IdN

INTERNATIONAL
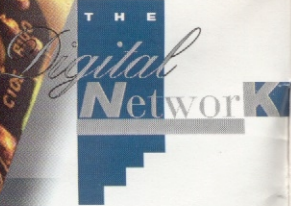## designers NETWORK

Singapore

How Long Would You Take To Complete This?

We took 2 days, including idea generation and client approval. That's right. And we're not even an advertising agency. How did we do it? First, we used human brains to create great ideas. Then, we used computers to translate those ideas into reality, *fast*. You probably have the same equipment we do: A Macintosh, scanner and laserwriter. So how did we do it? By integrating our work on the computer, and cutting out-time-consuming manual effort.

You can do it too. You already have the hardware. You probably use the software. All you need to learn is how to integrate it all. A digital network. For a faster turnaround. Better results. Lower costs. Greater satisfaction.

The Digital Network. Let us show you how.

The Digital Network is associated with :

IdN · Apple · 3M

AGFA · Agfa

CREATED : LIMMY
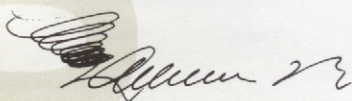
Riding on the
Frontier of Technology

International designers Network (IdN) and Apple Singapore are pleased to present this Desktop Publishing Supplement — a road map for your next step into DTP. While we take stock of what the Desktop Publishing technology is all about, we also look at ways of improving the level of knowledge and skills of the users in this industry — from black and white to colour, from English documents to multilingualism, from stripped-in photos to digital images.

The Product Guide will show you the set up you need for your work. We also provide a review of the training schools at which you can acquire the proper skills. Our article on the Bureau Services in Singapore provides a comprehensive overview of their range of professional services.

For those of you who are already into DTP, we bring you the latest technologies, sharing of experiences by other users as well as ideas of how to maximise your system further. We have a checklist of all the different factors for you to get full colour from your desktop. You will benefit from the experiences of those who are already using the latest technology in DTP.

The Singapore DTP Network enlists industry professionals in Singapore. They will be your key contacts into the technology. Also, read about what Apple's plans are for the local scene and the upcoming DTP events.

Wherever you may be on this road map of DTP, this supplement is a sincere welcome to all of you along the frontier of technology of Desktop Publishing.

Laurence Ng
Publisher

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Desktop Publishing:
Basics & Beyond

In 1985, Apple's first generation desktop publishing system gave the business world something radical and new — a way to use personal computers for high quality document preparation. Desktop publishing (DTP), coined by Aldus founder Paul Brainerd, describes the way to compose text and graphics in a single document, fit for publication, right from the computer desktop. Since then, DTP has become a 'household' term in the world of graphics and design. It is the perfect solution where typography, graphics and aesthetics in a document all matter.

The three A's companies that made DTP possible are Apple, Aldus and Adobe. Apple's Macintosh computer, with its powerful graphics capability and ease-of-use, allow complex tasks of laying out pages to be done with Aldus PageMaker, and fully exploits the device-independent PostScript Page Description Language from Adobe.

To create a newsletter in pre-DTP days, you required a visualiser to produce a rough. A paste-up artist had to layout the page with text from a typesetter and the graphics or illustration drawn by a trained artist. Colours would be indicated on the finished artwork, to be sent for colour separation. Only with the colour proofs were you able to determine the effects of your designs. Should changes be necessary, almost the entire process would have to be repeated. It was tedious, time-consuming and expensive.

Besides a more powerful Macintosh computer, high resolution colour scanners, large capacity disk drives, monochrome and colour laser printers, as well as CD-ROMs are nowadays common in a DTP setup. These devices offer you more capabilities and greater control over the whole process.

To create the same newsletter with DTP, you can type in the text with any word processor, even on IBM PCs, and import them into the Macintosh. For lengthy text, you can scan them in with a scanner and use optical character recognition (OCR) software to turn them into editable text. If there are pictures to be included, you can scan them in. With image editing software, the scanned image can be edited and manipulated for various effects. You can etch and crop the image, change the colour intensity and contrast, for example.

Illustrations, drawings and paintings can all be created electronically. You can make use of the computer mouse or a drawing tablet that comes with a stylus, much like a pen or brush. You can draw with the stylus and apply different colours and effects. The design possibilities are unlimited. Furthermore, the electronic artwork and images thus created can be used again and again, without any loss of quality.

Alternatively, you can use commercially available clip art and images. Usually offered in Clip Art CDs and PhotoCDs, these are royalty-free yet professional-quality images that offer tremendous time savings in graphics creation. With additional video digitizing hardware, you can also capture frames off a laserdisc or video and incorporate them into your documents.

With these elements in place, you then proceed to compose the page with any page layout application. You can scale and skew your graphics and even have text wrapped around them. Built-in text features allow you to control justification, kerning and text width. Because the Macintosh offers a complete graphical environment and the advantage of WYSIWYG (What You See Is What You Get), you have the freedom to explore different options and view them immediately on the screen.

Once the ideal layout is in place, you can print to the laser printer or a colour printer. With a colour printer, you can get an instant colour proof before sending for any colour comps. Colour printers vary, though. Some can print with different grades and types of paper so you can see what the exact effects would be like when finally offset printed, while others give you continuous-tone or photorealistic output. At this stage, you can still make amendments without incurring expenses with service providers.

The final step in producing your newsletter is output to film for printing. You can simply copy your files onto a diskette or cartridge and send it to a service bureau. Before you choose one, find out if they have all the facilities your require. Ideally, the service bureau should have a high level of expertise with the applications you use; the required fonts and the appropriate media for downloading your data.

DTP is not restricted to roman characters. The same features are available for non-roman characters such as Chinese, Korean, Japanese and Thai. For example, you can input your text in a Chinese word processor such as TurboWriter, draw your illustrations with Asian FreeHand and then layout these elements in a Chinese page layout application such as PageMaker 4.5C. You will need the ChineseSystem (or the Apple Chinese Language Kit) though.

The ChineseSystem offers several ways of inputting Chinese characters, such as hanyu pinyin, wubihua and wubixing. With the proper software, you can layout Chinese in either horizontal or vertical format. Therefore, you enjoy the same control and flexibility, if not more, as you would with a non-roman system.

DTP offers distinct advantages over traditional means. The critical elements in any production are time, control and cost. With DTP, fast turnaround is ensured since most of the production process lies within your control. Results are highly consistent and precise from job to job. Besides saving time, you will also benefit from long-run cost savings and increased productivity.

Apple Interview
Leading the Next Step

Throughout the interview, Mr Kevin Lim, Marketing Manager of Apple South Asia, stressed Apple's unwavering commitment both to the local as well as South Asia's DTP industry. While Apple's business has expanded successfully over the last few years into PowerBooks, Personal Digital Assistants and office business machines, Apple is furthest away from abandoning its most successful market — Desktop Publishing. In fact, a recent survey held by Apple USA revealed that DTP was the area where Macintosh was the most preferred choice and where users were most willing to make investments.

