ThorX6 Manual

Read Carefully Before Use
Keep for Future Reference

CONTENTS

Specifications

	EMM-2015	EMM-3020
Power Input	110V/60Hz	
Rated Power	400W	
Marking Surface	7.9×6 in. (20×15 cm)	12×7.8 in. (30×20 cm)
Lifting Height	0.78 in. (2 cm)	
Marking Speed	2 ips (5 cm/s)	
Marking Depth	0.002–0.078 in. (0.005–0.2 cm)	
Needle Hardness	93 HRA	
Compatible Materials	60–62 HRC materials (e.g. brass, aluminum, and iron)	
Needle Distance	0.02–1.2 in. (0.05–0.3 cm)	
Compatible Operating System	Windows XP/7/8/10	
Minimum System Requirements	CPU	1 GHz	
	RAM	1 GB for 32 bit systems, 2 GB for 64 bit systems	
	HD Space	16 GB for 32 bit systems, 20 GB for 64 bit systems	
	GPU	0.5 GHz, 1GB DDR3	
	Display	800×600	
Overall Size	14×14×11.5 in. (36×35.5×29 cm)	17×16×11.5 in. (44×40.5×29 cm)
Net Weight	28.6 lb. (13 kg)	44 lb. (20 kg)

Handware Assembly

After connecting the 4-pin plug between the base and the head and connecting the base to a stable compatible power source, connect the machine to a computer with Windows XP, 7, 8, or 10 and install ThorX6.

Software Installation

To install the ThorX6 software, download it onto your computer or insert the installation CD-ROM. For optimal installation, follow these steps:

1. Disable all firewalls and antivirus software on your computer.

2. Decompress the .zip installation file.

3. Double-click and install Setup.exe and 5.0.exe in order.

    If your computer is running Windows 10, right click on ThorX6 after installation and select Properties, Compatibility, and Run as Administrator.

Operation

File Operations

Clicking the file button at the top left of the software will open the following window:
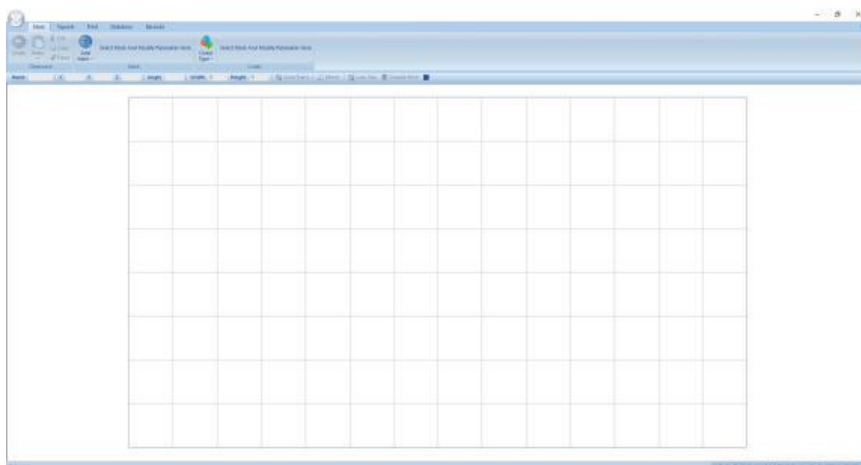

New: Creates a new file.

