Information Sheet
IS15006A

GV Series - Burning Compact Flash Card

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INFORMATION SHEET

1 INTRODUCTION

This document describes how to burn a compact flash card (CF card) with a new IMAGE file for the GV Series of transmitters and also how to create an IMAGE from an existing CF card for backup purposes.

1.1 Equipment Affected

This procedure applies to all GV series transmitters.

1.2 Responsibility for Implementation of Procedure

This procedure should be carried out by qualified station maintenance personnel who are familiar with GV series transmitters.

1.3 Scheduling

This procedure should be completed at the earliest convenience of the transmitter maintenance personnel. It is not necessary to go 'off-air' while burning the compact flash card however when removing the existing card and re-installing the newly burned card you will need to power down the transmitter. You will also be required to perform a software update when installing the newly burned card which will require approximately 30 minutes of "off air" time.

1.4 Manpower Requirements

Implementing these instructions varies greatly based on download time of the IMAGE file.

<u>NOTE</u>

The Image files are almost 4 GB in size; download times will vary greatly based on your internet speed and connection to host location. Plan the download for a convenient time when you can leave the downloading PC alone for hours.

1.5 Special Tools/Test Equipment

- The existing CF card from the transmitter, or a compatible replacement. To minimize disruption of service it is recommended to use a replacement compact flash card. Nautel supplied CF cards (SanDisk Ultra SDCFH-4096-901, SanDisk Ultra SDCFHS-008G or Cactus KC8GR-240) are preferred replacements (minimum recommended performance requirement for suitable replacement card is 25 MB/s – 4GB).
- PC or laptop with a built in CF card reader or an external reader
- USB mouse for touch-screen calibration
- USB Keyboard along with IS18005 (may be required for section 6 of this procedure - visit ftp://www3.nautel.com/GV_Series to obtain this IS document).
- Imaging software such as "SelfImage" installed on your PC. Screen shots shown in this document will show SelfImage 1.2.1 build 92. SelfImage 1.2.1 is available online for free.
- New Image file (.img) to burn to the CF card. Visit ftp://www3.nautel.com/GV_Series and choose the most recent software release to obtain.

1.6 Publications Affected

This modification does not affect the GV series documentation.

2 RECORDING SETTINGS BEFORE REMOVING FLASH CARD

There are various settings and logged data that will not be saved in your transmitter when you remove your flash card. Nautel recommends that you record these settings and logged data, as desired, before removing your flash card so that you may re-enter them after burning a new flash card. The following AUI pages apply (refer to the GV Operations and Maintenance Manual, if necessary, to navigate to these pages):

- Logs
- User Accounts
- Network Setup
- Email Configuration
- Notifications
- Exgine Settings

- NTP Servers
- Nautel Phone Home
- *SNMP Configuration (MIB files are required to use SNMP; can be retrieved from the Nautel FTP site) (* for applicable software versions)

NOTE

When you operate the transmitter without the compact flash card, some non-critical transmitter functions - such as local AUI, remote AUI, Nautel Phone Home, SNMP and email notifications - are disabled.

3 IDENTIFYING THE CF CARD DISK NUMBER

(a) If you are using a replacement CF card start at step 3 (b). If you are using your existing CF card from the transmitter, remove it as follows:

   i. Press RF OFF and remove the rear filter panel to provide access to the controller module (A4).

   ii. Unplug the dc power source cable (P4) on the controller (see Figure 1 #1). Locate and remove the compact flash card (see Figure 1 #2).

   iii. Plug the dc power source cable (P4) into the controller and turn RF ON to resume operation noting limited functionality. Replace the rear filter panel if expected to leave site prior to completing procedure.
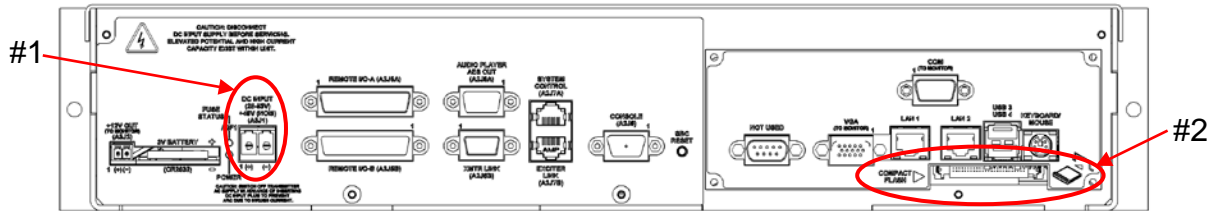

