

Updating Your XAP and PSR Products

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Section 1: Introduction

1-1 Description

This document will assist you in determining if XAP and PSR products need to be upgraded, how to install G-Ware, and how to perform a boot-code and firmware upgrade on a XAP 800, XAP 400, XAP TH2 and PSR1212. For detailed information about the enhancements included in a G-Ware or firmware release, please refer to the Release Notes (on the CD-ROM) or the *G-Ware Revision/Upgrade History* in Section 4 of this document. **For XAP-Net upgrade procedures, please refer to the XAP-Net manual.**

1-2 Is an upgrade necessary?

First, with the knowledge of the current Firmware version loaded onto a XAP and PSR product, please refer to the Revision/Upgrade History in Section 4 to determine if there are additional boot-code or firmware upgrades beyond the unit's current version.

Evaluate your needs – do you require the enhancements that come with a firmware upgrade? If you are satisfied with how your system performs, you might not need the enhancements that come with upgrading the boot-code and/or firmware. Please refer to the *G-Ware Revision/Upgrade History* in Section 4 for a synopsis of each upgrade. Of course, the choice is always yours on whether or not to upgrade.

If you would like to upgrade, please follow the recommendations in the *Install and Upgrade Procedures* in Section 2.

Section 2: Install and Upgrade Procedures

2-1 G-Ware System Requirements

The following are the minimum system requirements for G-Ware:

- Operating System and RAM:
 - Windows 98 SE 64 MB RAM
 - Windows 2000 256 MB RAM
 - Windows XP 256 MB RAM
- Processor: 300 MHz Pentium III (or AMD equal) or better
- Monitor: 1024 x 768 SVGA (16 bit) high color
- Video Card: 8 MB video card minimum
- Internet Explorer 4 or later
- 20 MB of free hard disk space
- RS-232 COM port, USB, PCMCIA or equivalent

- CD-ROM drive (for installation from a ClearOne CD-ROM)
- Java 1.4.2 (for G-Ware versions 5.0.0 or later)

NOTE: These are the minimum requirements. If you are running multiple applications or multiple versions of G-Ware simultaneously, you will need to increase the requirements accordingly.

2-2 Firmware and G-Ware Versions

Each version of G-Ware contains the latest firmware release available at the time of the G-Ware release. In order to install a newer version of boot-code and/or firmware, you must install the G-Ware version that is compatible with the boot-code and/or firmware version you desire to upgrade to. The upgrade files are located in the accompanying G-Ware version (refer to *Compatibility Between G-Ware and Firmware* in Section 3 and *G-Ware Revision/Upgrade History* in Section 4 for additional information on compatibility and upgrade history).

You might want to have multiple versions of G-Ware loaded onto your machine if you will be accessing XAP and PSR units with different firmware versions (see *Compatibility Between G-Ware and Firmware* in Section 3). You will need to install each G-Ware version in a different directory (see Technical Note #109: *G-Ware Switcher*). The G-Ware Switcher program is not available prior to G-Ware version 4.5.0.

2-3 What do I need to upgrade - the Difference Between Boot-Code and Firmware

The **boot-code** is the start-up sequence programming for a system. It tells the hardware device what it is and what operating system to look for in order to function properly. The **firmware** is the operating system the device uses to perform tasks and functions.

Please note, not all firmware updates require a new load of boot-code. To determine if you need to install a newer version of boot-code before installing a newer version of firmware, refer to the Revision/Upgrade History in Section 4.

Examples (referring to Section 4):

- If upgrading from G-Ware 3.0.0 to G-Ware 4.6.0, boot-code does not need to be upgraded.
- If upgrading from any version of G-Ware 3.0.0 through 4.6.0 to any G-Ware version 5.0.0 through 5.0.6, then the boot-code must be upgraded on all units.
- If upgrading from G-Ware 5.0.0 to G-Ware 5.0.1 or 5.0.6, boot-code should have already been updated so it does not have to be done again.

