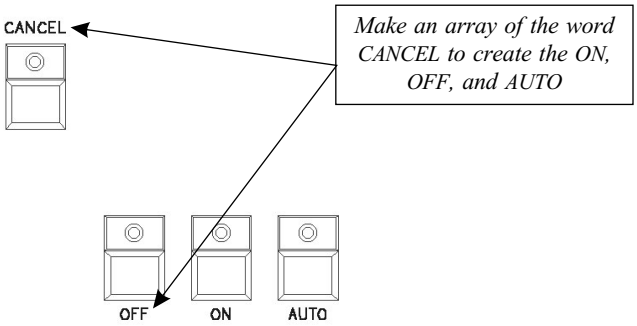
Chapter 11

Array of text



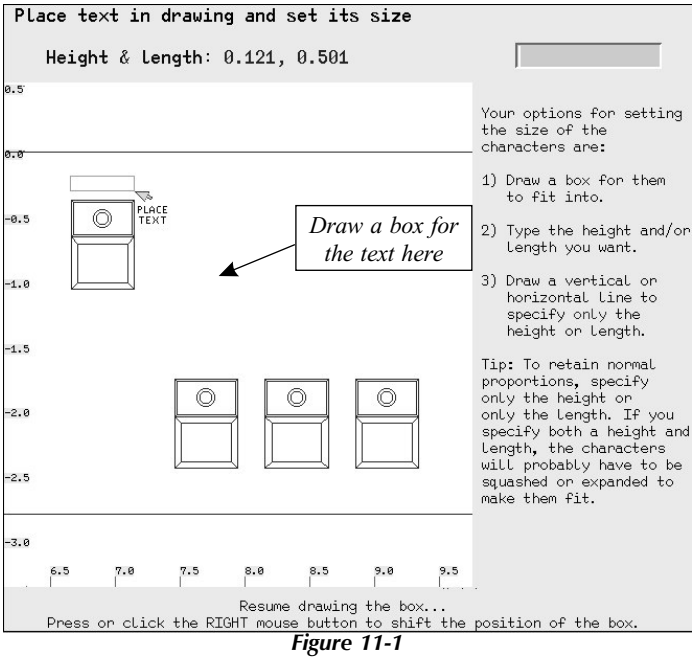


Figure 11-1

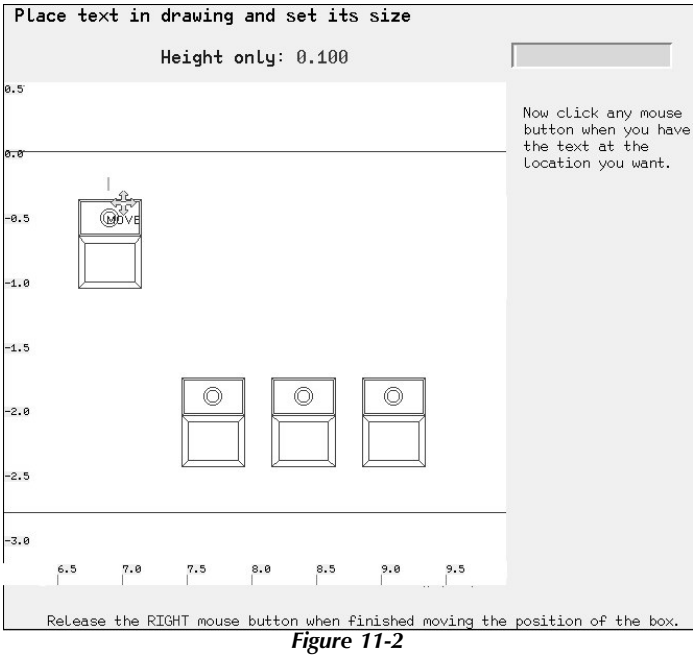


Figure 11-2

Referring back to the panel in Figure 1-19 of Chapter 1, this example shows one way to put text on the panel for engraving purposes, as seen in the image to the right. The drawing in Figure 1-18 does not specify dimensions for the text, so we have to place the text visually. Let's start by putting the word CANCEL above the cancel switch.

