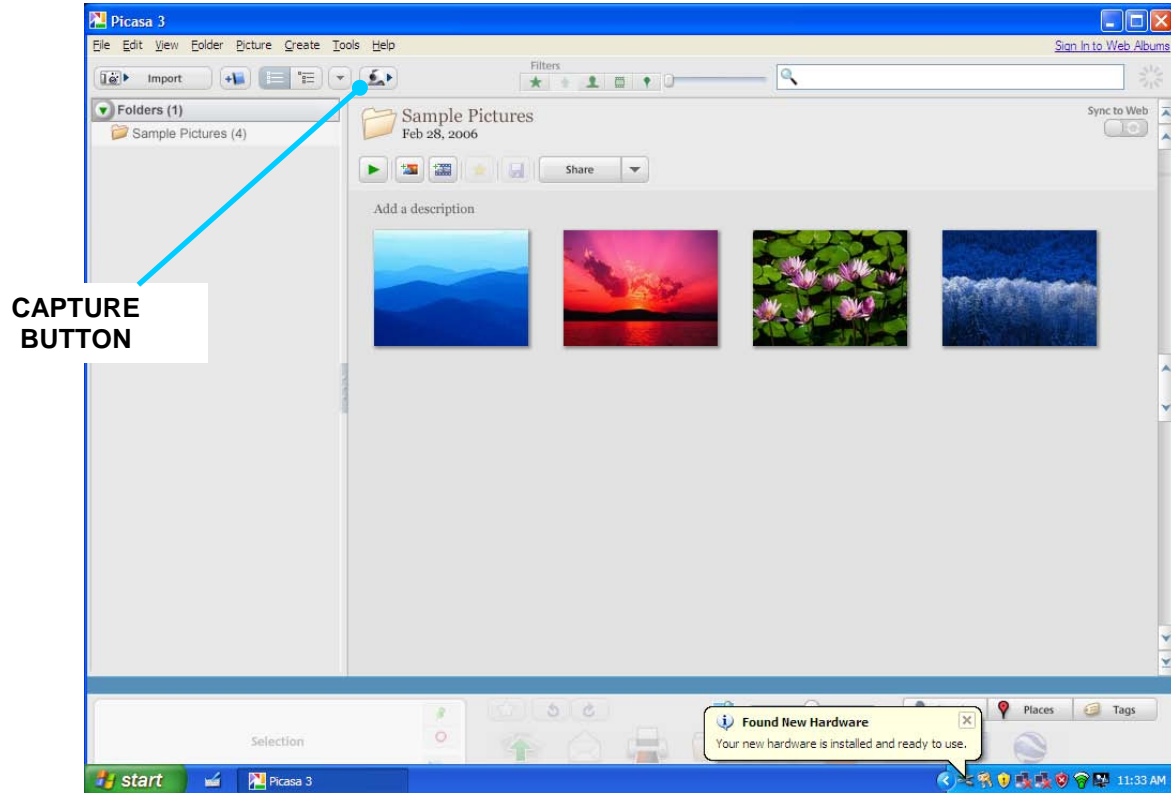
Figure 41. Picasa Application Window

ARMOR X10gx TABLET COMPUTER

Scanning a Barcode

The built-in webcam and application software of your choice allow you to scan various types of barcodes and incorporate them in to your documents. We have included two simple applications to demonstrate the barcode scanning capabilities of the X10gx.

ⓘ NOTE

Ensure that adequate light can reach the barcode to be scanned.

Linear Barcodes Such as UPC-10, EAN-13 and ISBN

Figure 41 shows a sample of a linear barcode. Follow the procedure in Table 7 to scan a linear barcode.

Figure 42. Sample Linear Barcode

Table 7. Scan UPC-10, EAN-13 and ISBN Barcodes in Windows 7

STEP	ACTION
1.	Double-click on the **Webcam Barcode Scanner** icon on the desktop to open the application window, as shown in Figure 42.
2.	Hold the barcode to be scanned 2-3" from the camera and hold it steady. A tone will announce successful barcode capture, and the barcode number will appear at the bottom of the window. The captured barcode is stored in the Windows clipboard.
3.	To use a barcode in an application, open the application, place the cursor in a field and paste.

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Figure 43. Webcam Barcode Scanner® Barcode Scanner Application Window

2D Barcodes in Datamatrix or QR format

A sample 2D barcode is shown in Figure 43. Follow the procedure in
Table 8. to scan a barcode.

Figure 44. Sample 2D Barcode

Table 8. Scan Datamatrix and QR Format Barcodes in Windows 7

STEP	ACTION
1.	Double-click on the **QuickMark** icon on the desktop to open the QuickMark® application window, as shown in Figure 44.
2.	Hold the barcode to be scanned 2-3" from the camera; an audible signal will sound upon capture and the barcode information will be displayed in the application window, as shown in Figure 45.
3.	To return to the camera mode, click door icon at the lower right corner of the window.

ARMOR X10gx TABLET COMPUTER

Figure 45. QuickMark® Barcode Scanner Application Window

Figure 46. A Captured 2D Barcode

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Screen Magnifier

Some text and images on a tablet computer can be so small they are difficult to see clearly. Your X10gx has a handy application that will magnify a portion of the screen and help you see more effectively. The program is called Virtual Magnifying Glass™.

To start the application, click on the **Virtual Magnifying Glass icon** on the desktop or select **Start > Programs > Virtual Magnifying Glass.**

Use the Scroll wheel to increase or decrease magnification. The application will return to the last magnification when restarted. Left click to close the magnifier.

To configure the magnifier, right-click on the icon in the task bar.

A magnified example is shown in Figure 46.

Figure 47. Virtual Magnifying **Glass at Work**

ARMOR X10gx TABLET COMPUTER

<u>Tips for Proper Use and Care Of Your X10gx</u>

There are certain precautions you should take to ensure that your ARMOR X10gx Tablet Computer continues to provide you with reliable service:

- Do not subject the computer to heat by placing it on the dashboard of a vehicle with the display facing the sun.
- Do not store the computer in temperatures below -40 degrees C.
- Do not pile tools or heavy objects on top of the computer.
- Avoid severe impacts, especially to the display.
- Do not try to take the computer apart. Disassembly of the unit by unauthorized personnel may void your warranty.
- Do not use excessive force when inserting removable cards. They are keyed to go in only one way and inserting a card incorrectly or using excessive force could result in damage to the card or the computer.
- Keep your screen clean and calibrated.

