PRINTING AND PHOTOGRAPHY GROUP
QUARTERLY MBO PROGRESS REPORT

OBJECTIVE STATEMENT: Identify Feasibility of Establishing
FBIS Black and White Graphic
Capabilities
(Study - PPG/S08/90)

RESPONSIBLE OFFICER: [ ]   STAT

QUARTER ENDING: March 1990

I.   **ACTIVITY THIS PERIOD:**

      See attachment

II.   **PROBLEMS ENCOUNTERED:**

III. **PLANS FOR NEXT PERIOD:**

OBJECTIVE STATEMENT: Identify Feasibility of Establishing. FBIS B/W Graphic Capabilities. (Study PPG/S08/90)

I.   ACTIVITY THIS PERIOD:

Benchmark testing began this quarter with several objectives:

(1) Determine which of the two vendors, ECRM, manufacturer of the Autokon 1000DE, or ImagiTex, manufacturer of the ImagiTex 1850, will successfully scan and download prescreened halftones into the Xyvision system. Sales representatives for each company said their equipment has this capability.

(2) Have each company scan the halftones we send them and have these halftones run on the web press at P&PG.

(3) Determine which of the two vendors will allow us to load graphics via floppy disk into our Xyvision system.

(4) Decide which vendor will be the more user friendly when new people come on-board here at FBIS. Which scanner will allow the novice to operate it?

STAT   Benchmark testing began with the Autokon 1000DE when ☐ attended the GraphExpo show in Chicago on 17 October 1989. We had arranged with ECRM, through their Sales Representative Gene Schultz, to give Ralph a demonstration of the Autokon 1000DE. Ralph took halftones with him to be scanned. At the show, Ralph found another company who contended that their equipment could fill our needs. This company is named ImagiTex. ImagiTex (recently acquired by Dupont Company) manufactures a scanner called the ImagiTex 1850. They were not able to give a demonstration of this equipment due to prior commitments at the show; however, Ralph gave the halftones he had with him to the ImagiTex Sales Representative, Leslie Staggers. Leslie sent the halftones to the home office in Nashua, NH to have them scanned and produce an RC copy for us.

 The Autokon 1000DE demonstration was given by Vince Cooper, ECRM Regional Sales Manager, and Gene Schultz. One of the two new features of the Autokon 1000DE is the ability to put a prescreened photo on the scanner bed in a vertical position instead of an angled position to accommodate the built-in screen of the Autokon 1000DE. (The position of the photo on the scanner bed is what determines whether or not you are going to get a morie effect.) The other new feature is the ability to output an RC copy of the halftone you are scanning. The purpose for scanning at this point was just to see initially what each piece of equipment would produce.

Arrangements were made with ☐ to have the ImagiTex RCs givSTAT to us at the show run on the web press. This test was to get an idea of what results to expect from the ImagiTex 1850.

It was not necessary to run web press tests of the ECRM Autokon 1000DE RCs since we currently have two Autokon Model 2000s here at Reston. We are somewhat familiar with the quality of the ECRM equipmnet from the test results which were done in the past on the Autokon 2000.

We were satisfied enough with the web test results that we wanted to further explore the ImagiTex 1850 along with the ECRM 1000DE. Arrangements were made with representatives of both companies to visit their facilities in Tewksbury, MA and Nashua, NH respectivley on 28 & 29 November and 1 December 1989. Following is a summary of this visit:

WEDNESDAY, 29 NOVEMBER 1989

Travel Day--Depart Dulles airport at 1900 hours, arrive Logan Airport in Boston at 2007. Arrive Marriott Hotel, Nashua, NH approximately 2230 hours.

THURSDAY, 30 NOVEMBER 1989

ImagiTex Corporation (Nashua, NH)

Attended 1000 hours appointment for a demonstration of the ImagiTex Power Scan 1850.