There are two different ways to create text. One is to use the **Draw Menu** and then pick the **Text** option, as explained in chapter 2. The other is to click the **right** mouse button in the empty area of the drawing to bring up the **New Item** menu, and then pick the **Create Text** option. In this example you will create only the word CANCEL, so it doesn't make much difference which method you use. In either case MillWrite will prompt you to draw a box for the text to fit into, or draw a vertical or horizontal line to show how tall or how wide the text should be. But how tall should these letters be? How wide should word CANCEL be? The best solution to this sort of problem is to simply make a guess and then correct it afterwards.

As seen in Figure 11-1, draw a box for the text above the cancel switch. Remember to use the right mouse button to shift the position of the box if you start it in the wrong spot. At the top of the screen MillWrite is displaying the height and length of the box you are drawing.

As discussed in Chapter 2 in regards to the proportion of a font, it is best to specify **only** the length or **only** the height of the text. This means you would draw only a vertical line or only a horizontal line rather than draw a box for the text to fit into. But in this case the box is not being drawn to specify the height and length of the text. Rather, by drawing a box where you want the word to fit into, and then looking at the top of the screen, you can get an idea of approximately how tall the text has to be in order for it to fit properly in this area. Then you can type the value you want for the height. In other words, you start by drawing a box only to get an idea of what height the text needs to be, and then you type the value you want based on that information.

The advantage of this is that you can specify an **even number** for the height, which makes it easier if you have to tell somebody what the size of the letters are, or if you have to repeat this text at other places and specify the value again.

In Figure 11-1 the height of the box is .121 inches. But instead of clicking the left button (which will create text at 0.121 inches), type a value (such as .1) and press Enter↵.

The screen will change as seen in Figure 11-2. MillWrite will draw a vertical line that is .1 inch tall and wait for you to move it into position. MillWrite will center the text on that vertical line, so put the vertical line above the center of the switch. Don't worry about being precise about the position because it will be easy to set the position after you've placed the text.

After clicking the left mouse button, the screen will change and as seen in Figure 11-3. The word CANCEL is now above the switch and its parameters are showing on the right side of the screen. Move the mouse to those parameters and click the left button on the **X Coordinate** field.

Since the center of the switch is at an X coordinate of 6.9, the text needs to be centered on that same X coordinate in order to be positioned directly above the switch. So in the **X coordinate** field, type 6.9.

Note: If the print didn't show that the switch was centered on X6.9, you could move the mouse to the center of the circle in the switch, and when the mouse icon changed to show the words ARC CENTER you could look in the lower right corner of the screen to see the coordinates for the arc center.

You could also adjust the value in the **Y coordinate** field if you wanted to move the text up or down.

Because we're going to make an array of this word, it's best to set all the parameters correctly ***before*** making the array. Set the tool, the cutting depth, the layer, and whatever else this text needs. If you don't set all parameters correctly first, then you will be making an array that will need a lot of fixing afterwards. MillWrite has a few functions to make correcting a lot of text easier, but it's best if you don't have to do it at all.

As discussed in Chapter 8 regarding layers, it can be a good idea to put different items on different layers. Although it doesn't actually help for this particular job, in Figure 11-3 this text was put on a layer called **Text** just to remind you about layers.

After setting all the parameters for the text, move the mouse back to the drawing and click the left mouse button. The word CANCEL is complete, so you are ready to make an array of that text. You will use the exact same process that was explained in Chapter 1 when the **Array** function was used to create those three switches.

The first step in making the array is to ***select*** the word CANCEL, either by drawing a selection box around it, or by holding a shift key down and clicking the left button on it. In either case MillWrite will enter its selection mode. Then click the **Array** button, and the screen will change as seen in Figure 11-4. You know that you want three columns in this array, but what will be the column spacing? The column spacing will be the same as the spacing between the switches, which according to the print is 0.7 inches. But let's assume you don't know the spacing between the switches.