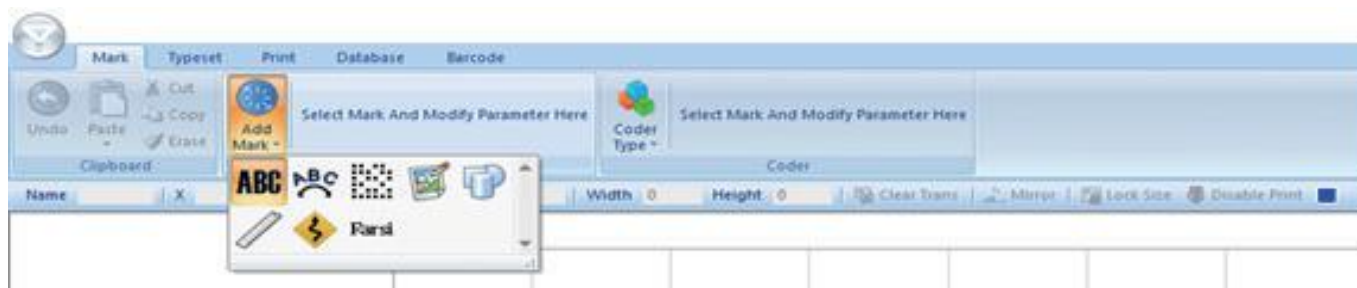**Open:** Opens a file saved on the computer.

File Sequence: Allows for multiple files to be selected and run in sequence.

Save: Saves the current file. If the file has not been previously saved, a prompt to name it will open.

**Save As:** Saves the file under a new name and/or file type.
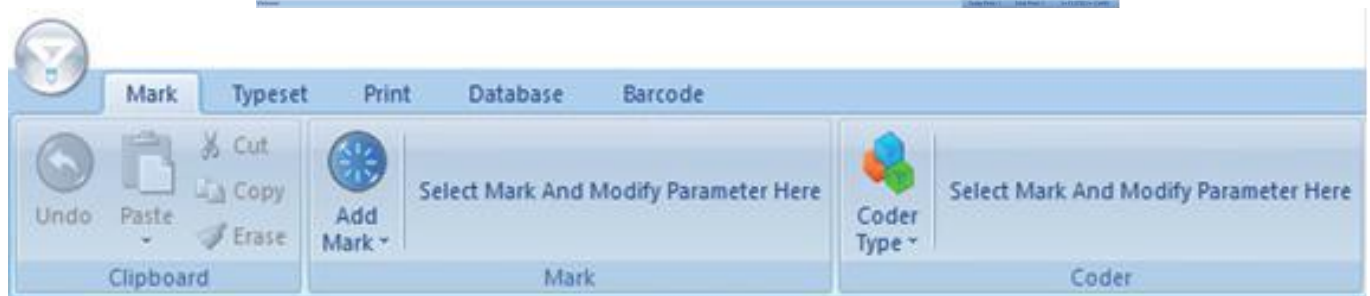
1.1 Creating Designs

To design something to be cut, press **Add Mark** and choose the kind of design you wish to create from the drop-down menu. For a text-based design, choose the leftmost icon and

will appear on the software's grid. From here, the parameters of the marking can be modified. Note, these parameters are specific to each mark and will only apply to a single marking-type. Contents of the marking, its font, and total size can all be modified.
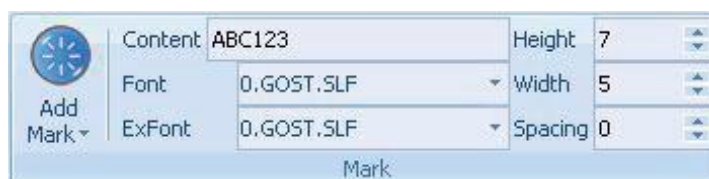
If **only** numbers are used for such a mark, the software will assume a serial number is being made and the text will become red. The **Code Type** menu will activate and the following table will be shown. The incremental changes, number of unique serial numbers, minimum/maximum values, forbidden numbers, and the numerical base of the serial numbers can all be altered.
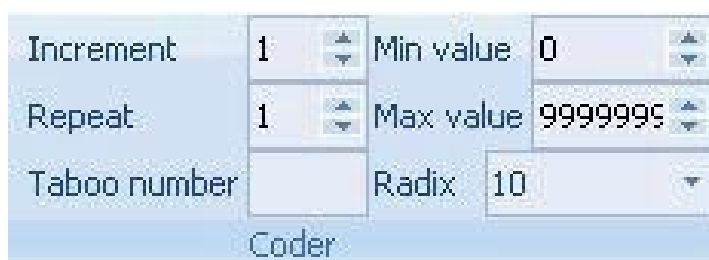
To design text that is curved around a point, select the 2nd option in the **Add Mark** menu.

