

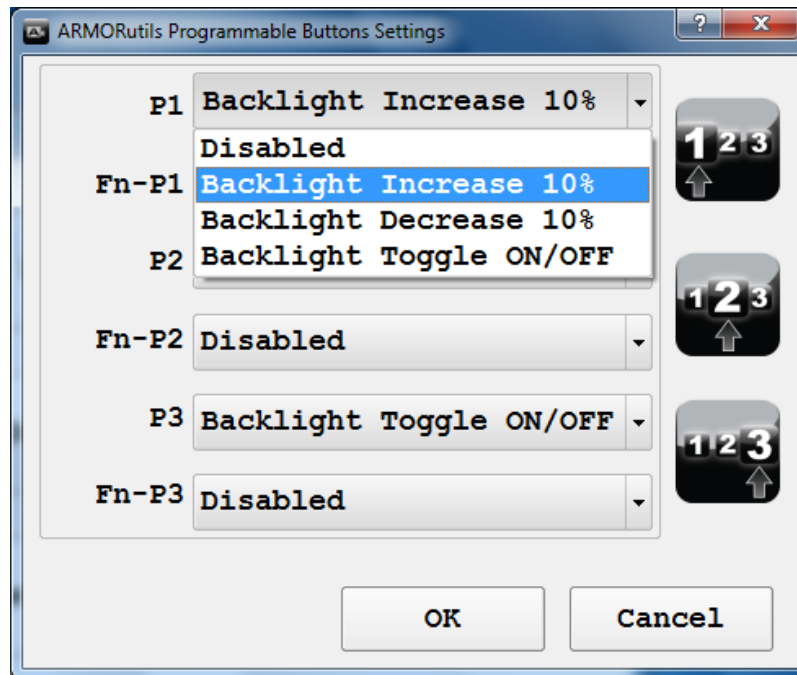
**ARMOR X10gx TABLET COMPUTER**

Figure 62. Available Programmable Button Options

### **Additional Capabilities**

P1, P2 and P3 generate scan codes for F13, F14 and F15. Pressing the Fn button and then P1, P2 or P3 generates scan codes for Shift+F13, Shift+F14 and Shift+F15. These button presses or button combinations can be re-mapped to do such tasks as start an application, switch applications or perform other functions dictated by the application software.

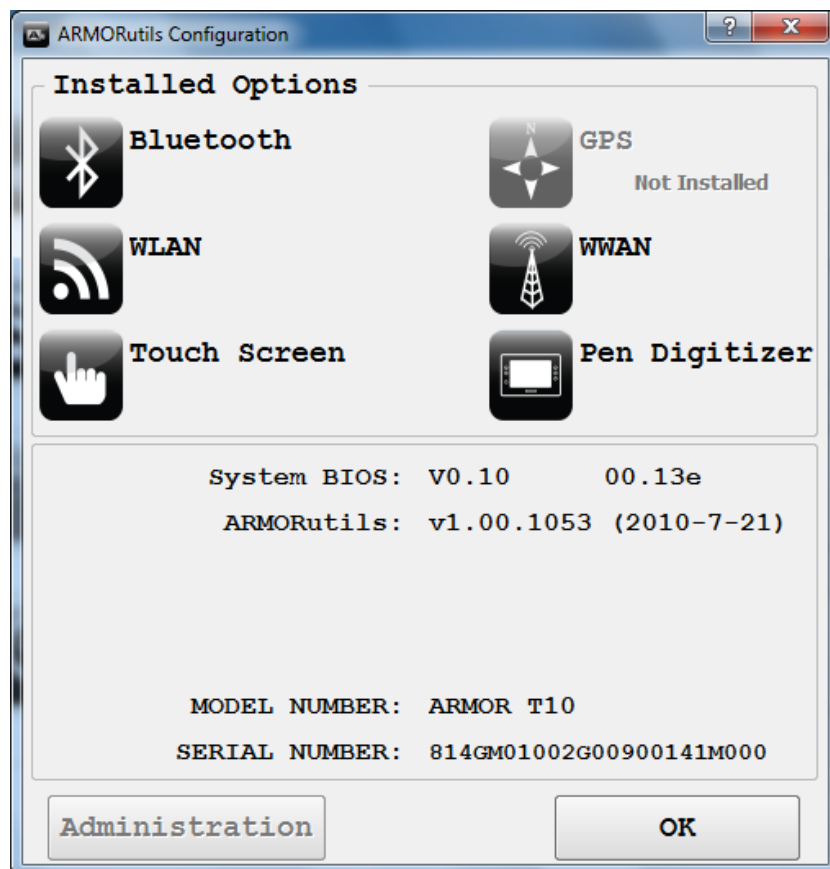
To control applications, you will need to search online for freeware programs to re-map the programmable buttons. An example is [www.softlist.net](http://www.softlist.net).

**ARMOR X10gx TABLET COMPUTER**

## **Configuration Dialog Window**

### **Installed Options**

The Configuration Dialog Window provides visual confirmation of those wireless radio and display options that are installed in your X10gx. For those options that are installed and available, the associated icons and text will appear in dark contrast. If an option is not installed or available, the icon and text will be grayed out.



**Figure 63. ARMORUtils Configuration Dialog**

### **System Information**

Important system information is provided in the bottom panel.

### **Administration Button**

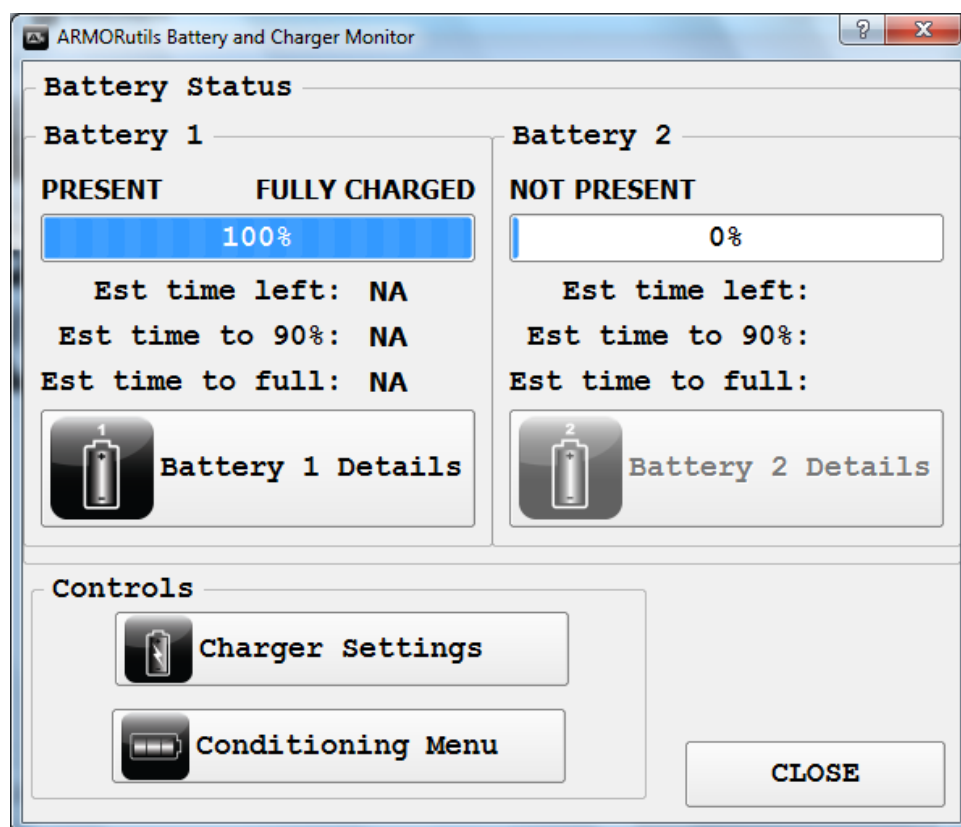
This button option is not currently available.

**ARMOR X10gx TABLET COMPUTER**

## **Battery Monitor Dialog Window**

The Battery Monitor window is shown in Figure 63. This window provides information about:

- Each battery's current charge level
- Whether or not the battery is charging or discharging
- Its estimated remaining operating time
- The estimated time to reach the next charge level
- The estimated time to reach a full charge.



**Figure 64. ARMORUtils Battery Monitor Dialog**

**ARMOR X10gx TABLET COMPUTER****Battery 1 and 2 Information Buttons**

Click on the **Battery 1 Details** or **Battery 2 Details** button (Figure 63) to open a Battery Information window (example shown in Figure 64). Readings such as percentage of charge, present capacity, remaining capacity and charge cycle count are updated in real time on this page.

If the battery needs conditioning, a message will appear at the bottom of the page indicating that a conditioning is necessary.

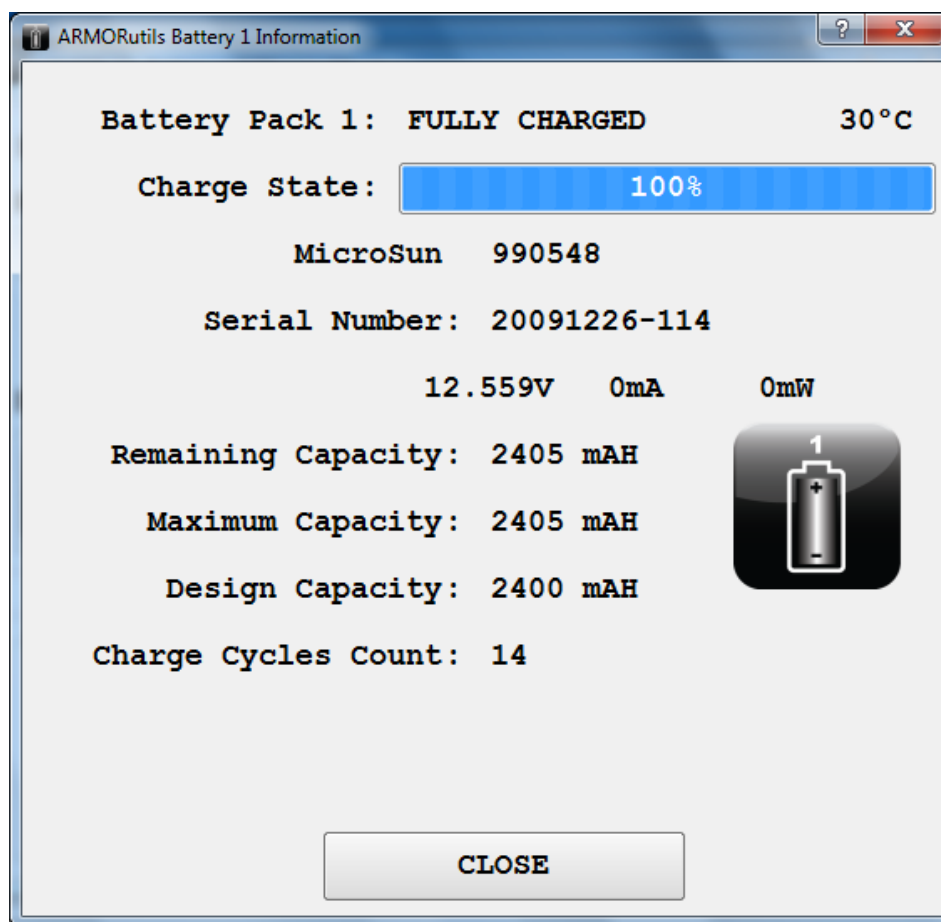
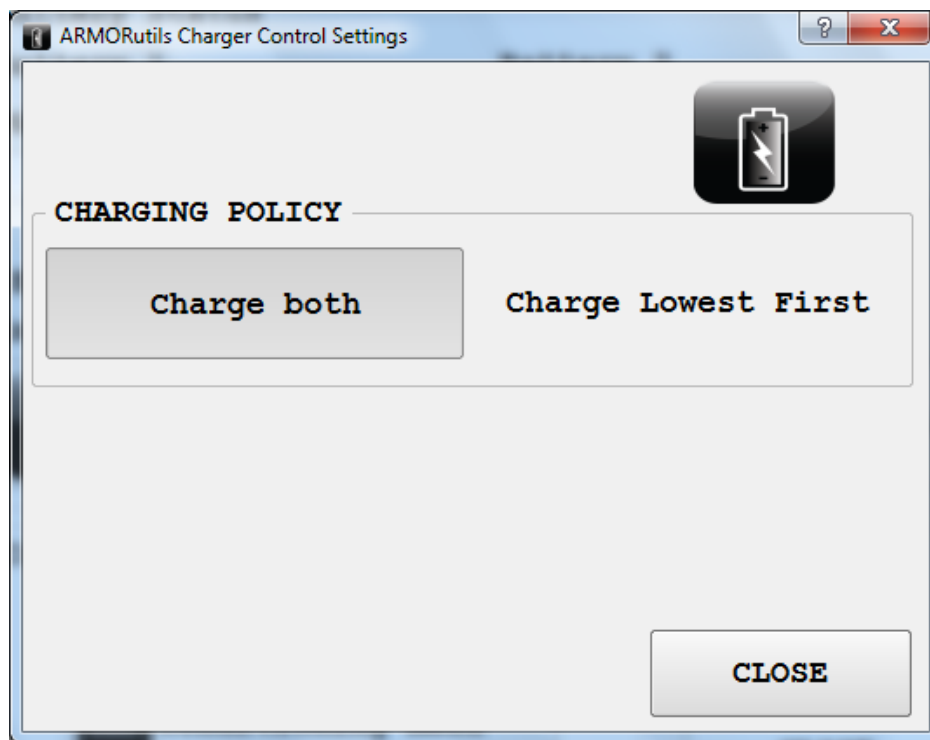


Figure 65. ARMORUtils Battery Information Window

**ARMOR X10gx TABLET COMPUTER****Charger Settings Button**

Click on the **Charger Settings** button (Figure 63) to open the **Charger Control Settings** window, as shown in Figure 65.

From this window, you can decide what charging policy the system will use when two batteries are installed. Click on **Charge Both** to charge both batteries at the same time or **Charge Lowest First** to charge the battery with the lowest charge first. The default setting is "Charge both".



**Figure 66. ARMORUtils Charger Control Settings Window**

**Conditioning Menu Button**

This function is currently not available.

**ARMOR X10gx TABLET COMPUTER****Screen Mode Setup Dialog Window**

This window is currently not available.

## ARMOR X10gx TABLET COMPUTER

### Diagnostics Dialog Window

The Diagnostics dialog displays three critical internal temperatures of the processor and one for each battery.

### Maximum and Minimum Operating Temperatures

The maximum and minimum operating temperatures of the X10gx are:

- Processor and mainboard: -20°C min, +60°C max
- Battery: -10°C min, +50°C max

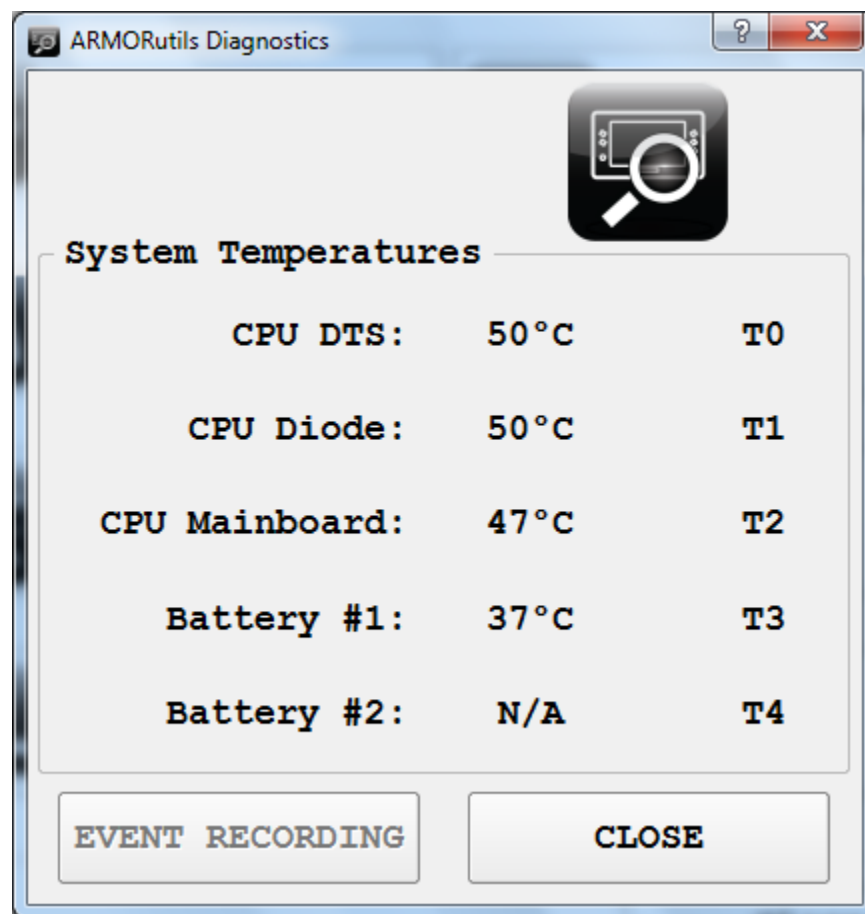


Figure 67. ARMORUtils Diagnostics Dialog

### Event Recording

This function is currently not available.

### ARMORUtils About Window

**ARMOR X10gx TABLET COMPUTER**

The About window (Figure 67) displays the current version and release date of the ArmorUtils software. It also provides a contact telephone number for the DRS Tactical Systems Technical Support call center and the internet address to the ARMOR website where you can log on to access support information.

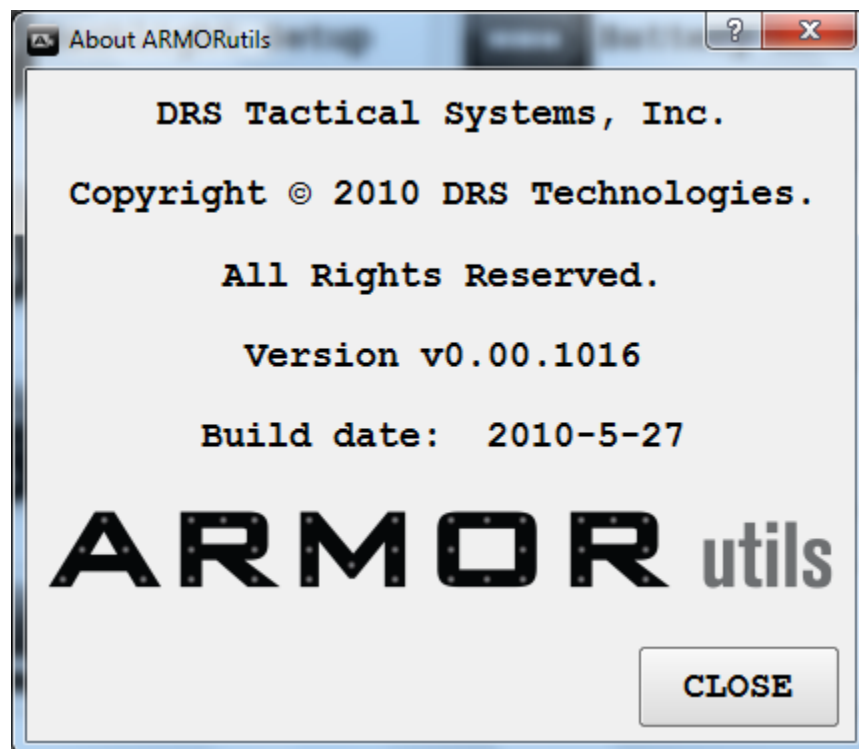


Figure 68. ARMORUtils About Window



**ARMOR X10gx TABLET COMPUTER**

## Windows Utilities

**NOTE**

*Utilities may vary depending on the your version of Windows.*

### Pen and Touch Utility

The Pen and Touch utility provides settings that effect how the pen works for both the active pen screen and the touch screen.

To open this utility, select **Start → Control Panel → Hardware and Sound → Pen and Touch**. The Pen and Touch utility opens, as shown in Figure 68.

