

Horizon® Imager Software

Release Notes

Version 1.7.0 Release Notes (Changes Since Versions 1.6.0 and 1.6.2)

Warning! Horizon Imagers that shipped from the factory with version 1.7.0 software contain an improved print head scan profile which is incompatible with older versions of software. You can determine the scan profile version by looking for the “TPH Scan Profile Version” on the control panel in the Utilities->Imager Info screens (this information is only present for version 1.7.0 and later). If the type is ‘2’ or greater, the unit was factory built with version 1.7.0 and should not be downgraded.

Summary

Horizon version 1.7.0 software offers new features, improvements, and repaired defects as detailed below. This software is compatible with all Horizon imagers. Any Horizon imager running software versions 1.4.x through 1.6.x can be upgraded to version 1.7.0.

This document details only changes from the 1.6.0 and 1.6.2 software releases. If you are upgrading from an older software version (1.4.1, 1.5.0, or 1.5.2), older versions of Horizon Imager Software Release Notes can be downloaded from the Codonics web site.

Changes to 1.7.0 PostScript printing requires loading new Windows PostScript drivers (Version 1.700). These drivers can be downloaded from the Codonics web site (see Tech Brief 901-068-002). Also, a CD with these drivers should have shipped with the version 1.7.0 software (part number 020-056-001).

Image parameters for color prints such as Gamma, Contrast, and Saturation may need to be adjusted after upgrading to version 1.7.0 to ensure optimal image quality.

New Features

This section details new features available with Horizon version 1.7.0 software.

- ◆ **Print speed improvement.** Printing speed has been improved by up to 21% for **ChromaVista®** media and 20% for **DirectVista®** media. This feature requires a high throughput engine and an “HTP Engine” feature key. Please contact your Codonics representative for details.
- ◆ **Print from zip disk.** Added ability to print images from a zip disk. Please contact your Codonics representative for details on how to use this feature.
- ◆ **Full support for color Saturation adjustment.** Added support for positive (add color) Saturation settings. Previously, only negative (remove color) settings were available. Positive settings can be used to achieve more vibrant color images.
- ◆ **Color Saturation bracket print (device 9) is now functional.** Previously, this function was disabled. This function is not yet supported with DICOM.
- ◆ **“DICOM Lite” feature.** DICOM Lite allows a maximum of two open DICOM associations, as opposed the standard 12 open associations. Added feature key to support this feature.
- ◆ **“EP Emulation” feature.** This interface allows connectivity with certain ADAC / Philips nuclear medicine systems. Added feature key to support this feature.
- ◆ **Active edge blanking.** This feature allows Horizon imagers to print borders closer to the sides of **DirectVista** Film prints. This feature is only available on units factory calibrated with version 1.7.0 software or later.
- ◆ **Print length calibration.** This feature allows Horizon imagers to print borders closer to the top and bottom of **DirectVista** Film prints. This also allows consistent printing below the bottom perforation of **ChromaVista** Paper prints when Coverage is set to Full Bleed or Border Fill is set to On. This feature is only available on units which have received a print length calibration. Please contact your Codonics representative for details.
- ◆ **Multiple IP address are now completely integrated.** Previously, they could only be set through a service utility. Multiple IP addresses can now be set through the control panel. They are stored on the smart card, stored on a zip disk when the configurations are saved, and persist across software updates. Note: The “ipalias” command, which was a service level utility to configure multiple addresses, has been eliminated.
- ◆ **Support high throughput and standard throughput print engines.** Added “HTP Engine” feature key to support this feature. Please contact your Codonics representative for details.
- ◆ **Added “ISG” feature key for future implementation of Codonics-ISG print interface.** The ISG interface feature is not yet implemented.
- ◆ **Added “Printer Farm” feature key for future multiple-printer configuration.** “Printer Farm” feature is not yet implemented.
- ◆ **Full set of MCM (Medical Color Matching®) profiles 1-8.** Profiles are optimized for the following systems:
 - ◆ MCM 1 = Sony Trinitron
 - ◆ MCM 2 = Viewsonic G810
 - ◆ MCM 3 = NEC MultiSync 1880SX
 - ◆ MCM 4 = NEC MultiSync 1880SX Alternate 1
 - ◆ MCM 5 = Sony Trinitron Alternate 1
 - ◆ MCM 6 = NP-1600 MCM 6 Equivalent
 - ◆ MCM 7 = Viewsonic G810 Alternate 1
 - ◆ MCM 8 = Sun Monitor 1

- ◆ **New OEM MCM profiles.** New OEM-specific MCM profiles have been added. Details can be obtained from your host system manufacturer.
- ◆ **Initial support for 11x14 DirectVista Film and Paper.** Full support to be determined upon media availability.