2-4 Before Upgrading Boot-code or Firmware

- **Backup your site file before upgrading.** Upgrading firmware resets the units to their default factory settings. Therefore, it is imperative that you use your current G-Ware version to extract the site file from the units and save a copy of them to your PC **before** upgrading the unit firmware. Otherwise, you will lose all custom settings and will need to reprogram the unit from the default factory settings.
- **Install a newer version of G-Ware.** Each version of G-Ware contains the latest firmware release available at the time of the G-Ware release. The install utility steps you through the installation process. Follow all directions.
- **Use a known good straight-through 9-PIN serial cable with all nine conductors.** It is imperative that you use a serial cable containing all nine conductors because boot-code and firmware updates require flow-control to be ON. We do not recommend using a cable

with only three conductors. If you are using a USB-to-Serial Adapter, please refer to Technical Note #122: *USB to Serial Adapters* for additional information.

- **Verify a solid RS-232 / Serial Communication and settings.** As with any cable connection, make sure your connections are snug. Verify that the flow control setting on the unit (RS-232 menu on front panel LCD) is enabled. Make sure the baud rate on the unit matches the baud rate set in G-Ware (Site Properties). If you are using a USB-to-Serial Adapter, please refer to Technical Note #122: *USB to Serial Adapters* for additional information.
- **In most cases, you do not need to remove Expansion Bus Cables connected to other units.** However, we strongly recommend removing Expansion Bus Cables during a Boot-Code upgrade.
- **Close other open programs and tasks running in the background.** Doing so provides more reliable processing power to the upgrade process.
- **Follow all steps in the Boot-Code or Firmware Upgrade Procedure.** Failure to follow all steps as instructed **can** result in damage to the unit.

2-5 Boot-Code Upgrade Procedure

Note: For XAP-Net upgrade procedures, please refer to the XAP-Net manual.

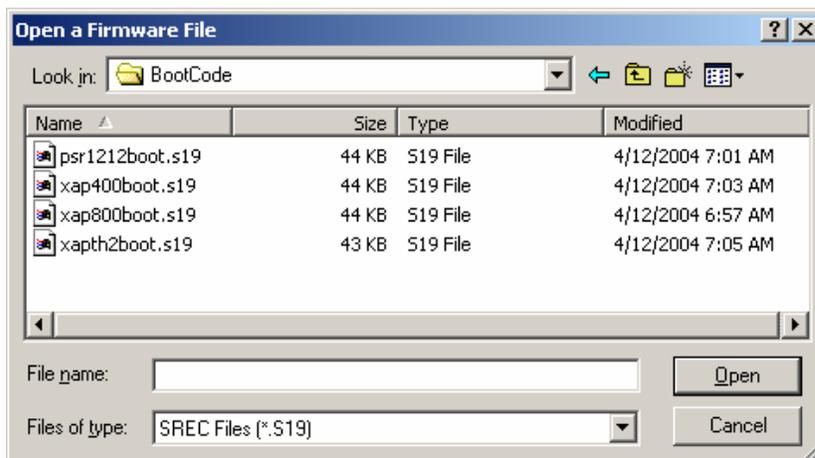
1. Open the G-Ware Firmware Utility by clicking on the G-Firm toolbar button located on the G-Ware toolbar.



Figure 1. G-Firm toolbar button

Note: The G-Firm button is on the toolbar in G-Ware versions 4.5.0 and later. If it is not on the toolbar, you can either install G-Ware 4.5.0 (or later) or manually locate the *Gfirm.exe* file to run the firmware install program.

2. Click **Browse** to access a list of available firmware updates. Double-click the **Bootcode** folder to open it. Select the file that matches the type of unit you are upgrading and click **Open**.



- The selected boot-code file self verifies and displays the message **Verified, OK**. If the file information matches your unit and the file is verified, click **Next** to advance to the Communications tab.
- Select the PC **COM port** you are using for the upgrade. Confirm that the **Baud Rate** matches the baud rate of the selected unit.