Mr Lim sees his task as, "having to implement ways to raise the standard of DTP in the market, to inject new skills, as well as the transfer of skills and expertise in the local market." He plans to achieve this task through workshops, seminars and round-table discussions by industry leaders in DTP. "Apple's commitment to DTP is obvious not only in R&D to create breakthroughs but also in other initiatives. Examples are the DTP Conferences, Roundtable discussions, workshops that Apple supports worldwide and even through supplements such as this one."

Apple's innovations such as WorldScript, TrueType, PhotoGrade, ColorSync and QuickDraw GX will be the foundation of making the Macintosh a better machine for DTP.

An important vehicle to the success of the DTP market is the Value Added Resellers (VARs). VARs are important in vertical markets such as DTP, especially when customers are interested in connecting to RIPs, imagesetters and even drum scanners. DTP VARs can also specialise in networking the entire DTP workgroup, through the use of OPI servers, image databases and setting up workflow methods. To meet specific needs of certain industries such as Advertising, account handling and billing can be designed to tie-in with the design work done for various accounts.

VARs are also important because they speak the same "lingo" as the customers, such as prepress or colour separation houses. Customers will feel more at ease with a reseller who understands their needs and possesses the know-how to meet the challenges in the market. Practical points such as staff training and the smooth flow of operations are all crucial in working with a VAR who knows your business.

Mr Lim fully realizes the growing importance of Value Added Resellers in the reseller channel. As the Singapore market matures and the use of technology increases, the values added by these specialised resellers will certainly increase. "This is a natural evolution of the channel to meet the needs of the changing market," said Mr Lim. "Currently in Singapore there are Dealer Assisted VARs (DAVARs) who work closely with a reseller to serve the DTP market."

Another important factor necessary for the successful transfer of skills in the market is Training. "It is important for employers to see DTP training of personnel as an investment for the company. Training can help spread DTP skills across the company. If a company is dependent only on a few key persons for their DTP skills, DTP activities will literally drop to zero when the persons leave the company. The company has to start from scratch again. This can be easily avoided or minimised by training more people."

While recognising that many companies in Singapore have been using DTP for some years, he notes that many DTP users are still not maximising the capabilities of the technology. This is due to a lack of know-how across the companies. Pockets of expertise and skills reside in some firms and the expertise is seen as a trade-secret. The industry as a whole suffers because of this 'hoarding' of expertise. The majority of the users are stuck in a rut, wondering how to move on to the next step. Apple sees the solution to this problem through training as well as other DTP initiatives.

Mr Lim also plans to bring in more foreign speakers through seminars and workshops. "Hopefully, our local users can tap on the expertise and experience of the foreigners to improve their work methods and take advantage of the latest technology." IdN is working closely with Apple Singapore to bring a series of seminars, workshops and roundtable discussions to Singapore. Along with this DTP supplement, IdN is conducting a survey to ascertain the needs of the DTP users in Singapore. This will allow a better decision on bringing appropriate DTP events to Singapore. As Mr Lim says, "This DTP supplement marks the beginning of many more DTP initiatives to come."
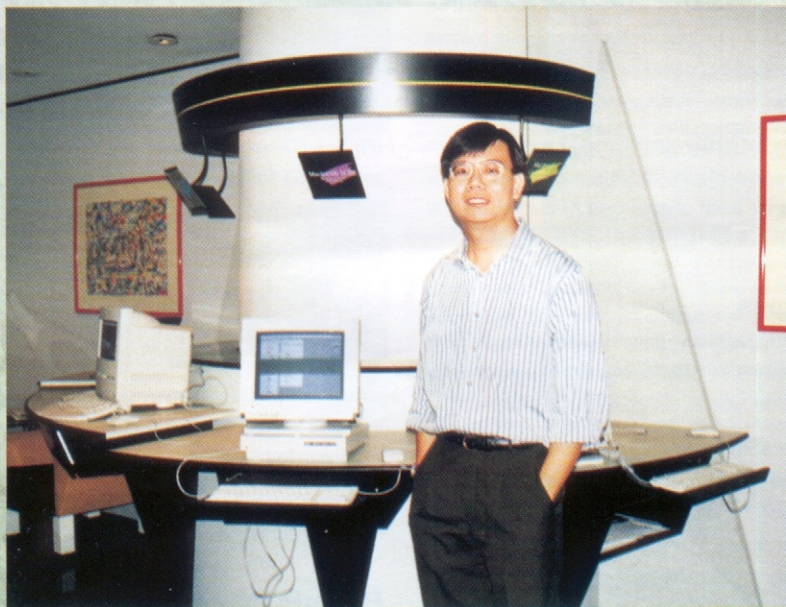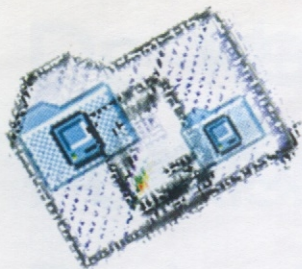
Evolving Technologies
More Power from Apple

Since 1984 when Apple introduced the first Macintosh, the carefully-crafted technologies that set the Macintosh apart from other personal computers have evolved over the decade and literally redefined computing in our generation.

Issues such as speed and colour fidelity had hampered the Macintosh from being the electronic solution to prepress. They have since been resolved with the development of new technologies, reinforcing Apple's commitment to desktop publishing...

TrueType

Apple introduced TrueType as the solution to producing sharp and crisp type in any size. TrueType fonts describe the glyphs of each character in mathematical terms to allow unlimited scaling. You can now truly get the same smooth look of type on screen and in print.

FinePrint & PhotoGrade

To improve the print quality of its LaserWriter family, Apple developed an Application Specific Integrated Circuit (ASIC) to pulse the laser to extend or contract the dots to create very smooth edges. FinePrint on the LaserWriter is actually able to alter pixels at more than 2400 dpi on the horizontal axis.

PhotoGrade dramatically improves the quality of any colour or grayscale images by offering more than 11 times the number of gray shades at any line screen. This incredible improvement nearly triples the levels of grays from 33 to more than 90 even while doubling the screen resolution from 53 to 106 lines/inch.

New Printer Technologies

Like PhotoGrade, GrayShare, lets QuickDraw printers produce images with multiple levels of gray. Furthermore, GrayShare offers printer-sharing capabilities to QuickDraw printers so that anyone on the network can share a single printer.

The optional PostScript Fax card offered with the LaserWriter Select 360 can send and receive faxes with traditional fax machines, computers with FaxModems, and other PostScript Fax capable printers. The new PostScript Level 2 driver provides for fax communication via the print dialog. You can fax a document over the network from an application by simply invoking the Print command from the File menu.