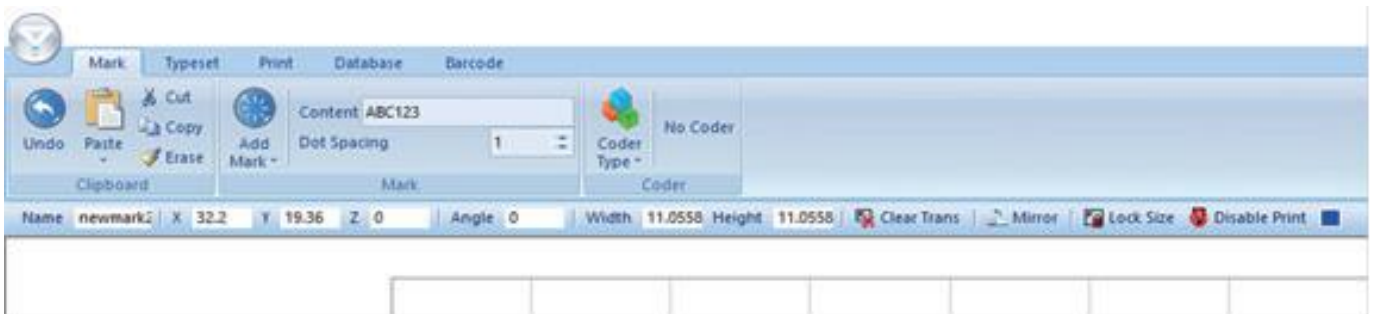Once applied to the canvas, the following menu will appear.

From here, the content of the text, its font, the radius of the curved text, and the orientation of character rotation as well as the height, width, and space between characters can all be modified.
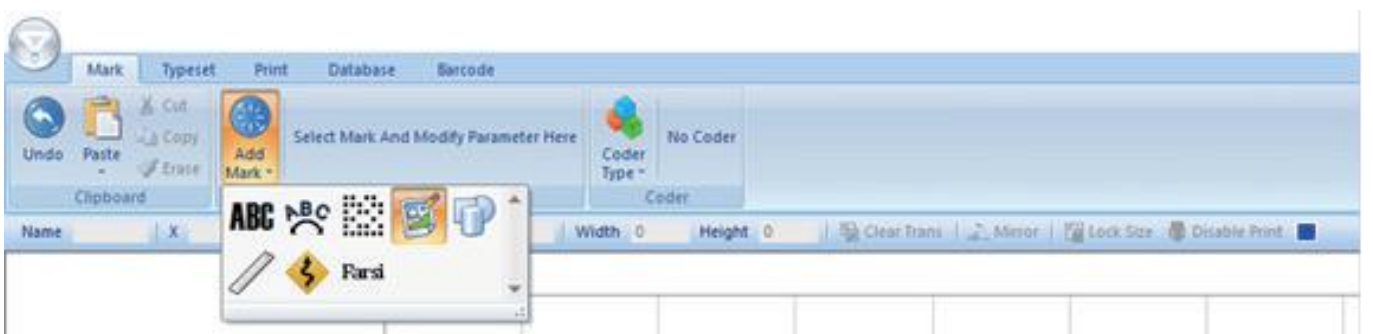
To design a data matrix engraving (e.g. a QR Code), select the 3rd option in the **Add Mark** menu.

Once applied to the canvas, the following menu will appear. From here, the contents of the data matrix and the spacing between dots can be modified.

To create designs based on pre-existing images, select the 4th option in the **Add Mark** menu.

