

ICE V4.0 Advanced Graphics —

Broadcast Quality Playout in a High Density IT Solution



Snell
Advanced
Media

Data Sheet

ICE has significantly more of the broadcast transmission chain in the box than any other device on the market.



In today's highly-competitive, image-dominated media industry, media producers need to build strong brand recognition.

Instead of adding an expensive third party graphics device, use the built-in functionality in ICE to create stunning on air effects.

- Reduces your capex for new projects.
- Eliminates broadcast chain integration headaches.
- Condenses your entire transmission chain into 2 rack units.
- Each unit can be a multi channel device and supports up to 2 Advanced Graphics engines.
- Uses proven automation technology from the world's premier automation provider.
- Uses proven graphics technology from the leader in 3D broadcast visuals.
- Reduces your carbon footprint.
- Delivers IT efficiency without losing broadcast resilience.
- ICE systems have resilience at the core of every design, capable of achieving up-times in excess of 99.999%.
- SAM systems evolve with our customers' needs ensuring a long life and maximum ROI.

Features

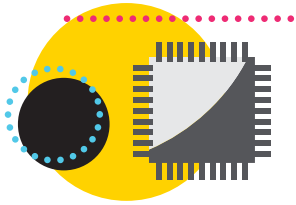
- Two Advanced Graphics engines per ICE unit.
- Premium quality graphics.
- Text, Clocks, Tickers and Countdowns.
- Lighting effects and reflections.
- Realtime rendering, live at time of playout.
- Dynamic Text areas can be updated seconds before air – no need to re-render and re-transfer files.
- Update dynamic RSS tickers while they are on air.
- Design your graphics to: animate on, loop, pause, continue, and animate off.
- Trigger each stage manually or via automated playlist events.
- TrueType text support.
- Text extrusion.
- Unicode support for Cyrillic, Arabic, Chinese...
- Left to right and right to left crawls.
- Unique choice of Upstream or Downstream modes.
- Live feeds or video clips can be inserted into a graphic.
- Fade in and out the background clip audio.
- Supported on all 2U ICE variants.
- Supported in all of ICE's SD and HD broadcast media formats.
- Entry level 2D Graphics Editor, or fully featured 3D Graphics Editor.
- Supports the import of a wide range of standard file formats.
- Uses the same 3D graphics engine used by world class broadcasters.



SAM has partnered with 3D graphics specialists RT Software to provide a best of breed graphics solution – in the box.

www.s-a-m.com

Advanced Graphics Templates



Create a template and use it multiple times simply by modifying values in the playlist.

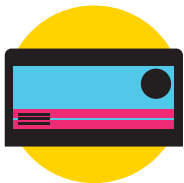
No need to re-render the whole animation and then wait for the files to transfer. The change is instant and the same event can be played back to back differently each time.

Make any part of the graphic dynamic, not just the text. Change the color of the lower third, the background video clip, or the DVE shape, all from the playlist.



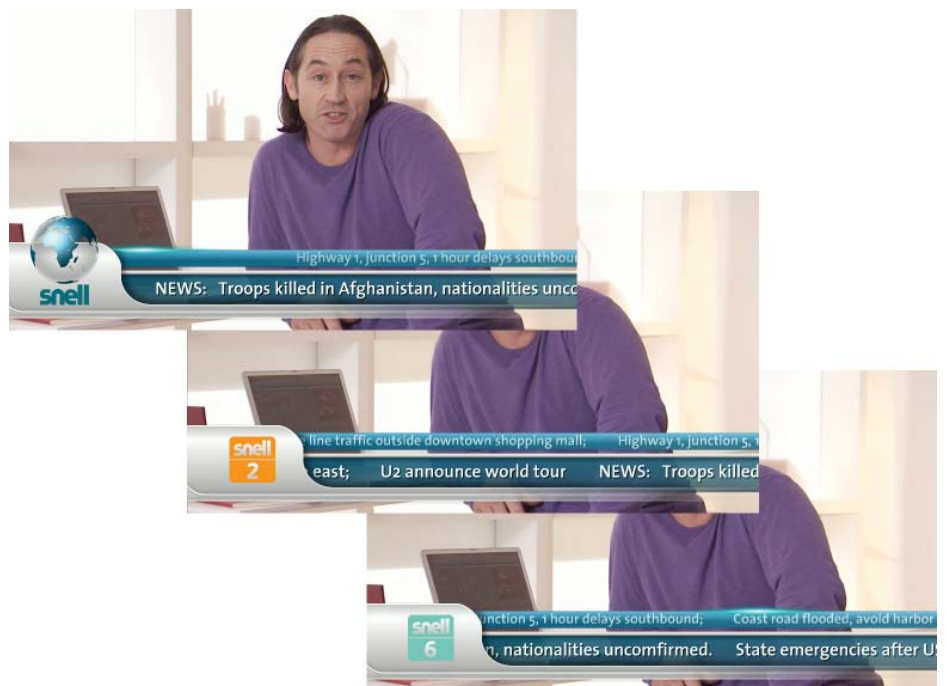
This 2D menu can be instantly updated by the playlist with new text, graphics and in this example moving backgrounds. No need to remake your graphic each time.

