MULTIMEDIA:
STATE OF THE ART

Six Degrees OF PRESENTATION

Multimedia developers for the Amiga continue to define the state of the art in desktop presentation software. Learn what makes these programs cutting edge and compare features of six of the leading packages.

BY GEOFFREY WILLIAMS

As the pioneer platform for multimedia, the Amiga enabled developers of multimedia software to produce the best and most sophisticated programs in the field. While improvements to more recent PC and Mac systems have allowed developers on those platforms to play considerable catch-up, Amiga multimedia still maintains a leading position. (Even IBM itself has used the Amiga in recent major multimedia presentations.)

We'll take a look in this survey at the state-of-the-art features that make the Amiga so attractive for multimedia, and at the programs that make it all possible.

STATE-OF-THE-ART FEATURES

IN YOUR OWN search for the right multimedia package, there are a number of state-of-the-art features to keep an eye out for. I have broken them down by category for discussion. Because the various programs support different features, you'll want to check out the comparison chart (p. 18) to see which programs do what. The chart follows the same basic breakdown as the text.

CHARACTER GENERATION

While any program can load bitmapped fonts, most programs now support ColorFonts and scalable CG fonts. For both bitmapped and scalable fonts, you need the program to antialias the text as it is displayed. This makes the text look much smoother and eliminates jaggies. The more levels of antialiasing (the number of colors used between the font color and the background color), the smoother the text will appear.

There are several text attributes that determine how text will look. Besides bold, underline, and italics, some programs let you add such attributes as 3-D extrusion, outline, embossing, ghosting (transparent interior), or drop shadow. These can be adjustable, allowing you to set the shadow depth, the size of the outline, or even the angle of the italic. Some programs restrict you ►

PHOTO COURTESY OF THE IMAGE BANK, DISK PHOTOGRAPHED BY ED JUDICE

to changing the attributes of an entire line, while others offer character-by-character adjustment. Some even allow you to scroll text for titles or to crawl a line of text across the screen.

Graphics Import and Drawing

There are two basic types of graphics: bitmapped and object-oriented. Bitmaps are in the IFF format on the Amiga and in numerous formats on other platforms. Some programs let you load a variety of formats from other computers. Object-oriented graphics, on the other hand, are typically found in EPS (Encapsulated PostScript) format. You can scale such drawings without losing any resolution, as they are mathematical representations rather than made up of specific pixels. You can also create them from within a program.

A powerful feature of some programs is the ability to load bitmapped graphics, scale them to the size you want, and use a remapping and dithering algorithm to make that image match the current palette you are working in. This enables you to make very efficient use of even very limited palettes—which is very important

FEATURES OF SIX DESKTOP-PRESENTATION PROGRAMS

	CanDo 2.51	Helm 1.55	MediaPoint	Scala MM300	VideoStage	B&P Pro 2.0
TEXT						
ColorFont?	No	Yes	No	Yes	Yes	No
Antialiasing?	No	No	1 level	4 levels	4 levels	No
Font attribute	b, i ,u, o, s, e, g (C)	b, i, u, s, L (C)	b, I, U, S, J, K, L, (C)	B, I, U, O, S, (L), 3D	b, i, u, O, S, K, L (L)	
Scrolling?	No	Vertical	No	Horizontal	Vertical/Horizontal	No
b=bold, i=italic, u=underline, o=outline, s=shadow, e=embossing, g=ghosting, j=justification, k=kerning, l=line spacing, 3D=three dimensional. An uppercase letter means that the effect is adjustable. (L) indicates that the attributes apply to the line only; (C) means that attributes affect individual characters.						
GRAPHICS						
Formats	FAX	IFF	Uses 3.0 Datatypes	PCX, GIF (optional)	IFF	IFF
Scaling?	No	Yes	Yes	Yes	Yes	No
Remapping?	No	Yes	Yes	Yes	No	No
Dithering?	No	No	4 types	Yes	No	No
Color cycling?	No	DPaint III	DPaint III	DPaint III	No	No
Tiling brush?	No	No*	Yes	No	Yes	No
NTSC limit?	No	No	Yes	No	Yes	No
Paint program?	Yes	Yes	No	No	No	No
Draw program?	No	Yes	No	Yes	Yes	No
*Does have pattern editor						
ANIMATION						
Formats	ANIM-5	ANIM-5	ANIM-5, -7, -8 CDXL	ANIM-5, -8	ANIM-5, -3, -4	ANIM-5
Animbrush?	Path	Place	Place	No	No	No
From hard drive?	No	No	Yes	Yes	No	No
SOUND AND MUSIC						
From hard drive?	No	No	Yes	Yes	No	No
MOD Formats	None	None	ST, NT, P, F, J, M, SM, T, D	ST, D	ST, NT, P	None
ST=SoundTracker, NT=NoiseTracker, P=ProTracker, F=FutureComposer, J=JamCracker, M=MarkII, SM=SoundMonitor, D=DSS						
CONTROL						
Brush/object button?	Yes	Yes	No	Yes	Yes	No
Free-form button?	Yes	Yes	No	No	No	No
Pointer-highlight button?	No	No	Yes	Yes	No	No
Absolute?	No	No	Yes	Yes	Yes	Yes
Schedule?	No	No	Yes	Yes	No	No
ARexx	i/o	i/o	i/o	i/o	out only	i/o
Recorded?	No	No	Yes	Yes	Yes	Yes
Time code?	No	No	SMPTE	MIDI time code, SMPTE (optional)	No	MIDI/SMPTE