ARMOR X10gx TABLET COMPUTER

4   Networking

Managing your Wireless Connections

WI-FI (WLAN) Connections

Your WI-FI (WLAN) radio is already configured and operating. Refer to Table 9 for instructions on how to establish and manage your WLAN connections.

> **NOTE**
>
> *The Windows Network and Sharing Center window will show you all of the networks you are connected to. If you have an optional Gobi WWAN card, It's best to let the Sierra OneClick connection manager application control your WWAN network connection. For information, refer to Using the Optional Gobi WWAN Radio.*

Table 9. View and Manage Network Connections

STEP	ACTION	CONDITION OR INDICATION
1.	Select **Start → Control Panel → Network and Internet → Network and Sharing Center**.	The window shown in Figure 47 opens.
2.	Click on the "**Connect to a network**" link to open the window shown in Figure 48. Click outside this window to close it.	The label "Connected" will appear beside each network you are currently connected to. Any other available networks are also listed. The green signal bars indicate the relative strength of the wireless signal. A yellow shield indicates those sites that do not have security enabled. Use caution when connecting to these sites.
3.	To connect to a network, click on the network name and select **Connect**. To disconnect from an active network, click on the name and select **Disconnect**.	

ARMOR X10gx TABLET COMPUTER

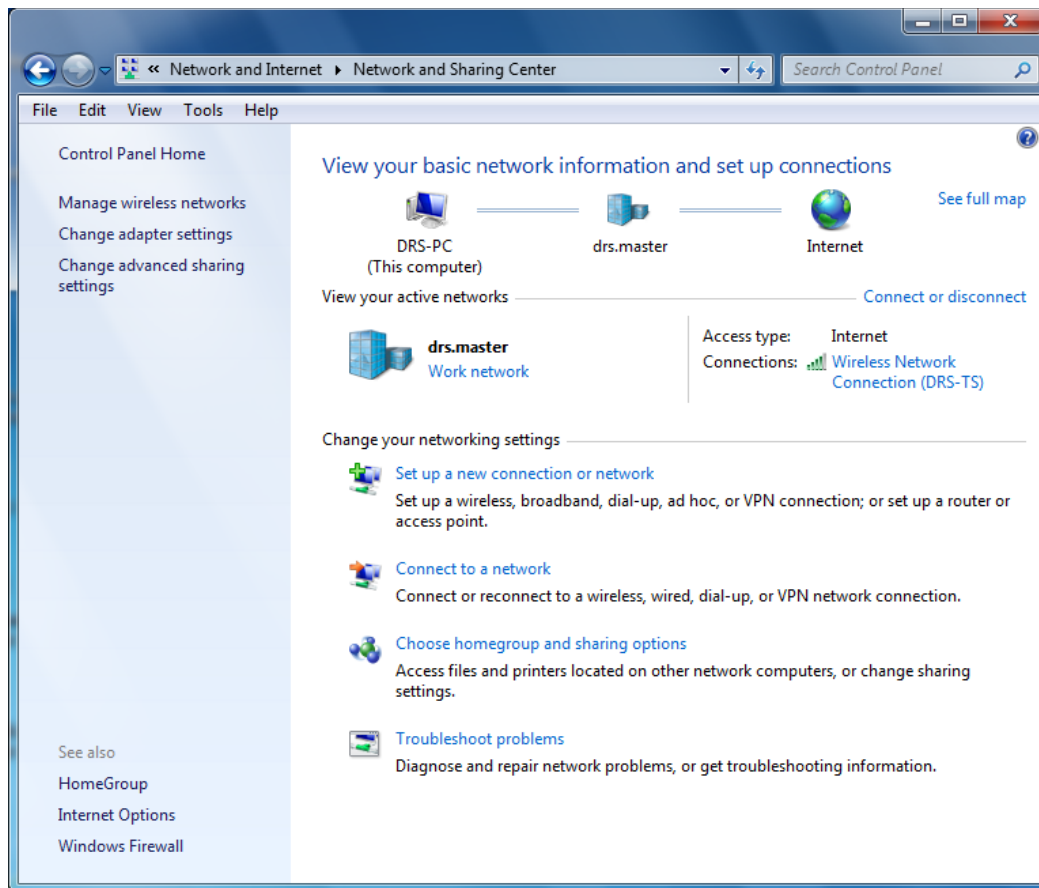| STEP	ACTION	CONDITION OR INDICATION
4.	For more detailed information on the options and settings for these windows, click on the **Help** icon	

Figure 48. Windows Network and Sharing Center

ARMOR X10gx TABLET COMPUTER

Figure 49. Currently Connected and Available Wi-Fi Networks

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Bluetooth Connections

Your Bluetooth network is already configured. To see what Bluetooth devices are available and to add or remove devices, follow the procedure in Table 11.

Table 10. View and Manage Bluetooth Devices

STEP	ACTION	CONDITION OR INDICATION
1.	Select **Start → Control Panel → Hardware and Sound → Devices and Printers.**	A window opens (Figure 49) showing any peripherals connected or available (including cabled devices).
2.	Right-click on the icon for your computer and select **Bluetooth settings** from the menu.	The Bluetooth Settings window opens, as shown in Figure 50.
3.	Check the "**Allow Bluetooth devices to find this computer**" option.	
4.	Check the "**Allow Bluetooth devices to connect to this computer**" option.	
5.	To add a device, click on the "**Add a device**" option in the toolbar.	
6.	To remove a device, click on the "Remove a device" option in the toolbar.	
7.	For additional information about these windows, click on the **Help** 🔵 icon.	

