

# ProtoTRAK<sup>®</sup> RX

## Offline Programming Manual

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Offline part number: PTRXOL

**For current CNC models:  
ProtoTRAK RMX**

**TRAK** MACHINE  
TOOLS



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# 1.0 Introduction

The ProtoTRAK Offline Programming System allows you to write, edit, and inspect programs for your ProtoTRAK RMX CNC using most standard IBM compatible computers.

Programming with the Offline system is essentially the same as programming through the ProtoTRAK keyboard with a few differences. This manual will provide installation instructions for the offline and highlight the differences in programming between using the offline and the control pendant. The basic programming instruction is left to the programming, operating, and care manual you received with your ProtoTRAK CNC.

## **Minimum Computer Requirements:**

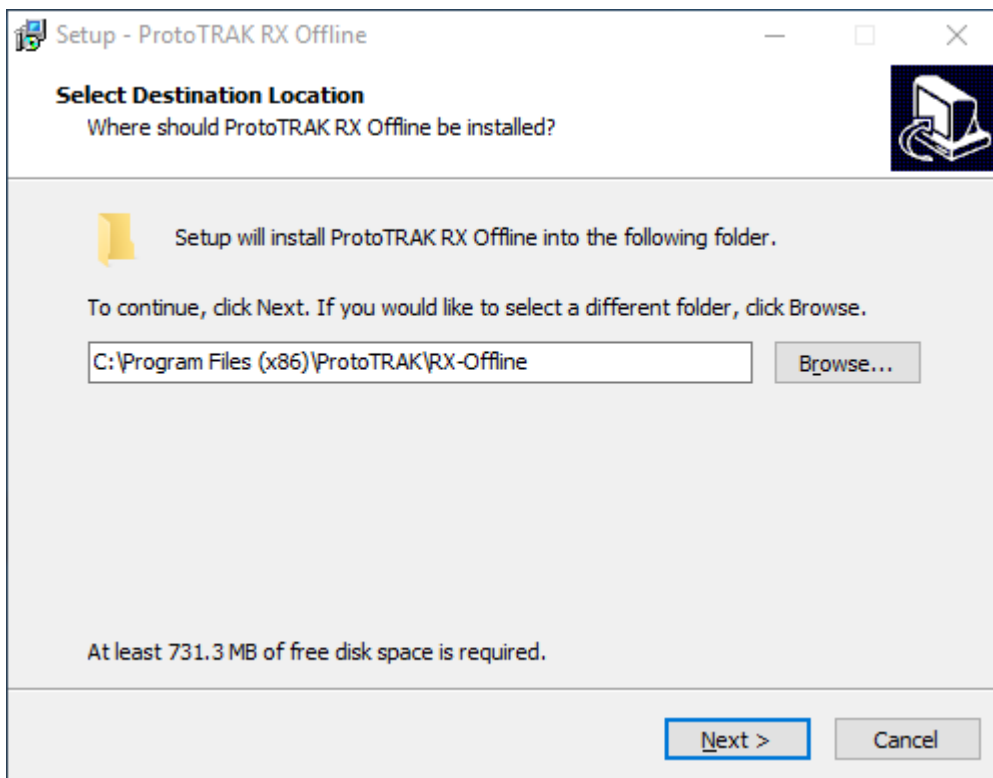
- IBM compatible PC
- 1366x768 minimum resolution
- Windows 7 or later, 32 or 64 bit
- Intel CPU 2.0 GHz or higher
- 8.0 GB Memory
- At least 6 GB free hard disk space

