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Inscriber® G7™

Integrated HD/SD Broadcast Graphics System

Designed to meet the "big picture" graphics requirements of today's broadcasters, Harris® Inscriber® G7™ optimizes workflow while achieving new levels of graphics quality. Inscriber G7 uniquely integrates the functionality of multiple broadcast graphics products to provide a robust, high-performance HD/SD live-to-air solution.

Dramatic 3D graphics packed with power

Inscriber G7 delivers uncompromised 2D and 3D real-time graphics flawlessly in SD or HD, scalable for playout simultaneously over two channels. Featuring the Harris Altitude Express® graphics board, the system supports the new G-3D design module, which gives operators everything they need to create dramatic, true 3D graphics that demand attention. Inscriber G7 is powered by G-Scribe advanced graphics software for real-time 2D and 3D animation, manipulation and playback, Overlay™ persistent objects, Strata Compositing, , multiple format software clips and stills with metadata, embedded and discrete AES audio, Unicode, enhanced GPIO support and much more.

Streamlining graphics workflow within all broadcasting environments

Whether used for driving coverage of live news, sports and special events, delivering automation-driven content for elections and school closings, or developing customized applications for game shows and sporting venues, the Inscriber G7 integrated broadcast graphics workflow system is a progressive solution for demanding broadcast environments.

The Inscriber G7 system works within a larger workflow model that includes interfacing with automation and newsroom systems, as well as other graphics systems. Inscriber G7 interfaces seamlessly in an automated live news/sports environment using the standard Intelligent Interface® protocol, the MOS protocol, and/or Inscriber's own Direct Control™, and uniquely integrates RTX capabilities for customized, purpose-driven applications without having to use a separate device. Inscriber G7 allows systems to perform in sync and create an intelligent workflow.

As part of the Harris ONE interoperability initiative, Inscriber G7 also provides seamless integration within the Harris ONE end-to-end interoperability chain, enabling facilities to maximize efficiency, control costs and guarantee a consistent level of quality.

FEATURES

Innovative Hardware
The system's base configuration is a single channel solution, which provides two video inputs, two video outputs (one key + fill pair), two 2D DVE channels , and up to 32 channels of discrete audio. Add a second channel for two more video inputs, and a second key-plus- fill output channel.

2D DVE
The 2D DVE feature provides two independent DVEs, allowing two incoming video feeds to be displayed in real time in a region of the graphics layout. You no longer need to rely on the production switcher to build the DVEs -- the switcher at that point, is taking everything from one CG channel.

Strata Compositing™
Strata Compositing enables real-time compositing of multiple independently controllable virtual channels into a single physical channel. Use it to output multiple graphic layers – a ticker, a station ID, a lower third and background video, for instance – as a single channel.

Overlay™
Overlay allows you to build and control three additional layers of graphics on top of your current output without having to use additional channels. Objects output with Overlay remain on the topmost layer and operate without disruption. They're completely independent of other layouts, making them easy to control. You can easily insert and hide clocks, timers, still or animated logos, channel IDs, lower thirds, scoreboards, over-the-shoulder graphics, text crawls and temperature read-outs.

Automation Interface™
Automation Interface allows you to connect an Inscriber G7 system to newsroom computer systems using the industry-standard Intelligent Interface® protocol. It also enables tag filling and display control using a standard serial port protocol available from most news system vendors, including Harris®, AP®, Autocue®, Avid®, Compromter®, EZ News®, Florical®, Parkervision® and Sundance®.

Media Store
Store, manage, retrieve and play out media files including stills, templates, clips and animations. Media Store allows the user to search based on various metadata including user definable keywords. Metadata is copied with each image, allowing files to retain all related information, when moved from one system to another. Media Store integrates directly with the playlist and the output display so graphics resources can be found and used either in CG layouts or directly out to air.

Real-Time 2D Animation
Take your graphics to the next level with the easy-to-use 2D animation editor. The editor allows any graphic and text element, including media objects (with Clips Option), to be keyframed on the x, y and z axes. Quickly apply effects such as transparency, scale and rotation to create dynamic, reusable animations, or use pre-built templates included on the system. No previous animation experience is necessary.

Real-Time 3D Playback
Import and play true 3D scenes directly from third-party applications such as 3D Studio MAX and MAYA. Integrate these scenes directly into your playlist for real-time playback. Add the G-3D option for even greater control of your 3D scene, allowing scene editing and template creation

ODBC
The ODBC (Open Database Connectivity) standard allows multiple programs to share information held within a database. The Inscriber ODBC feature links the information in your database tables to your graphic layouts and templates. When you update the database entries, the information automatically updates in your layouts. Easily update graphics from an external source where no graphics experience is needed. This is ideal for sporting events, elections, school closing and more.

OPTIONS

Inscriber G7 can also be expanded by choosing from a host of options that will further extend your creative potential.

