



Information Sheet IS23001

VX Series – Imaging the SD Card

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IS23001: VX Series – Imaging the SD Card

INFORMATION SHEET

1 INTRODUCTION

Periodically, enhancements or improvements to the AUI are identified and made available through major release software upgrades (e.g., SW 4.x.y to SW 5.y.z). This document describes how to burn the SD Card with a new OS IMAGE file for the VX Series of transmitters. For instructions on how to create a clone of your original SD Card, refer to the *Non-Standard Maintenance* section of the *VX Operation and Maintenance Manual*.

NOTE

Minor software updates that are released within the same overall number (e.g., SW 5.x.y to SW 5.z.x) can be performed using the Upgrading Software procedure found in section 2.4 of the Operations and Maintenance manual.

1.1 Equipment Affected

This procedure applies to all VX series transmitters.

1.2 Responsibility for Implementation of Procedure

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

1.3 Scheduling

This procedure should be completed at the earliest convenience of the transmitter maintenance personnel. It is necessary to go 'off-air' while performing this procedure.

1.4 Manpower Requirements

This procedure requires one (1) person for approximately one (1) hour.

1.5 Special Tools/Test Equipment/Software

- USB Keyboard
- Anti-static mat and wrist strap (recommended)
- PC or laptop with an SD Card slot or SD Card to USB Adapter
- RJ45 to Serial Adapter
- Serial to USB Adapter
- SelfImage Application
- Balena Etcher Application

1.6 Publications Affected

This procedure does not affect change to the VX Series documentation.



2 RECORDING SETTINGS

NOTE

If the SD Card currently installed is being replaced due to a failure of the AUI, these settings will not be available to record. Proceed to section 4 using the replacement SD Card.

There are various settings and logged data that will not be saved in your transmitter when you update the OS IMAGE file. Nautel recommends that you record these settings and logged data, as desired, before removing your SD Card so that you can re-enter them after burning the new IMAGE file. The following AUI pages apply (refer to the *VX Operations and Maintenance Manual*, if necessary, to navigate to these pages):

- Reports
- Users
- Network Setup
- Notifications
- NTP Servers
- *SNMP Configuration (MIB files are required to use SNMP; can be retrieved from the Nautel FTP site)

3 PREPARING THE TRANSMITTER FOR SD CARD REMOVAL

- Press **RF OFF**. Turn off and lock out the transmitter's main ac power.
- Remove the SD Card from the rear of transmitter (see Figure 1).

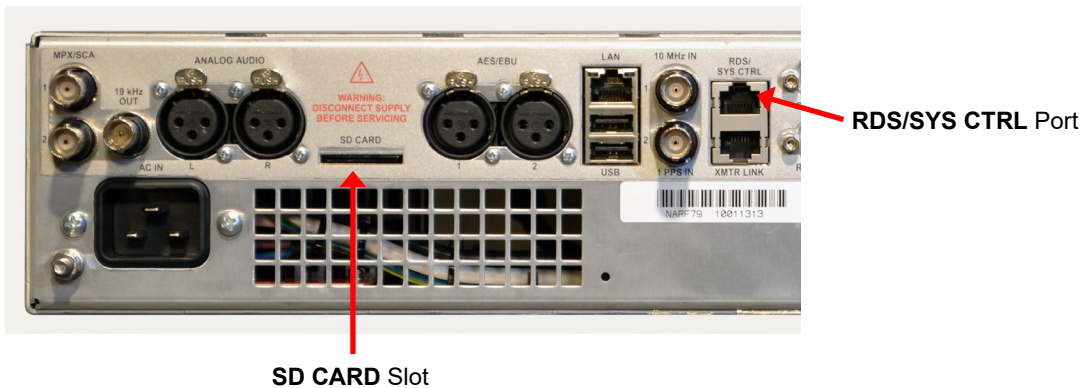


Figure 1: SD Card Location – VX Transmitter Rear Panel (partial view)

4 IDENTIFYING THE DISK NUMBER

- (a) Using a PC or laptop, connect the SD CARD using the SD Card slot or SD Card to USB Adapter, and let it be recognized by your OS (this process varies in different OSs).

NOTE

Windows may display a message prompting you to format the SD CARD. **DO NOT** do this. Cancel the window.

- (b) From your Windows-based PC, gain access to the “Computer Management” application. This can be done using various methods. Examples are:
- Windows 10: click the search icon (next to the Start button), type “computer management” and select the Computer Management app (see Figure 2).
 - 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).