The new LaserWriters have three active interface ports. The printers can sense an interface port data stream to determine the start and end of PostScript print jobs, PCL 5 print jobs, PC DOS PrtScn dumps, Hewlett Packard TBCP (Tagged Binary) and raw text dumps. This function is the key to providing simultaneously active ports and seamless mode switching.

ColorSync

Colours are described in device dependent terms (RGB) for monitors and most scanners, and (CMYK) for most printers, since delivering coloured light is very different from delivering coloured ink. Device dependent descriptions cause the same blend of RGB to display differently on every monitor. If you try to simply translate RGB to CMYK, you can get different and unexpected results and poor colour fidelity.

Different devices (scanner, monitor, printer) not only describe colours differently but actually have different capabilities in terms of delivering colour. A colour that is possible on one device may not be possible on another. Also, the perceived colour given by a specific value of RGB for an individual monitor can vary. This means that any RGB to CMYK mapping will not be accurate over time.

ColorSync is a system extension that adds the capability to define colours independently of the device creating the colours, and to initiate matches of colours on different devices. ColorSync enables any Apple or third-party colour devices and applications to input, display, exchange and output colour information consistently and predictably.

QuickDraw GX

QuickDraw GX is a system extension that adds advanced imaging technology to Macintosh at the operating system level. A new graphics foundation provides resolution and device independent graphics.

QuickDraw GX enriches the Macintosh's typographic functionality by providing more character choices, better kerning and spacing, more style choices, and support for international text systems in all types of applications.

Automatic colour management is built on an extended version of ColorSync, ensuring that colour is consistent and predictable from screen to output.

QuickDraw GX allows any application to create a portable digital document (PDD). A PDD can be viewed and printed, with no loss of graphical or font data, on any other GX Macintosh, without the original application or fonts.

All of these capabilities combined add up to a powerful new next-generation platform for colour publishing.

WorldScript

With the new WorldScript technology, you can expand your publishing horizon to an international scene with the simple addition of individual language kits. You have the freedom to incorporate both roman characters and non-roman ones in a single document.

For example, by installing the Chinese Language Kit, you can now include both traditional and simplified Chinese characters in your documents.

PowerPC

The shorter and simpler "reduced" instructions of a RISC processor (such as the PowerPC) can run faster than the longer and more complex instructions of a CISC processor (such as the 80486). RISC architectures enable higher performance through the use of pipelining and superscalar execution, techniques that allow more than one instruction to be executed at a time. For a given level of performance, CISC microprocessors typically have a higher transistor count than RISC processors, which translates to a larger die size, higher thermal output and higher cost.

RISC processors have been widely adopted in workstations. Apple has brought the power of workstations to the desktop with the Power Macintosh, based on the PowerPC 601 RISC processors. Applications written for the PowerPC can run from two to four times faster than for the original Macintosh.

Apple began with a vision to put computing power into the hands of every individual. This commitment is seen in the continuous development of new and improved technologies. The innovations have promised a higher level of productivity to the business world in general, and the publishing industry in particular.

Training & School
Technology & Art

Nanyang Academy of Fine Arts (NAFA)

BiTs

Systems Education Centre (SEC)

Temasek Polytechnic

Training is crucial to the success of any industry. The electronic publishing industry sees technology growing at a breakneck speed. Training is the only way to keep up with the new methods of working in this field. Artists, designers and creative directors all need to know how to use new tools to maximize their creative talent. Laymen who want to desktop publish should learn the basic design skills as well as how to use the computer to make their work effective. This article looks at the different types of training available in Singapore and what the schools have to offer.

In the local market there are two main types of training school for desktop publishing: application-based training (usually provided by computer training schools) and design-based training (provided by polytechnics and trade schools).

The two types of school approach DTP training from different angles. Application-based training schools such as BiTs and Systems Education Centre (SEC) usually train the participants to use the computer and all the commands in each application. The focus is on computer and software-specific skills. Normally they do not teach design aspects such as typography, colour combinations and graphic design skills. These schools, however, will provide a user a good feel of the program and all the effects you can get out of the system. The hardware and software found in the schools are usually up-to-date in order to stay abreast of the market.

Polytechnics and trade schools such as Temasek Polytechnic and Nanyang Academy of Fine Arts (NAFA) encompass DTP training as part of the whole course of graphic design. They usually ground their students in the basics of design, typography, colour theory and all other aspects of graphic design before introducing the computer as a tool to create their work. Students normally begin using computers for design only after 2 semesters of schooling. The computer hardware and software training reflects the themes of the course rather than the latest in technology. The objective is to provide the students with a basic understanding of what electronic publishing is about.

In the next section of this article, we take a look at the schools and the type of DTP courses they offer:

BiTs

BiTs was formerly a training department of Diversitec Distributors Pte Ltd (an Apple reseller). It was set apart in 1993 to offer formal computer training to both Diversitec's customers and the general public. The 5-day DTP course covers topics such as DTP terms and concepts, use of scanner, graphics and page layout software. BiTs also offers a Chinese DTP course on the basics of using the Macintosh, a Chinese word processor, Asian FreeHand and Chinese PageMaker. A course entitled "Computer Graphics and Image Editing" introduces Basic Colour Theories, output issues such as Colour Calibration and Colour Separation, as well as Image Editing with Adobe Photoshop. Individual application courses such as MacDraw Pro, PageMaker, FreeHand, Adobe Illustrator, Adobe Photoshop and Quark XPress are also available.

Systems Education Centre (SEC)

Systems Education Centre (SEC) offered Macintosh training since 1988. The DTP course is spread over 54 hours. Apart from the core module of how to use the Macintosh, word processing and image editing (using Adobe Photoshop), participants are offered a choice of page layout software (PageMaker or QuarkXPress) and graphic software (FreeHand or Illustrator). There are also individual application courses such as PageMaker Essentials, PageMaker Advanced, QuarkXPress, FreeHand, Adobe Photoshop and Swivel 3-D for participants who may not require a complete DTP course. These application courses last from 1 to 3 days.

Nanyang Academy of Fine Arts (NAFA)

NAFA began to incorporate computer training as part of their graphic design courses some 3 years back. Mr Tan Nguk Koon, Head of the Graphic Design Department explained, "Our students undergo 3 semesters of design courses before they are introduced to computers. They first learn the basics of design such as typography, drawing, advertising, visual studies and art media. In the second semester, they learn photography and illustration. In the fourth and fifth semesters they learn how to use the computers in design. The students will have at least 3 hours of computer-time each week." To ensure that students do not get carried away with computer generated effects, Mr Chai Koh Kiew, a lecturer in the Graphic Design Department stressed that the students were reminded that the marks for their assignments went to the creative elements rather than how many computer effects there were.

