TAGA'96
The key note address was
technology, excitements annoucements. This year,
Dollos, April 2-5, 1996
the 47th Annual Technical Conference of the
The 47th Annual Technical Conference of the
TAGA association of the Graphic Arts was held in
The 1996 TAGA site of the 1996 TAGA conference in
TAGA Association of the Graphic Arts

TAGA ’95 in Orlando
Bringing the
Graphic Arts
Industry Together

The 47th Annual Technical Conference of the Technical Association of the Graphic Arts was held in Orlando, Florida April 2-5, 1995, and as in other years, there were exciting announcements. This year, 163 professionals and 41 Graphic Arts students from throughout the world including, USA, Canada, Germany, England, Wales, Australia, Taiwan, Japan, France, Belgium, Israel, Switzerland, Sweden, Finland, Mexico, Chile, and Colombia shared their discoveries and ideas. It was truly a Conference recognizing the need to provide a link between people, companies and countries; to enhance industry's ability to print; to share strengths. The keynote address was delivered by Prof. Dr. Helmut Kipphan, Vice President of Heidelberg Druckmaschinen AG who is responsible for research and analysis for new technologies, innovations and synergies, technology forecasts in printing techniques, digital printing, and liaison with research institutes, companies, and customers. He holds over 20 patents and has been a lecturer at the University of Karlsruhe. His topic was "Digital Multicolor Printing and Computer to...

Call for Papers
TAGA'96 Dallas—April 28-May 1, 1996

The beautiful and historic Adolphus Hotel will be the site of the 1996 TAGA Annual Technical Conference in Dallas, Texas. The Call for Papers has been issued, and many interesting abstracts have already been received by Papers Chair Dr. Richard Holub of IMAGECOLOR. Papers are currently being solicited on many of today's hottest topics including but not limited to:

- Process Control and Integration
- Electronic Publishing and Duplication of Documents
- Telecommunications Technologies in Graphic Arts
- Ink, Toner and paper
- Color
- Models of Printing

If you have a paper you wish to submit for consideration for presentation at TAGA'96 in Dallas, contact Richard Holub at once by phone (716) 244-3486 or fax at (716) 244-9930.

He showed that digital multicolor printing has its focus not only on the printing process itself, but on the whole production flow for producing printed products. The high quality level of printed products is an important part of our high quality of life, as is the fact that nobody likes to pay too much for them. These are the driving forces for innovation and improvements in the Graphic Arts industry. Changes include the operator being more and more a data manager than a craftsman. "The future of printed media is not a question. Electronic media and multimedia are not competing with print media; they are a further possibility for transmitting information besides the printed media." Kipphan put each press into its volume niche and showed why each is needed. All of the excellent presentations including Prof. Dr. Kipphan's keynote speech will be included in your 1995 TAGA Proceedings, Volume 1 which you will receive by mail directly from the printer this summer.
(E)Merging Technologies with Mike Bruno

A Commentary on Hi-Fi Printing

I was inspired to write this commentary after the Focus Group on Hi-Fi Printing at the end of the TAGA ’95 Annual Technical Conference in Orlando. Don Carli, facilitator for the group, had asked me to present a history of Hi-Fi printing at the meeting. Before I could prepare a presentation I had to define Hi-Fi printing. This is the definition I used: Hi-Fi printing is printing with quality and visual impact higher than conventional or currently produced printing. It is quality, visual appeal or visual quality that distinguishes printing – not the number of colors or the technology used to produce it. These help to differentiate two types of printing but do not guarantee that the one with more colors or new technology will be better than the other. It is often not what you use but how you use it that counts.

Despite the hype and promotion about Hi-Fi printing, by my definition, it has been around for many years. In my presentation I showed two examples of Hi-Fi printing since the end of World War II: Tom Morgan’s “Wine and Cheeses” printed in 1949 and Anson Hasley’s “Random Grain” printed in 1975. The Wine and Cheeses print is such an outstanding example of exceptional quality of printing for the period that the print and the negatives used to make the plates are on permanent exhibit at the Smithsonian Institution in Washington, D.C. It was printed in 4 colors, 133 lines per inch, on coated stock with commercially available inks by Lithokrome Co. in Columbus, GA. It was the first time lithographers realized what quality the lithographic process was capable of printing in 4 colors. Before that most quality lithography was printed in at least 6 colors – yellow, magenta, red, cyan, black, and black. The print was part of a monthly series of an advertising promotion by Hasley/Seybold, the press manufacturer that later became Hasley/Seybold and is now a part of Heidelberg.

