



## Electronica EL700 Power Off Memory

Congratulations on the purchase of your Electronica 700 series mill kit. This article addresses how to restore your ABS zero point if power is lost, or the mill is moved with the power off, on an EL700 display. Technically, this function is more appropriately named “homing” but most users know it by the decidedly descriptive term of “Power Off Memory”.

Typically the first step in machining, is to set an ABS zero point on your workpiece. As such, all subsequent points/cuts/edges etc. are then defined as the distance from this arbitrary ABS zero point. This point may be the front edge of a workpiece, midpoint of the workpiece, etc. as the user desires. Normally, the EL700 display will always track your ABS zero point. But there are a couple of instances where the display might “lose” the ABS zero point, such as if the table is moved with the display turned off, or if the machine loses power while machining and “coasts” to a stop after power has been suddenly interrupted. The Power Off Memory feature allows an exact “recapture” of the users ABS zero point if the aforementioned situations were to happen.

Power Off Memory consists of three separate steps. The first step is “Homing Reference”. Magnetic scales are manufactured with permanently coded, pre-existing reference points located along the length of the scale, called “reference marks”. The “Homing Reference” function locates one of these marks.

The second step is called “Setting Machine Reference”. This step “stores” a user designated ABS zero point in the DRO memory, in reference to the permanent reference mark found in the first step.

The third step is “Recalling Machine Reference”. This allows the user to recapture a lost ABS zero point. It must be emphasized that the third step will ONLY work if the first two steps of the power out memory function have previously been performed, **before** power was lost. It is worth noting that after a new ABS zero has been set, the first two steps need only be accomplished once. Furthermore, shutting the display off will not “lose” the ABS zero reference as long as the machine is not moved without power to the DRO. As long as the DRO is powered on, the DRO display will always remember the ABS zero point.

### Performing EL700 Power Off Memory:

The first step of performing power off memory is to discover one of the many permanent scale reference marks. For this example, we’ll store our X axis ABS zero point on a milling machine.

**Step 1 - Homing Reference (EL700 Manual Section 6.7.1).** Magnetic scales have factory embedded, permanent reference marks along the length of the scale. To store a user designated ABS zero point, it’s necessary to locate and mark one of these permanent reference marks. As these reference marks are not visibly marked on the scale, we must first discover which mark will be most convenient to use.

Move your table to the approximate position where you would like to establish your ABS zero point.

Press the “homing” function button.



Press the “homing” soft button. 

The information bar at the top of the screen reads “SELECT AXIS”. Press the yellow X axis arrow select key.

The X axis display window will now read “HOMING...”.

Move the X axis of the mill until the X axis display begins counting normally. As soon as the X axis begins counting, reverse the travel, and go back so that the X axis window displays “0.0000”. This indicates the exact position of a permanent reference mark. With a scribe/pen, mark the location relative to the readhead, so that

you know specifically where the reference point is located. *This is the point you will need to return to if you ever need to recall your ABS zero point, so mark it clearly on the scale, relative to the readhead.*

### Step 2 –Set Machine Reference (EL700 Manual Section 6.7.2)

Locate the approximate point where you want to set your ABS zero point.

Find a reference mark (as discovered in Step 1 above).

From the ABS home screen, press the right yellow arrow to display more “soft” function buttons.

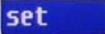
Push the “User Setup” button 

The “SETUP MENU” is displayed and “User Setup” is highlighted. Push the “select” button 

The “USER SETUP MODE” screen is displayed. Using the down yellow arrow, arrow down until “SELECT AXIS” is highlighted, then push the “X” button 

The “X-Axis Setting” menu is displayed. Arrow down until “Machine Ref.” is highlighted, then push the left arrow button 

The “X-Axis Setting – Homing...” screen will now be displayed. Move the mill past the nearest reference point found in Step 2 above. As soon as the mill moves past the reference point, the display will “jump”, and then start counting normally. The screen will now read “X-Axis Setting – Set MC Ref.”

Move the Mill to the **exact** ABS zero point of your choice. Push the “set” button 

Arrow down until “Save & Exit” is highlighted, then press the “Save & Exit” button 

Arrow down again until the “Save & Exit” is highlighted, then press the “Save & Exit” button 

To finalize your new zero point, press the X axis yellow axis select arrow, followed by the enter button.

Congratulations, you have now set the machine reference point to your specific ABS zero point!

### Step 3 – Recalling Machine Reference (EL700 Manual Section 6.7.2)

Move your mill to the reference mark you used to set machine reference in Step 2 above.

Press the “Homing” function button.



Press the “M/C ref” function button 

The information bar at the top of the screen displays “SELECT AXIS”. Press the X axis arrow key.

The X axis display window will now read “M/C REF..”. Begin by moving the X axis of the mill.

As you pass the scale reference point used in Step 2, the X axis display will “jump” and then begin to count ‘normally’ in reference to the stored ABS zero point.

Congratulations, you’re finished!

**DRO PROS**