

LinkMotion and AutoCAD:

After you install LinkMotion software and set up all settings launch AutoCAD software.

Important notes:

Zero or thinnest line width and No fill are the most important things to remember when you are designing a file for Vector or line output. Line type of output is required by rotary tool machines like engraving, routing, and CNC. Do not fill shapes with bitmaps for any line or vector output. Raster or bitmap fills are used by laser machines. It is important to remove fill when you import scanned files.

Solustan's LinkMotion driver tests the primary function of accepting hairlines (vector lines) generated by popular application software packages for job design. It is important for the user to learn the job design software and to make sure that the jobs are properly prepared for successful execution of a job.

Do not check Design Using Plate Size feature in LinkMotion Material properties.

Solustan's liability is limited to the purchase price of the LinkMotion driver software.

It is necessary for the user to acquire the application that will be used for the job design. There are many books of various levels available for all these popular applications. This document is simply a guideline to point the user in the right direction. We welcome feedback from our users. Share your findings with us and we will include them here for all users benefit.

Following are helpful details for a user of AutoCAD design software:

LinkMotion and AutoCAD 2017:

(1) How to engrave from Autocad single line fonts from AutoCAD 2017?

Launch **AutoCAD 2017** application.

Open a new file.

Click on the **Home** tab.

You will see many selections here. Make **lightweight 0.00mm**(on the right).

Select the line to be **Continues** (selection available below the line weight).

Select **Annotation** tab within Home tab.

Here select (first) **Text Style** and there select **Manage Text Styles**.

Text Style dialog box will open.

Make a selection of the **Font name** (We selected and tested using **Simplex.shx**) and declare a **height** for this font.

Click on the **Apply button** as well as **Set Current** if you plan to use this all the time.

Click on the **Layout 1** at the bottom left.

A new page layout opens up.

Select with a mouse click on the page **boundary line and delete**.

Start designing your job.

Select **Single line text tool** from the top menus.

Type your text. **AutoCAD provided fonts do not need to use Explode command** for engraving.

Any shapes or line drawn should have **0.00mm line weight** and **continues line selection** for it to engrave properly.

Any TrueType fonts installed in your Windows operating system are available in AutoCAD 2017.

However, it requires using Explode function and this function converts text into polylines.

Polyline conversion is similar to vector lines but it breaks up all curved lines into many small segments.

We do not recommend using TrueType fonts for output on a rotary engraving machine using this method.

We have done very preliminary testing with the above version.

LinkMotion and AutoCAD 2010:

(1) How to setup AutoCAD for proper Table(Machine) Size and Page Size?

Launch **AutoCAD 2010** application.

Select **Home** tab(menu).

Go to the **Properties** section on the right and **select line weight to be 0.00**.

Under **Properties** select the arrow for **By Layer** and **select Continuously**.

The user should draw some simple rectangle for testing purpose.

Go to the **Output** tab(menu).

Click on the Page Setup Manager.

Here click on the **New** button.

The dialog box for **New Page Setup** will open.

New name for page **Setup1 or Setup2** is given automatically or you can choose to give your own chosen name as well.

Select **Default Output device**.

Under **Printer/plotter**, you should see your machine name (Machine name you selected when you installed LinkMotion). Example: **My Machine-USB**.

In plot area select Extents. (Choice for Extents will show up only if you have any object drawn.)

Plot offsets should be 0.00 or positive offset values when bottom left start position is declared in Origin setup of LinkMotion.

If you select Top Left start position and your machine's table size is 12inch in Y-axis you should declare positive 10" or 11" (no more then 12") where you wish to begin the job away from tool's parked position.

It is also imported to know how the shape is drawn and where is the beginning point of the shape.

Uncheck **fit to paper** in **Plot Scale** section.

Select **1:1** under **Scale**. The user should experiment where it should output if another scale value is used. Orientation should be **Portrait** if machine table size declared in X maximum travel is smaller than Y.

Similarly, if X travel value is greater than Y then orientation should be **Landscape** mode.

Click on the **Apply to Layout** button.

Click **OK** and close.

Create your drawing.

Click on the **Plot** icon.

In Page Setup name select the name that you choose when you did the setup. **Setup1, Setup2 or your given name**.

You should confirm to see all the setting for what you selected earlier.

Now click on **Plot** button.

You should see the proper output.

LinkMotion and AutoCAD 2005:

(1) How to setup AutoCAD for proper Table(Machine) Size and Page Size?

Launch **AutoCAD 2005** application.

Select **Lineweight** from the **Format** menu.

Under **Default** select **0.000"**.

Click on the **OK** button.

Now select **Layout 1** from the bottom of the page.

A dialog box will open with the **Page Setup Manager**.

Click on the **New** button.

Here select **<Default Output Device>** from **Start with:**

Click on the **OK** button.

You should see your machine name under Printer name.

Click on the **Properties** button.

Click on the **Custom Properties** button.

Check **Portrait or Landscape** depending on your Table size.