An interesting sidebar was that all the prints in the series were so outstanding that every printer who bought a Harris press expected to be able to print equivalent quality. When they were unable to achieve similar quality they became disillusioned and complained to Harris. The company finally had to abandon the promotion and cancel the contract with Lithokrome. This was proof of the fact that Hi-Fi printing involves more than just a press or technology. Every step in the process from the original photography to the final inspection of the printing contributed to the appearance of the print that was responsible for the Hi-Fi quality.

Mike Bruno

Meet Your Board

Interview with TAGA Board Member, Jim Barre of Eastman Kodak Company, Rochester, New York

Jim Barre

Jim Barre, elected to the Board in June of 1993, is employed by Eastman Kodak Company in Rochester, New York, as Manager of Worldwide Marketing, Professional and Printing Imaging. The primary purpose of this position is to work with various manufacturers who develop and manufacture equipment for imaging and processing Kodak media. In performing this job, Barre identifies and maintains relationships with companies that have technology, manufacturing and distribution which complement Kodak. Jim’s recent ten years in the equipment business provide a working knowledge and understanding of these equipment companies. The job is worldwide as much of the imaging equipment is developed outside of the United States. Our graphic arts industry is a global business which is moving away from proprietary systems and adopting common platforms, software and systems. Furthermore, the traditional printing job functions are being combined as the industry begins imaging directly on printing presses with or without printing plates. TAGA can facilitate this trend by providing to the research and development community a forum for discussing and determining the needs, standards and trends common to our industry during this transition.

Barre graduated in Industrial Engineering from The Ohio State University and began his career with Kodak in their Industrial Engineering Division. His first assignment was in graphic arts, like manufacturing and finishing. To become familiar with the needs of the graphic arts customer, Jim took related orientation courses and attended graphic arts sales and marketing department. Since the mid-sixties, he has been involved in the technical support, marketing or business development of graphic arts media and equipment. Jim found that an Industrial Engineering background was extremely helpful in analyzing and solving the issues of the graphic arts industry.

To keep up with these fast moving changes, Barre participates in TAGA, reads most of the graphic arts magazines, follows the recent patent activity published by the R&D Council and attends Seybold and the major trade shows. In addition, the contacts made directly or through TAGA are invaluable in staying current. The informal discussions at TAGA meetings are as important as the formal program.

During busy season time away from work, Jim enjoys being outdoors—skiing or boating on the water or hiking in the woods around Keuka Lake in upstate New York. This break from the work routine provides relaxation, refreshes the mind and permits clearer thinking on the job.

Barre ran for the TAGA Board of Directors because it was an opportunity to contribute to our industry, especially through the New Offerings Committee (of which Barre is the chairperson). TAGA provides a unique balance between business and technology for its members. It provides a different perspective and can give direction to its technical membership by making the technical community realize that each company owns the graphics industry. Companies can keep their technical and intellectual properties confidential while still sharing and supporting the common goals and standards of the printing industry.

The printing technology is rapidly changing—perhaps as fast as ever. Many companies are extracting the graphics industry with little knowledge of its functioning. TAGA can help these companies by giving them a functional understanding of the industry and its problems. TAGA needs to actively solicit these companies for corporate memberships and their key development employees for individual memberships. TAGA can play a real role in this transition of printing from an art to a science using the power of the computer. Our customers, the printer, word solutions to problems—not months of trial and error. TAGA can play a vital role in helping companies bring to market true solutions.

No one company will likely dominate the printing industry and effectively control its behavior. Therefore, companies that cooperate with others should work together to bring cost effective solutions to the common customer. TAGA can facilitate this change.
The President’s Message
TAGA President Richard S. Fisch

First off, I’d like to thank you for your confidence as exhibited by my election to the job of President. After almost 10 years in various positions on the TAGA Board, I now have the chance to practice what I have learned.

We are moving into the digital age faster than some have predicted. TAGA has to be prepared to function in a more responsive manner to your needs and especially to its mission.

In case you haven’t seen it lately our mission is: “To provide a worldwide forum for sharing and disseminating technical, functional, and procedural information on emerging technologies for graphic arts print production and related processes.”

