Topic:
vxdiag

- a) Manual Scanner Operation
- b) **vxscan** Failure
- c) Scanner to Controller Communications Lost

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Solution Report

Symptoms/Condition:

Low level machine operation required.

Solution:

Instructions for using vxdiag.

The first step is to change to the **/files/vexcel/diag** directory, and execute the **ls** command to list the available scripts or commands, as shown below.

```
$ cd /files/vexcel/diag
$ ls
home_x
home_y
home_camera
home_lens
home_color
home_density
on
off
light_on
light_off
init
$
```

NOTE: Before running **vxdiag**, it is necessary to power cycle the scanner (turning the scanner unit off and then back on, with a 10-second grace period).

Then execute "**vxdiag**". You will see the following:

```
vxdiag 2.0   (C) Copyright 1993 Vexcel Imaging Corp.
Opening port  /dev/ttyla

Enter commands or  'x'  to exit,  'r file'  to send file:

Command (or 'x', 'r'):
```

At the command prompt initialize scanner by executing "**r on**":

```
Command (or 'x', 'r'):  r on
```

Parameters will be sent to the scanner and the light will come on. Now, any of the scripts listed above can be executed or direct communication with the DCX Board is possible (See next section "**Performing DCX Commands**").

NOTE: If you have previously lost communications between the scanner and controller and the light comes on, you have regained communications. At this point, verify you can manually home various axes. After you have gained communications with the scanner you can exit **vxdiag** and run **vxscan**. The best way to prevent this problem from happening in the future is to be sure you exit the **vxscan** application and wait for the scanner to stop running before shutting down the scanner, and be sure to power on the scanner before you run the **vxscan** application.

To home any axes type any of the following commands at the **vxdiag** command prompt:

```
Command (or 'x', 'r'):   r home_x
Command (or 'x', 'r'):   r home_y
Command (or 'x', 'r'):   r home_camera
Command (or 'x', 'r'):   r home_lens
Command (or 'x', 'r'):   r home_color
Command (or 'x', 'r'):   r home_density
```

Also, the scanner's backlight can be turned "on" or "off", the scanner itself turned "off," or the scanner completely intialized (turned "on" and all axes homed).

```
Command (or 'x', 'r'):   r off
Command (or 'x', 'r'):   r light_on
Command (or 'x', 'r'):   r init
```

NOTE: If a command/script fails, it is possible that the controller to scanner communications have been lost, therefore, it is necessary to power cycle the scanner and start from the beginning. (i.e. At the command prompt execute "**r on**.")

Performing DCX Commands

WARNING: An understanding of DCX commands is required for direct communication. If any axes are moved beyond the hard limits, damage to the scanner can result. Without that understanding only commands given by VXServices, LLC employees should be attempted.

All axes must be homed before it can be moved using the DCX commands. For example, at the command prompt execute "**r home_x**" and watch x perform its homing sequence (including the very slow move to the right) then "**1mr-1000**" to move the x-axis. Next, execute "**r home_y**" and watch y perform its homing sequence (including the very slow move up) then "**2mr-1000**" to move the y-axis. The same is done for all other axis (i.e.., **r home_camera**, then **3mr-20**; **r home_lens**, then **4mr-50**; **r home_color**, then **5mr-1000**; or **r home_density**, then **6mr-1000**).