

Inscriber® RTX NET™

High-Performance, 2D/3D, Custom On-Air Graphics Solution

GRAPHICS // INSCRIBER® RTX NET™



Think it. Design it. Then command it, with Inscriber® RTX NET™. With innovative hardware advancements and a complete redesign, the RTX NET on-air graphics solution features a native .NET component for developing dynamic real-time 2D and 3D effects within a flexible multilayer environment — providing the ultimate freedom for creating your own custom broadcast solution.

RTX NET is an Application Programming Interface (API) that allows broadcasters to develop custom graphics applications for use in live and post production environments, such as sports scores, forecasts and warnings, elections results, stock tickers and game show voting and results. Using standard Microsoft .NET development tools or environments, you can use RTX NET to create your own custom project or application. As a graphics engine, RTX NET handles the low-level hardware calls or tasks required for the generation of broadcast graphics, making it much easier to learn and use than a low-level Software Development Kit (SDK).

Inscriber RTX NET is available as a standalone turnkey solution, or as an option on many of the Inscriber line of production graphics systems, including the Inscriber G5™ XT, Inscriber G7™ and TitleOne™ XT platform.

FEATURES

- Full access to the Microsoft .NET Framework — develop applications using the development language of your choice
- Available as a standalone turnkey solution, or integrated into the full line of Inscriber production graphics systems including Inscriber TitleOne XT, Inscriber G5 XT and Inscriber G7
- Native support of .scribe and .g3d file formats
- Software clip codec support
- Integrated DVE support
- Real-time transition effects
- Rich, multi-layered graphics interface
- Integrated audio effects
- Full 3D scene manipulation and control
- Connectus® API support
- Analog preview channel

PRODUCT DETAILS

Innovative Hardware

RTX NET supports fill and key input and output, and provides direct integration with other graphics systems in an upstream or downstream keyed environment. In addition to providing all the benefits of multichannel effects on a single channel, RTX NET supports optional dual-channel SDI output — two independent outputs at the same time.

RTX NET includes a bypass relay on the hardware (optional) that automatically reroutes the video feed during a power loss or system failure to ensure that the video feed is never disrupted. This feature can also be triggered manually to maintain the video feed during scheduled maintenance.

Rich Multilayer Environment

RTX NET boasts a rich multilayer environment for the simultaneous display of text, graphics, animations, video, rolls, crawls and more. All screen elements can be displayed on an infinite number of overlapping layers, providing you with maximum flexibility and creative control over your screen output. Use Z-ordering to set the depth of each layer, determining whether a graphic or effect is displayed in the foreground or background of a layer.

Software Codec Support

The implementation of software codec support allows for the playout of a wide range of video formats including DV25, MPEG-1, MPEG-2, AVI, WMV, LXF, LTV (hardware dependent) and QuickTime®, just to name a few.

Real-Time Element Transitions

Transition among screen elements such as clip-to-clip, clip-to-animations and animation-to-animation using fades, pushes, dissolves and wipes. Cascade multiple transitions together and increase your creative options, including adding animations or fading elements into a running ticker. Update ticker information while already on-screen — no need to wait for ticker items to go off-screen before updating them. Leave the ordinary dissolve behind with the “organic” transition, which allows you to apply your own mask or pattern to any dissolve. Use your own branding logos as patterns to set your programming apart.

2D and 3D Animations

Enhance your broadcasts by incorporating a variety of animation styles. You can import pre-rendered animations from Autodesk® 3ds Max®, Adobe® Flash® or Adobe® AfterEffects®, all with matte (key) for instant playout. Using the G-Scribe Offline™ software (included), simple 2D animations can be built as templates and used for instant update and playout of real-time data. Expand your graphic world to the realm of true 3D with the G-3D™ offline software. From this 3D design environment, you can create your own 3D scene from scratch, or import from a variety of third-party programs such as Autodesk® 3ds Max® and Maya®. Through RTX NET, you can control every aspect of the 3D scene, including lighting, camera, objects and timelines, as well as dynamic texture mapping on objects — all in a native 32-bit environment.

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RTXports™

RTXports provides you with the ability to develop and embed custom graphic applications and features directly on Inscribe graphics systems (such as G7, G5 XT, TitleOne XT, IconStation™ and Channel ONE™). Depending on the graphic solution, RTXports can be run as a standalone application, or embedded directly into the application — one box, infinite possibilities.

DVE

RTX NET supports not only the scaling and positioning of various graphic media, but also a high-quality 10-bit DVE of up to two simultaneous SDI input feeds (hardware dependent). This feature allows you to display your graphics without compromising your video content or graphics. As an option, you can purchase support for 3D DVE — one SDI input source.

G-Scribe Offline

Save the time and effort of manually generating code to produce text and graphics. G-Scribe Offline allows you to design layouts offline for use within RTX NET. All elements in the layout can be tagged or named so that, through RTX NET, you can access any element or object and update it with real-time data for “just-in-time” playout.

SPECIFICATIONS

Specifications are subject to change without notice.

Customers are responsible for providing their own development environment for RTX NET. RTX NET supports Microsoft Visual Studio 2005 and above. A development environment is not required for application execution.