## 2.0 Installing the ProtoTRAK Offline Programming System

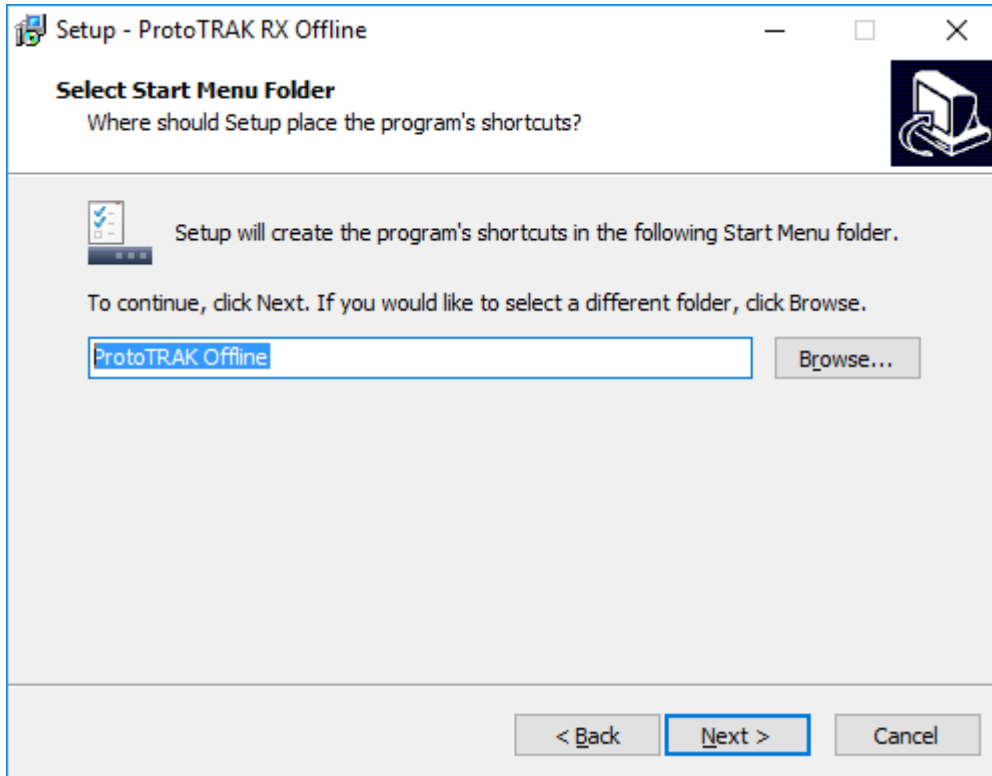
The ProtoTRAK Offline system will be installed onto the hard disk of your computer. In order to save programs or use software options it will be necessary to install a USB hardware key.

### 2.1 Downloading and Installing the PTRXOL Software

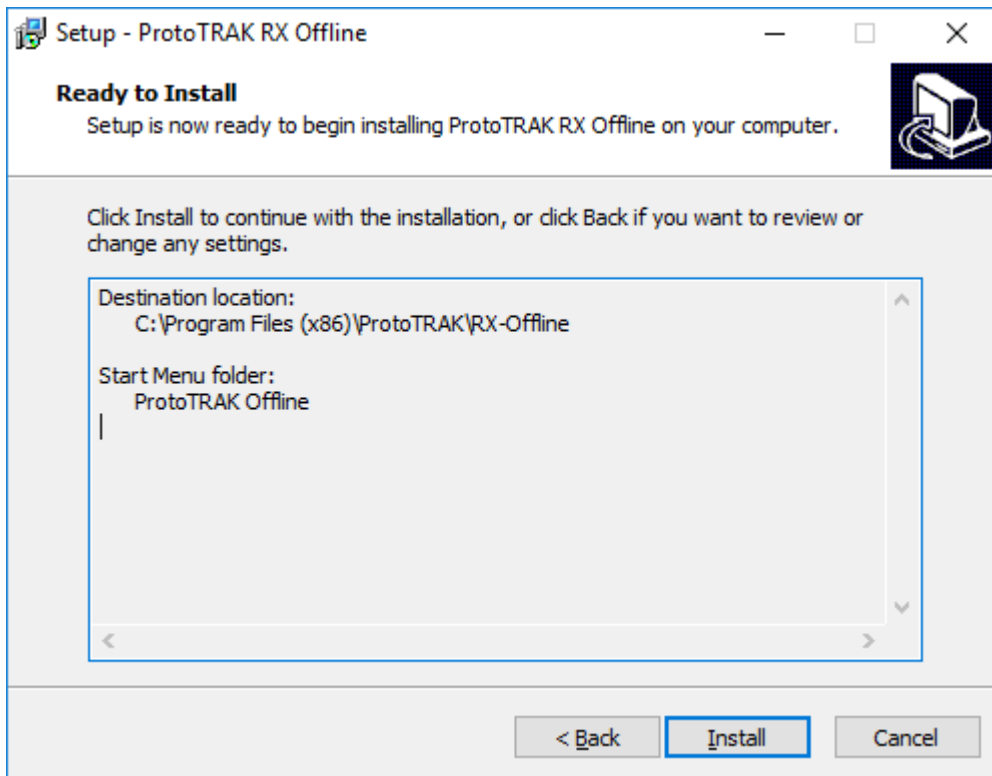
- 1) Go to [www.trakmt.com](http://www.trakmt.com), navigate to the software download section, and find the ProtoTRAK RX Offline software.
- 2) Download the RXOL\_x.x.x.exe file to anywhere your computer.
- 3) Double click the file to begin installation.
- 4) If this is your first time installing the software, then you should be prompted for where you would like to install the software, as shown in the picture below. If this is not your first time installing this, and are simply updating to a newer version, then skip to step 9.