ARMOR X10gx TABLET COMPUTER
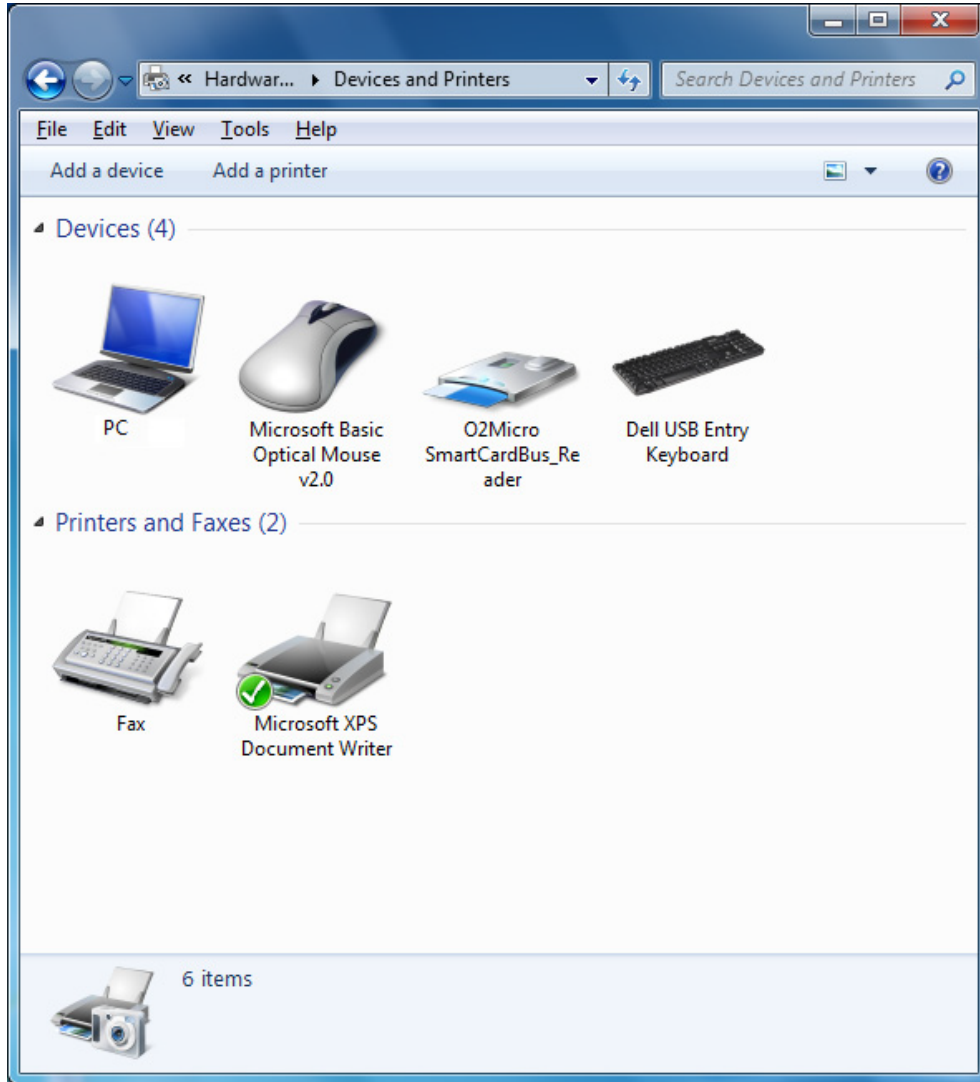
Figure 50. Devices and Printers Window

ARMOR X10gx TABLET COMPUTER
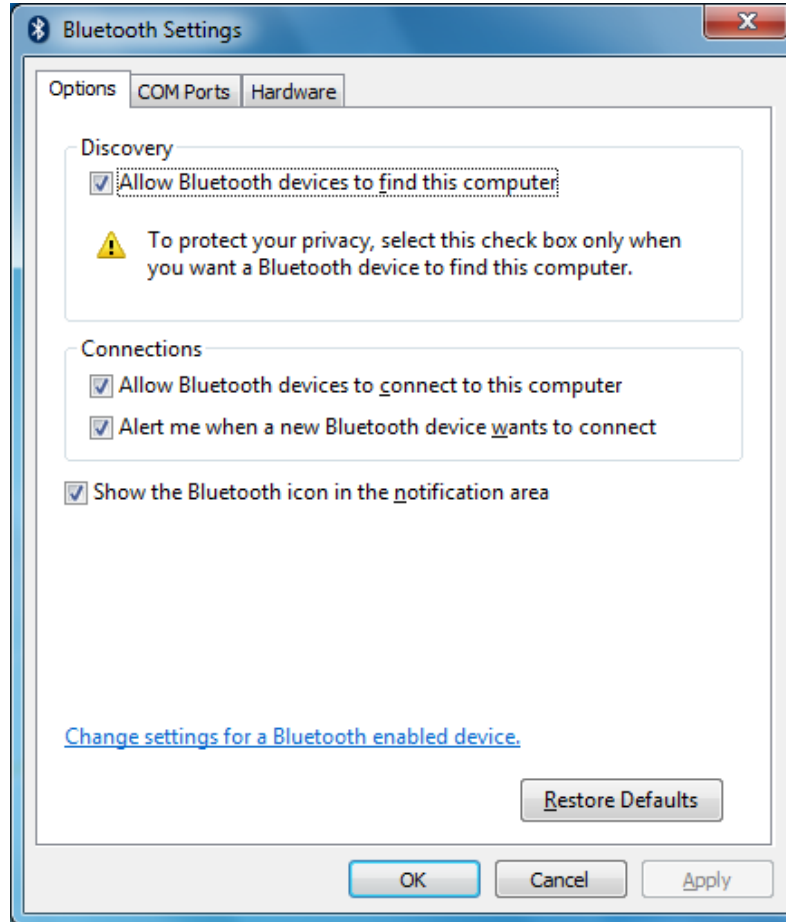
Figure 51. Bluetooth Settings Window

ARMOR X10gx TABLET COMPUTER

Using the Optional Gobi WWAN Radio

Installing your SIM Card

You must have a SIM card installed in order to connect to a WWAN network. Follow the procedure in Table 11 to install the SIM card.

