grass valley

8995UPC/DNC/UDX

SD/HD UP/DOWN/CROSS CONVERTER

Release Notes

SOFTWARE VERSION 1.1.1

071858401
JUNE 2007

THOMSON
images & beyond

Contacting Grass Valley

International Support Centers	**France 24 x 7**	+800 8080 2020 or +33 1 48 25 20 20 +800 8080 2020 or +33 1 48 25 20 20	**United States/Canada 24 x 7**	+1 800 547 8949 or +1 530 478 4148
Local Support Centers (available during normal business hours)	**Asia**	**Hong Kong, Taiwan, Korea, Macau:** +852 2531 3058 **Indian Subcontinent:** +91 22 24933476 **Southeast Asia/Malaysia:** +603 7805 3884 **Southeast Asia/Singapore:** +65 6379 1313 **China:** +861 0660 159 450 **Japan:** +81 3 5484 6868		
	Australia and New Zealand: +61 1300 721 495			**Central/South America:** +55 11 5509 3443
	Middle East: +971 4 299 64 40 **Near East and Africa:** +800 8080 2020 or +33 1 48 25 20 20			
	Europe	**Belarus, Russia, Tadzikistan, Ukraine, Uzbekistan:** +7 095 2580924 225 **Switzerland:** +41 1 487 80 02 **S. Europe/Italy-Roma:** +39 06 87 20 35 28 **-Milan:** +39 02 48 41 46 58 **S. Europe/Spain:** +34 91 512 03 50 **Benelux/Belgium:** +32 (0) 2 334 90 30 **Benelux/Netherlands:** +31 (0) 35 62 38 42 1 **N. Europe:** +45 45 96 88 70 **Germany, Austria, Eastern Europe:** +49 6150 104 444 **UK, Ireland, Israel:** +44 118 923 0499		

Grass Valley Web Site

The www.thomsongrassvalley.com web site offers the following:

Online User Documentation — Current versions of product catalogs, brochures, data sheets, ordering guides, planning guides, manuals, and release notes in .pdf format can be downloaded.

FAQ Database — Solutions to problems and troubleshooting efforts can be found by searching our Frequently Asked Questions (FAQ) database.

Software Downloads — Download software updates, drivers, and patches.

grass valley

END-OF-LIFE PRODUCT RECYCLING NOTICE

Grass Valley's innovation and excellence in product design also extends to the programs we've established to manage the recycling of our products. Grass Valley has developed a comprehensive end-of-life product take back program for recycle or disposal of end-of-life products. Our program meets the requirements of the European Union's WEEE Directive, the United States Environmental Protection Agency, and U.S. state and local agencies.

Grass Valley's end-of-life product take back program assures proper disposal by use of Best Available Technology. This program accepts any Grass Valley branded equipment. Upon request, a Certificate of Recycling or a Certificate of Destruction, depending on the ultimate disposition of the product, can be sent to the requester.

Grass Valley will be responsible for all costs associated with recycling and disposal, including freight. However, you are responsible for the removal of the equipment from your facility and packing the equipment to make it ready for pickup.

For further information on the Grass Valley product take back system please contact Grass Valley at + 800 80 80 20 20 or +33 1 48 25 20 20 from most other countries. In the U.S. and Canada please call 800-547-8949 or 530-478-4148, and ask to be connected to the EH&S Department. Additional information concerning the program can be found at: www.thomsongrassvalley.com/environment

THOMSON images & beyond

Contents

Version 1.1.1

JUNE 2007

8995UPC/DNC/UDX Release Notes

Introduction

These release notes provide important information on the latest release of 8995UPC/DNC/UDX module software, version 1.1.1.

Note If you are updating from version 1.0.3 or earlier, please refer to the Release Notes for the previous version 1.1.0 release for a summary of the operational changes between 1.0.2/1.0.3 and the newer versions. However, use the version 1.1.1 software upgrade instructions in these release notes for best results.

To access the documentation for the previous release, version 1.1.0, link to the following web site:

http://www.thomsongrassvalley.com/docs/modular

Find the Release Notes information for the module type you will be updating under the 8995UDX, the 8995UPC, or the 8995DNC.

8995UPC/DNC/UDX Version 1.1.1 Software Overview

These release notes contain the following sections:

The software issues and new features for this release are discussed below.

Software Issues

Note the following software issues for this release:

- (71177) The Newton Control panel will often go offline when changing items on the setup of the module. This can also occur during normal operation while changing simple parameters not involved with setup.
- (71216) Edge expansion has no effect in all pass-through modes and also for 1080p23.98 to and from 720p59.94 format.
- (74604) After changing formats where the module must reload the entire module configuration (such as SD to HD), the web pages may not update completely and display question marks until the **Refresh** button is pressed.
- (78687) After updating the module to a new software release, factory defaults must be reset to update module parameters. This requires that all module parameters be reconfigured and User Settings files resaved.

- (80779) After making delay adjustments on the Frame Sync web page, be sure to refresh the web page with the **Refresh** button at the top of the page (see figure at left). This will assure accurate updating of the **Timing Status** reporting values after the video has settled.

For complete installation, operation, and specification information, refer to the updated 8995UPC/DNC/UDX v1.1.0 Instruction Manual available in .PDF format on the Grass Valley web site at this URL:

http://www.thomsongrassvalley.com/docs/modular

Timing Status Reporting Feature

In this release, a new Timing Status reporting function has been added to the Frame Sync web page to display total video delay through the module in numerical format as shown in the example in Figure 1 on page 7. The Total Video delay is expressed in frames and microseconds.

The total video delay varies according to the conversion being performed. Table 1 on page 11 (minimum delay selected) and Table 2 on page 13 (full-frame) give the delay values for all conversion possibilities (up/down/cross).

In some cases, a note will appear on the Frame Sync web page stating a specific condition for the type of conversion. Examples are given in the following sections:

- Pass-Through Mode (page 8)
- Progressive to Interlaced Cross Conversion (page 9)
- Interlaced to Progressive Cross Conversion (page 10)

Figure 1. Frame Sync Web Page – Software Version 1.1.1

Frame Sync

Model: 8995UDX+GEN Description: HD/SD Converter
Frame Location: bay 2 , Slot: 3
Input Video Standard: 1080i/50 Input Video: Coax In : Present
Output Timing Source: Ref 1
Output Video Standard: 1080i/50 Fiber Module Type: Dual TX 1310 / 1310 nm

