ProtoTRAK®RX
Offline Programming Manual

Offline part number: PTRXOL

For current CNC models:
 ProtoTRAK RMX
 ProtoTRAK RLX

TRAK MACHINE TOOLS

SOUTHWESTERN INDUSTRIES, INC.

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1.0 Introduction

The ProtoTRAK Offline Programming System allows you to write, edit, and inspect programs for your ProtoTRAK RMX and RLX 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, 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.
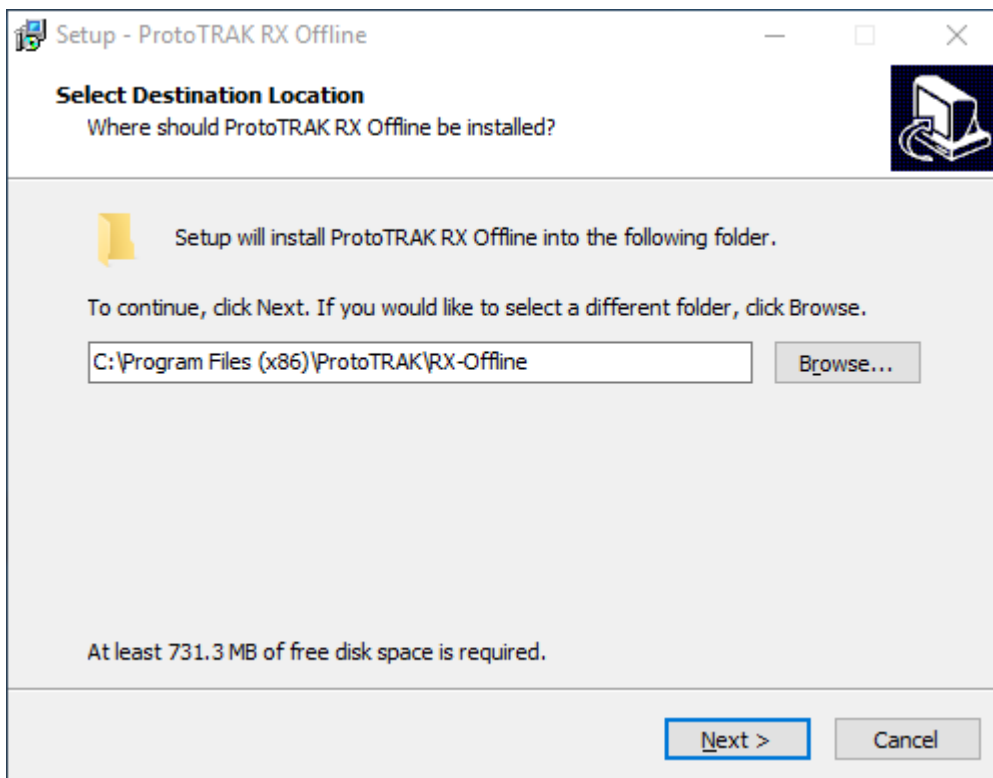
5) After choosing the location where you would like to install, click on the NEXT button to continue.
6) Next you will be prompted for the name of the Start menu folder where the shortcut will be created. Click on NEXT to continue.
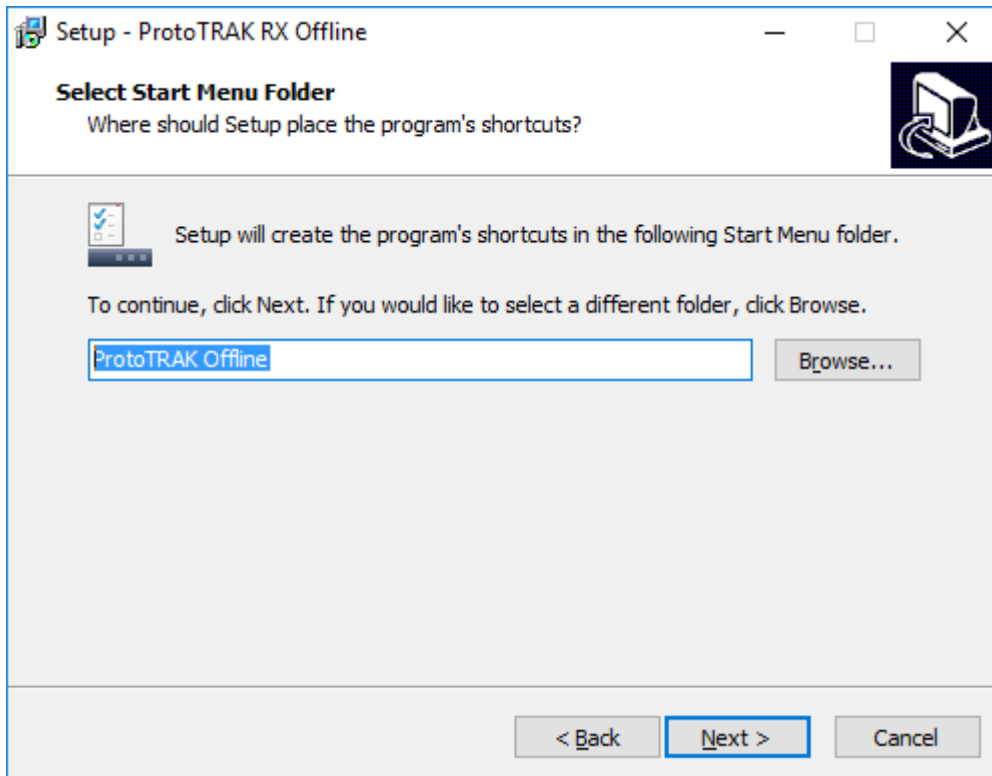
7) Click on the Install button to begin installing the ProtoTRAK offline software.