Tickers and Lower Thirds



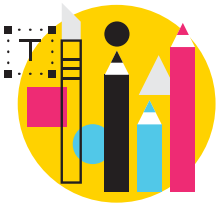
Any graphic can be created as a template with dynamic areas. These inputs can be populated by the playlist or by external data feeds.

All types of graphics can be created as templates with dynamic text sections as required. These are inputs that can be populated by the playlist or from external data feeds such XML files. By adding the Media Watcher application RSS data and external databases can be used to feed on air tickers.



Tickers updated from external data feeds. In these examples, the channel logo has also been updated from the playlist each time.

Fully Featured Graphics



ICE's Advanced Graphics provides all the high quality visual features required for today's most demanding channel branding.

Dynamic inputs to any area of template as well as feature rich visuals - including movement, reflections, shadows and textures.

Audio

The video files used in a graphic may have embedded audio, and the fades up or down of that audio can also be designed within the template.

Coming Up box rotates to show the later program at 8:30

Program names and times set are updated from the playlist

Main program video source squeezed into a 3D plane

SAM logo rocks back and forth

Reflection of moving video

Full moving video continues playing as the box rotates

Playout Control



Automation

Trigger frame accurate events by scheduling from your traffic system. ICE's Mediaball system allows complex sets of events to easily be recalled by a simple name.

Manual

Configure software and hardware panels to trigger events manually. Continue paused graphics or animate out an on air graphic at the time the operator chooses.

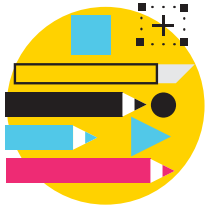
New events can easily be added to the playlist with the simple to use drag and drop interface.

Configurable soft control buttons for secondary events

Highlighted line shows Advanced Graphic event

Dynamic Text field can be edited in the playlist

Advanced Graphics Editor



Full creative control is provided by the Advanced Graphics Editor. This tool creates the templates used on air by ICE.

It imports any assets you may have created elsewhere and provides full timeline control of the animation.

All aspects of your on air presentation can be modified to perfect the channel's branding and previewed within the editor.

There are 2 versions of the Editor, a fully featured 3D version, and an entry level 2D version.

3D Graphics Editor

Any 3D graphics designer will be familiar with the concepts and methods used in this creative tool. It includes one of the best implementations of FBX support in the industry.

