100Base-T

The most commonly used **EtherNet** standards, **ThinNet** , **ThickNet** and **10Base-T** all make use of a10Mbps transfer rate. Originally proposed in 1992, the 100Mbps standards, including 100Base-T are just now beginning to come into common use. Although they are still fairly expensive to implement, 100Base-T solutions are expected to drop in price just as 10Base-T solutions did previously.

You can combine an existing 10Base-T network with a new 100Base-T network by using a 10/100 bridge. The current generation of EtherNet cards include dual speeds and auto-sensing to tell the Mac whether it's on a 10Base-T or 100Base-T network.

See Also
Bridges, EtherNet; Networking; Network Topology

128-Font Limit

The number of screen **font** suitcases you can put in the Font folder is limited to 128 suitcases. Does that mean you can't have more than 128 fonts? Not at all; there are a number of ways around this limit. First, you can have more than one font in one suitcase. The Minion font family, for example, might have Minion, Minion Bold, Minion Italic, Minion Bold Italic, Minion Black, Minion Black Italic, Minion Display, and so on, all in one suitcase.

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You can also create your own suitcase by **double-clicking** the font suitcase and **dragging** a screen font from one suitcase to the **icon** of the other. The selected font is copied into the new suitcase, and you can keep adding fonts to your hearts content. You might want to put serif typefaces in one suitcase and sans serif in another, or you could separate them by vendor; ImageClub fonts in one suitcase, Adobe in another, and so on. You can also copy the entire contents of one suitcase into another by dragging one suitcase's icon on top of another.

Another way to get around the 128 font limit is by using a font utility program such as **Suitcase** or **MasterJuggler** . These enable you to store as many fonts as you want outside the System Folder's Fonts folder, bypassing the 128 font limit altogether.

To copy screen fonts from one suitcase to another, follow these steps:

1. Double-click the screen font suitcase to reveal the suitcase's contents.

2. Select the screen font(s) you want to copy to a different suitcase.

3. Drag the selected font(s) from the open suitcase to the icon of the other suitcase and release the mouse button. The selected screen fonts are copied.

4. If you want to copy an entire suitcase into another suitcase, drag the icon of the suitcase on top of the suitcase you want to copy into and release the mouse button. The contents of the suitcase are now in the new suitcase.

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1394 Fire Wire

The 1394 Fire Wire is a digital transmission standard originally developed by Apple that has been proposed as an industry standard for possible industry-wide usage. This standard, which could be used in place of **SCSI**, serial lines, and other means of connecting digital devices, supports a **transfer rate** of 12.5 M/bytes per second, and can be adopted for other use in devices, such as ink jet printers, and even hard drives. Fire Wire addresses many of the limitations of SCSI: enabling hot plugging (devices being connected while other devices are on) up to 60 devices at a time, and automatic unique addressing of devices.

1984

The year 1984 has special significance for the Macintosh. On January 24th of that year, Apple Computer introduced the Macintosh to the world for the very first time. But the real excitement started two days earlier during the Super Bowl. Early in the third quarter of the LA Raider's rout of the Washington Redskins, watchers were dazzled by a commercial unlike any they'd seen before.

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Apple's *1984* commercial depicted a world straight out of George Orwell's novel of the same name: rows of bald, despondent workers sit watching "big brother" on a huge screen as he drones on in newspeak about the ideology of the Great State and its "Unification of Thought." Meanwhile, a woman wearing shorts and a white Macintosh T-shirt runs down a corridor as she is chased by uniformed storm troopers. She carries a sledge hammer. The runner reaches the room with the drone-like workers and hurls the hammer at the screen, smashing it to bits and letting in light and fresh air that washes over the stunned workers. Finally, the screen displays the words "On January 24th, Apple Computer will introduce Macintosh. And you'll see why 1984 won't be like '1984.'"

The commercial was an immediate sensation. Phone calls poured in to Apple, CBS, and Chiat/Day, the advertising agency that created the commercial for Apple. Although Apple paid to show the ad only once, it was shown on the news programs of all three national networks and many local stations. The commercial was so outrageous, it was news in itself. To this day, *1984* remains one of the most talked about commercials of all time.

1984 was directed by Ridley Scott, the director of such Hollywood hits as *Alien* and *Blade Runner*. It was produced at a cost of nearly one million dollars (not to mention the cost of airtime during the Super Bowl). Scott hired London skinheads to play extras as the worker drones, and paid others $125 a day to shave their heads just for the commercial.

Casting the runner was more of a challenge. After a series of models were unable to throw the hammer without getting dizzy or endangering the crew, Ridley Scott decided to

look for someone a bit more athletic. Anya Major, a model and former discus thrower, fit the bill perfectly.

In hindsight it may be hard to believe, but the *1984* commercial almost didn't see the light of day. When Chiat/Day presented the finished commercial to **Steve Jobs** and **John Sculley**, they loved it. When it was shown at Apple's annual sales conference, the audience went wild. But when Apple's board of directors saw it, it was a different story. Not only did they not like it, many of them thought it was the worst commercial they had ever seen.