Timing Adjustment

H Timing (pixels)
<< < 0 * > >>
|< >|

V Timing (lines)
<< < 0 * > >>
|< >|

Multi-Frame Delay (frames)
<< < 0 * > >>
|< >|

Minimum Delay Mode
☐ Enabled

Loss of Signal Operation
○ Pass
◉ Auto Freeze
○ Auto Blue

Manual Freeze Mode
◉ None
○ Frame
○ Field

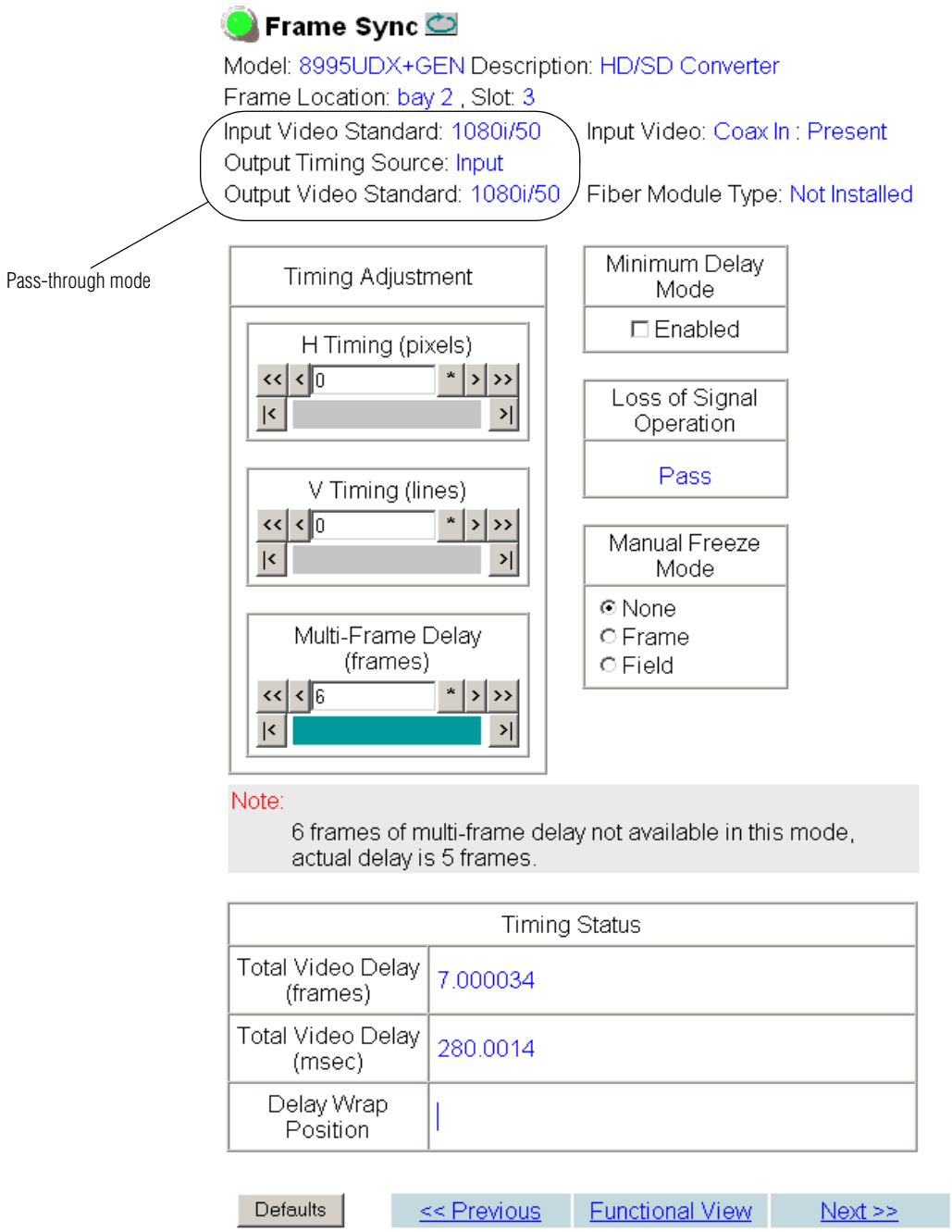
Timing Status	
Total Video Delay (frames)	2.000034
Total Video Delay (msec)	80.0014
Delay Wrap Position	

Defaults << Previous Functional View Next >>

Pass-through Mode

When the input and output signal are the same in any format (pass-through mode), the Multi-Frame Delay will only allow a 5 frame input delay when the full 6 frames are selected as shown in Figure 2. This is because the signal is not passing through any conversion circuitry which adds additional delay when the signal is converted. Accordingly, this will also reduce the amount of delay range selectable with the timing controls.

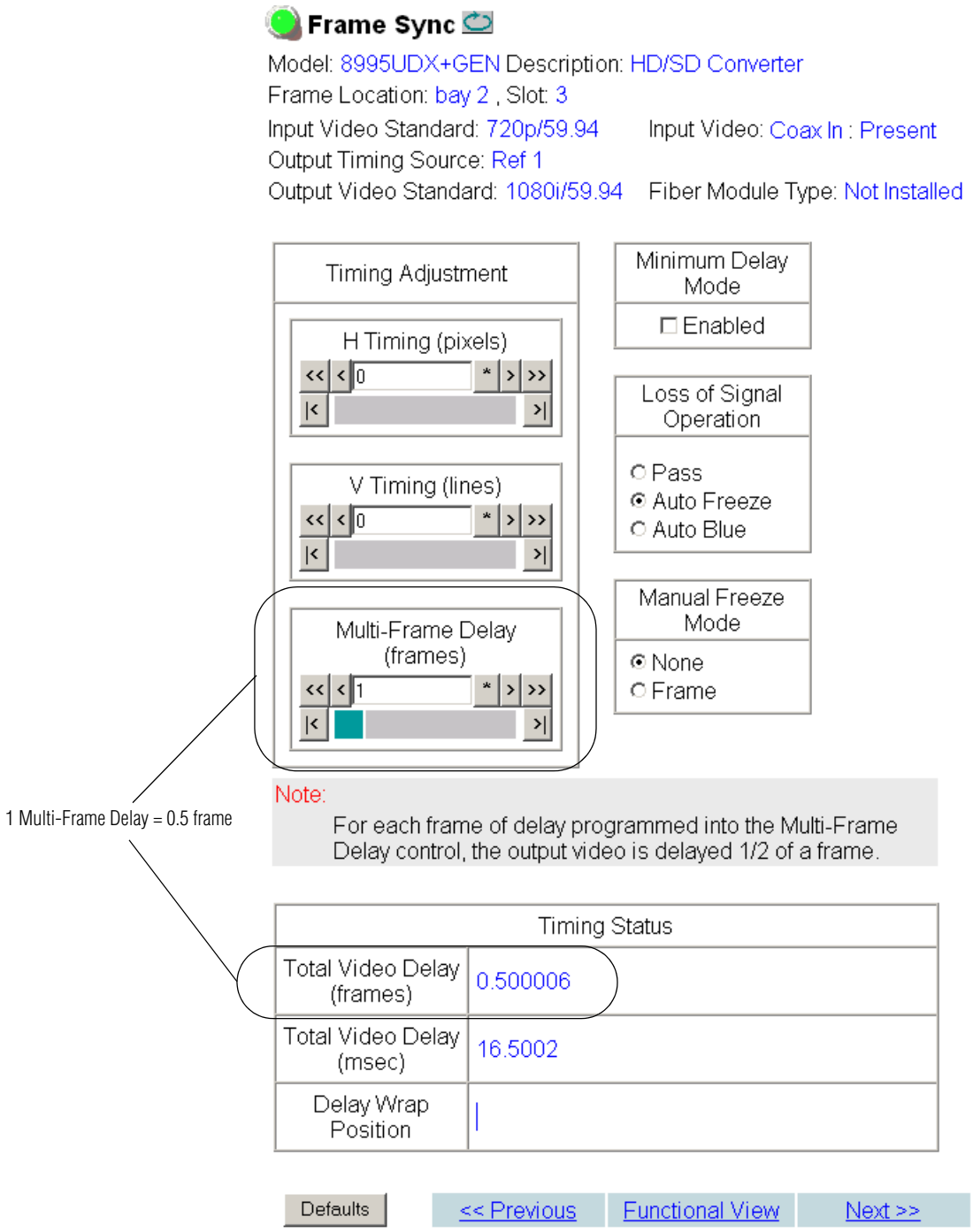
Figure 2. Pass Through Mode – Multi-Frame Delay



Progressive to Interlaced Cross Conversion

When the module is performing a cross conversion between a progressive format to an interlaced format, a note as shown in Figure 3 will appear. Due to the nature of conversion between each signal type, for each frame of delay programmed into the Multi-Frame Delay control, the output video will be delayed 1/2 of a frame. Refer to Table 1 on page 11 and Table 2 on page 13 for additional information.