---

i NOTE

This procedure should only be performed by a qualified technician in a controlled environment.

⚠ CAUTION!

Circuit boards containing electrostatic discharge (ESD) sensitive devices are exposed in this compartment. Static-free handling and processing is required to prevent possible damage to the components.

Table 11. Installing a SIM Card

STEP	ACTION	condition or indication
1.	Power down the tablet and disconnect any external power.	
2.	Remove the batteries.	
3.	Remove the 12 Philips screws securing the Flexspace cover and remove the cover to expose the SSD, as shown in Figure 51.	

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SSD

DRIVE
CRADLE

Figure 52. SSD and Cradle

STEP	ACTION	
4.	Lift the SSD and drive cradle out of the way to expose the SIM card socket.	
5.	Place a fingertip in the notch on the left side of the socket cover and slide the cover to the right until you feel an indent, then lift up.	
6.	Insert the SIM card with the corner notch to the lower left.	
7.	Gently press the cover down and slide to the left to lock in place.	

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8.	Reinstall the compartment cover with 12 Philips screws.	
9.	Reinstall the batteries and connect external power if desired.	

Connecting to a WWAN

Once your card is installed, you are ready to activate your network connection. Follow the procedure in Table 12 to activate a network connection. Click on the **Help** button on the Sierra connection manager page for detailed information on operating and troubleshooting your WWAN connection.

Table 12. Activating your WWAN Network Connection

STEP	ACTION	CONDITION OR INDICATION
1.	Select **Start → All Programs → OneClick Internet Connection Manager**	The Sierra® OneClick™ Internet Connection Manager window opens, as shown in Figure 52.
2.	Select **Settings** and then click on the **General** tab.	The Settings window opens, as shown in Figure 53.
3.	Select the desired options and then click on the ❌ at the top right of the window to return to the main window.	

Gobi NDIS Auto Connect

Selecting the **Gobi NDIS Auto Connect** option turns on the WWAN radio even before the OS starts. This is not always a desirable state, so choose NDIS only if needed. Because NDIS enables the Gobi WWAN hardware to connect, reconnect and roam automatically, you do not need to select those options if you use the NDIS option.

The **Auto Launch** option is not recommended for use with NDIS as it will launch the Connection Manager application upon reboot, restarting the connection.

Select the **Roaming Alert** option if you wish to be alerted when roaming.

ARMOR X10gx TABLET COMPUTER
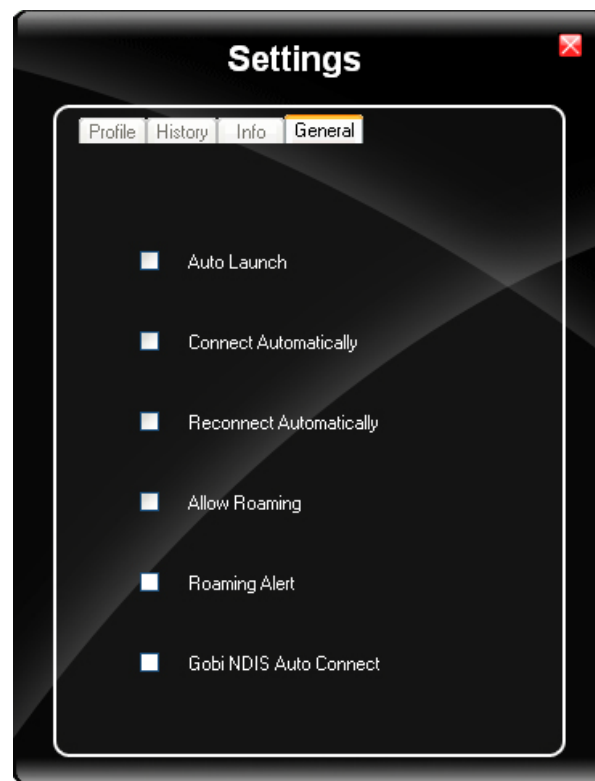

Figure 53. Sierra OneClick Connection Manager Window

Figure 54. OneClick Connection Manager Settings Window

ARMOR X10gx TABLET COMPUTER

Controlling Your Wireless Radios

You may want to turn off one or more of your radios to save power, to avoid interfering with other radio systems, or just to ensure your privacy. Or you may want to turn off all of your wireless radios at one time but keep working on your computer, as when travelling on an aircraft.

Click on the **ARMORUtils icon** on the desktop and select the **Wireless Setup** option. This will open the Wireless Devices page, as shown in Figure 54 .
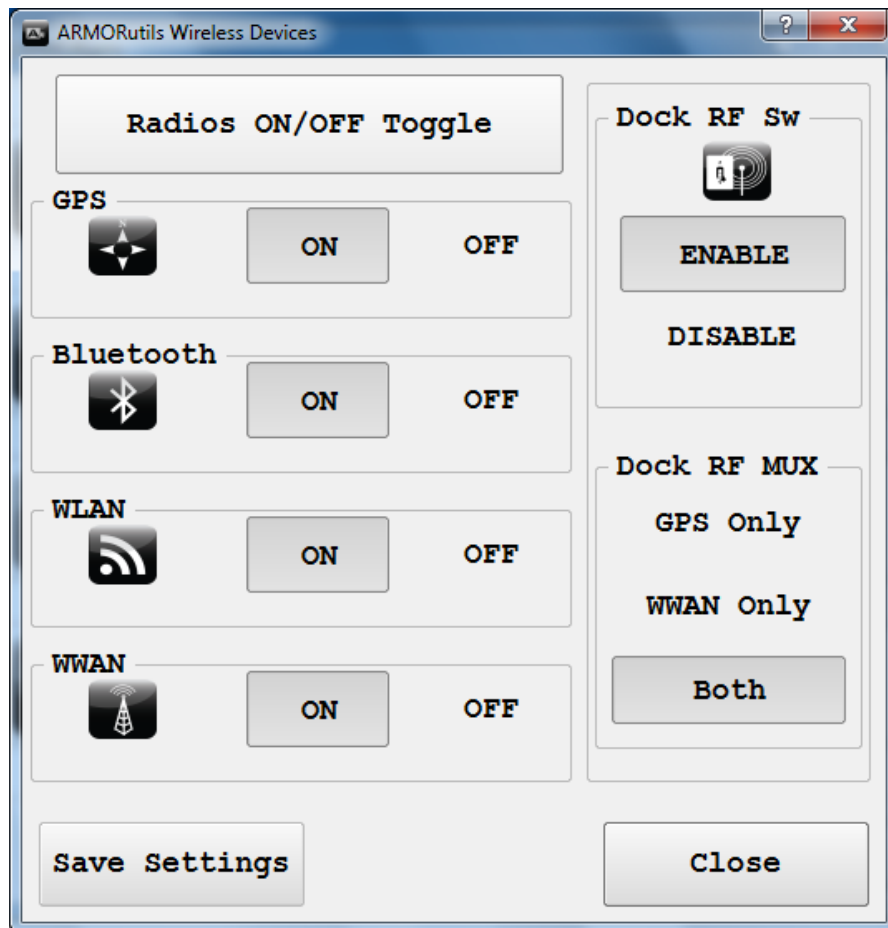
Figure 55. ARMORUtils Wireless Devices Page