Temasek Polytechnic

Professor Michael Hallam, Director of the School of Design at Temasek Polytechnic echoed this same concern, "It is important to instill in the students a solid understanding of design, typography and creativity. Students should be able to make a rigorous evaluation of design ideas and make sound judgements on the creative substance of the work. Computers are just tools to carry out our work." A new course entitled "Visual Communication" will be launched on the 1st of July 1994. It will supersede the current media and graphic courses. Temasek Polytechnic also offers the student an opportunity to take part in a foreign study visit where they will be exposed to the work in other countries and the different methods of teaching. Temasek Polytechnic's network of resources extends to foreign universities, providing both students and staff with access to professional expertise in specialised areas. Staff are also sent for teaching stints and technology forums abroad to keep up with the latest in teaching methodologies and technology.

In both types of school, the amount of information of the latest technology available and the opportunity to see or use the desktop link to prepress systems are dependent on how well the lecturers are in tune with the DTP vendor network or even on how much initiative the students take to do their own market research. The rest of the knowledge and experience in DTP would come from on-the-job training.

From the End User
We Desktop Publish

While advertisements boast of how "Desktop Publishing — state of the art technology can give you the power to unleash your creativity with just the click of a button", there are still many skeptics. Can DTP live up to the magic and power it claims? We interviewed some end-users to see how their systems are working out for them.

Tron Chan, a free-lance graphic designer, said his Macintosh DTP system gives him better controls with his work. He can work directly with typefaces and graphics, while previously he had to visualize from mock-ups only. The vibrant colours that the Macintosh offers has made it easier for him to create "with the feel of colour."

Tron provides graphic design, creative direction and intricate illustrations for both local and international companies. Tron describes art and technology in his well-designed service brochure in this way, "Art as a visual expression is exacted from an intense desire to convey one's inner creativity and innovative spirit to others. Recently the advent of digital graphic design has improved immensely the scope of approach towards the complex synergy of art." Tron certainly has demonstrated how he successfully applied DTP to meet the dynamic and stringent needs of today's customers.

Jerome Wee of J.W Solutions, besides being an IT consultant, is also a 'map artist'. Jerome has the tedious task of converting maps drawn on paper into electronic copies. "My clients want their maps in an electronic form so that future changes can easily be made." says Jerome. He has re-created maps for local and overseas customers. His work traverses travel books, street directories, SIA's routes and locations, HDB brochures and even road maps of Paris.

Jerome works on a Quadra 840 with 19" screen and uses an Apple LaserWriter as the proofing device. Typically, Jerome would spend some 8 hours to draw an A4-size street map. Map drawing is a tedious and exacting process. The use of grids, layers and fonts are all important elements of his work. He makes use of the hardware pan and zoom function of his large monitor to magnify the tiny details he has to work on. Spotting the opportunity in converting maps to digital copies, Jerome has found himself a niche market.

Sinbio Wong, Art Director at GT Communications (a multimedia company), started using the Mac for designing ads, publicity materials and other print media. Wong now designs for information systems as well as exhibition panels. He finds the Mac easy to learn. "The Macintosh is a powerful tool. The speed is sufficient for me to get my work done and the colour it provides is very good. I am able to create 3D images easily and effectively. The quality of the effects is good enough for my work. There is no going back to the drawing board for me!" says Sinbio.

Raymond Ng Weng Loon won the Silver Award (Student Category) in the MdN International Design Awards '93. He is a fresh graduate from Nanyang Technological University (NTU), majoring in Computer Engineering. His interest in design started when he helped produce the hostel's newsletter. He then moved onto designing for T-shirts and mugs. He does all his designs using computers. Calling himself a "computer freak", Raymond is equally at home with both the Macintosh and PC platforms.

When he did the graphics and layout for Quantum, (an NTU Student Union Publication), his creativity was enriched with colour graphics and image effects. As printers and friends saw his creative designs, offers for freelance work came along.

Interviewing Singapore's only independent rock 'n' roll magazine, "Big O" was a most interesting experience. (Incidentally "Big O" stands for Before I Get Old.) The Big O office is tucked in a corner of Duku Place along East Coast Road. The office is decorated with Publisher Michael Cheah's collection toy figurines of Batman and his friends.

Eight years ago Big O started to produce their magazine with a typewriter. Their first computer was a PC, not a Macintosh. Today they have a set up of two Mac SE's, Mac IIci, a flatbed colour scanner and an Apple LaserWriter. They use PageMaker, Freehand, Photoshop and Microsoft Word. Michael Cheah and Stephen Tan were sub-editors by trade and found the transition to DTP much easier to handle. "When we first invested in DTP, it was a lot more expensive. With Macintosh becoming more affordable, there is a big opportunity for other independent magazines like ours to grow," says Michael.

Stephen, who does the scanning, graphics and layout of the magazine, feels that DTP gives him a better control over his product. Articles are keyed in while graphics such as photos and illustrations are scanned in. Their service bureau, PageSetters, calibrated their scanner for them and all photos are scanned directly into the Mac without any need for stripping in. Stephen is quite satisfied with the quality from their 300dpi flatbed scanner. "On the whole the quality of scans we get is fine. Since ours is a rock magazine even if the colour is slightly off we can get away with it. People might think that it was a special effect or it's because of the neon lighting at the concert!"

Adding colour to the publication has given their photographers more creative freedom. Previously they were limited to black and white photos. However; the complaint they have with their system was "Speed! While I have more control over the whole job, it takes about 30 minutes to scan in a 4M file. The conversion of the scan from RGB colours to CMYK takes another half an hour or so. All this adds up to a lot of idle time. Another important factor is space. With colour files, I need plenty of storage space."

picture 1: *A detailed computer robot by Tron Chan*
picture 2: *Map of Italy by Jerome Wee*
picture 3: *Front cover of a company brochure by Sinhio Wong*
picture 4: *Graphics depicting design and multimedia services by GT Communications by Sinhio Wong*
picture 5: *Front cover for NTU Students Union magazine by Raymond Ng*
picture 6: *Cover of a Big O issue done completely on the Macintosh*
picture 7: *The guys behind Big O – Philip Cheah, Stephen Tan and Michael Cheah.*

picture 7 ▲

▲ picture 1

picture 3 ▲

picture 5 ▲

picture 6 ▲

picture 4 ▲

▲ picture 2

An 80-page issue from input, editing, scanning and layout typically takes Stephen approximately 2 weeks to complete. The files are then sent to pagesetters for casting and seldom require any rework. Since they have worked with pagesetters for a long time, they trust them in getting out the publication in all the correct colours and typefaces.

The Big O team has enjoyed their DTP system and would encourage others to desktop publish. They even featured a step by step of how they produced Big O in one of their recent issues.

