Specter Virtual DataCine and Phantom TransferEngine/TransferUtility V5.0

Date of Revision:	November 10, 2003	**Revision:**	1.00

Support Europe:	Gerhard Opitz	**Department:**	LoB Film
		Phone:	+49 (0) 6150 104-204
		Fax:	+49 (0) 6150 104-692
		E-mail:	gerhard.opitz@thomson.net
Support America:	Frank Malluche	**Department:**	LoB Film
		Phone:	+1 801 977-1581
		Fax:	+1 801 977-1633
		E-mail:	frank.malluche@thomson.net

1 General

These release notes cover Specter Virtual DataCine and the Phantom TE/TU 5.0 and was made due to new functionality and feature implementations.

Beyond the aim of this document is to list the restrictions, recommendations as well as known problems and workarounds for the version 5.0.

In order to keep this document manageable, no extensive description is given for the individual items. It may happen that certain items are not described in sufficient detail or that the description leads to follow-up questions. In any of these cases we recommend contacting Thomson.

2 Specter Virtual DataCine

Version 5.0 consists of the following major software parts:

Pos.	Type	Revision	Comment
(1)	Specter Virtual DataCine GUI client	V5.0 build 630	October 2003
(2)	Specter Virtual DataCine Playout Engine server	V5.0 build 630	October 2003
(3)	Specter Virtual DataCine IRC	V 5.0 B 057	October 2003
(4)	Specter Virtual DataCine SPC	V4.70	October 2003
(5)	Specter Virtual DataCine GCP1	V 2.0.5	Or higher
(6)	Scream Grain Reducer SGR 2000	V1.60	Or higher

3 Phantom TE/TU

Version 5.0 consists of the following major software parts:

Pos.	Type	Revision	Comment
(1)	Phantom GUI client	V5.0 build 630	October 2003
(2)	Phantom server	V5.0 build 630	October 2003

4 New Features in V5.0 for Specter / Phantom

4.1 Specter 2k/FS

- **Multiresolution Time Line**
  The Multiresolution functionality offers the possibility to add clips with different source resolutions into the timeline. That extends the flexibility of the Specter handling material coming from different sources or shot with different characteristics.
  MultiResolution works with a maximal zoom factor of approx 3:1.
  Examples:
  - With an selected output resolution of 2k (2048x1556) all source resolutions from approx.682x518 will be zoomed to full screen.
  - For an selected HD output (1920x1080) the minimum source resolution is approx. 640x380
  - In all other cases, there is no full zooming

- **Source Time Code**
  Implementation of Source Time Code at the output of the Format Converter. The Specter GUI shows in that mode both Time Codes (Record- and Source- Time Code) within the timeline. When Source Time Code mode is selected in SpecterGUI / setup window, the Time Code output of Specter (in video modes) and Time Code data in dpx-header (in data modes) contains Source Time Code.

- **Matchbox**
  The Matchbox panel allows to record colorized and/or format converted reference frames within the VRF.
  This gives the possibility to compare between reference frames and the current timeline.
  Available in various HD standards for Specter 2K and HD/SD standards for SpecterFS.
  There is an additional Matchbox window in the SpecterGUI. When selected, the actual timline frame can be transferred to the Matchbox bin as reference frame. These reference frames can be compared with another timeline frame by switching between actual timeline frame and selected reference frame.

- **GSN Out Option**
  The Format Converter now also has a GSN data output option. That allows transfer of 2k material with up to 18.75 fps and transfer of HD material up to 24 fps (using a Phantom with GSN In for recording running on a hardware platform that can handle the max transfer rate). For the GSN Out Option the Rack 3 has to be exchanged with the new Reference Store Kit FH 6613 (including two boards FY 6311.xx plus new Rack 3 housing).

- **DataVooDoo package mode support**
  Support of the new so called package mode of the DataVooDoo. The Mover is able now to cue directly in front of the desired frames before reading from a DataVooDoo.
  This prevents from retrieving the total file from VooDoo, if only some parts of the file are required.

- **Specter API**
  The Specter API offers a control interface for the Specter These feature allows third party manufacturers to import/export EDLs, getting thumbnails out of the VRF, controlling Matchbox. The required software for the API functions are included in Specter V5.0 software. Third party manufacturers have to add software packages to use these features.

  Functions already tested and implemented by Pandora:
  Reads EDL from a track
  Writes EDL to a track
  Reads single frame data from VRF
  Writes single frame data to VRF

4.2 Specter FS

- **SD Transfer**
  Having a PCI HD/SD input card now it is possible to record SD signals.

- **HDReel support**
  The Mover supports a new source device, the CineReel/HDReel. It is a portable storage solution by the company DVS configured for on-set capturing of uncompressed HDTV video signals. Currently a transfer speed of 13 frames HD material can be achieved. To support the dynamic use of the HDReel there are disconnect and connect functionalities within the Mover.

4.3 Phantom

- **Pullist preview**
  The source window of a Datacine Pullist now offers a preview image and information about timecode, frame number and keycode.