Click on the **ON** or **Off** button to enable or disable each individual radio that is installed, then click the **Save Settings** button to save your configuration. Click on the **Radios ON/OFF Toggle** button to turn off all enabled radios at one time. Click it again to turn them all back on.

For use of the **Dock RF Sw** and **Dock RF MUX** options, see Using the X10gx in a Vehicle Dock.

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Wireless Signal Quality

Wireless signal quality is affected by several conditions:

- Distance from the access point (wireless transmit and receive antennas).
- Access rights (set up through an administrator).
- Your security settings.
- Orientation of the wireless antennas.

If you are having difficulty connecting to your network, try the following steps:

1. Open the Wireless Devices dialog window in ARMORUtils and verify that the radio is enabled.
2. If your tablet is not locked in a vehicle mount, try turning the unit in various directions to improve signal quality.
3. Try to get closer to the access point.
4. Move away from obstacles such as trees and metal objects which may be between you and the Access Point.
5. Verify that the access point is operating.

If none of these actions solves the problem, contact your Network Administrator for assistance.

ARMOR X10gx TABLET COMPUTER

Accessing a LAN using an Ethernet Cable

The ARMOR X10gx comes with an RJ-45 connector that allows a cable connection to an Ethernet LAN. This connection supports the 10/100 Base-T LAN standard. The connector is on the left side of the unit as shown in Figure 12.

Once you are physically connected to the network, follow the procedure in Table 13 to connect to the LAN.

Table 13. Setting up a Physical LAN Connection

STEP	ACTION	CONDITION OR INDICATION
1.	You may need to contact your IT department or internet provider to access the server and obtain an IP address for your X10gx. Otherwise, it will be provided automatically by the network.	
2.	When you obtain your IP address, click on **Start → Settings → Network Connections**.	This will open the Network Connections window.
3.	Click on **File → New Connection**.	The New Connection Wizard opens.
4.	Click **Next** and follow the instructions to set up your connection per your IT department or internet provider.	

ARMOR X10gx TABLET COMPUTER

5 Your ARMOR X10GX Software

Your ARMOR X10gx comes with a variety of software and utility applications. Many of these are standard with the Windows 7 operating system, some are provided by DRS to improve your configuration and control of the tablet and some may be custom software provided for your special requirements.

The following paragraphs provide you with an introduction to those software applications that you will need to properly configure and begin using your X10 tablet.

Getting Started with Windows

Windows 7

Click on **Start → Getting Started** to open the Windows welcome page (Figure 55) and access a number of helpful links and resources.
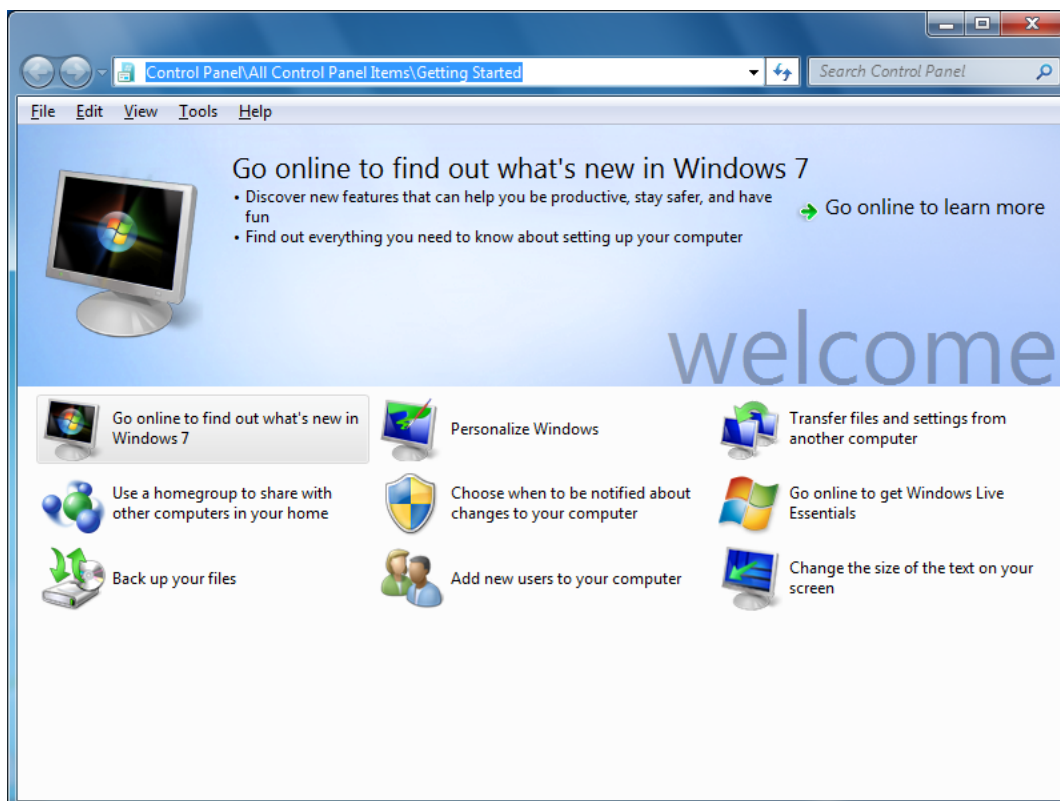