2D Graphics Editor

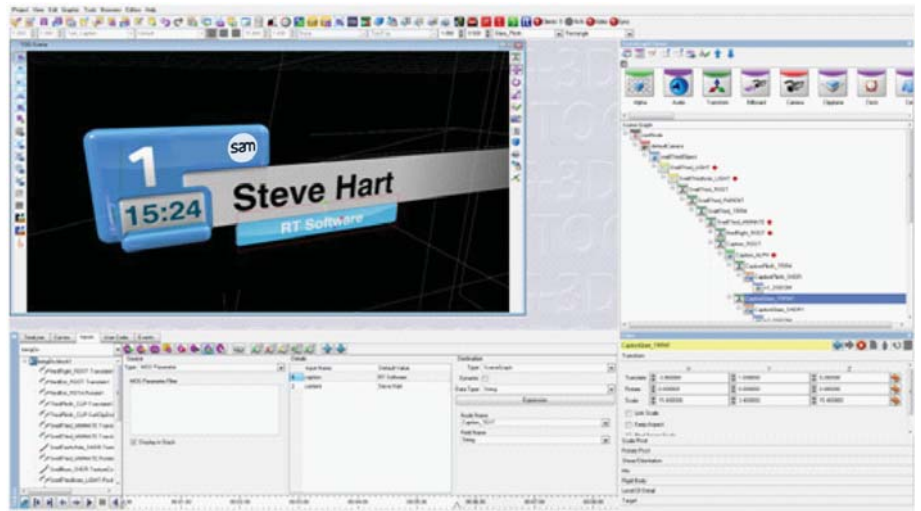
2D Editor uses the same engine but without the additional complexity of the 3D features. It's an easy way to start. Then at a time that suits you, upgrade to the full 3D Editor and bring your existing projects with you!

Creative controls include: trajectories, shaders, lighting, geometries, cameras, textures, materials, animations, shadows, particles, collision detection, text animation, multi-camera views, scene graph hierarchy and editable geometric primitives.

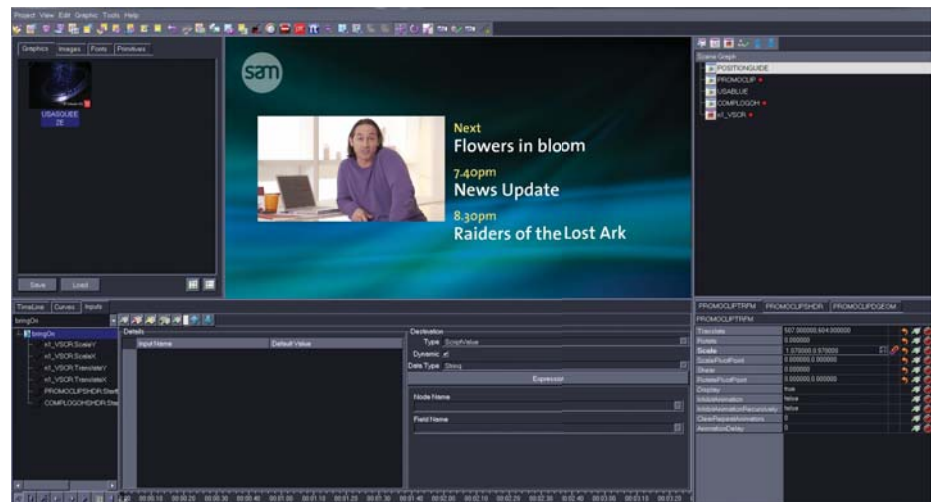
Much more information on the full capabilities of the editing system can be found on RT Software's website – www.rtsw.co.uk.

Creative Services

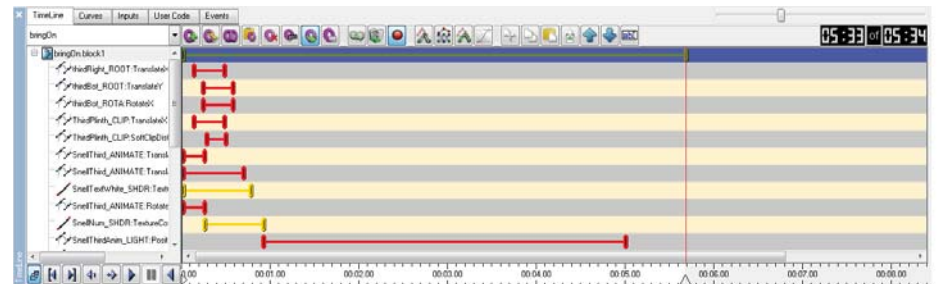
SAM's Advanced Graphics partner, RT Software can offer assistance on all aspects of graphics - from origination of branding and design ideas through to graphics implementation. They are experts on the Advanced Graphics Editor along with all the standard broadcast graphics tools such as Max, Maya, Flash, Photoshop etc.



