The creative kit: a portfolio of graphic imagery to introduce the Graphitek 430 camera/processor system to the visual communications market

Barry Hincks

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THE CREATIVE KIT

A Portfolio of Graphic Imagery
to Introduce the Graphitek 430
Camera/Processor System to the
Visual Communications Market

by

Barry Hincks

Candidate for the Master of Fine Arts
in the College of Fine and Applied Arts
of the Rochester Institute of Technology

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Approved 10/29/76
RH Johnston, Dean
THESIS COMMITTEE

Chief Advisor:

Mr. R. Roger Remington, Chairman
Department of Communication Design
Rochester Institute of Technology

Associate Advisors:

Mr. Robert S. Kerr
Assistant Professor of Graphic Design
Rochester Institute of Technology

Mr. Jay E. Gilfus
Camera/Processor Product Manager
Itek Graphic Products
A Division of Itek Corporation
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ACKNOWLEDGMENTS

I would like to thank the Department of Communication Design at the Rochester Institute of Technology for the support and guidance given to me for this thesis. The institute as a whole is committed to keeping pace with our rapidly changing technology oriented society by providing the most modern equipment available for the various departments. It is the enthusiastic support of this policy by Professor R. Roger Remington, Chairman of the Department of Communication Design, which has made it possible for me to explore an avenue of study not open to students at other institutions.

I would also like to thank Mr. Jay Gilfus, Products Manager of the Graphic Products Division of the Itek Corporation for his keen interest and facilitative support throughout this effort.
INTRODUCTION

This summer a newly developed process camera is scheduled to be introduced on the market which incorporates a variety of unique features. It is manufactured by the Graphic Products Division of the Itek Corporation, a Rochester, New York, based worldwide supplier of a variety of process camera machines. The Graphitek 430 Camera/Processor system has been designed with the expectation of widening the sales market beyond the graphic arts field into the communication arts area, where designers have recently expressed a substantial interest in purchasing in-house graphics production capability.

The intention of my thesis has been to explore the capabilities of the Graphitek 430 as they relate to the visual communicator's needs. The major body of work presents a number of solutions to visual problems based on image formation, or at least manipulation, by the 430.

The content of each image has been translated both
visually and verbally to ensure the greatest educational value for the widest possible audience. Often a visual image is sufficient by itself to generate thoughts of other imagery using the same technique. But for some people, a verbal account of the process used, followed by a brief extrapolation covering possibilities, more clearly conveys the suggestion of other applications. The completed thesis consists of a printed promotional graphics package in the form of a folio with eight insert sheets, each carrying a visual statement on one side and a verbal one on the other.
BACKGROUND

The groundwork for this project was laid in the early fall of 1975 when Professor Remington, Chairman of the Department of Communication Design at the Rochester Institute of Technology, secured an agreement with the Itek Corporation which resulted in the delivery of a Graphitek camera/processor to the Graphic Media Center in the design department. In exchange for the free loan of this machine, a primary benefit to Itek was to periodically receive samples of the creative work that students were generating with the machine.

With the announcement of a new, improved process camera which purportedly incorporated such advancements in capability and ease of operation that a significant new marketing audience might be reached, it seemed an opportune time to match a student designer with the machine in a research atmosphere to see what imagery might be created. In mid January, 1976, I made an initial contact with Mr. Jay Gilfus, Products Manager of the Graphic Products Division of the Itek Corporation in Rochester, to assess what arrangement for image in-
vestigation might prove mutually beneficial to both parties, considering deadlines for machine production and my graduation. Luckily, timeline considerations matched beautifully, with initial orders projected for delivery the early part of the summer, close to RIT's commencement date.

Jay and I felt that sufficient interest was generated at our first meeting to arrange another between Robert Clark, Manager of Advertising and Sales Promotion; Brad Bullerdick, Manager of Sales Personnel; and the two of us to discuss the scope of my involvement. All those in attendance envisioned a use for the work I might produce but there was little agreement on what form that use would take. It was agreed, however, that the appropriate application of imagery might be suggested by the nature of the material I would produce. Given the verbal assurance that my efforts would eventually result in a printed design piece, I began a thorough study of the Graphitek 430's capabilities, a look into the competition the 430 faced, and who was using similar units and for what purposes.
The engineers at Itek were very generous of their time and assistance when it came to giving me a thorough orientation to the Graphitek 430 system and time to experiment with it in their testing facilities. As a natural consequence of their curiosity with the kind of images I was producing, we had many conversations which helped me to more fully understand the logic behind the features incorporated in the machine, their placement, and how to make minor adjustments to fine tune technical aspects of images.

