FULL SCREEN, FULL MOTION, BROADCAST QUALITY DIGITAL VIDEO — that’s the standard most multimedia developers have been wishing for.

Well, I am happy to tell you that it’s here, right now, and it’s affordable — OK, almost affordable.

In development for a long time, DVD (Digital Video Disc) is here to stay and by all media forecasts, it’s going to catch on faster than compact disc did in its first introduction to market. But how do we desktop publishers of print and digital media take advantage of this emerging format?

I feel that we should follow the same model that was used in the early days of desktop print publishing. I’ll try to draw comparisons between the print workflow and the DVD workflow to make this a little more understandable.

**DVD AUTHORING**

DVD production can be approached in several ways. Because of its massive capacity of about 18 GB, you can simply buy a DVD software upgrade to the popular Toast CD-R formatting software and burn a Director authored multimedia title. You are no longer limited to CD-ROM’s 650 MB of data. Supply QuickTime 3 on the disc and you can pump out hours of 1/4 screen video to computers that are equipped with DVD-ROM drives.

You can also choose to compress your video to the MPEG format (the standard for DVD-VIDEO), and with the right Director Xtras, you can deliver full screen, broadcast quality interactive video to computers that are equipped with MPEG decoder boards or extremely fast internal processors such as G3 or Pentium 2.

But this method is tricky and you will be missing a large market opportunity for your production — DVD-VIDEO set top players. To develop titles for that market you will need a DVD-VIDEO authoring system. Remember DVD-VIDEO will play on DVD-ROM but DVD-ROM titles will not play on TV set top DVD-VIDEO players!

The DVD-VIDEO market is expected to be huge in the corporate sector. Executives with DVD laptop computers or Palmtop DVD players will all soon want to present their audiences with a format that everybody is familiar with: full screen, full motion video like you see on TV. Small jerky QuickTime video or PowerPoint presentations will become obsolete just as slide shows are now ancient history.

And the gaming industry? Well, it will team up with television producers to produce interactive movies with live action characters superimposed into computer generated sets. CD-ROM titles like *Virtual Valerie*, *Myst* and other role playing adventure games will evolve into interactive dramas where you will create the plot, story line — even multiple endings. Many Hollywood movies will eventually have interactive versions for DVD-VIDEO players, and eventually, Academy Awards will be offered for interactive movies.

Best of all, this DVD-VIDEO authoring format is very simple compared to authoring packages such as Director. Let’s take a look behind the scenes and tour one production company that has decided to embrace this new format.

**INSIDE A DVD PRODUCTION STUDIO**

National Video Labs is in the business of providing services to producers of corporate, commercial and broadcast TV. It has a medium sized studio with three Betacam SP cameras, several BetacamSP recorders, and editing facilities which include Avid non-linear workstations. NVL also duplicate videos in the NTSC and Pal format.

NVL’s goal is to implement several new DVD-R duplicators into its facilities in order to offer DVD-R one-offs and authoring to producers of DVD-VIDEO productions. With the current cost of Pioneer DVD-R drives at over $20,000 causing a real bottleneck in DVD production, NVL sees an opportunity. There is no simple way to produce a DVD-VIDEO and check your work in progress on a set top DVD player TV unless you spend 20 grand on a DVD-R drive! There are workarounds by using CD-RW drives that can cre-
ate media that is playable in some TV set top
DVD players but 650 megs of MPEG 2
won't get you much video.

Most producers of multimedia
are waiting for the costs of DVD-R
drives to come down before they
jump into the game. We might
compare their situation to the
days when desktop publishing service bureaus
were born which al-
lowed publishers access
to a PostScript imageset-
ter for film output. De-
sktop print publish-
ers could now create all
their work at home and
then send a 40 meg
Syquest to the service
bureau for final film.
There was one standard
application for color
publishing at that time,
which was (and still is)
QuarkXpress.

Now, using this model,
National Video Labs is
evolving into a DVD ser-
vice bureau by purchasing the
necessary equipment to speak
to desktop multimedia publishers
who want to author their own
DVD titles in-house and then
have National Video Labs output
a final DVD-R or DLT for replica-
tion. To accomplish this task they
need a "Quark" standard for DVD
authoring software, plus the nec-
essary MPEG 2 compression hard-
ware to compress the video that
they will create or that is
supplied by their cus-
tomers. This MPEG 2
compression hardware
can be compared to
the high end drum
scans that are of-
feted by desk-
top print ser-
vice bureaus. Send out your video for compression and get back a DLT or Jaz cartridge of compressed MPEG 2 video.

**SCENARIST IS TODAY’S DE FACTO STANDARD**

The first DVD authoring software to become standard with most Hollywood movie studios is produced by a company called Daikin. Its product is called Scenarist. This software is used to create those DVD-VIDEO titles that are in your neighborhood video rental stores and has every feature that you could possibly want, including a utility to create Dolby Digital 5.1 audio files, the DVD-VIDEO audio standard.