Figure 3. Frame Sync Web Page – Progressive to Interlaced Conversion



Interlaced to Progressive Cross Conversion

When the module is performing a cross conversion between an interlaced format to a progressive format, a note as shown in Figure 4 will appear. Due to the nature of conversion between each signal type, for each frame of delay programmed into the Multi-Frame Delay control, the output video will be delayed 2 frames. Refer to Table 1 on page 11 and Table 2 on page 13 for additional information.

Figure 4. Frame Sync Web Page – Interlaced to Progressive Conversion

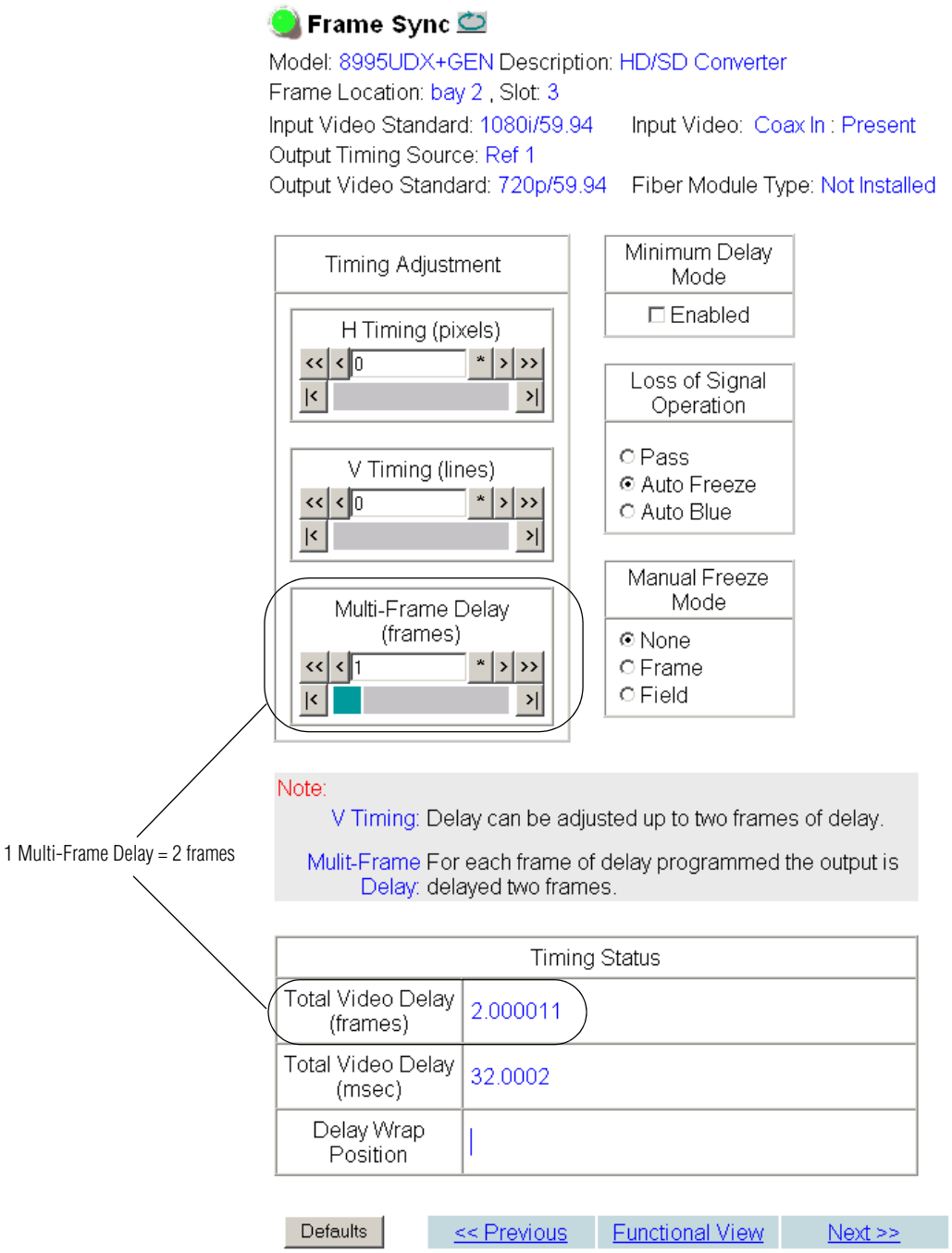


Table 1. 8995 Minimum Delay Mode Output Video Delays

Parameter	Value		
Electrical Length			
Minimum Delay Mode Output Video Delays with respect to Input or Reference Timing Source			
Note the following about Minimum Delay Mode:			
All delays are for the 8995UDX module in minimum delay mode.			
Input-timed delays are output video frame start with respect to input video frame start.			
Genlock delays are output video frame start with respect to reference signal frame start when the input video is exactly aligned to that reference signal.			
Delay range is shown in whole frames, from N to M, but in all cases the true range limits are N minus 5 lines and M minus 5 lines.			
Two delay values are shown for 720p to interlaced conversions when Input-timed because interlaced output field position is arbitrary in this case.			
N/A indicates that output frame start position is not guaranteed for conversion to or from the 23.98 frame rate in this release.			
In pass-through mode (input format the same as output) the total multi-frame delay will allow only 5 frames (see page 8). Accordingly, this will also reduce the amount of delay range selectable with the timing controls.			
Video Conversion	**Timing Mode**	**Output Video Delay**	**Delay Range**
480i/59.94 – 480i/59.94	Genlock	1 frame +136.8 us	1 to 7
	Input	1 frame +136.8 us	1 to 7
480i/59.94 – 1080i/59.94	Genlock	1 frame -53.8 us	1 to 8
	Input	1 frame -53.8 us	1 to 8
480i/59.94 – 720p/59.94	Genlock	2.0 frames -19.4 us	2.0 to 16.0
	Input	2.0 frames -17.7 us	2.0 to 16.0
480i/59.94 – 1080p/23.98	Genlock	N/A	0.8 to 6.4
	Input	N/A	0.8 to 6.4
1080i/59.94 – 480i/59.94	Genlock	1 frame +252.5 us	1 to 8
	Input	1 frame +252.5 us	1 to 8
1080i/59.94 – 1080i/59.94	Genlock	1 frame +59.8 us	1 to 7
	Input	1 frame +59.8 us	1 to 7
1080i/59.94 – 720p/59.94	Genlock	2.0 frames +88.6 us	2.0 to 16.0
	Input	2.0 frames +88.6 us	2.0 to 16.0
1080i/59.94 – 1080p/23.98	Genlock	N/A	0.8 to 6.4
	Input	N/A	0.8 to 6.4
720p/59.94 – 480i/59.94	Genlock	0.5 frames -188.0 us	0.5 to 4.0
	Input	0.5/1.0 frames +190.8 us	0.5 to 4.0
720p/59.94 – 1080i/59.94	Genlock	0.5 frames -128.0 ns	0.5 to 4.0
	Input	0.5/1.0 frames +40.0 ns	0.5 to 4.0
720p/59.94 – 720p/59.94	Genlock	1 frame +43.6 us	1 to 7
	Input	1 frame +43.6 us	1 to 7
720p/59.94 – 1080p/23.98	Genlock	N/A	0.4 to 3.2
	Input	N/A	0.4 to 3.2
1080p/23.98 – 1080p/23.98	Genlock	1 frame + 67.4 us	1 to 7
	Input	1 frame + 67.4 us	1 to 7