There are many more users who would love to share their experience, trials and successes that they garnered with their DTP system, except that it would take up this whole supplement and more. For those of you sitting on the fence of indecision, take your cue now and begin desktop publishing today!

Bureau Services
Shades of Grey

The Prepress Service industry has seen the most changes since the beginning of the DTP revolution. The industry was previously segregated into specific specialized areas of typesetting, reproduction and casting houses. Today, the lines drawn are blurred thanks to the global DTP revolution. DTP brought about not only time and money savings to these companies but also business opportunities into other areas. Typesetters now offer layout, design, proofing and casting services. Colour separators not only perform colour repro work but the whole range of typesetting and publishing services as well. The industry has emerged into an expert bureau service industry that offers a whole range of publishing services, from text input to final output on film.

Colourscan

Mr Jan Ong, Executive Director of Colourscan Pte Ltd, said that he had to get into DTP because his customers (both local and worldwide) were using computers to do their work. Previously a specialized colour repro house, Colourscan today offers a full range of prepress services from layout, design, typesetting, proofing, photo retouching and output.
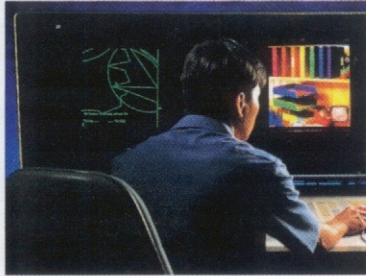
Colourscan will accept work on electronic media for output. Photos to be scanned can be attached for inclusion in the final layout as well. Because of Colourscan's proofing services, you can get your press-proofs or chromalins at the same place before getting your films. Colourscan uses bridges and gateways to link their high-end proprietary systems to their desktop machines. Their manual department, although shrinking in size, is still handling complex jobs that are more efficiently done by artisans.

Currently 40% of the work is done on the desktop interfacing to the high-end systems where necessary. Mr Ong expects the desktop to take over 80% of production work at the rate which technology is growing and changing.

Koford Prints

Koford Prints, a pioneer typesetting house in Singapore, offers a complete range of Prepress Services. In 1988 when Koford first implemented DTP in their production cycle, the company had a staff of 132. Today, with an increase of production in their business their staff number has dropped by 25%. An effective implementation of DTP has saved Mr Kong Hong Tin (Managing Director of Koford Prints Pte Ltd) manpower and materials cost while boosting productivity.

The workflow at Koford begins with the planning department, jobs needing scanning are passed to the scanning department where colour experts will make the necessary adjustments. All the Macs at Koford are linked by an Ethernet network to the high-end machines via interfaces such as StudioLink. The Macs can access the scanned image from the server and output the completed page directly to the imagesetters. Quality control is a key aspect in Koford's jobs. Besides films, press proofs are also available.

Superskills Graphics Pte Ltd

Superskills Graphics Pte Ltd is recognized as the pioneer of desktop publishing in Singapore. Formerly a typesetting house, owners Mr and Mrs Kelvin Tan saw the tremendous opportunities in DTP and jumped on the bandwagon without hesitation.

Superskill provides services such as Chinese and English DTP, barcode film masters, directory typesetting, map illustrations and a whole range of DTP services from text input to colour separations. Superskill stands out in its skills with desktop publishing. While others took a wait-and-see stance to Chinese and Colour DTP, Mrs Tan went ahead to try out the latest software and hardware that were available. Problems of incompatible files, colour mismatch and other technical problems only encouraged her team to persevere through trial and error.

Superskills' customers are given an easy guide to casting Macintosh files. This is a booklet containing information on what type of software is accepted by Superskills for output, how to indicate the paper size, crop marks, typefaces, and all the details necessary to get a job well done.

Superskills has also published a catalogue of colour charts, typefaces and measurements for the convenience of their customers. For Mrs Tan, "Profitability is not the only factor that spurs me on. It is the joy of seeing how our dreams of producing everything right from the desktop is achieved. For me, Chinese DTP and Colour DTP are two dreams that have come true."

Creative Presentations

A new breed of bureau service agents are the quick print shops. These shops offer customers output on black and white laserprints, colour printouts and presentation materials such as 35mm slides and transparencies. Creative Presentations, a computer graphics service bureau, provides design services for brochures, posters, annual reports, packaging, as well as multimedia presentations. Output services include 35mm slides, A4 transparencies, bromides, inkjet and thermal printouts as well as exhibition posters.

One of Creative's most impressive services is the A0 size photographic quality print. The printouts can be on coated matte, gloss paper, poly gloss film, backlit film or clear film. This service is ideal for ad agencies who require large printouts for proofing and presentation purposes.
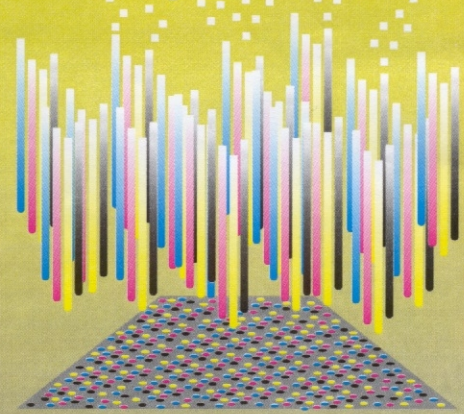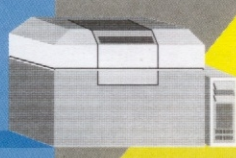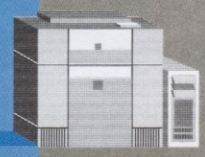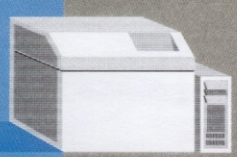
Before you send files to your bureau service, remember to explain your needs and understand the type of file formats, typefaces and software that your bureau service works with. The earlier you set up these guidelines, the less re-work you have to do with your files in the future.
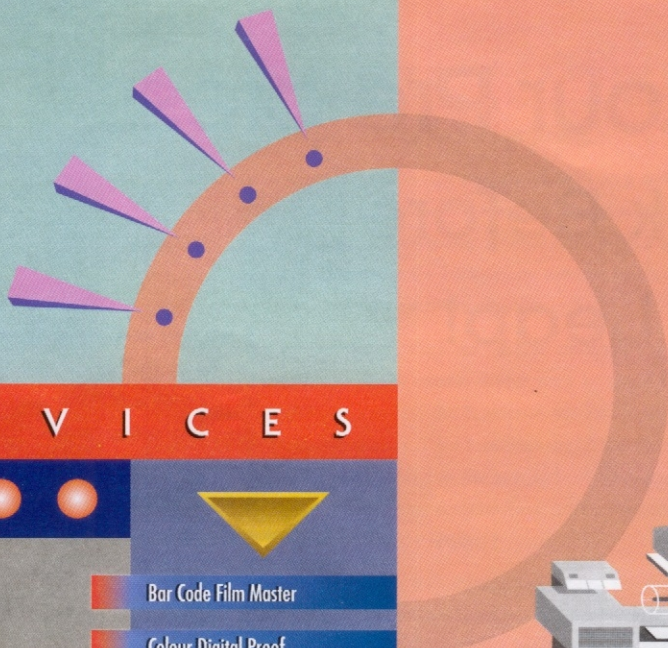
Colour Pre-press
Look Before
You Leap!