The Graphitek 430 is a process camera which stands six feet high, four feet wide, and extends about five and a half feet deep. A floor space of roughly nine feet by fourteen feet is needed for easy operation of the unit. A major feature of the 430 is freedom from special plumbing or ventilation installation. Just plug it in and it works. There isn't even the need for a darkroom; all operations, including the changing of materials, are handled in a normally lit room.
Positive and negative orthochromatic (non-red sensitive) materials are available in paper or film format. They are loaded in convenient cartridges which minimize the time needed to change materials. One set of chemicals process all materials. I found that the contrast level was such that some continuous tone characteristics of original subject matter can be translated to the photostat (or stat) copy. Through the use of the 430's capability to make multiple exposures, the technique of flashing, explained in detail later, can be used to capture almost completely the range of gray values present in the original subject matter. The addition of a very high contrast, positive paper material would greatly reduce or eliminate the need to white out paste-up edges which have a tendency to record light gray instead of white with the present material. Perhaps using a thinner material would be an alternate way to solve this problem.

An image can be adjusted to half or double the original size in a single cycle of the Graphitek 430, which can take as little as two and a half minutes to produce a dry, ready to use stat. While the maximum re-
production size is twelve inches by eighteen inches for all materials, a stat can be made as short as eight inches when needed. The copyboard itself can accomodate original subject matter up to twenty inches by twenty-four inches when front lighting is used, and fourteen inches by eighteen inches when the special backlighting feature is used. The primary benefit of backlighting is the ability to make reproductions of transparent film images. Since material is loaded with the subject holder in a horizontal position, it functions very nicely as a light table. A manual light switch is provided near the subject holder for just this purpose.

Perhaps the most unique feature of the Graphitek 430 is its viewing screen, which allows the operator to previsualize exactly how a selected image size will look. All controls for image size, focusing, exposure time, material length, and lights are conveniently located on the front panel next to the screen. The laboratory where I used the 430 was so brightly lit that I had trouble at times seeing the image on the viewing screen clearly enough to focus accurately.
I would recommend some sort of sliding hood arrangement to block out extraneous light.

Having convinced myself that the Graphitek 430 did indeed possess the capabilities it was billed to have, I wanted to be sure the type of material I might produce would not duplicate another company's efforts nor exclude a major area of application that I had not thought of. Conversations with several sales representatives assured me that no competitive company had plans for the production of similar material, though they generally expressed an interest in the idea. Checking with a variety of businesses in Buffalo, Rochester, and Syracuse did not uncover innovative uses of process cameras. Supermarkets, department stores, a college student government office, a gas and electric company, and several advertising agencies were contacted in my search. If any of them had developed a special application, they weren't telling.

When I was favorably impressed with the features of the 430 and certain that my efforts might well produce a unique collection of materials, I was ready to
formulate a proposal for the Itek Corporation which would hopefully lead to a binding contractual arrangement.
I drafted a first proposal on February 2, 1976, and it was found lacking for a number of reasons. I have included it at this point as an example of what not to do when writing a contract. An explanation of weak points follows.

Proposal:
Graphitek 430 Promotional Project

Goals:
1. Help widen the market for the forthcoming Graphitek 430 system.
2. Educate in-house sales representatives to the applications of the 430 for visual communicators.

Objectives:
1. Become thoroughly familiar with the functions, operation, and quality of the various processes possible with the 430 system.
2. Investigate possible creative uses of camera/ processor units by present operators of similar units.
3. Identify a comprehensive list of machine capabilities.
4. Create a collection of graphic materials using the 430 which:
   A. Demonstrate the full range of mechanical capabilities.
   B. Exemplify applications common to the visual communicator's needs.
   C. Suggest the possibility for generating creative art work.
5. Determine the proper packaging form for the materials developed in order to integrate smoothly with already printed pieces for promotion of the Graphitek 430.
6. Integrate design efforts with copy material which will accompany visual material.

Audience:
Itek sales representatives and a variety of prospective clients in the visual communications field, such as graphic designers, ad agencies, public relations departments, art departments, and media centers within business and educational institutions.

Timeline:
February 6: Approval of proposal goal statements, objectives, audience identification, tentative timeline, and arrangement for expenses.

February 13: Complete familiarization with equipment, quality of capabilities, and uses developed by other people. Identify a comprehensive list of machine capabilities to create designs for.