Figure 1: Rear view of the controller

(b) Insert the CF card into the reader and let it be recognized by your OS (this process varies in different OSs).

   NOTE: When you insert the CF card into the reader, Windows may display a message prompting you to format this CF card. **DO NOT** do this. Cancel the window.

(c) From your Windows based PC, gain access to the "Computer Management" application. This can be done using various methods. Examples are:

   i. Windows 10: click the search icon (next to the Start button), type "computer management" and select the Computer Management app (see Figure 2).
   ii. Windows 7: click the Start button, type "compmgmt.msc" in the 'search for programs and files' window and select the applicable program that appears (see Figure 3).
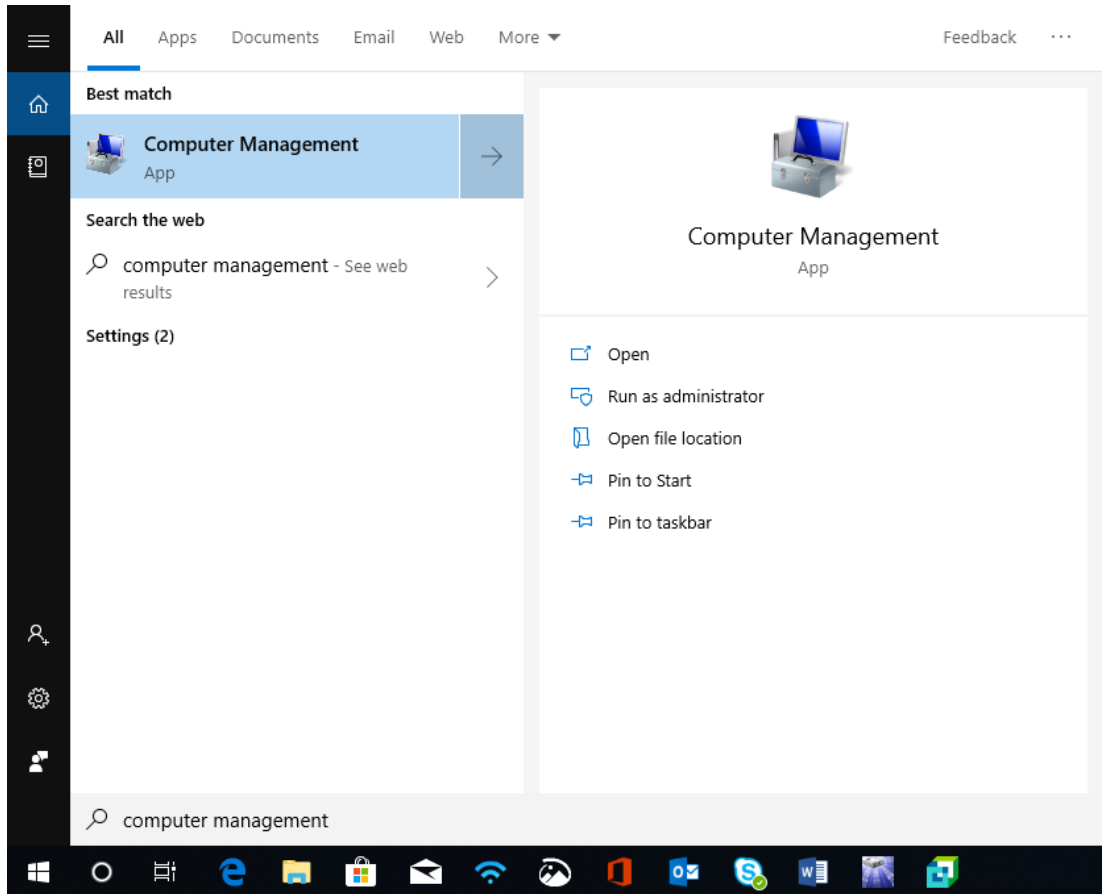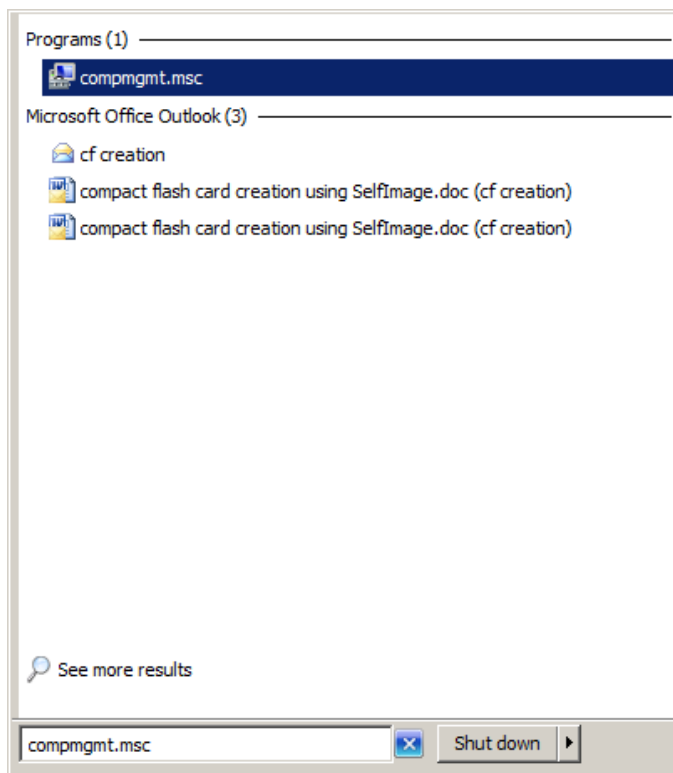
Figure 2: Windows 10