Click on the **OK** button.

Click on the **OK** button on the Plotter Configuration Editor.

You should see your machine name under Printer/plotter name selection.

Plot offset comes with a default value of 0.125" for both X and Y axis.

Make them both 0.00" if you wish to have the full table size for the output.

Plot Scale should be 1:1 selected and Fit to paper should not be checked.

Under Plot Options – Plot with plot styles and Plot paper space last should be unchecked. Only **Plot line weights** should be checked.

Drawing orientation should be **Portrait or Landscape** depending on your Table size.

Click on the **OK** button.

Under Page Setup Manager **Setup 1** should be highlighted.

Click on the **Set Current** button.

Click on the **Close** button.

Plot settings for AutoCAD:

After you are done with your design go to the **File menu** and select **Plot**. If you are sending your design for the output on your machine you simply click on the **OK** button. LinkMotion will be active and your machine should be in action.

LinkMotion 3.0 and higher uses simply Plot command for generating M and G-Code files.

If you have older version 2.9 or older **M and G-Code (RS274/NGC)** driver you need to click on the button for **Plot to File** in the **Plot** dialog box. Give proper **Name** to the file and make sure to save the file in the proper **Location** and click on the **OK** button. Now you can work with your M and G-Code file.

LinkMotion and AutoCAD 2000:

(1) How to setup AutoCAD for proper Table(Machine) Size and Page Size?

Launch **AutoCAD 2000** application.

Select **Page Setup** under **File** menu.

Here select **Plot Device** menu.

In Plotter configuration under name select **Your Machine Name**.

Click on the **Properties** button on the right.

Here make sure **Device & Document Settings** tab is selected.

Under **User Defined Paper Sizes & Calibration** select **Modify Standard Paper Size (Printable area)**.

At the lower section of **Modify Standard Paper Sizes** Select **Table Size**. (If your table size is smaller than 8.5"x11" Table Size choice may not show up here and AutoCAD will select from some of the standard available sizes. You may be able to select Plotter Calibration and follow Autocad's instruction to get your machine table size.)

Click on **Modify** button on the right.

Here you will see values for Top, Bottom, Left and Right. **Make sure all the values are 0.00**.

Click on the **Next** button.

Here you will have to assign a file name **Your Machine Name.PMP**.

Click on the **Next** button.

Click on the **Finish** button.

Click on **Save As**. Give the file name **Your Machine Name.pc3**

Click on **Save**.

Click on the **OK** button.

In Plotter configuration under name select **Your Machine Name.pc3**

Now you should have your full-size table available to you.

Now select **Layout Settings** menu.

In **Paper Size** click on the arrow on the right and select **Table Size**.

Selection in the **Drawing orientation** depends on the size of **Your Machine**.

If X-direction size is larger than Y then select **Landscape**.

If X-direction size is smaller than Y then select **Portrait** mode.
In **Plot scale** area **Scale** should be **1:1** selected by the arrow on the right.
In **Plot options** area check **Plot with plot styles**.
Do not check Scale Lineweight in the Plot Scale area.
Click on **OK** button.

(2) How to set up AutoCAD for using 0.00mm or 0.00in line thickness permanently?

Click on the **Page Setup** from the **File** menu.
Under **Plot style table[pen assignments]** click on the **New** button to the right.
Click on **Start from Scratch**.
Click **Next** button.
Here give a file name same as **Your Machine Name**.
Click **Next** button.
Click on the button **Plot Style Table Editor**.
Click on the box for **Lineweight**.
Here select **0.00mm or 0.00in**. **It may be necessary to do this for different color pens if you are using color designs.**
Click on **Save and Close**.
Uncheck the box **Use this plot style table for the current drawing**.
Check the box **Use this style table for new and pre-AutoCAD 2000 Drawings**.
Click on **Finish**.
Make sure that under **Plot Style Table** file with **Your Machine Name.stb** is selected.
You may need to close the Page Setup once and select it back from the file menu for you to see your machine name.stb.

Click on the **Options** button and make sure of the following settings.
Click on the **Plotting** menu.
On the right in **Select Default, Plot Style Table** select **Your Machine Name.stb** file.
Under **Default plot settings for new drawings** select the button for **Use as default output device**.
Make sure **Your Machine Name** is selected here.
Click on the **Apply & Close** button.

Other settings for AutoCAD

Go to the **Tools** menu and Select **Options**.
Click on the **User Preferences** menu. Most default settings are fine.
Make sure to check **Plotting** and **PostScript Output** under **Object Sorting Methods**.
Click on the **Lineweight Settings** button.
Under Line Weights select **0.00mm or 0.00in**.
Under Display Line Weight on the right select **0.00 in or mm** (all the way on the top) by clicking on the arrow.
Click on the **Apply & Close** button.
Again click on the **Apply & Close** button from the bottom.

You are done with all the basic settings. Now you can start designing with text and graphics. You can refer to AutoCAD's manual for how to design your file.

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