March 12: Review graphics created and discuss packaging format and inclusion of copy material.

April 2: Review progress of graphics and complete the specification of all copy to be integrated with graphics.

April 16: Completion of all art work.


Financial arrangement:
Minimal costs for supplies and travel shall be identified in advance and paid for by the Itek Corporation.

If this proposal meets with your expectations, please sign below and return a copy to me.

The primary criticism of the proposal is its lack of specificity and inclusion of unnecessary items. The formation of general goals and objectives statements
is a proper prerequisite to entering into a formal agreement, but these comments should not form the substance of a contract. One does not contract to hold a good thought, but to do a good deed.

Objective 4 refers to only "a collection of graphic materials" instead of listing a specific number of concepts to be related, with the understanding that they are subject to the approval of the Ittek Corporation before the finalizing of design work starts.

Objective 5 relates the need to package the graphics that are created, but it does not state a specific format. This decision should be resolved before a contract is entered into.

Objective 6 points out the need for explanatory, written material but neither states whose responsibility it is to generate such information nor who will edit and rewrite the final copy.

No one would argue that a timeline is an indispensable tool for a designer to make sure he keeps on
schedule. However, the delivery date for completed work is the point of primary importance to both parties concerned and may be the only date needed for inclusion in a contract, especially when dealing with a single piece of design work.

Whenever money is expected to change hands, contract language should not be vague. The proposal of February 2, 1976, did not set a ceiling figure for consumable supplies nor mention travel expenses or funds for mechanical art preparation. It did not include a price quotation or even an estimation for printing costs. How a piece will be printed should be clearly stated. In keeping with RIT design department policy, no fee was included for design effort. Such an arrangement would place student efforts in competition with private design practices and jeopardize the department’s positive relationship with these agencies.

A variety of formats was considered before a final decision was reached. A slide/tape presentation might have served the needs of training sales representatives and introducing the new machine to large groups,
but it would have been expensive and did not meet the need to leave printed material with hopeful buyers. A poster or brochure would have certainly cost less, but would not have provided the flexibility for adding new material at a later date nor allowed a salesperson to leave a sample design application idea with a customer. Various introductory promotional poster and brochure materials were already in production (figures 1, 2, and 3) and a duplication of this effort would neither have reached a new audience nor further benefitted those people who had already received literature on the Graphitck 430 system.

At this point I suggested that my efforts might best take the form of a folio with a number of insert sheets, each relating one capability, or combination of capabilities, in visual form on one side and verbal explanation on the other side. This format would allow sales representatives to select those design applications which related to particular client needs; it would provide a sample sheet to be left behind with a client as an addition to the introductory brochure; and it might suggest new applications to those who had
The Dynamic Image of Itek

Graphitek™430 Camera / Processor System
Figure 2

Take charge.
already placed orders for a 430 unit. Robert Clark, Manager of Advertising and Sales Promotion, approved of this idea and the suggestion to name the folio *The Creative Kit*.

Once the format was agreed upon, a budget figure was added for the cost of consumable supplies and student help in preparing mechanical art work for presentation. Delivery of all art work was set for mid May, 1976, to coincide with the projected public unveiling of the Graphitek 430 system. It was also agreed that I would generate an explanation of the methodology used in creating each visual image and Itek would assume the responsibility for editing and rewriting this material into final form.

The final draft of the contract (figures 4 and 5) was signed on February 24, 1976, and cleared the way for a full scale design effort to begin.
February 24, 1976

Mr. Barry Hincks  
Department of Communication Design  
College of Fine and Applied Arts  
Rochester Institute of Technology  
One Lomb Memorial Drive  
Rochester, New York  14623

Dear Barry:

This agreement confirms our discussions regarding the design of a promotional graphics package for the Graphitek 430 Camera/Processor.

Barry Hincks will:

1. Identify eight design application concepts acceptable to Itek.

2. Create an original graphic design for each concept with layout and specification for all accompanying type.

3. Include an explanation of the methodology utilized to make each design.

4. Design a cover folder (graphic and type elements) to be used to hold the eight insert sheets.

5. Create the design concepts to be printed by four-color flat printing.


Itek Graphic Products will:

1. Utilize an explanation of methodology to write the copy for the back of each insert sheet and the folder.

2. Pay for the setting of all type for the insert sheets and the folder.
3. Pay for the printing of the insert sheets and the folder.