Those in attendance for ImagiTex were:

Gary A. Rogers, Vice President, U.S. Sales
Leslie Staggers, District Sales Manager
Paul DePasquale, System Consultant
Eric D. Schlesinger, Eng. Mgr., Sys. & Applications
Michael A. Clesceri, Senior System Consultant
Lee Alnes, Product Marketing Manager

The demonstration started with Paul DePasquale introducing Ralph and I to the ImagiTex 1850. Paul went over the primary functions of the Scanner and Power Station. Paul was given what we thought were excellent examples of the kinds of materials we would have to have the ability to reproduce. The copy was of poor quality for scanning purposes. The scannable copy was Xerox copies of halftones. It was explained to us that we can scan two ways on the ImagiTex 1850, either as Contone or Line art. The Model 1850 has a built-in automatic densitometer. Paul elected to scan these two halftones as Line art. He explained that for the type of work we do (copy coming from magazines, newspapers, etc., materials that had already been screened, we would get the best results by scanning as Line art). They were output onto RC paper using a Linotronic 300 Imagesetter. We were impressed with the results of the scan.

Gary Rogers explained the storage capabilities of the Power Station. The ImagiTex Optical Archiving System uses a 5 1/4'', 800 MByte optical cartridge (400 MByte each side). This translates into about 800 (4'' x 5'') photographs. Gary mentioned that in the near future he expects to see erasable disks. Gary gave us a brief history of ImagiTex, where it is today, and where they hope to be in the future.

A round-table discussion with all in attendance was then held. Ralph gave a briefing of where FBIS Prepress Composition is and where he would like to see it in the near future. He explained our support functions of

JPRS as well as Daily Reports. It was explained that in the near future we would like to have the capabilities of accepting graphics (via floppy disks) from Independent Contractors (ICs) and loading them into Xyvision. Also, in the long-term we would like to be able to support the FBIS/TV Center by capturing an image on the TV screen and moving it onto Xyvision. The ImagiTex people responded positively to both of these projects. They explained that there is currently the technology to accomplish our goals. Ralph was given literature on a particular company that had the technology that would allow you to capture images off the TV screen. We were supplied with 3 floppy disks by Joe Lewis of SAIC that we wanted ImagiTex to load into their system. The disks were TIFF and Postscript software. The ImagiTex representatives explained that they were loading new software into the system at this time. However, they would copy our disks and at a later date load them onto a disk and send them to us. Also, we are going to do some further testing of halftones, whereas we will send them the pre-screened photos and they will scan them and put them on a optical cartridge and then take them to Xyvision in Wakefield, MA. and load them onto a mag tape and mail the tape to us to load into our Xyvision system. Also, FBIS will send one graphic (halftones for each of two weeks to test the output on the FBIS Xyvision system.

FRIDAY, 1 DECEMBER 1989

ECRM Corporation (Tewksbury, MA)

We attended a 1000 hours appointment for a demonstration of the Autokon 1000DE.

Those in attendance for ECRM were:

> Paul Markham, Vice Pres., Product Marketing
> Gene Schultz, District Sales Representative
> Anita Clemens, Senior Applications Specialist

Both Ralph and I agreed that ECRM was a little less than professional in their presentation. Despite Paul Markham's statement that they had ''very little'' turn-over of personnel in the company, we found ourselves dealing with two people, Gene Schultz and Anita Clemens, who had a total of six months service with ECRM. We explained what our needs and goals were. [   ] had (as per request by Gene Schultz) sent to Anita ClemeSTAT in advance, some halftones to be scanned. Anita produced the halftones very quickly, since they had already been scanned. We explained that we are going to take these halftones back to the printing plant and test run them on the web press. We gave Anita the same two Xerox halftones that we used for the ImagiTex demonstration. We took note of the fact that Anita had to make several scans, and also had to ask the assistance of a co-worker before she produced the results to us. The Autokon 1000DE can interface with a front-end system using a Scsi (small computer systems interface). The Autokon 1000DE was connected to a MacII computer. ECRM did not offer to demonstrate this to us. The primary difference between the Autokon 2000 (P&PG has two) and the Autokon 1000DE is the ability to rescreen a halftone and output on film or RC paper. It would take a skilled person with the

knowledge of how to read halftone dots to scan a photo on the Autokon 1000DE.