Product Improvements

This section details features which have been improved with Horizon version 1.7.0 software.

◆ DICOM Interface Improvements.

- ◆ ACTIVE light now more accurately reflects actual DICOM image transfer and processing activities. Previously, the ACTIVE light would flash during extraneous activities such as N-Get status queries or associations being left open.
- ◆ Incorrect mixing of color and grayscale PMM SOP Classes and Image Boxes is now permitted. This allows improved compatibility with ADAC PET systems. (Obscure)
- ◆ Improved management of DICOM log files. Previously, DICOM log files would grow too large and could negatively impact system performance. (Obscure)

◆ PostScript Interface Improvements.

- ◆ Added 11x14 **DirectVista** Paper and Film to Windows drivers.
- ◆ Corrected printable width for **ChromaVista** Paper (see "Reduced imagable width" below) in Windows drivers.
- ◆ Added support for positive Saturation settings (1 to 100) to Windows drivers.

◆ User Interface Improvements.

- ◆ The cassette status lines now flash status messages to indicate activity with a particular supply cassette. Possible status messages are: "Printing," "Media Jam," or "Calibrating."
- ◆ Added a pop-up box and status message to alert user when imager is preparing for printing. This happens when the system reads the ribbon (if applicable) and positions the internal components for printing.
- ◆ Dismissable pop-up boxes can now always be dismissed by pressing the CANCEL key, even if the CANCEL key is not normally active. Previously, the CANCEL key was not always active at the status screen. (Obscure)
- ◆ Improved acceleration on settings which have large ranges such as IP addresses or test-print copies.
- ◆ TPH Scan Profile Version, Product Code, and Engine Subassembly ID are now displayed in Utilities-> Imager Info screens and status screen / test print.
- ◆ Synchronized control panel Utilities->Info screen information and status screen / test print information.
- ◆ Improved startup and shutdown screens. Look and feel is more consistent with the rest of the user interface.

- ◆ ALERT light is now properly turned on when a periodic maintenance reboot is recommended. Previously, the ALERT light was not turned on.
- ◆ A warning screen will now appear upon power-up if the system was not properly powered off (from the control panel). The warning screen will explain the circumstances of the improper power-down. For example, the imager may have simply lost power or it may have detected an over-temperature situation.
- ◆ The phrase "decimation warning" has been changed to "image warnings" in preparation for future image cropping mode.
- ◆ If the default Background is set remotely, the control panel will now display the current setting as "custom."
- ◆ Unsupported parameters now display as "--" in status screen / test print.
- ◆ Display all IP addresses in Utilities-> Info screens and status screen / test print when multiple IP addresses are used.
- ◆ Corrected spelling and grammatical mistakes.

◆ Service and Production Utility Improvements.

- ◆ Added power-on diagnostic for overriding over and under temperature check.
- ◆ Added a utility to store last and maximum power-supply power-on times.
- ◆ Engine constants 0, 9, and 10 are set to defaults upon software installation.
- ◆ Corrected problems with "testprint1" utility and added capability for user to specify media type and size.
- ◆ Added ability to clear log files from control panel.
- ◆ Added support for testing 8x10 **DirectVista** paper.
- ◆ Added "engine_config" service utility for adjusting ChromaVista ribbon tension for improving color registration. See Product Bulletin 108 (Part No. 903-001-008) for details.

- ◆ **Improved image quality; significant reduction of vertical banding and streaks.** Note: This improvement is available in field-upgraded units, however best results can only be accomplished with a factory calibration. Units which report a "TPH Scan Profile Version" of '2' or greater in the control panel Utilities-> Imager Info screens and status screen / test print will produce best results (this information is only present for version 1.7.0 and later).

- ◆ **Fine tuned sensitometry curves for DirectVista media.** Provides more accurate grayscale density mapping.
- ◆ **Fine tuned sensitometry curves for ChromaVista media.** Provides more accurate density mapping, especially at very light or dark densities. Produces more striking and vibrant colors and more neutral grayscale tones.
- ◆ **Added support for 50-sheet ChromaVista supply cassettes.** Provides more reliable color printing by eliminating one type of jamming problem that occurred with 100-sheet cassettes. Previously, 50-sheet cassettes registered a starting sheet count of 80.