- Click **Next**. If the upgrade requires you to save your site files, a warning message displays. If you have not saved, you will need to exit the G-Ware Firmware utility, sync to the units with your current G-Ware version (see Technical Note #109: *G-Ware Switcher*), and save the site file(s). Click **Yes** to continue with the Boot-code upload.

Note: The upgrade will take approximately 5-15 minutes per unit depending on the baud rate. During this time it is important not to interrupt the upgrade process or remove the cable.

- If the process fails, do **not** use the Start Over button! Instead, close G-Firm and verify that you are using a 9-pin straight-through serial cable (with all nine conductor wires) and that baud rate and flow control are configured properly (see *Before Upgrading Boot-code or Firmware* in Section 2). Restart G-Firm and return to step one of this procedure.
- When the boot-code upgrade is complete, the **Finished** tab appears. The unit's front panel displays the unit type/name. It is now ready for continued operation or you can proceed with the **Firmware Upgrade Procedure**. If you have no more units to upgrade, you can now close the G-Firm program. If you are updating multiple units, move the RS-232 connection to the next unit and click **Start Over** to continue.

- After upgrading the boot-code on all units, restore any expansion bus connections. Using G-Ware, open the saved site file and choose the **Sync to Document** option when prompted while connecting to the unit(s). This uploads the site file into the connected unit(s). This completes the boot-code process.

2-6 Firmware Upgrade Procedure

Note: For XAP-Net upgrade procedures, please refer to the XAP-Net manual.

Note: PSR1212 units with firmware versions 1.0.0 or 1.0.2 require a hardware upgrade before the firmware can be upgraded to the current version. Please call technical support for more information.

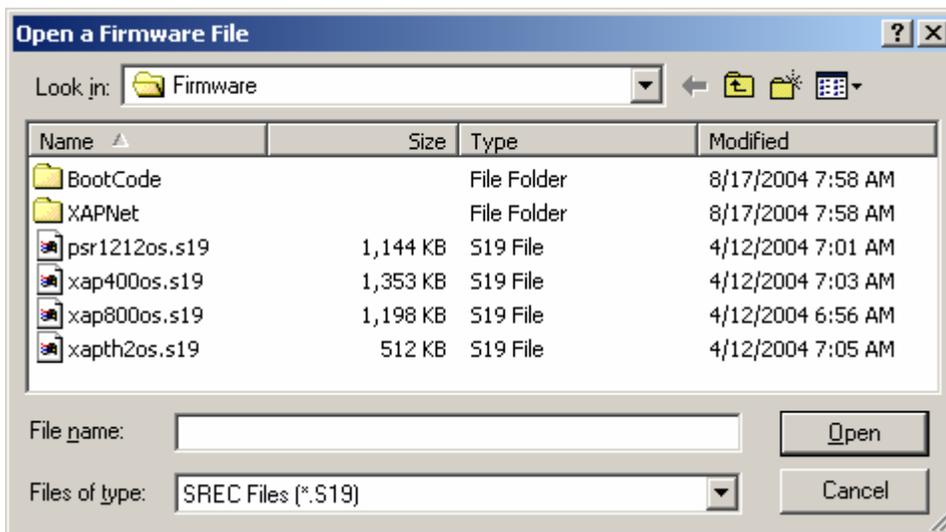
- Open the G-Ware Firmware Utility by clicking on the G-Firm toolbar button located on the G-Ware toolbar.



Figure 1. G-Firm toolbar button

Note: The G-Firm button is on the toolbar in G-Ware versions 4.5.0 and later. If it is not on the toolbar, you can either install G-Ware 4.5.0 (or later) or manually locate the *Gfirm.exe* file to run the firmware install program.

- Click **Browse** to access a list of available firmware updates. Select the file that matches the type of unit you are upgrading and click **Open**.



- The selected firmware file self verifies and displays the message **Verified, OK**. If the file information matches your unit and the file is verified, click **Next** to advance to the Communications tab.
- Select the PC **COM port** you are using for the upgrade. Confirm that the **Baud Rate** matches the baud rate of the selected unit.