If you plan to output colour separations on your own, this article is a checklist of what to look out for as you move into the deep end of prepress and colour. We recommend that you work closely with a DTP consultant to make your transition to colour prepress smoother. Take your move into colour prepress in stages, such as working on a pilot project. Set realistic schedules, budgets and be prepared for time of learning. Here are some pointers to keep in mind as you embark on colour publishing.

Colour

The common complaint about colour prints of computer graphics is that they look different from the screen display. To understand and manage these differences, one must realize that delivering coloured light is very different from delivering coloured ink.

The cathode ray tube in your monitor deals with colour in R (RED) G(GREEN) and B(BLUE). These are called additive colours as they add up to make white. Printers work on a different colour system called C(cyan) M(magenta) Y (Yellow) K (Black).

The key to colour matching is converting from one colour space to another and giving the best possible match when the exact match is not possible. For example, your scanner and monitor may display a very vivid red, but your printer may only provide a pinkish red. When a colour is not available, a colour matching method can be used to determine the "next best" colour.

Apple's ColorSync and QuickDraw GX promise to give users consistent, easy to use colour input, display and output. Devices such as the scanner, monitor and printer are characterized in terms of the CIE XYZ colour space, designed by the Commission International Del'Eclairage in 1931. These characterizations are called profiles. They describe the colour capabilities of a specific device in terms of CIE XYZ. Since all devices are described in terms of a common space, comparisons can be made between any pair of devices.

The effectiveness of QuickDraw GX depends on the colour profiles provided by vendors when calibrating their hardware devices.

Colour Proofers

Previously colour printers in the market were only good enough for presentation work. Today, companies such as 3M, Tektronix and Shinko all produce digital colour proofers good enough for the user to accurately discern if the printout is acceptable or if the colours need adjustment. This can save you precious time and money before casting to film.

How well the proofer works depends on the colour management system that it employs. For the more exacting demands and specialized needs, there are high-end colour management systems such as EfiColor, Agfa's Fotoflow and Kodak's KKCMS. Factors to look out for when deciding on a proofer purchase are price, printing speed, colour accuracy, Postscript compatibility, paper sizes and types. Again, you are advised to try a sample of your work on various digital proofers. All these efforts in experimenting, though tedious and time-consuming, will pay off when you install an actual system.

Storage / Data Compression

As you proceed to high resolution images and colour, you have to handle huge amounts of data. It is advisable to access your storage needs first. While an internal hard disk of a minimum of 1 gigabyte should suffice, you should also invest in portable storage media such as removable cartridge drives. Removable cartridges are

good for archiving files and sending your files out for casting. Be prepared to buy more cartridges as the amount of work you generate will grow quickly.

Data Compression

The need for data compression arises when a file is too big to be stored in its original size. They can be compressed to free up more hard disk space as well as for archival purposes. One of the emerging standards for data compression is JPEG (Joint Photographic Expert Group) — a standard for compressing photo realistic images.

Both software and hardware compression can achieve the same compression ratio. The only difference lies in speed. Hardware compression is usually built in video acceleration cards available in the market today. You can compress files from a ratio of 5:1 up to 65:1. With higher compression ratios, quality is usually compromised.

Scanning

To get photos and graphic images into the computer, you can use either video digitizers (hardware that digitizes video frames into the computers) or scanners, although scanners remain the common choice.

There are two main types of scanner — flatbed and drum scanners. Flatbeds are generally lower-end and more affordable. You can only scan photo prints or artwork, but some flatbed scanners can handle 35mm slides or transparencies with an additional transparency option.

Drum scanners are usually on the high end, cost more and can handle transparencies, photoprints and artwork. The speed of the scanning is very fast and the resolution is high.

Flatbed scanners are usually sold with a simple software driver that you use to set the settings necessary for a scan. Effects such as colour adjustment, sharpening or blurring of images will better be done in image retouching software such as Adobe Photoshop. Drum scanner dealers will usually provide training on colour adjustment, screening and setting of tone curves (shadow, highlight and mid tone curves). These are important to scanning a picture effectively. You should experiment on a complete range of the types of work (based on different colours, highlights and size) during the training.

When you purchase a scanner, you should consider the amount of scans that you expect to do, the quality of scans, the type and size of the media that you will be scanning.

Trapping

Gaps or white spaces between colour objects on a printed page are due to mis-registrations of the colour plates during printing. In a process called 'trapping', colour areas are spread just enough to create a small overlap in adjacent objects to compensate for this mis-registration. In Volume 3 of MdN International, Bernard Lau gave an in-depth explanation of how to trap different types of objects in his article "Trapping Techniques". Here is an excerpt from the article:—

"The designer must be aware of the nature of paper stock and the printing machinery to be used. Coated stock shifts less than uncoated stock and multicolour presses have better registration than single colour presses.

A 'spread' is normally used to trap a lighter element on a darker background, because it spreads the ink used to print the object outward so that it overlaps the adjacent elements. A 'choke' is used to trap a darker element on a light background. It spreads the ink used to print the background inwards so that it overlaps the element. This is usually not done on the desktop."

While there are methods in which the designer can apply traps, software such as Aldus' Trapwise automatically creates colour traps by using a software raster image processor (RIP) to translate the PostScript file into a proprietary bitmap graphics format for further analysis. Then it analyses the bitmap file to determine the edges that require trapping, as well as the size and colour of the trap. Finally it generates PostScript instructions that describe these small colour areas and appends the new instructions to a copy of the original PostScript file.

You may want to work with trapping software or just use the automatic trap features available in software like Aldus Freehand and Adobe Photoshop. However, you should consult your printer on the type of paper and press that he uses. If you are working with a consultant, be sure to get training in this area for your production staff.

Colour Separation

Before you send your job for casting to film, you may print colour separations of your file on your digital proofer or monochrome laser printer. You can then check for any hitches in your work — whether fonts are present, traps needed, moiré patterns, etc. If corrections are to be made, this process will save you money and time before casting to film.

Most graphics and layout packages provide features for colour separations. Here are some tips as you print colour separations from your desktop.

