SCANLINES

A Scanning Systems Division Newsletter for the Intergraph Scanner User Vol. 3, No. 1

In this issue:

Resolution and Resampling with the Eagle 3640

by Justin Rockwell, Scanning Systems Consultant, Intergraph

In the last issue of *ScanLines*, the article entitled *Resolution and the ANA Tech Eagle Scanners* discussed which resolutions to use for the majority of engineering drawings. This article continues the discussion of resolution and describes how resampling affects resolution during the scanning process.

Resolution is primarily influenced by the effective pixel size and *aperture*. Aperture is the focus of the lens in relation to pixel density which affects how accurately data is scanned. At the same pixel density, a scanner with a small aperture, such as the Eagle 3640, successfully resolves lines that a scanner with a larger aperture may fail to resolve.

> *"...a scanner with a small aperture, such as the Eagle 3640, successfully resolves the lines that a scanner with a larger aperture may fail to resolve."*

As shown in Figure 1, a small aperture decreases the possibility of aperture circles overlapping two lines. Also, you can see that a larger aperture circle overlaps the lines and eliminates the distinction between the two lines.

(*Resolution and Resampling*, continued on page 2.)

Running I/RAS B Inside MGE — Problem Solved

by Edson A. R. Barros, Earth Sciences Group, Intergraph Brazil

In versions of I/RAS B previous to 04.00.05.15, you could not run I/RAS B inside MGE due to a conflict between environment variables defined by the two products. The 04.00.05.15 version of I/RAS B fixes this problem, and an upgrade to this version is encouraged. However, if you plan to remain on an older version of I/RAS B, you must complete one of the following configuration procedures in order to run I/RAS B inside MGE.

Configuration 1:

1. Append the I/RAS B uconfigure.dat file to the MGE graphics.env file.

```
$ cat /usr#/ip32/irasb/cfg/uconfigure.dat >> /usr#/ip32/mge/cfg/graphics.env
```

2. Comment out the UM_CMDS, UM_DIR, and MS_DIR variables in the I/RAS B portion of the new configuration file.
3. Comment out the MS_DGNAPPS variable in the MGE portion of the configuration file.
4. Comment out the MS_USERPREF variable in the MGE or I/RAS B portion of the configuration file.
5. At the MS_MDL variable, insert the following in the configuration file:

```
if [ "$MS_MDL" = "" ]
then
   MS_MDL=$IRASB_DIR/bin/:$MS_DIR/mdlapps/:$MS_DBASE
else
   echo $MS_MDL | grep irasb >  /dev/null
   if [ $? != 0 ]
   then
      MS_MDL=$MS_MDL:$IRASB_DIR/bin/
   fi
fi
export MS_MDL
```

Configuration 2:

1. In superuser mode, change directories to the MicroStation mdlapps directory.

```
#  cd /usr#/ip32/mstation/mdlapps
```

2. Symbolically link irasb.ma to mdlapps.

```
#  ln -s /usr#/ip32/irasb/bin/irasb.ma  .
```

■

Resolution and Resampling *concluded*

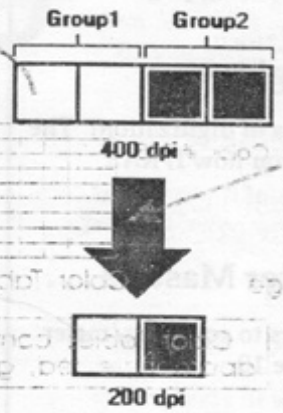

Figure 7

5. An "Or" function algorithm is applied to the 400 dpi data. Any pixel found in groups of two pixels is determined to be significant data and is written to disk (400/2=200 dpi). (Refer to Figure 7)

In Example 2, the data was resampled at a lower resolution, reducing the processing time to one minute.

As you can see in these examples, the higher resolution results in a greater amount of data that has to be resampled. Turning the **Throughput Optimization** option on to reduce the resolution of the data being processed decreases the amount of data resampled and the processing time. ■

ScanLines is published as a service to Intergraph Scanning users by the Intergraph Scanning Systems Division. It is published six times per year and is distributed free on request to Intergraph customers and to other interested persons. News items, topic suggestions, and article contributions for ScanLines are welcome. Submitted articles are subject to editorial review, with evaluation based on the value to Intergraph users (submission does not guarantee publication). Send contributions to ScanLines Editor, IW17C4, Intergraph Corporation, Huntsville, AL 35894-0001, or email to raster@ingr.com.

SCANLINES

BULK RATE
U.S. POSTAGE
PAID
HUNTSVILLE, AL
35807
PERMIT NO. 195

Scanning Systems Division
Attn: ScanLines Editor
Intergraph Corporation IW17C4
Huntsville, AL 35894-0001

ADDRESS CORRECTION REQUESTED