5. Click **Next**. If the upgrade requires you to save your site files, a warning message displays. If you have not saved, you will need to exit the G-Ware Firmware utility, sync to the units with your current G-Ware version (see G-Switcher Tech Note #109), and save the site file(s). Click **Yes** to continue with the firmware upload.

Note: The upgrade will take approximately 5-15 minutes per unit depending on baud rate. During this time it is important not to interrupt the upgrade process or remove the cable.

6. If the process fails, do **not** use the Start Over button! Instead, close G-Firm and verify you are using a 9-pin straight-through serial cable (with all nine conductor wires) and that baud rate and flow control are configured properly (see **Before Upgrading Boot-code or Firmware** in Section 2). Restart G-Firm and return to step one of this procedure.
7. When the upgrade is complete, the **Finished** tab appears. Check the front panel of the unit and verify that the proper firmware version for your unit is now displayed in the **System Menu**. If you have no more units to upgrade, you close the G-Firm program. If you are updating multiple units, move the RS-232 connection to the next unit and click **Start Over** to continue.
8. After upgrading the firmware on all units, restore any expansion bus connections. Using G-Ware, open the saved site file and choose the **Sync to Document** option when prompted while connecting to the unit(s). This uploads the site file into the connected unit(s). This completes the firmware upgrade process.

Section 3: Compatibility between G-Ware and Firmware

Description

As ClearOne audio conferencing and sound reinforcement products are enhanced, it is often necessary to upgrade unit firmware and/or G-Ware software to take advantage of the latest features and functionality. Use the chart below to determine which firmware and software versions are compatible. Choose the G-Ware version row and find where it intersects with your product. The compatible firmware versions are indicated with a dot.

Example

If you choose G-Ware 5.0.0, you see on the chart that XAP 800 3.0.0 firmware version is compatible but that XAP 400 1.0.1 firmware version is not. To use this XAP 400 with G-Ware 5.0.0, you will need to upgrade it to firmware version 2.0.0.

Firmware and Software Compatibility Notes

Do not use G-Ware with incompatible firmware versions. If you try to connect using an incompatible G-Ware version, there will be no damage to the unit or software but there will be many PUTGET errors during synchronization. If you upgrade the software, you must upgrade the unit firmware as well.

To upgrade PSR1212 1.0.0 or 1.0.2 Firmware to 1.0.3 or later version: Call Technical Support. The unit must be returned to ClearOne in order to upgrade the RAM to 16MB.

XAP G-Ware Compatibility Chart

		XAP 800						XAP 400						XAP IR Remote	Control Panels	
		1.1.0	2.0.0	2.0.1	2.5.0	3.0.0	3.0.1	1.0.1	1.5.0	1.6.0	2.0.0	2.0.1	2.0.3			
G-Ware	3.0.0	♦														♦
	3.5.0	♦														♦
	4.0.0		♦											♦		♦
	4.0.1			♦				♦						♦		♦
	4.5.0				♦				♦					♦		♦
	4.6.0				♦					♦				♦		♦
	5.0.0					♦	♦				♦	♦	♦	♦		♦
	5.0.1					♦	♦				♦	♦	♦	♦		♦
	5.0.6					♦	♦				♦	♦	♦	♦		♦

		XAP TH2					XAP NET		XAP IR Remote	Control Panels
		1.5.0	2.5.0	2.6.2	3.0.0	3.0.2	1.0.1	1.0.6		
G-Ware	3.0.0									♦
	3.5.0	♦							♦	♦
	4.0.0	♦							♦	♦
	4.0.1	♦							♦	♦
	4.5.0		♦						♦	♦
	4.6.0			♦					♦	♦
	5.0.0				♦	♦	♦		♦	♦
	5.0.1				♦	♦	♦		♦	♦
	5.0.6				♦	♦		♦	♦	♦

