



7600 SD/HD/MHD-REF

REFERENCE GENERATOR

Release Notes

Software Version 3.0.0.8

Contacting Grass Valley

International Support Centers	France 24 x 7	+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		

Copyright © Grass Valley, Inc. All rights reserved.
This product may be covered by one or more U.S. and foreign patents.

Grass Valley Web Site

The www.grassvalley.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.



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



Contents

- 7600REF SD/HD/MHD Release Notes** 5
 - Introduction 5
 - 7600REF Hardware Updates 6
 - 7600REF 3.0.0.8 Software Overview 6
 - Component Versions 6
 - New Functionality 6
 - Product Improvements 6
 - Database Logs Addressed 7
 - Known Issues 7
 - Open Enhancements 8
 - 7600REF Version 3.0.0.0 Version History 9
 - 7600 Version 3.0.0.7 Release 9
 - 7600REF Version 3.0.0.6 Release 11
 - 7600REF Version 3.0.0.4 Release 14
 - 7600REF Version 3.0.0.3 Release 16
 - 7600REF Version 3.0.0.2 Release 18
 - 7600REF Version 3.0.0.1 Release 20
 - 7600REF Version 3.0.0.0 Release 22

Version **3.0.0.8**

APRIL 2010

7600REF SD/HD/MHD ***Release Notes***

Introduction

These release notes provide important information on the release of the latest software for the 7600 SD/HD/MHD Reference Generator. This version of software is currently shipping on the product. The latest product has some updated circuit boards so updating to this version is not yet possible.

The latest information is not contained in the current *7600REF Instruction Manual*, so use these release notes as a guide to the new functionality and other information until these manuals are updated.

Note This release contains new hardware in the frame and is not compatible with previous frame hardware.

These release notes contain the following sections:

- 7600REF Hardware Updates ([page 6](#))
- 7600REF 3.0.0.8 Software Overview ([page 6](#))
- 7600REF Software History for Version ([page 9](#))

7600REF Hardware Updates

A number of modules in the 7600REF frame are new versions offering improved performance and functionality.

Modules that have been updated include the following:

- SD A/V HD Test Signal module (7600SD-REF)
- HD A/V HD Test Signal module (7600HD-REF)
- Tri-Level Sync module

7600REF 3.0.0.8 Software Overview

Component Versions

- Application 3.0.0.8
- Bootloader v1.1.1.3
- Front Panel v1.4
- Altera v7.02
 - U13.pof and U13.svf 24/07/2006
 - U27.pof and U27.svf 05/09/2005 & 25/02/2006

New Functionality

- Display of enabled features this is in Status/Features.
- Display option board Altera versions; this is moved from Status/Configuration/Option to Status//Option.

Product Improvements

The following items have been fixed in this release:

- Lock up after NTP server timeout.
- Wrong menus occasionally displayed for option boards; e.g. SDI card would insist that it was a TLS card until removed/replaced or the BBSRAM was cleared.
- SDI AES tone group enables controlled the wrong groups.

Database Logs Addressed

- (124) GPO Hardware does not meet spec.
- (186) NTP server error message could be reported even if not in client mode.
- (215) GPI control for Memory locations needs to be added.
- (220) Date format seems to be incorrect in the Timecode user bits.
- (221) Option cards are inaccurately being reported as TLS in the Option Menu.
- (222) When "Upgrades" "Test Patterns" is selected without a TFTP server connected the patterns are deleted.
- (223) If upgrade bootloader is selected without TFTP server connected the system boots into "Upgrade Failed" menu.
- (224) Cannot seem to get the VITC date to display correctly on the Evertz timecode reader.
- (225) Timecode (VITC in this case) and RTC seem to synced with visual check using Evertz TC reader but when GPS time and LTC time are checked using the same method LTC seems to tick over slightly ahead of RTC.
- (229) HD/SD Expansion has CRC errors on some formats and does not output 720p 23 and 24.