The discussion then turned to our hopes of having ICs supplying us with graphics via floppy disk to load into Xyvision. Anita said they have the software to read a floppy disk into a PC. We then produced the three disks we brought with us to read into their system. Anita first explained that she was not computer literate. After several tries she sought the help from someone in another office. The surprising thing to us was that no one came to assist Anita, even though they knew she was giving a demonstration. Anita never was able to load our floppy disks onto their PC. She then attempted to demonstrate how to scan line art or a halftone on the Autokon 1000DE and put it on a floppy disk so we could try to load it onto our PC. I received a call on Monday, 4 December from Gene Schultz explaining that Anita used the wrong program and we would probably not be successful when we try to load the graphic into our PC. We have not yet tried to load the disk. Gene Schultz could not identify any customer(s) interfacing Xyvision with an Autokon 1000DE when asked. Gene sought the assistance of an office employee who said she would get a list for us. She failed to return.

Mr. Markham advised that we produce RC film output and then use the ''paste-up'' procedure for stripping graphics into text. He did not feel that total digitized graphics was the way to go.

II. PROBLEMS ENCOUNTERED:

ImagiTex 1850

1. After further questioning Paul DePasquale about the two ways to scan a halftone, he admitted it would be best to scan our material as line art for the type of work we are trying to reproduce. This means, what you see is what you get. It would be similar to making a Xerox copy. You would be very limited in the ability to enhance the halftone.

2. We asked the ImagiTex representatives if they were aware of anyone currently using their equipment that might already interface with a Xyvision system. They said they knew of no one. They said they have a customer in Richmond, VA that will be using their equipment with Xyvision in the near future. During a meeting with Xyvision representatives Ben Snieder and Peter Goldenberg in February 1990, we asked them the same question and they said they could give us the names of at least 10 customers interfacing with ImagiTex equipment. They suggested one customer in particular they thought would be very cooperative with us. Her name is Elsie Nichols. Elsie is the composition supervisor at TVSM. TVSM produces Cable TV Guides. Elsie spent a year doing a study looking for equipment that would reproduce halftones (already screened photos). TVSM purchased the ImagiTex equipment through Autologic Inc. who acted as the OEM (Original Equipment Manufacturer). Elsie said ''biggest mistake I ever made,'' ''we have been battling with Autologic for a year,'' ''the ImagiTex is great for scanning a continuous tone photo, but you will get a moire effect scanning a halftone.''

3. Elsie also discovered that when scanning a halftone on the ImagiTex and down-loading into an APS6, the overall size of the halftone would change. This is due to the differences in the dpi on the ImagiTex and the APS6 typesetter. The dpi on the APS6 is 1016 and the dpi on the ImagiTex is 1132.

4. We supplied ImagiTex with two floppy disks to load into their ImagiTex 1850. They were in TIFF and Postscript format. We were told their computers were down and could not load them. To this day, we have not received a satisfactory answer as to why they cannot load these disks.

5. Arrangements were made with the ImagiTex representatives to send them halftones that were going to be used in a ``live JPRS job.'' I was to send Michael Clesceri, Senior System Consultant for ImagiTex the halftones and he was to put them onto a magnetic tape and send the tape to Xyvision in Wakefield, MA. Michael told me he has done this ``at least 50 times with Xyvision.'' Ellen Damaso of Xyvision received the tape and successfully read the graphics into their Xyvision system. Ellen added the necessary programming to the mag tape that would allow us to load the graphics into our Xyvision system. Upon receiving the tape, we discovered that we could not load the tape. We contacted Xyvision, who put us in touch with Diane DiNicola, Manager of Sales Support Operations. Diane instructed us over the phone to no avail on how to load the mag tape onto our Xyvision system. The bottom line is that after numerous tries Diane discovered that we did not have the proper software to accomplish this task. We currently have 2.0J software. It takes 2.1 software to be able to load graphics from a magnetic tape onto our Xyvision system.