- ◆ **Improved printed image corner rounding on corners of film prints.**
- ◆ **System software “watchdog.”** Automatically cycles power in the event of a complete system software failure. (Obscure)
- ◆ **Improved centering of printed area.** Note: This improvement is only available on units factory calibrated with version 1.7.0 software or greater.
- ◆ **Simplified media jam clearing.** Closing the top cover is now the only required step to signal that a jam has been cleared. Of course, any jams should be cleared before closing the top cover.
- ◆ **Display expired keys.** Expired temporary feature keys now displayed as “Expired” rather than being completely deleted.
- ◆ **Disabled all Dmin and Dmax settings for paper prints.** Dmin and Dmax are typically only used for film prints. Previously, remote settings, which were normally optimized for film, were applied to paper resulting in incorrect prints.
- ◆ **Improved initialization.** Print engine initialization (preparing the imager for printing) has been improved for more reliable operation. This allows the engine to better recover from abnormal shutdown conditions such as a power failure. It is still recommended that the imager be powered off via the control panel power key whenever possible.
- ◆ **Quicker “safe for shipping” operation.** Print engine is now initialized to a safe shipping position approximately 30 seconds after power is applied via the control panel power key. Previously, this occurred several minutes after power was applied. (Obscure)
- ◆ **Improved quality of text on densitometer calibration prints.**
- ◆ **Added support for FTP passive mode connections.** Previously, passive mode connections were refused. (Obscure)
- ◆ **FTP and LPR interfaces now correctly controlled by corresponding feature keys.**
- ◆ **Reduced imagable width slightly for ChromaVista Paper.** It has been reduced from 2644 pixels to 2580 pixels for A-size and from 2564 to 2514 for A4-size. The previous widths caused problems printing too close to the media edge.
- ◆ **Added check for internally stored product ID with product-code (first three digits) portion of license code.** This is currently used to identify the Horizon SF (small format) which has a product ID of 2. All other Horizon products have a product ID of 0 or 1.
- ◆ **Added a detection mechanism for a ribbon which has been installed backwards.** User is informed of error on control panel status screen.
- ◆ **Additional information on calibration prints.** All calibration prints (excluding the print length calibration sheet) now have the date, time, imager serial number, and software version printed on the bottom.
- ◆ **Print head scan profile is now read directly from the head.** Previously this information was read only from a disk file making it vulnerable to corruption during software upgrades.
- ◆ **Eliminated several extraneous error log messages.** (Obscure)
- ◆ **Miscellaneous operational improvements.** A variety of minor changes were made to the imager software to improve overall operation. This includes improvements to how the engine firmware controls positioning of various mechanical components.

Defects Repaired

This section details product defects that have been repaired by Horizon version 1.7.0 software.

◆ DICOM Interface Defects Repaired

- ◆ Corrected problems which caused TCP/IP connections to be prematurely terminated. This typically resulted in DICOM errors being occasionally reported on DICOM SCU host systems, even when the imager appeared to be functioning normally.
- ◆ Added support for using Magnification Type of NONE with “specialBracket” device. Previously, this caused image cell to print with “Image Processing Failed” message. (Obscure)
- ◆ Corrected problem where system did not process DICOM prints sent to AE title “DEFAULTGRAYSCALE” when default grayscale media is set to A-size ChromaVista Paper. (Obscure)
- ◆ Corrected problem where sending DICOM images which did not match the job-indicated rows and columns would cause a system software failure. (Obscure)

◆ PostScript Interface Defects Repaired.

- ◆ Corrected a problem which prevented “A4” from being displayed as a Page Size in Windows 2000 and Windows XP. Requires 1.700 PostScript drivers.
- ◆ Windows XP driver uninstaller now works correctly. Previously the driver could only be uninstalled by finding and deleting the .ppd and .bpd files under the C:\winnt\system 32\... directory.
- ◆ Corrected a problem where PostScript jobs would fail when being sent from a host with a name starting with a leading digit. (Obscure)
- ◆ Corrected problem where “Product,” “PSVersion,” and “FreeVM” fields were corrupt in PPD files. (Obscure)

◆ Color Printing Defects Repaired.

- ◆ Corrected color ribbon handling problems which caused printing jams.
- ◆ Corrected color ribbon handling problems which caused color patches to be mixed up resulting in prints with incorrect color tone (typically too green).
- ◆ Corrected color ribbon handling problems which caused color patches to be skipped, wasting ribbon.
- ◆ Improved detection of end-of-ribbon condition.