Table 1. 8995 Minimum Delay Mode Output Video Delays

Parameter	Value		
1080p/23.98 – 480i/59.94	Genlock	N/A	1.2 to 10.0
	Input	N/A	1.2 to 10.0
1080p/23.98 – 1080i/59.94	Genlock	N/A	1.2 to 10.0
	Input	N/A	1.2 to 10.0
1080p/23.98 – 720p/59.94	Genlock	N/A	2.4 to 20.0
	Input	N/A	2.4 to 20.0
576i/50 – 576i/50	Genlock	1 frame +136.4 us	1 to 7
	Input	1 frame +137.2 us	1 to 7
576i/50 – 1080i/50	Genlock	1 frame +16.1 us	1 to 8
	Input	1 frame +17.0 us	1 to 8
576i/50 – 720p/50	Genlock	2.0 frames +68.8 us	2.0 to 16.0
	Input	2.0 frames +69.6 us	2.0 to 16.0
1080i/50 – 576i/50	Genlock	1 frame +120.4 us	1 to 8
	Input	1 frame +120.4 us	1 to 8
1080i/50 – 1080i/50	Genlock	1 frame +65.4 us	1 to 7
	Input	1 frame +65.8 us	1 to 7
1080i/50 – 720p/50	Genlock	1 frame +100.4 us	1.0 to 16.0
	Input	1 frame +100.4 us	1.0 to 16.0
720p/50 – 576i/50	Genlock	0.5 frames +120.8 us	0.5 to 4.0
	Input	0.5/1.0 frames +123.2 us	0.5 to 4.0
720p/50 – 1080i/50	Genlock	0.5 frames -4.4 us	0.5 to 4.0
	Input	0.5/1.0 frames -4.4 us	0.5 to 4.0
720p/50 – 720p/50	Genlock	1 frame +48.2 us	1 to 7
	Input	1 frame +48.2 us	1 to 7

Table 2. Full-Frame Output Video Delays

Parameter	Value
Full-Frame Mode Output Video Delays with respect to Input or Reference Timing Source	
Note the following about Full Frame Mode:	
All delays are for the 8995UDX module in Full-Frame mode.	
Input-timed delays are output video frame start with respect to input video frame start.	
Genlock delays are output video frame start with respect to reference signal frame start when the input video is exactly aligned to that reference signal.	
Delay range is shown in whole frames, from N to M, but in all cases the true range limits are N minus 5 lines and M minus 5 lines.	
Two delay values are shown for 720p to interlaced conversions when Input-timed because interlaced output field position is arbitrary in this case.	
N/A indicates that output frame start position is not guaranteed for conversion to or from the 23.98 frame rate in this release.	
In pass-through mode (input format the same as output) the total multi-frame delay will only allow 5 frames (see page 8). Accordingly, this will also reduce the amount of delay range selectable with the timing controls.	

Video Conversion	Timing Mode	Output Video Delay	Delay Range
480i/59.94 – 480i/59.94	Genlock	2 frames	2 to 8
	Input	2 frames	2 to 8
480i/59.94 – 1080i/59.94	Genlock	2 frames	2 to 9
	Input	2 frames	2 to 9
480i/59.94 – 720p/59.94	Genlock	4.0 frames	4.0 to 18.0
	Input	4.0 frames	4.0 to 18.0
480i/59.94 – 1080p/23.98	Genlock	N/A	1.6 to 7.2
	Input	N/A	1.6 to 7.2
1080i/59.94 – 480i/59.94	Genlock	3 frames	2 to 9
	Input	3 frames	2 to 9
1080i/59.94 – 1080i/59.94	Genlock	2 frames	2 to 8
	Input	2 frames	2 to 8
1080i/59.94 – 720p/59.94	Genlock	4.0 frames	4.0 to 18.0
	Input	4.0 frames	4.0 to 18.0
1080i/59.94 – 1080p/23.98	Genlock	N/A	1.6 to 7.2
	Input	N/A	1.6 to 7.2
720p/59.94 – 480i/59.94	Genlock	1.5 frames	1.0 to 4.5
	Input	1.0/1.5 frames	1.0 to 4.5
720p/59.94 – 1080i/59.94	Genlock	1.0 frames	1.0 to 4.5
	Input	1.0/1.5 frames	1.0 to 4.5
720p/59.94 – 720p/59.94	Genlock	2 frames	2 to 8
	Input	2 frames	2 to 8
720p/59.94 – 1080p/23.98	Genlock	N/A	3.2 to 14.4
	Input	N/A	3.2 to 14.4
1080p/23.98 – 1080p/23.98	Genlock	2 frames	2 to 8
	Input	2 frames	2 to 8

Table 2. Full-Frame Output Video Delays

Parameter	Value		
1080p/23.98 – 480i/59.94	Genlock	N/A	2.4 to 11.25
	Input	N/A	2.4 to 11.25
1080p/23.98 – 1080i/59.94	Genlock	N/A	2.4 to 11.25
	Input	N/A	2.4 to 11.25
1080p/23.98 – 720p/59.94	Genlock	N/A	4.8 to 22.5
	Input	N/A	4.8 to 22.5
576i/50 – 576i/50	Genlock	2 frames	2 to 8
	Input	2 frames	2 to 8
576i/50 – 1080i/50	Genlock	2 frames	2 to 9
	Input	2 frames	2 to 9
576i/50 – 720p/50	Genlock	4.0 frames	4.0 to 18.0
	Input	4.0 frames	4.0 to 18.0
1080i/50 – 576i/50	Genlock	3 frames	2 to 9
	Input	3 frames	2 to 9
1080i/50 – 1080i/50	Genlock	2 frames	2 to 8
	Input	2 frames	2 to 8
1080i/50 – 720p/50	Genlock	3 frames	3.0 to 18.0
	Input	3 frames	3.0 to 18.0
720p/50 – 576i/50	Genlock	1.0 frames	1.0 to 4.5
	Input	1.0/1.5 frames	1.0 to 4.5
720p/50 – 1080i/50	Genlock	1.0 frames	1.0 to 4.5
	input	1.0/1.5 frames	1.0 to 4.5
720p/50 – 720p/50	Genlock	2 frames	2 to 8
	Input	2 frames	2 to 8

Software Updating

There are two methods to update software: the Grass Valley PC application NetConfig (available from the Thomson Grass Valley web site free of charge) and using an microSD card (requires an 8995 circuit board with an microSD socket and the purchase of the microSD card and other hardware by the customer). The method used depends on the type of module circuit board version you have and if it has an 8900GEN-SM submodule installed with the correct firmware (version 8).

Note After any new version of software is installed, you will need to recall factory default values to the module using the **Set Factory Defaults** button on the User Settings web page. This will update the module with the new parameters that have been added.

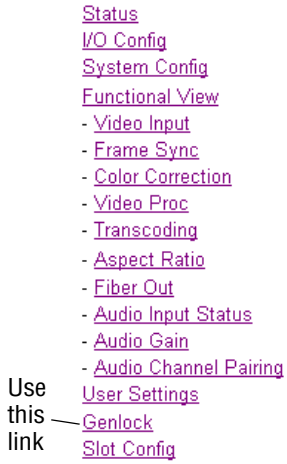
This will also require reconfiguration of the module parameters. Saved User files can no longer be loaded to the module due to the revised software structure for the new functionality. If you have configurations you would like to save, write them down or take screen shots of the you want to reload before loading the new software.