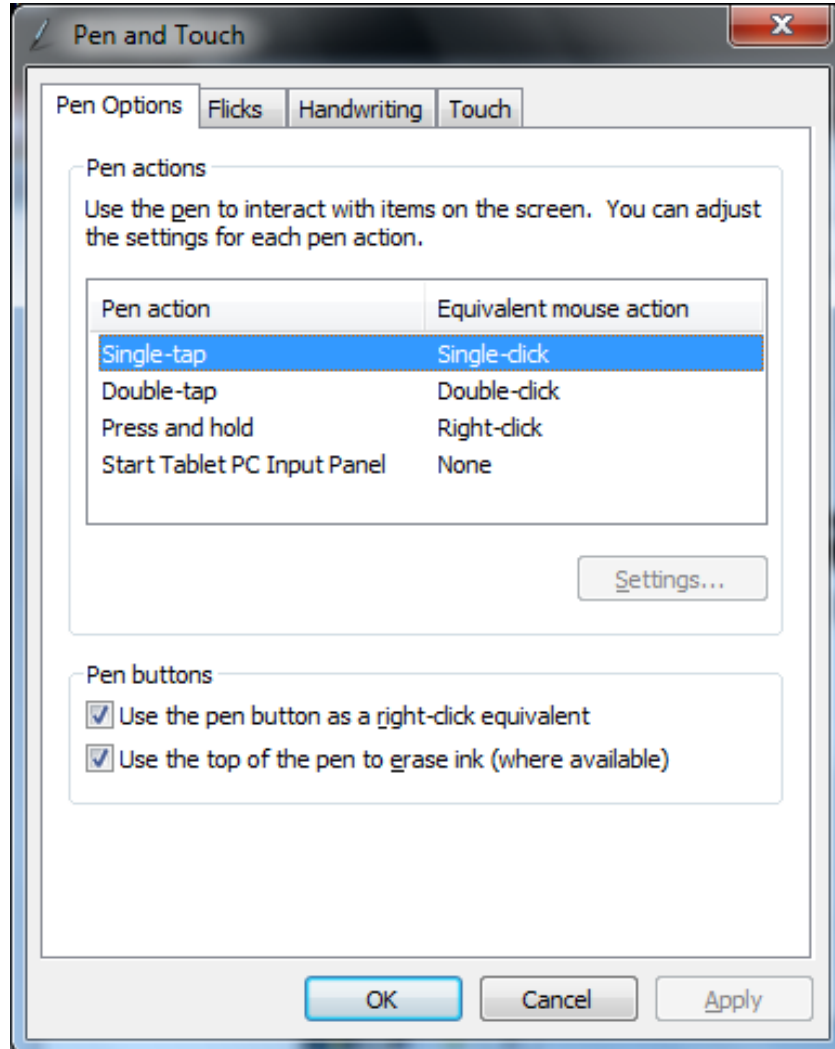
### Pen Options Tab

The Pen Options tab provides settings that are applicable to the pen screen only.

### Pen Actions Panel

Highlight an action from the **Pen Actions** list and click on the **Settings** button (if active) to open a settings window, then select options or make adjustments.

## ARMOR X10gx TABLET COMPUTER



**Figure 69. Pen and Touch Utility – Pen Options Tab**

### Pen Buttons Panel

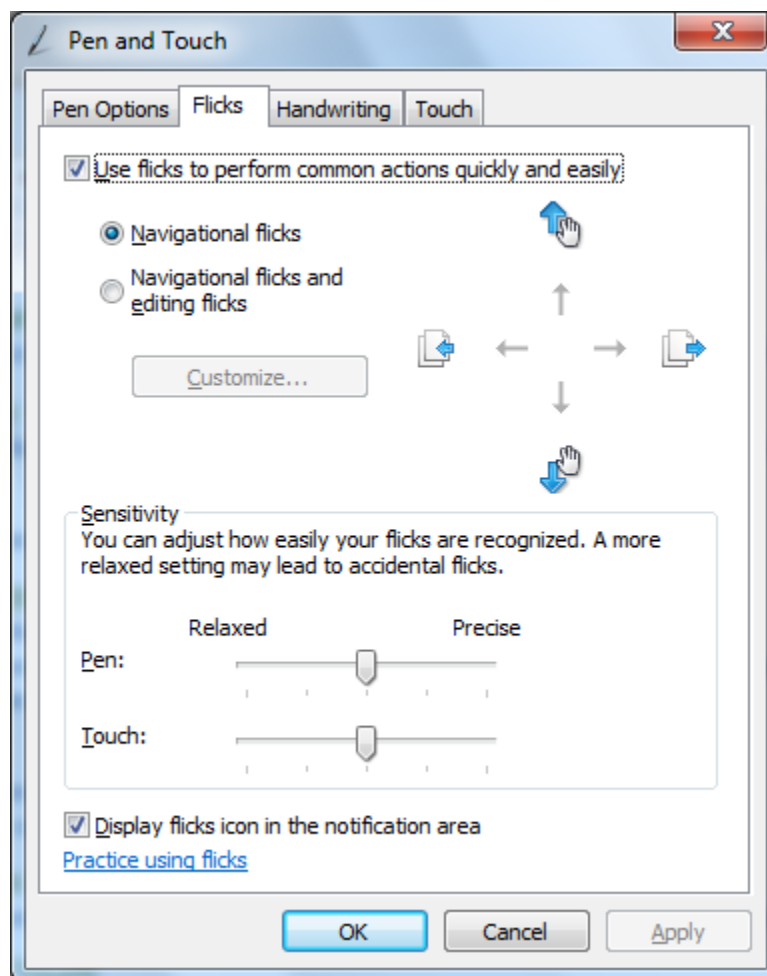
**Use the Pen button as a right-click equivalent** option – This option is overridden by the pen button options in the **Pen** tab of the Pen Tablet Properties utility, regardless of whether it is checked or not.

**Use the top of the pen to erase ink** option – The erase function is not supported in the X10gx from any utility option.

### Flicks Tab

The Flicks tab provides settings that are applicable to both the pen and touch screens.

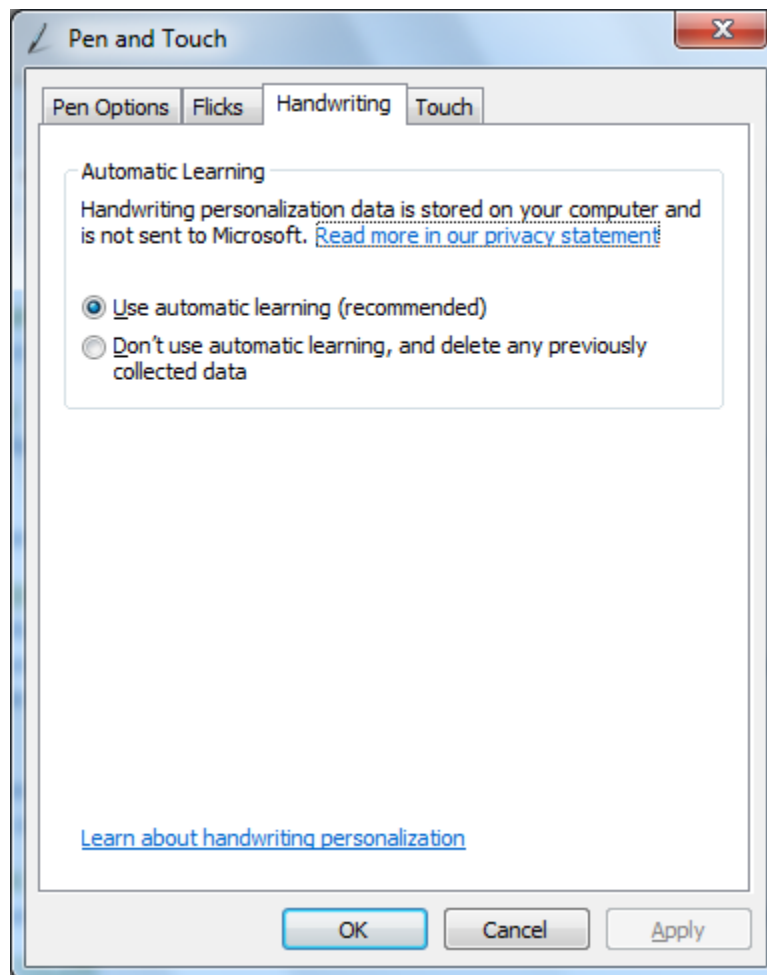
Flicks are short quick gestures either up, down, left or right that produce common actions such as scrolling through a document, dragging an object, or opening a folder. Click on the **Practice using flicks** link at the bottom of the window to access a tutorial.

**ARMOR X10gx TABLET COMPUTER****Figure 70. Pen and Touch Utility – Flicks Tab**

**ARMOR X10gx TABLET COMPUTER****Handwriting Tab**

The Handwriting tab provides settings that are applicable to both the pen and touch screens.

The options on this tab allow you to enable or disable the automatic handwriting learning feature. Click on the “Learn about handwriting personalization link at the bottom of the window for information about automatic learning and how to train your tablet to recognize your personal handwriting style.



**Figure 71. Pen and Touch Utility – Handwriting Tab**

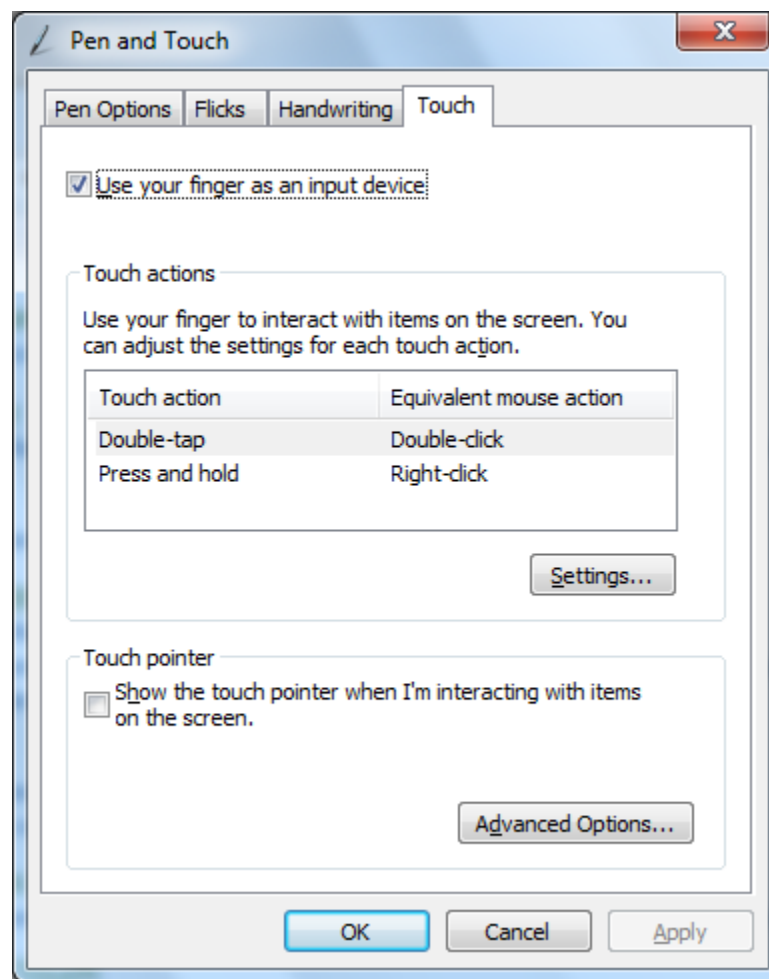
**ARMOR X10gx TABLET COMPUTER****Touch Tab**

The Touch tab provides settings that are applicable to the touch screen only. The options on this tab affect how the pen, or your finger, interacts with the touch screen.

**NOTE**

*You must have the “Use your finger as an input device” option checked to use either your finger or the pen on the touch screen. If you are in Dual Mode, you can still use the active pen, but the touch screen will be disabled.*

Check the “**Use your finger as an input device**” option to use either the pen or your finger with the touch screen.



**Figure 72. Pen and Touch Utility – Touch Tab**

**ARMOR X10gx TABLET COMPUTER****Touch Actions**

Highlight a touch action and click on the **Settings** button to open an adjustment window.

**Touch Pointer**

Select this option to place a cursor at the touch point. A virtual mouse image will also appear next to the cursor, as shown in Figure 72 . You can then click on the left or right mouse button to produce the appropriate mouse action.

Click on the **Advanced Options** button to open a window where you can adjust the touch pointer position, appearance and behavior.



**Figure 73. Touch Tab Virtual Mouse Pointer**

**ARMOR X10gx TABLET COMPUTER**

## **Tablet PC Settings Utility**

If you have a second display with a touch or pen screen, you can use this tab to calibrate or change the screen orientation.

### **Display Tab**

#### **Display Options**

Click on the **Display options** down arrow and highlight the display you want to configure.

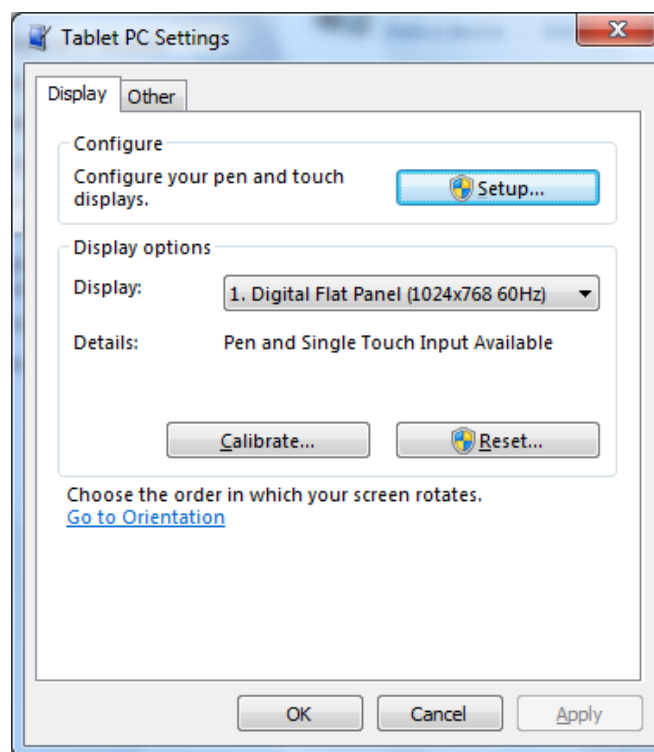
#### **Configure**

Click on the **Setup** button and choose **Pen input** or **Touch input**, depending on the type of display.

Use the **Calibrate** button to calibrate either a pen or touch screen. Click on **Reset** to remove the last calibration.

#### **Go to Orientation**

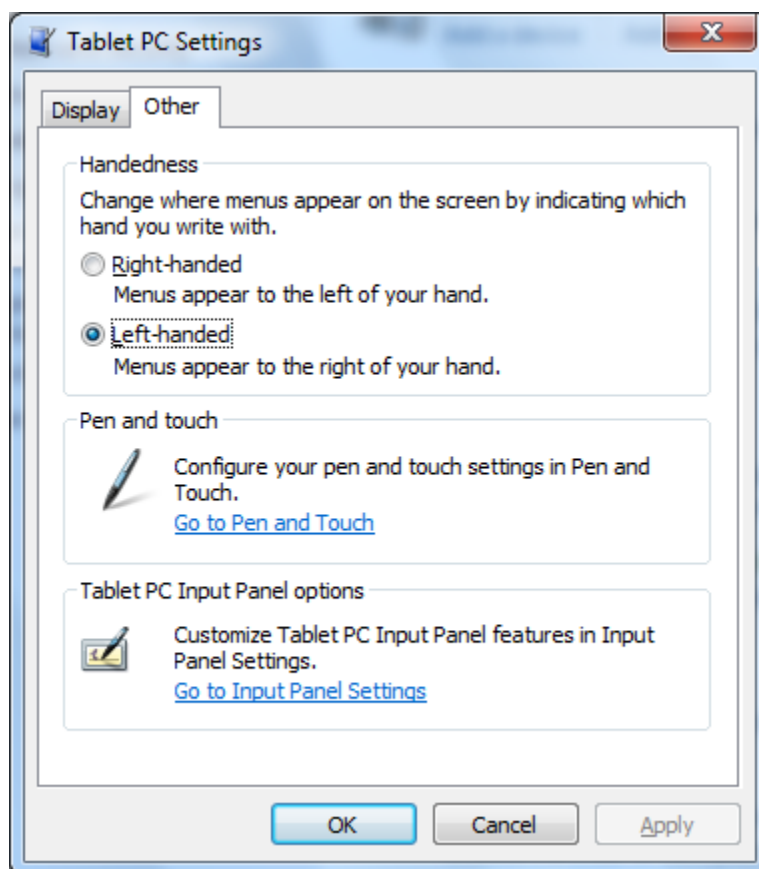
This option is currently not supported by the X10gx.



**Figure 74. Tablet PC Settings – Display Tab**

**ARMOR X10gx TABLET COMPUTER****Other Tab**

This tab allows you to change where an on-screen menu appear when you activate the pen or touch displays so that your hand does not block your view of the menu. For example, if you are left-handed, check the **Left-handed** option to have the menus appear to the right of the cursor.



**Figure 75. Tablet PC Settings Utility – Other Tab**



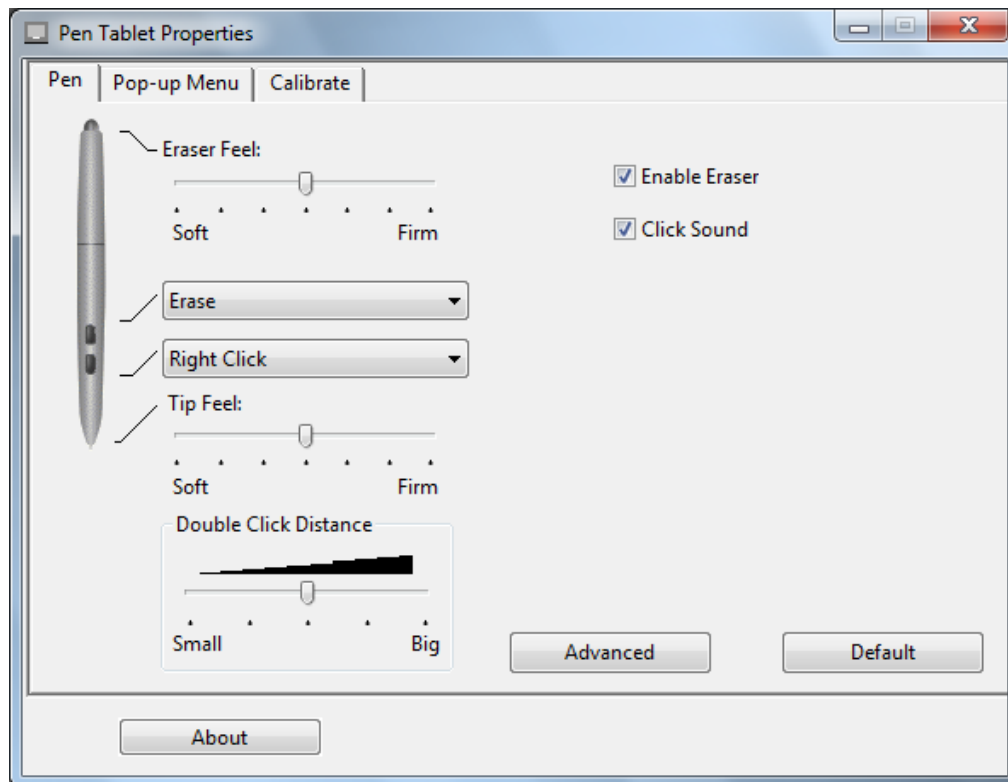
**ARMOR X10gx TABLET COMPUTER**

## **Pen Tablet Properties Utility**

The following paragraphs briefly describe the purpose and actions of the Pen Tablet Properties utility. To open the Pen Tablet Properties window, select **Start → Control Panel → Hardware and Sound** and click on the **Pen Tablet Properties** icon to open the Pen Tablet Properties window shown in Figure 75.

### **Pen Tab**

The Pen tab is displayed by default when the Pen Tablet Properties window opens (Figure 75 ). The pen pictured in the tab is a WACOM™ pen that is normally used in advanced drawing tablets. Its functionality far exceeds what is practical for your X10gx tablet. Consequently, we have provided a simpler active pen.



**Figure 76. WACOM Pen Tablet Properties Window – Pen Tab**



#### **NOTE**

*The pen that comes with your ARMOR X10gx has only one side button and no eraser (see [Your X10gx Pen](#)).*

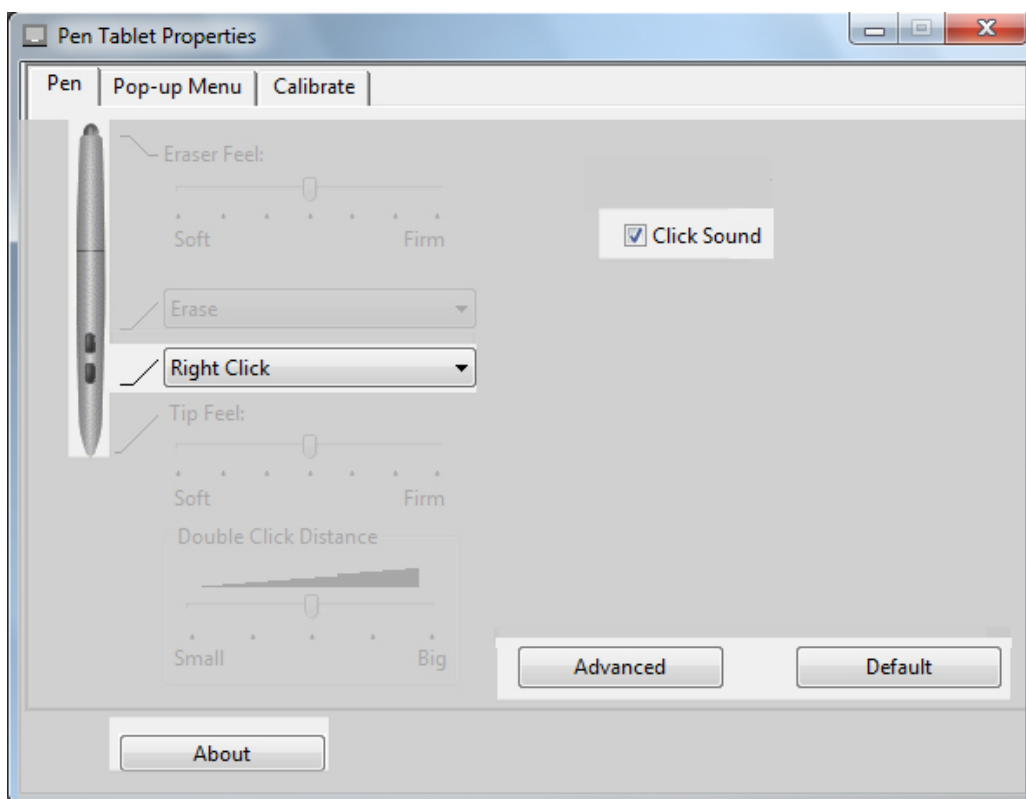
### **Supported Options**

**ARMOR X10gx TABLET COMPUTER**

Figure 76 and Figure 77 highlight those functions and options that are supported by your ARMOR X10gx pen.