Known Issues

- (105) Subcarrier jitter with 10MHz input but set to freerun.
- (125) Manual does not describe genlock timing offsets.
- (188) SDI O/P's do not adhere to SMTPE jitter tolerances when displaying HD.
- (205) Vector Crashes when [Features], [Via Keycode] or [Via Server] are pressed.
- (217) 7600REF would benefit from having fully featured NTP server/client software.
- (228) Menu seems to lock up very intermittently.

Open Enhancements

- (155) 1080p support
- (170) support for "3G" and to lesser extent "Dual Link" SDI formats is required.
- (193) Jam to LTC or LTC input.
- (197) Web Browser remote.
- (226) Menu structure should include a list of currently installed options

7600REF Version 3.0.0.0 Version History

This section of the release notes covers information on previous software versions. These versions are not covered in the current 7600REF Instruction Manual so use this section as a reference for earlier version 3.X.X.X enhancements not covered.

7600 Version 3.0.0.7 Release

Component Versions

- Application v3.0.0.7
- Bootloader v1.1.1.3
- Front Panel v1.4
- Altera v7.02
 - U13.pof and U13.svf 24/07/2006
 - U27.pof and U27.svf 05/09/2005 & 25/02/2006

New Functionality

Database Logs Addressed

- (124) GPO Hardware does not meet spec.
- (186) NTP server error message could be reported even if not in client mode.
- (215) GPI control for Memory locations needs to be added.
- (220) Date format seems to be incorrect in the Timecode user bits.
- (221) Option cards are inaccurately being reported as TLS in the Option Menu.
- (222) When "Upgrades" "Test Patterns" is selected without a TFTP server connected the patterns are deleted.
- (223) If upgrade bootloader is selected without TFTP server connected the system boots into "Upgrade Failed" menu.
- (224) Cannot seem to get the VITC date to display correctly on the evertz timecode reader.
- (225) Timecode (VITC in this case) and RTC seem to synced with visual check using Evertz TC reader but when GPS time and LTC time are checked using the same method LTC seems to tick over slightly ahead of RTC.

Known Issues

- (105) Subcarrier jitter with 10MHz input but set to freerun.
- (125) Manual does not describe genlock timing offsets.
- (188) SDI O/P's do not adhere to SMPTE jitter tolerances when displaying HD.
- (205) Vector Crashes when [Features], [Via Keycode] or [Via Server] are pressed.
- (217) 7600REF would benefit from having fully featured NTP server/client software.

Open Enhancements

- (155) 1080p support.
- (170) support for "3G" and to lesser extent "Dual Link" SDI formats is required.
- (193) Jam to LTC or LTC input.
- (197) Web Browser remote.

7600REF Version 3.0.0.6 Release

Component Versions

- Application 3.0.0.6
 - EP1S25 v3.0.0.6-25
 - EP1S30 v3.0.0.6 30
- Bootloader v1.1.1.3
- Front Panel v1.4
- Altera v7.02
 - U13.pof and U13.svf 24/07/2006
 - U27.pof and U27.svf 05/09/2005 & 25/02/2006

New Functionality

- 3G support.
- Support for simultaneous embedded AES groups for the standard SDI option board.
- Status for SDI option board now displays the FW version number.
- Addition of displayable time code in SDI main board outputs.
- Addition of display of system errors.
- Main and 3G board support of AFD.
- Added the “status” di2c command.
- Removed the old Ident loader support.
- Changed IP defaults to DHCP, file server address 192.168.24.255.
- Test utility now over TCP.
- Storing of link register into BBSRAM on an exception.

Product Improvements

- Broadcast socket was not closed if unit IP address was changed.
- Upgrades failed using proprietary protocol as trying to use same port as the broadcast listen.
- No longer loses the ident text scroll setting when idents are turned off.
- NTP did not resync if the NTP server address was changed until the IP address was updated too.
- Non embedded AES, sample rate 96KHz, was corrupted.