PSR1212 G-Ware Compatibility Chart

		PSR1212						XAP IR Remote	Control Panels
		2.0.0	3.0.0	3.0.1	3.5.0	4.0.0	4.0.1		
G-Ware	3.0.0	♦							♦
	3.5.0	♦							♦
	4.0.0		♦					♦	♦
	4.0.1			♦				♦	♦
	4.5.0				♦			♦	♦
	4.6.0				♦			♦	♦
	5.0.0					♦	♦	♦	♦
	5.0.1					♦	♦	♦	♦
	5.0.6					♦	♦	♦	♦

Section 4: G-Ware Revision / Upgrade History

G-Ware Version	Compatible Firmware	Description
1.0.0	PSR1212 1.0.0	Original Release
	PSR1212 1.0.2	RAM Timing update to correct static pops heard during power up.
BOOT-CODE Change (10/19/2000): Upgrade required on PSR1212 to accompany RAM upgrade.		
	PSR1212 1.0.3	8MB to 16MB RAM upgrade to accommodate Control Panels
BOOT-CODE Change (3/9/2001): Upgrade required on all units using G-Ware 3.0.0 through 4.6.0 (see Section 2-3).		
3.0.0	PSR1212 2.0.0	Updated for Control Panel compatibility.
	XAP 800 1.0.0	Original release.
	XAP 800 1.1.0	Mute and mic/line adjustment correction.
3.5.0	PSR1212 2.0.0	(No new firmware release).
	XAP 800 1.1.0	(No new firmware release).
	XAP TH2 1.0.0	Original release.
4.0.0	PSR1212 3.0.0	Enhancements: Virtual References, Ramp serial command, safety mute, etc.
	XAP 800 2.0.0	Enhancements: Virtual References, Ramp serial command, safety mute, etc.
	XAP TH2 1.5.0	Enhancements: Virtual References, Ramp serial command, safety mute, etc.
	XAP 400 1.0.0	Original release.
4.0.1	PSR1212 3.0.1	XAP IR Release.
	XAP 800 2.0.1	XAP IR Release.
	XAP TH2 1.5.0	(No new firmware release).
	XAP 400 1.0.1	XAP IR Release.
4.5.0	PSR1212 3.5.0	G-Ware Switcher Release and Maintenance.
	XAP 800 2.5.0	G-Ware Switcher Release and Maintenance.
	XAP TH2 1.6.0	G-Ware Switcher Release and Maintenance.
	XAP 400 1.5.0	G-Ware Switcher Release and Maintenance.
4.6.0	PSR1212 3.5.0	(No new firmware release).
	XAP 800 2.5.0	(No new firmware release).
	XAP TH2 1.6.2	Telco Enhancements.
	XAP 400 1.6.0	Telco Enhancements.
BOOT-CODE Change (4/12/2004): Upgrade required on ALL UNITS using G-Ware 5.0.0 through 5.0.6 (see Section 2-3).		
5.0.0	PSR1212 4.0.0	XAP Net Remote Interface features.
	XAP 800 3.0.0	XAP Net Remote Interface features.
	XAP TH2 3.0.0	XAP Net Remote Interface features.
	XAP 400 2.0.0	XAP Net Remote Interface features.
	XAP Net 1.0.1	Original Release.
5.0.1	PSR1212 4.0.1	Enhances Adaptive Ambient.
	XAP 800 3.0.1	Enhances Adaptive Ambient.
	XAP TH2 3.0.0	(No new firmware release).
	XAP 400 2.0.1	Enhances Adaptive Ambient.
	XAP Net 1.0.1	(No new firmware release).

History Continued on the next page...

G-Ware Version	Compatible Firmware	Description
5.0.6	PSR1212 4.0.1	(No new firmware release).
	XAP 800 3.0.1	(No new firmware release).
	XAP TH2 3.0.2	China, Korea & Japan Telco Enhancements (Domestic USA not affected).
	XAP 400 2.0.3	China, Korea & Japan Telco Enhancements (Domestic USA not affected).
	XAP Net 1.0.6	Addition of Heartbeat (keep alive) and Enhancements.