Based on the board's reaction, Apple sold back most of its Super Bowl airtime and planned to run a much more tame commercial, *Manuals*, instead. The board hadn't outright refused to run the commercial, however, and Sculley left the final decision to Bill Campbell, the vice president of marketing, and Floyd Kvamme, executive vice president of marketing.

In the end, Campbell decided to run the commercial, and Apple managed to buy back its airtime. The rest, as they say, is history.

See Also
Jobs, Steve; Sculley, John

24STV

A NuBus video digitize and display board manufactured by RasterOps (now owned by Truevision). The 24STV was one of the first digitizer released for the Macintosh for less

than \$1,500. This board is no longer manufactured. Software and an FAQ are still available at the RasterOps home page: ~~http://www.rasterops.com~~.

3D

The task of creating 3D photorealistic images or sequences occurs in three separate but interdependent tasks: **modeling** , **animation** , and **rendering**

[bl]   **Modeling** is the process of creating 3D objects or scenes containing several objects. This involves tasks, such as lathing, extrusion and free-form modeling.

[bl]   **Animation** is the process of creating a moving sequence of images. This requires that you define the motion and or changes in shape of objects, lighting, and other variables. If you only want to create 3D still images, you may not be interested in these features.

[bl]   **Rendering** is the process of creating photorealistic images. This task involves **texture mapping**   [md] (adding surfaces to an object) as well as adding lighting.

Often the lines between these three steps are blurred; textures can be animated over time and an object can **morph** (change) its shape during animation.

Most general purpose 3D tools, such as Fractal Design's **Ray Dream Designer**, **Specular's Infini-D,**   **Strata's StrataVision and StudioPro**   and Macromedia's **Extreme 3D** provide all of these functions, but not all programs do. For example,

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Electric Image Inc.'s **Electric Image** , a high-end animation tool, provides very limited modeling tools.

In addition to the general purpose 3D modeling and rendering packages, there are several niche products. For those who just want to create 3D logos, there are several easy-to-use packages, including Fractal Software's AddDepth, and Specular's LogoMotion. Virtus WalkThrough makes it possible to explore 3D scenes in real time, whereas KPT Bryce creates dramatic landscapes and Fractal Design's Poser models human shapes.

If you haven't used a 3D program before, be prepared to spend some time on the learning curve. 3D programs are complex because of the number of new things you'll have to learn, from how to build the basic shapes to manipulating lighting. Creating even the basic shapes (that is, anything more complex than a ball or a block) can take a lot of time.

You might want to consider buying collections of pre-built objects. Several software developers offer collections of general purpose objects specifically tailored to their application. There also are sets available from other companies. These may be useful if they have the exact objects you need, but be aware that if the objects are supplied in DXF format, you might not be able to edit them after you import them into your program.

When creating complex objects, always try and break an object down into simple parts. It's easier to work that way, than to try and create a complex shape from one object. All programs provide some way to link objects together, so working in small pieces shouldn't be a problem. When creating animation, you should render in wireframe first

to see whether it looks right, before spending time rendering the whole sequence. Test rendering single frames along the sequence also makes sense.

If you frequently use 3D software, you need the fastest computer you can afford[md]previewing scenes is time consuming. Rendering an animation sequence can take days. That's why 3D modeling programs offer **network rendering** (sometimes called a rendering farm) that use multiple computers to create the final work.

Other 3D developments that may or my not have a dramatic impact in the coming years include:

[bl] **VRML** (Virtual Reality Modeling Language) a general purpose description for 3D models and scenes that is being used on the **World Wide Web** .

[bl] **QuickDraw 3D** , system software developed by Apple which could make it possible for almost any application to open and display 3D models. QuickDraw 3D uses a file format (**3DMF**) that is being adapted for use with VRML.

See Also
Infini-D; Ray Dream Designer; Strata Vision

3DMF Optimizer
A freeware utility that optimizes **QuickDraw 3D** (**3DMF**) files by removing duplicate vertices and other unnecessary elements. Depending upon the efficiency of the 3D program that created the original file, 3DMF Optimizer can reduce a file's size and decrease load time and display time.

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3DWorld

3DWorld is a dedicated QuickDraw 3D application. With this application, the full potential of QuickDraw3D can be realized and explored, especially the real-time magical manipulation of textured graphics.

The interface has a gridded view plane surrounded by four palettes: Tools, Camera, Lights, and Info. The view plane may be seen from a Home View, Custom, Top, Front, Left, Right, and Back. You can also choose to "View Selected," which places the selected object in the center of the view plane. A special "Spin Around Look At" option animates the view plane, allowing you to appreciate the scene from a circular orbit. A mouse click stops the spin at the desired position. The view plane can be set for shaded rendering or wire frame. The Tools Palette contains primitive 3D Objects, Plug-ins (a separate disk of plug-ins is available from MicroSpot, and more are being written), and 3D manipulation Tools. The Camera palette displays the visual icons that allow you tochange views and take snapshots of a scene. The Light Palette addresses Brightness, Point Sharpness, Ambiance, Color, and Shadows on/off. All Light adjustments can be seen in real time as light plays upon the objects, including real time updating of shadows cast on the grid plane. The Info Palette enables you to adjust the Transparency, Shininess, Reflectivity, Color, Position, and Size of any selected object or group in the scene. Settings are saved with the file.