Figure 56. Windows 7 Welcome Page

Windows XP

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Click on **Start** → **All Programs** → **Get Going with Tablet PC**. The "Welcome to tablet computing window" opens, as shown in Figure 56. Follow the instructions on the screen to access the tutorials.
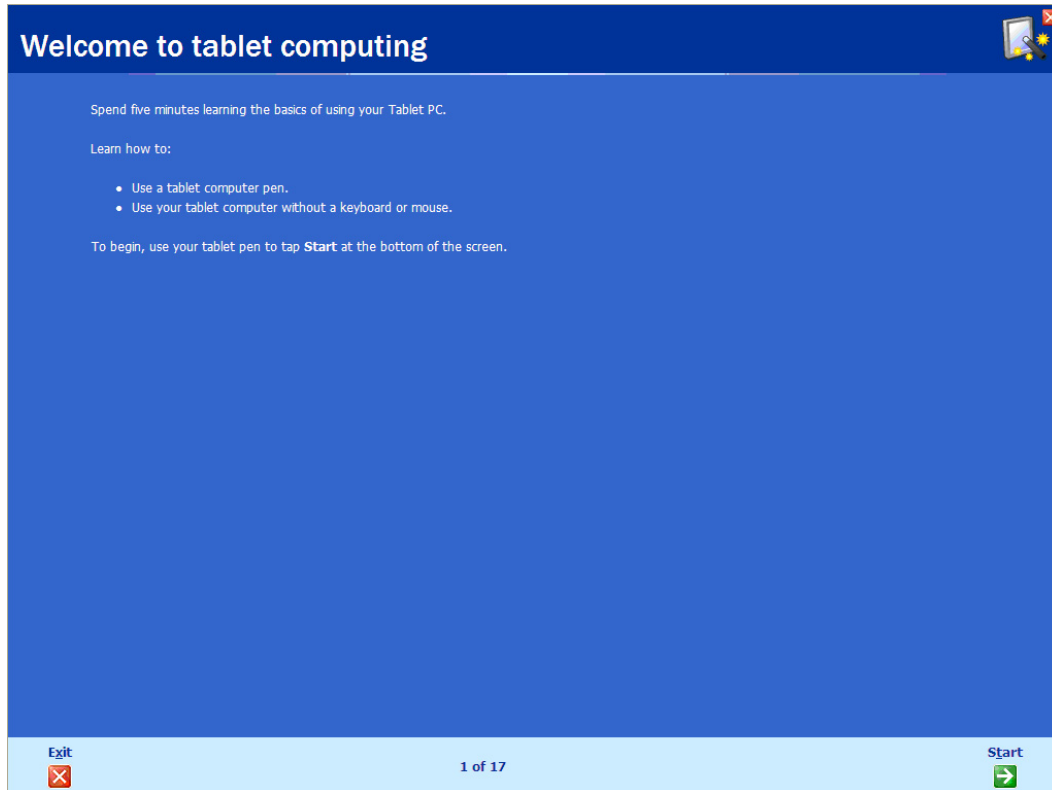

Figure 57. Accessing Tablet PC Tutorials and Information

Help for Windows

For information on using Microsoft Windows features and options, refer to the Microsoft help files and documentation on the X10gx Tablet Computer by clicking on the **Start** button and selecting the **Help and Support** option**.**

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ARMORUtils Program

The ARMORUtils program is the latest version of ARMOR Utilities and is provided to help you configure and manage your X10gx computer. It contains settings and information about screen setup, wireless configuration, battery status and much more.

(i) NOTE

The screen images in this section are used for reference only and may not reflect the actual configuration of your X10gx.

To open the ARMORUtils main window, double-click on the **ARMORUtils icon** on the desktop or select **Start → All Programs → ARMORUtils**.

ARMORUtils Main Dialog Window

The ARMORUtils Main dialog window is shown in Figure 57. Seven buttons provide access to dialog or information windows. Click on a button to access one of these windows.
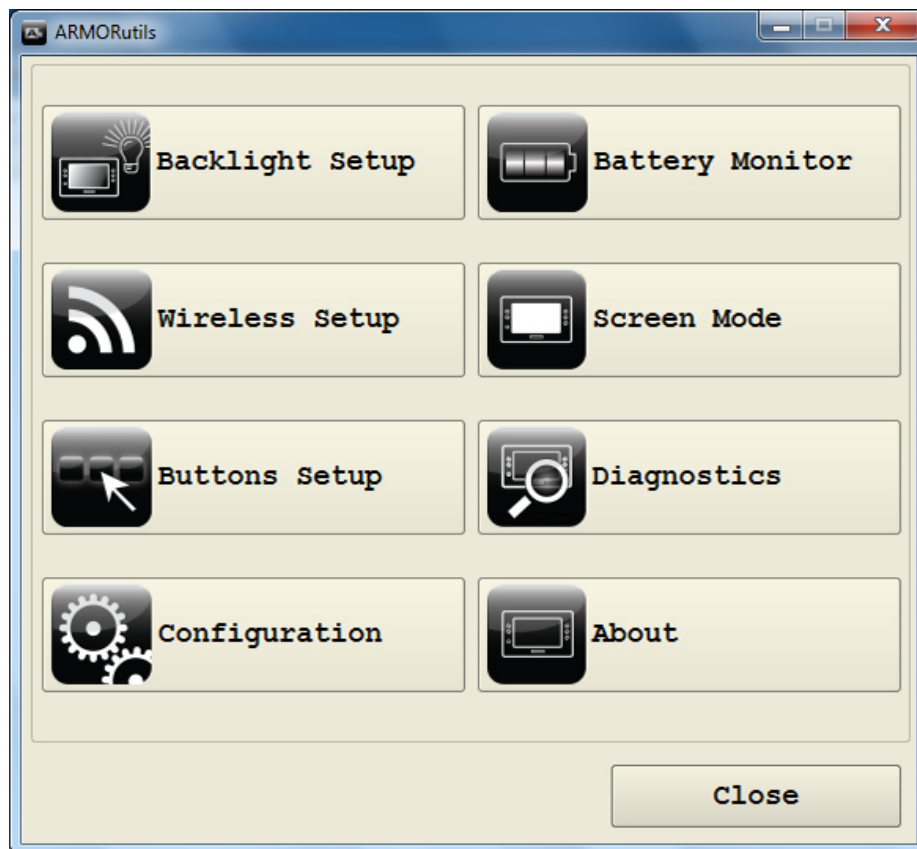