I looked at prerelease versions of CanDo 2.51 and VideoStage Pro, so the release versions may have additional features not covered here.

because even on 256-color screens, some programs limit you to 126 colors for better transitions or special effects.

I find color cycling to be a powerful animation technique, requiring little effort and using almost no system resources. It is especially effective on still screens where you want to add a little movement or flash. There are two types of color cycling: DPaint III cycling, the most commonly supported, and DPaint IV cycling, a much more powerful type—with more cycling ranges that can overlap without having to be sequential. Few programs, however, support it.

Background creation is another factor to consider. A great way to make backgrounds is to use tiling brushes, as popularized by JEK Graphics' excellent ProFills. Basically, this involves taking a small, specially designed brush and stamping it down repeatedly to fill up the background. Thus, programs that can use tilable brushes make it possible to store entire backgrounds in only the amount of space required by a single brush.

Also, if you are creating a multimedia program for transfer to video, then you need to be able to eliminate colors that bleed or break up on video. Some programs have an NTSC color filter, which filters the colors on the screen so that they will still look good on video.

Some packages even have complete built-in paint programs, allowing you to create graphics from within the application. Some even include draw programs, which differ from paint programs in that they let you draw object-oriented graphics on the screen, scale them, and easily move them around. A draw program is very handy for creating everything from buttons to text bullets; also, they usually include a number of predrawn objects, such as stars and other simple shapes.

Animation

With the Amiga's impressive reputation for animation. it's natural that Amiga multimedia programs would excel in this area. Although we lack a format like QuickTime that synchronizes animation and video to sound, most Amiga multimedia programs provide some way to achieve audio synchronization.

Most Amiga multimedia programs make full use of the computer's powerful coprocessor chips for moving screens around and doing transitions. They also, however, can take advantage of six basic animation formats that incorporate compression schemes and other space-saving routines to help with the process. ANIM-5, the original animation format, has been superseded by the speedy ANIM-8 format, designed to take advantage of the faster processors. While not an official standard, ANIM-7 can, in some cases, provide even faster animation. Completing the range of animation formats are CDXL, designed for CDTV; MPEG (Moving Pictures Experts' Group), a universal cross-platform format for video; and, finally (and of most significance to multimedia), the Amiga's own animbrush standard.

An animbrush can be displayed anywhere on the screen, and some programs can even move it along a path. Just like the ability to create tiled backgrounds, using animbrushes is also a tremendous space saver. The same little animated character can be saved as an animbrush and used over many different backgrounds. With the ability to move it along a path, you can even have the character walk around in different environments or move according to user input. Imagine how much space and memory you could save when you don't have to create a complete animation for each instance.

In addition, the ability of many Amiga programs to play an animation directly from hard disk makes it possible to display animations larger than memory. It also makes for easier synchronization of large animations because there is no load time.

Sound and Music

Any multimedia program can play sound samples, but one of the more powerful features of some programs is the ability to play digitized samples of any length directly from hard disk—again, as with animation, allowing you to play samples larger than memory. Similarly, when very large samples can be played instantly, it makes it easier to synchronize them with other events in the presentation—rather than having to wait for them to load or using up a lot of memory with a preload.

I doubt that anyone has been very satisfied with the quality of SMUS (Simple Music Score) format, although most multimedia programs support it. Much more popular are MOD (Music Module) files. These files use sampled instruments of fairly high quality, and they tend to sound much better than does SMUS music when it is not played through a MIDI instrument. Multimedia programs support a wide variety of these kinds of formats, including SoundTracker, DSS, FutureComposer, JamCracker, MarkII, NoiseTracker, ProTracker, and SoundMonitor.

Buttons

Programs that lack draw or paint tools usually have at least a special button creator to generate three-dimensional-looking square buttons. A few programs let you make anything (brush, line of text, and so forth) into a button, while the others restrict you to rectangular shapes. The latter is a significant limitation in cases where you want to make free-form buttons of any shape available in your presentation. (For example, you might want to create a representation of the parts of an engine and have each part function as a button.)