Once applied to the canvas, the following menu will appear and images can be uploaded into the software.
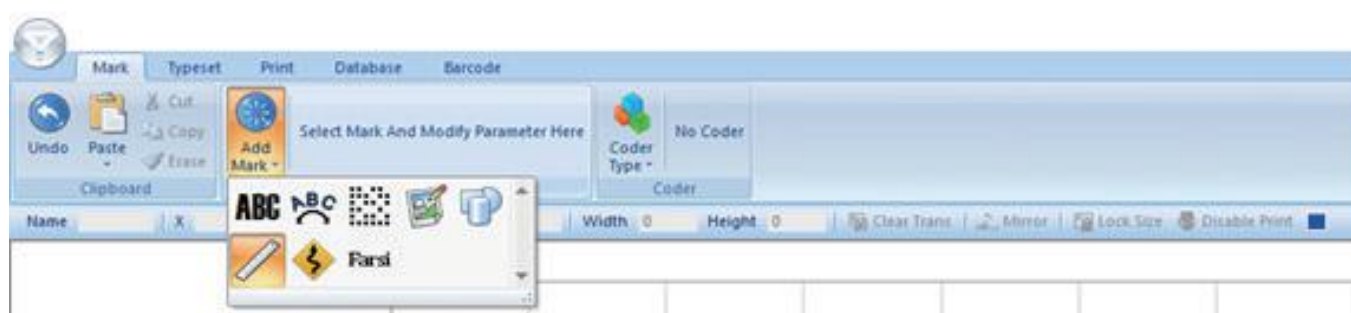

To use simple pre-determined patterns such as stars and circles, select the 5th option in the **Add Mark** menu.

Once applied to the canvas, the following menu will appear, allowing you to select various shapes.

To create a ruler, select the 6th option in the **Add Mark** menu.

Once applied, the following menu will appear. Length lets you modify the total length of the ruler in millimeters, scale size lets you modify the scale of the ruler's length, scale value lets you scale the values on the ruler, height will alter the height of the ruler, and short and middle scale lines let you change the lengths of the scale lines on the ruler. Start values alters the first value on the ruler, and radius lets you curve the ruler. Span length will change the values between middle scale lines. A secondary menu can be expanded by clicking on **More**. In this secondary menu, the font, height, width, and spacing of the numbers on the ruler can be modified. The numbers on the ruler can also have their position, angle, and decimal units modified. The final option allows you to repeat a predetermined length several times across the ruler.

Choosing the 6th option in the **Add Mark** menu allows you to manually modify an area on the cutting surface which will avoided.

Selecting the 7th option in the **Add Mark** menu will allow you to enter Arabic and Farsi script.

1.2 Generating Sequences

In certain cases, designs can be further manipulated to generate sequences that are useful for PINs, VINs, and serial numbers. To do this, click the **Code Type** menu to the right of the **Add Mark** menu.

Pressing the 1st button in the **Code Type** menu will allow you to generate serial numbers. Here, the incremental increase between each number, number of repeats, and min/max values can all be modified. Additionally, taboo numbers will let you forbid certain numbers from appearing and radix will let you modify the numerical base used for the serial numbers, either decimal (base 10) or hexadecimal (base 16).
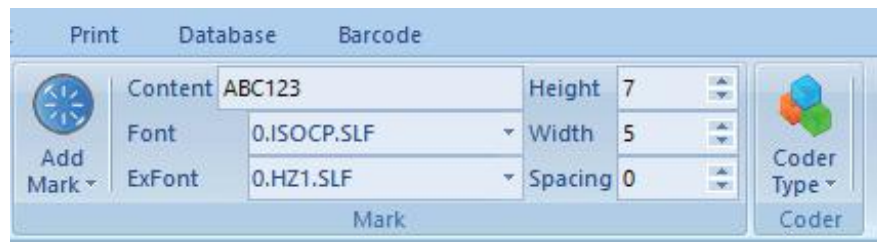