For Process Colour Separations, ensure that the graphics are specified in the correct process colours. Colour TIFFs must be in CMYK formats. Scanned images (in RGB format) can be converted to CMYK using software such as Adobe Photoshop. Please note that CMYK TIFFs and EPS graphics cannot be used for Spot Colour Output.

Spot Colours must be correctly applied on EPS graphics before placing into page layout programs. When applying colours to objects and text, check that the colour used is named exactly as that of the colour embedded in the EPS graphic.

These tips are only the beginning of what you should watch out for. It is advisable to work with an experienced bureau service to learn how to get a job well done. Remember to work on a few pilot projects that reflect your type of work with a DTP consultant or a VAR before purchasing your system. Bear in mind that the necessary training or re-training of your staff is crucial to the success of your prepress system.

The best way

Of course, the foolproof way is to subscribe to IdN magazine — the leading digital design journal dedicated to electronic media professionals worldwide. We excel not only in benchmarking and introducing the latest digital technologies in the market, our efforts in promoting the awareness and popularity of the digital media over the years have earned us the fame of being the authoritative and impartial checking point for product evaluations, tips and techniques, industry trends and insights. We have amassed over 20 years of experience in the prepress industry and are always on the lookout for quality and innovations. Whether you are novice or veteran, conservative or avant garde, you will certainly find our coverage comprehensive, informative and creative.

What system is the most suitable

For those of you who are planning to start desktop publishing, we have put together a guide of the configuration you may need as well as the software requirements necessary for the type of work you produce. As you identify the types of work that you will be producing with your system, this guide can be used as your basic to putting together your desktop publishing system.

In-house newsletters, *inter-dept communications or any type of communication with ready-drawn graphics, column work and high quality text*

- Macintosh LC 475 / 575
- Personal LaserWriter 300
- Word Processing software
- Page layout software
- Clip Art
- Paint/Draw Graphics software

Catalogues, *brochures, direct mailers, corporate communications that require typeset quality, presentation graphics, page layout, logos, illustrations and photographs*

- Macintosh Quadra 840AV, PowerMacintosh 7100
- Apple Multiplescan 20" Display
- Macintosh DisplayCard 24AC
- Flatbed colour scanner
- LaserWriter Pro 630
- Desktop Colour printer (thermal)
- PostScript Graphics software
- Page layout software
- Word Processing software
- Photo retouching software
- Fonts (if special fonts are necessary)

Advertisements *(needing type, line, colour, illustration and photography), packaging and labeling design, newspapers, magazines (needing text, design layout, illustrations, photo retouching), books (needing book designs, book composition, photos and illustrations);*

a) Text-input station (for your text input and editing)
- Macintosh LC 475
- Word Processing software
- Apple LaserWriter Select 360

b) Design Workstation
- (used by the creative person for designing a page)
- Quadra 660AV/840AV, PowerMacintosh 7100
- Apple Multiplescan 20" Display
- Macintosh DisplayCard 24AC
- Removable cartridge drive
- connected via AppleTalk/Ethernet to LaserWriter Pro 630
- Graphic software (Illustrator/ FreeHand)
- Page Layout software (PageMaker/ QuarkXPress)
- Word Processing software

c) Creative Art Workstation (used by a graphic designer or illustrator to create, manipulate and produce original artwork)
- Quadra 950/840AV/ PowerMacintosh 8100/80
- Apple Multiplescan 20" Display
- Macintosh DisplayCard 24AC
- Drum Scanner
- connected via AppleTalk/Ethernet to LaserWriter Pro 630 or Laser Pro 810
- CD Drive
- Removable cartridge drive

- Graphic software (Illustrator/ FreeHand/3D drawing programs)
- Page Layout software (PageMaker/ QuarkXPress)
- Word Processing software
- Photo retouching software (Adobe Photoshop)
- Colour Correction software (Cachet)
- Font Creation software (Fontographer)
- Font libraries

d) Production/Layout workstation (where complete pages are put together with all the elements in place)
- Quadra 950/840AV/ PowerMacintosh 8100/80
- Apple Multiplescan 20" Display
- Macintosh DisplayCard 24AC
- CD Rom Drive
- connected via AppleTalk/Ethernet to LaserWriter Pro 630 or Laser Pro 810
- Removable cartridge drive
- Colour Digital Proofer
- Graphics software (Illustrator/ FreeHand/3D drawing programs)
- Page Layout software (PageMaker/ QuarkXPress)
- Word Processing software
- Photo retouching software (Photoshop)
- Font libraries
- Trapping Software (Trapwise)
- Colour Separation Software (PrePrint)
- Colour Matching Software (EfiColour)

The Singapore DTP Network

Hardware/Software Dealers

Diversitec Distributors Pte. Ltd.
39, Sixth Avenue, Level 2, Singapore 1027
Tel: 468 3888

Epecomputronics Pte. Ltd.
35 Tannery Rd, Tannery Blk. #05-06, Ruby Industrial Complex, Singapore 1334
Tel: 746 8182

MicroExpress Sales Pte. Ltd.
39 Sixth Ave Level 2, Singapore 1027
Tel: 462 3088

Singapore Computer Systems
750D Chai Chee Road #03-01 Chai Chee Industrial Park Singapore 1646
Tel: 441 2688

Tricom Pacific Pte. Ltd.
152 Beach Road #01-00 Gateway East, Singapore 0718
Tel: 298 0123

Bureau Services

AG Publishing Services Pte. Ltd.
Blk 1003, #07-1527, Singapore 1231
Tel: 250 9432

Ben-Jon Typesetting & Prints Pte.. Ltd.
52 Kallang Bahru #07-21/22/23, Singapore 1233
Tel: 296 6088

Compugraphic Prints & Designing Services
Blk 50 Kallang Bahru #02-05, Singapore 1233

Colourscan Co. Pte. Ltd.
21, Kim Keat Road, Singapore 1232
Tel: 253 8888

Creative Presentations
16A Foch Road, Singapore 0820
Tel: 293 1378

Daylight Colour Art Pte.. Ltd.
Blk 54 Kallang Bahru #04-01/02, Singapore 1233
Tel: 296 6511

Everspring Typeset & Design
420 North Bridge Road #06-02, Singapore 0718
Tel: 339 1195

Ekben Graphic Pte. Ltd.
65, Upper Paya Lebar Road #03-03, Singapore 1953
Tel: 284 1266

Fountains Desktop Service Centre
Blk 135 Jurong East St. 13 #03-333, Singapore 2260
Tel: 563 5087

Inscription Pte. Ltd.
Blk 1093 Lower Delta Rd #07-16, Singapore 0316
Tel: 278 6188

International Typesetters
Blk 1 Kallang Place #05-10, Singapore 1233
Tel: 295 265

Koford Prints Pte. Ltd.
No 1 Syed Alwi Road #06-02 Song Lin Building, Singapore 0820
Tel: 298 7033