Companies that market MPEG 2 compressors have bundled Scenarist with their hardware into a Windows NT “all in one” clone workstation. The common denominator among these systems is Scenarist. You can purchase this software directly, author your own title and take the Scenarist files to a DVD service bureau for final DVD output.

Scenarist comes in three flavors. The Basic edition for $9,800 (US) gives you the ability to author a simple DVD-VIDEO title — no interactive camera angles, one language track, etc; an Advanced version sells for $19,000; and the Professional suite is $29,000 and gives you parental guidance control, multi-camera angles, several audio tracks for different languages and subtitles. Most of us don’t need multi-angles and multi-language, and if we ever did, we could add those parts at a service bureau that has the full version of the software (which is both forward and backwards compatible). The main point of this exercise is to spend most of your time creating interface menus and subtitles and then linking that data to interface hot spot buttons at home or at work. Use the service bureau to compress the video, multiplex the title (combine the audio and video) and burn a DLT or DVD-R for replication.

While we’re on the subject of digital video compression, there’s even a way to accomplish MPEG 2 compression on your own computer using software instead of hardware at a DVD service bureau. Terrain’s Media Cleaner Pro 3.1 can now convert QuickTime to MPEG 1 thanks to the additional compression codec supplied by Heuris. There is also a Heuris upgrade called Power Professional DVD that will convert QuickTime, Avid OMF and Media 100 files to MPEG 2. The difference between hardware and software MPEG compression is the time it takes to convert the digital files. Hardware compression of MPEG 2 is real time; software can take longer, but it provides great looking digital MPEG video because you don’t have to record it to tape and then redigitize.

If your final productions are under 30 minutes and you incorporate non-linear editing, it may be worth using overnight MPEG 2 rendering.

Non-linear editing systems that use MPEG 2 for their native capture codec are just starting to hit the streets. This saves you the stage of recompressing the final edited video into MPEG format for incorporation into a DVD authoring
system. Fast Multimedia has a product called 601 that combines the features of a non-linear edit system such as Avid Express with MPEG 2 hardware video compression. This is a great way to go if you have not yet purchased a non-linear edit system want to focus on DVD production.

If you’re a freelance graphic designer who has been contracted to produce interactive motion menus or animations from Adobe AfterEffects and you don’t have a way to record your animations to tape, MPEG Power Professional is definitely a great way to get MPEG 2 files from your computer to your producer or DVD service bureau. Two-gig Jaz drives are becoming popular for transporting these files.

Scenarist has an interface that resembles a non-linear digital video application. You drag MPEG video to a timeline and link the data to a hotspot on a menu. When the MPEG video finishes playing, it either goes to another video or returns to a menu. You can switch between audio tracks that run in sync with the video. This allows the opportunity for different languages linked to one video stream. These languages can also include subtitles for hearing impaired or uncommon North American languages such as Russian.

**FOR THE ULTIMATE MUSIC DVD, YOU CAN INCORPORATE CAMERA “ANGLES” THAT GIVE SEVERAL POINTS OF VIEW... THIS AUTHORING STYLE HAS ALREADY BEEN ADOPTED BY THE ADULT FILM INDUSTRY.**

For the ultimate music DVD, you can incorporate camera “angles” that give several points of view. In this case, several video tracks are running in sync with one common audio track. You can allow the user to switch between the singer or the drummer, or allow the DVD director to supply the final cut. This authoring style has already been adopted by the adult film industry.

So, why have we not seen more of these titles in the marketplace?

Until now, authoring systems have been very expensive. The only Macintosh solution at this point, made by Sonic Solutions, takes a closed system approach. Sonic’s systems require special firmware drives and input/output boards just to author.

On the other hand, Minerva Systems is world-famous for its Macintosh MPEG compressors and even Minerva has bundled Scenarist with its “all-in-one” workstations. They have produced their own NT-based DVD open authoring software called Impression and it is compatible with Scenarist. It is said to be Macintosh-friendly because it uses QuickTime files for testing purposes. These Quick-Time files are then replaced by MPEG files at the service bureau.

Minerva’s goal is to sell its Macintosh MPEG compressors to service bureaus just like Linotype sold imagesetters. Its Impression DVD authoring software may not have the big “multi-angle” features but you can buy it for about $10,000 (US) and author with Windows NT using Macintosh QuickTime video and Photoshop files. And it will still be compatible with other Scenarist workstations. Since the software was still in beta as at the writing of this article, we will cover Impression in the next issue.

Finally, there is an inexpensive Mac solution on the horizon for about $6,000 (US), although it’s still in beta. I am testing it for Astarte, the folks that brought you Toast, the de facto CD-R formatting software. In its first release, it will not be able to compete with the robust features of Scenarist Professional, but it will keep diehard Mac fanatics happy.

In any case, whatever platform you choose to author on, most service bureaus that now offer desktop print publishing have more than one publishing application on hand. In addition to QuarkXPress, they all have both Mac and Windows versions of PageMaker. If you are planning to provide DVD output services for the 400,000 registered users of Director that will soon move to DVD authoring software — well, you might want to have all your bases covered. *

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