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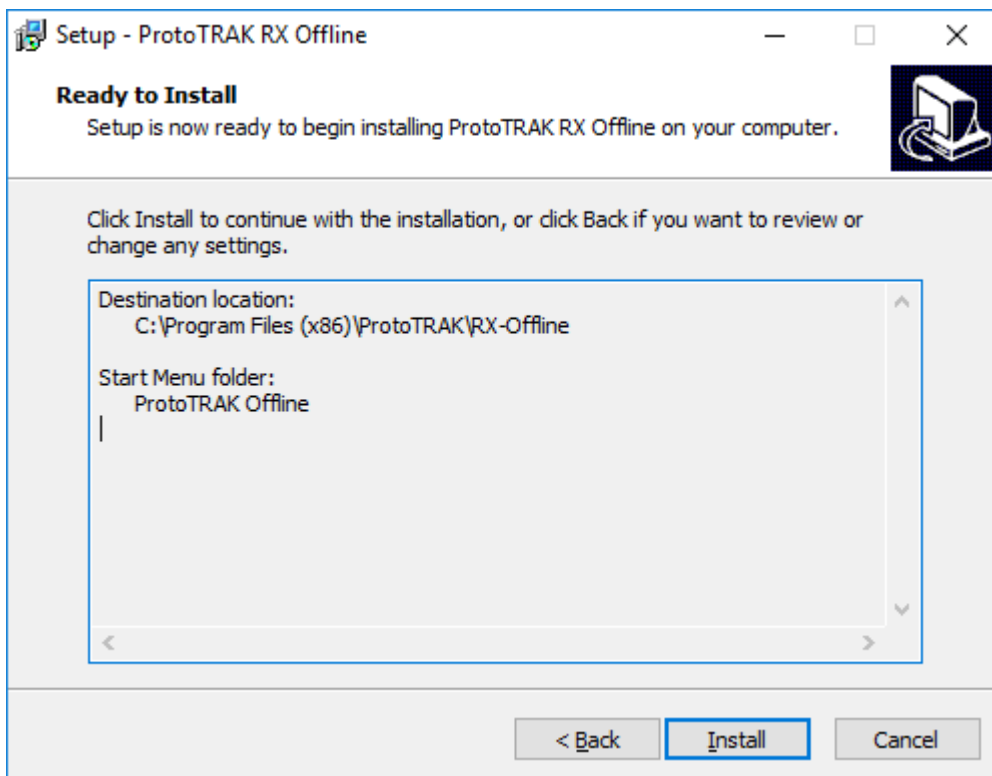
8) Once the ProtoTRAK software has finished copying over, you'll see the screen below. This lists all the necessary components needed to run our software. If this is your first time installing, then make sure all of the boxes are checked, and then click on Finish. No harm should come if you already have 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.
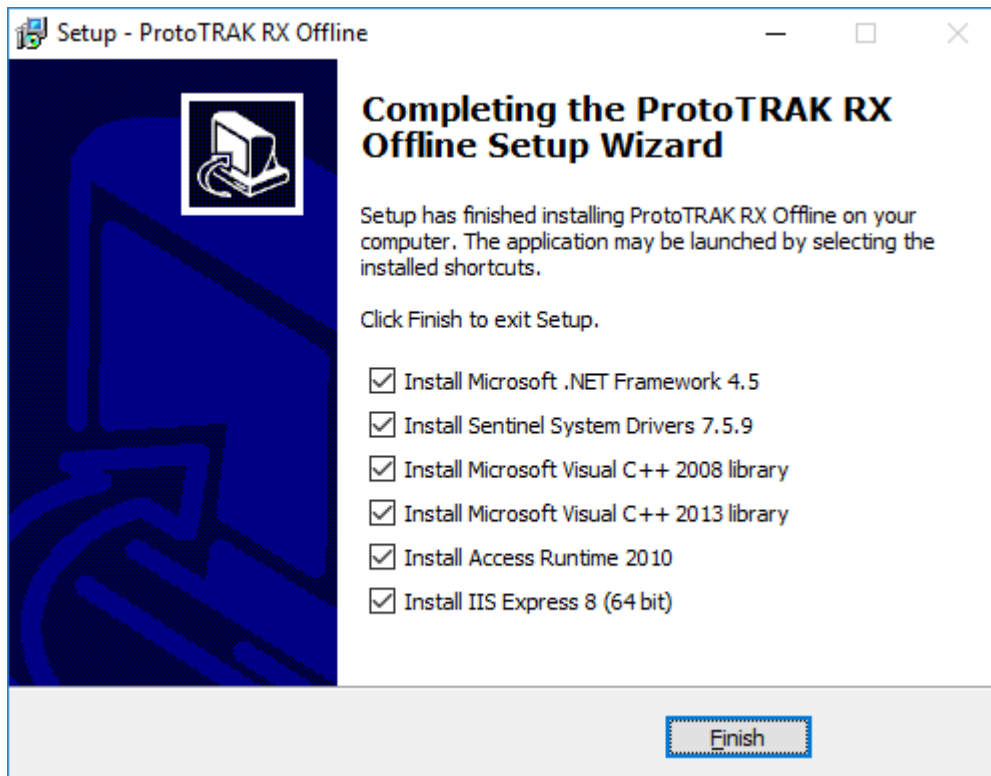