There is a simple way for you to specify the column spacing without doing any calculations. In fact, it's so easy to use that you may want to do it simply to avoid typing the value.

You begin by clicking the **Column Spacing** label as seen in Figure 11-4. This causes the label to start blinking in blue. Next move the mouse into the drawing.

You are going to click on a node of one of the switches and then click the corresponding node on the switch next to it. By clicking these two nodes you will specify that you want the column spacing to be the same as the distance between those two nodes. It doesn't matter which two nodes you choose click on; it only matters that the two nodes are separated by the distance you want for the column spacing.

As soon as you click a node MillWrite will change the prompt at the top of the screen. In Figure 11-5 the lower right node of a switch was clicked. MillWrite is now prompting for the next point. In Figure 11-6 the second node is being

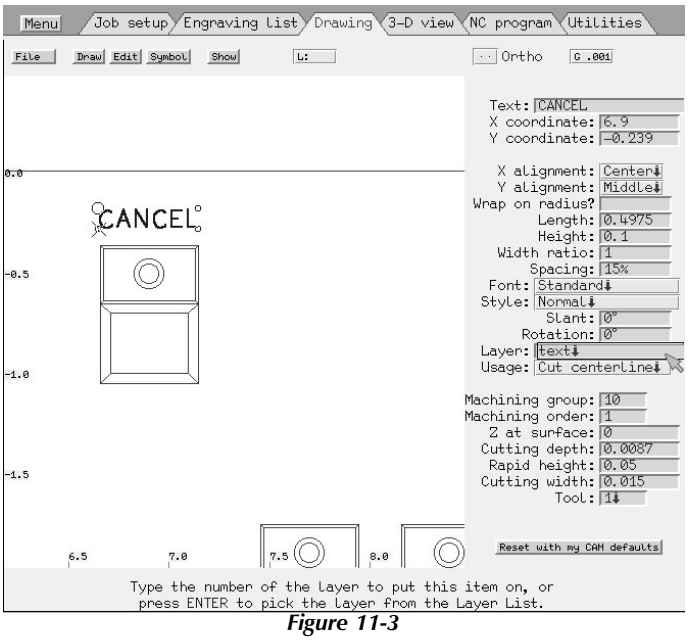


Figure 11-3

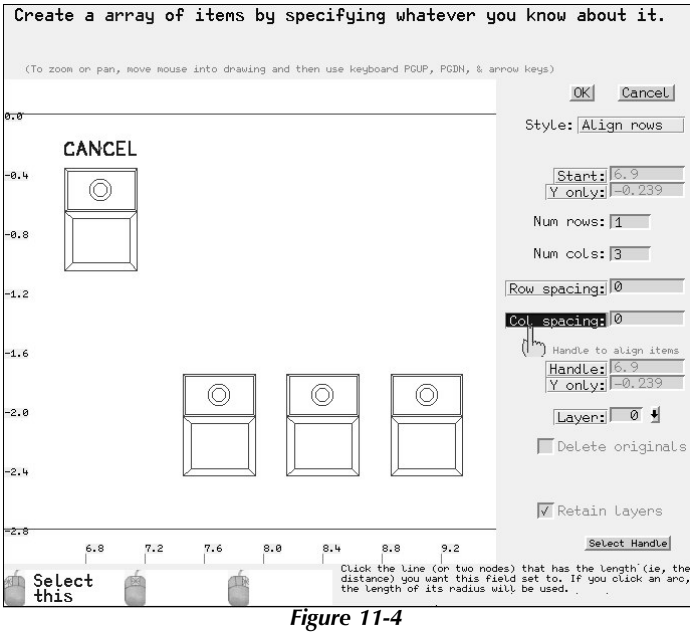


Figure 11-4

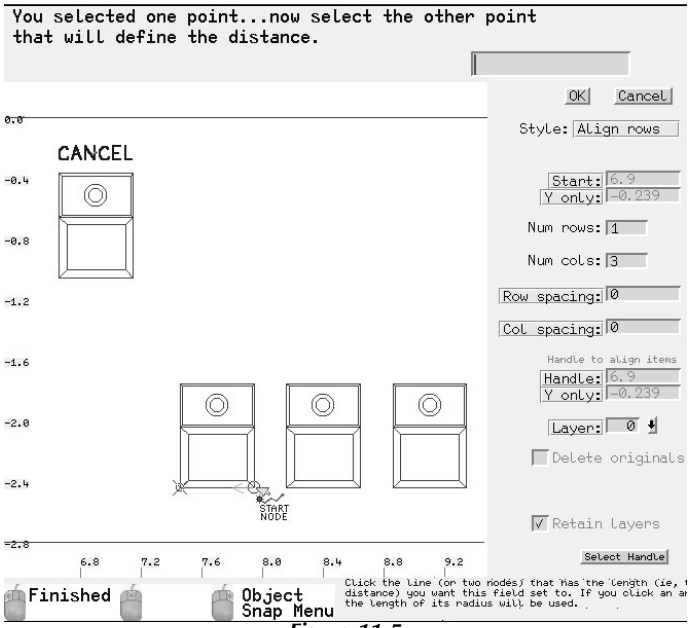


Figure 11-5

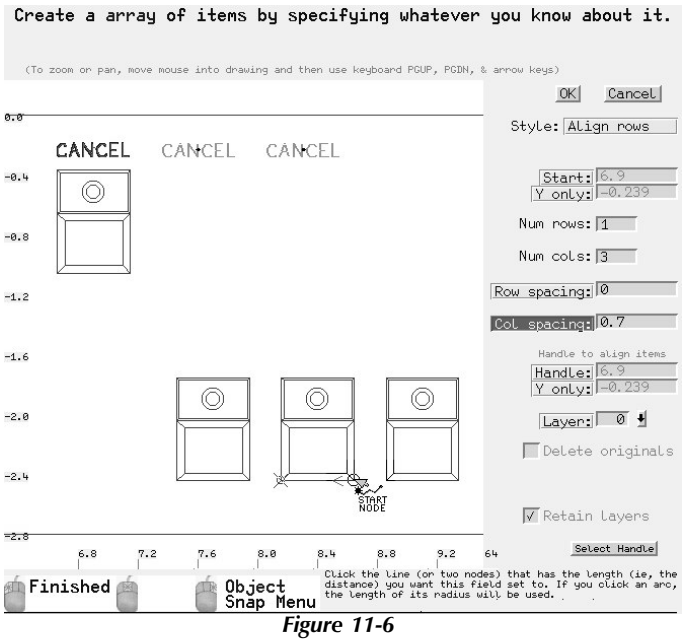


Figure 11-6