G-Scribe + (only available on Inscriber G7)
G-Scribe+ offers a package of software options to help you get the most out of your G7 system. The bundle includes G-3D (listed below), 3D Charts, and Video Capture. Video Capture and 3D charts are available exclusively with G-Scribe+.

- **Video Capture** gives you the ability to record streaming audio and video at full HD resolution. Set in and out points, and play back as a full frame clip.

- **3D Charts** allow users to integrate dynamic 3D charts directly into their 3D scenes. Each chart can be connected to a separate data source, and will update on air as updates are made to the data source (eg. Excel, Access). Chart types available include 3D Bar, Pie, and Line charts.

G-Scribe Offline™
With G-Scribe Offline, a standalone software package, operators can compose layouts on any computer running Windows XP, and transfer their designs to an online graphics system for playout to air.

G-3D
G-3D is a 3D design module allowing users to elevate broadcast graphics design with dramatic true 3D graphics, text and real-time animations. Create 3D scenes from scratch, or import Collada files from 3rd party programs such as 3D Studio Max, Maya and several others. Attach audio files to the 3D graphics for playout in SD or HD. Apply custom textures to any 3D surface containing tagged text and graphic content using the familiar G-Scribe CG editor. Tagged fields can be updated manually, or via automation of several varieties. G-3D provides a deep level of scene editing including timeline modification, image manipulation, primitive shapes, lights, multiple cameras, and many options for texturing. Once a scene has been created it can be exported and then used as a template for playback using G-Scribe Automation Interface, or RTX applications.

MOS Option
No graphics experience required – Inscriber MOS gives newsroom staff the ability to create and schedule template-based text and graphics from their desktops for playout across the entire on-air Inscriber graphics product line. Inscriber MOS consists of a MOS-compliant ActiveX client control interface connected to Inscriber graphics systems, and enables remote asset browsing, editing, and playout capabilities within MOS enabled Newsroom Computer Systems (NCS) such as AP's ENPS® and Avid's iNews®. Real-time previews are generated for the journalists as they create their graphics to ensure the accuracy of each item being added to a story. Centralized control playout allows all changes to the NRCS playlist generated from the Inscriber graphics systems to be automatically updated across multiple channels.

RTXports™
RTXports provide a simple and convenient interface to dynamic data streams using the fully supported Inscriber RTX API. This option makes it easy to integrate regularly updated information like sports scores, election returns, stock tickers and weather bulletins in layouts created with G-Scribe software.

Clip Playback
Enables integrated playout of Clips as backgrounds, media objects, and textures within your graphics layout. Play media content of any resolution up to full HD. Software codecs enable playout of most Windows formats, including VIA, AVI, WMV, MPEG-2, and QuickTime*.

***Note: Not all Quicktime codecs are suitable for real-time HD playback. Results may vary.**

The clips option also includes a large capacity media array, consisting of eight 250 GB, front-mounted SAS hard drives in RAID-5 configuration. This ensures optimal bandwidth for HD media playback, while protecting your digital assets.

Direct Control™
Use Inscriber Direct Control to manage networked graphics across a LAN. Resources on an Inscriber system can be viewed and managed from any computer system on the LAN, allowing for editing, displaying and browsing graphics, playlists and rundowns.

Paint

This paint and graphics creation interface possesses unlimited layering capabilities, as well as image processing and masking tools. Inscriber Paint allows native PhotoShop® files (.psd) to be imported into and manipulated within the G-Scribe™ user environment — while maintaining layers.

Second Channel
A second channel can be purchased when ordering your system or it can be field installed after the fact. A second channel allows you to output two simultaneous HD or SD outputs.

3D DVE
The 3D DVE module option is an add-on to the Altitude Express board. The 3D DVE option allows one input to be animated and positioned within 3D space on the output channel. The option can be used in conjunction with the 2D DVE option. Typically, the underlying graphics are revealed. The 3D DVE module can be purchased per Altitude Express graphics channel.

RapidFire™ Keyboard
This custom keyboard follows industry-standard commands, enabling operators to quickly recall, take, clear and transfer layouts. The use of these hot keys can dramatically improve playout efficiency in a live environment.

SPECIFICATIONS **Specifications and designs are subject to change without notice**

Chassis	4U rackmount Front mounted hot swappable drive bays (8) 1+1 dual redundant hot swappable power supply - 700W High CFM cooling for 24/7 operation HxWxD: 7” x 19'' x 26.25'' (17.78 cm x 48.26 cm x 66.70 cm) Weight: 71 lbs (32.2 kg)
CPU	2x AMD Opteron 2220 2.8 GHz
GPU	Dual-Head Nvidia FX4600/768
RAM	4GB DDR2-667 RAM
Disk Sub System	2 x 250 GB SATA system drives (RAID 1) 2 x 250 GB SATA media drives (RAID 1)
Clip Option	8 x 250 GB SAS media drives instead (RAID 5)
Removable Drives	Recordable CD/DVD-RW drive for backup or system restore
External Ports	Two Gigabit Ethernet ports via RJ45 Two RS232 serial ports via DB-9 connector Four USB 2.0 ports – back panel Two USB 2.0 ports – front panel Four RJ11 COM ports One MDR (Mini D Ribbon) GPI In port (16 inputs) One MDR (Mini D Ribbon) GPI Out port (8 inputs)
Supported Video Resolutions	Serial digital component 4:2:2 video @ 1920x1080: /60i/59.94i/50i 1920x1080: /30p/29.97p/24p/23.98p