Turnkey Solution

Chassis	3RU rackmount Front-mounted hot-swappable drive bays (8) 2+1 redundant hot-swappable power supply, 760 W High CFM cooling for 24/7 operation
Dimensions (H x W x D)	5.25 x 19 x 25.5 in. (13.35 x 48.26 x 59.69 cm)
Weight	62 lbs (28.18 kg)
Breakout Cable	1 x 18 in. (45.7 cm) Altitude Express ponytail cable
CPU	2 x Opteron Quad 2387 “Shanghai,” 4 x 2.8 GHz
GPU	Dual Head PNY NVIDIA FX4800
RAM	4 GB DDR2-800 RAM
Disk Sub System	1 x 250 GB SATA system drive 3 x 250 GB SATA media drives SD clip option adds 2 x 250 GB SATA II hard drives HD clip option adds 4 x 250 GB SATA II hard drives
Removable Drives	Recordable CD/DVD-RW drive for backup or system restore 1.44 MB floppy drive
External Ports	2 Gb Ethernet ports via RJ-45 2 RS-232 serial port via DB-9 connector 4 USB 2.0 ports

Video

Supported Video Resolutions	1920 x 1080: 60i/59.94i/50i 1280 x 720: 60p/59.94p/50p 720 x 486 (525): 59.94i 720 x 576 (625): 50i
Standards	SMPTE 292M, SMPTE 259M-C, SMPTE 272M
Input	2 fill
Input Embedded Audio	16 channels per input
Input Connectors	2 BNC (IEC 169-8)
Input Level	800 mV pk-pk
Input Impedance	75 ohms

Analog Preview Channel

RTX NET allows you to use dual-head VGA cards to produce an analog preview output. This is a cost-effective way to generate a quality preview output for your operator or director. Preview output can be SD (NTSC/PAL) or in a VGA format. The VGA format is capable of a full preview (not just static thumbnails).

Audio

RTX NET supports embedded and discrete audio without the need for additional hardware. Whether you need to play a WAV file or play audio that is already encoded into a video clip, you can do it with RTX NET. Depending on your hardware configuration, RTX NET can support from 16 to 32 channels of audio output while mixing with any incoming audio stream.

Input Equalization	Automatic, adjustment-free cable equalization
Input Cable Length	For HD 135 m min of Belden 1694A cable For SD 250 m min of Belden 828IB cable
Output	1 fill + 1 key
Output Embedded Audio	16 channels
Output Connector	2 BNC (IEC 169-8)
Output Impedance	75 ohms
Miscellaneous	EDH insertion on output

AES Audio

Standard	AES-3-1992
Input Connectors	2 BNC (IEC 169-8) and 2 XLR
Sample Resolution	16/20/24-bit
Input Sampling Rate	48 kHz
Input Impedance	75 ohms (BNC) or 110 ohms (XLR)
Maximum Input Signal	2.5 V pk-pk
Output Sampling Rate	48 kHz
Output Connector	4 BNC (IEC 169-8) and 4 XLR
Output Coupling	AC coupled
Input Impedance	75 ohms (BNC) or 110 ohms (XLR)

Genlock Reference

Standard	SMPTE 318M
Input Connectors	2 BNC (IEC 169-8) loop
Input Sensitivity	>100 mV
Input Impedance	75 ohms or High-Z (software controlled)
Input Types	NTST/PAL color black or 2 V sync or tri-level sync

Timecode

LTC Input	XLR connector, 0.6 to 5 V pk-pk, high-impedance termination
LTC Output	XLR connector, <9 V pk-pk

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Software + Board Bundle System Requirements

Motherboard	1 PCIe, Gen 1/2, x16 slot (for GPU) 1 PCIe, Gen 1/2, x4 slot (or greater 8/16 lane for AEX board)
CPU	AMD Opteron 280 or better Intel core 2 Q8200 (2.33 GHz) or better

GPU	NVIDIA FX1500 for SD minimum (FX1700 or better recommended) NVIDIA FX3600 for HD minimum (FX4600 or better recommended)
RAM	2 GB for SD 4 GB for HD
Operating System	Windows XP®, SP2 (or newer)

ORDERING INFORMATION

RTX NET is available as a full turnkey solution, or as an optional component for the full line of production graphics systems.

INSRTXNETS3100	Inscriber RTX NET, SD only turnkey system for the creation and/or play out of custom broadcast applications, includes AEX hardware for video processing and first year of annual software maintenance agreement
INSRTXNETH3100	Inscriber RTX NET, HD/SD selectable turnkey system for the creation and/or play out of custom broadcast applications, includes AEX hardware for video processing and first year of annual software maintenance agreement

Hardware Options

INSRTXNETSCL	Clip option for INSRTXNETS3100, add 2 additional SATA drives to media array
INSRTXNETHCL	Clip option for INSRTXNETH3100, add 4 additional SATA drives to media array
INSRTXBOB	Break out box for Altitude Express board (AEX); required if video bypass relay (E-E) is a customer requirement

I/O Board and Software Bundles

INSRTXNETAEXS	Inscriber RTX NET board bundle, SD only; this board and software bundle includes video I/O hardware (AEX) software license; to be installed by a qualified integrator in a system which meets or exceeds the minimum specifications set by Harris
INSRTXNETAEXH	Inscriber RTX NET board bundle, HD/SD selectable; this board and software bundle includes video I/O hardware (AEX) software license; to be installed by a qualified integrator in a system which meets or exceeds the minimum specifications set by Harris

Offline Rtx Net Creation

INSRTXNETOFF	Inscriber RTX NET Offline software; for developing custom graphic applications on any sufficiently powerful Windows® XP system; includes G-Scribe Offline; custom work to be transferred to Inscriber hardware based system for broadcast play out
INSRTXNET3DOFF	Inscriber RTX NET Offline software; for developing custom graphic applications on any sufficiently powerful Windows® XP system; includes G-Scribe and G3D Offline; custom work to be transferred to Inscriber hardware based system for broadcast play out

Rtx Net Upgrade Options

INSRTXD2NET	Upgrade from RTX Developer 1.x to RTX NET; includes G-Scribe Offline
INSRTXP2NET	Upgrade from RTX Playback 1.x to RTX NET