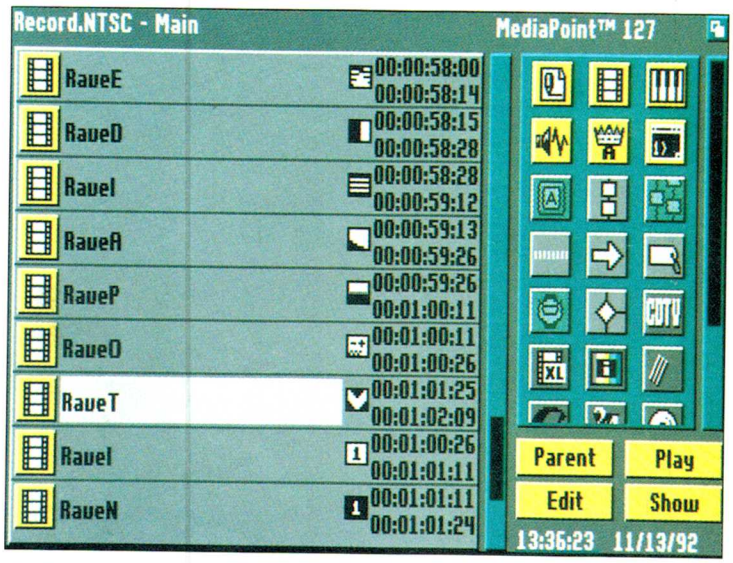
Also, it is not always clear in a presentation what objects or shapes are buttons, but some programs provide a very helpful feature to overcome this problem: ►

Scala's MM300's interface is intuitive and very easy to master.

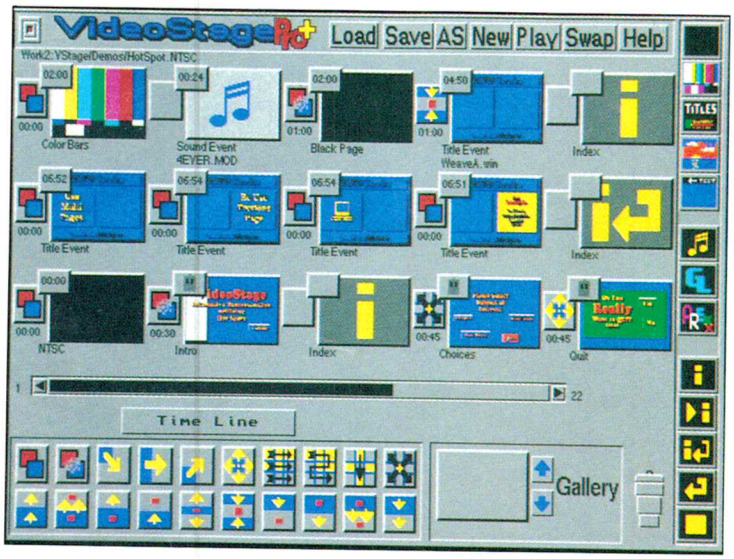
pointer highlighting. A button can be highlighted simply by passing the pointer over it—allowing the user to know immediately that the object is an interactive button.

Sequence Control

In addition to using interactive buttons, you can also control presentations through absolute timing (each event happens at a specific time after the start of the presentation), or by scheduling events to happen at a certain date and time. ARexx capability is important as a means of providing such control, although some programs offer only ARexx-out, meaning that the multimedia program can control other applications but not be controlled by them. Another useful feature provided by some programs is recorded timing—the ability to trigger events manually and have that timing recorded for use in the actual presentation. For video, the ability to synchronize to SMPTE time code is also useful, as events on a video can trigger overlays and sound from the multimedia program.



MediaPoint is chock-full of impressive features and effects.



VideoStage Pro offers more than 60 screen and 50 object transitions/effects.

THE PLAYERS

SIX AMIGA PROGRAMS possess many of the state-of-the-art multimedia features we have discussed. A seventh, Commodore's AmigaVision Professional, had a lot going for it, but began to fall behind in its display capabilities. Its current status is in doubt, though it can still create impressive presentations. We'll omit it here, however, and concentrate on the features of the other six.

Scala MM300

The leading Amiga display program is **Scala MM300** ($399, ***Scala Inc.***) (Scala also markets that program's more high-powered sibling, **InfoChannel,** priced at $2500 per master station and $800 per player station.) Its interface is very easy to master, allowing you to edit either a text-based event list or one with miniature images of the pictures in the show, and it has many impressive features. It comes with a simple, limited audio editor (basically just for trimming sounds) and an animation editor (AnimLab) that allows you to make, split, resize, add superimposed text to, and convert ANIM-5 to ANIM-8 animations. It will also convert animations to a format that plays back faster from hard disk.

MM300's 100-plus screen and object transitions are the best around. Using a process called color fading with two pictures that each use half the available colors, the palettes are split between the two for seamless transitions.