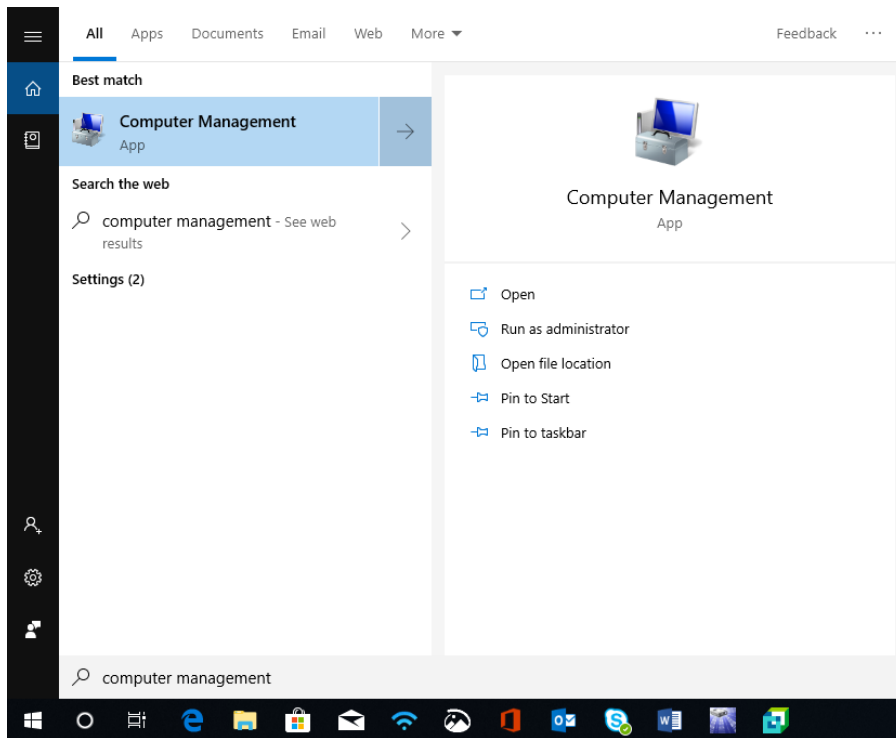


Figure 2: Windows 10 – Computer Management app

- (c) The Computer Management window (see Figure 4) will open. Select “**Disk Management**” on the left (see Figure 4, #1).
- (d) Identify which “Disk” is your flash card (see Figure 4, #2). You may have to disconnect the SD CARD to confirm which “Disk” number disappears. Record this “Disk” Number for future reference.