Pressing the 2nd button in the **Code Type** dropdown menu will allow you to generate VIN numbers. All of the same parameters as the previous section can be modified. Additionally, the length of the VIN number can be modified.
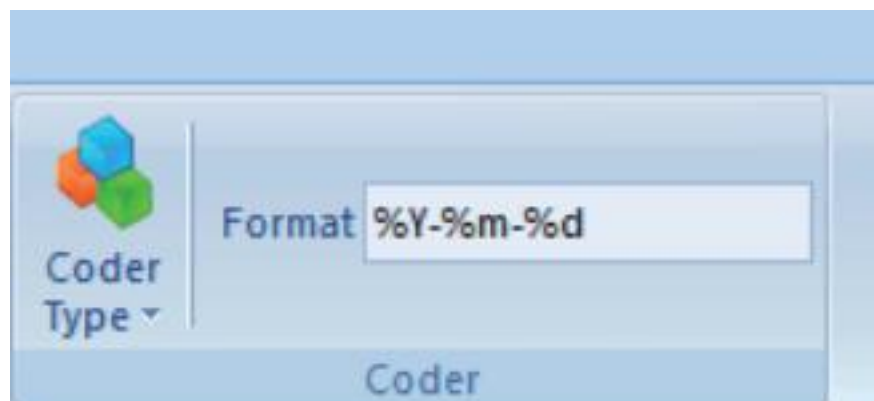
Pressing the 3rd button in the **Code Type** menu will allow you to generate PIN numbers. Here, the contents, font, and parameters of the characters (height, width, spacing) can be modified.

Pressing the 4th button in the **Code Type** menu will allow you to generate designs based on calendar days in ISO 8601 YYYY-MM-DD format.

Pressing the 8th button in the **Code Type** menu allows you to generate random numbers of any length. Character height, width, and spacing as well as font and content can all be modified as well.

1.3 Changing the View, Background, and Origin

Selecting **Typeset** will open the following menu. Here, options to modify the working area and tool aiming are present.

The 1st tab lets you modify the viewing area. You can lock the view; add a background picture; zoom in or out; and print, move, or refresh the viewed area.

The 2nd tab lets you align elements in the viewed area whether they are text or graphics.
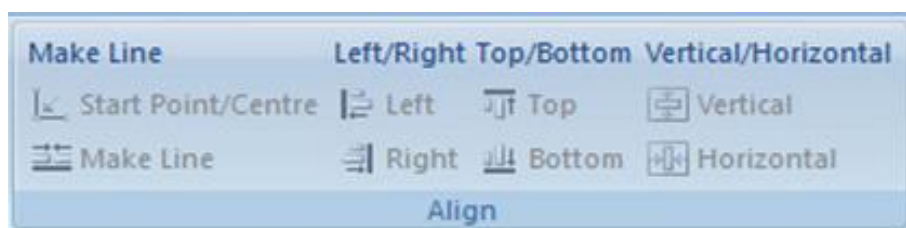
The 3rd tab lets you change the location of the marking pen in a stepwise manner, to center its location, and to set its location at any of the four corners of the marking surface. The length of the steps can be modified as well.
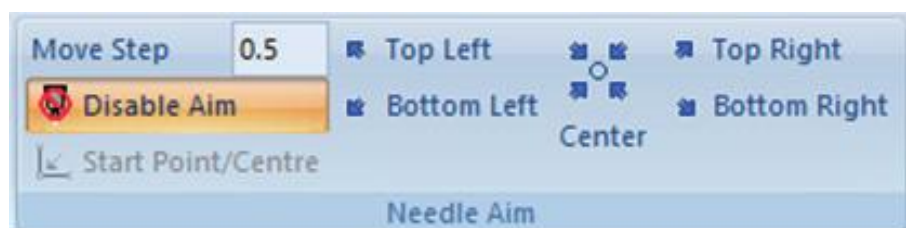
1.4 Print Menu

Selecting **Print** will open the following menu. Here, parameters for creating the current design can be modified.