4. Retain the right to use any of the graphic designs in Itek-related communications but allow for the following byline to appear on the inside flap of the folder "Design: Barry Hincks".

5. Reimburse Barry Hincks for up to $400 of expendable supplies and miscellaneous labor required to complete the design work.

6. Provide Barry Hincks with 25 sets of the completed job.

If this proposal is agreeable to you, please indicate with your signature below and return one copy to Itek Graphic Products.

Sincerely,

Robert P. Clark
Manager, Advertising and Sales Promotion

Barry Hincks
Department of Communication Design
College of Fine and Applied Arts
Rochester Institute of Technology
One Lomb Memorial Drive
Rochester, New York 14623
EXPERIMENTATION

During my testing of the various materials and capabilities of the Graphitek 430 system, I questioned Itek personnel from the departments of engineering, advertising, and technical services regarding how well various techniques might be used on the 430. The reply was "Try it for yourself." and so I did. While the techniques eventually incorporated in The Creative Kit are described in the next section, a few comments are included here to describe the image making processes which were not used and why they were not used.

The simplest procedure to investigate, other than those described in the promotional brochures, was that of throwing an image out of focus. Here the viewing screen helped take some of the guesswork out of the results obtained when making various alterations in percentage of enlargement or reduction, lens aperture, and focus controls. However, due to the somewhat high contrast nature of both the film and paper materials, and the necessity for viewing with
the aperture fairly wide open to allow enough light through to clearly see the subject matter, the image seen on the viewing screen was always somewhat fuzzier than the processed one. To bring this kind of image under careful control would require a sizable number of tests at a considerable cost to the user. Likewise, jarring the machine gently during an exposure or dividing the total exposure time into several stages with slight relocation of the subject after each exposure occasionally produced interesting distortions. Imagery of this nature has not been included in the folio because of the inability to adequately control the form of the outcome.

A similar result to out of focus images was achieved when the subject holder was moved forward or backward during an exposure. Even with the lens closed down for greatest depth of field, the motorized subject holder soon carried the subject beyond a point of reasonable sharpness and the zooming effect was minimized. Again, unreliability was the deciding factor which caused me to exclude this technique from the folio.
Multiple exposures can be created with the Graphitek 430 but should be made with a black background, since exposure lightens the positive paper material rather than darkens it as is the case with regular photographic papers. When two subjects are overlapped in this manner, the area they have in common is rendered lighter than the rest of the image, something not usually associated with overlapping images. This technique might be useful in limited instances, but generally the overlapped section has too much detail washed out for practical use.

The reduction of continuous tone imagery, such as a photograph or wash drawing, to a high contrast copy can be made with the 430 but at least two stages of reproduction are usually required to eliminate the gray values that other machines or high contrast photographic films eliminate in a single step. On the one hand, this builds in a greater control factor over how gradually the gray values are taken away. On the other hand, really high contrast images are achieved at the expense of losing some image sharpness, a consequence of reshooting already copied material.
The problem encountered with generating high contrast imagery necessarily limits the probability for success with such techniques as bas-relief, tone line, and posterization. These processes depend on the production of very sharp, high contrast images as a starting point for the generation of still more high contrast images. Tests run produced generally muddy imagery as compared to results obtained in a photographic darkroom with high contrast film material.

Having decided which techniques were more applicable than others for demonstration with the Chartitek 430 system, I then turned my attention to developing a thematic approach upon which imagery would be generated using these techniques.
THE CREATIVE KIT

During the stage of testing equipment and techniques, I used imagery which seemed most appropriate to try out new techniques. I gave little thought at that time to tying all the imagery together around a unified, thematic approach. First thoughts on this subject had me considering a single subject, such as the Graphitek 430 itself, to use as the object for various image manipulations. Such a choice would have been a logical one from the standpoint of reinforcing the connection between the machine and its output. Although this subject was readily accessible, the public relations benefit did not outweigh the limitations it presented. A machine, after all, is not the most appealing subject matter to look at. In addition, certain applications were more successful when typographic elements were manipulated.

I next considered using the Itek logo as my subject. In support of this theme was the fact that symbols are often manipulated during their developmental stage. The drawback which outweighed this advantage was the
seemingly inevitable inappropriateness of a single graphic design to best display each and every application technique.

