
Subject: Rubber band lines: How to do it
Posted by [eaustin](#) on Wed, 15 Jul 1992 13:17:08 GMT
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Last week I posted a question to the net asking how to make rubber band lines, that is, over plot on an existing plot a line from a point to the cursor that appears to follow the cursor and leave the previously existing plot unchanged. My thanks to all those who responded, especially Gwyn and Adam.

The trick is to set the graphics function to 6 (XOR) by using the command
DEVICE,SET_GRAPHICS=6

I had seen this in the IDL manual before I asked the question (section E.2) but I did not understand how it would work. If you then OPLOT a line with this set you will get a line of some strange color depending on exactly what your color table is. If you then oplot the same line again the XOR causes the new line to 'cancel' the old line and sets the original plot, done with the default graphics function of 3 (COPY), back the way it was.

Thus, my procedure to make rubber band lines was structured like

```
DEVICE,SET_GRAPHICS=6 ; start XOR plotting
IF (a rubber band line has already been drawn) THEN
  OPLOT,the same x and y as the existing rubber band line ;this cancels old line
ENDIF
OPLOT,x and y of the new rubber band line ; this plots new line
set flag to show that a line has been drawn
DEVICE,SET_GRAPHICS=3 ; stop XOR plotting, go back to COPY
```

This is still not fast like some drawing packages I have seen but it sure beats continuously replotting the whole plot.

It is still not clear to me exactly how the XOR works in setting colors but this does give a visible rubber band line. Hope this is helpful.

As a further enhancement to the rubber band effect I would like to be able to get a particular color with XOR set. For example, I would like to be able to oplot a red X on a red line and have the X move around on the line in response to the cursor position. Is this possible or does the working of XOR prevent red on red like this? I would also like to put a blue mark on a red line and move the blue mark around.

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