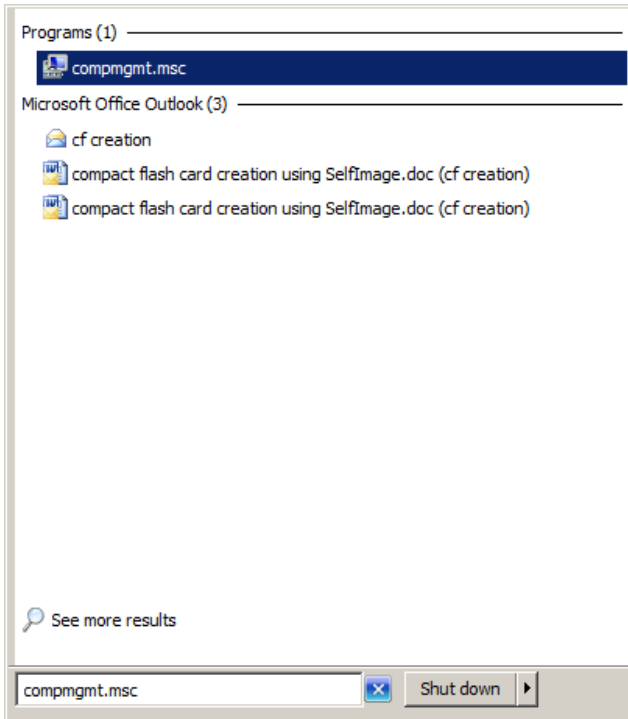


Figure 3: Windows 7 – Computer Management app

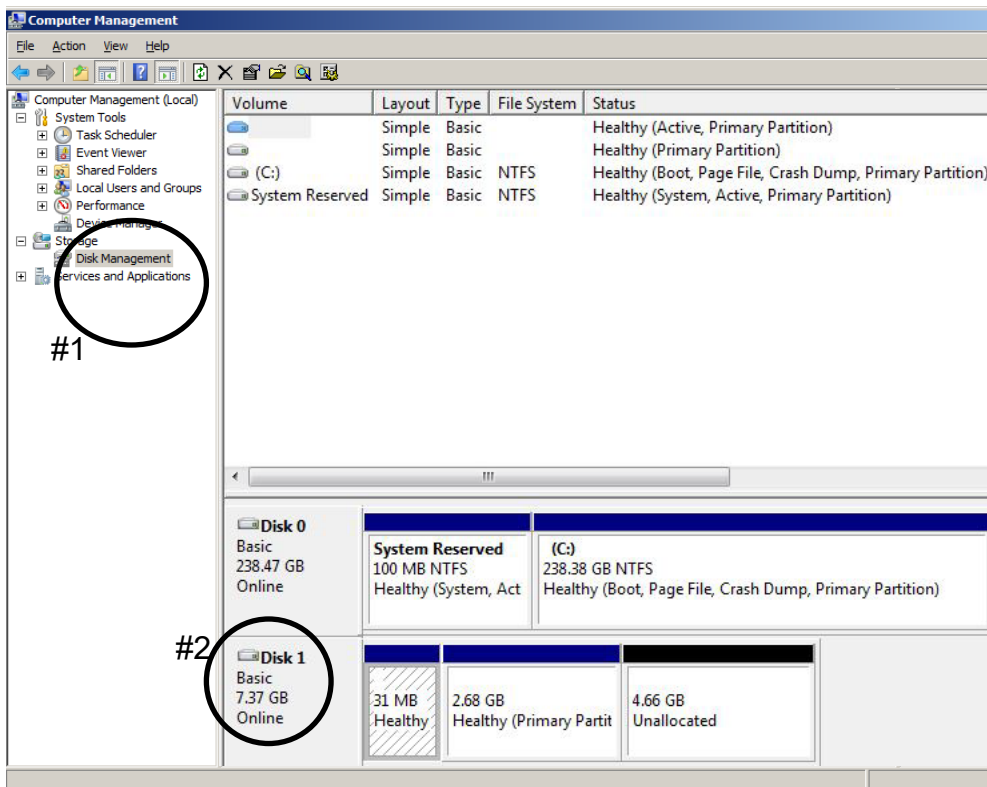


Figure 4: Computer Management window

5 SAVING A BACKUP OF THE EXISTING IMAGE FILE

When using your existing SD instead of buying a replacement, Nautel recommends you make a copy of your current SD Image to have for recovery purposes. This will save your touch screen calibration, network setup, email setup, user accounts, and notifications. In the event you experience difficulties after the OS upgrade, contact Nautel Customer Service at support@nautel.com for guidance before using the backup image file.

- (a) Connect the SD Card to the PC or laptop using the SD Card slot or SD to USB Adapter and run SelfImage. **NOTE:** The SD Card must be connected prior to running SelfImage. Depending on your OS and administrative rights, you may need to right-click on the SelfImage icon and select “Run as administrator” (see the Windows 7 example in Figure 5).

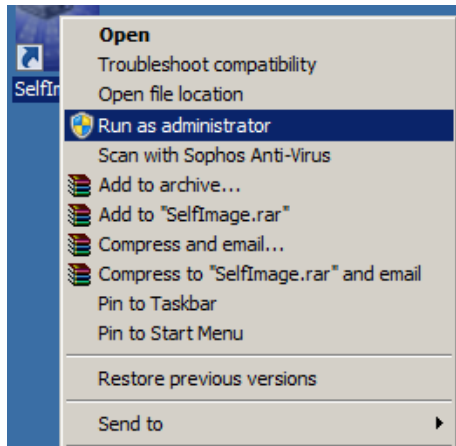


Figure 5: Windows 7 – Run As Administrator

- (b) In SelfImage select the “Input” as “Drive” and then use the drop down to select the drive (see Figure 6) recorded in step 4 (d). It is important that you select “Entire Disk” version of the “Disk” number to ensure the proper imaging.