	1280x720: /60p/59.94p/24p/23.98p 720x486 (525): /59.94i (ITU-R BT601) 720x576 (625): /50i (ITU-R BT601)
SMPTE Standards	SMPTE 292M, SMPTE 259M-C, SMPTE 272M
Video Inputs	Two Serial Digital (SD/HD) Program/Frame Grab input: - 4:2:2, 8/10 bit SDI (270 Mb/s @ 525/625 and 1.485 Gb/s for HD) One Serial Digital (SD/HD) Key Input: - 4:2:2, 8/10 bit SDI (270 Mb/s @ 525/625 and 1.485 Gb/s for HD) One Analog Reference input: - Tri-level sync (HD) or Black Burst (SD) - (terminated/non-terminated under jumper control)
Input Levels	SDI: 800mV P-P Analog Ref: 1V P-P Black Burst or 0.6V P-P for Tri-level sync
Input Impedance	75 ohms
Video Outputs	One Serial Digital (SD/HD) Program/Fill output: - 4:2:2, 8/10 bit SDI (270 Mb/s @ 525/625 and 1.485 Gb/s for HD) One Serial Digital (SD/HD) Key output: - 4:2:2, 8/10 bit SDI (270 Mb/s @ 525/625 and 1.485 Gb/s for HD)
Output Levels	SDI: 800mv P-P
Output Impedance	75 ohms
Audio Specifications	4 input / 4 output AES/EBU audio channels through the unbalanced/BNC connectors on the separate PC I/O paddle board On-board Audio Mixer 3.5mm stereo jack on faceplate for analog audio monitoring
Additional Features	All internal video processing at 12-bits component 4:2:2:4 (8-bit with 3D DVE option) Video and audio bypass on HD/SDI program input-to-output in the event of a power fail or application reset Shaped or unshaped fill signal processing Internal watchdog timer to ensure hardware stability Monitoring and signal status LEDs GPIO: 24 ports (8 outputs/16 inputs) TTL
Time code	SMPTE time code reader BNC connector on the audio paddle board

The G7 System

Front-Loaded Hot-Swappable Media Drives

Base Inscriber G7 has two 250 GB SATA OS drives, and two 250 GB SATA media drives
With Clips Option Inscriber G7 has 2 x 250GB SATA OS drives, and 8 x 250GB SAS Media drives

Inscriber G7 Front Panel

Inscriber G7 Back Panel

ORDERING INFORMATION

INSG74100	Inscriber G7™ 4 RU HD/SD graphics system. Altitude Express supports two video inputs per channel, with full system redundancy. 2D DVE standard
INSG72C	Second channel for Inscriber G7 system - ordered and installed with system. (2 x SDI video inputs, 1 x video and key output, analog genlock input)
INSG72CFU	Second channel for Inscriber G7 system - field upgrade. (2 x SDI video inputs, 1 x video and key output, analog genlock input)
INSG7CL	Enables the playout of HD/SD clips, of most Windows supported codecs. Option includes additional storage capacity for the dedicated SAS media array (RAID 5)
INSG73DVE	Adds 3D HD DVE capabilities to the G7 system. Includes multiple real-time effects, masks and color correction. One module required per channel
INSG7GSPL	G-Scribe + software provides extended functionality only available for G7. Includes G-3D (create 3D graphics), real-time 3D Charts and Video Capture
INSMOS	Create and insert Inscriber graphics directly into your MOS enabled Newsroom Computer Systems (NCS) such as AP's ENPS® and Avid's

	iNews®. Includes Inscriber MOS Gateway software, Rundown Control, and unlimited client licenses for journalists (per site). ** NOTE - Must purchase MOS Training and Commissioning.
INSMOSGW1100	Inscriber MOS Gateway system - 1 RU chassis with dual ethernet and redundant power. NOTE: The Inscriber MOS option must be purchased separately. *we recommend a separate gateway, but it is not necessary.
INSRFK	Provides fast streamlined operation for playback of graphics in a live production environment
INSGSOFF	Provides the ability to compose Inscriber G-Scribe layouts on any sufficiently powerful Windows XP system, for later transfer to INSCRIBER hardware for broadcast playout
INSRTXP	Enables the playback of custom or 3rd party applications such as financial tickers or school closings
INSPNT	32-bit paint and graphics creation plug-in for INSCRIBER systems. Imports Photoshop file (.PSD) directly into the G-Scribe user environment
INSDC	Manage and control play back your Inscriber graphics systems from any PC on your network. One Direct Control option per site, will manage all Inscriber systems