Database Logs Addressed

- (124) GPO Hardware does not meet spec.
- (183) Audio default is to generate a 1KHz tone.
- (184) With Video disabled SDI still generates a pattern and displays a pattern menu.
- (185) Master/slave and NTP sockets could fail if DHCP assigned at startup.
- (186) NTP server error message could be reported even if not in client mode.
- (189) HD progressive text scrolling jump.
- (191) 360-16-01 DC offset control noisy and difficult to set during test.
- (196) 7600REF upgrade error on pattern.
- (212) 330-11-00 lock up on power up.
- (213) TLS standard settings can stop XL rebooting.
- (215) GPI control for Memory locations needs to be added.
- (216) RTC lags behind GPS time by roughly 200ms.
- (219) 4:3 Test has horizontal line falling on single line of 2 and not on field 1 - so it appears to flicker.
- (220) Date format seems to be incorrect in the Timecode user bits.
- (221) Option cards are inaccurately being reported as TLS in the Option Menu.

Known Issues

- (105) Subcarrier jitter with 10MHz input but set to freerun.
- (125) Manual does not describe genlock timing offsets.
- (188) SDI O/P's do not adhere to SMTP jitter tolerances when displaying HD.
- (205) Vector Crashes when [Features], [Via Keycode] or [Via Server] are pressed.
- (217) 7600REF would benefit from having fully featured NTP server/client software.

Open Enhancements

- (155) 1080p support.
- (170) support for "3G" and to lesser extent "Dual Link" SDI formats is required.
- (193) Jam to LTC or LTC input.
- (197) Web Browser remote.

7600REF Version 3.0.0.4 Release

Component Versions

- Application 3.0.0.4
 - EP1S25 v3.0.0.4-25
 - EP1S30 v3.0.0.4 30
- Bootloader v1.1.1.2
- Front Panel v1.4
- Altera v7.02
- U13.pof and U13.svf 24/07/2006
- U27.pof and U27.svf 05/09/2005 & 25/02/2006

New Functionality

- New 'Fan Failure' error message

Compatibility

- Partial 3G support.
- Error Logs.
- RTC operation.
- No longer has an RTC sync menu. If fitted and locked the RTC auto syncs to GPS else auto syncs to NTP if a client.
- Has a new status menu to indicate RTC sync source.
- Timecode jamming now displays a warning if jamming with an unsynced source.
- Now supports serial commands over IP.

Database Logs Addressed

- (124) GPO Hardware does not meet spec.
- (145) ATR lock non-functional without crash lock.
- (183) Audio default is to generate a 1KHz tone.
- (184) With Video disabled SDI still generates a pattern and displays a pattern menu.
- (185) Master/slave and NTP sockets could fail if DHCP assigned at startup.
- (186) NTP server error message could be reported even if not in client mode.
- (189) HD progressive text scrolling jump.

- (191) 360-16-01 DC offset control noisy and difficult to set during test.
- (196) 7600REF upgrade error on pattern.
- (213) TLS standard settings can stop XL rebooting.
- (215) GPI control for Memory locations needs to be added
- (216) RTC lags behind GPS time by roughly 200ms.
- (219) 4:3 Test has horizontal line falling on single line of 2 and not on field 1 - so it appears to flicker.

Known Issues

- (105) Subcarrier jitter with 10MHz input but set to freerun.
- (125) Manual does not describe genlock timing offsets.
- (188) SDI O/P's do not adhere to SMPTE jitter tolerances when displaying HD.
- (205) Vector Crashes when [Features], [Via Keycode] or [Via Server] are pressed.
- (217) 7600REF would benefit from having fully featured NTP server/client software.

Open Enhancements

- (155) 1080p support.
- (170) support for "3G" and to lesser extent "Dual Link" SDI formats is required.
- (193) Jam to LTC or LTC input.
- (197) Web Browser remote.
- (220) Date format seems to be incorrect in the Timecode user bits.

7600REF Version 3.0.0.3 Release

Component Versions

- Application 3.0.0.3
 - EP1S25 v3.0.0.3-25
 - EP1S30 v3.0.0.3 30
- Bootloader v1.1.1.2
- Front Panel v1.4
- Altera v7.02
 - U13.pof and U13.svf 24/07/2006
 - U27.pof and U27.svf 05/09/2005 & 25/02/2006

New Functionality

- New 'Fan Failure' error message.