Figure 3: Windows 7

(d) The Computer Management window (see Figure 4) will open. Select "Disk Management" on the left (see Figure 4, #1).

(e) Identify which "Disk" is your flash card (see Figure 4, #2). You may have to remove the CF card to confirm which "Disk" number disappears. Note this "Disk" Number for future reference.
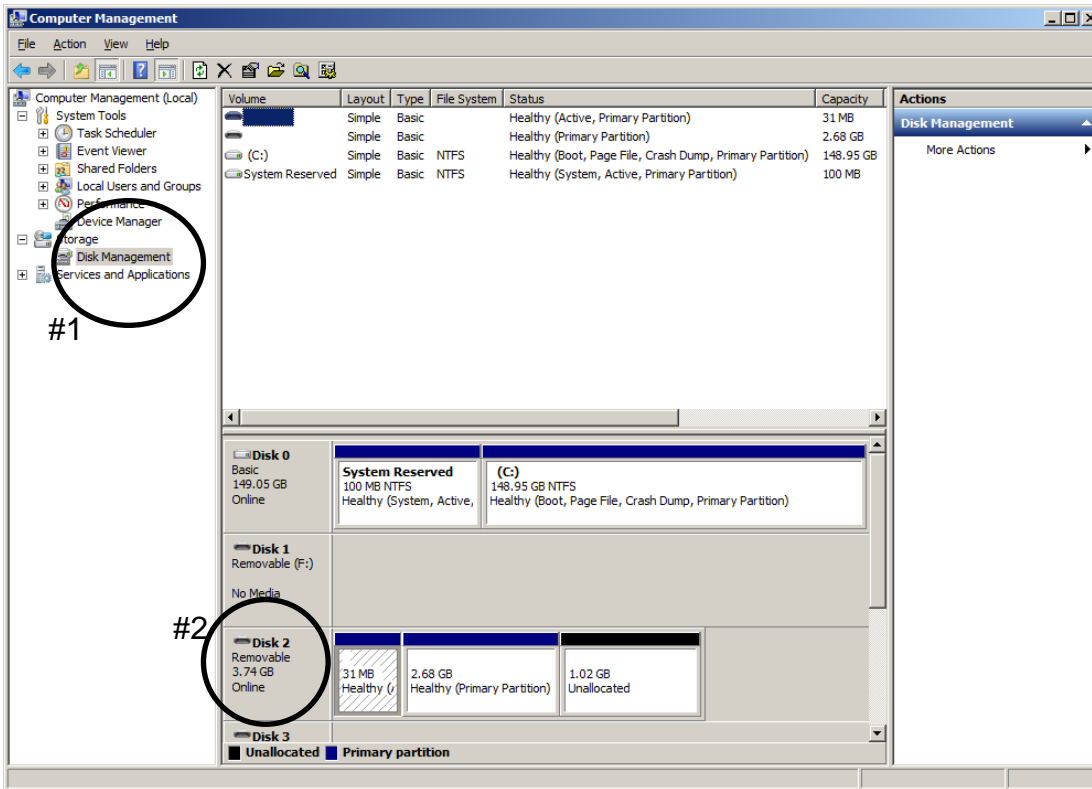