The Board of Directors and I plan to live up to that statement. Of course, what better way to disseminate our worldwide information than by worldwide TAGA conferences. The first of which is to take place in Paris, France in September of this year. This conference is the first TAGA conference held outside of North America. It is also the first conference that has been held with joint sessions with the IARIGAI, the International Association of Research Institutes for the Graphic Arts Industry. IARIGAI meetings have always been closed to the general public.

At our last board meeting, it was agreed that a new type of TAGA publication would be produced, called TAGA Monographs. The monograph will be a compilation of papers presented at various TAGA Annual Technical Conferences, that provide education, insight, and practical information on specific technology or processes of interest to our membership. The criteria for the selection of these topics chosen for such a publication will be emerging technologies, processes, and practices of interest to our industry. The piece will be printed on-demand to provide quick and up-to-date information. The first of these will be dedicated to Stochastic Screening. A complete listing of the various papers to be included in this monograph will be available after the Paris conference. As a teaser, in what year did the first paper on stochastic screening appear in the TAGA Proceedings? (Answer to appear in the next newsletter.)

In Orlando we distributed a questionnaire asking what other video and monograph topics you might think useful. If you were not in Orlando and have any ideas please call or fax the TAGA office with your suggestions.

Unfortunately, the board has decided that the TAGA Journal will not be produced due to lack of sufficient technical articles and a reasonable production schedule. These works submitted so far will be returned to the authors with our thanks.

I look forward to meeting you at our next conference or communicating with you via phone or through the newsletter.
The recipients of the 1995 TAGA Honors Awards for their outstanding contributions to the graphic arts industry and to TAGA were Patricia III Dunn, Vice President DPI in Vista, CA, and Prof. Dr. Eiichi Inoue of the Tokyo Institute of Technology.

Dunn, who has spent 20 years in the graphic arts industry, is the founder of five industry standards groups, author of 60 technical papers and has been a guest lecturer at 16 domestic and foreign association meetings. Dunn has spent 50 years in imaging science and graphic arts research. He has developed electro-photographic systems and has presented 325 research and technical papers and holds 300 patents.

The award went to Dr. Patricia Dunn for her Board and TAGA President Board-II, McDonald of Eremac Rokak Company.

Dr. Patricia Dunn was the first President of the University of Quebec-Trois Rivières.

The Rivieres, and technical papers and graphic arts research. He has developed outstanding contributions to TAGA were Prof. Dr. Eiichi Inoue, President Or., the University of Tokyo Institute of Technology.

For the best poster paper, and Student Chapter members competed for the best student publication. The Harry R. Loneman/TAGA Student Paper Award went to Alwaen Armstrong of Col Poly for his paper on "A Comparison Between Conventional Electronic Halftone Screening and Frequency Modulated Screening." The Dutch Rhodes/TAGA Graduate Student Paper Award went to David Roman for his paper on the "Usability of Computer to Print". Roman is currently doing an internship at the research institute, EMIR/UGA in Switzerland. The student poster award went to Arnie Blair of Clemson University for his poster paper on "Desktop Scanners: Drum versus Flatbed", while Clemson also won the award for the best student publication.

(All student publications are composed of students' technical research studies, done as part of their course requirements. It is then each Student Chapter's goal to design and produce a high-quality publication.) Armstrong, Roman, and Blair were each presented with a check for $1,000, $500, and $500 respectively.

Future TAGA Events:
- TAGA/IRIGAI '95
  Paris, France
  The Paris Hilton
  Sept. 17-20, 1995
- TAGA '96
  Dallas, Texas
  The Adolphus Hotel
  April 28-May 1, 1996
- TAGA '97
  Quebec City
  Le Chateau Frontenac
  May 4-7, 1997

Student Chapter News:

Building the Future of the Graphic Arts Industry

Students are the future of our industry and therefore a very important part of our activities today. As you know, TAGA encourages the formation of student chapters at schools; offers scholarship; and arranges a panel of speakers at the Conference to let students know what employers are looking for. Attending the Conference were students from Cal Poly, Central Missouri State, Clemson, RIT, University of Wisconsin-Stoughton, Universite Du Quebec a Trois Rivières, Toivas, and Ecole Francaise de Papeterie et des Industries Graphiques-Granby.