Database Logs Addressed

- (124) GPO Hardware does not meet spec.
- (145) ATR lock non-functional without crash lock.
- (179) Add SNMP support.
- (182) Disabled Full Frame feature affects pattern defaults.
- (183) Audio default is to generate a 1KHz tone.
- (184) With Video disabled SDI still generates a pattern and displays a pattern menu.
- (185) Master/slave and NTP sockets could fail if DHCP assigned at startup.
- (186) NTP server error message could be reported even if not in client mode.
- (187) Comments field in Menttest need to be more accurate.
- (189) HD progressive text scrolling jump.
- (191) HD Tr-level sync DC offset control noisy and difficult to set during test
- (196) 7600REF upgrade error on pattern.
- (204) A customer has asked us to include "ZonePlates" in our test patterns.
- (209) When you change TLS frequency to 1080i/59.94 on the front panel it works as expected, but when you select 1080i/59.94 on Vector it changes to 1080i/60.

- (211) analog output 5 is faulty.

Known Issues

- (105) Subcarrier jitter with 10MHz input but set to freerun.
- (125) Manual does not describe genlock timing offsets.
- (188) HD/SD Expansion SDI O/P's do not adhere to SMPTE jitter tolerances when displaying HD.

Open Enhancements

- (155) 1080p support.
- (170) support for "3G" and to lesser extent "Dual Link" SDI formats is required.
- (193) Jam to LTC or LTC input.
- (197) Web Browser remote.

7600REF Version 3.0.0.2 Release

Component Versions

- Application 3.0.0.2
 - EP1S25 v3.0.0.2-25
 - EP1S30 v3.0.0.3 30
- Bootloader v1.1.1.2
- Front Panel v1.4
- Altera v7.02
 - U13.pof and U13.svf 24/07/2006
 - U27.pof and U27.svf 05/09/2005 & 25/02/2006

New Functionality

- Firmware upgrade procedure.
- Files can now be downloaded via a proprietary protocol via a separate PC utility (FileServer v1.0) or Vector v3.3.
- Upgrading the firmware, in addition to auto reloading the menus and standard pattern files, also auto loads proprietary pattern and logo files but only if they had been loaded before the upgrade.
- Adding new features. Features can now be enabled with a 12 character key code via the front panel or Vector v3.3.

Database Logs Addressed

- (124) GPO Hardware does not meet spec.
- (145) ATR lock non-functional without crash lock.
- (178) With 2 7600REFs separately locked to GPS and ATR turned on the subcarrier is not locked between units.
- (179) Add SNMP support.
- (180) Add Remote Editor Install Package.
- (181) Spelling inconsistency during system boot.
- (182) Disabled Full Frame feature affects pattern defaults.
- (183) Audio default is to generate a 1KHz tone.
- (184) With Video disabled SDI still generates a pattern and displays a pattern menu.
- (185) Master/slave and NTP sockets could fail if DHCP assigned at startup.

- (186) NTP server error message could be reported even if not in client mode.
- (189) HD progressive text scrolling jump.
- (194) Firmware Upgrade Procedure.
- (195) Adding new features.
- (199) SDI option boards do not work in slot 3.

Known Issues

- (105) Subcarrier jitter with 10MHz input but set to freerun.
- (125) Manual does not describe genlock timing offsets.
- (188) HD/SD Expansion SDI O/P's do not adhere to SMTP jitter tolerances when displaying HD.
- (197) Web Browser remote.

Open Enhancements

- (155) 1080p support.
- (166) TC Time should be shown as a Screen Saver or summary of configuration if no TC option installed.
- (170) support for "3G" and to lesser extent "Dual Link" SDI formats is required.
- (193) Jam to LTC or LTC input.

7600REF Version 3.0.0.1 Release

Component Versions

- Application 3.0.0.1
 - EP1S25 v3.0.0.1-25
 - EP1S30 v3.0.0.1 30
- Bootloader v1.1.1.2
- Front Panel v1.4
- Altera
 - U13.pof and U13.svf 24/07/2006
 - U27.pof and U27.svf 05/09/2005 & 25/02/2006

New Functionality

- Now supports feature enabling via Vector.
- Added upgrade of proprietary patterns.