**NOTE**

*Options not supported by the X10gx pen are grayed out in Figure 76 and Figure 77 for illustration purposes only. They are not grayed out on the actual application screen image.*



**Figure 77. Settings and Options Supported by the ARMOR X10gx Active Pen**

**Click Sound**

Check the **Click Sound** option to enable a clicking sound when you perform an action with the pen.

**Eraser**

The X10gx does not support the Erase function.

## ARMOR X10gx TABLET COMPUTER

### Side Button Menu Options

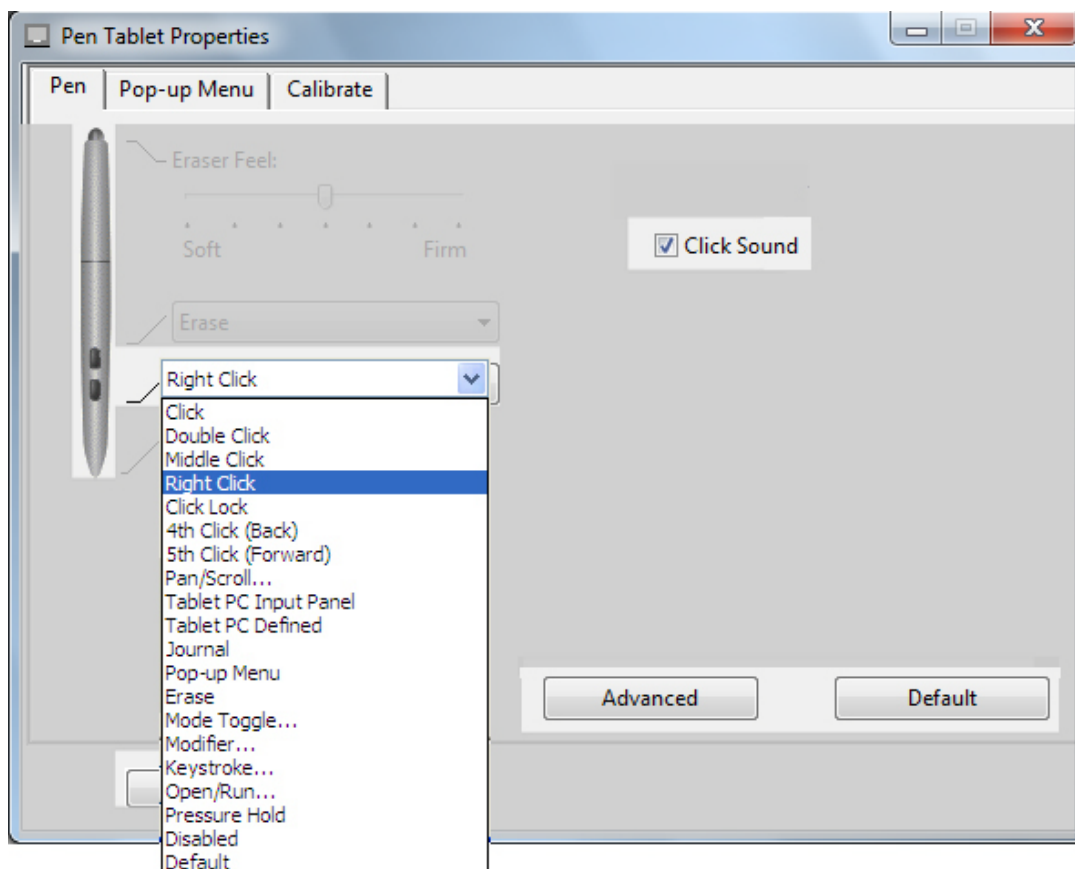
The side button can be set to perform different functions that are selected from the pull down menu shown in Figure 77. The default function is “Right Click”.

Only the lower button menu is used with the X10gx pen. Refer to [Explanation of Side Button Options](#) in the **Appendix** for a description of each menu option.



### NOTE

*Some side switch settings may work differently in some software applications.*



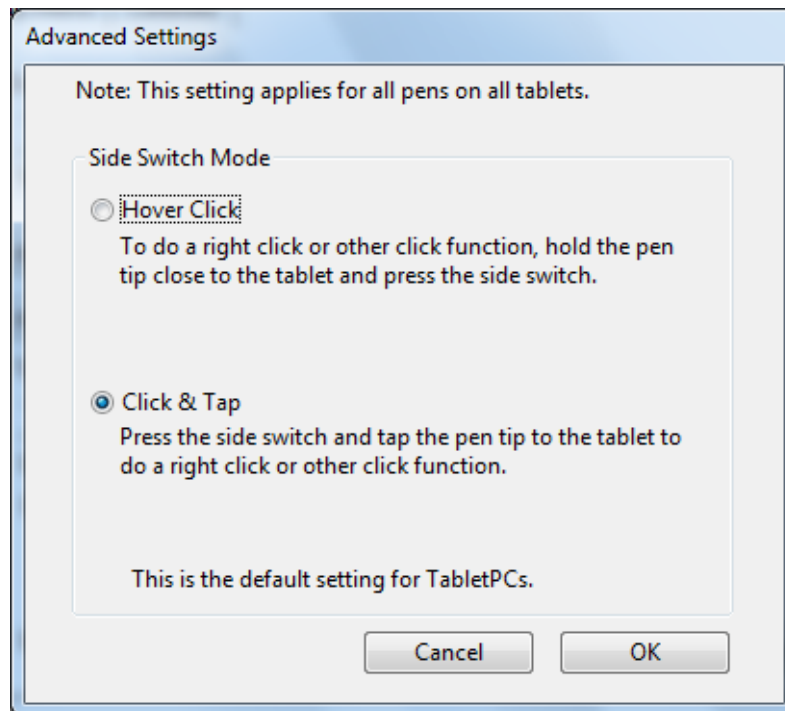
**Figure 78. Side Button Menu Options**

### Default Button

Click on the **Default** button to return the **Pen tab** settings to their default values.

**ARMOR X10gx TABLET COMPUTER****Advanced Button**

Click on the **Advanced** button to open the Advanced Settings window, as shown in Figure 78. The two options in this window allow you to set the way the side switch will be used to perform a right click action. **Click & Tap** is the default action.



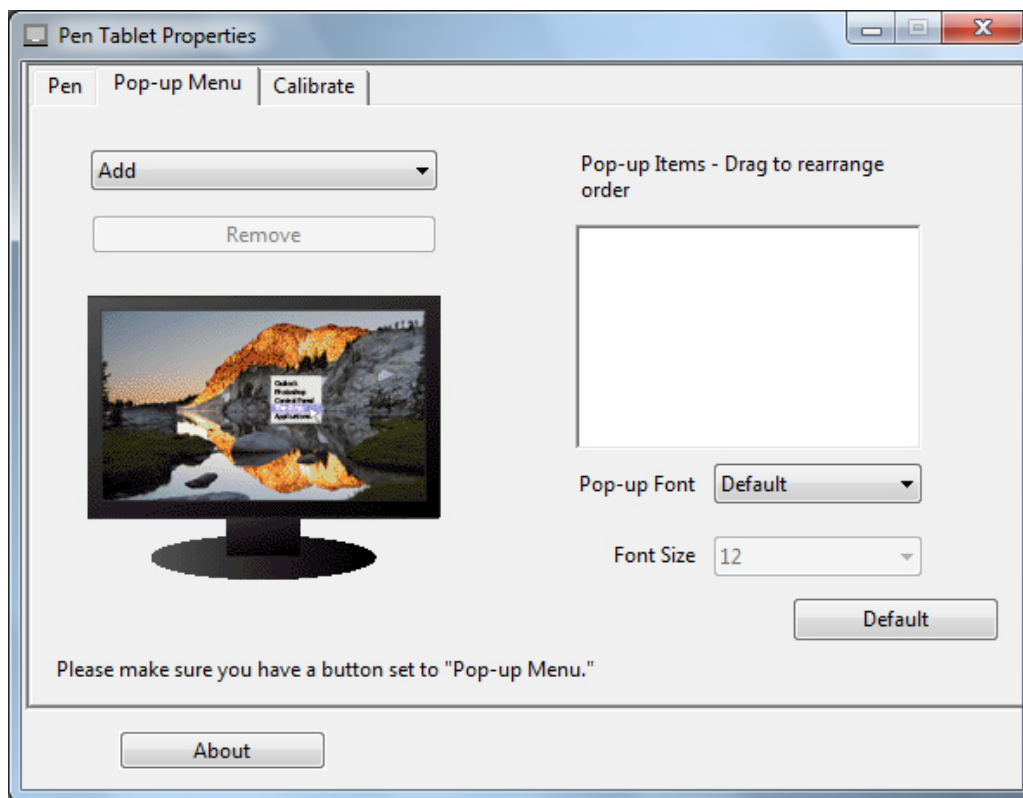
**Figure 79. Pen Tablet Properties - Advanced Settings Window**

**ARMOR X10gx TABLET COMPUTER****Pop-up Menu Tab**

The Pop-up Menu tab is shown in Figure 79. This tab allows you to add additional functionality to the side button. These functions will be displayed in a pop-up menu when the side button is pressed while in an application or working on the desktop. If only one function has been selected, only that function will be available.

**NOTE**

*To use the functions set in the pop-up menu, you must select the "Pop-up Menu" option from the side button menu in the Pen tab.*

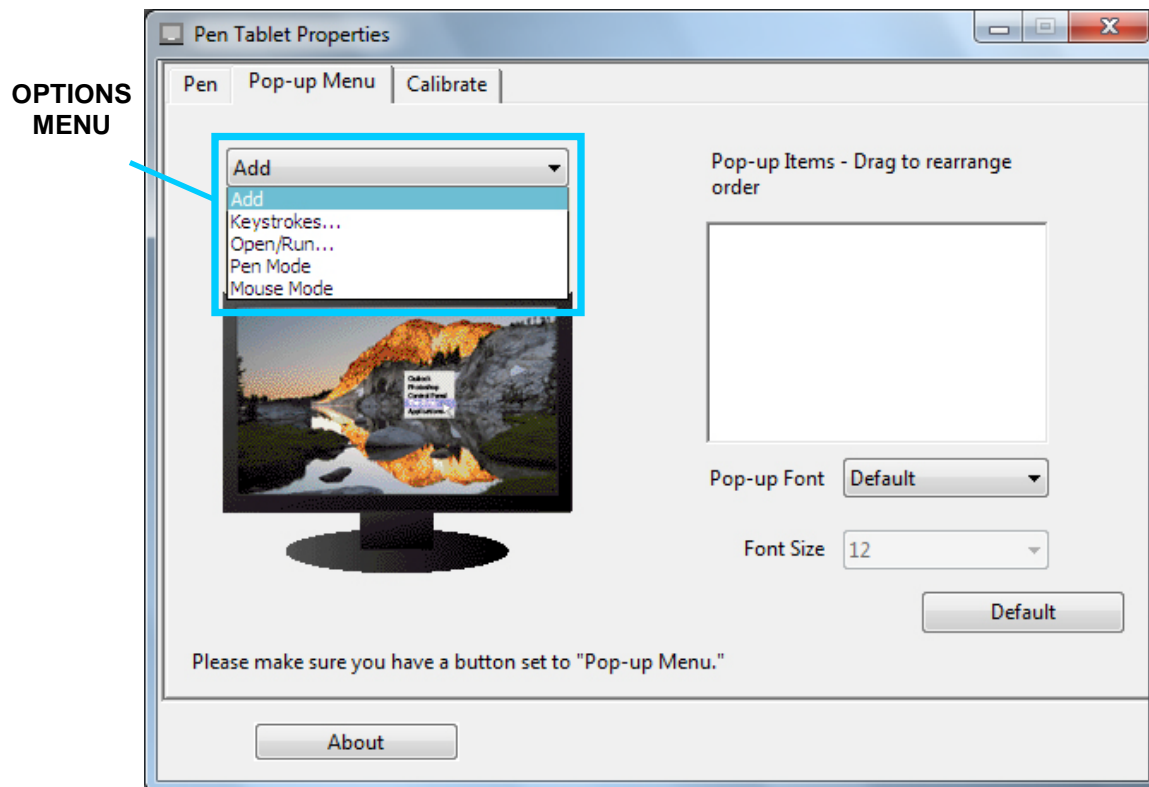


**Figure 80. Pen Tablet Properties – Pop-up Menu Tab**

**ARMOR X10gx TABLET COMPUTER**

Click on the down arrow in the **Add** field to open a list of available functions then select and configure the desired function. Those functions that are selected will appear in the **Pop-up Items** panel to the right of the **Add** field. Click on the **Remove** button to delete a function.

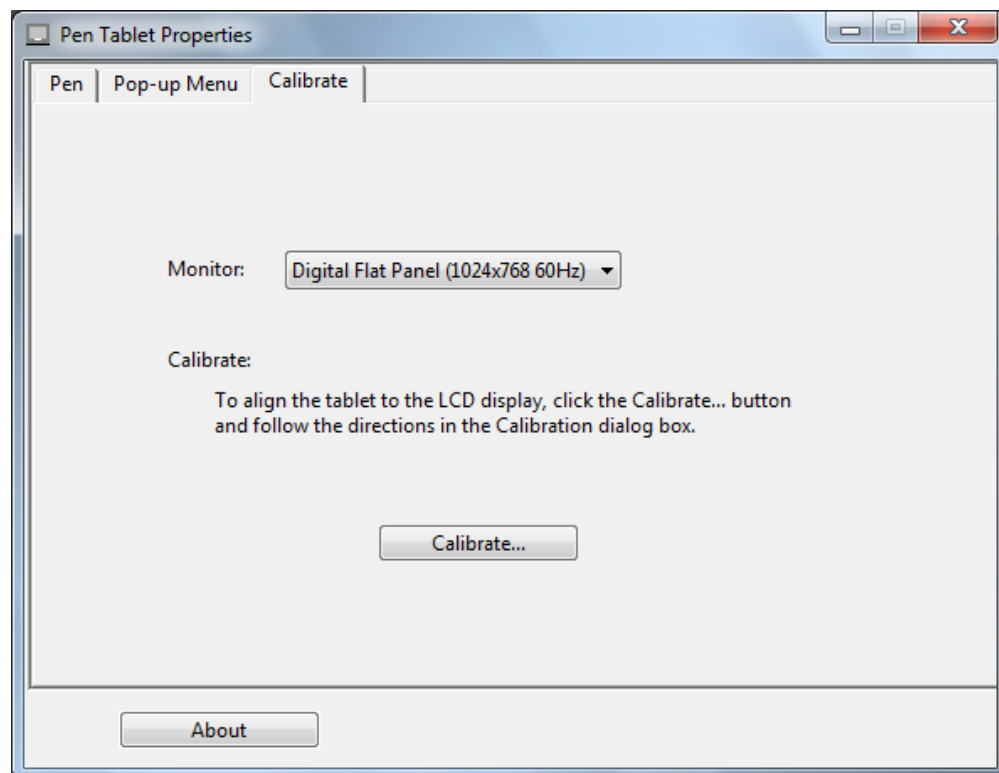
When you are using the pen in an application or on the desktop and you press the side button, a small menu is displayed with the options you have configured.



**Figure 81. Pop-up Menu Add Options**

**ARMOR X10gx TABLET COMPUTER****Calibrate Tab**

The Calibrate tab is shown in Figure 81. Click on the **Calibrate** button to access the screen calibration routine. Follow the on-screen instructions.



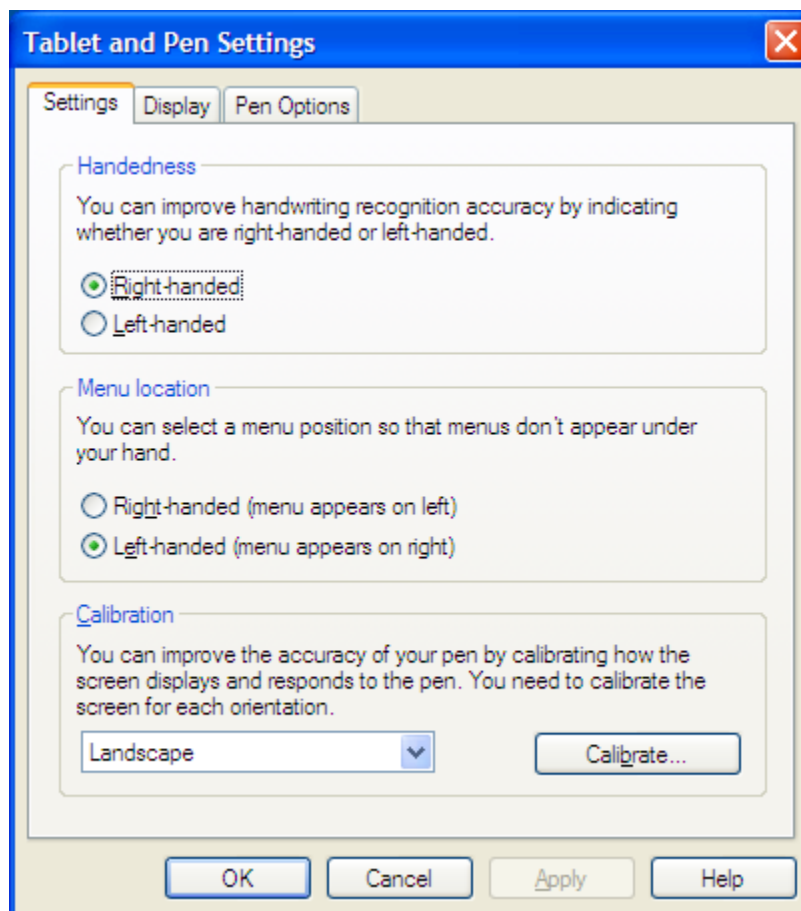
**Figure 82. Pen Tablet Properties Window – Calibrate Tab**

**ARMOR X10gx TABLET COMPUTER****Tablet and Pen Settings Utility (Windows XP Only)**

Windows XP Tablet lets you customize the tablet and the pen settings to suit the way you work with an active pen. To open the Tablet and Pen Settings window, select **Start → Control Panel → Tablet and Pen Settings**. Refer to the Windows Help resources for instructions on using these settings.

**Settings Tab**

The Settings tab is shown in Figure 82. With this tab, you can select whether you want to use the pen with the left hand or right hand, select menu positions, and calibrate the screen.



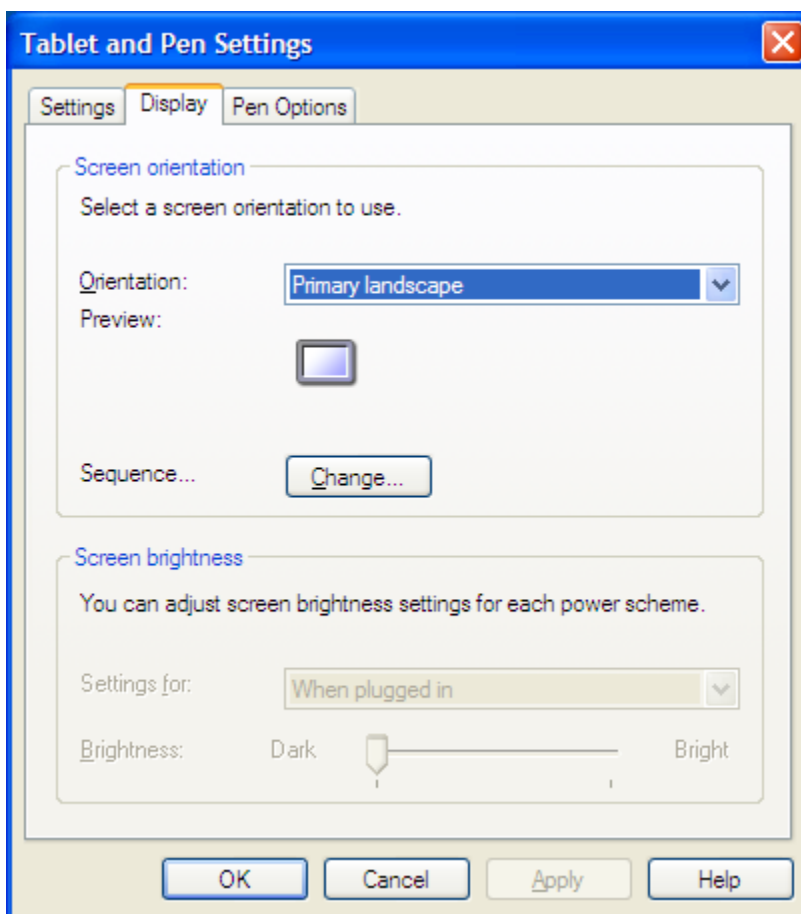
**Figure 83. Tablet and Pen Settings Window – Settings Tab**



**ARMOR X10gx TABLET COMPUTER****Display Tab**

The Display tab is shown in Figure 83. With this tab, you can preset the primary and secondary screen orientations.