Figure 4: Computer Management window

4 MAKING AN IMAGE OF THE EXISTING COMPACT FLASH CARD

When using your existing compact flash card instead of buying a replacement card, Nautel recommends you make a copy of your current CF Card Image to have as a backup. This will save your touch screen calibration, network setup, email setup, user accounts, and notifications.

(a) Insert the CF card in the reader and run SelfImage. **NOTE:** The CF card must be inserted in the reader prior to running SelfImage.

Depending on your OS and administrative rights, you may have to right click on the SelfImage icon and select "Run as administrator" (see the Windows 7 example in Figure 5).
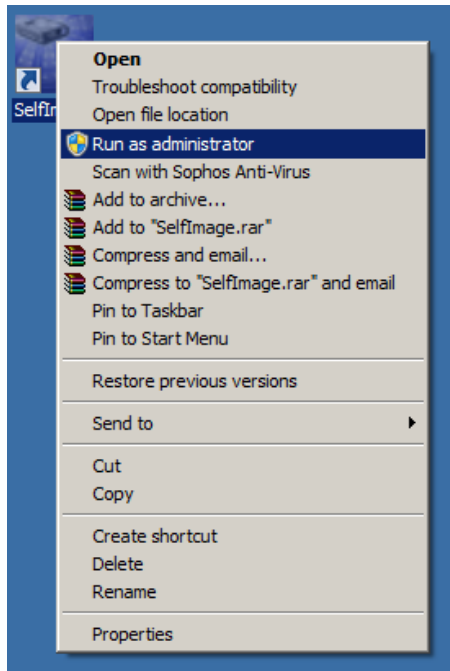

Figure 5: Windows 7 – Run As Administrator

(b) In SelfImage select the "Input" as "Drive" and then use the drop down to select the drive (see Figure 6) noted in step 3 (e). It is important that you select "Entire Disk" version of the "Disk" number to ensure the proper imaging.

(c) Under "Processing", select "None" (see Figure 7).

(d) Under "Output", select "File" and then choose a file location and assign a file name (see Figure 6). This file will be saved in the IMG format and will be approx 4 GB in size. The actual file size is shown as "Input Size" (see Figure 7).