3D Editor Screenshot. The scene may be moved and zoomed around in 3D space to ensure it is designed correctly.



2D Editor Screenshot. Any feature of a graphic can be designed to be a dynamic input.



Full timeline control of the animation's parts.

Comparison of 2D and 3D Options

Feature	3D Graphics	2D Graphics	Description
Import still images	Yes	Yes	See supported formats section
Import still images with alpha	Yes	Yes	See supported formats section
Import video files	Yes	Yes	See supported formats section
Import video files with alpha	Yes	Yes	See supported formats section
Import fonts	Yes	Yes	True type font support as geometries and bitmaps
Import 3d objects	Yes	No	Autodesk fbx (filmbox) support
Native editor space	Yes - X,Y,Z	Yes - X,Y	Native coordinate system
Camera analogy	Yes	No	No floating 3D camera in 2D version
Multiple viewports	Yes	No	No floating 3D camera in 2D version
DVE	Yes - 3D and 2D	Yes - 2D	Live manipulation of input video
Lights and lighting effects	Yes	No	Infinite, spot and local lights
Material options	Yes	No	Specularity, shininess
Node: Duplicate	Yes	No	Object duplication for tables, forms and scoreboards
Node: FX	Yes	No	Special effects including refractive glass, procedural textures, shaders
Node: Warp	Yes	No	Bending dynamic text and content around curved objects
Node: Clip planes	Yes	Yes	2D and 3D masking capabilities
Node: Clip plane soft edges	Yes	No	Soft edged 2D and 3D masking capabilities
Node: Alpha	Yes	Yes	Add transparency to objects
User code and extensions	Yes	No	Add ruby script expressions to graphics for advanced functionality
Links	Yes	Yes	Link dynamic properties of objects together
Methods per graphic	Yes - unlimited	Yes - limited to 2	Trigger animations from automation
Object Nodes	Yes - unlimited, user definable	Yes - 1 preset	Enables flexibility with transition logic
Run multiple graphics	Yes, user definable	Yes - 1 preset	Transition logic between graphics.
Primitives (number)	Yes - 16	Yes - 3	Common library of 2d and 3d shapes
Tickers	Yes	Yes	Crawling text
Rollers	Yes	Yes	Credit rolls
Audio	Yes	Yes	Embedded audio can be faded up and down



Example Screenshots.

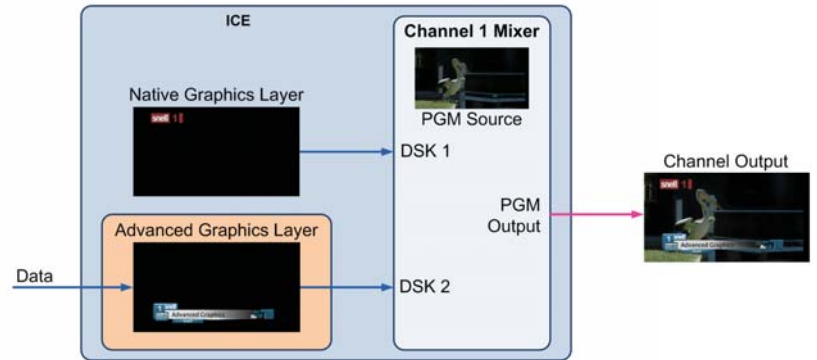
Choice of Playback Modes

ICE's Advanced Graphics can be configured in different ways for the ultimate flexibility.

Upstream Mode allows the Advanced Graphics to be positioned relative to any other ICE layers by selecting the required DSK on the mixer.