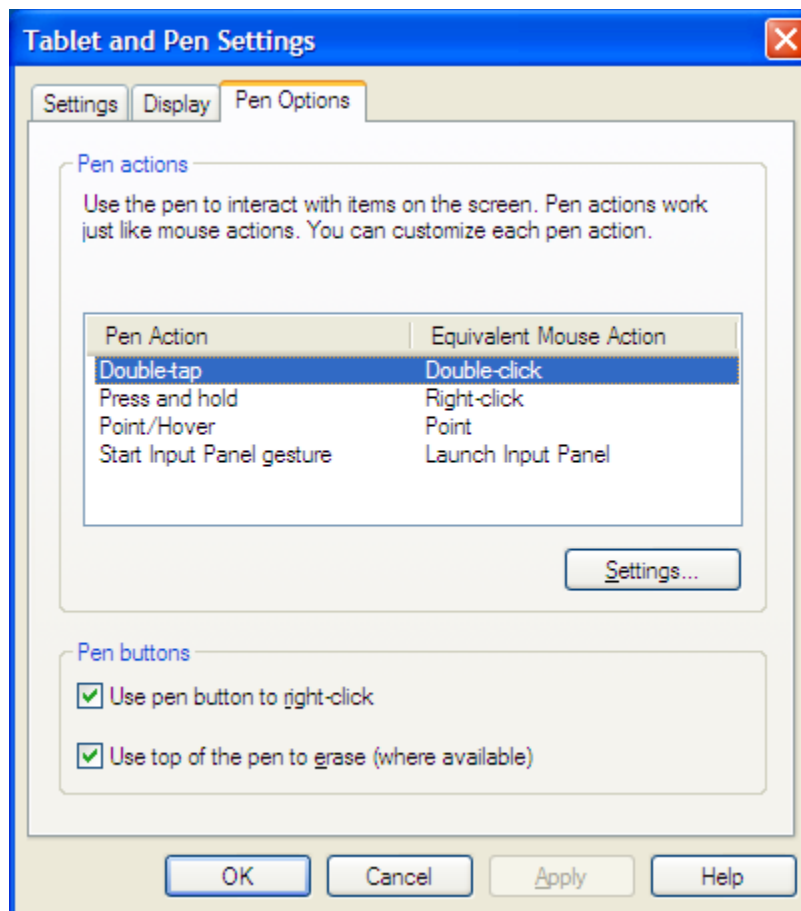
The **Screen Brightness** settings are not available from this window. To adjust the screen brightness, refer to [Display Management](#).



**Figure 84. Tablet and Pen Settings Window – Display Tab**

**ARMOR X10gx TABLET COMPUTER****Pen Options Tab**

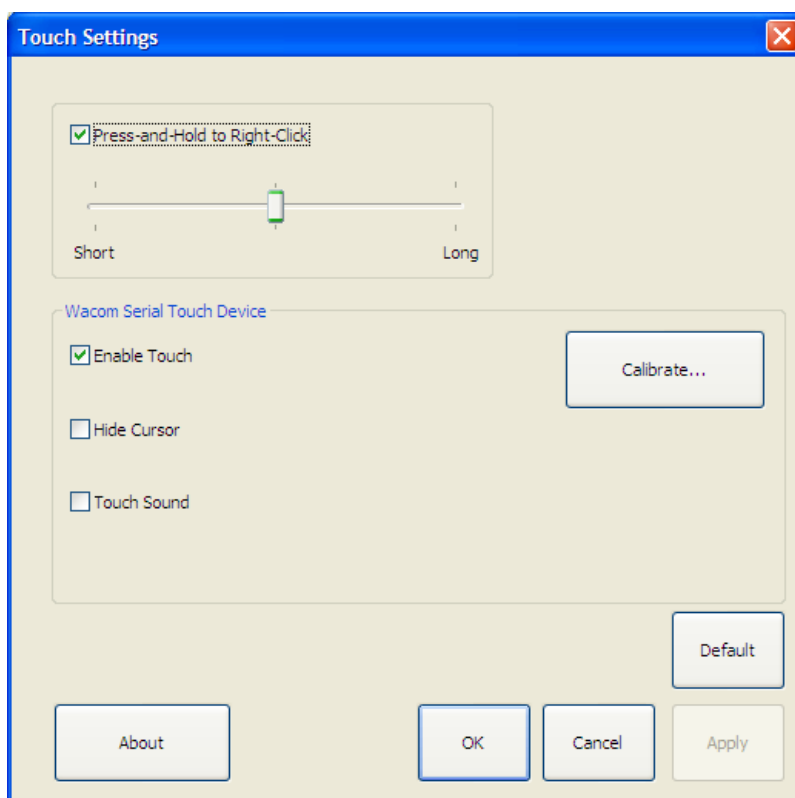
The Pen Options tab is shown in Figure 84. Use this tab to adjust pen settings such as double-click, right-click, hover, and launch Input Panel.



**Figure 85. Tablet and Pen Settings Panel – Pen Options Tab**

**ARMOR X10gx TABLET COMPUTER****Touch Settings Utility (Windows XP Only)**

The Touch Settings window is shown in Figure 85. This window provides options to enable or disable the touch screen, hide the cursor, enable a touch sound and access the screen calibration routine.



**Figure 86. Touch Settings Utility Window**

**ARMOR X10gx TABLET COMPUTER**

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## ARMOR X10gx TABLET COMPUTER

# 6 Troubleshooting

This section addresses only those problems that can be corrected by replacing a removable component such as a hard drive or battery, by replacing or reseating an external cable, or by changing a configuration setting. Any other failure will require the tablet be returned to DRS Tactical Systems.

For each problem that occurs with your ARMOR X10gx computer, there are specific steps that will isolate the problem to a failed component or to a configuration option that may be set incorrectly. In many cases, a single action step will isolate or correct the problem. In others, a troubleshooting flowchart with multiple actions may be needed.

## Determine the Problem

Table 14 lists some possible symptoms pointing to problems with your ARMOR X10gx. It then provides actions to correct a problem. In some cases, you will be directed to a troubleshooting flow chart to further isolate the problem.

Use the Symptom and Problem Area columns to identify the problem you are having, then follow any directions in the Action column or go to the indicated troubleshooting flowchart to begin troubleshooting.



### NOTE

*Table 15 is written primarily for Windows 7. Actions may vary depending on your version of Windows.*

**Table 14. ARMOR X10gx Trouble Symptoms**

SYMPTOM	PROBLEM AREA	ACTION	FLOWCHART
Tapping with the pen or stylus does not select or activate an option, or the cursor does not align with stylus or pen point.	Display (touch or pen screen)	<ol style="list-style-type: none"> <li>1. Follow the instructions in Calibrating the Display in Windows 7 or <a href="#">Calibrating the Display in Windows XP</a> to calibrate the screen. Repeat up to 5 times if necessary.</li> <li>2. If screen still does not calibrate correctly, send tablet in for repair.</li> </ol>	
Backlight goes on and off.	Display	<ol style="list-style-type: none"> <li>1. Default the BIOS.</li> <li>2. If not fixed, flash H8.</li> <li>3. If not fixed, send tablet in for repair.</li> </ol>	

## ARMOR X10gx TABLET COMPUTER

SYMPTOM	PROBLEM AREA	ACTION	FLOWCHART
Pen does not right-click when held against the screen.	Display	<ol style="list-style-type: none"> <li>1. Select <b>Start → Control Panel → Hardware and Sound → Pen and Touch</b>.</li> <li>2. Highlight the <b>Press and hold</b> option in the Pen Actions panel and click on <b>Settings</b>.</li> <li>3. Ensure the <b>Enable press and hold for right clicking</b> option is checked.</li> <li>4. If problem is not fixed, replace pen.</li> </ol>	
Pen does not right click when side button is pressed (default setting).	Display	<ol style="list-style-type: none"> <li>1. Select <b>Start → Control Panel → Hardware and Sound → Pen Tablet Properties</b>.</li> <li>2. Verify/change setting to Right Click in bottom side button menu.</li> </ol>	
Pen not working in center of display.	Display	Send tablet in for repair.	
Pen opens and closes folders and programs without touching screen.	Display	Send tablet in for repair.	
Tablet will not recognize a battery.	Battery		<a href="#"><u>TS-04</u></a>
Battery will not hold a charge.	Battery	Perform the procedure in <a href="#"><u>What to Do for Overly-Discharged Batteries</u></a> .	
Tablet will not power up.	Power		<a href="#"><u>TS-01</u></a>
Tablet is locked up.	Run		<a href="#"><u>TS-05</u></a>

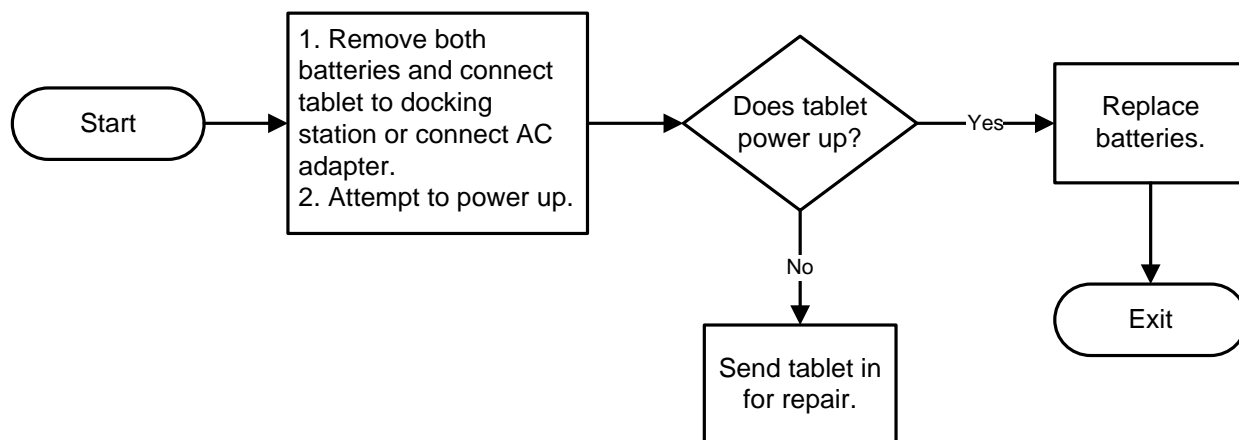
## ARMOR X10gx TABLET COMPUTER

SYMPTOM	PROBLEM AREA	ACTION	FLOWCHART
Screen rolls, flashes, and then tablet freezes up.	Run	<ol style="list-style-type: none"> <li>1. Remove both batteries and connect AC adapter.</li> <li>2. Reboot the tablet.</li> <li>3. If tablet works normally, reinstall one battery at a time and reboot until problem reoccurs.</li> <li>4. Replace one or both batteries as applicable.</li> </ol>	
Tablet shuts down on its own.	Run	<ol style="list-style-type: none"> <li>1. <b>Start → Control Panel → Power Options</b> and check if the computer has a shut down setting to save power.</li> <li>2. If no shut down option is enabled, return tablet for repair.</li> </ol>	
Tablet will not start boot process. Power ok.	Boot Up		<a href="#"><u>TS-02</u></a>
Tablet will not boot into Windows.	Boot Up		<a href="#"><u>TS-03</u></a>
Cannot connect to a wireless network.	Wireless		<a href="#"><u>TS-06</u></a>
Ethernet or USB ports not working.	Ethernet/USB	Perform the procedure in <a href="#"><u>Returning the BIOS to its Default Settings to reset the BIOS.</u></a>	