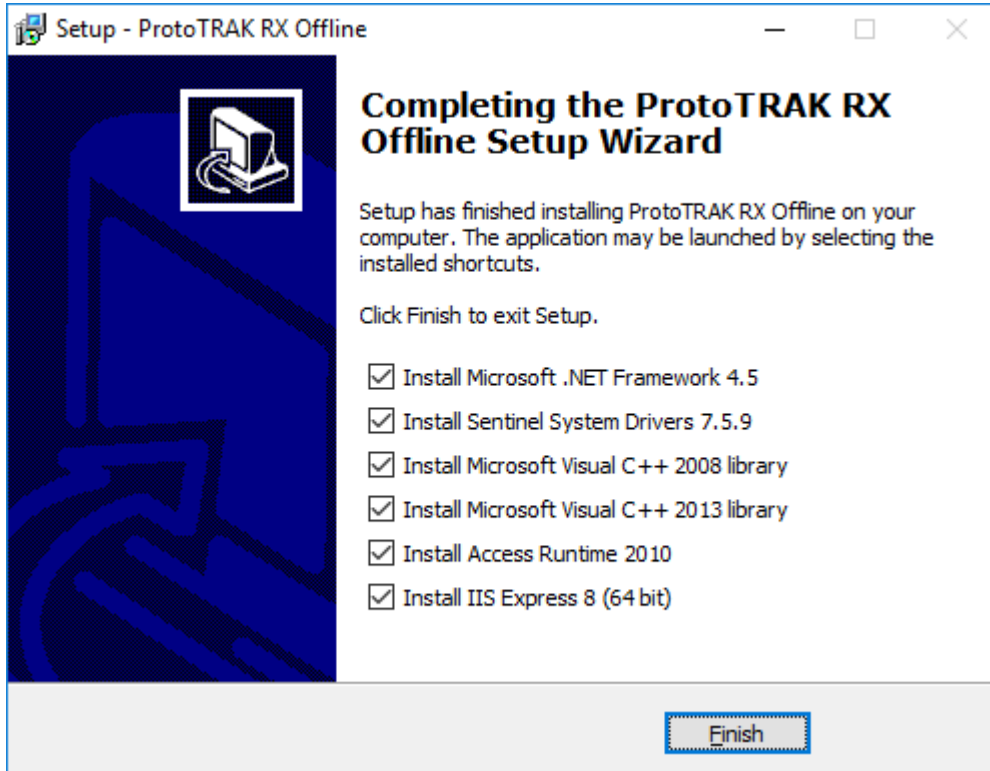
- 5) After choosing the location where you would like to install, click on the NEXT button to continue.
- 6) Next you will be prompted for the name of the Start menu folder where the shortcut will be created. Click on NEXT to continue.



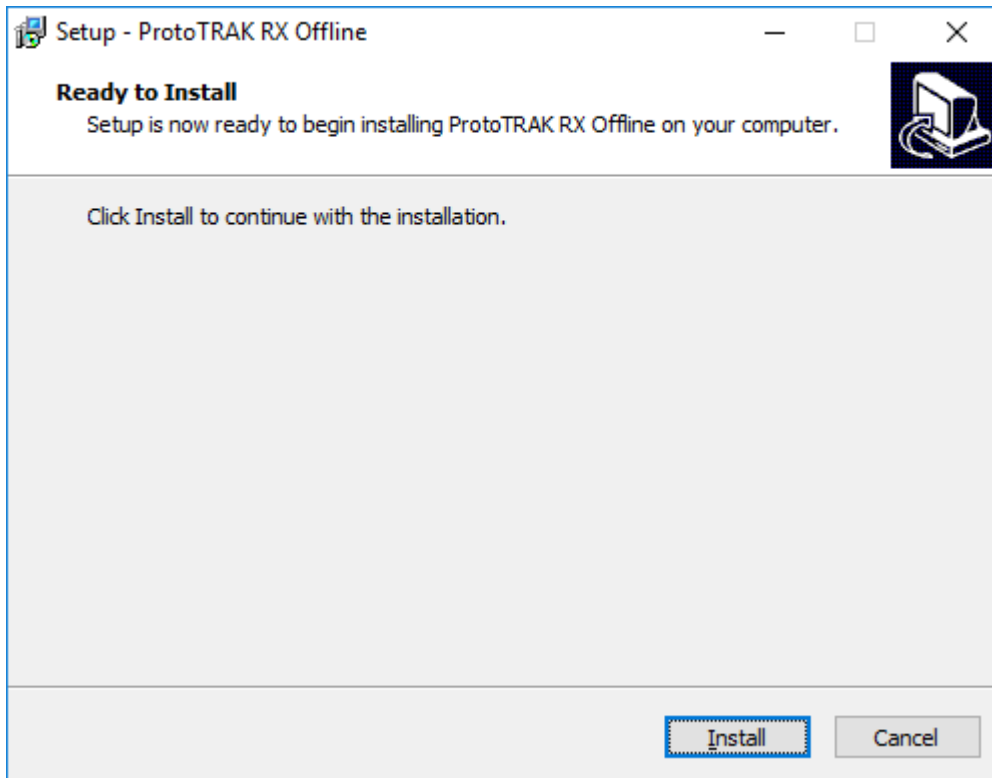
7) Click on the Install button to begin installing the ProtoTRAK offline software.