What I needed was a broader approach to selecting a theme. The most successful imagery I had created thus far was achieved by first considering the nature of the technique I wanted to try and then selecting an image which seemed compatible with the process. I decided to continue this approach, realizing that a wide range of subject matter might actually be the best thematic approach. After all, visual communicators are involved in creating quite varied imagery and would probably want to see this aspect reflected in a collection of design pieces produced on the Graphitek 430. My challenge then became one of creating a widely diversified group of images, yet presenting each as a reasonable solution to a designer's need. For this reason, I chose to present each image as if it were a finished piece of design, ready to use.

I designed the layout for the eight insert sheets (figures 6-13) to reinforce the "Idea to Image" con-
cept. The left side of each page pictures the original, unaltered "idea" which is then translated into a new "image" on the right side using the Graphitek 430. The cover of the folio (figure 14) combines portions of each of the eight designs in a ring around a line drawing of the 430. This arrangement visually reinforces the concept of the 430 as a tool for the creation of a wide variety of images. The inside cover (figure 15) contains a table of contents.

A special problem arose when I first scaled down a poster "image" to fit the six-inch high space on the insert sheet. When an image is reproduced significantly smaller than the size it was designed, the positive/negative space relationship changes drastically, with the positive, black areas seemingly becoming smaller in proportion to the white spaces. Each time a design's length is cut in half, the area taken up by that shape is reduced to one-fourth its original size. To overcome this problem I gave the original designs a very bold look so they could withstand the lessening of impact that occurred at a reduced size. Once imagery reached the six-inch height, typographic
elements were adjusted to as small a point size as was still legible. By comparison, this increased the boldness of the visual element and left little question that the design piece shown was a representation of something much larger.

A description of the design on each insert sheet begins on the next page. Rather than regroup thoughts and make minor changes in copy to reorient the material to the reader of this paper, the wording has been left unaltered from the way I presented it to the Itek Corporation for editing and rewriting before being printed on the back of the insert sheets (figure 16). As of this writing, I do not know what changes have been made by a copywriter. The comparison of versions should prove interesting.
Insert Sheet Number One

POSITIVE AND NEGATIVE PAPER IMAGES

Camera Contest Poster

Idea

To draw the attention of photographers to a contest poster, a sequential, visual metamorphosis of a camera was created.

To clearly separate the typographic from the visual image, all copy was reversed out and color overlays were used to establish a vertical reading of the image.

Procedure

Reproducing art work at various percentages of enlargement and/or reduction is a primary function of the Graphitek 430 Camera/Processor, which can make photostats within a 50% to 200% range. Because the image is of a superior quality, this range can be extended by using these photostats as the subject for generating other copies. In this example, four generations of stats at 50% allowed for an image range
of over 1000%.

To reverse out the blocks of copy, a high contrast negative paper material was used.

The final image was accomplished by pasting up the type and visual images, and making a positive paper photostat. Color was added by overlays of a transparent material.

Images
The ability of the Graphitek 430 C/P to produce enlargements and reductions in positive or negative form gives the visual communicator a highly creative tool with which to manipulate images. A whole family of sequential transformations can be created with the in-house assistance of the 430 C/P.
Idea
To promote a series of lectures on wave motion behavior, a visual image was developed which depicted the phenomenon of interference patterns, or moiré effect, a basic component of such studies.

To enhance the visual impact, bands of different colors were used to show the optical illusion of the appearance of a third color when two colors overlap in this manner.

Procedure
One mechanical drawing of concentric circles was the only hand graphic required for this design. Reproductions of the image at various sizes were made on positive film with the Graphitek 430 C/P. This material made it possible to judge the optical effect created by overlapping two images.
The rendering of color images was accomplished by utilizing the Color Key proofing system of the 3M Company in conjunction with the Graphitek 430 C/P. Negative film images were made on the 430 C/P and sandwiched with sheets of Color Key for an exposure to an arc lamp. Rubbing the Color Key sheet with a cloth and special developer, followed by a brief water rinse, completed the process.

Images
Creating the proper size relationship and compositional placement with a number of visual elements is a common task for visual communicators. This process can be greatly facilitated by the ability of the Graphitek 430 C/P to reproduce images on positive and negative film material. Such images can be overlapped, whereas those on paper cannot.

In addition, film images can be placed on the viewing screen of the 430 C/P and analyzed in combination with other elements placed on the copy board. By simply changing the percentage of reproduction and focus controls, the viewer is better able to
previsualize how best to coordinate the various components of a composition. This in-house capability can greatly reduce the time and cost factors for a variety of jobs.
Insert Sheet Number Three

POSITIVE AND NEGATIVE PAPER AND FILM IMAGES

Visible Language Journal Cover

Idea
To reflect the research orientation of a journal concerned with investigating the visual possibilities of language, a cover was designed with typographic forms as the only subject matter. A rather unorthodox treatment of type emphasized the visible form rather than the thought content of the group of words.