8995UPC/DNC/UDX (No 8900GEN-SM Submodule)

If your 8995 module has no 8900GEN-SM submodule installed it can be updated with either method listed below:

- For NetConfig method, see *Using NetConfig to Update Software* on page 17). Loading time is approximately 45 minutes.
- For microSD card method, see *Updating Software with a MicroSD Card* on page 24). Loading time is approximately 2.5 minutes.

8995UPC/DNC/UDX+GEN (with 8900GEN-SM Submodule)



If your module has an 8900GEN-SM Genlock Submodule installed, it will have a + GEN in the module name and a Genlock web page link will be present on the web links (shown at left).

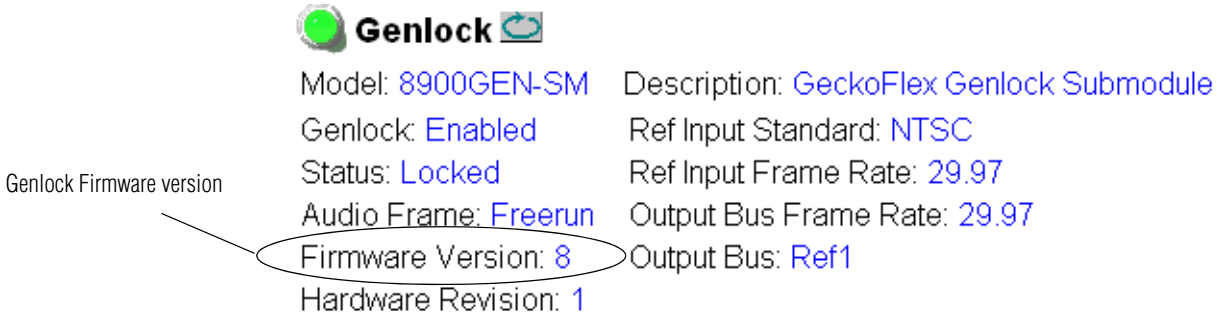
For full functionality of 8900GEN-SM submodule with this 1.1.1 software release, the submodule firmware must be at version 8. Updating of the 8900GEN-SM submodule can only be done using the NetConfig method.

To determine the firmware version of your submodule, refer to *Determining 8900GEN-SM Firmware Version* on page 16.

Determining 8900GEN-SM Firmware Version

To determine the current firmware version of the 8900GEN-SM submodule. select the link to the Genlock web page. The 8900GEN-SM firmware version is reported in the Genlock web page header as shown in Figure 5.

Figure 5. 8900GEN-SM Genlock Submodule Firmware Version



Proceed as follows for the possible firmware versions of the 8900GEN-SM submodules:

- If the Genlock submodule is Firmware Version 7 or earlier, the module will not load software with the microSD card method. You may do one of the following:
  - If you do not have a module with a microSD socket, update your software using NetConfig.
  - If you want to use the microSD method, update the 8900GEN-SM Firmware only using NetConfig first, then load software using the microSD card method, or
  - Remove the Genlock Submodule and update main module software with either method. Then update the Genlock software with NetConfig.
- If Genlock submodule is Firmware version 8, update the module with either NetConfig or microSD card as desired.

Note The Firmware version on Genlock submodules with Hardware Revision 0 can be updated but will not have AES reference functionality. If you need this type of audio reference, contact Customer Service for an updated hardware version.

Using NetConfig to Update Software

NetConfig is required for updating the 8900GEN-SM mounted on a host module and for updating host modules that do not have the microSD card socket.

If you do not have NetConfig or the latest version, you can download it free of charge from the Thomson Grass Valley ftp site at this URL:

ftp://ftp.thomsongrassvalley.com/pub/router/NetConfig/Version 2.0.8/

1. Right-click on the latest NetConfig link to download the zipped file to the C:\temp folder or other convenient location on your PC.
2. Extract the zipped files onto your local drive:
3. Double-click on the NetConfig.EXE file to install NetConfig.

Note Installing NetConfig into the default location given in the install script (C:\Programs\Grass Valley Group) is recommended for future NetConfig and module software updates.

NetConfig Update Procedure

To update with NetConfig you must have the following:

- PC with NetConfig Networking application installed (version 2.0.8 is the latest version available),
- IP connection between the GeckoFlex frame and your PC, and
- 8900NET module in the GeckoFlex frame with software 4.0.2 or later.

Follow the steps below to update the 8900GEN-SM submodules with NetConfig, then the host module software:

1. Locate the 8995 module software on the Thomson Grass Valley ftp site at this URL:

   ftp://ftp.thomsongrassvalley.com/pub/modular/8900/8995/1.1.1

2. On your local C:\ drive, locate the NetConfig program directory. This directory is normally in the default location in C:\Program Files\Grass Valley Group\NetConfig.

   If you have installed NetConfig in another location, find the location of the NetConfig directory by right-clicking on the NetConfig shortcut. Select **Properties** and note the location in the **Start In** field.

3. To update the 8995 modules, copy the .fld and .sw2 files listed below into the main NetConfig directory from the ftp site.
   - 8995UDX-1.1.1.sw2
   - 080857804-8995udx-sw-1.1.1.fld
   - 080851203-CV-Boot-1.2.0.fld
   - 8995UDX-FW-HD50-HD24-1.2.7.fld
   - 8995UDX-FW-SD-HD59.94-1.2.7.fld

   If you have 8900GEN-SM submodules with firmware earlier than version 8 on any of your 8995 modules, also copy the Genlock update file listed below.
   - Genlock-v8.fld
4. In the main NetConfig directory, locate a folder named **modular**. If this folder does not exist, create a folder called **modular** in the main NetConfig directory.
5. Move the .fld files listed above in the main NetConfig directory into this **modular** directory.
6. Verify that the 8995UDX-1.1.1.sw2 file is in the main NetConfig directory (not in the **modular** directory).

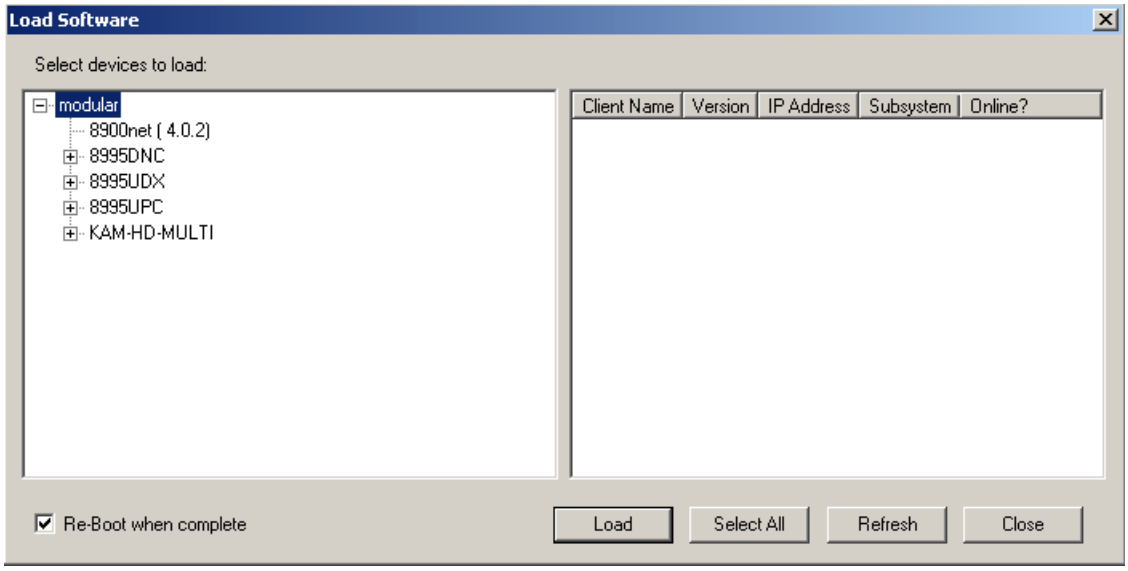
Note NetConfig reads each .sw2 file in its main directory and navigates to the directory given in these files to find the .fld files available. There may be a number of .sw2 and .fld files in your NetConfig directory for other modular products. These will not interfere with the update.