Scala uses an extensible format called EX (pronounced "ee-ex") to add external support. Included are EX modules for the Canon Xapshot, AVideo/Colormaster, Scala and GVP genlocks, GVP's IV-24, MIDI, CDTV, and the Sony and Pioneer laserdiscs. There are also many optional modules available for such things as format conversion and control of SunRize's Studio16.

The new InfoChannel 500 provides numerous additional features: almost twice as many wipes, invoicing capabilities for insert advertising, MPEG encoding and support for Scala's low-cost MPEG player, remote updating over a network or phone line, and support for many more external devices (including a range of video decks, switchers, and NewTek's Video Toaster). It also adds file support for GIF, TIFF, BMP, FLC, PCX, YUVN, PhotoCD, and Workbench 3.0 Datatypes.

MediaPoint

MediaPoint 127 ($299.95, ***MediaPoint International)***, MM300's leading competitor, sports impressive features of its own. It also comes with a freely distributable player, while MM300 does not. By connecting two Amigas with a null modem cable, you can achieve synchronized presentations or have one Amiga control the other. The picture-file requester displays thumbnails of all the images in a drawer. MediaPoint's 41 screen and object transitions include some unique swooping effects along curved paths.

MediaPoint offers extensible support for MIDI, CDTV, Canon's Xapshot, SunRize's AD516, NoahJi's Toccata, GVP's IV-24, NEC's PC-VCR, and the Sony, Pioneer, and Philips laserdiscs.

VideoStage Pro

VideoStage Pro ($179, ***Oxxi***) is the latest entry into the multimedia arena. Billed as a titling program, it is

quite a powerful multimedia program, as well, with many features adapted from the same developer's Presentation Master. It can generate algorithmic gradations for backgrounds and text fills. Among its more than 60 screen and 50 object transitions are effects that allow you to cross-fade between two 16-color images on AGA machines, and to perform fly-ins of the individual letters in a word. Many of the fly-ins of objects are also quite impressive, with control provided over multiple objects. The transition requester also gives you a visual animation icon that shows what each transition type looks like. It offers external support for Digital Creations' SuperGen and GVP's G-Lock genlocks, and for AudioMaster (Oxxi) sound sequences.

VideoStage Pro Plus ($499) provides the same features, but also includes remote updating of presentations via modem, event logging, and text conversion to Bezier objects for warping and 3-D effects. And, it is the only program here with the important EPS file-import feature.

CanDo

CanDo 2.51 ($199.95, ***INOVAtronics***) takes a very different approach to multimedia presentations. It allows you to create complete programs that use all of the Intuition features. Earlier versions were somewhat lacking in multimedia capability, but the current one greatly improves your ability to move between images. (An animated transition requester similar to VideoStage Pro's is included.) There are several unique transitions, many that use palette manipulation. CanDo has the most powerful math and variable features by far, along with improved animation support.

CanDo is more reliant on an understanding of scripting than the other programs (although a front-end actually generates the script), but it also provides far more flexibility and power. There used to be a liberal distribution policy regarding CanDo presentations, but now only noncommercial presentations are freely distributable. Commercial developers must pay a licensing fee of between $50 and $200 per year, which is quite cheap compared to such fees in the PC world.

Helm

Helm 1.55 ($129, ***Eagle Tree Software***) is the low-cost alternative in the multimedia field. While not as powerful as the other programs, it still provides enough features to create impressive presentations; you might consider it a cross between CanDo's programming power and a full-blown multimedia application. It generates charts, sports several image-processing functions, provides strong math and variable handling, and allows you to generate many Intuition-like control panels with a great deal of flexibility. It offers 15 basic transitions, each with multiple directions, but they all tend to be more of the traditional variety. Helm comes with a freely distributable player.

Bars&Pipes Professional

While **Bars&Pipes Professional 2.0** ($429, ***The Blue Ribbon SoundWorks***) is the leading MIDI sequencer in the Amiga market, it also includes a number of multimedia capabilities (this is especially true with the latest version—2.5—which also retails for $429 and is available to registered 2.0 users for $69.95). While not designed with interactive features such as buttons and variables, it triggers multimedia events at specific points in the music, making for very accurate synchronization. It allows control over GVP's G-Lock and IV-24 (controls FreezeFrame in PIP), Interactive MicroSystem's MediaPhile video-editing system, Panasonic laserdisc players, SunRize's Studio16, Digital Creations' SuperGen, and NewTek's Video Toaster. It can even control a Scala presentation. Bars&Pipes Pro includes a freely distributable player.

All six programs offer you an impressive suite of useful features for creating multimedia presentations. The table on p. 18 can help you determine which one has the specifics that best meet your needs. ■

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CanDo, a more script-oriented program, takes a different approach to creating presentations.

Helm allows you to generate Intuition-like control panels that make your presentation easy to navigate.