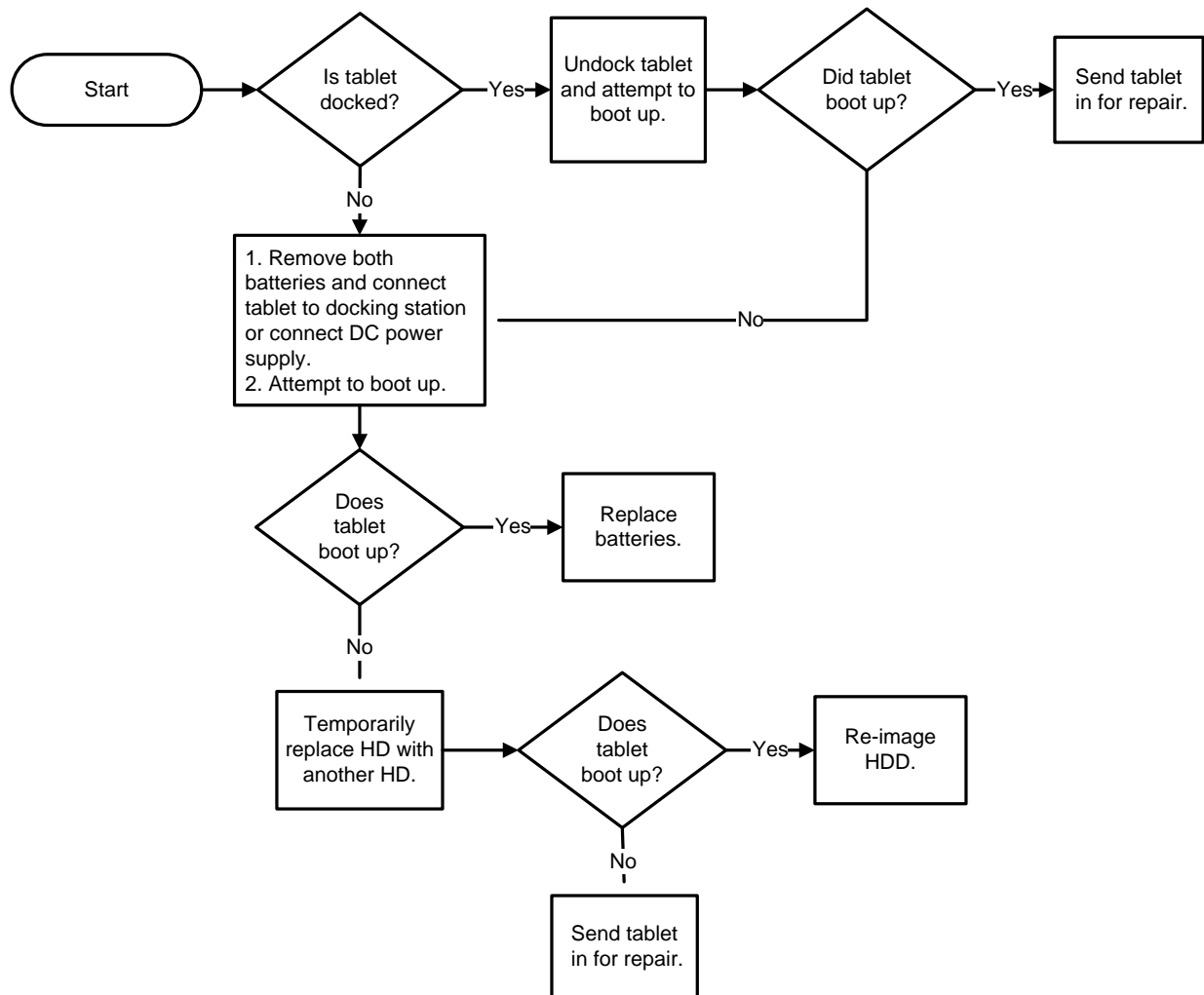
**ARMOR X10gx TABLET COMPUTER**

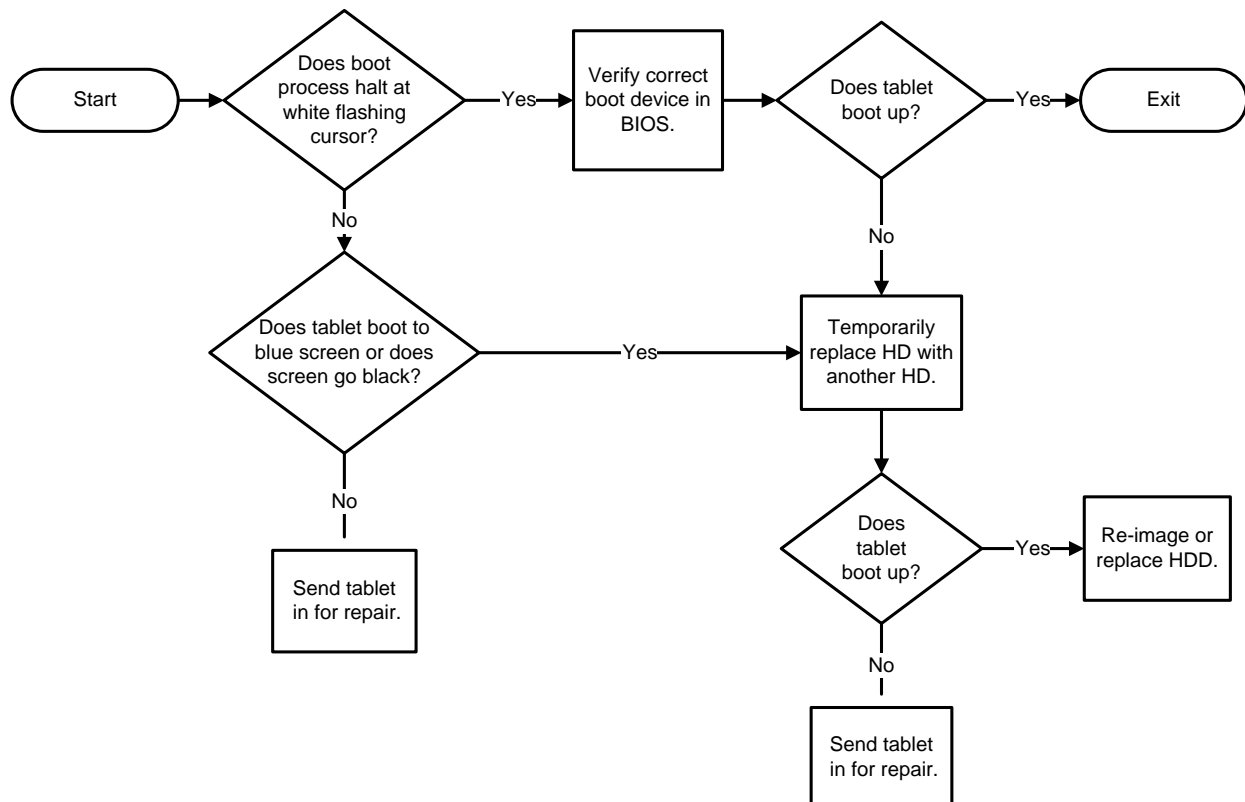
## Troubleshooting Flowcharts

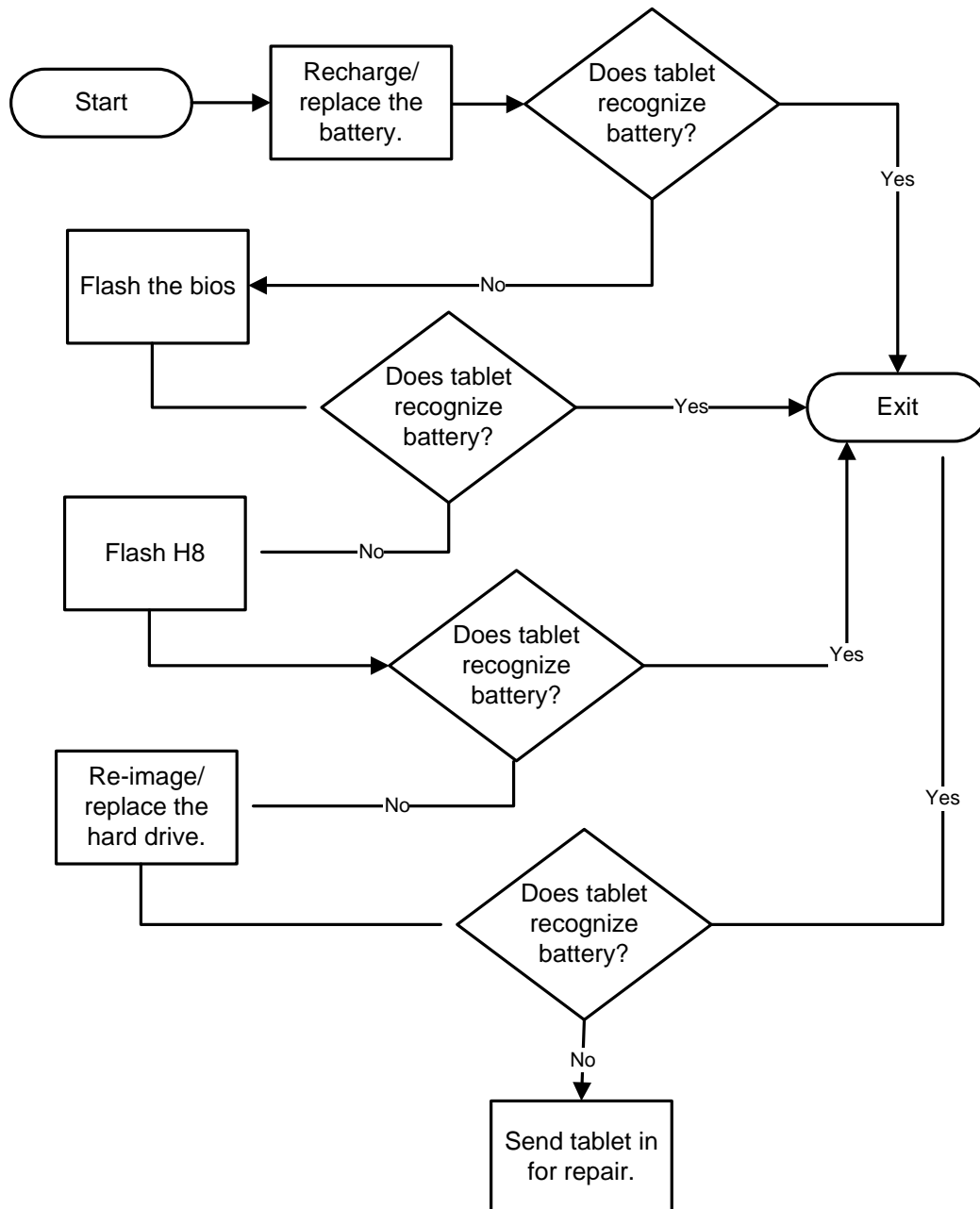
### TS-01 Tablet will not power up

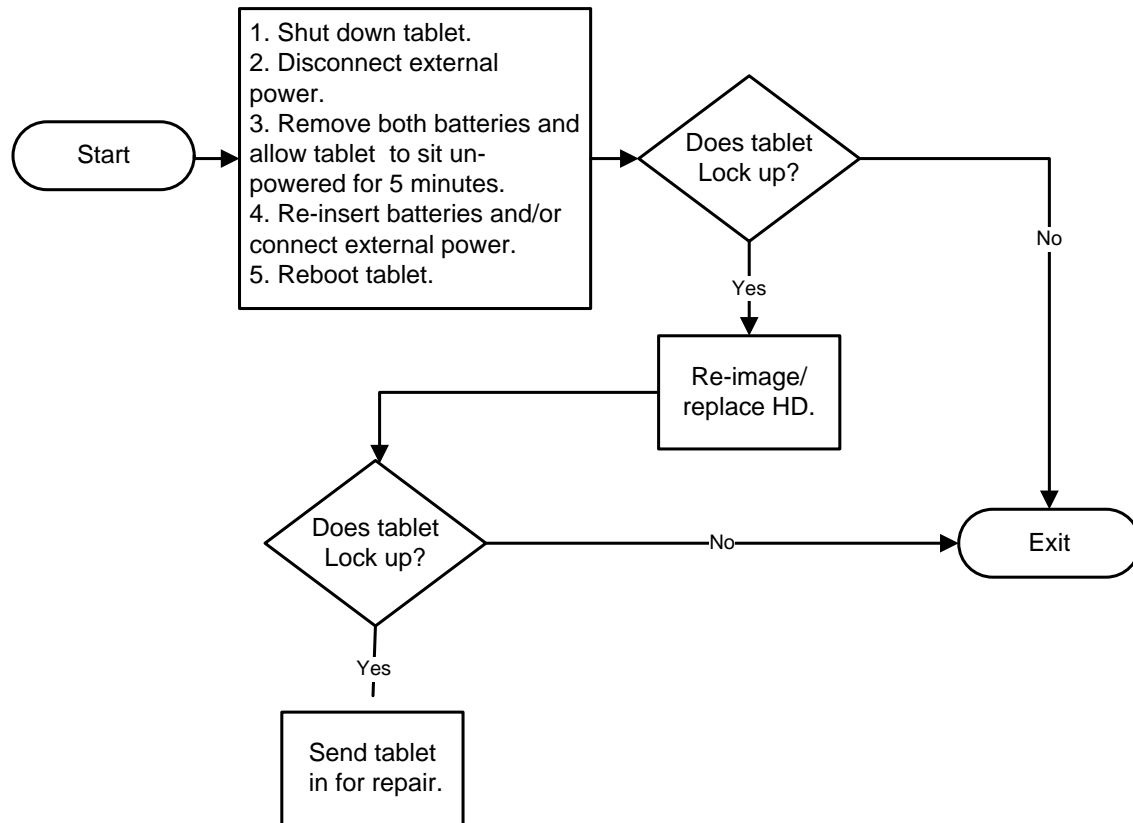


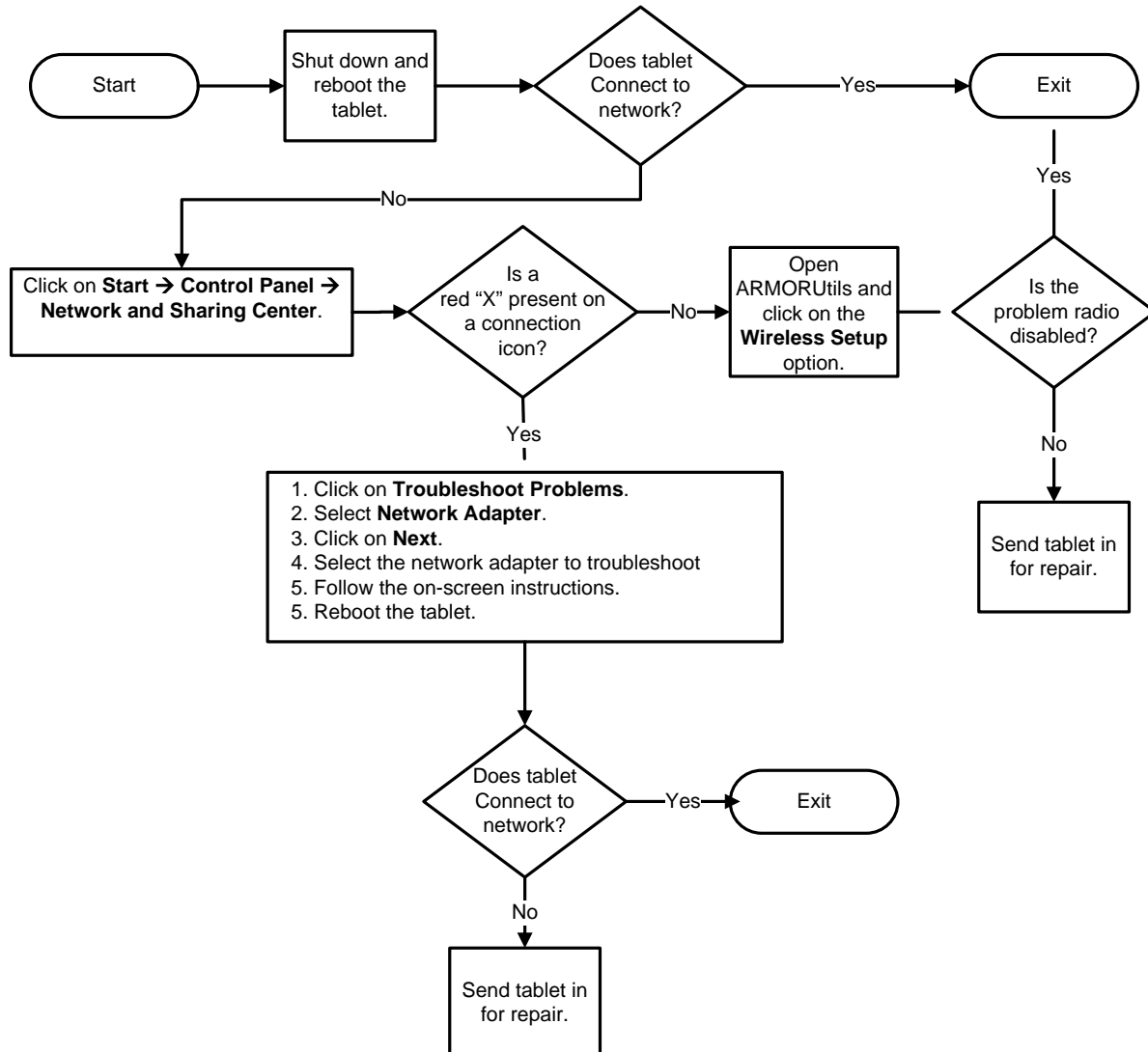


**ARMOR X10gx TABLET COMPUTER****TS-02 Tablet will not start boot process. Power is ok**

**ARMOR X10gx TABLET COMPUTER****TS-03 Tablet will not boot into Windows**

**ARMOR X10gx TABLET COMPUTER****TS-04 Tablet will not recognize a battery**

**ARMOR X10gx TABLET COMPUTER****TS-05 Tablet is locked up**

**ARMOR X10gx TABLET COMPUTER****TS-06 Cannot connect to wireless network**

**ARMOR X10gx TABLET COMPUTER**

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**ARMOR X10gx TABLET COMPUTER**

## 7 Maintaining Your ARMOR X10gx

### Replacing the Solid-State Drive (SSD)

The SSD is located in the Flexspace compartment in the back of the tablet (see Figure 5). Follow the procedure in Table 15 to remove and replace the drive.

**NOTE**

*The SSD should only be removed or installed by a qualified technician in a controlled environment.*

**Table 15. Remove and Replace the Solid-State Drive**

STEP	ACTION
1.	Power down the tablet and disconnect any external power.
2.	Remove the 12 Philips screws securing the Flexspace compartment cover and remove the cover to expose the drive, as shown in Figure 87.
3.	Disconnect and remove the drive.
4.	Install and connect the replacement drive.
5.	Replace the Flexspace compartment cover and secure with the 12 Philips screws.

## ARMOR X10gx TABLET COMPUTER

### Removing and Replacing the Batteries



#### CAUTION!


*Only one battery at a time can be removed and replaced during operation without causing loss of data or system shutdown. Connect external power first before removing both batteries.*



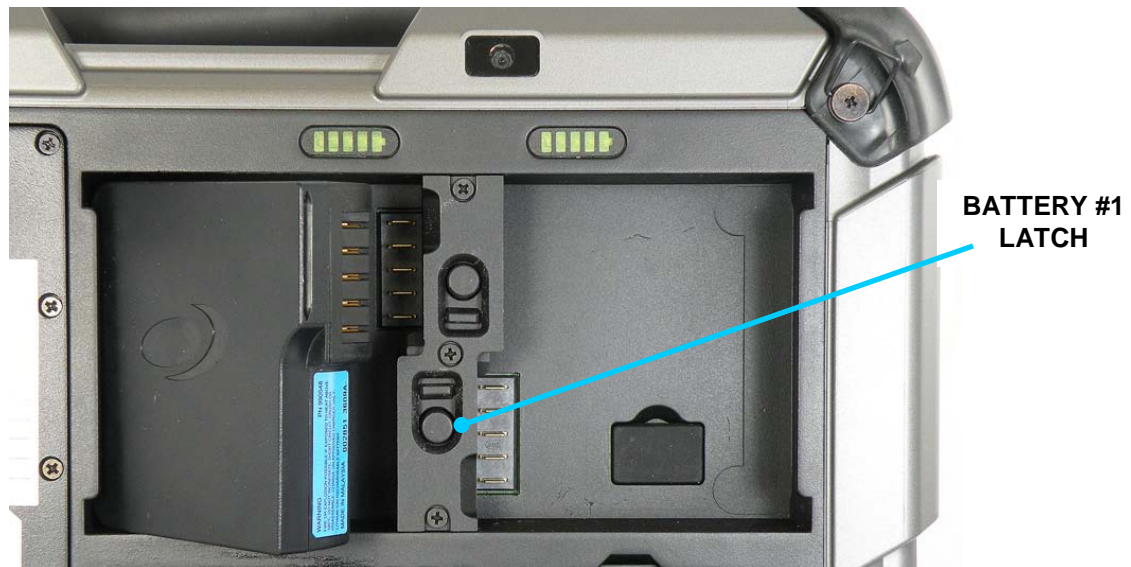
#### NOTE

*If your X10gx has only one battery, install it in the Primary Battery compartment (see Figure 86).*

Table 16. Remove and Replace a Battery

STEP	ACTION	CONDITION OR INDICATION
1.	Locate the battery latch between the two battery compartments on the back of the unit, as shown in Figure 29. The bottom latch is for battery #1.	
2.	Press in and hold the button while sliding the latch down.	
3.	Pry up the battery and remove it.	
	<div>  <b>CAUTION!</b>  <i>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.</i> </div>	
4.	Position battery as shown in Figure 86 and gently press down on the battery until the connector seats.	



**ARMOR X10gx TABLET COMPUTER****Figure 87. Battery Positioned for Insertion**

STEP	ACTION	CONDITION OR INDICATION
<b>5.</b>	Slide the latch up until the button pops out. The battery is now locked in place.	

## ARMOR X10gx TABLET COMPUTER

### Installing a SIM Card

The socket for the SIM card is located in the Flexspace compartment underneath the SSD. Follow the procedure in Table 17 to access the Flexspace compartment and install the SIM card.



#### 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 17. Installing a SIM Card

STEP	ACTION	condition or indication
10.	Power down the tablet and disconnect any external power.	
11.	Remove the batteries.	
12.	Remove the 12 Philips screws securing the hard drive cover and remove the cover to expose the hard drive, as shown in Figure 87.	
13.	Disconnect and remove the hard drive to expose the SIM card socket, also shown in Figure 87.	

## ARMOR X10gx TABLET COMPUTER

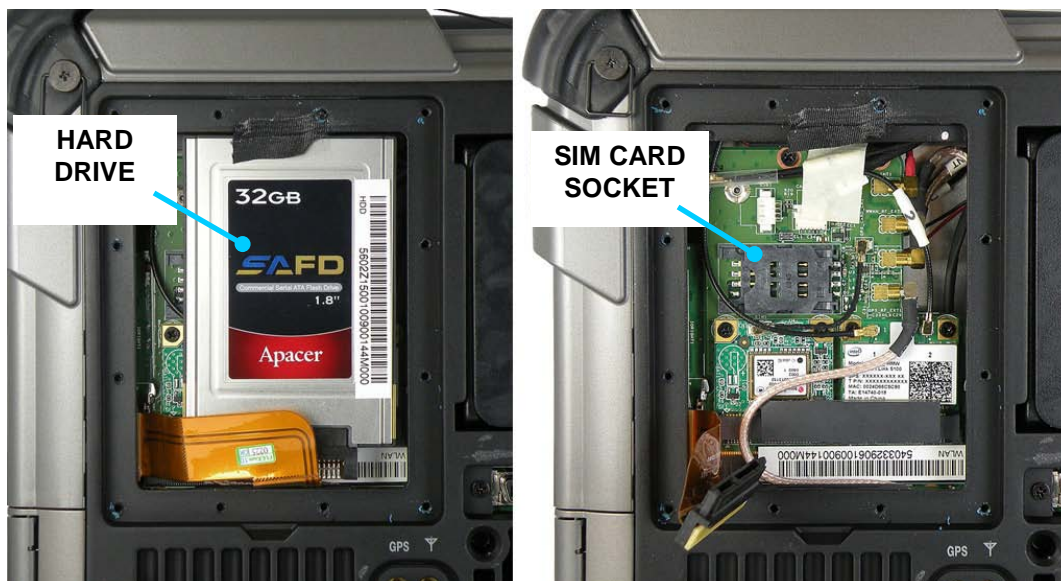
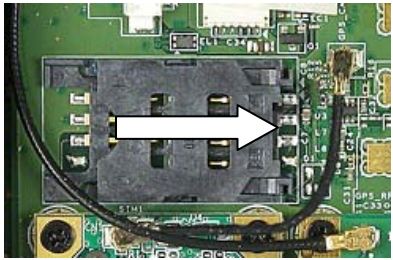
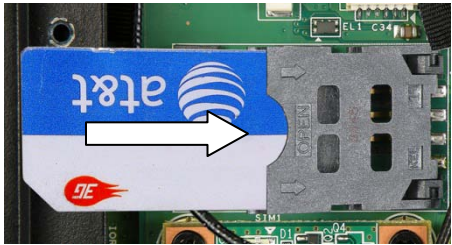
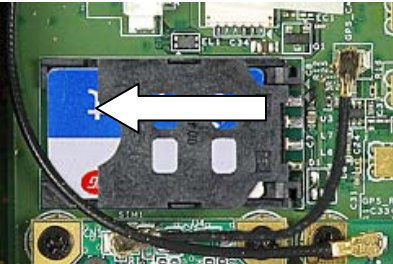


Figure 88. Hard Drive Compartment

STEP	ACTION	
14.	Place a fingertip in the notch on the left side of the cover and slide the cover to the right until you feel an indent, then lift up.	
15.	Insert the SIM card with the corner notch to the lower left.	
16.	Gently press the cover down and slide to the left to lock in place.	
17.	Install the compartment cover with 12 Philips screws and replace the 12 rubber screw covers.	

**ARMOR X10gx TABLET COMPUTER****18.**

Reinstall the batteries and reconnect external power if desired.

## **Removing and Replacing a Memory Module**

Two 2 GB memory modules are located in a sealed compartment at the lower left rear corner of the tablet, as indicated in

Figure 5. Follow the procedure in Table 18 to replace a module.

**NOTE**

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

**CAUTION!**

*These modules contain electrostatic discharge (ESD) sensitive devices. Static-free handling and processing is required to prevent possible damage to the components.*

**Table 18. Replacing a Memory Module**

<b>STEP</b>	<b>ACTION</b>	<b>condition or indication</b>
<b>1.</b>	Power down the tablet and disconnect any external power.	
<b>2.</b>	Place the tablet face down on a clean surface and Philips screws securing the hard drive cover and remove the cover to expose the memory modules, as shown in Figure 88 .	

## ARMOR X10gx TABLET COMPUTER

STEP	ACTION	condition or indication
3.	<p>Spread the two spring clips securing the top module and lift at the outer edge, as indicated.</p> <div data-bbox="324 510 847 816" data-label="Text"> <p><b>i NOTE</b></p> <p><i>A small piece of cushioning tape is sandwiched between the two modules and may make the top module appear to be stuck. Pry up at the edges to release the module from the tape.</i></p> </div>	The module will swing up to a 45° angle, as shown in Figure 89.
4.	Remove the module and replace it with a new one.	



Figure 89. Memory Module Compartment



**ARMOR X10gx TABLET COMPUTER**

**Figure 90. Memory Module Ready for Removal**

## ARMOR X10gx TABLET COMPUTER

### Changing the BIOS Settings

Occasionally, as a result of errors in system operation, added options, or upgrades, a setting in the BIOS may need to be changed or returned to its default value. Follow the procedure in Table 19 to access the BIOS setup utility and verify settings or make changes. Contact [DRS Technical Support](#) for the current default BIOS settings for your ARMOR X10gx.



#### CAUTION!

*Incorrectly setting the BIOS options could cause the X10gx to become unstable or render it completely inoperable. If you are not comfortable with changing BIOS settings, contact your IT department or technical support personnel. Move carefully through the menus and use caution when making changes. Read the description of each change in the right-hand column before making any adjustments.*



#### NOTE

*If you make permanent changes as a result of an upgrade or addition of new equipment, be sure to keep a record of the changes.*

*Table 20 provides a handy place to record these changes. Always record the previous value in case you have to return to that value.*

Table 19. Access the BIOS Setup Utility.

STEP	ACTION	CONDITION OR INDICATION
1.	Start the computer and as soon as the DRS logo appears tap on the screen until you hear a beep.	The <b>Information</b> tab of the Setup Utility will be displayed.
2.	Click on a different tab at the top of the screen to select a different menu page.	
3.	A listed menu option with a triangle to the left of it indicates an available submenu. Double-click on this option to open the sub-menu.	
4.	Click once on a bracketed setting [XXXXX] to select that menu option.	A selected option will change to white text. If an item does not have a bracketed setting, there are no setting options available.

**ARMOR X10gx TABLET COMPUTER**

<b>5.</b>	Click again on the bracketed setting to change that option's setting. Click repeatedly to cycle through a list of available settings.	
<b>6.</b>	Select the <b>Exit Submenu</b> tab at the top of the screen.	
<b>7.</b>	When all changes have been made, select the <b>Exit</b> tab to open a list of exit options.	
<b>8.</b>	Click on the desired option to select it, then click it again to implement the option and exit the Setup Utility.	



**ARMOR X10gx TABLET COMPUTER**

Table 20. Record Bios Changes Here

SETTING	PREVIOUS VALUE	NEW VALUE	DATE CHANGED

**ARMOR X10gx TABLET COMPUTER****Returning the BIOS to its Default Settings**

When your X10gx was shipped to you, the BIOS settings were set to a “default” state for your particular configuration. Follow the procedure in Table 21 to return the BIOS to its default state.

**NOTE**

*Defaulting the BIOS will change the brightness control to the “Automatic” adjustment mode. To change the adjustment to manual, open the Backlight Setup in ARMORUtils and select Manual mode.*

**Table 21. Return the BIOS to Its Default State**

STEP	ACTION
1.	Access the BIOS Setup Utility (see Table 19 for instructions).
2.	Press <b>F9</b> to load the default BIOS configuration.
3.	Press <b>F10</b> to save your changes and exit.

**Setting the BIOS for Power Operation with Legacy Docks**

The 5V DC power required by an ARMOR docking station is supplied by the tablet through the docking connector. Unlike previous ARMOR tablets, the X10gx has circuitry that senses when the tablet is undocked and automatically switches off 5V power to the power pins in the tablet docking connector. The power is switched back on when the tablet is docked again. This power switching feature must be disabled for proper functioning with legacy docks.

