

## *Mac Update Results in BadMatch Error*

**QUESTION:** I've recently updated my Mac computer to OSX 10.7.2 (Lion) and I've started having X11 problems with *cgPlot*. I read that the Apple supplied 2.6.3 version of the X11 server **had some problems** that were resolved with the **2.7.0 version of XQuartz**, so I installed that, but it didn't resolve this issue for me.

This is what the X Windows protocol error looks like.

```
IDL> cgPlot, IndGen(10)
% Compiled module: CGSNAPSHOT.
% X windows protocol error: BadMatch (invalid parameter attributes).
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% X windows protocol error: BadMatch (invalid parameter attributes).
```

I notice *cgSnapshot* is being compiled just before the error occurs. Can that program be doing something "odd?"

I am using IDL 8.1 and have had no problems with *cgPlot* before I upgraded to Lion.

**ANSWER:** My thanks to David Brockley, who figured out what this problem was and a way to work around it.

The *cgSnapshot* program is, indeed, the source of the error. The default drawing color for Coyote Graphics programs is "opposite." This is done to allow Coyote Graphics programs to work equally well in graphics windows with either black or white backgrounds. However, the "opposite" color needs to be selected at run-time, and just before the plot is drawn. To do that, the program reads a single pixel in the upper right-hand corner of the graphics window to determine its color. The color of this pixel determines what the "opposite" color will be.

It is apparently the reading of this pixel with *cgSnapshot* (or, ultimately, with *TVRD*) that is causing the problem. And the problem appears to be with the mechanism of backing store. "Backing store" is the technical term for the process by which windows are "repaired" when they are "damaged" by other windows being moved in front of them, and so on.

By default, IDL asks the window manager (X, in this case) to be responsible for the window backing store. Window managers do not have to accept the responsibility, but many do. In this case, it appears the window manager *has* accepted responsibility, but is doing the job poorly. This is what is causing the BadMatch error.

The solution to this problem is to ask IDL to be responsible for window backing store for all graphics windows. The way this is done is by executing this command in IDL before any graphics windows are opened.

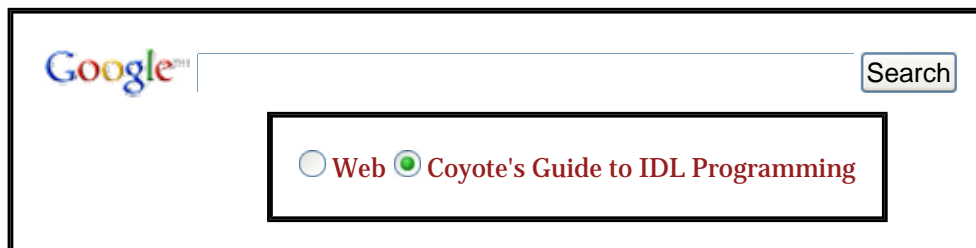
```
Device, RETAIN=2
```

An excellent place to put that command is in your IDL start-up file, so that the command is executed every time you start IDL.

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*Version of IDL used to prepare this article: IDL 8.1.*

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