- 8) Once the ProtoTRAK software has finished copying over, you'll see the screen below. This lists all the necessary components needed to run our software. If this is your first time installing, then make sure all of the boxes are checked, and then click on Finish. No harm should come if you already have something installed. Note that the installer will automatically detect if you need 32 bit or 64 bit files.
- After you click Finish, you should see a progress bar show you the status of each individual program installing. Note that if you are prompted to restart the computer, you can choose to restart later so that you can finish installing everything that is necessary.

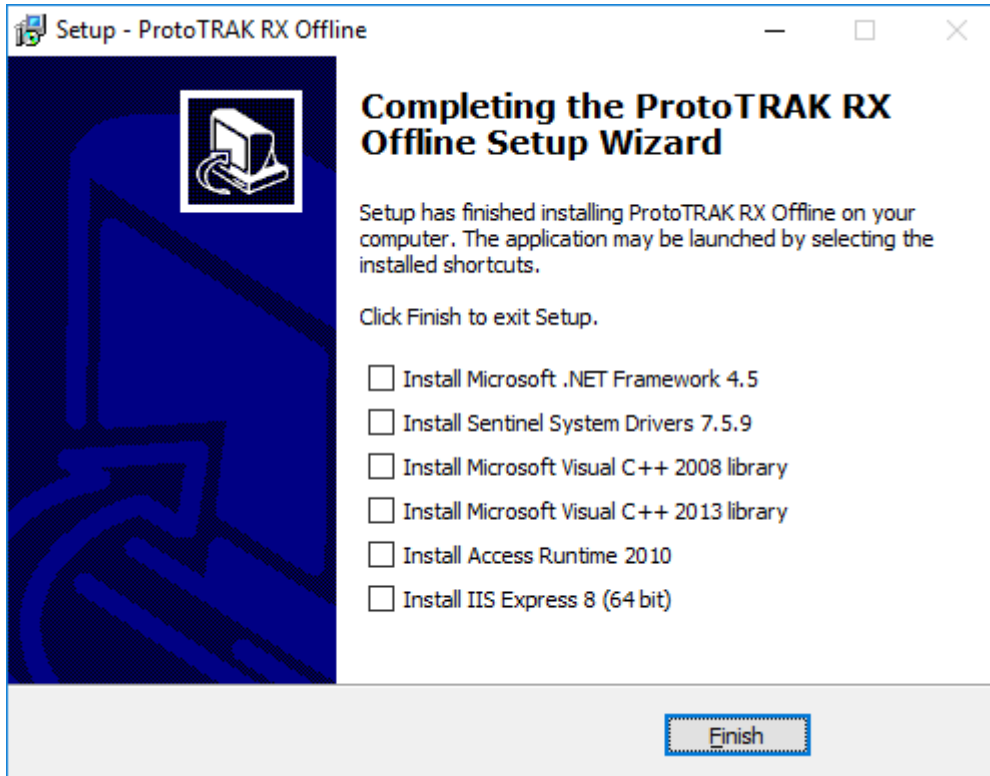


- 9) If you have already installed the software previously and are simply updating to the latest version, then when you first run the installer, you will simply be prompted with the following window. The installer will copy the software into the same location where it was previously installed.



- 10) When you get to the last window with the check boxes, you can simply leave all of the boxes unchecked, and then click on Finish.





## 2.2 Installing the Option Key / Dongle

*Note: The purpose of the Sentinel Drivers is for the USB dongle you'll have obtained for your offline. The drivers are a set of instructions for the computer on how to interpret the functionality of the dongle. The dongle itself serves as a key, enabling your offline to perform most if not all the functions that it's capable of. Without this, your offline will simply work as a demo and you'll be unable to save files and perform other functions. This dongle contains the options you've purchased, such as the DXF option.*



Before plugging your option key into your PC, please ensure that you have installed the Sentinel System Drivers, as described in section 2.1.

Once the driver is installed, you can plug the option key into any free USB port. However, please note that only one option key can be recognized at a time.