Database Logs Addressed

- (124) GPO Hardware does not meet spec.
- (145) ATR lock nonfunctional without crash lock.
- (178) With 2 7600REFs seperately locked to GPS and ATR turned on the subcarrier is not locked between units.
- (179) Add SNMP support.
- (180) Add Remote Editor Install Package.
- (181) Spelling inconsistency during system boot.
- (182) Disabled Full Frame feature affects pattern defaults.
- (183) Audio default is to generate a 1KHz tone.
- (184) With Video disabled SDI still generates a pattern and displays a pattern menu.
- (185) Master/slave and NTP sockets could fail if DHCP assigned at startup.
- (186) NTP server error message could be reported even if not in client mode.
- (189) HD progressive text scrolling jump.
- (192) Reported NTP not communicating with third party equipment

Known Issues

- (105) Subcarrier jitter with 10MHz input but set to freerun.
- (125) Manual does not describe genlock timing offsets.
- (188) HD/SD Expansion SDI O/P's do not adhere to SMPTE jitter tolerances when displaying HD.

Open Enhancements

- (155) 1080p support.
- (166) TC Time should be shown as a Screen Saver or summary of configuration if no TC option installed.
- (170) support for "3G" and to lesser extent "Dual Link" SDI formats is required.
- (187) Comments field in Menttest need to be more accurate.

7600REF Version 3.0.0.0 Release

Component Versions

- Application 3.0.0.0
 - EP1S25 v3.0.0.0-25
 - EP1S30 v3.0.0.0 30
- Bootloader v1.1.1.2
- Front Panel v1.4
- Altera
 - U13.pof and U13.svf 24/07/2006
 - U27.pof and U27.svf 05/09/2005 & 25/02/2006

New Functionality

- Slowed NTP client requests to 1 hour.
- Forced an NTP update at start up and whenever “NTP sync source” is selected.
- NTP now has a server timeout menu.
- New data storage system; now stored directly to BBSRAM; no need to wait for menu timeout before removing power to ensure all user settings persist.
- Tidied analog menus: some were inconsistent and one could overflow the screen.
- Changed “Timecode JAM” to “Timecode”.
- Changed LTC “Binary Group” to “User Bits”.
- No longer automatically loses its configuration on an upgrade; now dependant on the version of the default file loaded.
- LTC analog video follow options now dependent on the selected analogue formats.
- Compatible with v3.0 of the remote editor.
- Display of the MAC address has been moved into “7600REF Information”.
- Dynamic screen updates: the status error display, the GPS status and the IP address under DHCP now dynamically update to reflect any relevant changes.
- BootROM programming now completely preserves the MAC memory locations: previously it cleared the unused bytes meaning a MAC address program never completed and hence features could not be programmed.

- Analog audio now has a “Sync to SDI” menu for lip sync.
- Offers soft resets after firmware and menu upgrades.
- Supports single “PATX” pattern file format.
- Supports proprietary pattern files.
- Fault recovery; pressing and holding the SETUP key during switch on puts the unit in a hard coded menu offering erase of the BBSRAM and file store.

Compatibility

- Upgrading will have to be in two stages: load the new firmware and menus as usual, power cycle then load the pattern files.

Database Logs Addressed

- (56) Clear All timing offsets confirmation screen.
- (124) GPO Hardware does not meet spec.
- (145) ATR lock nonfunctional without crash lock.
- (160) Current configuration can be lost over a power cycle.
- (165) Default settings should be set to 625 compatible throughout.
- (167) GPS Menu's need improvement.
- (168) Timecode time can be hard to find in the Menu's.
- (175) Delayed boot.
- (176) Lip sync audio is not being passed through analogue OP.
- (177) Timezone lost on power cycle.

Known Issues

- (81) GPI's are only active if the 7600REF is at the top level menu.
- (105) Subcarrier jitter with 10MHz input but set to freerun
- (125) Manual does not describe genlock timing offsets.

Open Enhancements

- (155) 1080p support.
- (166) TC Time should be shown as a Screen Saver or summary of configuration if no TC option installed.
- (170) support for "3G" and to lesser extent "Dual Link" SDI formats is required.