Students competed for both a graduate and undergraduate TAGA award for best paper, an award for the best poster paper, and Student Chapters competed for the best student publication. The Harry R. Loneman/TAGA Student Paper Award went to Alwaen Armstrong of Col Poly for his paper on "A Comparison Between Conventional Electronic Halftone Screening and Frequency Modulated Screening". The Dutch Rhodes/TAGA Graduate Student Paper Award went to David Roman for his paper on the "Usability of Computer to Print". Roman is currently doing an internship at the research institute, EMIR/UGA in Switzerland. The student poster award went to Arnie Blair of Clemson University for his poster paper on "Desktop Scanners: Drum versus Flatbed", while Clemson also won the award for the best student publication.

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Annual Student Chapter Meetings:

The students held their annual meeting on the evening of April 3rd at the Conference. Joe Nago, professor at the Rochester Institute of Technology (RIT), and newly elected member of the TAGA Board of Directors, was introduced as the new Chairman of the Student Chapters Committee.

Actions identified in the meeting that the students plan to follow up on include:
- Binding the Student Publications as a collection
- Holding a student technical papers session during next year's TAGA Conference
- Developing a mentoring program for the TAGA Conference, pairing a student with an industry attendee
- Further develop a mechanism for student input to the TAGA Board of Directors

At the conclusion of the meeting, the students were involved in a raffle of 23 technical books, donated by various publishers. These books, not available in bookstores, were on display during the Conference for all attendees to view.

Student Paper Competitions for TAGA/IRIGAI '95 Paris:

This year two additional student contests will be run with the winning papers to be presented at the upcoming TAGA/IRIGAI conference on September 17-20, 1995 at the Paris Hilton Hotel in Paris, France. An award of $1,500 will be given for the best Graduate Student Paper and $500 will be offered for the best Undergraduate Student Paper. The guidelines for these contests are as follows:
- Papers submitted should be focused on graphic arts technical research that took place during 1994.
- The author must be a graduate or undergraduate student (for graduate context and undergraduate context respectively) while the research took place.
- The winning paper must be presented by its author at the TAGA/IRIGAI conference.
- The cash award will be presented to both winning students at the TAGA/IRIGAI conference.

The deadline for manuscript submission to TAGA/IRIGAI '95 Student Paper Competition are of TAGA, 68 Lomb (2nd Floor), Dr. Rochester, NY 14623-5604 is June 15, 1995. Winners will be notified by July 15, 1995. Both winning papers will be published in the 1995 TAGA Proceedings, Volume 2.
**STANDARDS UPDATE**

**Digital Ad Formats**

by David Q. McDowell

**Introduction**

In late January I attended an industry meeting struggling with the issue of distribution of digital advertising. During the course of the meeting, I realized that for most people there was considerable confusion around two issues.

The first was formats for the exchange of final pages, or advertisements, in an open graphic arts environment. The second was the differences between proprietary specifications, de facto standards, industry specifications, and formal standards and the implications of each. Although these seem to be unrelated subjects, any discussion of how to develop standards for exchange of final pages (or ads) seems to immediately get into a discussion of what types of specifications or standards are appropriate.

**Final Page Formats for Documents or Ads**

As we look at today's graphic arts industry we must recognize that two basic types of data exist: raster data—the data that a traditional Color Electronic Prepress System (CEPS) uses, and vector data—the data created by design and editing systems that is usually sent to PostScript output.

Raster data includes contour data, line work, and high resolution contour data, called Raster data. The initial ITB magnetic tape formats, and now the ITB/8 TIFF/ITF standard, are intended to provide a common public format that all of the raster based systems can use.

Vector data is another issue. Most design and editing software takes advantage of vector data and the tools available through PostScript RPs (raster image processors).

Unfortunately, PostScript is primarily a printer driven format or language and is not easily edited or converted back into an intermediate data format. As a result the vector based systems almost universally use their own proprietary formats for intermediate data.

This data flow has led to two complementary proposals that are currently being discussed in the industry. Some of the larger publication printers are suggesting that output RPs be developed that will take the PostScript file and instead of creating the final raster file for imaging, create the CT, line work, and HC files used by the CEPS. Final assembly of pages and printing forms would then be accomplished using raster data similar to the way it is done in a CEPS today. This approach has been referred to as "RIP to ITF/IT". Such an approach would provide real benefits to the assembly and output stages but does nothing for the upstream workflow.