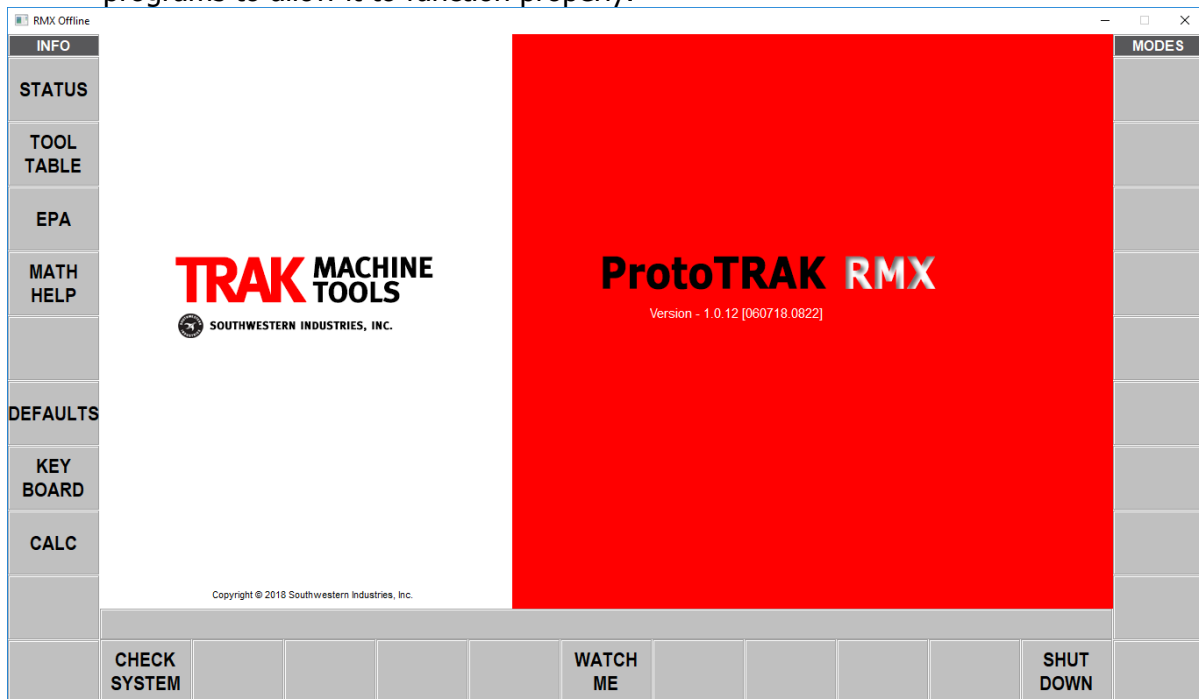
### 2.3 Running the ProtoTRAK RX Offline Software

Once the ProtoTRAK RX Offline software has been installed, you can launch our software from either shortcut created on your desktop, or in your Start menu.

Note that when you launch our software, you may notice that we are actually launching 3 separate apps / windows. They are as follows:

1) **RMX Offline** (*name of executable is **Touch-UserInterface.exe***)

This is our main software window, or MASTER software as we sometimes refer to it. All of the user interface is done through here, however it also relies on the other programs to allow it to function properly.

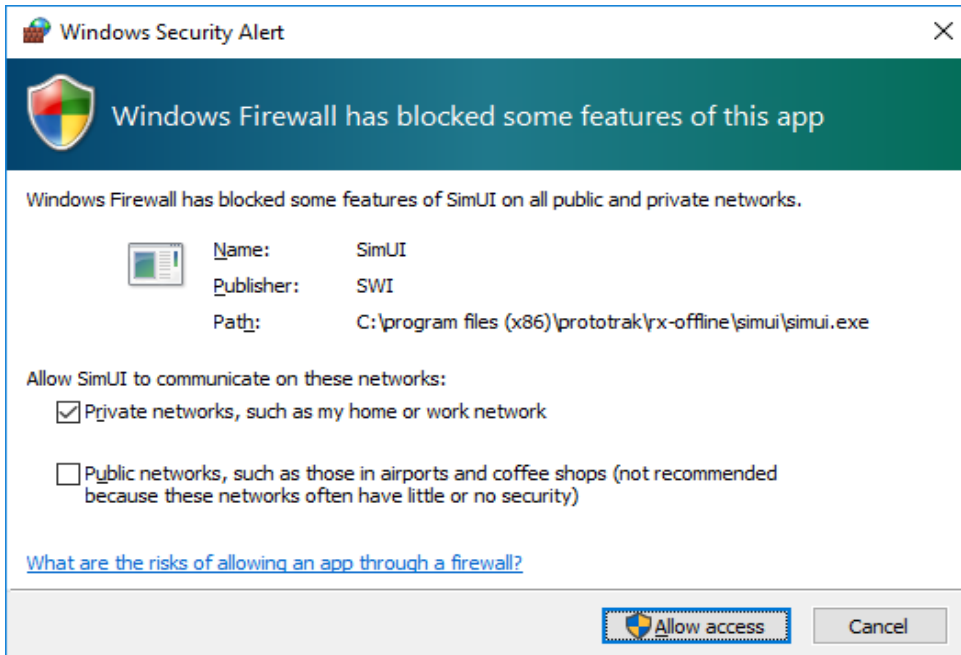


2) **RMX Run Panel** (*name of executable is **SimUI.exe***)