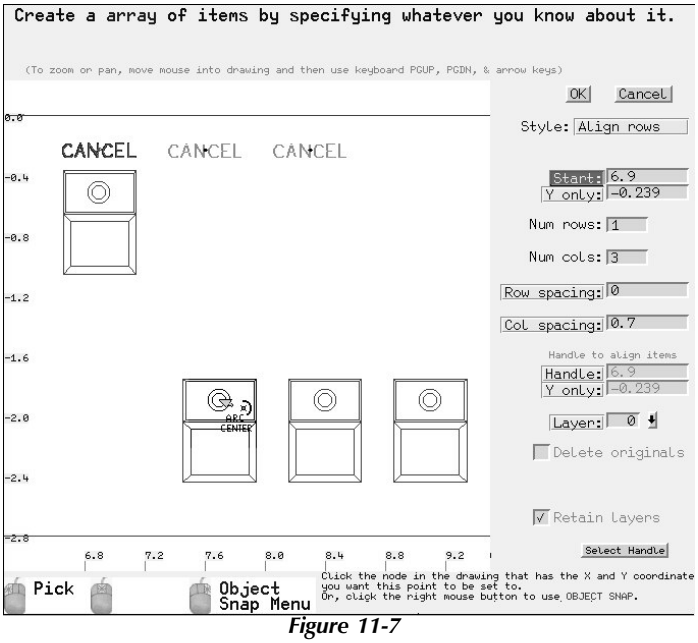


Figure 11-7

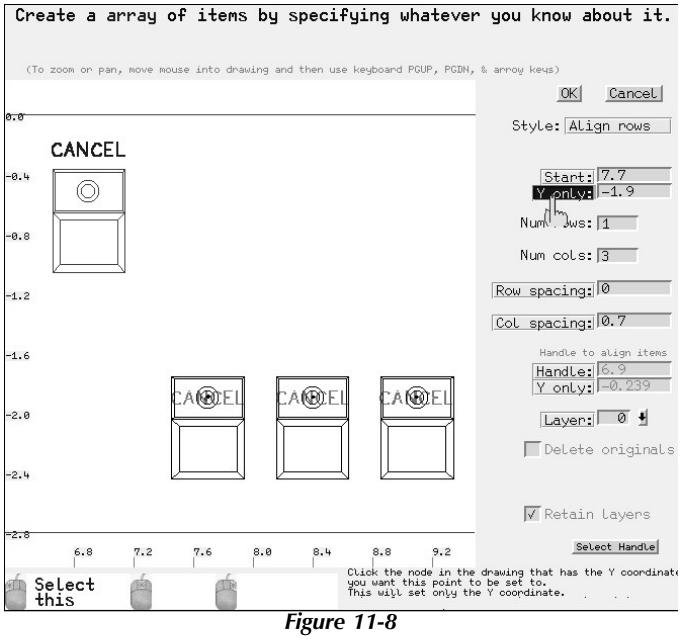


Figure 11-8

specified. Comparing Figures 11-5 and 11-6 show that these nodes have the same Y coordinate, so there is no difference in **Y** between them, and the distance between them in the **X** dimension is the distance between the switches. MillWrite calculated the distance between these nodes and put the value of 0.7 in the column spacing field.

Now that the column spacing has been specified, MillWrite has enough information to create the array, which is why Figure 11-6 shows the word CANCEL repeated two times next to the original CANCEL. MillWrite actually created three of the word CANCEL, but the first is on top of the original.

The word CANCEL was positioned ***above*** the cancel switch, but the text for these particular switches is positioned ***below*** their cooresponding switches. So now you have to move this array below the three switches. There are different ways to do this. The method that has been chosen for this example is to first move the text so that it becomes centered on the three switches. After they are centered, they will be moved downwards in the Y axis until they are below the switches. This is a two-step process.

The first step is to center the text on the switches. To do is this, click the **Start** label as seen in Figure 11-7. The label will start blinking in blue and MillWrite will wait for you to click in the drawing to specify the start point for this array. As seen in Figure 11-7, move the mouse to the center of the circle in the first switch and when you see the mouse icon change to show the words **Arc Center**, click the left mouse button. This specifies the center of that circle as the start point of the array.

MillWrite will then move the array onto those switches, as seen in Figure 11-8. The next step is to move the array below the switches. As seen in Figure 11-8 click the **Y Only** label. The **Y Only** label will begin blinking in blue and MillWrite will wait for you to click in the drawing to specify the Y coordinate for the start point of the array. This will set ***only*** the **Y** coordinate; it will ***not*** change the **X** coordinate.

As seen in Figure 11-9, move the mouse somewhere below the switches and click the left mouse button. The X position of the mouse is irrelevant because only the Y coordinate will be set.