The options of type size manipulation, word placement, reversed out forms, and wrong reading orientation were explored to maximize the visual form content.

Procedure
All type for this cover was originally set in one point size. The composition was first visualized by making positive paper photostats of the copy over the 50% to 200% range of the Graphitek 430 C/P. Second generation photostats were then made to extend this range from 25% to 400% of original size. Without
this in-house ability to produce high quality images, a careful selection of type sizes to establish the proper positive/negative space relationships could not have been made easily.

The 430 C/P's viewing screen greatly facilitated the selection of type sizes by providing a means to compare a proposed size selection with those already made.

Reversing type out of a black field was a one-step operation with the 430 C/P by using a high density negative paper material. Paper and film changes can be accomplished quickly and easily with daylight loading cartridges.

Making the type wrong reading as well as reversed out of a black field was also a one-step procedure for the 430 C/P by using a negative film material and flipping the image produced.

Images
The ability to use an in-house, self-contained, daylight operational camera/processor to produce high
quality positive or negative, right or wrong reading film images with the assistance of a built-in viewing screen for previsualizing makes the Graphitek 430 C/P a unique and highly creative tool for visual communicators.

The possibilities are endless for abstracting subject matter, creating symmetrical configurations, and in general producing complex imagery with far less time spent than would be needed if the same results were achieved in the darkroom.
Insert Sheet Number Four

MULTIPLE REPRODUCTION OF IMAGES

Center for Environmental Research Annual Report Cover

Idea

To publicize the new identity symbol for an environmental conservation group, an annual report cover was created using a repetitious application of the symbol to form a textural pattern.

Color imagery was used to suggest the pleasing quality of the subject and to produce a softened contrast, decorative quality.

Procedure

One mechanical drawing of the corporate symbol was the only art work required for this cover design. The Graphitek 430 C/P was used to make five photostat copies on positive paper material at twice the actual size used in printing (to facilitate accurate alignment). These images were pasted up in a horizontal row and rephotostated five times to form the square of twenty-five symbols. A final photostat was made
at a fifty percent reduction to equal the actual printing size.

The rendering of a color image was accomplished using the Color Key system of the 3M Company, described in application number two, and an adhesive color film placed under it. The color film image was placed on top of a positive paper photostat of the typographic elements to complete the design.

Images
with the aid of the Graphitek 430 C/P; photostat re-
productions can be made only seconds apart, allowing the visual communicator to quickly and easily experiment with repeated forms.

In addition, high quality is maintained even when a number of generations may be needed to produce a final design. In this example, three generations of positive paper photostats were followed by a negative film image before the final color image could be made.
Figure 9
Insert Sheet Number Five

CONTINUOUS TONE UNSCREENED IMAGES

Photographic Magazine Layout

Idea

To display a photographic essay on New York City, a magazine layout was put together combining photographic and typographic elements.

To reflect the sharpness of the original photographs as well as the actual contrast, unscreened continuous tone images were needed.

Procedure

Unscreened continuous tone reproductions of photographic prints can be easily and quickly made with the Graphitek 430 C/P on paper or film material using a technique called flashing. With the multiple exposure switch turned on, the first exposure is made of a white card or sheet of paper placed on top of the glass holding the art work. This is known as the flash exposure and serves to increase the continuous tone nature of the final image. A second exposure is
then made of the art work itself, followed by normal machine processing and drying.

Images
Whenever reproductions of continuous tone images are needed without the loss of sharpness inherent in half-tone screens, the Graphitek 430 C/P can produce them with a very close to normal contrast range. Whether for layouts, presentations, or just reductions for filing purposes, the continuous tone media of photographs, paintings, washes, pastels, charcoal drawings, and pencilled work can be faithfully copied on paper or film material.
Figure 10
Insert Sheet Number Six
SCREENED PROJECTION OF 35MM FILM IMAGES
Ecology Seminar Series Brochure Covers

Idea
To promote a series of seminars on environmental studies, several brochure covers were designed combining typographic and photographic forms to make one visual image.

35mm color transparencies were translated into two-color images rather than black and white ones to retain as much realism as possible for easier identification of the subject matter and to separate the background of the photographic image from the rest of the brochure cover.