This program not only emulates our front panel buttons, but also emulates all the Inputs / Outputs that it expects a machine to have. This includes machine type, motors, spindle, etc. It is therefore necessary in order for our main software to emulate running a program properly.

Note that the first time you run the offline software after first installing, you may get a Windows security warning. The window may look something like this:

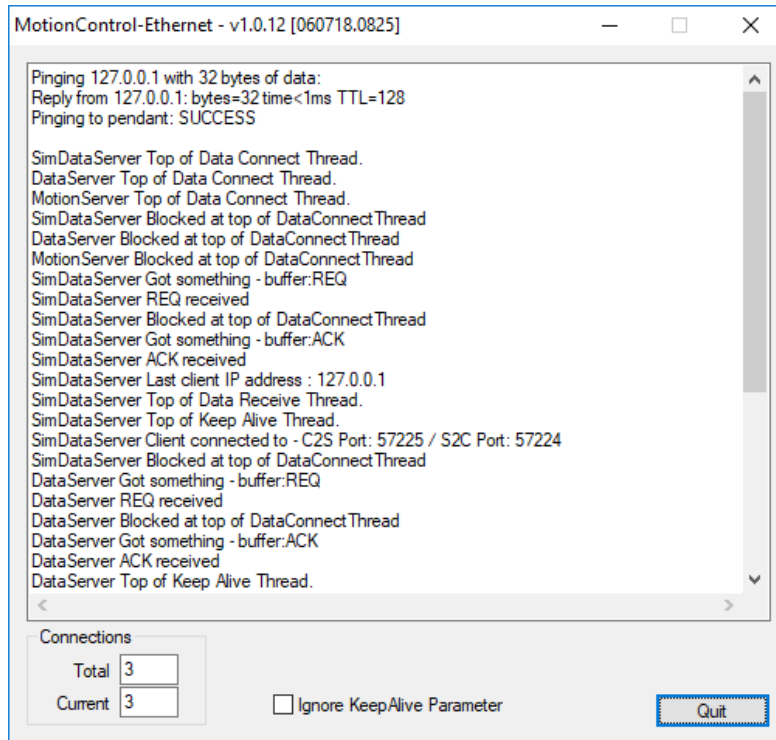


Click on “Allow access” so that your firewall can allow these apps to properly communicate with one another.

### 3) **MotionControl-Ethernet** (*name of executable is **MotionControl-Ethernet.exe***)

The last window emulates the motion control side of our software, or the SLAVE portion. Since our RX controls are designed to communicate through the ethernet, this app is basically handling that communication and emulating a machine in the process.

Once you have launched the RX ProtoTRAK offline, the software will behave as though it thinks it’s a machine. You must enable the servos by clicking and holding down the Power Reset button briefly, same as the machine.



## 2.4 Checking the Option Key Installation

You can assure that the hardware key has been installed properly by starting the ProtoTRAK Offline program and going to the PROG IN/OUT mode. If the SAVE key is grayed out, the hardware key is most likely not being recognized. If this is the case, go into SETUP -> SERV CODES -> 318. You should see a list of available options if the key is recognized by Windows correctly. Otherwise, you will see an error message stating that there is no option key detected.

You can also check service code 33, to verify if the option key is programmed for the correct type of ProtoTRAK control. Within the code 33 screen, you should see a line that reads OPTION KEY, followed by the type of key that is recognized. The correct label for this product should read RX OFFLINE.

If you still have problems, contact the TRAK Machine Tools' Service Department at (800) 367-3165 and ask for Technical Support.

## 3.0 Programming with ProtoTRAK Offline

Programming with the PTRXOL Offline system is almost the same as the experience you will have working with an actual ProtoTRAK RMX CNC. That is because the software is almost identical between the two systems.