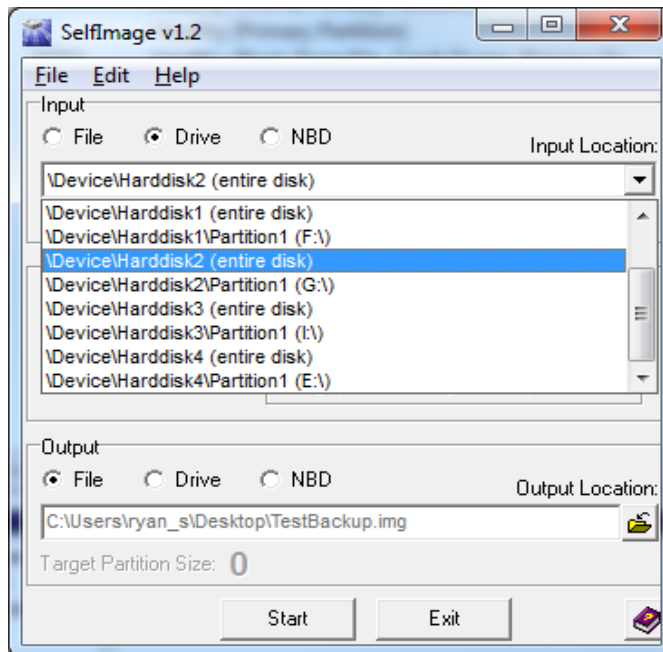


Figure 6 – SelfImage – Making an Image



- (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 7). This file will be saved in the IMG format and will be approximately 8 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 the computer. A window appears to indicate the progress. It reverts to the original SelfImage window when complete.

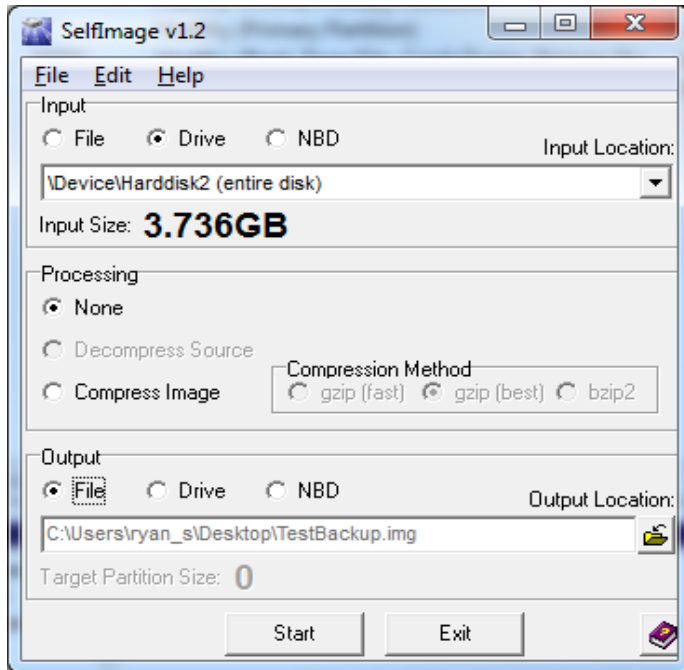


Figure 7: SelfImage

6 IMAGING THE SD CARD

WARNING

The following procedure will completely replace any existing data on the SD CARD.

- (a) Connect the SD Card to the PC or laptop using the SD Card Slot or SD to USB Adapter and run Balena Etcher. **NOTE:** The SD Card must be connected prior to running Balena Etcher.

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).

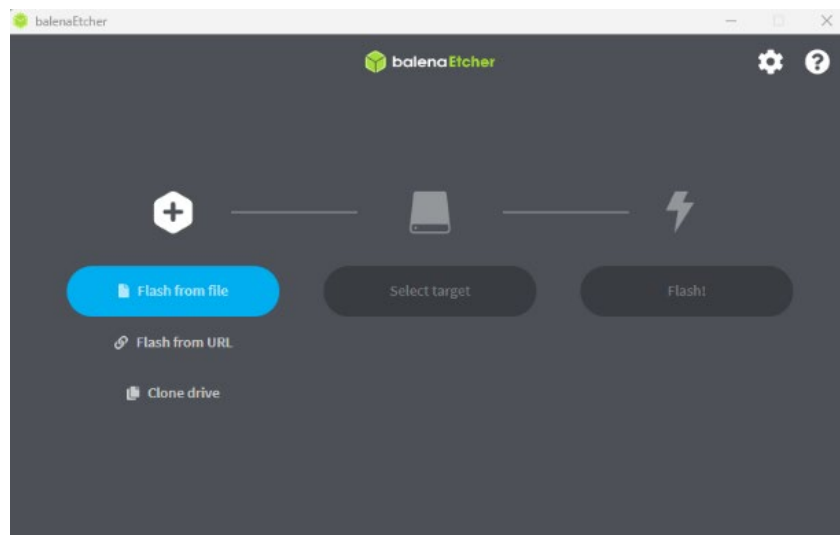


Figure 8: Balena Etcher Main Page

- (b) In Balena Etcher select “**Flash from File**” (see Figure 8), then use the browsing window to locate and select the Nautel provided .zip/.sdimg/.img file or backup file you are going to write to the SD Card.
- (c) Click “**Select Target**” (see Figure 8), then click the “checkbox” beside your “Disk” number (see Figure 9), as determined in step 4 (d).