**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.*

**CAUTION!**

*With the power switching function disabled, there is a slight risk of accidentally causing an arc since the exposed power pins on the docking connector will be ‘live’ while undocked. Do not insert any metallic object into the docking connector while the X10gx is powered up.*

## ARMOR X10gx TABLET COMPUTER



### NOTE

*You can navigate in the BIOS Setup Utility with the active pen that came with your X10gx. However, the touch screen is not functional. You can also attach a keyboard and mouse to navigate through the screens.*

**Table 22. Disabling the Power Switching Function**

STEP	ACTION	CONDITION OR INDICATION
1.	Start the computer and as soon as the DRS logo appears tap on the screen until you hear a beep, or hit <b>F2</b> if using an external keyboard.	The <b>Information tab</b> of the Setup Utility will be displayed.
2.	Select the <b>Advanced</b> tab.	
3.	Double-click on the <b>Power Management</b> option.	A Power Management sub-menu with setting options appears.
4.	Click on the <b>Dock Power Switch</b> setting until it reads " <b>Always On</b> ".	
5.	Select the <b>Exit Submenu</b> tab at the top of the screen.	
6.	When all changes have been made, select the <b>Exit</b> tab to open a list of exit options.	
7.	Click on the desired option to select it then click it again to implement the option and exit the Setup Utility.	

### Comm Port Remapping

When the Power Management option is changed to "Always On", the comm ports are remapped as follows:

Serial 1	→	X10Gx side port (with RTS/CTS support)
Serial 2	→	Dock Com 2 (no RTS/CTS support)
Serial 3	→	Dock Com 1 (with RTS/CTS support)
Serial 4	→	Dock Com 3 (no RTS/CTS support)

**ARMOR X10gx TABLET COMPUTER**

## **Caring For the Display Screen**

The following tips will help you keep your display clean and healthy:

**CAUTION!**

*Use only canned compressed air to clean your screen. Do not use an air compressor. Damage to the screen surface could result.*

**CAUTION!**

*Do not attempt to remove stuck particles with a fingernail or other hard object as this can permanently damage the touch screen surface.*

- When operating with the touch screen, you should not use an abrasive or metallic pointer as this may damage the screen. We recommend using the pen that came with your tablet or your fingertip.
- Use a plastic cleaner such as Plexus™ to clean the pen tip.
- Be careful not to let sand or grit stay on the screen as this can scratch the surface when wiped with a cloth. Clean the display surface first with dry compressed air or a soft bristle brush.
- Use the special ARMOR cloth that came with your X10gx to wipe away dust and fingerprints.
- For stubborn residue, rinse the surface with water and pat dry with a soft paper towel, then use the ARMOR cloth that came with your tablet to remove any remaining residue.
- Use a cotton swab with water to gently remove particles stuck to the surface.

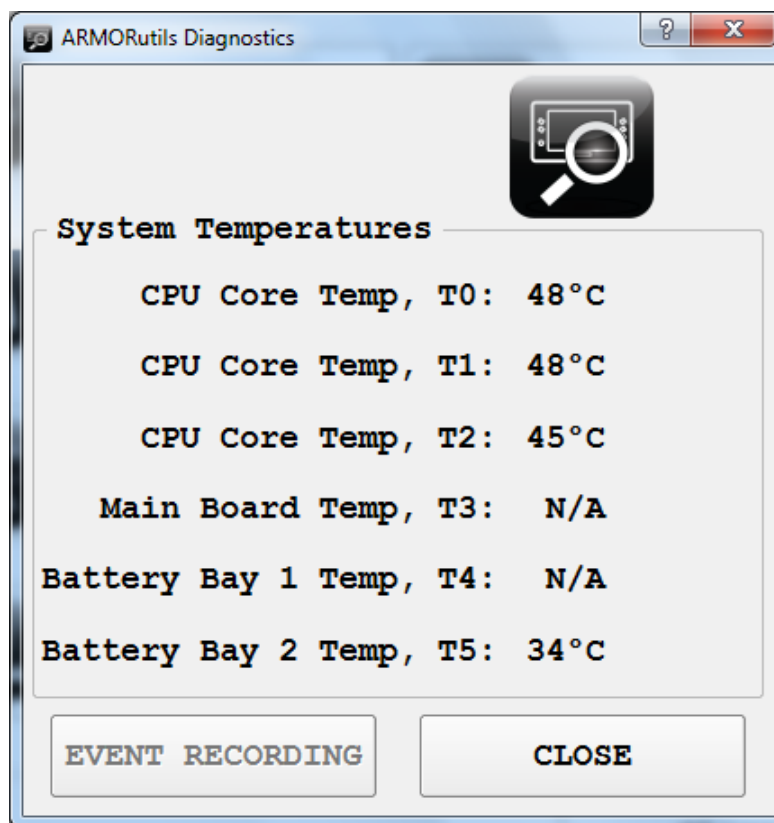
**ARMOR X10gx TABLET COMPUTER**

## **Monitoring the Health of Your ARMOR X10gx**

The X10gx may be subjected to extreme temperature variations that can affect the internal operating temperature of the tablet. So long as these internal temperatures remain within the operating design parameters (-20°C to +60°C), the tablet should not experience any loss of functionality.

If you are experiencing problems and suspect that they are temperature related, you can monitor the internal temperature of the X10gx. Double-click on the ARMORUtils icon on the desktop and select the Diagnostics dialog page (see Figure 90). The window displays the following internal temperatures of the X10gx tablet:

- CPU core temperature (two measurements)
- CPU Main Board temperature
- Battery #1 temperature
- Battery #2 temperature



**Figure 91. ARMORUtils Diagnostics Page**

### **Event Recording**

This function is not currently available.

**ARMOR X10gx TABLET COMPUTER**

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**ARMOR X10gx TABLET COMPUTER**

## 8 Display Management

### Adjusting the Screen Brightness

The brightness of an LCD display is controlled by adjusting the backlight intensity level. The backlight level for the X10gx can be controlled either manually or automatically.

#### Manual Brightness Adjustment

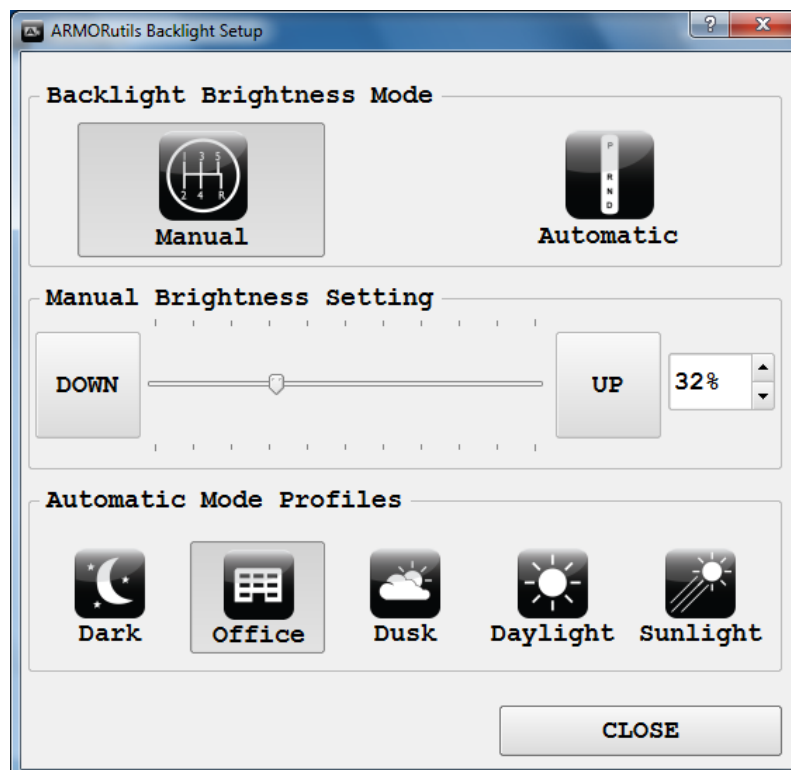
Your ARMOR X10gx Tablet Computer is pre-set for manual adjustment of screen brightness. The backlight level can be adjusted manually in two ways: by pressing a button sequence on the control panel or by adjusting the slider in the Backlight Setup dialog window of ARMORUtils.

#### Using a Button Sequence

This procedure is not currently available.

#### Using the ARMORUtils Backlight Setup Dialog

Double-click on the ARMORUtils desktop icon and select the **Backlight Setup** button. The Backlight Setup dialog opens as shown in Figure 57.



**Figure 92. Armor Utilities Screen – Backlight Setup Dialog**

Press the **UP** or **DOWN** buttons repeatedly with the pen or a fingertip to move the slider and adjust the backlight level. The % brightness is displayed in a field on the right. You can also use the stylus with the up and down arrows next to this field to adjust the slider.

**ARMOR X10gx TABLET COMPUTER****Automatic Adjustment**

Open the **Backlight Setup** dialog in ARMORUtils and click on the **Automatic** button. The backlight level will now be controlled by the ALS. If the surrounding light decreases, the brightness will also decrease proportionally; if the surrounding light increases, the brightness will increase.

**NOTE**

*You must keep the ALS uncovered to allow proper automatic brightness adjustment.*

**Automatic Mode Profiles**

Select one of the profiles that best controls the range of backlight levels to suit your work environment.



**ARMOR X10gx TABLET COMPUTER**

## **Calibrating the Display in Windows 7**

You can access both touch screen and pen screen calibration routines using **ARMORUtils** or using the **Tablet PC Settings** utility in **Control Panel**.

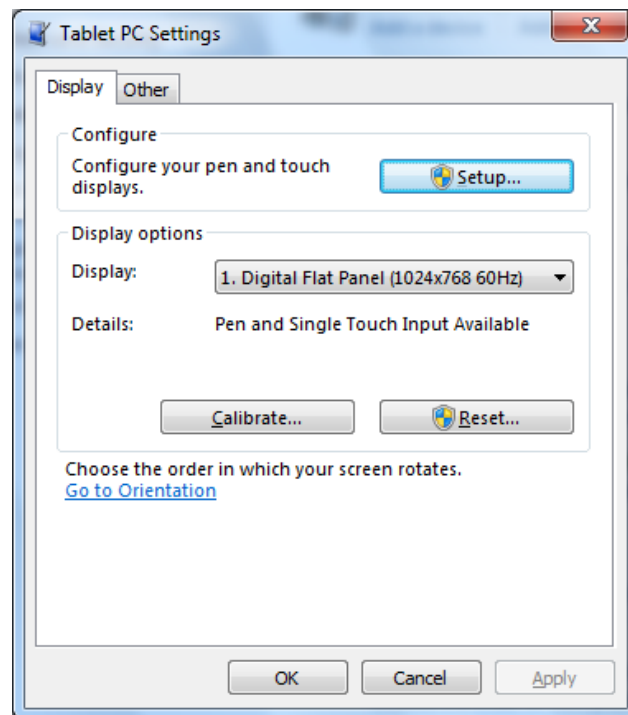
### **Using ARMORUtils**

This capability is not currently available.

### **Using the Tablet PC Settings Utility in Control Panel**

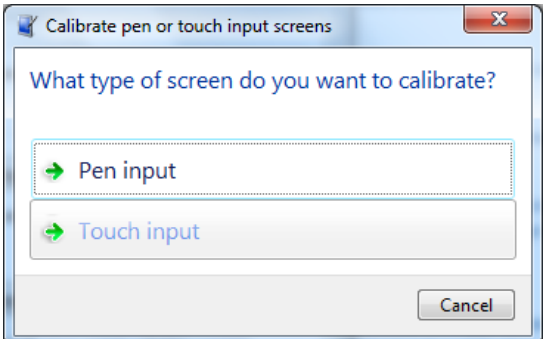
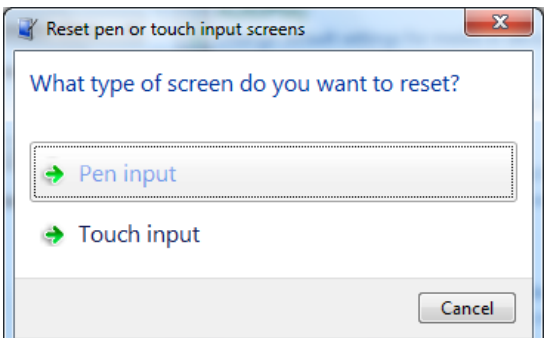
**Table 23. Calibrate the Display Using the Tablet PC Settings Utility**

STEP	ACTION	CONDITION OR INDICATION
1.	Select <b>Start</b> → <b>Control Panel</b> → <b>Hardware and Sound</b> → <b>Tablet PC Settings</b> .	The Tablet PC Settings dialog window opens, as shown in Figure 92.



**Figure 93. Tablet PC Settings Window**

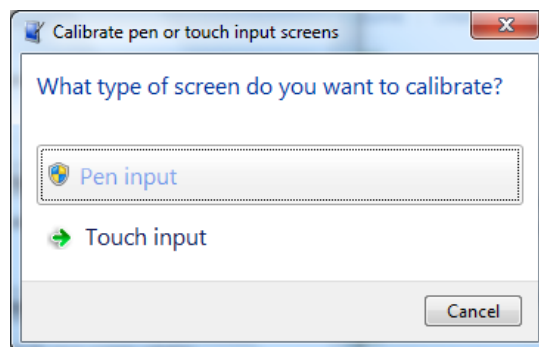
## ARMOR X10gx TABLET COMPUTER

2.	If you have a second pen or touch screen display connected, be sure the display you want to calibrate is selected in the <b>Display</b> field.	
3.	If you are <u>not</u> having problems with screen calibration and want to do a quick 4-point calibration, click on the <b>Calibrate</b> button. Otherwise, go to Step 5.	<p>The <b>Calibrate Pen or Touch Input Screens</b> window opens, as shown below:</p> 
4.	Choose the type of screen to calibrate and follow the on-screen instructions.	<p><b>i NOTE</b></p> <p><i>If you do not have an external keyboard connected, you can invoke the ESC command using the Input Panel virtual keyboard. Hover with the pen or tap on the screen in the upper left corner near the left edge. The keyboard will appear.</i></p>
5.	If you are having screen calibration problems or want to do a precision 16-point calibration, click on the <b>Reset</b> button	<p>The <b>Reset Pen or Touch Input Screens</b> window opens, as shown below:</p> 
6.	Select the screen calibration you want to reset.	The current screen calibration points are reset to their default values and the selection screen closes.

**ARMOR X10gx TABLET COMPUTER****7.**

Click on **Calibrate** and select the screen you want to calibrate.

**NOTE:** A shield symbol next to the screen type (shown below) indicates the calibration data has been reset and is not calibrated; a green arrow indicates that the screen is calibrated.

**8.**

Follow the on-screen instructions.

## ARMOR X10gx TABLET COMPUTER

### Calibrating the Display in Windows XP

You can access both screen calibration routines through **ARMORUtils** or access the pen screen calibration through the **Pen Tablet Properties** utility and the touch screen calibration through the **Touch Settings** utility in **Control Panel**.

#### Using ARMORUtils

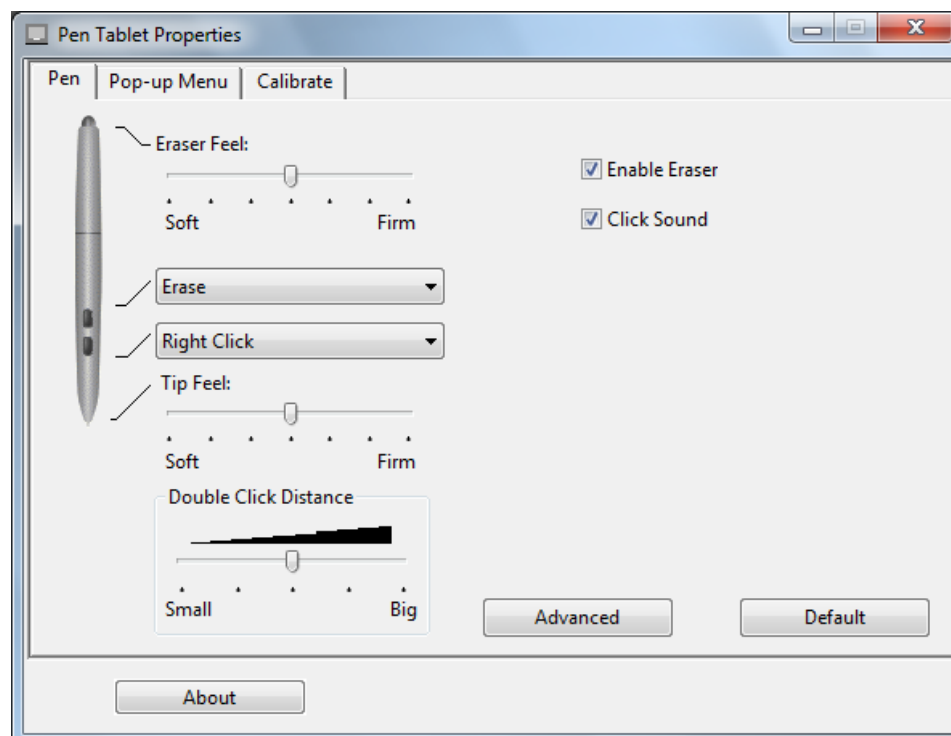
This capability is not currently available.

#### Using the Pen Tablet Properties Utility (Pen Screen Only)

The pen screen should be calibrated using the procedure in Table 24.

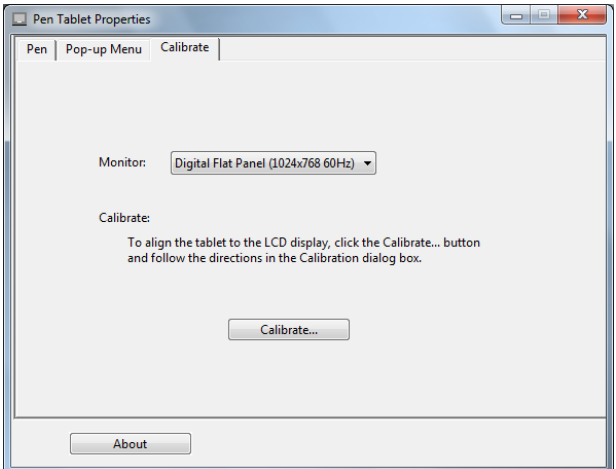
**Table 24. Calibrate the Pen Screen Using the Pen Tablet Properties Utility**

STEP	ACTION	CONDITION OR INDICATION
1.	Select <b>Start</b> → <b>Control Panel</b> → <b>Hardware and Sound</b> → <b>Pen Tablet Properties</b> .	The Pen Tablet Properties dialog window opens, as shown in Figure 93.



**Figure 94. Pen Tablet Properties Utility Window**

**ARMOR X10gx TABLET COMPUTER**

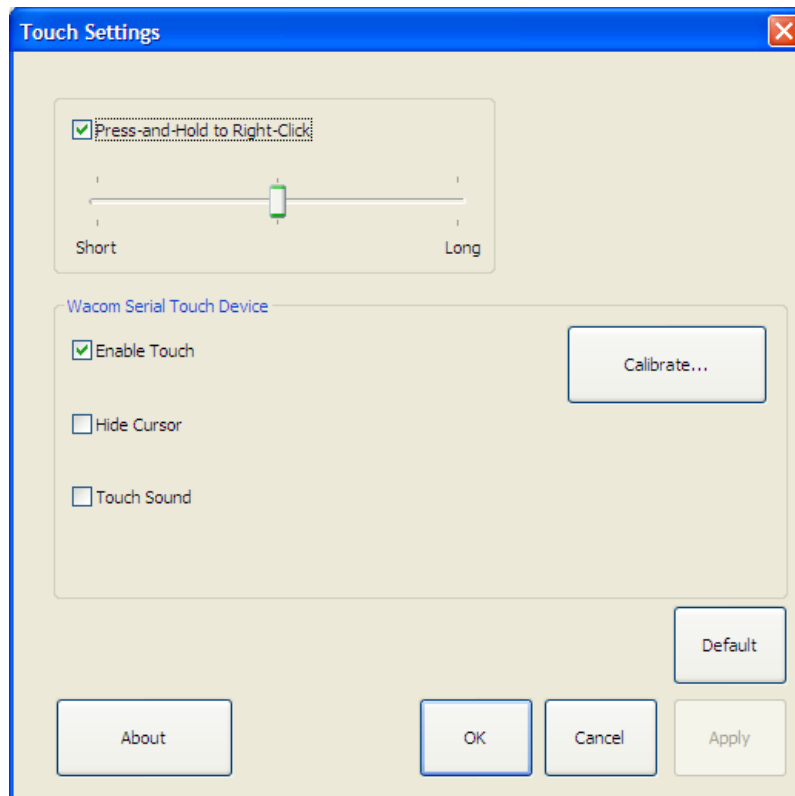
<b>2.</b>	Click on the <b>Calibrate</b> tab.	<p>The Calibrate tab opens as shown below:</p> 
<b>3.</b>	If you have a second pen or touch screen display connected, be sure the display you want to calibrate is selected in the <b>Monitor</b> field.	
<b>4.</b>	Click on the <b>Calibrate</b> button and follow the on-screen instructions.	

**ARMOR X10gx TABLET COMPUTER****Using the Touch Settings Utility (Windows XP)**

Calibrate the touch screen using the procedure in Table 25.

