


# Release Notes for TeachSaver 1.1

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## 1 Introduction

This is the second release of TeachSaver and it contains a great number of useful functions, beyond the ones in TeachSaver 1.0.

The 1.1 version of TeachSaver will work together with RobotStudio 3.0 and 3.1. TeachSaver is only supporting English so RobotStudio has to be installed in an English version.

## 2 Supported Platforms

### 2.1 Software Requirements

- Microsoft Windows 2000 Professional (Service Pack 1 or higher), Windows NT 4.0 (Service Pack 6 or higher) or Windows XP Professional
- Internet Explorer 5.0 or higher
- RobotStudio 3.0, build 2135 or newer, or 3.1
- TeachSaver 1.1
- \$TEMP folder must exist (e.g. c:\temp)
- The Regional Options must be set to English (United States)

*Note: Window service-packs can be downloaded from [www.microsoft.com](http://www.microsoft.com)*

### 2.2 Hardware Requirements

- **CPU:** Pentium III or higher.
- **Memory:** 512 MB RAM or more.
- **Free disc-space:** 500+ MB on the system disk. 250+ MB on the installation disk.
- **Graphics card:** A high performance graphics card with OpenGL support. *Examples for stationary PCs:* 3Dlabs Wildcat III 6110, NVIDIA Quadro4 900 XGL, ATI FireGL 8800. *Examples for laptops:* NVIDIA GeForce4 Go (available e.g. in Toshiba Satellite 5005-S507), ATI Mobility Radeon 7500 (available e.g. in Dell Inspiron 8100), ATI Mobility FireGL 7800 (available e.g. in IBM A31p).
- **Display settings:** *Screen resolution:* 1280 x 1024 pixels. *Colors:* Windows 2000/XP 256 or higher. NT 32.000 or higher.
- **Mouse:** Three button mouse.
- **Trigger:** Used for calibration of the tool holder and the work object, see [appendix 1](#). *Recommendation:* MP11 Probe from Renishaw. Ruby ball stylus from Renishaw with a diameter of 5-6 mm and a length of 100-150 mm. A suitable shank to be able to attach the trigger to the tool holder.
- **Digitizer:** Used for taking process points on the part. Supported Digitizers/Portable CMM:s: Romer Stinger II, Romer 3000i, MicroScribe G2 from Immersion. *Recommendation:* Stinger II arm from Romer, see [appendix 2](#), with a measuring envelope of 2.4-3.0 meters. The accuracy of the digitizer don't need to be better than the repeatability of the robot.
- **Calibration geometries:** Different kinds of geometries are needed during the calibration process, see [appendix 3](#). A sphere with a recommended diameter of 80 mm. A cylinder with a recommended length of 100 mm. A cube with a recommended size of 80x80 mm. Necessary shanks to be able to attach the sphere and the cylinder to the tool holder.

## 3 Controller Requirements

### 3.1 Supported Robot Controller

- Robot Controller M2000 S4Cplus

### 3.2 Requirements for Robot Controller

- Option: FactoryWare Interface
- At least one 24V Digital I/O board

### 3.3 Optional Software for Robot Controller

- Load ID
- Absolute Accuracy
- Advanced Motion
- Advanced Functions

### 3.4 Supported Robots

- IRB140
- IRB2400
- IRB4400
- IRB 6400R
- IRB6600
- IRB7600
- IRB940 Tricept

## 4 Installation of TeachSaver

- Double click the Setup.exe found on the CD to start the installation
- Choose the folder where it's going to be installed. It's strongly recommended to install TeachSaver in the following folder, C:\TeachSaver\. It must be installed on the same drive as the operating system.
- Apply for license.

*Note: The user manual will be available both as a PDF and as a HTML document found on the CD.*

## 5 New Features

### 5.1 New features since TeachSaver 1.0

- New, easier and more fail proof User Interface.
- The doc.bin concept is changed, is connected to the RobotStudio Station.
- Improved Tool Definition list.
- Possibility to generate programs with "Offset", before only "RelTool" was available.
- Possibility to shift a program in TeachSaver along x-, y- and z-axes, in "Path Modification".
- Possibility to mount the spindle with an arbitrary angle to the wrist of the robot.



- The cylinder is now also used when calibrating stationary tools, the old method for calibration of stationary tools is still valid and is improved.
- New processes are added and supported:
  - Belt Grinding
  - Band Saw
  - Stationary de-burring tools
  - Disk Grinding
  - Cylinder Cleaning, inside and outside.
- Possibility to tune MoveC instructions.
- Improved Fine Tune Module.
- Process Path Compensation, possibility to compensate a plane after real cutting or milling according to measurements of the error introduced because of high process forces.
- The probe diameter is automatically taken from the probe file for the digitizer arm.
- Possibility to reverse a process path in “Path Modification”.

## 6 Known Limitations

### **CAD-Input**

It's not possible to program a free curve, 3D-curve, using the mouse as the input device.

### **Radius Compensation**

It's not possible to compensate the path by changing the tool diameter.

### **Language Support**

TeachSaver only support English which means that RobotStudio also need to be installed in an English version.

### **RobotStudio Limitations**

See Release Notes for RobotStudio 3.0 or 3.1.