

## Operational Instructions for AutoCAD 2005 Windows 2000/XP

### **Driver Installation - Note\*\*\* ULS Driver Version 1.07F 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 readme file included with the print driver.

### 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 Plotter Manager, then double-click on the Add a Plotter Wizard. If the Autodesk Hardcopy System window appears, select the version of AutoCAD you are using, then click Continue, at which time the Add Plotter – Introduction Page will appear. Click Next> to start the Wizard. At the Add Plotter – Begin window, select System Printer, then click on Next>. Select the appropriate ULS print driver from the list (example – X-660), then click on Next>. Do not import a PC2 or PC3 file, so click Next> again. Specify a plotter name (example – X-660 Laser), then click Next>. Click on Edit Plotter Configuration, which should open the Plotter Configuration Editor window. Click on Custom Properties in the Device and Document Settings Tab window and then click on the Custom Properties button to access the ULS printer driver. Click on the Engraving Field tab then make sure the device is set to Landscape and then click on the Maximum Page Size button (example for the X-660 would be 32.000 inches width and 18.000 inches height). Click on OK to exit the driver. Click on Modify Standard Paper Sizes (Printable Area) in the Device and Document Settings Tab window, then click on the Modify button. Change ALL margins to 0.00, then click on Next>. Specify a PMP file name (example – X-660 Laser) then click Next> and then Finish. Click OK to exit the Plotter Configuration Editor window and then click Finish to exit the Add Plotter – Finish window. This has set up a new plotter named X-660 Laser.pc3 which can be selected via the AutoCAD main menu File>Plot>Plot Device tab. If a warning appears stating that the devices paper size will be used, then click on OK.

To access power and speed settings prior to plotting, click on Properties from the Plot Device tab, then Custom Properties. After modifying the driver settings, and clicking on OK, you will be asked if you want to make a temporary or permanent change to the PC3 file. It is recommended that you select “Save Changes to the following file:” - which will change the default settings within the X-660 Laser.pc3 file. Click on OK to save the changes made to the driver.

## 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. Select File then Plot and expand the plot window by clicking on the > button on the lower right corner of the Plot Window. In the upper right in this expanded window is the Plot style table (pen assignments) selection list. In the drop down list Select 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. 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, under the Plot Area list, 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 – 32,18) then press the Enter key. The Plot window should now reappear. To verify the correct settings, click on Preview... and check that the Paper size and Printable area are as you have chosen (Example 32 x 18) and that the objects are within the print area. The Effective area only applies to the drawing that you have open. It may or may not fill the entire preview page. Press the ESC to exit the preview. If the preview indicates an error, please review the above procedure to correct the problem. Note that all graphics to be printed must be located within the 0,0 and (in this example) 32,18 coordinates in the actual drawing. It is always recommended that the preview be used to verify correct plot output prior to plotting to the laser.

## Simple Plotting Instructions

Select File/Plot and choose plot device (X-660 Laser.pc3) and pen table (laser1.ctb). Click on Preview to verify placement and click on OK.

## Driver Upgrade Procedure

It is important to follow the installation instructions below EXACTLY as written.

1. Close all open programs and delete all ULS drivers from the Printers (Printers and Faxes) folder.
2. With the Printers folder still open, select File, then Server Properties. Click on the Drivers tab and Remove all ULS printer drivers from the list.
3. Run a search for all files and folders with \*.pc3 at the file name, then delete all ULS Printer pc3 files (ex: M-360.pc3).
4. Run another search with \*.pmp as the file name and delete all ULS Printer pmp files (ex: M-360.pmp).
5. Reboot the PC.
6. Unzip the Driver 107F.zip file onto your desktop or a floppy disk.
7. Install the appropriate driver using the Add Printer option in the Printers folder as follows  
- Click on Add Printer, then when the Add Printer Wizard window opens click on Next>.  
Select Local Printer and Deselect the Automatically detect option, then click Next>.  
Select the appropriate port (Usually LPT1) then click Next>. Click on Have Disk... and then Browse to locate the Driver107F folder you saved to either your desktop or to a floppy. Within that folder is the driver file ULS2000 (or ULS2000.INF if you have show all files enabled on your PC), select that file and click on Open, then click on OK. Select the appropriate machine from the list and click Next>. Choose whether or not you would like this as the default printer then click on Next>. Select your printer sharing preference and click Next>. Do not print a test page, click Next>. Click on Finish and then Continue Anyway (ULS is not registered with Microsoft).
8. Open AutoCAD and set up the print driver per the above setup instructions.

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

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