Figure 58. ARMORUtils Main Dialog Window

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Backlight Setup Dialog Window

The Backlight Setup dialog window allows you to adjust the screen brightness manually or automatically from a minimum of 5% to a maximum of 100%.
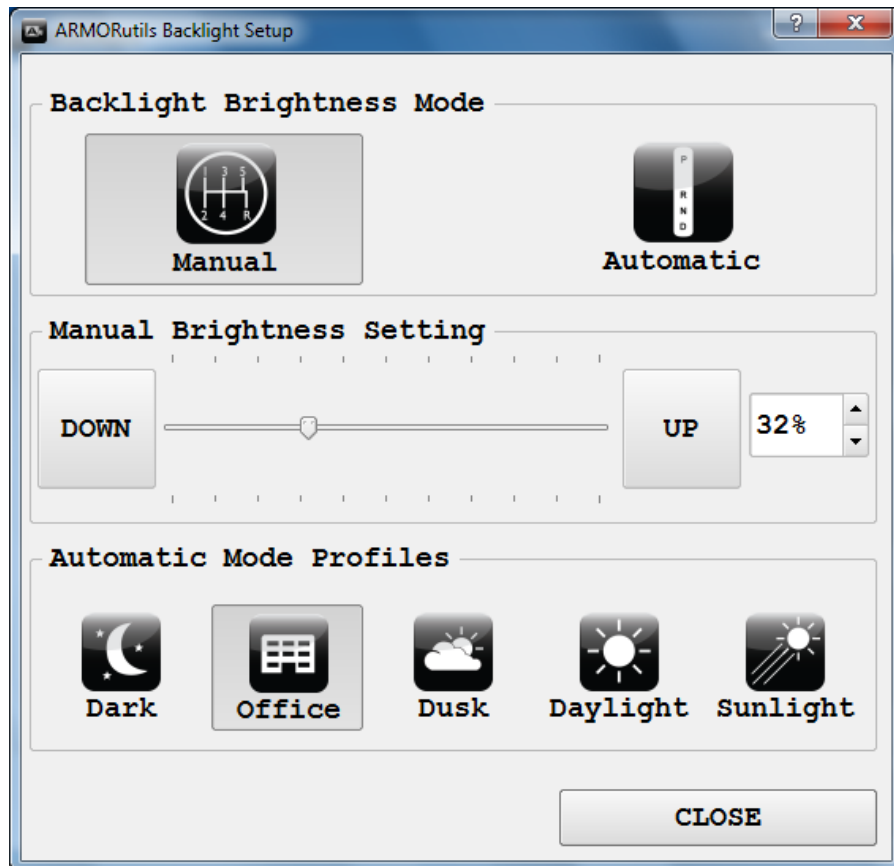

Figure 59. ARMORUtils Backlight Setup Dialog

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Manual Adjustment

The **Manual** button is initially activated by default. Click on the **UP** and **DOWN** buttons in the Manual Brightness Setting panel or drag the slider to manually adjust the screen brightness from 0% to 100%. The current brightness level is displayed as a percentage in the window to the right. You can also adjust the brightness by clicking on the up and down arrows next to the percentage readout.

Automatic Adjustment

Click on the **Automatic** button to activate the automatic brightness control mode. In automatic mode, screen brightness is controlled by the ambient light sensor (ALS) located on the indicator panel on the front of your X10gx tablet. This sensor monitors the available ambient (surrounding) light and automatically adjusts the backlight level to maintain the same relative screen brightness.

Automatic Mode Profiles

Everyone's eyes react differently to changes in light levels and there may be times when the full range of automatic brightness adjustment is uncomfortable for you.

You can tailor the automatic brightness adjustment by selecting one of the 5 pre-configured brightness profiles. These profiles control the range of brightness levels to values based on typical surroundings or times of day.

For example, if you work in an office environment but the automatic brightness doesn't make the display bright enough for you, you can select the Dusk, Daylight or Sunlight profile to increase the brightness range proportionally. Similarly, if the normal brightness control results in displays that are too bright, you can select the Office or Dark profile to reduce the brightness range.

Switching Between Brightness Modes

If you are in Manual mode and you click on one of the automatic profile settings, the brightness mode will switch to Automatic mode. Conversely, if you are in Automatic mode and click on the Manual mode **UP** or **DOWN** button, or one of the up/down arrows, the brightness mode will switch to Manual mode.