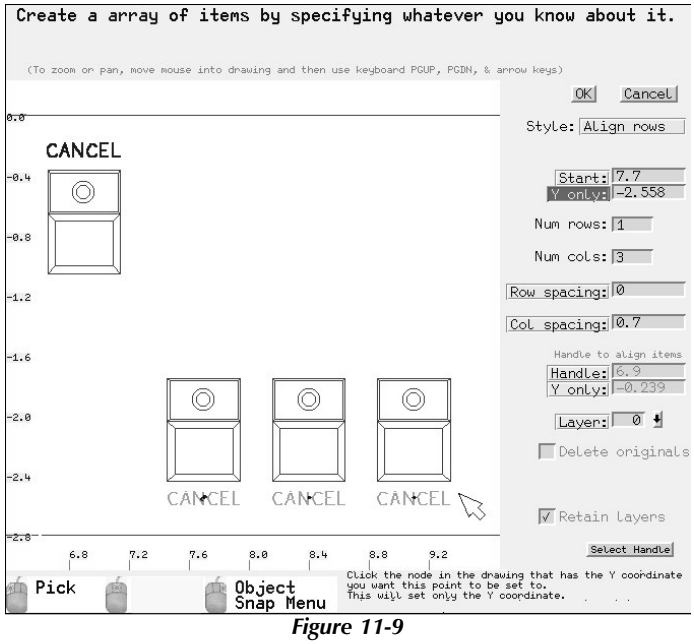


Figure 11-9

As you click the left mouse button, the text will move up or down, and you'll see the Y coordinate change. When the text is in an appropriate position, click the OK button, and then cancel the selection mode and return to the drawing. But remember to first check to see whether the **Delete Originals** box has been checked. In this case you do ***not*** want to delete the originals.

You just created an array of three text items. However, you created three more of the word CANCEL. Now you must change each of those words to OFF, ON, and AUTO. The easiest way to do this is to touch one of the words with the mouse. This causes its parameters to pop up on the right side of the screen, as seen in Figure 11-10. You could slide the mouse over to the word CANCEL at the upper right corner of the parameters, and then you could type the word OFF. But because you going to type the word OFF, you have to put your hand on the keyboard, in which case it will be easier to access the parameters by pressing the **E** key on the keyboard rather than sliding the mouse over to the parameters area.

Pressing E when the mouse is touching text will move the mouse over to the parameters area ***and*** put the cursor bar on the text field. When the cursor bar is on the text field you can replace whatever text is already there with new text simply by typing the new text. In other words, you don't have to first click any mouse buttons. You would only click the mouse button on the text field if you wanted to **edit** the text that is already there rather than **replace** the text with new text. So, since you must replace the word CANCEL rather than edit it, the procedure is:

Step 1) move the mouse to the word CANCEL
Step 2) press the **E** key
Step 3) type the word *OFF*
Step 4) press the Enter key.

That is a total of five keystrokes, and you do not need to click the mouse during that process. That process will change the text under the first switch. Then you touch the mouse to the CANCEL below the middle switch, press the E key, type the word ON, and finally press the Enter key. And then you repeat that process for the third CANCEL.

Because the word CANCEL was given an alignment of **Center** (unless you changed it to something else) when you replace the word with another word, the new word will also be centered on the same X Y coordinates.

In Chapter 1 the **Duplicate** function was used to repeat the three switches. You could do the same with this text. In other words, you could ***select*** the three words OFF, ON, and AUTO, and then duplicate them and place them under the other three switches.

In Chapter 1 the duplicates were specified as being 3.3 in. at an angle of 0° from the originals. This time let's duplicate the text but use a different method to specify how to place them.

Select the three text labels by drawing a selection box around them. Then click the **Duplicate** button. MillWrite will prompt you to enter the starting point for the copies. As seen in Figure 11-11, pick one of the nodes of the switches. It doesn't matter which node you pick; rather, it is similar to when you picked two nodes to specify the column spacing of the array. In other words, you are merely specifying the distance and angle to place these duplicates.