(e) Click **Start**. This process can take between 15 and 60 minutes depending on the speed of your reader. A progress window (see Figure 10) appears to indicate the progress. It reverts back to the original SelfImage window when complete.
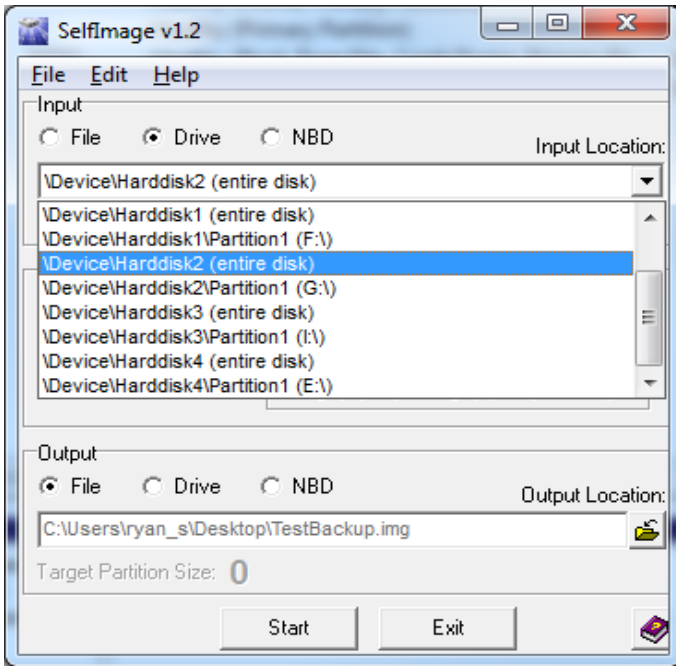
nautel

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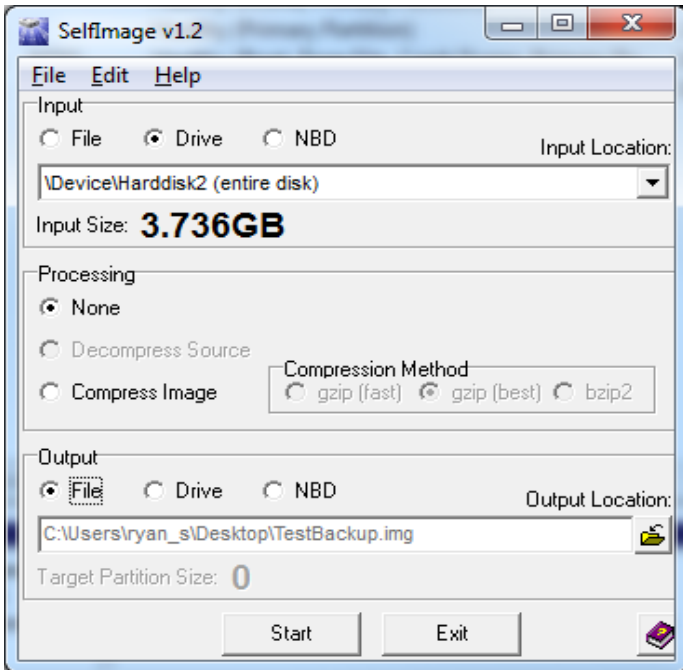
Figure 6 – SelfImage – Making an Image

Figure 7: SelfImage

5 BURNING AN IMAGE TO THE CF CARD

<u>WARNING</u>
The following procedure will completely replace any existing data on the card.

(a) Insert the CF card in the reader and run SelfImage. **NOTE:** The CF card must be inserted in the reader prior to running SelfImage.

   Depending on your OS and administrative rights, you may have to right click on the SelfImage icon and select "Run as administrator" (see the Windows 7 example in Figure 5).

(b) In SelfImage select the "Input" as "File" and then use the browsing window to locate and select the Nautel provided IMG file you are going to write to the CF card (see Figure 8).

(c) Under "Processing", select "None" (see Figure 8).

(d) Under "Output", select "Drive" and then choose your "Disk" number as determined in step 3 (e). It is important to ensure you select "Entire Disk" version of the "Disk" number to ensure proper imaging (see Figure 8).

(e) Click **Start**. This process can take between 15 and 60 minutes depending on the speed of your reader. A progress window (see Figure 10) appears to indicate the progress. It reverts back to the original SelfImage window when complete.