ARMOR X10gx TABLET COMPUTER

Wireless Devices Dialog Window

The Wireless Devices dialog allows you to enable or disable all of the installed wireless devices in your ARMOR X10gx.
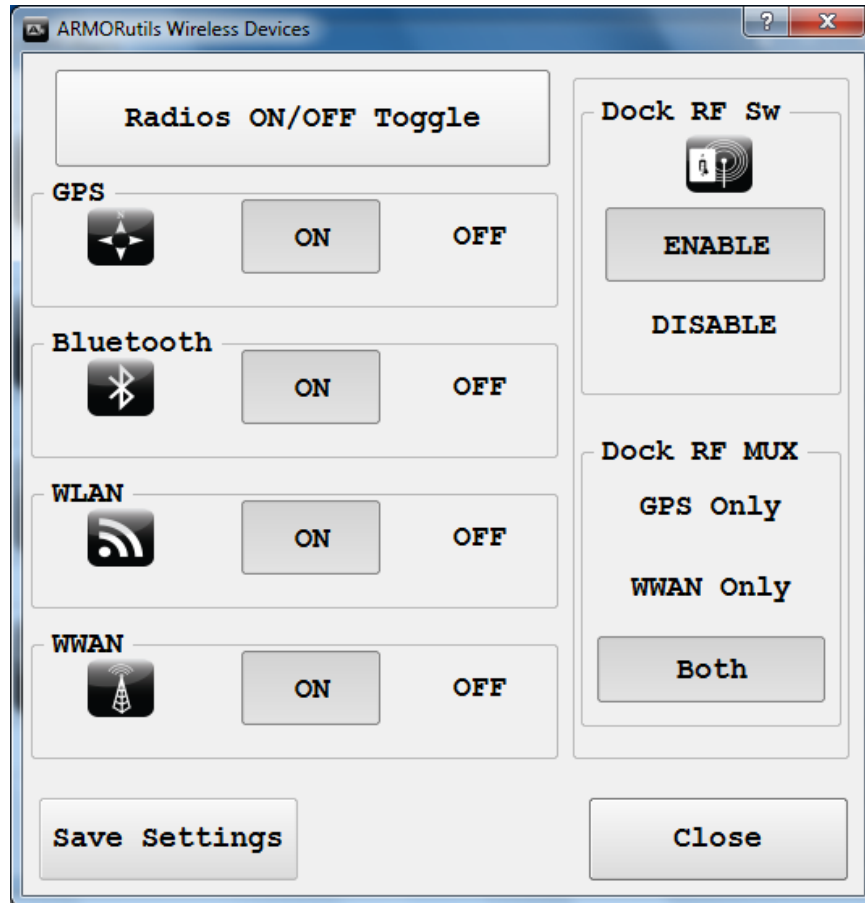

Figure 60. ARMORUtils Wireless Devices Dialog

Radio ON/OFF Buttons

There is an **ON** and **Off** button for each radio that can be installed in the X10gx. When you first start your ARMOR X10gx, all installed radios are enabled (default condition). Each radio can then be disabled by pressing its **OFF** button and re-enabled by pressing its **ON** button.

Docking RF Sw Button

There are RF docking connectors on the X10gx RF dock for an external wireless antenna and an external GPS antenna. These connectors route external antennas (if installed) through the RF dock to the X10gx. Pressing the **Docking RF Sw Enable** or **Disable** button enables or disables the antenna configuration that is selected in the **Dock RF Mux** panel. The default option is "**Enable**".

Dock RF MUX Options

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These options allow you to select which external antennas will be used by the X10gx. You can select GPS only, WWAN only, or both antennas. If only one external antenna is selected, the other radio will operate on its internal antenna. The initial default option is "**Both**".

Save Settings Button

Regardless of how you configure your radios and the Dock RF Switch during your session, they will return to their default settings the next time you restart the computer unless you save your settings using the **Save Settings** button.

Once you configure each radio and the RF switch to suit the way you normally use them (**ON** or **OFF**), you can press the **Save Settings** button to save the current configuration as your new default settings.

Radios ON/OFF Toggle Button

Click on the **Radios ON/OFF** button to turn off or turn on all radios currently enabled. This is particularly handy if you're on a commercial aircraft and you want to continue working with the computer without interfering with the aircraft electronic systems.

When you arrive at your destination, just click on the **All Radios ON/OFF** button again to turn on the radios you previously had enabled.

ARMOR X10gx TABLET COMPUTER

Programmable Button Settings Dialog Window

This page is shown in Figure 60. It allows you to preset a function for each of the three programmable buttons **P1–P3** on the tablet control panel.

You can configure and activate an additional function for P1-P3 by pressing and releasing the **Fn** button and then pressing and releasing one of the programmable buttons (**Fn+P1, P2, P3**). This provides a total of 6 preset functions that can be activated from the control panel.

The currently programmed function is shown in the field next to the button or button combination. Click on the down arrows to select a function. The available functions are shown in Figure 60
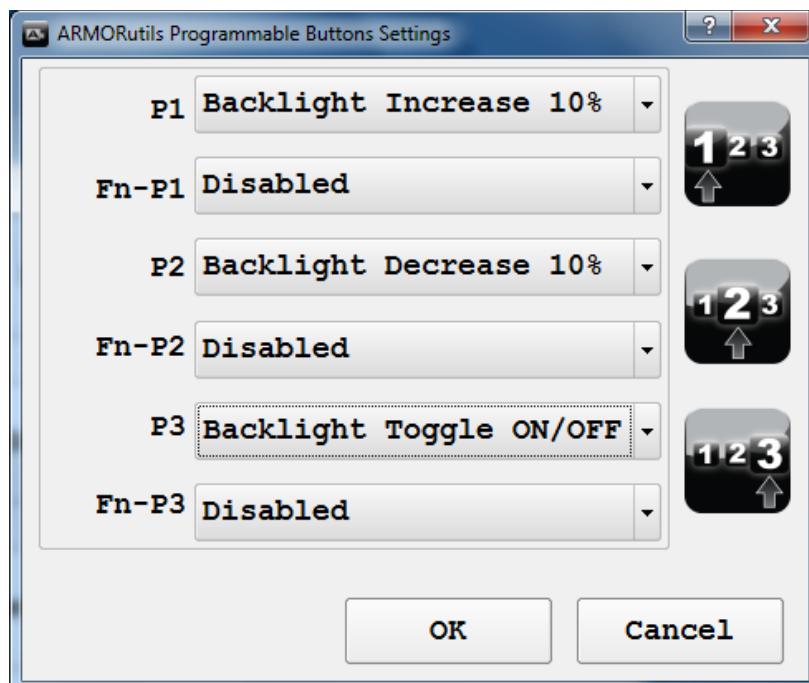

Figure 61. ARMORUtils Programmable Button Settings Dialog Window