Procedure
A positive paper photostat of the 35mm environmental slide was made on the Graphitek 430 C/P using the optional film projection unit.

To isolate those areas of the photograph where the
type was, a negative film photostat of the copy "RAPE OF THE ENVIRONMENT" was made and placed on the viewing screen.

Next the environmental shot was placed on the copy board and adjustments in size and composition were made until the correct combination of type and photo images appeared on the viewing screen. At this point a negative paper photostat was made of the photograph and sandwiched with the negative film image of the type. The spring tension in the copy board held the two images in proper registration. A final negative paper photostat of the sandwiched images produced a positive image.

To create a color rendition, a negative film photostat was made of the final black and white image using a 65-line, round dot, halftone screen. From this film a 3M Color Key was made. A second Color Key was made of the letter forms alone. See application number two for details.
Images

Whenever the desire is to replace the positive portion of one image with another image, two methods are available. The one just described is the more complicated but necessary when previsualization is required to obtain a good image.

When precise positioning of the photographic image is not as important, a one-step operation can be used. With the multiple exposure capability of the 430 C/P, a first exposure of the type image is made on positive paper or film. This allows all non-type areas to be "burned" up to white, or clear in the case of positive film. A second exposure with the photograph (or drawing or textured substance) on the copy board is made. This image appears only where the letter forms had been.
Figure 11
Insert Sheet Number Seven

REPRODUCTION OF THREE-DIMENSIONAL OBJECTS

Packaging Conference Poster

Idea

To announce a forthcoming packaging conference, a poster was designed using a photograph of a light bulb package as the dominant element.

To maximize the graphic effect, each light bulb needed to be clearly defined without the distractions of shadows or background detail. Backlighting as well as frontlighting was the answer for this situation.

Procedure

To use the Graphitek 430 C/P as a copy camera, the light bulb package was taped to the glass top of the copy board and tilted into the near vertical shooting position. The percentage control was used to move the package away from the lens until the typography on the front of the package came into sharp focus on the viewing screen. For this step
the aperture was wide open to aid in viewing and assure accurate focusing. Next the lens was closed down to its minimum opening to provide the greatest depth of field possible.

The multiple exposure switch was then turned on and a front lit exposure was made. After this the lights built into the copy board beneath the frosted glass were used to make a backlit exposure. For this example a front to back lighting time ratio was about nine to one.

Images

The Graphitek 430 C/P is well suited to be used as a copy camera for three-dimensional objects whenever the subject matter is relatively flat and can be taped to the copy board for tilting up into the shooting position. The backlighting feature can be used even with opaque subject matter to eliminate shadows cast by the front lights. As with continuous tone flat images, a flash exposure can be used to help hold midtone details.
As a side benefit, the copy board can be used in its horizontal loading position as a light table, since the built-in lights can be manually operated.
Figure 12
Insert Sheet Number Eight

SPECIAL EFFECT SCREENED IMAGES

Abby's World Theatrical Poster

Idea

To publicize the first play of the spring season for a community playhouse, a poster was designed using a photograph of the leading character to convey the intense and haunting qualities of the protagonist.

To emphasize the communicative value of the expression and play down the literal portrait quality of the photograph, a distortion technique was introduced in the image making process.

Procedure

Choosing from a wide variety of special effect screens available, a fifty-line, straight line screen was positioned inside the Graphitek 430 C/P. A continuous tone photograph of the actress was placed on the copy board and photostats were made at a variety of percentages.
The line images which resulted were enlarged, some several times, until all contained the same size head shot. Where they differed was in the width of the line image imposed on them. From this selection the photostat with the greatest impact was chosen for use.

Images

The variety of special effect screens now available for use with the Graphitek 430 C/P include the following types: straight line, wavy line, concentric circles, mezzotint, sunburst, linen, steel etch, and steel engraving. Each screen can be used in a variety of ways, either combined with a photograph, line drawing, or other screens. Their primary function is to create impact, texture, abstractions, or a continuous tone quality.
Figure 14

The Creative Kit

Introducing the Adobe 3.10 Camera Processor System.
A self-contained, creative tool for the visual communicator.
Figure 15

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3. Positive and Negative Paper and Film Images
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7. Reproduction of Three Dimensional Objects
8. Special Effect Screened Images
Egyptians, down to the beautiful manuscripts, I was in the making. Johann Gutenberg in metal. From this chance thought strayin dream most golden—the profound art of as born. Cold, rigid, and

I am the voice of today, the herald of tom
st ancestry neither history nor relics remain
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Imagery for The Creative Kit was generated with careful consideration given to the four-color, flat printing process agreed upon in the contract. I selected the process colors of cyan, magenta, and yellow, along with black, to allow for the widest possible variety of colors to be used. The primary colors of red, green, and blue can be made by combining magenta with yellow, cyan with yellow, and cyan with magenta, respectively.