When you open the Offline system, the following two windows should be visible:

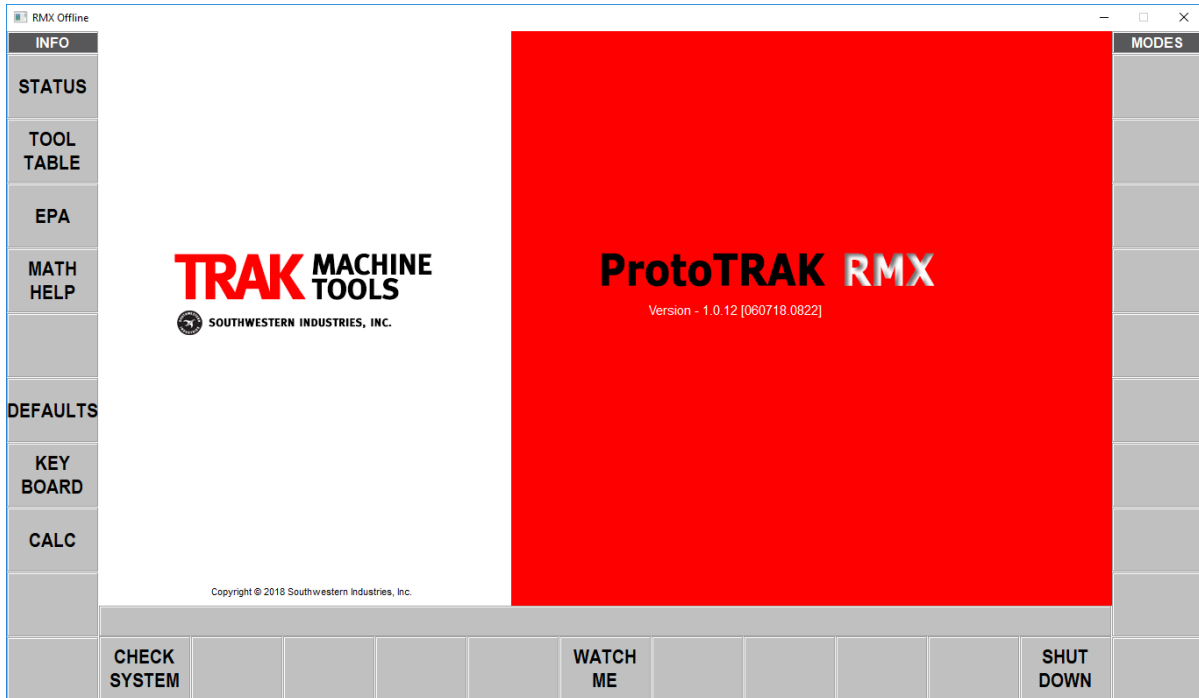


Figure 4.0(a) Main offline screen.



Figure 4.0(b) Run Panel Screen

**Figure 4.0**  
*The first Offline Screens.*

### 3.1 Getting Started

Since the software between the offline version and the control version of the ProtoTRAK RMX is almost the same, it will be necessary for you to initialize the system by clicking on the RESET button on the RMX Run Panel. This will allow the complete simulation of ProtoTRAK RMX operation as if the software was actually running a machine.

Next, click the CHECK SYSTEM button and the MODES selections will appear.

Note: The WATCH ME button will initiate videos that help the user of the ProtoTRAK RMX get started with the RMX CNC on the machine.

## 3.2 Tips for Using the Offline Programming

Most of what you would want to do with the PTRMXOL can be done with the buttons on the screen. If your computer has a touchscreen, you may use the same gestures as you do on the ProtoTRAK RMX itself. Otherwise, we've built in the ability to use a mouse to mimic the gestures of the touchscreen.

### 3.2.1 Gestures with a Mouse

Note that although the ProtoTRAK RMX software was designed to be used with a touchscreen, a mouse can be used in its place. The following mouse operations mimic the gestures on a touchscreen:

**Swipe:** click and hold the left mouse button down and quickly drag towards either the left or the right.

**Rotate:** click and hold the left mouse button down and move in the direction you wish to rotate three dimensionally.

**Pan:** (move a drawing around the screen) click and hold the right mouse control down and move in the direction that you wish to move the drawing.

**Zoom:** mousewheel up to zoom in, or mousewheel down to zoom out. Alternatively, you can also hold down both left and right mouse buttons and move the mouse up or down over the drawing.