- **Recording modes**
  The Phantom now offers different recording modes: “overwrite, skip and stop”. That determines the behavior of the recording when an image already exists.

5 Resolved Bugs in V5.0

- Fix the Bug: "SpecterGUI import edl dialog doesn't follow the current VRF selection".
- Fix the Bug: "First value greater than Last value in Renumber dialog hangs Specter".
- Fix the Bug: “Specter cored sometimes when an illegal DPX image was received via GSN”.
- The Framestore Mover device supports now multiple sessions. This means that one now can browse through a Framestore device and start a transfer without being forced to wait until all thumbnails are displayed. Beyond the Mover software supports that the Framestore partition is not restricted anymore to exactly one resolution.
- Fix the Bug: “Some DFADirectoryFiles are not readable on MT tapes”.
- Fix the Bug: "Cancel or apply multiple transferlist item edit dialog quits Phantom GUI".
- The license expiration is now shown in advance in the Phantom and Specter GUIs.
- Fix the bug that the entry “SEARCH_FORMAT_CONVERTER_TIMEOUTTTTT” could be appeared in the config files
- A full VRF is now signed as "0.00 M Free" instead of only “Free”.
- Fix the Bug: "adding clips from a VooDoo folder with a leading slash does not work".
- Several improvements in the “vol_make_n_mount” script.
- Improved Phantom write speed to XFS on RAID systems. On Ciprico 7000 RAID disks the write performance of 4K images to XFS improved from some 260MByte/sec to 370 MByte/sec.
- Fix the bug that clips with missing frames during HD transfer were shown as "Completed".
- Fix the Bug: "Phantom Transfer into VRF and Path "/" creates invalid, undelete-able clip".
- Fix the Bug: The Staircase test pattern image let crash the phantom client making snapshot.
- Speed improvements of VRF Meta data updates that is relevant for VRFs with a lot of clips or frames.
- Fix the Bug: "Specter GUI throws a core or hang when trying to disconnect from an unknown server".
- Shut down Specter server when VRF index corruption could occur.

6 Known Limitations and Workarounds

- There are picture disturbances in Shuttle Mode when MultiResolution is selected.
- In Step Mode (when MultiResolution is selected) there is a sizing problem when stepping at the boundary of two different resolutions. So the old image is seen for a glance with a zooming for the new image.
- Setting the frame counter being in the timeline to a value smaller than the current frame number will cause problems in zooming MultiResolution material. This so called negative frame counts have to be avoided (Ref.:FIP 2325).
- Transitions can not be rendered between clips with different resolutions.
- An intensive usage of the Specter GUI during a playout may lead to a stop of the playout. The most intensive operation is the “Refresh”. All activities concerning the VRF are not allowed during playout anyway.
- Transfers from Telecine in 60Hz video standards require the frame count mode 30 fps set up at Telecine . If the frame count mode at the Telecine is set to 24 fps (default), then the record has a lot of gaps. First when the record is finished the error log shows a warning “Missing frames while recording to VRF.”
- In dropframe time code format, any frame/footage/timecode fields are shown with semi-colons between time units. The values can only entered without semi-colons, which were not accepted. So if "00001011" is entered, it is evaluated and shown as “00;00;10;11".
- Files made up of more than nine digits are not recognized as frames of a clip.
- Specter 2K, Matchbox: Switching between reference frame and live is disturbed. State of the art of XIO HD-card because inpu and output picture are not synchronized, not visible with DVS card in SpecterFS. (Ref.: FIP 2265)
- GSN transfer at speed 15 ...18 fps, no slow speeds with eventlist. When using event list there may be problems when using specific speeds slower than 12 fps (error message buffer overflow at target device). Detected with speeds 3,6,12 fps (Ref.: FIP 2281)
- DPX header info not according to standard (transfer characteristic, colorSpec). Transfer charcteristic header info OK at GSN with board DOI FY6395/13 (Ref.:FIP 2263)
- FIP Keycode data dpx header has offset of +1 when scream is in signal path(Ref.:FIP 2287) .
- The Project name field is cleared when the timeline is cleared, but returns when relaunch GUI.
- Conversion LUTs cannot be applied if the target format is DPX.
- An added filler at the beginning of a timeline makes a rerendering of a fade from black necessary.
- Establishing a GSN connection needs a special procedure:
  Switch transfer off at Specter; select setup and GSN on TE; press Apply; Start transfer on Specter. (Ref.: FIP2262)
- H-V Flip not correct during play modes and rotation at slow speeds (Ref.: FIP2315).

- Loading of user defined LUTs not correct when previous standard LUT (lin,log, etc) was loaded (last user defined LUT is used).
  Workaround:
  Load any user defined LUT, then load desired user defined LUT.
  LUT handling in VDCConf -> Data menu: When selecting other user defined LUT during loading process of a LUT, the new LUT may not be used.
  Workaround:
  Use LUT selection in VDCConf -> Mapping window (Ref.:FIP2319)

- Transfer to TE in mode 3x10Bit Yonly not possible (Ref.:FIP 2326).