<u>NOTE</u>
*When you click **Start**, if there is a size difference between the input image size and the target partition to which you are writing (see example in Figure 9), you may receive a warning message (see Figure 11) that asks you "Are you are SURE you want to continue?". Select **Yes**.*
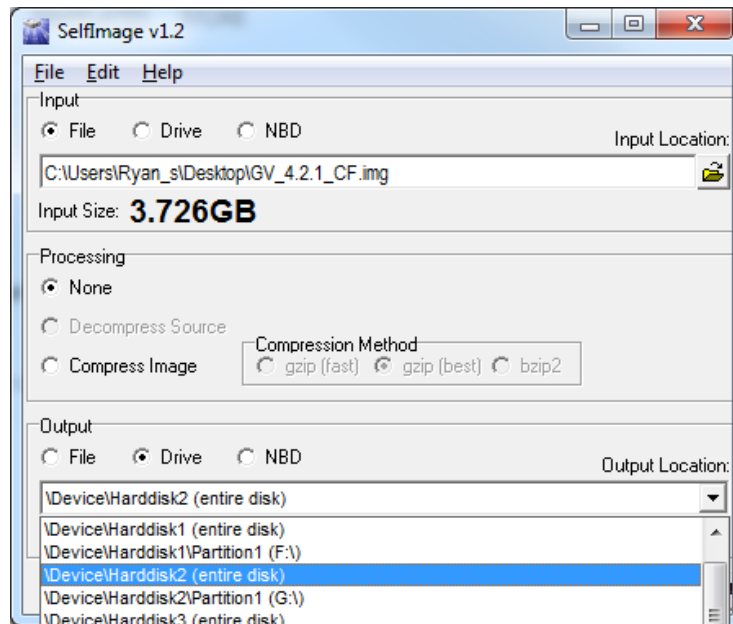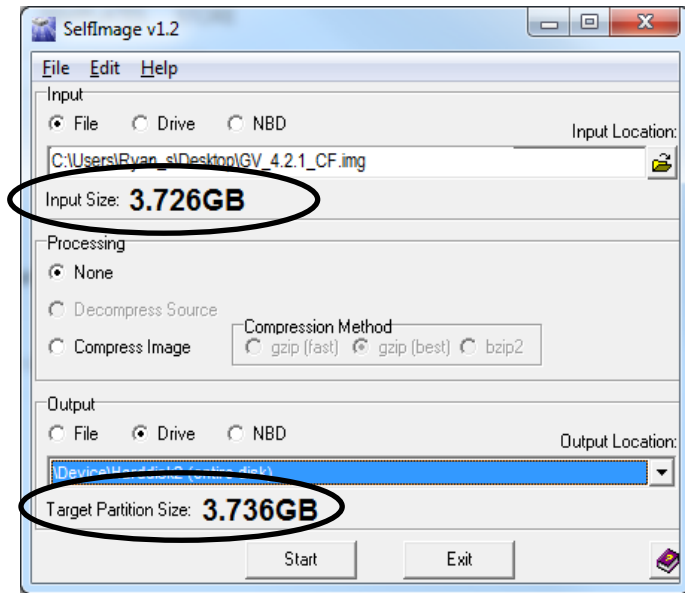