7. Open NetConfig by double clicking on the NetConfig icon.

Note If you have not used NetConfig before, refer to the *NetConfig Instruction Manual* included during installation in the main NetConfig directory in PDF format (NetConfig.pdf).

8. Click on the **Load SW** button on the top of the NetConfig toolbar.
9. This will bring up the Load Software screen (Figure 6).
10. Open the modular directory by selecting the +. You should see the 8995DNC, 8995UDX, 8995UPC selections (as well as other files you may have in your modular NetConfig directory).

Figure 6. NetConfig Load Software Screen

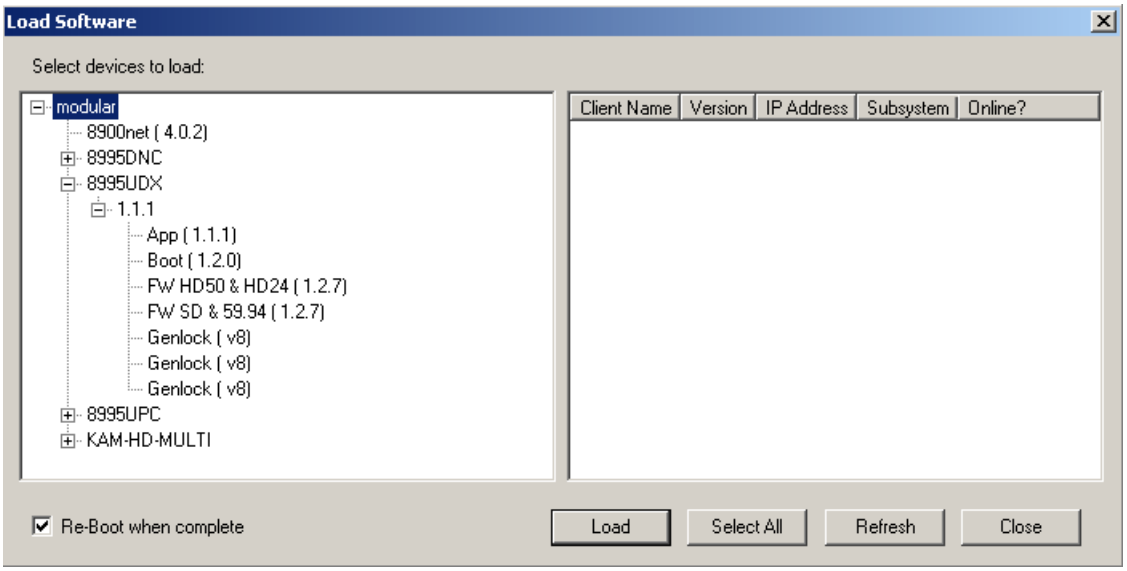


Updating 8995 Modules

To update the 8995 module software, do the following:

1. This procedure will use the 8995UDX as the example. Open the 8995UDX directory by selecting the + (Figure 6).
2. You should see the 1.1.1 directory (Figure 7 on page 20). Open it by selecting the +. (You may have other versions listed for the 8995UDX, such as 1.1.0.)
3. This will bring up the files you will need to update the module and the genlock module (if required).

Figure 7. Open 8995UDX Directory



4. Install the files in this order only or errors may occur:

- FW SD & 59.94 (1.27)
- FW HD50 & HD24 (1.27)
- App (1.1.1)
- Boot (1.2.0)
- Genlock (8)

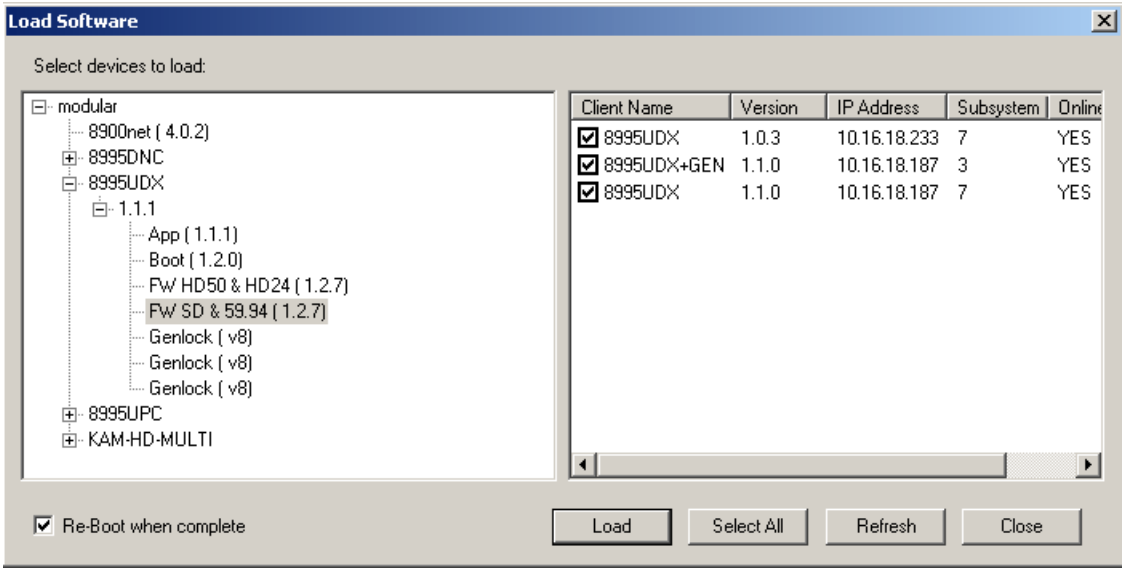
5. Click on the **FW SD & 59.94 (1.27)** choice. All of the 8995UDX modules on your network will appear in the Client Name list on the right as shown in Figure 8 on page 21.

6. Check the 8995UDX modules you wish to update in the Client Name list. You may update all devices at once if all need updating by clicking on the **Select All** button at the bottom of the screen. This will check all the modules. Or you may only check the corresponding checkbox next to the specific modules you need to update.

7. Check the **Re-Boot when complete** checkbox in the lower left corner of the Load Software screen.

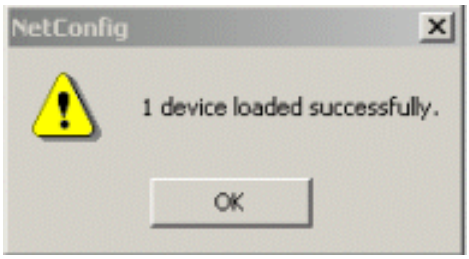
8. Select the **Load** button to update each selected module with the first file.

Figure 8. 8995UDX Software Update Example



9. If the upload has been successful, a pop-up screen similar to the one shown in Figure 9 will appear.

Figure 9. Load Successful Popup



10. Repeat the procedure for the file, **FW HD50 & HD24 (1.27)**, then the **App (1.1.1)**, and then the **Boot (1.2.0)**.