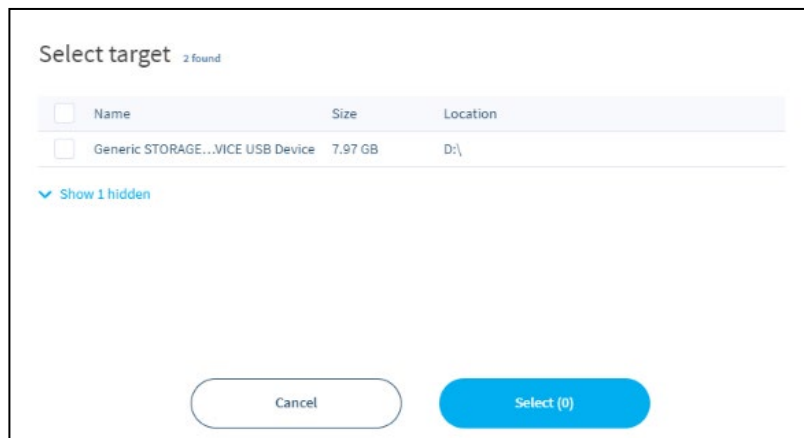


Figure 9: Select Target Screen

- (d) Click **FLASH!**. This process can take between 5 and 15 minutes depending on the speed of your computer. A progress window appears (see Figure 10) to indicate the progress.

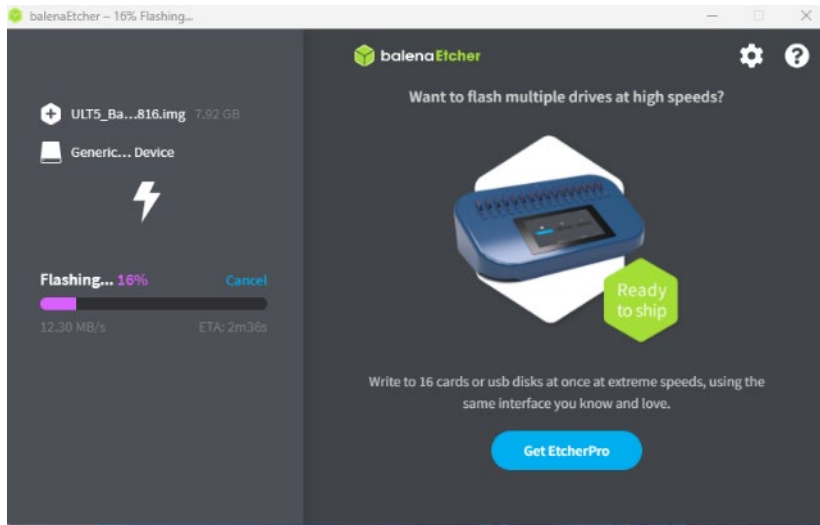


Figure 10: Balena Etcher Progress Window

7 INSTALLING THE SD CARD

NOTE

If using a replacement SD Card, follow the instructions in section 3 to remove the existing SD Card prior to proceeding.

- (a) To reinstall the SD Card, reverse the steps in section 3.
- (b) Turn on the transmitter's main ac power leaving RF OFF.

8 CHANGING THE OS PASSWORD

The OS password must be changed for security purposes. To do this, you will need an RJ45 to Serial Adapter. Connect the RJ45 end of the RJ45 to Serial Adapter to the **RDS/SYS CTRL** port on the back of the VX transmitter (see Figure 1), then connect the Serial end of the RJ45 to Serial Adapter to the USB to Serial Adapter connected to the PC. 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). Change the password as follows:

- (a) Connect to the transmitter COM Port using your selected Serial client.
- (b) Login with username **root** and password **nautel**.
- (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 SD card, for consistency. If not, and you choose a new password, record it now in a secure location for safe keeping.