**Table 25. Calibrate the Touch Screen Using the Touch Settings Utility**

STEP	ACTION	CONDITION OR INDICATION
1.	Select <b>Start</b> → <b>Control Panel</b> → <b>Hardware and Sound</b> → <b>Touch Settings</b> .	The Touch Settings dialog window opens, as shown in Figure 94.
2.	Click on the <b>Calibrate</b> button and follow the on-screen instructions.	



**Figure 95. Touch Settings Utility Window**

## ARMOR X10gx TABLET COMPUTER

### Rotating the Screen

The ARMOR X10gx supports the Windows function of rotating the screen between Landscape and Portrait layout mode. In landscape mode (default orientation), the long axis of the screen is along the top and bottom of the display. In portrait mode, you turn the tablet 90° and the long axis of the screen is along the left and right sides of the display.

There are three ways to rotate the screen:


- By using the Intel Graphics options via the desktop task tray
- By using the Intel Graphics and Media Control panel
- By using a hot key combination



#### NOTE

*If you lose calibration when rotating the screen and cannot use the pen to return to the default orientation, attach an external keyboard and press **Ctrl+Alt+Up Arrow**. This will return the display to the default landscape orientation.*

### Using the Intel Graphics Options

Right click anywhere on the desktop or click on the Intel Graphics icon  in the icon tray (you may have to show hidden icons) and select **Graphics Options → Rotation**. Then select one of the four rotation angles as shown in Figure 95. **NOTE:** The “Normal” position is the default landscape orientation.

You can rotate the screen clockwise in four 90 degree steps, alternating between portrait and landscape orientation, or you can rotate it 180° or 270°.

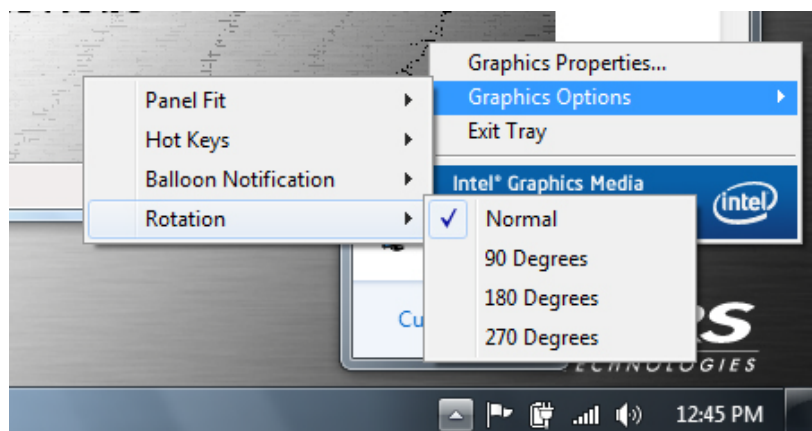



Figure 96. Intel Graphics Screen Rotation Options (from icon tray)

### Using the Intel Graphics and Media Control Panel

**ARMOR X10gx TABLET COMPUTER**

Right-click anywhere on the desktop or click on the Intel Graphics icon  in the icon tray and select **Graphics Properties** to open the Intel Graphics and Media Control Panel, as shown in Figure 96. Select the rotation angle and click **OK**.

The Intel Graphics Control Panel in Windows XP has similar options.



**Figure 97. Intel Graphics and Media Control Panel**



**ARMOR X10gx TABLET COMPUTER****Using a Keyboard “Hot Key” Combination**

Open the Intel Graphics and Media Control Panel and select **Options and Support** → **Hot Key Manager**. A list of pre-assigned (default) hot key combinations is displayed in the right panel, as shown in Figure 97. You can use these default combinations or specify a combination of your own.

To use a hot key combination, open the Input Panel keyboard or connect a USB keyboard and enter the combination.



**Figure 98. Intel Graphics Panel Hot Key Manager**

**ARMOR X10gx TABLET COMPUTER**

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**ARMOR X10gx TABLET COMPUTER**

## 9 Battery Management

The Lithium Ion batteries used in your ARMOR X10GX computer offer the best technology available today. These 'Smart Batteries' provide ARMOR X10GX users with the greatest power density and the most accurate "fuel gauge" possible. To achieve the best possible performance from your batteries, we recommend using and maintaining the batteries in accordance with the instructions provided in this section.

DRS recommends that you fully charge your batteries before using the computer on batteries alone. If you do not plan to use your computer immediately, be aware that the batteries will discharge at a slow rate even when not in use.

**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.*

**WARNING!**

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

**NOTE**

*Newer DRS batteries such as those included with your X10gx have greater capabilities and functionality compared to older or legacy batteries. These legacy batteries can still be used in the ARMOR X10gx but their performance may be substantially reduced.*

**ARMOR X10gx TABLET COMPUTER**

## **Safety and Handling Considerations for Your Batteries**

Please use the following safety rules when handling and using lithium-Ion batteries.

- Do not expose the batteries to very high temperatures such as an open flame.
- Do not short circuit the battery contacts or reverse their polarity.
- Do not let children play with the batteries.
- Do not crush, dent or allow any deformation of the batteries.
- Do not disassemble or open the batteries or try to alter or bypass the internal safety circuits.
- Avoid exposing the batteries to wet or extremely humid conditions.
- Avoid exposing the batteries to electrostatic discharge.
- Avoid dropping the batteries.
- Do not use in, or connect the batteries to, any other devices.
- Do not allow batteries to remain discharged for more than 1 week

## **When to Charge a Battery**

### **New Batteries**

Due to current regulations regarding shipment of Lithium Ion batteries, your batteries will arrive in a partially charged condition, typically with a maximum charge of 30%-50%. When you receive new batteries, you should fully charge them prior to using them in a computer.

### **In-Service Batteries**

The fuel gauge LEDs on the back of the ARMOR X10gx indicate the remaining charge of each battery. At full charge, all five LEDs will be on steady and the amber battery status LED will be on steady if external power is applied. If external power is off or disconnected, the battery status LED will be off.

**NOTE**

***When the lowest fuel gauge indicator begins to flash, the battery charge is at 10% and the tablet could shut down prematurely, resulting in the loss of any work in progress.***

As the battery discharges, the LEDs will turn off from right to left. When a battery's charge drops below 10%, the 20% (far left) LED will start flashing. You will also receive a warning message on the screen. At this point, the battery is in a **fully depleted** charge state (between 10% and 3%) and the computer could shut down unexpectedly.

To avoid a sudden shutdown and possible data loss, DRS recommends you recharge your batteries as soon as they reach the 10% charge level, or replace them immediately with fresh batteries.

## ARMOR X10gx TABLET COMPUTER

### Fully Depleted Batteries



#### **CAUTION!**

***Batteries that are allowed to discharge below the 3% charge level may not be recoverable and may have to be discarded.***

A lithium battery that is not installed in the X10gx will self discharge at the rate of about 0.3% per day or 3% every 10 days (faster in higher temperature conditions). A fully depleted battery (10% charge level or below) is therefore in danger of becoming overly discharged (below the 3% charge level) after about 23 days.

To protect the life of your batteries, DRS recommends you wait no longer than 10 days to recharge a fully depleted battery.

### How to Charge Your Batteries

The X10gx batteries automatically begin charging when installed in the ARMOR Tablet and external power is applied. To recharge the batteries, plug the circular connector of the AC adapter into the AC adapter port on the left side of the ARMOR X10gx, or into the PWR connector on the port replicator or desk dock unit. If your X10gx is installed in a vehicle dock, the batteries will charge whenever vehicle battery power is available.

### Charging Time

The charging time for a fully depleted battery (10% charge or less) is approximately 1-2 hours depending on battery capacity and temperature. Two fully depleted batteries will take approximately twice as long to charge, or about 4 hours. Using the computer during charging will lengthen the recharge time depending on backlight setting, computer usage and surrounding temperature.

Don't be alarmed if batteries feel warm to the touch during the charging process.



#### **NOTE**

***The charging cycle is not linear and the last 20% of charge takes proportionally longer to complete than the first 80% of charge time.***

## ARMOR X10gx TABLET COMPUTER

### Selecting How to Charge Your Batteries

If you have two batteries installed, you can select if both will charge at the same time (simultaneous mode) or if the battery with the lowest charge will charge first (sequential mode). The default mode is simultaneous.

#### Simultaneous Mode


In simultaneous mode, both batteries will charge at the same time regardless of individual battery charge level.

#### Sequential Mode

If you choose sequential mode, the battery with the lowest charge will be charged to 80%, followed by the next lowest battery. Once both are at 80%, the first charged battery will be charged to 100%, followed by the second charged battery.

Follow the procedure in Table 26 to select if your batteries will charge simultaneously or sequentially.

**Table 26. Select How to Charge the Batteries**

STEP	ACTION	CONDITION OR INDICATION
1.	Connect external power.	
2.	Double-click on the <b>ARMORUtils</b> icon on the desktop and select the <b>Battery Monitor</b> dialog page from the Main screen.	The Battery Monitor dialog page opens.
3.	Click on the <b>Charger Settings</b> button.	The Charger Control Settings window opens.
	<div style="border: 1px solid black; padding: 10px; text-align: center;">  <b>NOTE</b>  <i>If total system current exceeds 4 amps during charging, the charger will switch to sequential battery charging.</i> </div>	
4.	Select <b>Charge Both</b> (simultaneous) or <b>Charge Lowest First</b> (sequential).	

**ARMOR X10gx TABLET COMPUTER**

## **How to Tell When Batteries Have Finished Charging**

While the batteries are charging, the fuel gauge LEDs will light to indicate the current level of charge and the amber battery status LED will be on steady. When the batteries are fully charged, all five fuel gauge LEDs will be on steady and the battery status LED will be off.

## **Temperature Can Affect Recharging Times**

DRS has included temperature sensors in the battery circuit to protect the cells when a high or low temperature condition occurs. Recharging a battery under extreme temperature conditions can force the charger to suspend charging until the temperature returns to a safe level. This can occur if the internal temperature of the battery falls below -10°C (14°F) or exceeds 45°C (113°F).

## **Battery Operating Time**

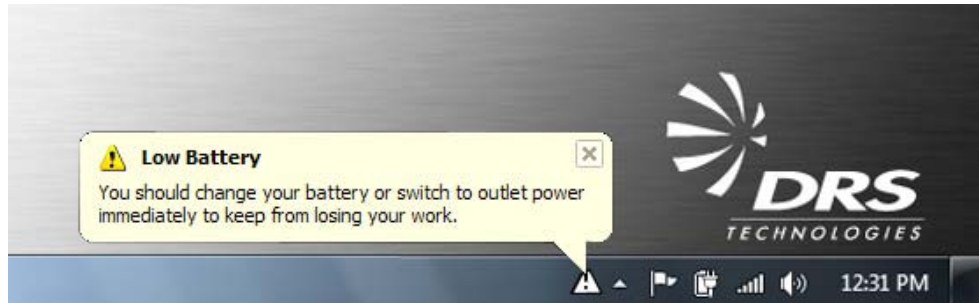
The total operating time for the ARMOR X10gx with two fully charged 2400 mAh batteries at a nominal room temperature is approximately 4 hours. For a single battery, the operating time is approximately 2.5 hours. Legacy batteries with lower capacity will have correspondingly shorter operating times.

Operating times will vary depending on backlight setting (brightness), wireless and GPS radio activity, Ethernet network activity, and utility and software applications that are currently running. The operating time can also be reduced when the batteries are near the temperature extremes.

## ARMOR X10gx TABLET COMPUTER

### Low Battery Conditions

Your ARMOR X10gx is designed to operate even when the battery charge is very low (<10% charge). When the total charge drops below 10% (low battery level), the bottom-most LED in the fuel gauge (20% indicator) will flash and a low battery alert message will be displayed, as shown in Figure 98. At this point, we recommend you change out the batteries or connect to external power.



**Figure 99. Low Battery Alert Message**

When the remaining charge reaches 7% (reserve battery level), another message will be displayed stating that you are operating on reserve power. At this point, you need to save your work and then find an external power source, replace the batteries or shut down the computer.

When the remaining charge reaches 5% (critical battery level), the battery icon in the task tray will indicate a critical battery level and Windows will automatically place your computer into hibernation mode. Hibernation is a low-power mode that first saves your current session to the hard drive and then performs an orderly shutdown. To resume your session where you left off, press the **Power** button to restart the computer.

### What to Do if You Get a Low Battery Alert

DRS recommends you do one of the following immediately should you get a low battery alert:

- Connect external power and begin recharging the batteries
- Replace one or both of the batteries with a fully charged battery.
- Save your work and perform a normal system shutdown.

### Avoiding Overly-Discharging Your Batteries

The following suggestions will help avoid an overly-discharged condition.

- Do not store the X10gx for long periods with the batteries installed. Even when the unit is powered off, the tablet still draws a small amount of power from the batteries.
- Do not store X10gx batteries in a fully depleted condition for long periods of time. The X10gx batteries will further self-discharge over time at a rate of about 10% a month or 3% every 10 days. The batteries should be recharged to 40% of full charge every 3-4 months of storage.



**ARMOR X10gx TABLET COMPUTER****What to Do for Overly-Discharged Batteries**

The Armor Tablet X10gx has an internal Level 2 smart battery charger. One of the features of this charger is that it will attempt to recover a battery that has been too deeply discharged (3% or less). This is done by applying a trickle current of 80 milliamps for about 3 minutes. This process normally injects enough energy into the battery to allow normal re-charging to occur. If the recovery process is successful, the 20% LED will begin flashing or be on steady. Allow the battery to charge normally.

If this recovery process does not work (20% LED will not light), perform the procedure in Table 27.

**Table 27. Recover an Overly-discharged Battery.**

<b>STEP</b>	<b>ACTION</b>
<b>1.</b>	Remove both batteries.
<b>2.</b>	Wait 5 seconds.
<b>3.</b>	Reinstall both batteries.
<b>4.</b>	Repeat steps 1-4 up to a maximum of five times.
<b>5.</b>	If the batteries still fail to start re-charging, they will have to be replaced.

**Battery Capacity**

A battery's capacity is its ability to hold the maximum charge that it was designed to carry. This capacity gradually decreases over time due to chemical aging, temperature extremes and usage. Once a battery's capacity drops below 80% of its designed rating, it is considered at the end of its life and would normally be replaced. However, some batteries may still be usable.

**CAUTION!**

***Permanent battery capacity loss is greatest at elevated temperatures with the battery fully charged. Do not leave batteries installed in your X10gx with external power connected in high temperature surroundings for days or weeks at a time.***

**ARMOR X10gx TABLET COMPUTER**

## **Discharge/Recharge Cycles**

Lithium ion batteries do not need to be deeply discharged periodically to maintain capacity like other NiCad or other rechargeable batteries. In fact, deep discharges have a negative effect on the battery's capacity and operating life.

Each time a lithium ion battery is deeply discharged (< 30%) and then recharged (either during normal operation or conditioning), the system records the event as a "cycle." Each of these deep discharge/recharge cycles has a small cumulative effect on the overall capacity and life of the battery and, on average, after approximately 300-400 cycles at nominal room temperature, the battery is a candidate for replacement (sooner if used primarily in high temperatures).

The accumulated cycles are recorded in the **Charge Cycles Count** field of each Battery Information window in ARMORUtils (see Figure 64).

## **Battery Conditioning**

Battery conditioning is only recommended if you suspect that the fuel gauge is not reporting the battery charge correctly, as conditioning adds to the charge cycle count.

Battery conditioning is a 3-step process consisting of an initial full charge, followed by a full discharge and finally followed by a full recharge. Each step is displayed in the Conditioning Status panel of the ARMORUtils Battery Conditioning window (see Figure 99).

Follow the procedure in Table 28 to condition a battery.

**NOTE**

***You must have external power connected to condition a battery.***

**NOTE**

***The conditioning process can take 3-5 hours to complete. Ensure external power remains connected for the duration of the conditioning period.***

## ARMOR X10gx TABLET COMPUTER

Table 28. Conditioning a Battery

STEP	ACTION	CONDITION OR INDICATION
1.	Connect external power.	
2.	Open the <b>Battery and Charger Monitor</b> page in <b>ARMORUtils</b> and Click on the <b>Conditioning Menu</b> button.	The Battery Conditioning window opens, as shown in Figure 99.
3.	Select <b>Bay 1 Only</b> , <b>Bay 2 Only</b> or <b>All Bays</b>	
4.	Click on <b>Start Cycle</b> .	
5.	To terminate the conditioning process at any time, click on <b>Terminate Cycle</b> .	

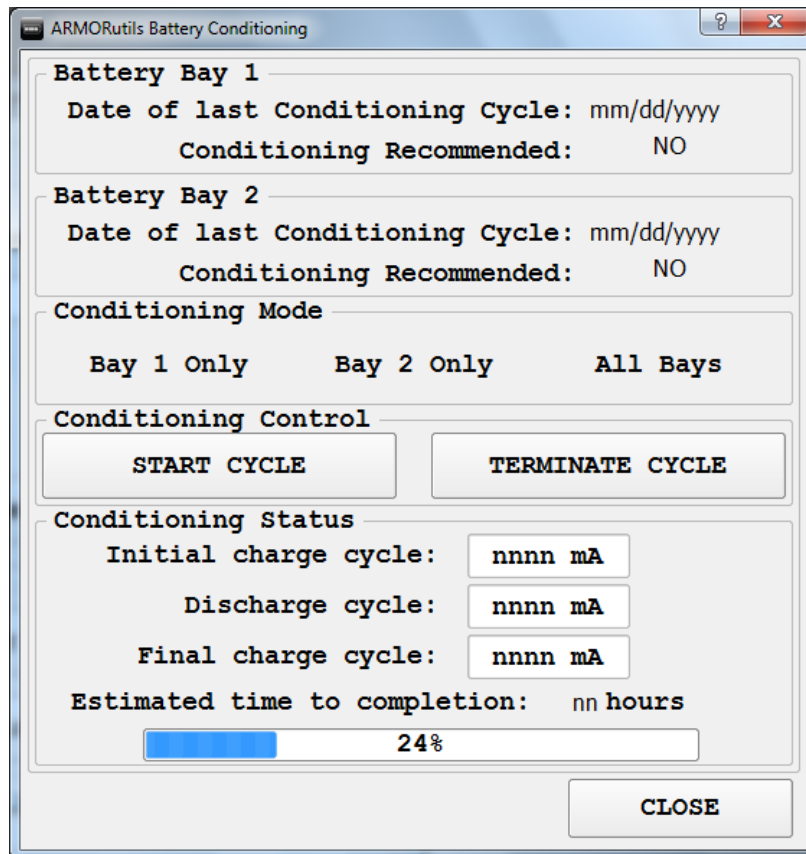


Figure 100. ARMORUtils Battery Conditioning Window

## ARMOR X10gx TABLET COMPUTER

### How to Optimize Battery Operating Time

The total operating time for your ARMOR X10gx is approximately 4 hours with two batteries installed or 2.5 hours with a single battery. However, this is dependent on a variety of factors including temperature, backlight setting and computer usage.

You can help ensure the maximum performance of your batteries by optimizing your computer's power management features. For some suggested ways to do this, select **Start → Control Panel → Hardware and Sound** and click on the **Power Options** icon.

There are three power plan options: **Balanced**, **High Performance** and **Power Saver**. DRS recommends that you use the **Balanced** plan until you are more familiar with the usage demands on your tablet.

### How to Monitor Battery Usage

You can monitor the charge level of each battery in two ways: by clicking on the **Battery/Plug** icon in the task bar (the battery icon changes to a plug icon when external power is connected) to open a Windows 7 battery window or by selecting the **Battery Monitor** page in **ARMORUtils** to open the Battery Monitor page.

#### Open the Task Bar Battery Window

Click on the Battery/Plug icon in the Task Tray to open the Windows 7 battery window, as shown in Figure 100. The example on the left shows the battery symbol when the X10gx is operating on battery power alone. The example on the right shows the battery symbol when external power is connected and the battery is charging (**NOTE:** The charge times and levels are not related in these examples).

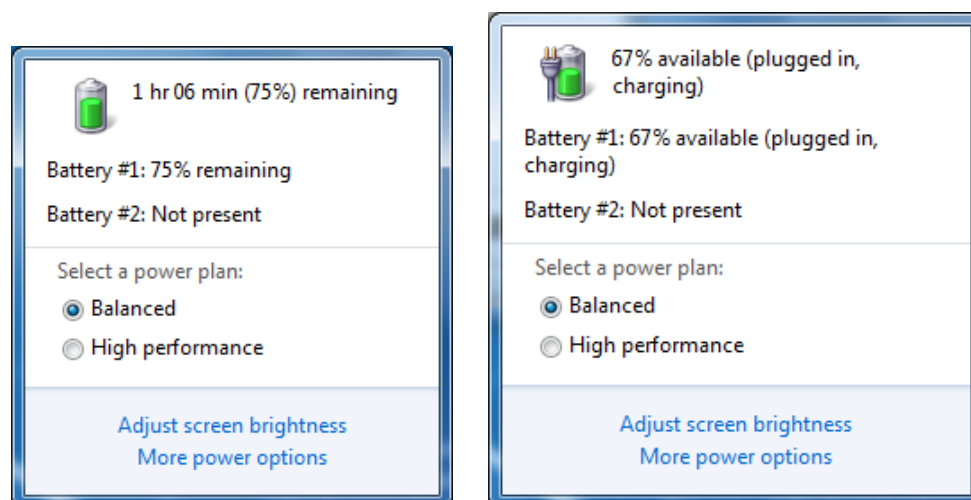


Figure 101. Windows Battery Window Icon Examples

## ARMOR X10gx TABLET COMPUTER

### Open the ARMORUtils Battery Monitor Page

Double-click on the **ARMORUtils** icon on the desktop and select the **Battery Monitor** button to open the Battery and Charger Monitor page, as shown in Figure 101.