Figure 8: SelfImage

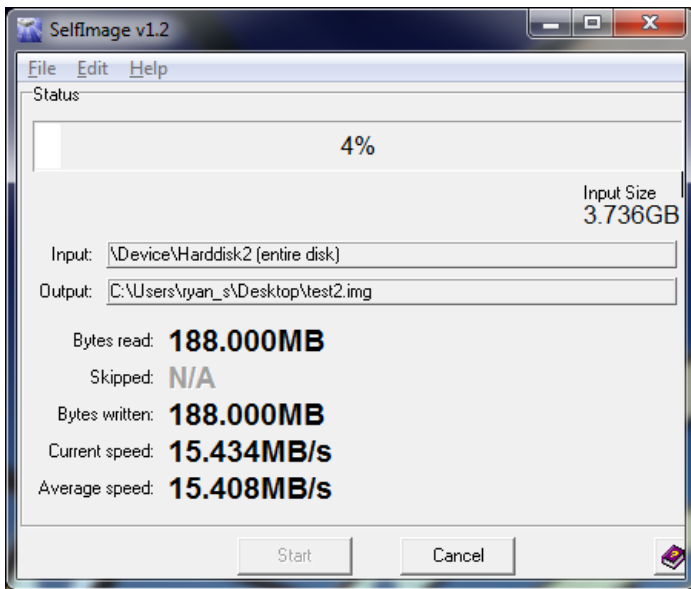**Figure 9: SelfImage (showing size difference between input and target partition)**
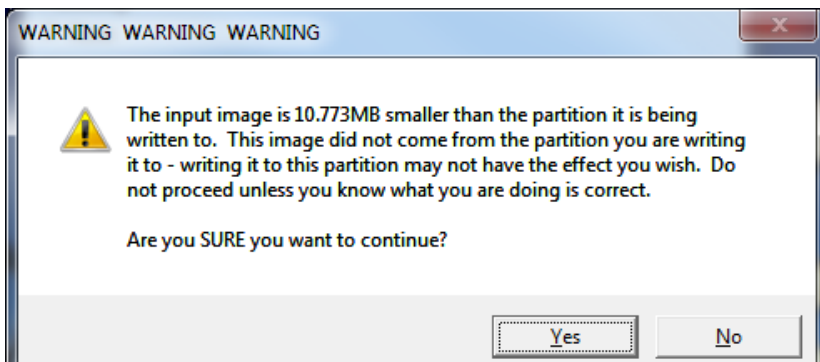

Figure 10: Progress Window

Figure 11: Warning Window

6 INSTALLING THE CF CARD

NOTE

This section will require approximately 30 minutes of 'Off Air" time to complete.

(a) Press RF OFF and remove rear filter panel (if necessary) to provide access to the controller module (A4).

(b) Unplug the dc power source cable (P4) on the controller (see Figure 1 #1) and install the compact flash card (see Figure 1 #2). Plug in P4 to apply power to the controller but leave RF OFF.

NOTE

If the compact flash card being installed is a different brand than what was originally installed, you may need to update the BIOS boot options for the AUI to load. Plug in the USB keyboard and refer to IS18005 for further instructions.

(c) The touchscreen monitor will turn on and a screen will appear prompting you to perform a software upgrade. The AUI will not navigate away from this page until it has been completed. Plug in the USB mouse and begin the upgrade. Refer to the Non-standard Maintenance section of the transmitter's Operations and Maintenance Manual if you require assistance with installing the new software.

(d) When the software upgrade is complete you can turn RF ON.

(e) Perform a touch screen calibration through the AUI (in **Menu > System Settings** > **Screen Configuration)**. Refer to the GV Operations and Maintenance Manual, if necessary. Use the USB mouse to navigate to the touch screen calibration page, and then use your finger to touch the targets.

(f) Reconfigure the network settings in the **Network Setup** page (in **Menu > User Settings**).

(g) Reconfigure the **User Accounts** settings (in **Menu > User Accounts**), **Email Configuration**, **Notifications, Exgine Settings, NTP Servers, Nautel Phone Home** and **SNMP Configuration** settings (in **Menu > User Settings**).

(h) Unplug USB mouse and replace rear filter panel.

7 CHANGING THE OS PASSWORD

The OS password must be changed for security purposes. To do this, you will need a way to remotely connect to a Linux computer using SSH. PuTTY is a common utility for Windows users (available at ftp://www3.nautel.com/Utilities/puTTy/putty.exe; if unable to open this link, use a search engine to find new URL), while Linux users can use 'ssh' from the command line. Change the password as follows:

(a) Connect to the transmitter IP address using your selected SSH client.

(b) Login with username **root** and password **gckTZbiMEq**.

(c) At the prompt, type the command **passwd**. This is the Linux command to change your password.

(d) Enter and confirm your new password. Consider using the last OS password as supplied by Nautel, provided with the original documentation for the transmitter or with a replacement compact flash card, for consistency. If not and you choose a new password, record it now in a secure location for safe keeping. If you would like Nautel to track your password for support purposes, please email support@nautel.com with your new information.