The 1st tab lets you control marking options. You can initiate marking, initiate sequential markings, initiate a printing of only selected elements, and stop current marking. You can also reset a marking at any point. If several elements are present in the software, the order of marking can also be modified.

The 2nd tab lets you control marking parameters. **Speed** lets you control the speed in mm/s at which the marking pen moves when it is active (**Print**) and when it is inactive (**Move**). **Pen Down Delay** and **Pen Up Delay** let you control the delay in milliseconds before the marking pen strikes or retracts from the marking surface when arriving at an element. **Claw Delay** lets you modify the amount of time in milliseconds which the marking pen spends striking an element. **Dot** lets you pixelate your design into equally dots equally spaced in millimeters. **Count Down** allows you to have your marking pen strike the same elements repeatedly. **Enable Dock** lets you set a soft marking limit.

Note that the diameter setting cannot be used with the provided marking machine as it operates along the Z axis.

1.5 Recording and Accessing Use Logs

Selecting **Database** will open the following menu. Here, parameters about marking logs can be modified.


The 1st tab lets you modify log saving and verification parameters. Selecting **Enable** will let you save the log tracking information. **Browse** lets you browse the saved logs. **Check Code** scans the marking code for identical files. Enabling **Check Code in Same File** will only check for similarities within the same file. **Check Code Options** allow you to add or remove verification criteria for different marking types.

The 2nd tab is a tally of markings. **File Total Print, File Month Print,** and **File Today Print** all tally the total markings from the currently selected file for the respective time point. **Total Print, Month Print**, and **Today Print** tally the total markings across all files for the respective time points.

The 3rd tab lets you export your marking code in either an SQL or text format.
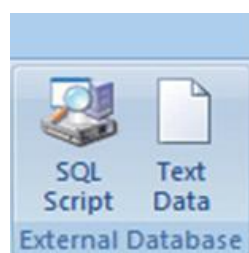
1.6 Designing Barcodes

Selecting **Barcode** will allow you to modify parameters around barcodes. Note that this requires your computer to be connected to a device which can print barcodes.

The 1st tab lets you set up barcode printing parameters. Selecting **Disable** will prevent creating any barcode. **Print Before Marking** will print the barcode before other marking is done and **Print After Marking** will print the barcode after other marking is done. **Setup** will open a window which will allow you to select which port on your computer the barcode printer is connected to.

The 2nd tab lets you modify parameters around the scanning of barcodes immediately after printing. Selecting **Enable** allows the scanning of barcodes. **From** lets you determine which barcode to start scanning from and **Count** lets you determine which barcode to count until.

Maintenance

- Clean the working area and railing system of any debris with a soft wet cloth after every use.

- Lubricate the rails twice weekly.

- Clean the marking needle every other week with gasoline to avoid excessive wear and tear on its sheath.

Troubleshooting

Possible Problems	Usual Solutions
The marking machine is not responding to the software's commands.	Reconnect or replace the USB cable.
	Replace the USB drive.
The marking needle does not move and the power indicator light is not on.	Reconnect or replace the cable between the base and head.
	Reinstall the ThorX6 software.
	Replace the control board.
The marking needle does not move and the power indicator light is on.	Reconnect or replace the cable between the base and head.
	Reinstall or replace the drive circuit.
The marking needle cannot move along the X or Y axis.	Reconnect or replace the control board.
	Reconnect or replace the cable between the base and head.
	Replace the motor, gear wheel, and/or drive belt.
The marking needle is moving along an incorrect path.	Reinstall the ThorX6 software.
The marking needle is striking continuously or the striking force is weak.	Open the air valve wider.
	Reinstall or replace the marking pen's spring.
	Lubricate the marking pen.
The marking needle strikes too infrequently.	Clean or replace the marking needle's spring.
The marking pen's strikes smear.	Open the air valve wider.
	Reinstall the ThorX6 software.
The marking pen rests abnormally.	Replace the control board.

Operation video

https://youtu.be/kOBpPNyuwu4