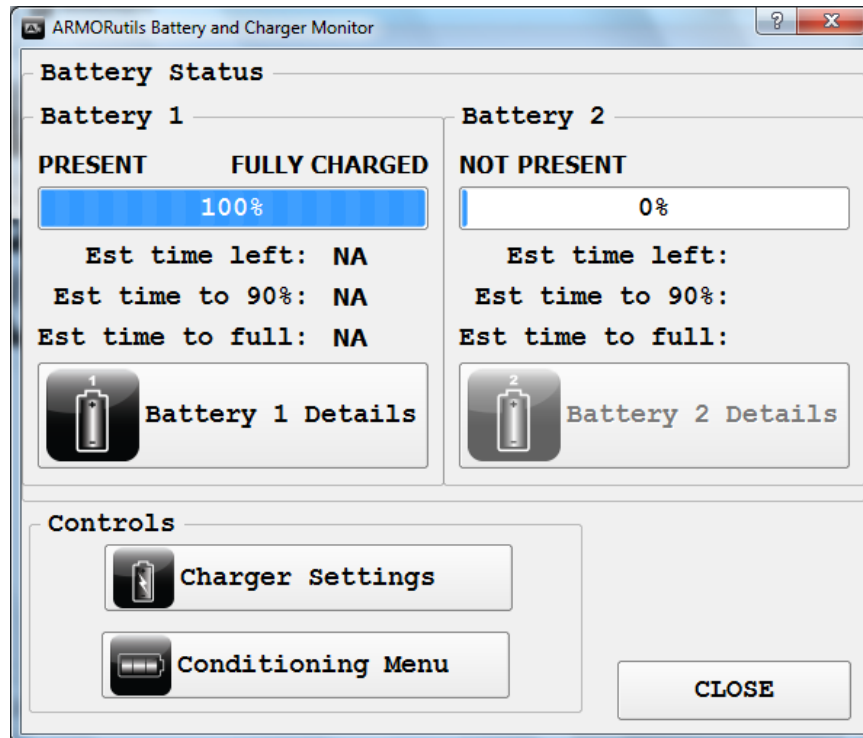


Figure 102. ARMORUtils Battery Monitor Page

### When to Replace a Battery

Battery life is affected by the age of the battery, its operating temperature and the number of discharge/charge cycles that it goes through over time. Industry surveys report that “average daily use” (8 hours or less at nominal room temperature) equates to approximately 300-400 cycles per year. Batteries operating at this level of usage that are properly cared for can last as long as two years or even longer. However, if the batteries are in constant use (24/7), subjected to frequent temperature extremes or are subjected to complete discharging frequently they will deteriorate more rapidly. Under these conditions, DRS recommends at least an annual replacement.

To determine the age of the battery, check the lot number on the battery label (see Figure 102). This number is the date (mm/yy) the battery was shipped from DRS.

**ARMOR X10gx TABLET COMPUTER**

**Figure 103. ARMOR X10gx Battery Label Example**

## **Battery Warranty**

Your X10gx battery is warranted against all defects in material and workmanship for a period of 1 year from shipment from DRS.

Because of the many variables associated with usage and aging, DRS is not responsible for battery capacity performance except as affected by factory defects or workmanship in the battery.

## **Where to Purchase Replacement Batteries**

Your ARMOR X10gx uses long lasting Lithium Ion batteries that are custom made for DRS Tactical Systems, Inc. If you need to purchase replacement batteries, notify your sales representative, authorized reseller or contact [DRS Technical Support](#). **Do not** substitute any other batteries. Substituting batteries could damage the X10gx and may void your computer warranty.

**ARMOR X10gx TABLET COMPUTER**

## **How to Store Batteries When Not in Use**

The following storage tips will help you optimize the capacity and performance of your batteries.

### **Short-Term Storage**

- If your X10gx will not be in use for 7-30 days, it is recommended that the batteries first be charged and then removed from the computer for short-term storage.
- Batteries can be stored at temperatures of 32°F to 95°F (0°C to 35°C) and a humidity of 45-85%
- When possible, store them in a cool dry place at room temperature or below. The best place to store them is in a refrigerator at a temperature of 35 - 40°F.
- Do not leave batteries in direct sunlight or in any other unusually hot location. A battery will deteriorate more quickly if stored in high temperatures such as a vehicle in the hot sun.
- Protect the battery contacts from accidentally touching other battery contacts or any metal objects to prevent a short circuit and possible arcing or explosion.

### **Long-Term Storage**

- If your X10gx will not be in use for 30 days or longer, the batteries should be placed in long-term storage.
- Prepare the batteries for storage by placing them in the computer with external power disconnected and allow the charge to drop to 40%.
- LiION batteries self discharge at the rate of about 10% per month. While in long-term storage, you should recharge the batteries every 3-4 months to a charge level of 40%.
- To check a battery's remaining charge, insert it in the X10gx, power up the unit and select the **Battery Monitor** button from the ARMORUtils main window.

## **Battery Tips for Best Performance**

- Recharge a battery within 24 hours of a full discharge. Batteries remaining in a fully discharged state longer than 24 hours may deteriorate more quickly.
- Battery charging should be done at temperatures between 32°F (0°C) to 95°F (35°C), but preferably at room temperature. The battery could deteriorate more quickly when charged at high temperatures.
- When operating your ARMOR X10gx on external power for extended periods of time (1 week or longer), it's best to remove the batteries and store them in a cool place until needed.
- If batteries are removed for longer than 30 days, refer to

**ARMOR X10gx TABLET COMPUTER**

- [How to Store Batteries When Not in Use.](#)
- If possible, allow a battery to warm or cool to the temperature of your surroundings before installing it in the tablet.

## **Disposing Of Your Batteries**

Lithium-ion batteries are fully recyclable and should not be simply thrown away. Please help protect our environment by turning in your defective batteries to an authorized recycler, or send them back to DRS.

DRS Tactical Systems supports recycling of batteries and will take back your batteries using a Returned Material Authorization (RMA) form. Please contact the DRS Technical Support center toll-free at 1-888-872-1100 for more information.

Follow these precautions when handling or returning used batteries:

- Insulate the battery contacts with tape.
- Do not disassemble the batteries.
- Package the batteries so that they cannot move around or contact with each other.





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## 10 DRS Technical Support

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### Before You Contact Us

Please have your local technical personnel check for network or custom software problems before contacting DRS Technical Support with a problem.

Also, please read the [Warranty Information](#) to verify your warranty status

### How to Obtain Warranty Service

**Notice:** DRS reserves the right to charge a No Fault Found (NFF) fee for any unit returned for repair that is found to be fully operational.

#### 1. Immediately notify DRS.

Inform DRS of your problem at one of the numbers below, or notify an authorized DRS Reseller.

<b>In North America, call:</b>	(888) 872-1100 or (321) 309-0599 – 24 hrs, 7 days a week
<b>In the UK, call:</b>	44-(0)-1252-730716
<b>In Europe, call:</b>	49-2246-915-99-77

#### 2. Obtain a Return Merchandise Authorization (RMA) Number.

If it is determined that your product needs to be returned for replacement or repair, a customer service representative will give you an RMA number. The RMA number is required to return any product to DRS, regardless of the reason for the return.

#### 3. If you want to use our online RMA service, please ask for a Username and Password.

To access our online RMA service:

1. Go to [www.drsarmor.com](http://www.drsarmor.com).
2. Click on the **Support** tab and select **Online RMA**.
3. At the login screen, enter your Username and Password.
4. Click on **Send**.
5. Fill out the online form.
6. Print a copy of the form for your records.
7. Select **Send**.

#### 3. Include the Following Required Information with Your Product(s):

- Company name, address and telephone number.
- RMA number received from DRS (if applicable).
- Serial number of the product.
- Date of purchase.
- Your ship-to address and any special shipping requirements.

**ARMOR X10gx TABLET COMPUTER**

- A detailed description of the problem.

**4. Prepare your Products for Shipment.**

- Use the original shipping container if possible to return your product.
- Remove the batteries and package them separately.
- If the original container is not available, wrap each item securely with bubble wrap or suitable cushioning material.
- Enclose a copy of the RMA form.
- Enclose a description of the problem and any special notes for the repair technician.

**5. Ship Your Product(s).**

Ship your products to one of the addresses listed below:

**NOTE**

*Transportation and insurance costs must be prepaid. DRS is not responsible for loss or damage which may occur in transit.*

**NOTE**

*Before you ship any product(s) to DRS, be sure to back up the data on any hard drive(s) and any other storage device(s). Remove any confidential, proprietary or personal information and any removable media such as floppy disks, CDs or PC Cards. DRS is not responsible for any lost confidential, proprietary or personal information or removable media or for corrupted data.*

**Ship to:**

**In North America, ship to:**

**DRS Tactical Systems, Inc.**

1110 West Hibiscus Boulevard

Melbourne, Florida 32901 USA

ATTN: Service

**In Europe, ship to:**

**DRS Tactical Systems, LTD.**

The Trading Estate

Farnham Surrey, GU9 9NN UK

ATTN: Brian Perkins

**ARMOR X10gx TABLET COMPUTER**

**or:** **International – Markus Breuch**  
Rathausstr. 10  
53797 Lohmar, Germany  
ATTN: Silke Zaigler

Once your product(s) are repaired or replaced under the terms specified in the warranty, DRS will return your product(s), with shipping pre-paid, to the address included with your RMA.

## ARMOR X10gx TABLET COMPUTER

## If You Need Further Information

Please call us, fax us, email us, or visit our website.

**Call us:**                      **In North America, call:**    (888) 872-1100 or (321) 309-0599  
                                      **In the UK, call:**        44-(0)-1252-730716  
                                      **In Europe, call:**        49-2246-915-99-77

**Fax us:**

In North America: 321-725-0496  
In the UK, fax: 44-(0)-1252-730522  
In Germany, fax: 49-2246-915-99-78

**Email us:**

**For Support:** In North America or UK: [support@drs-ts.com](mailto:support@drs-ts.com)  
In Europe: [sales@drsarmor.eu](mailto:sales@drsarmor.eu)

**For Sales and Information** In North America or UK: [Sales@drsarmor.com](mailto:Sales@drsarmor.com)  
In Europe, email: [Sales@drsarmor.eu](mailto:Sales@drsarmor.eu)

Or Visit our website at: [www.drsarmor.com](http://www.drsarmor.com)  
For translation in German, click on “**Deutsch**” at the top of the page.

**ARMOR X10gx TABLET COMPUTER**

## Acronyms

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<b>ACRONYM</b>	<b>DEFINITION</b>
AC	alternating current
BIOS	basic input/output system
CD-ROM	compact disk – read only memory
CDMA	code division multiple access
CPU	central processing unit
DC	direct current
DVD	digital video disk
EDGE	enhanced data rates for GSM evolution
EVDO	evolution data only/evolution data optimized
GB	gigabytes
GPRS	general packet radio service
GPS	global positioning system
GSM	global system for mobile communications
HDD	hard disk drive
HSDPA	high-speed downlink packet access
I/O	Input/Output
LCD	liquid-crystal display
LED	light-emitting diode
OEM	original equipment manufacturer
PC	personal computer
PCMCIA	personal computer memory card international association
RAM	random access memory
SAS	security attention sequence
SD	secure digital
SIM card	subscriber identity module
SmBus	system management bus
SODIMM	small outline dual in-line memory module
SSHD	solid-state hard drive
SVGA	super VGA (maximum of 800 x600 pixels)
TFT	thin-film transistor
USB	universal serial bus
VAC	volts AC
VDC	volts DC
VGA	video graphics array
WLAN	wireless local area network
WWAN	wireless wide area network
XGA	extended VGA (1024 x 768 pixels)

**ARMOR X10gx TABLET COMPUTER**

## Glossary

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TERM	DEFINITION
ambient temperature	The temperature of the air surrounding an object
fully depleted battery	A lithium-ion battery that has discharged to a level of 3 % or below.
fully charged battery	A lithium-ion battery that has reached 100% of charge as indicated by a steady 100% LED on the Battery Gauge on the Control Panel.
fully discharged battery	A lithium-ion battery that has discharged to a level between 10% and 3% of charge, as indicated by a flashing 10% LED on the Battery Gauge.
flexspace	A special compartment with a flexible communications interface for custom circuit cards or modules.

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## **Warranty Information**

**DRS TACTICAL SYSTEMS, INC.  
LIMITED WARRANTY – HARDWARE  
ARMOR PRODUCTS**

### **General Information**

DRS Tactical Systems, Inc. ("DRS") warrants for the duration of this warranty that the DRS ARMOR product(s) ("Product(s)") produced by DRS will be free from defects in material and workmanship under normal use and service, subject to the terms and conditions set forth herein. This warranty applies to the Products only and excludes, but is not limited to, all other products and accessories supplied and/or distributed but not manufactured by DRS.

This warranty extends only to the original purchaser of Products from DRS or a DRS Authorized Reseller ("Original Purchaser"). It is not transferable to anyone who subsequently purchases or obtains the Products from the Original Purchaser.

### **Length of Warranty**

The warranty is valid for a period of three (3) years from the original date of the packing slip from DRS and/or an Authorized Reseller. During this period, DRS will, at its option and expense, either repair or replace with new or reconditioned (of equal or better quality) parts of any of the Products which prove to be defective, provided that such Products are returned in accordance with the terms of this warranty. All exchanged parts and Products replaced under this warranty will become the property of DRS. If repair or replacement is not feasible, DRS will, at its option, refund the purchase price of the Product(s) on a three year straight line depreciation basis. Any replacement part or Product will be warranted for the remainder of the original warranty period or ninety (90) days, whichever is longer.

### **Terms and Conditions**

This warranty covers defects in materials and workmanship in the Products, as follows:

Term	3 years standard
Technical Assistance	Yes
Shipping Costs	Shipping costs of a Product to DRS are not included as part of this Warranty. Shipping costs of a Product to the Original Purchaser after a warranty repair is included as part of this warranty. If after receipt of a Product for repair under this warranty, it is later determined to be a non-warranted repair, all shipping costs are to be paid by the Original Purchaser.

### **This warranty does not cover:**

- Non-DRS ARMOR products (accessories) under the original manufacturer's warranty including, but not limited to, the carrying case, PCMCIA cards, etc. Non-DRS ARMOR branded products are not covered under an extended warranty period.
- Software, including the operating system and software added to the DRS ARMOR hardware products through our factory-integration system, third-party software, or the reloading of software;
- Scratches or abrasions to the Product's LCD screen/display, and abusive wear of the LCD screens;
- Consumables and High Wear Items. Batteries, Keyboards, Touch Pad, Touch Screen, AC Adaptor, and liquid crystal display (LCD) are covered under the Limited Warranty for one (1) year.
- Problems that result from external causes such as accident, fire, floods, or acts of God; abuse; misuse; or problems with electrical power; servicing not authorized by DRS; failure to follow the Product instructions or failure to perform preventative maintenance; problems caused by using accessories, parts, or components not supplied by DRS; improper installation (to include the absence of surge protection in vehicle installations), testing, operation, use or handling of the Product; or unauthorized alteration of Products
- Products with missing or altered service tags or serial numbers.
- Products for which DRS has not received payment.

**ARMOR X10gx TABLET COMPUTER**

- DRS is not responsible for and shall not be liable for transportation and insurance charges incurred in or damages resulting from transporting the Products, Accessories and/or Replacement Products to DRS for warranty service.
- DRS is not responsible for any third-party software created for use in the integration and/or operation of any Products, Accessories and/or Replacement Products whether or not such third party software was installed by DRS. Maintenance and support service for third-party software is the sole responsibility of the creator thereof.

**Additional Information**

The agents, dealers, DRS Authorized Resellers and employees of DRS are not authorized to make any modifications to this warranty, or additional warranties binding on DRS about or for Products, Accessories and/or products sold or supplied by DRS. Additional statements, whether oral or written, except signed written statements from an officer of DRS, do not constitute warranties and should not be relied upon.

The Product is not designed or certified for use in high risk applications including, but not limited to, the operation of nuclear facilities, aircraft navigation or air traffic control systems, communications systems in which a failure thereof could cause death or serious injury or property damage (e.g., emergency or 911 communications systems), medical systems, life support, weapons systems or any other potentially life critical uses. Original Purchaser understands and agrees that DRS makes no assurances or warranties that the Product is suitable for any such high risk uses.

DRS' SOLE LIABILITY, AND ORIGINAL PURCHASER'S SOLE REMEDY, FOR ANY MALFUNCTIONS AND DEFECTS IN THE PRODUCTS IS LIMITED TO REPAIR AND REPLACEMENT AS SET FORTH IN THIS WARRANTY STATEMENT. EXCEPT AS OTHERWISE EXPRESSLY STATED HEREIN, DRS DISCLAIMS ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND ANY IMPLIED WARRANTIES OTHERWISE ARISING FROM COURSE OF DEALING OR TRADE. NO WARRANTIES WILL APPLY AFTER THE WARRANTY PERIOD HAS EXPIRED.

DRS HEREBY DISCLAIMS, AND THE ORIGINAL PURCHASER HEREBY AGREES, THAT DRS DOES NOT ACCEPT LIABILITY BEYOND THE REMEDIES PROVIDED FOR IN THIS WARRANTY OR FOR ANY INDIRECT, CONSEQUENTIAL, PUNITIVE, SPECIAL, OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, ANY LIABILITY FOR THIRD PARTY CLAIMS FOR DAMAGES, FOR PRODUCTS NOT BEING AVAILABLE FOR USE, OR FOR LOST DATA OR LOST SOFTWARE. NOTWITHSTANDING ANYTHING CONTAINED HEREIN, DRS' TOTAL LIABILITY FOR ANY ALLEGED OR ACTUAL BREACH OF WARRANTY WILL BE NO MORE THAN THE AMOUNT PAID FOR THE PRODUCT THAT IS THE SUBJECT OF ANY SUCH CLAIM. THIS IS THE MAXIMUM AMOUNT FOR WHICH DRS SHALL BE RESPONSIBLE.



**ARMOR X10gx TABLET COMPUTER**

## Appendix

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### **Explanation of Pen Side Button Options**

4 <sup>th</sup> Click (Back)	Duplicates a 4 <sup>th</sup> mouse button click – usually the Back command in browser application.
5 <sup>th</sup> Click (Forward)	Duplicates a 5 <sup>th</sup> mouse button click – usually the Forward command in browser application.
Click	Duplicates a left mouse button click.
Click Lock	Duplicates holding an object with the left mouse button; good for dragging objects or selecting text or groups of objects. Press button to grab, press to release.
Default	Sets the switch function to Right Click
Disabled	Disables the side switch.
Double Click	Generates a double-click action with a single press of the side switch.
Erase	Enables the pen tip to act like an eraser in handwriting applications and in some paint and imaging editing programs.
Journal	Opens Microsoft Journal™ (only with versions of Windows that include Microsoft Journal).
Keystroke...	Enables you to define special keystrokes. This function can also be made available using the Pop-up Menu option (must be defined in the Pop-up Menu tab of the Pen Tablet Properties dialog).
Middle Click	Duplicates pressing the middle scroll button on a mouse.
Mode Toggle...	Toggles between Pen and Mouse mode if pre-configured in the Pop-Up Menu tab of the Pen Tablet Properties dialog (see Windows Control Panel).
Modifier...	Enables you to duplicate a shift, ctrl, alt or click function.
Open/Run...	Opens or runs a pre-selected application. This function can also be made available using the Pop-up Menu option.
Pan/Scroll...	Enables you to use the pen like a hand to move a document or image in any direction within an active window.
Pop-up Menu	Makes available selections enabled in the Pop-up Menu tab of the Pen Tablet Properties dialog (see Windows Control Panel).
Pressure Hold	Primarily used with painting programs to maintain the pressure of a brush stroke.
Right Click	Duplicates a right mouse button click.
Tablet PC Defined	Uses the pen settings defined in the Pen Options tab of the Pen and Touch dialog window.

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Tablet PC Input Panel      Opens the Tablet PC input panel (only with versions of Windows that support Tablet PC).

**ARMOR X10gx TABLET COMPUTER****RECORD OF CHANGES**

Rev	ECO #	Description Of Change
-	81874	Initial Release.
A	81995	Pg. 63, 1 <sup>st</sup> sentence – Changed “WLAN” to “WWAN”; Pg 185 – Changed item 3 to read: “If you prefer to use our online RMA service, please ask for a Username and Password. To access our online RMA service:”

## ARMOR Rugged Mobile Computers

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International calls  
+1 321.309.0599

## Product Support

ARMOR computer systems are typically custom-configured for a given application. Before calling DRS, please check with your IT staff to resolve any software issues. Additional ARMOR Product Support is available 24/7 on the web at [www.drsarmor.com](http://www.drsarmor.com) and by telephone at 888.872.1100 or 321.309.0599. For Windows® information, please refer to [www.microsoft.com](http://www.microsoft.com).

