

Installation and Operational Instructions for AutoCAD 2000i and AutoCad 2002

Please note that AutoCAD version 2000 is not compatible with ULS laser systems and will have complex errors when used. However, version 2000i is fully compatible with all ULS laser systems.

Driver Installation - Note*** Driver Version 4.17a or later is required for proper operation.

It will be necessary to install the ULS printer driver prior to setting up AutoCAD. Please follow the driver installation instructions in the laser system manual.

Setting up AutoCAD

Once the driver has been installed, AutoCAD must be configured to print to the driver properly. It is very important that the following procedure be followed exactly step by step. Failure to do so will most likely cause errors in the printing process.

Plotter Configuration Setup

With a drawing open, select File, then Plot which will open up the Plot Window. There are two pages to the Plot Window - Plot Device and Plot Settings. On the Plot Device page, select the ULS driver (example – M-300). If a window appears with a warning of paper size, simply click on OK to close the window. To the right of the plotter selection just made, click on Properties, which will open the Plotter Configuration Editor Window. Near the middle of this window, click on Modify Standard Paper Sizes (Printable Area), then near the middle right of this window, click on Modify... which will open yet another window named Custom Paper Size – Printable Area. This window adds a border (non-printable area) to the page being plotted to the ULS print driver. This border is not necessary. All entries into the Top, Bottom, Left and Right fields on this page should be set to zero. After entering 0 into these fields, click on Next > and then enter a name for this driver configuration in the field provided (example - ULS M-300), then click on Next >, then Finish. Do not print a test page. The Plotter Configuration Editor window should now appear, click on OK, at which time another window appears named Changes to a Printer Configuration File. Select Save changes to the following file, then click on OK. This action will create (in this example – M-300.pc3) a file with specific page size and borders, which allow for full field printing to the laser system. This new .pc3 file may or may not end up as the default plotting device. If not, then it will be necessary to select this plotting device each time the laser is used.

Plot style table (pen assignments) Setup

It is now necessary to change the pen widths in the Plot Style Table to allow for proper vector output to the ULS print driver. As a default, the ULS driver will send vector information to the laser machine if the pen widths are set to 0.001 inches (0.025 mm). If the pen widths are set between 0.002 – 0.008 inches (0.050 – 0.20 mm), then the ULS print driver may or may not convert the lines to raster images – this will depend on the image being plotted. Therefore it is recommended that for colors requiring vector output, pen widths be set to 0.001 inches (0.025 mm), and for colors requiring raster output, pen widths be set to greater than 0.008 inches (0.20 mm).

To set the pen widths – it is necessary to create a New Plot style table. Near the middle of the Plot window (which should still be open from the previous procedure – if not, select File, then Plot from the main menu), click on New... which will open a window named Add Color-Dependent Plot Style Table – Begin. Select Start from scratch, then click on Next >. In the field provided, enter a name (example – Laser1) then click on Next >. Near the middle of the window that appears, click on Plot Style Table Editor... which will open a window of that same title. On the “form view” page (default) there is a list of colors (pens). AutoCAD can only plot colors 1 – 7 to the ULS print driver. Any other colors (pens) plotted to the ULS print driver will most likely cause printing errors. Near the bottom of this window click on Edit Lineweights... and make a selection for the units to be used (in or mm). It is necessary to add a lineweight of 0.001 inches (0.025 mm) to the Value column. This is done by clicking on Edit Lineweight. Type in 0.001 (or 0.025 for metric settings), then click on OK to close the window. For this example, we will set colors 1 – 7 to output vector lineweights. This is not mandatory. If the user wishes to set specific colors to vector lineweights, this procedure would then apply only to the colors they wish to set to vector. At this point, the form view page on the plot style table editor should be showing and Color 1 should be highlighted. Hold down the Shift key and click on Color 7 to select Colors 1 – 7, then near the middle right side of the window find the Lineweight: selection box and click on the down arrow, then select the 0.0010 lineweight. Now, click on Save & Close. You have now created a Plot Style Table that can be called upon at any time in the Plot style table selection box. The file should be named Laser1.ctb.

Plot Area Setup

The final portion of this setup is to create a plotting area that matches the laser engraving field size. Select the Plot Settings page of the Plot window. Below the selected plot device, the Printable area should be listed as the full field size of the laser system (Example – 24 x 12, for the M-300) and the Paper size should be listed as User-Defined LANDSCAPE. The Plot Scale should be set to 1:1. If it is not, or if you prefer to plot a different scale, set the scale at this time. Near the bottom of the page, select Window < at which time you should type in 0,0 then hit the space bar, then type in the full laser field dimensions (Example – 24,12) then press the Enter key. The Plot window should now reappear. To verify the correct settings, click on Partial Preview... and check that the Paper size Printable area are as you have chosen (Example 24 x 12). The Effective area only applied to a drawing that you have open. It may or may not fill the entire preview page. Click on OK to exit the preview. If the settings are correct, please review the above procedure to correct the problem. Lastly, we need to create a new Page setup name. In the upper right corner of the Plot window, click on Add... and in the space provided, type in a page name (Example – 24x12). This will allow you to plot the same size, scale and orientation of page to the laser when this Page setup name is selected in the Plot window. The graphics to be printed must be located within the 0,0 and (in this example) 24,12 coordinates in the actual drawing. It is always recommended that the Full preview be used to verify correct plot output prior to plotting to the laser.

A note about window sizes – On some prior versions of AutoCAD, graphics that have been moved into the plotting area listed above will not plot correctly. In some cases, the items cannot be seen at all in the Full preview. If this is the case, then a new window should be selected using Window < and by “drawing a box” around the on-screen objects, which creates a new window setting. The cause of this plot location problem is unknown.

Simple Plotting Instructions

Select File/Plot and choose plot device (pc3 file), pen table (ctb file) and verify/reselect plot window.

If there are any questions about these procedures, please contact:

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