6. It was also discovered that if the ImagiTex 1850s glass is ever broken, the entire machine would have to be shipped to Nashua, NH to have it calibrated. This procedure cannot be done at the customers location.

ECRM (Autokon 1000DE)

1. ECRM representatives informed us that they currently have no one interfacing an Autokon 1000DE with Xyvision.

2. We would need an experienced person who can read halftone dots. It would take a considerable amount of time to teach someone the skills of reading and adjusting the size of halftone dots. Many people rotated from P&PG to the Reston facility are apprentices. Apprentices are normally on a one year rotation and do not have the skills to read halftone dot structure.

3. Need a film processor and chemicals for the processor. Currently there is no room for a processor in Prepress Compositon at Reston.

4. Anita Clemens, Senior Applications Specialist, tried to load our two test floppy disks into a computer using their programming. She

was not able to do this. No one from ECRM could explain to us why they were unsuccessful in doing so.

5. Anita Clemens was also observed (even with her knowledge of the Autokon 1000) scanning the pictures we gave her at least four times to get satisfactory results.

6. Paul Markham, Vice President of Product Marketing said ''paste-up is the way to go.''

7. Recently found out that ECRM will not sell a service contract directly to a Government Agency.

CONCLUSION:

As stated previously, it was our intention to have the above named vendors scan material supplied by us and have the results tested on the web press in P&PG. However, due to the problems we encountered with the ImagiTex and the Autokon 1000DE, we saw no point in continued testing of this equipment. Both ImagiTex and ECRM recognized the problems we have encountered and admit that they are not prepared to solve them at this point. I recommend that P&PG continue to keep in touch with ImagiTex and ECRM, and to continue searching the scanner market to find a company that might possibly be willing to work with us to solve our particular problems.

III. PLANS FOR NEXT PERIOD:

I have been reassigned to Headquarters Composition on the 3rd shift. STAT This MBO scanner project will be given to someone

STAT

Office: DA/OL/P&PG   (PPG/S08/90)
Objective Statement: Incorporation of FBIS Black and White Graphics

Responsible Officer:

O — Scheduled Activity   STAT
X — Activity Actually Completed

Activities Planned	Quarter 1			Quarter 2			Quarter 3			Quarter 4		
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1. Determine and document functional requirements for B&W scanner, including front end compatibility, scanning speed and resolution requirements.	X	O										
2. Survey marketplace to determine vendors who have a reasonable chance of meeting requirements.		X			O							
3. Prepare, run and record results of benchmark test for those vendors identified in market survey.						X			O			
4. Prepare final report with recommendation and funding requirements.											O	

Office: DDA/OL/P&PG (PPG/S09/90)
Objective Statement: Identify Feasibility of Establishing FBIS B/W Graphic Capabilities   O — Scheduled
Responsible Officer: X — Actual   STAT

Activities Planned	Quarter 1			Quarter 2			Quarter 3			Quarter 4		
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1. Determine and document functional reqs. for B&W scanner, including front end compatibility, scanning speed and resolution reqs.		0										
2. Survey marketplace to determine vendors who have a reasonable chance of meeting reqs.					0							
3. Prepare, run and record results of benchmark test for those vendors identified in market survey									0			
4. Prepare final report with recommendations and funding reqs.											0	

PRINTING AND PHOTOGRAPHY GROUP
QUARTERLY MBO PROGRESS REPORT

OBJECTIVE STATEMENT: Identify Feasibility of Establishing
FBIS B/W Graphic Capabilities.
(Study PPG/S08/90)

RESPONSIBLE OFFICER:

QUARTER ENDING: December 1989

STAT

I.   ACTIVITY THIS PERIOD:

It is the long-range plan of Production Group (JPRS) to supply Prepress Composition with electronic data that incorporates both text and graphics (graphics herein after referred to as line art or halftones). The line art and halftones will be supplied either by floppy disk or "hard copy," which will have to be scanned. JPRS would like to supply Prepress Composition with pre-screened halftones clipped out of newspapers, magazines, books, etc. for scanning.

