Topic:
Reseau Offsets, Adjusting
- a) Error "Tile Corner Out of Bounds"

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Solution Report

Symptoms/Condition:

- Need to adjust the "Reseau Offsets Before Rounding," or
- Receiving Error:

```
Error:  "Tile Corner Out of Bounds."
```

Solution:

There are two "reseau offset" values which determine the location of the resampled portion within a tile. The accuracy of these values is displayed in the output of vxscan in the message **VrFinder: Reseau Offsets Before Rounding: (xxx, xxx)**. These numbers are called the "Befores" or "Before Numbers".

Presently, the "reseau offset" values must be manually adjusted. They are in the file typically named **reseau.cal** in the **/files/vexcel/cal** directory (or **$VX_HOME** directory). First confirm that the current file being used is named **reseau.cal**. This is done by checking which file corresponds to the tag **VX_RESEAU** in the Master Name File.

1) Find the scanner_controller id:

```
$       more       /etc/vx_cap
rc#_vxb#:0793tRC#:Matrox:LC:Boulder
$
```

The scanner_controller id is the first field of the text string, prior to the first colon (i.e., *rc#_vxb#*.), and represents the Master Name File.

2) Change to the calibration directory and look in the Master Name File for the line that begins with **VX_RESEAU**, and record its corresponding file name:

$ cd $VX_HOME
$ more *rc#_vxb#*

```
.
.
.
RAD_BACKLIGHT:              /files/vexcel/cal/backlight
VX_RESEAU:                  /files/vexcel/cal/reseau.cal
VX_FRMDEF:                  /files/vexcel/cal/frmdef.cal
.
.
.
$
```

3) Set the print level:

$ setenv VX_PRINT_LEV 1

4) Run **vxscan** and and pipe the output to grep for "Before"

$ vxscan | grep Before

5) Scan the backplan at 8.5µm/pixel, 2000 x 2000 ROI in the center.

6) After the scan is completed, exit **vxscan**.

7) Now look at the "Before" values (the output of vxscan):

```
VrFinder: Reseau Offset Before Rounding:     (280.0990, 54.9437)
VrFinder: Reseau Offset Before Rounding:     (283.1022, 55.9501)
VrFinder: Reseau Offset Before Rounding:     (285.0975, 55.9482)
.
.
.
VrFinder: Reseau Offset Before Rounding:     (284.0786, 64.9613)
```

The significant portion of the values is to the right of the decimal point (**in boldface**). These values need to be both consistent and as close to zero as possible. Look for the **average** amount of variation from zero, to two decimal places, in both the "X" and "Y" Offsets. In this example, .09 in X and .05 in Y.

NOTE: It is possible that the original offsets are bad enough to cause an immediate Error: "Tile Corner Out of Bounds." If this is the case, you will need to estimate the first time based on the single values you do get, and then refine with another test.

8) Edit the "reseau offsets" values in the **reseau.cal** file, by adjusting the **REZ_OFFSET_X** and **REZ_OFFSET_Y** values that are shown below:

```
$ more /files/vexcel/cal/reseau.cal
.
.
.
# Now the reseau x offset REZ_OFFSET_X (tweek to center tile in frame)
0.32
# Now the reseau y offset REZ_OFFSET_Y  (tweek to center tile in frame)
-0.18
.
.
.
$
```

For example, if the "Before" values in the "X" direction all hover around an average of .09, subtract .09 from the existing **REZ_OFFSET_X** value. If the "Before" values in the "Y" direction all hover around an average of .95, add .05 to the existing **REZ_OFFSET_Y** value:

Before:

Now the reseau x offset REZ_OFFSET_X (tweek to center tile in frame)
0.32
Now the reseau y offset REZ_OFFSET_Y (tweek to center tile in frame)
-0.18

After:

Now the reseau x offset REZ_OFFSET_X (tweek to center tile in frame)
0.23
Now the reseau y offset REZ_OFFSET_Y (tweek to center tile in frame)
-0.13

NOTE: A reseau offset cannot be more than 0.50. i.e. you may not add or subtract more than half of a reseau. If the correction to the original numbers results in a required reseau offset of more than 0.50, change both x and y reseau offsets to 0.00 and rerun the scan, using the new "Before" numbers to determine the proper reseau offset values.

9) Then run the scan again to confirm your adjustments .

NOTE: If you receive the Error: "Tile Corners Out of Bounds" even after the reseau offsets have been properly adjusted, you may need to increase the "slop factors" found in the file **frmdef.cal**. The numbers to increase are defined by the variables **slopxy** and **slopangle**. The adjustments will affect your throughput (overall speed of the VX3000), so do so only if necessary.