The yellow, orange, and red bands of color for the camera poster (figure 6) were chosen with the knowledge that only two runs of printing would be required to achieve all four colors. Various percentages of a 150-line halftone screen will be dropped in and run in magenta over a solid yellow background.

In contrast, a screen will not be used to print the background of the annual report cover (figure 9). Although the use of a screened cyan would allow the solid yellow to be softened to a greenish-yellow, it
would begin to degrade the fine edge sharpness of the environmental symbols.

Image sharpness for the moiré pattern design (figure 7) will be maximized by making only two printing runs in cyan and magenta. The use of other colors, such as blue, green, or red, would require an additional run of color and unnecessarily increase the chances for imperfect registration. Such a fuzzing of the image would not leave the best impression of the Graphitek 430's ability to produce sharp images, even though the error would be a result of the printing process and not the 430 unit. Actually, cyan and magenta make a good choice of colors since their combination by proximity produces the clearly separate color of blue.

The decision to use four-color, flat printing significantly affected even the choice of subject matter for the environmental brochure covers (figure 11). Knowing that a screened color image was going to be placed over a second color for the background, I chose to use screened cyan and magenta photographs over a solid yellow background. This choice maximized the contrast
within each photographic image, minimized the contrast between the background of the photograph and the white of the brochure cover, and created the color combinations of green with yellow and red with yellow. Using an environmental theme, green with yellow suggested grass with a sunny sky, while red with yellow (or yellow-orange) suggested a silhouetted object against a sunset sky. Tall reeds and telephone cables suited these requirements well. Although a finer screen is available, a 65-line halftone screen will be used to print this image to match the size screen used to produce the image with the Graphitex 430.

Though not affected by the choice of colored inks, the black and white applications required special attention in specification for a printer to closely simulate in printed form the image generated by the Graphitex 430. The Visible Language journal cover (figure 8), the photographic layout (figure 10), and the light bulb poster (figure 12) all make use of the 430's capability of reproducing gray values without the use of a halftone screen. Clearly this is not possible when printing inks replace a photo-chemical process. To
not use a screen would produce a very high contrast image. Therefore, a fine, 150-line halftone screen will be used to simulate the unscreened 430 image, even though such a screen cannot be used with the 430 unit.

To insure that all images are printed in the correct size, position, and color, brownprint and Color Key proofs will be generated for me to review before the five thousand copies of the folio are printed at a cost of nearly five thousand dollars. The Color Key proofs are needed to show whether or not the colors have been printed in the order I specified. Varying the order of printing significantly changes the colors which result (figure 17). Yellow will be printed first, then magenta, and finally cyan.

Actual production of The Creative Kit is now scheduled for the first part of 1977. Since orders for the Graphitek 430 greatly exceed expectation and present production capability, a new promotional effort at this time would serve no useful purpose. This situation should change within the next few months when
Figure 17

Cyan over magenta.  Magenta over cyan.

Cyan over yellow.  Yellow over cyan.

Magenta over yellow.  Yellow over magenta.
production speeds up and the effects of the previous promotional efforts begin to wear off.
CONCLUSION

Over the past several months I have come to know the Graphitek 430 process camera system quite well. I have experimented with its capabilities and explored its applicability to the visual communications field. The 430 has proven to be a reliable, versatile, and convenient to use reproduction center for making paper and film images.

With care, and some patience, special effects imagery can be created with the 430 which would otherwise require extensive darkroom time to accomplish. My investigations did not uncover wild, new image making techniques, but that is not what the 430 was designed for. The production of the promotional graphics package, *The Creative Kit*, was greatly aided by the built-in viewing screen and out-of-darkroom operation.

The communication value of *The Creative Kit* cannot be fully evaluated until the folio is printed and finds its way into the hands of prospective clients. My personal opinion is that firms large enough to afford the
several thousand dollar price tag will find the Graphitek 430 an attractive proposition. My regret, now that the thesis project is completed, is that I won't have a 430 around to reproduce my images. Perhaps I've been spoiled a bit.