There are several problems using our current equipment. The Autokon 2000 has a "built-in" 45 degree angled screen. This means that if the halftone you are going scan is at a 45 degree angle, you are going to create a moire effect. In order to avoid the moire effect you would have to align both screens when scanning. Turning the halftone to a 45 degree angle creates an additional problem. When the halftone is down-loaded to the Xyvision at a 45 degree angle, the graphic has to be rotated, which is very time consuming and would use a great deal of the Xyvision systems resources.

In the preliminary study it was found that the scanner market is very big. There appears to be many vendors with many different models. However, most of these are Desk Top Publishing scanners with OCR capability only, or they can scan halftones but do not support front-end composition systems. Thus far we have been able to find only four manufacturers of high-resolution, flat-bed scanners that will reproduce halftones and line art. The four are: Fuji, DS America, ImagiTex 1850 and the ECRM/Autokon 1000. Of the four, it appears that only ImagiTex 1850 and ECRM/Autokon 1000 will fit JPRS needs. Fuji and DS America currently to not interface with a front-end composition system and they are primarily designed to scan text and continuous

tone photos. Both ImagiTex 1850 and Autokon 1000 offer resolutions up to 2032 dots/inch, with 256 gray levels/ sample (8 bits/pixel) and both appear to have reasonable scanning times for both line art and halftones (times vary according to what is being scanned), however there are many differences between the two machines which have to be carefully explored. The Autokon 1000 is a Laser Scanner, whereas the ImagiTex 1850 is a CCD (Charge-Coupled Device) Scanner. It should be noted that both ECRM and Imagitex already offer a communication interface to the Xyvision systems.

Another feature we are particularly interested in with the ImagiTex 1850 is the Power Station 940. After scanning a halftone it could be sent to the Power Station 940 for manipulation. It may also enable us to connect a PC to the Power Station and be able to accept floppy disks containing graphics from JPRS Independent Contractors (ICs).

To date, halftone samples taken from various publications and of various quality have been supplied by JPRS. While attending the GraphExpo 89 Show in Chicago, [   ] (C/PPC) was given a demonstration of the Autokon 1000. ECRM scanned the sample halftones supplied by JPRS. The responsible officer has only made phone contact with an ECRM/Autokon Sales Representative to date. Ralph was unable to get a demonstration of the ImagiText scanner, although he did supply the Sales Representative with samples to scan. Ralph and the responsible officer met with the ImagiTex sales rep in their Rosslyn, Va., office on 1 November. Both Ralph and I were impressed with the results of the halftones they scanned. They do not however have a machine on site. We supplied P&PG these halftones and asked if they could shoot them at the end of one of their jobs and run on the Web press. We have not seen the results of this test.

II. PROBLEMS ENCOUNTERED:

None.

III. PLANS FOR NEXT PERIOD:

We plan to visit ImagiTex Company in Nashua, New Hampshire for a demonstration and benchmark test of the ImagiTex 1850 and to discuss further with their technicians the capabilities of their equipment. While in this area we will also visit the ECRM Company located in Tewksbury, Mass., for further testing of the

Autokon 1000 and a courtesy visit to Xyvision is
planned to discuss interface capabilities of their
equipment with ImagiTex and ECRM equipment.

Office: DDA/OL/P&PG
Objective Statement: (PPG/S08/90)
Responsible Officer: Identify Feasibility of Establishing FBIS B/W Graphic Capabilities

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4. Prepare final report with recommendations and funding reqs.											O	