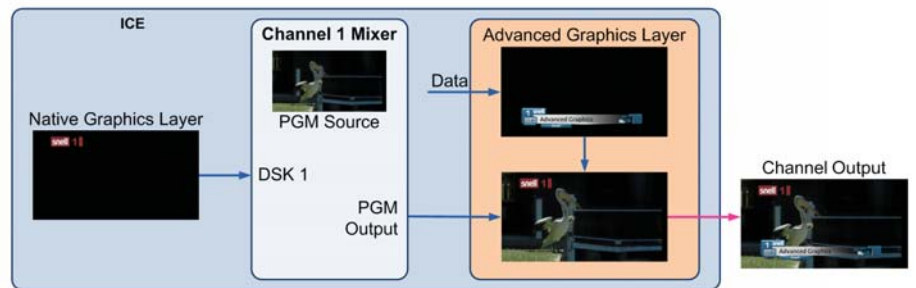
Downstream Mode takes the completed channel output and feeds it through the Advanced graphics layer as the last step in the chain.

In both modes the pass through of the source's ancillary data and audio is maintained. Any additional data inserted by the ICE mixer is also unaffected.



Upstream Mode.

All Native and Advanced Graphics layers are fed into the Mixer's DSK inputs to allow flexibility in layer ordering.



Downstream Mode.

The Advanced Graphics layer is composited after the channel's Mixer so it is always on top of the channel's output.

Media Movement

Moving an entire project can be done manually or by using the Repository tool. Movement of individual video clips that are used within a graphic, for example a promo in a Coming Next graphic, can be done using SAM's media management tools. Just schedule the clip you want and let SAM's tools get the content automatically transferred in time for playout.

Project Files

Repository

Allows your creative department to update and distribute your projects to one or many playout devices at the same time.

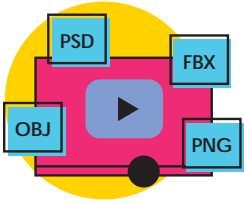
Controlled distribution of projects is via an industry-standard source management system - SVN.

Video Clips

Media Management

SAM's media management core is an integral part of every ICE system. By simply adding the required components, video clips can be registered and transferred to the playout device from video servers, FTP servers and archives.

Supported Formats



Video clip support is provided in two ways. Either by embedding the files within a project, or by designing the graphic to be fed by up to two sources in ICE.

This allows live sources and a huge range of file codecs and wrappers to be used.

Please refer to ICE Technical Data Sheet for a full list of supported formats.

Supported 2D file formats

PSD, PNG, TGA, GIF, TIF.
SAM recommends PNG or TGA as these support alpha channel.

Supported 3D file formats

FBX, OBJ.
These 3D formats have been widely adopted across the 3D graphics world allowing your creative teams to continue producing using the tools they are familiar with – such as 3DStudioMax or Maya.

Supported Video Wrappers (Embedded):

MOV, AVI, MXF, MP4.

Supported Video Codecs (Embedded):

WMV1/2/3, Mpeg4 pt2, Mpeg1, Mpeg2, H264, HuffYUV, MJpeg, FLV, VC-1, DV25/50/100, YUV420/2 (raw)

Supported Video Formats (ICE source):

MXF, MOV, GXF, MPEG...
Plus an extensive list of codecs, as described in the ICE Technical Data Sheet.

Supported Resolutions

PAL 4:3 720x576 25 fps	NTSC 720x486 29.97 fps
PAL 16:9 720x576 25 fps	720p 59.94 1280x720 59.94 fps
720p 50 1280x720 50 fps	1080i 59.94 1920x1080 29.97 fps
1080i 50 1920x1080 25 fps	

Ordering Information

The Advanced Graphics Option is available on all ICE variants – Standard, Advanced or Enterprise.

There is a limit of 2 Advanced Graphics engines per ICE unit.

Please refer to SAM's PC Specifications document for hardware requirements.

Advanced Graphics option for ICE.

This includes upgrading the ICE GPU hardware.

ICE-3DGFX-RND – 3D Graphics

ICE-2DGFX-RND – 2D Graphics

Graphics Editor

Does not include PC hardware

ICE-3DGFX-EDT – 3D Graphics

ICE-2DGFX-EDT – 2D Graphics

Graphics Preview

For an additional preview system without edit capability. Does not include PC hardware.

ICE3DGFXPVW

Media Watcher

Monitors text data sources and cleanly updates the on air system. Read data from a range of sources, eg CSV, RSS feeds, XLS

ICE-MEDIA-WAT

Repository

Controls project distribution to multiple playout devices.

ICEREPOSIT

RT Software



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