The other possibility being considered is a format being referred to by some as a "portable page format" or "PFP". The United States Government is looking to define a universal format that is... define information electronically in a standardised, platform-independent and directly transmissible format..."...In addition, the DOJD Association and the NAA Digital Ad Task Force are seeking similar goals to solve the data exchange problem for vector based ads. Several companies have developed portable document formats. They are being urged to publicly document their formats and make them widely available. Two are known to either be considering or have already taken this step. These are Adobe, which has published a "Portable Document Format", and Hot-Hand Software, which has a format called "Digital Paper".

Portable document formats are in general intended to be an intermediate between the proprietary formats of the individual software packages and a final PostScript file. Various tools are proposed that would transform data into and out of the common format and/or allow editing. The Adobe Acrobat product is the most visible example of this type of application program.

**So what is the problem?**

The question often asked is "why not just use the product of a particular vendor or vendor that meets our requirements?". While individual companies may agree to use specific products as the basis of the exchange of files, public standards or trade association specifications may not restrict the requirements to a single vendor’s product without raising legal issues. In addition, once individual products are specified it quickly becomes an unmanageable mess and everyone needs a copy of almost everything—particularly on the receiving end.

The key issue is to settle on some sort of specification or standard that can be met by more than one vendor. But what is a standard?

**Standards—how many different types?**

Specifications or standards tend to fall into four general classes, each with specific characteristics, advantages, and disadvantages. My names for these are "proprietary specifications", "de facto standards", "industry specifications", and "formal standards".

Proprietary specifications typically define the characteristics of a product or a single vendor. Whenever we identify a specific product by name we are referring to a proprietary specification.

De facto standards are similar but have a unique difference. De facto standards exist when a manufacturer formally defines a specification and makes it available publicly so others may use it. Sometimes there are license fees or other restrictions, but the key issue is that several companies are using the same basic specification. PostScript is a good example of a de facto standard. Such standards are generally "owned" by one company who is free to change or modify them at will, they find their greatest benefit in times of rapid technological change, because they can be (and often are) changed quickly and without review by anyone except the company that owns them. This is also their greatest liability. The owner can change the requirements and leave everyone else out in the cold.

Industry specifications are a little like de facto standards. However the specification is usually developed by a trade association or federation of companies who establish the standard, do any desired policing of its implementation, and unilaterally change it when the need arises. Here, responsibility for change is more open but still the responsibility of the group that created the specification. SWOP is an example of an industry specification that has worked very well.

Formal standards differ from all the others in that a public consensus process is involved in their approval and revision.

First, anyone with a vested interest must be allowed to participate, and meetings must be publicly announced. Second, when a standard is ready to be approved or revised

The fact this is happening must be announced and anyone affected or interested can get a copy and review the proposal. If they have a problem they may formally communicate this to the committee involved. Their concern must be reviewed by the appropriate people in the standards committee and a response must be provided to them indicating the committee’s position.

Now we come to an interesting blending of these types of standards that is becoming more important today in today’s world of rapid technology change. Sometimes a standards committee (or industry group proposing a trade specification) finds a de facto standard that meets many of the needs of the subject area being standardized. As long as the de facto standard is well documented and publicly available, a formal standard can point to it and include reference by reference. An excellent example of this is the use of Adobe TIFF Version 6 as part of the ANSI/ITB/8-1993 TIFF/ITF specification.

If one of the portable document formats being developed/afforded were found to meet the needs of the industry several options would be open. The owning company could be persuaded to place the format in the public domain with an unrestricted license for anyone to use. This would allow it to become a de facto standard. The next step would be for the owning company to release change control to a standards body. From some perspectives that might be the ideal solution.

The other option would be for either a standards body or trade association to adopt a particular publicly documented version of the format and add the appropriate limitations to optimize graphic arts applications and maintain independent change control from that point forward. This would require careful management to minimize the divergence between the publicly controlled version and the private de facto version. However, given that these formats will be designed to support the widest audience (including multimedia, education, and entertainment) this may be the most practical approach for the graphic arts.