**Tap:** point the cursor to the object you want to select and click with the left mouse button.

**Double tap:** double click with the left mouse button.

**Tap and hold:** place the cursor over the object and click with the right mouse button.

### 3.2.2 Keyboard Operations

The following keyboard keys mimic the hard keys on the ProtoTRAK RMX:

X = X

Y = Y

Z = Z

INC Set = ALT + I

ABS Set = ENTER, or ALT + A

0 - 9 = 0 - 9

Toggle + / - = ALT and -

Back = ALT + B

RESTORE = ALT + Backspace

Cursor up = Up arrow

Cursor Down = Down arrow

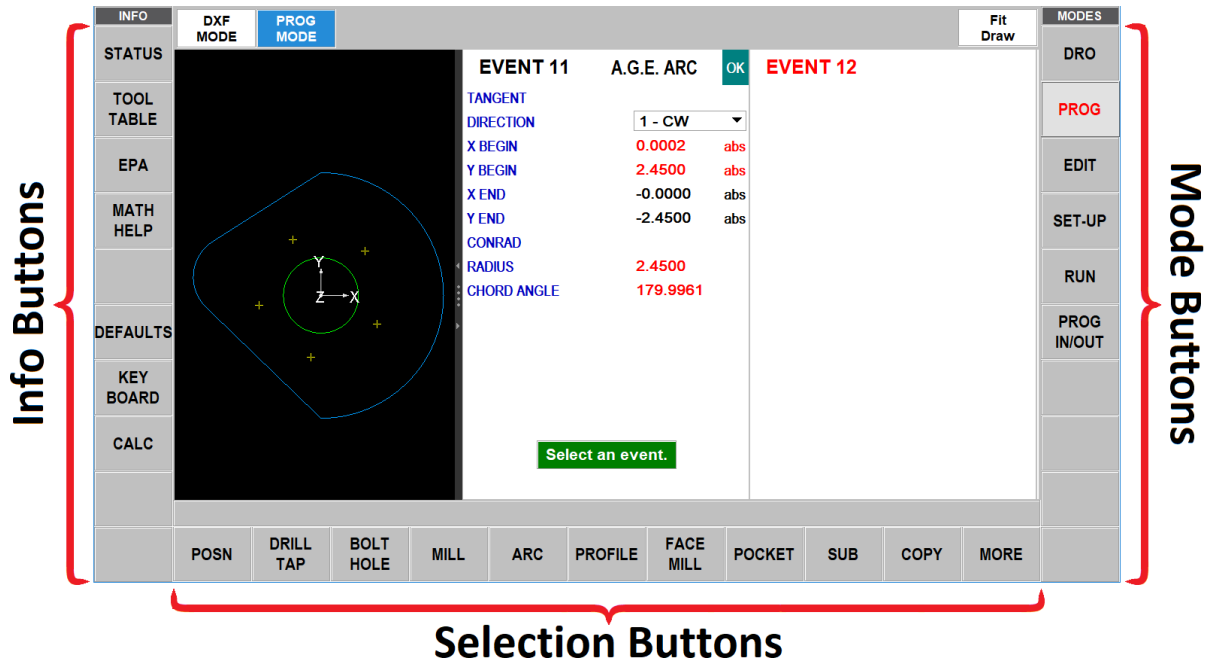
Page Back / Cursor Left = Left arrow

Page FWD / Cursor Right = Right arrow

Toggle ABS / INC = Alt + [

Toggle Inch / metric = Alt + ]

Selection Softkeys = F1 thru F11



### 3.3 Quitting Offline

To exit from all the functions of the offline, use the ALT + B key to back all the way out to the shutdown screen. Click on the SHUT DOWN button and answer YES to the prompt.

Alternatively, you can also click on the X on the top right hand corner of the main ProtoTRAK window, and all open windows should close down along with it.

# TRAK Warranty Policy

TRAK products are warranted to the original purchaser to be free from defects in workmanship and materials for the following periods:

<b>Product</b>	<b>Warranty Period</b>	
	<b>Materials</b>	<b>Factory Labor</b>
New TRAK/ProtoTRAK	1 Year	1 Year
Any EXCHANGE Unit	90 Days	90 Days

The warranty period starts on the date of the invoice to the original purchaser from Southwestern Industries, Inc. (SWI) or their authorized distributor.

If a product, subsystem or component under warranty fails, it will be repaired or exchanged at our option for a properly functioning unit in similar or better condition. Such repairs or exchanges will be made FOB Factory/Los Angeles or the location of our nearest factory representative or authorized distributor.

## Disclaimers of Warranties

- This warranty is expressly in lieu of any other warranties, express or implied, including any implied warranty of merchantability or fitness for a particular purpose, and of any other obligations or liability on the part of SWI (or any producing entity, if different).
- Warranty repairs/exchanges do not cover incidental costs such as installation, labor, freight, etc.
- SWI is not responsible for consequential damages from use or misuse of any of its products.
- TRAK products are precision mechanical/electromechanical/electronic systems and must be given the reasonable care that these types of products require.
- Accidental damage, beyond the control of SWI, is not covered by the warranty. Thus, the warranty does not apply if a product has been abused, dropped, hit or disassembled.
- Improper installation by or at the direction of the customer in such a way that the product consequently fails, is considered to be beyond the control of the manufacturer and outside the scope of the warranty.