- ◆ Corrected problems when ChromaVista prints jammed while rewinding media. Previously, such sheets resulted in a secondary “phantom jam,” where the next sheet reported a jam. Also, such sheets could not be purged from the print queue. (Obscure)
- ◆ Corrected problem where the print queue count was incorrect when jobs containing multiple copies were purged. (Obscure)
- ◆ Corrected problem where MCM could not be set in custom Job Settings files from the control panel.
- ◆ Corrected problem where user calibration of internal densitometer could corrupt default calibration. (Obscure)
- ◆ Corrected problem where the print head calibration would begin before the head temperature was low enough. (Obscure)
- ◆ Corrected compatibility problems with SA-2000 (and SA-1000) framegrabbers. Previously, status checks of Horizon imagers were too slow in responding causing errors on the SA-2000.
- ◆ Corrected a problem where new users could not be created after a limit of 50 was reached. Problem was fixed by not storing users on the smart card. There is now no practical limit to the number of users. (Obscure)
- ◆ Corrected a problem which caused the system to continuously reboot when a damaged smart card could not be read. (Obscure)
- ◆ Corrected problem with long delays between DirectVista Paper sheets. This was caused by the system over-cooling and subsequently having to pre-heat the print head.
- ◆ Corrected a problem causing a horizontal line in the bottom-to-top test image on the mixed patterns test print.
- ◆ Captions are now disabled when printing test prints from the Test Prints menu.
- ◆ Corrected several problems with date changes. Years are now limited to 1999 through 2038. Previously, the control panel accepted dates beyond the range of the operating system. (Obscure)
- ◆ Added mapping of Custom Job Settings ending in “DVF” to map to “DVFB” for all supported DirectVista Film sizes. (Obscure)
- ◆ Corrected problems with very long Job Settings file names. Previously, names over 64 characters would cause a system software failure. All Job Settings file names are now truncated to 16 characters.
- ◆ Corrected problem with background-setting display. Previously a white/clear background would display as “FF/00/00” in the status screen / test print. It now displays correctly as “FF/FF/FF.”
- ◆ Disabled “sleep mode” in on-board ethernet chip. The sleep mode is not used in Horizon applications and has been linked to network transfer problems, particularly with high-bandwidth outgoing transmissions. Note: Horizon imagers do not generate high-bandwidth outgoing transmissions in normal applications. (Obscure)
- ◆ Periodic maintenance notice will no longer occur when captions are installed. Installed captions prevent the automatic file system cleanup (known issue) so there is no reason to post a notice.

Known Issues

- ◆ **PostScript Interface Issues.**
 - ◆ Windows Network Protocol (SMB) not yet supported for PostScript printing from Windows NT, 2000, or XP. Work around is to print via LPR interface.
 - ◆ Imageable area used by PostScript RIP does not always match imageable area on printed sheet. In certain cases, this prevents the entire printable area from being utilized.
 - ◆ There is currently no driver uninstaller for Windows NT 4.0 or XP.
- ◆ **DICOM Interface Issues.**
 - ◆ Unsupported DICOM image compression results in an “out of memory” error at the host.
 - ◆ DICOM file format not yet implemented for non-DICOM interfaces such as LPR and FTP.
 - ◆ Color Saturation bracket print (device 9) is not yet supported with DICOM.
- ◆ **Automatic color print detection currently checks only the first image on a sheet.**
- ◆ **An empty VMF canvas (a sheet with no cells) will result in an error and cause the imager to reboot.** Only special custom applications use VMF (Variable Multi-Formatting). Neither DICOM nor PostScript use VMF.
- ◆ Captions not supported with landscape printing.
- ◆ **Automatic file system cleanup is not performed when captions are installed.** For optimal performance, work around is to uninstall captions, reboot imager, and reinstall captions approximately once per month.
- ◆ **ChromaVista Film is not yet fully supported.** “CV Film” currently appears in certain control panel menus.
- ◆ **Windows PostScript drivers still use the term “Decimate Warning” instead of the newer “Image Warnings.”** This parameter is used to control if decimation warnings should be indicated in printed images.
- ◆ **FMF “SETUP” commands do not persist from one sheet to the next.** Work around is to send a “SETUP” command with each sheet.
- ◆ **NP Emulation (300 DPI) mode not yet supported.**
- ◆ **11x14 DirectVista Film calibration does not work correctly from supply slot 1.** Workaround is to insert new 11x14 DirectVista Film cassettes into only slots 2 or 3.

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