11. When the main software update has finished, check the software version is now at 1.1.1 in the Load Software screen on each of the updated modules. (Figure 10 on page 22)

12. Check the Status web page on the main module for the correct software version (Figure 14 on page 28).

13. If you need to update the Genlock submodule on the host module, go to *Updating 8900GEN-SM Genlock Submodule Firmware* on page 22.

14. If you have finished the update, verify proper operation of the module.

15. Now link to the User Settings web page and select the **Set Factory Defaults** button. This will return the module to the factory default values and update the module with the new parameters for this release.

Updating 8900GEN-SM Genlock Submodule Firmware

You must update the firmware on 8900GEN-SM Genlock submodules to the current version 8 for full functionality of this new release. 8900GEN-SM firmware can only be updated using NetConfig while the submodule is mounted on a host module. Check your 8900GEN-SM firmware version as shown in *Determining 8900GEN-SM Firmware Version* on page 16.

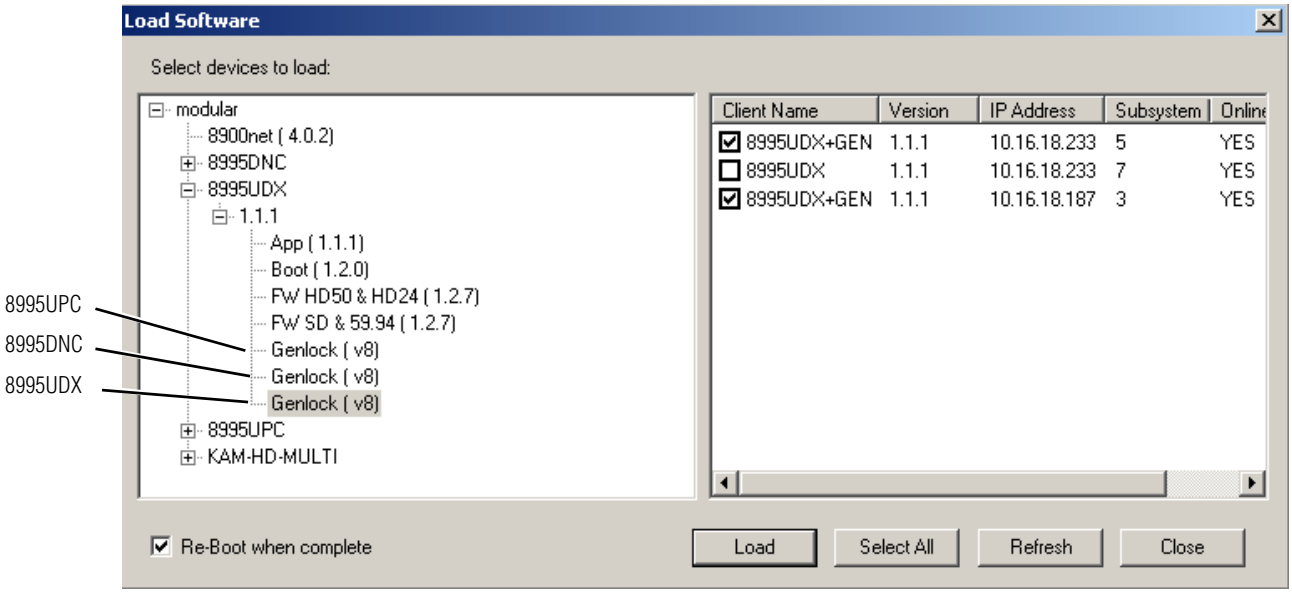
Note If you want to use the microSD software update, you can update the Genlock firmware first with the procedure below. Once the 8900GEN-SM firmware is updated, you may load the module software with the microSD card, a much faster method. Refer to *MicroSD Card Update Procedure* on page 25 for more details.

To update the firmware on the 8900GEN-SM submodules that are installed on any of the host 8995 modules, follow the procedure below. The host modules with genlock submodules installed are identified by the names 8995UDX+GEN, 8995UPC+GEN, and 8995DNC+GEN.

1. Open the 8995UDX directory. Each 8995 module type has a unique Genlock (v8) file which are all found under the 8995UDX directory. The corresponding Genlock firmware for the different host modules are shown in Figure 10.

2. Using the 8995UDX as the example, select the Genlock (v8) corresponding to the 8995UDX as shown in Figure 10. This will bring up all of the 8995UDX modules on the network. To update the Genlock submodules, check only the 8995UDX modules that have submodules installed (8995UDX+GEN).

Figure 10. Updating Genlock Submodule Firmware



3. Select the **Load** button to install this update to the 8900GEN-SM submodules on the selected 8995UDX+GEN modules.

Note Allow the host module(s) to run undisturbed for a couple of minutes after loading the genlock firmware so that the host module can load the genlock module completely.

4. Once the update is complete, check the Genlock web page (Figure 5 on page 16) to verify that the firmware version is now 8. The Hardware version will not change.

5. If you have finished doing the software update already using NetConfig, do the following:

- Verify proper operation of the module.
- Link to the User Settings web page and select the **Set Factory Defaults** button. This will return the module to the factory default values and update the module with the new parameters for this release.

If you are using the microSD method to do the software update, proceed to *Updating Software with a MicroSD Card* on page 24.

Software Update Failure

If the software update is unsuccessful, refer to *Software Update Failure* on page 29.

Updating Software with a MicroSD Card

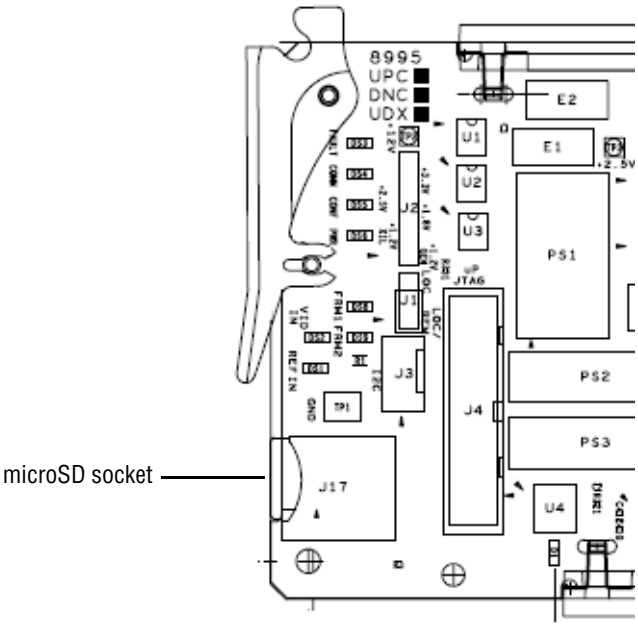
To support the loading of very large software and firmware files such as the 8995 modules, later version 8995 modules have been equipped with a microSD socket located on the front of the module to accept a microSD flash memory card (Figure 11).

Note If your module does not have this socket, you will need to update software with NetConfig. See *Using NetConfig to Update Software* on page 17.

The microSD is a standard flash memory card format commonly used in cell phone and digital cameras for storage. The benefit of this socket is to save significant time in loading software to modules. Loading time using the microSD is approximately 2.5 minutes compared to about 45 minutes per module with NetConfig.

Note If your 8995 module has an 8900GEN-SM Genlock submodule installed with firmware version 7 or earlier, software loading with the microSD card will not work properly. You must either update the submodule to version 8 (see *Updating 8900GEN-SM Genlock Submodule Firmware* on page 22) or remove the 8900GEN-SM submodule.