In Figure 11-11 the lower right node of a switch was clicked. MillWrite will then change the prompt the top of the screen to request the destination point for the copies. The destination point will be the corresponding node in the three switches to the right.

However, notice that in Figure 11-11 you cannot see the three switches to the right. You needn't worry about this because as you move the mouse to the right MillWrite will automatically pan the drawing. Or, if you wanted to do the panning or zooming yourself, just press Page Up, Page Down, or the keyboard arrow keys, as the message in the lower right corner of the screen will remind you.

When the three other switches come in the view, click the corresponding node in the second group of three switches. You will have just duplicated the three text labels. You can terminate the selection function and returned the drawing. You could now change the text labels to DEPTH, HEIGHT, and HOME by touching each word with the mouse and pressing the E key, as was previously described in regards to changing the word CANCEL.

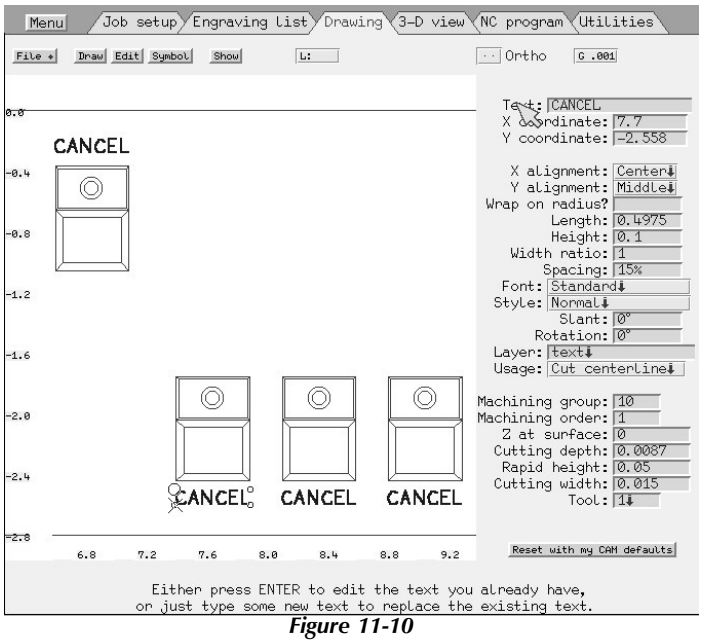


Figure 11-10

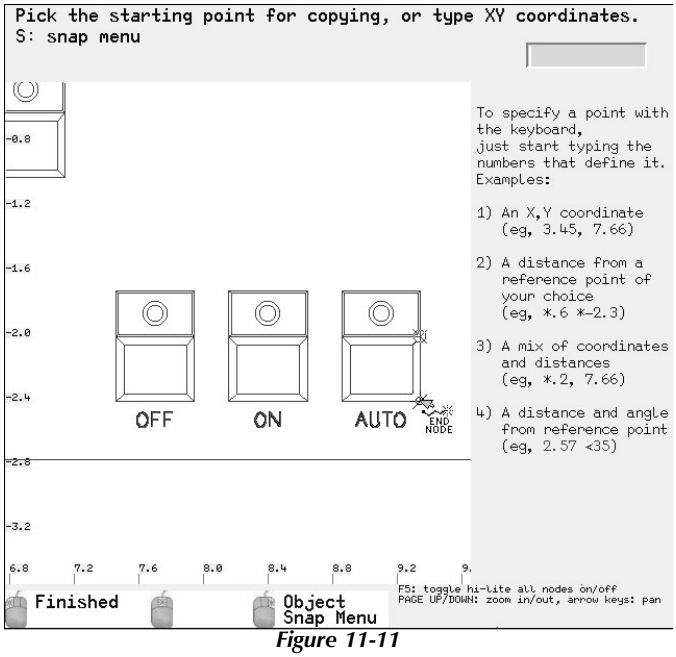


Figure 11-11