Laytin Film Graphics Pte. Ltd.
605A MacPherson Road, #06-03, Singapore 1336
Tel: 382-4068

Magenta Lithographic Consultant
Blk 77 Ayer Rajah Cresent #02-01/02, Singapore 0513
Tel: 776-3733

Monoprint Pte.. Ltd.
Blk 52 Kallang Bahru #02-09, Singapore 1233
Tel: 296 0950

New Trend Graphic Art Pte.. Ltd.
12, Lorong Bakar Batu #06-07/08, Singapore 1334
Tel: 745 0888

Pagesetters Services Pte. Ltd.
Blk 2, Pasir Panjang Road #07-09/10 Alexandra District Park, Singapore 0511
Tel: 273 3342

Prontaprint
#03-01A OUB Centre One Raffles Place, Singapore 0104
Tel: 535 5455

Procom Printset Pte. Ltd.
Blk 104 Boon Kheng Road #05-07/08, Singapore 1233
Tel: 296-5686

Pro Visual Advertising & Typesetting Services
Peace Centre 1, Sophia Road #07-23, Singapore 0922
Tel: 339 0896

Points Prepress Service Pte. Ltd.
Blk 808 French Road #07-157, Singapore 0820
Tel: 293 8927

Quaser Technology Pte. Ltd.
Blk 1001 Jln Bt Merah #03-11, Singapore 0315
Tel: 274 3822

Royal Arts
Blk 1013 Geylang East Ave 3 #04-132, Singapore 1438
Tel: 741-9136

ScanTrans Pte. Ltd.
11, Kallang Place #06-10/12, Singapore 1233
Tel: 293 6888

Sixty-six Lithographic Pte.. Ltd.
621 Aljunied Rd #04-02, Singapore 1436
Tel: 747-4445

Singapore Sang Choy Colour Separation Pte.. Ltd.
42, MacTaggart Road, #02-02, Singapore 1336
Tel: 285 0596

Superskill Graphics Pte. Ltd.
Blk 79A Indus Road #02-402/404, Singapore 0316
Tel: 278 7888

The Digital Network Pte. Ltd.
Blk 998, #03-05/07 Toa Payoh North, Singapore 1231
Tel: 256 2022

Words Worth Media Management Pte. Ltd.
Blk 1013 Geylang East Ave 3 #05-104, Singapore 1438
Tel: 744-3437

Training Schools

BiTs Company Pte.. Ltd.
350 Orchard Road #18-02/03 Shaw House, Singapore 0923
Tel: 735 8580

Systems Education Centre (1983) Pte.. Ltd.
12th Floor WTC Convention Centre Word Trade Centre 1, Maritime Square Singapore 0409
Tel: 278 9789

Temasek Polytechnic
Stirling Road Campus 501 Stirling Road, Singapore 0314
Tel: 472 8900

Nanyang Academy of Fine Arts
NAFA Campus 1A-Short Street, Singapore 0718
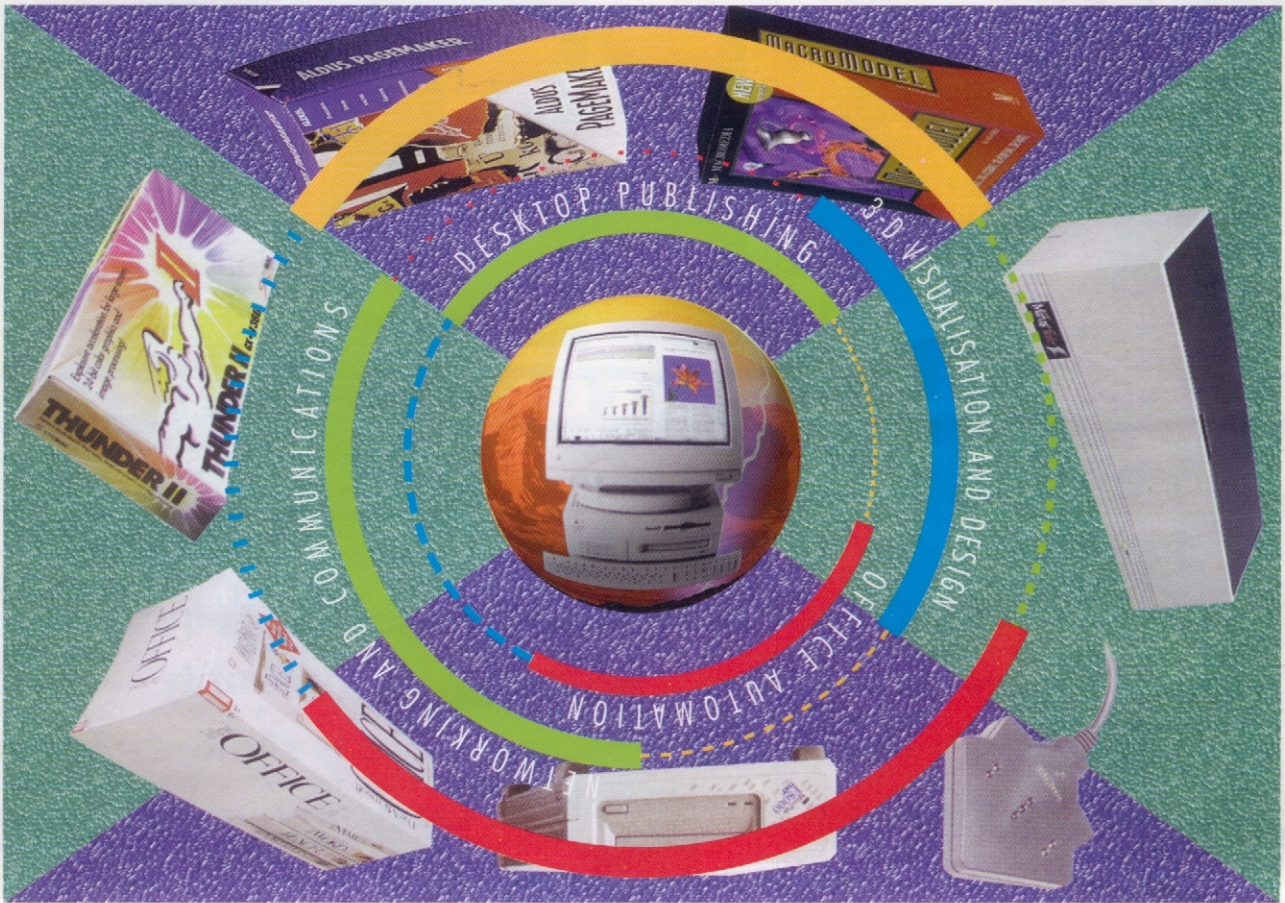Tel: 338 7827