Figure 11. MicroSD Socket



Some common components for doing this method are the following:

- USB SD/MMC card reader (Kingston TravelLite FCR-HS2MMC/SD) shown at the left of Figure 12.
- TransFlash card and Adapter (SanDisk 256MB SDSDQ-256-A10M) shown on the right in Figure 12.

These devices are used to transfer and upload the .upd type software files needed to update your 8995UDX software.

Figure 12. MicroSD Devices

MicroSD Card Update Procedure

Follow the steps below to update your software:

Note Use standard anti-static precautions when handling these devices.

1. Locate the module software you want to update on the Thomson Grass Valley ftp site at this URL:

   ftp://ftp.thomsongrassvalley.com/pub/modular/8900/8995/1.1.1

1. In the 8995 module folder, find the .upd files for this update as listed below:
   - 8995DNC-1.1.1.upd
   - 8995UDX-1.1.1.upd
   - 8995UPC-1.1.1.upd
2. Copy the appropriate .upd files for the modules you wish to update into a folder on your PC desktop.
3. Slide the TransFlash card into the TransFlash adapter as shown above in Figure 12.

4. On the wide end of the card reader, pull the blue cover out then snap the cover up.

5. Insert the adapter into the card reader with the adapter label facing up and snap the blue cover back into place.

6. Remove the cover from the USB connector end of the card reader and attach the USB card reader to a USB port on your PC.

7. Browse to this card reader drive device on your PC and copy the .upd files provided to the card reader drive.

Note You may have a number of different .upd files on the flash card but you may not have two of the same type files (8995UPC1.1.0.upd and 8995UPC-1.1.1.upd for example).

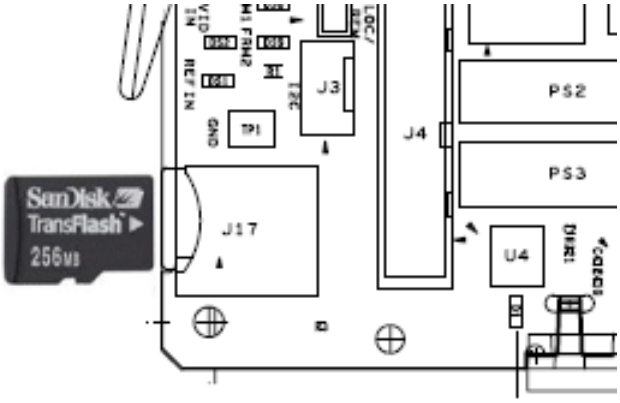
8. Remove the card reader from the PC USB port.

9. Remove the adapter from the card reader.

10. Carefully remove the TransFlash card from the adapter, pull the 8995 module out of the frame and place the SD card into the socket on the front of the module so the label side is to the outside as shown in Figure 13.

11. Insert the module back into the frame to reboot and start the update process.

Figure 13. Insert TransFlash Card into Module Socket



Note If the module does not recognize the microSD card or does not reboot, use the NetConfig method described in *Using NetConfig to Update Software* on page 17.

During the module reboot, when a card is inserted in the socket, the application will not be loaded to the module. The module will search the card for the correct file types and device class information and load these into the onboard flash memory. This process is automatic and requires no action on your part.

While the boot code is loading the update, the Config LED on the module will indicate the progress. If the Config LED is lit, the boot code is currently writing the update to flash.

If the FAULT LED begins flashing, a failure to update has occurred. A failure to update can occur when the SD card cannot be read, no .upd files are found for the module's device class, or multiple files are found for the same module type.

If there is an 8900GEN-SM installed on the host module with firmware less than version 7, the software will not load and there will be no fault indication. When the 8900GEN-SM does not have the updated firmware required (version 8 or higher), the host module will not recognize that the microSD card is installed will proceed to reboot to the current application. No software update will occur. To update the 8900GEN-SM to version 8, use NetConfig as described in *Updating 8900GEN-SM Genlock Submodule Firmware* on page 22.

When the Config LED goes off, the update is complete. Remove the module, remove the microSD card, and reinstall the module to return to normal operation.

12. Once the module has rebooted completely and the Config LED is off, check that the Status web page is similar to the one shown in Figure 14 on page 28 and verify module operation.

13. Once software is updated, you will need to update the module by selecting the **Set Factory Defaults** button on the User Settings web page.

Software Update Failure

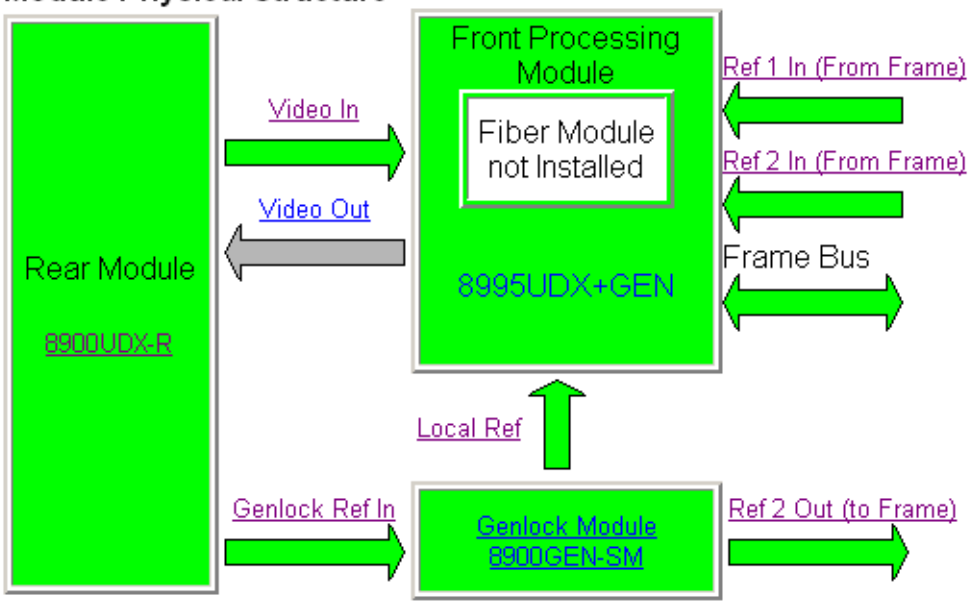
If the software update is unsuccessful, refer to *Software Update Failure* on page 29.

Figure 14. Status Web Page

Status

Model: 8995UDX+GEN Description: HD/SD Converter
Frame Location: bay 2 , Slot: 3
Input Video Standard: 480i/59.94 Input Video: Coax Input : Present
Output Timing Source: Ref 2
Output Video Standard: 720p/59.94 Fiber Module Type: Not Installed

Module Physical Structure



Fiber Module is not installed

Status:
Front Module: PASS
Rear Module: PASS
Genlock Module: PASS
Fiber Module: EMPTY

Update successful

Front Module:
Part Number: 771-0057----
Serial Number: --------
Hardware Revision: ---
Firmware Image 1 Version: inactive
Firmware Image 2 Version: 1.2.7
Firmware Image 3 Version: inactive
Firmware Image 4 Version: inactive
Software Version: 1.1.1
Boot Version: 1.2.0
Asset Tag:

Software Update Failure

If for some reason the software update fails and the module becomes unresponsive, set jumper, J7, on the module circuit board to the DIAG position (Figure 15). This puts the module in Boot mode and should allow the files to be reloaded using the NetConfig instructions.

Also, loading the corresponding 8995UDX-1.1.1.upd, 8995UPC-1.1.1.upd, or the 8995DNC-1.1.1.upd via the microSD slot (if present) is another possible method of recovering from a failed load.

Figure 15. Jumper Location