These are the most likely approaches that will allow our industry to quickly move to more formal specifications or standards for the exchange of vector data. It will be important to encourage the owners of page format specifications to make these public. It will also be important to encourage as many vendors as possible to adopt the one most useful for graphic arts applications. It will also be important for the graphic arts to move one of these page description specifications under the umbrella of either an industry trade specification or a formal standard.
In Memorial
Dr. S. Thomas Dunn
1940-1995

On Friday evening April 21
Tom Dunn passed away at his
home in Vista, California.
TACA and the international
graphic arts industry have
lost a visionary, a leader, and
a friend.

Dr. S. Thomas Dunn was the
founder and president of Dunn
Technologies, Inc. (DTI) and the co-founders of Dunn
Technologies Inc.-Japan (DTIJ). He also was responsible
for the respected and successful Users in Graphics Conferences
that were held annually from the late 1970s through 1992.
Prior to founding DTI, he was vice president of Essex
Corporation where he was responsible for early work in direct-
exposure systems technology. He also served as president of
Digital and Dunn Associates where he was involved in the
development of advanced technology for computer
applications. His initial work experience was with the
National Bureau of Standards in the area of spectral energy
measurement.

Tom received his BSME from the Pennsylvania
Institute of Technology in 1967.

In 1970 he was elected to the board of directors of
Rollon, a manufacturer of web offset presses. He served on
Rollon's board of directors from 1970 to 1975.

Tom became a member of the TACA Board of Directors in
1981 serving as a board member through 1984. In 1984 he
was elected to be Vice President (President) serving on
the board of directors of TACA and its subsidiaries
for many years. Tom was also elected to the TACA
Board of Directors in 1990.

Tom was a strong advocate for the prepress/digital
industry and was a leader in many industry
organizations.

E)Merging Technologies with Mike Bruno
A Commentary on Hi-Fi Printing

The sample of Anson Howley's Hi-Fi printing was a
23 x 34 x 4 color press sheet printed in a Hanici 400D
web offset press in 1975. It consisted of prints of five of
Anson Howley's photographs of which a gardener with
mowing lawn, a wagon wheel - I considered among the
finest printing I've ever seen. The prints were made from
color separations in the photographs exposed on
Thorson "Alfred Gold" lithographic plates and printed on
conventional heat-set web offset ink.

The process was known as "screenless printing" or
"random screen" printing. The press was a
"Advocate for Advanced Technology" of the
TAGA and the Japanese Society of Printing
Science and Technology which was presented to Tom
on April 4, 1995 at the TACA Awards banquet.

The Honors Award of the Japanese Society of Printing
Science and Technology which was presented to Tom
on April 4, 1995 at the TACA Awards banquet.

The TAGA Honors Award for Lifetime contributions to
graphic arts technical research.

The Leonida Rehniger Award for distinguished public
service to the process industry presented by the
International Pressing Association.

The Cimarron of the Year Award presented by the
National Association of Printers and Lithographers (NAPL)
for significant contributions to industry education and
technology.

A special Intech Technology Award, presented by the
Graphic Arts Technical Foundation for his technical
leadership in assisting the graphic arts industry with
developing model specifications.

The Honors Award of the Japanese Society of Printing
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1995 TAGA Technology Patrons
Membership Level Criteria: Contributions with total value of
$5,000 or more in goods/services/cash to TAGA in 1994:

- American Printer
- American Ink Maker

1995 TAGA Corporate Sponsors
Membership Level Criteria: Annual member dues of $1,000

- 3M Company
- Agfa Corporation
- Anttec Image Corp.
- Baldwin Technology Corp.
- BASF Corporation
- BPK Printing & Publishing
- Eastman Kodak Company
- Eschel-Grad Technologies, Inc.
- Flint Ink Corp.
- Fuji Photo Film USA
- Gretag Color Control
- Hallmark Cards, Inc.
- Heidelberg, U.S.A.
- Heidelberg Druckmaschinen AG
- Hoechst Enco Printing Products
- Ink Systems, Inc.
- INX International
- Jomac
- KBA-Planeta
- Mead Corp.
- Media Right Communications
- Mid-City Lithographers
- nuArc
- Offset Impressions
- Pitman
- Polaroid Graphics Imaging
- Polychrome
- Raymond J. Prince
- Rockwell Graphic Systems Div.
- Scltex America
- Sun Chemical Corp.
- Toray America
- Western Lithotech
- Weyerhaeuser Corp.
- Xerox Corp.

1995-96 Board Members

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