9) If you have already installed the software previously and are simply updating to the latest version, then when you first run the installer, you will simply be prompted with the following window. The installer will copy the software into the same location where it was previously installed.
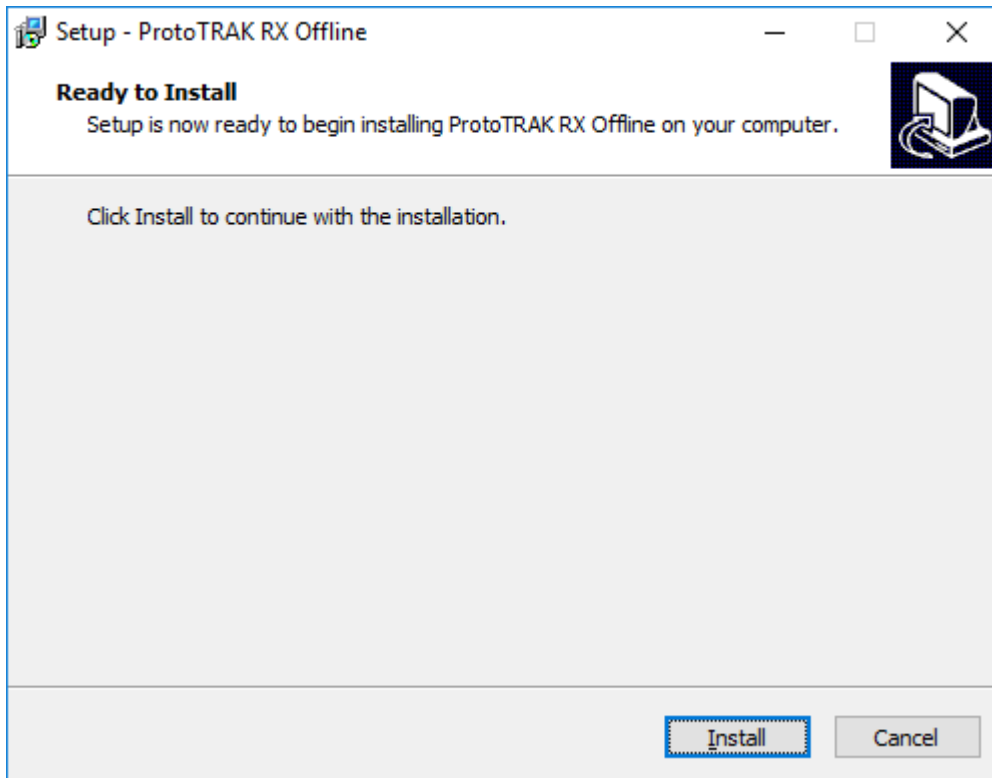
10) When you get to the last window with the check boxes, you can simply leave all of the boxes unchecked, and then click on Finish.

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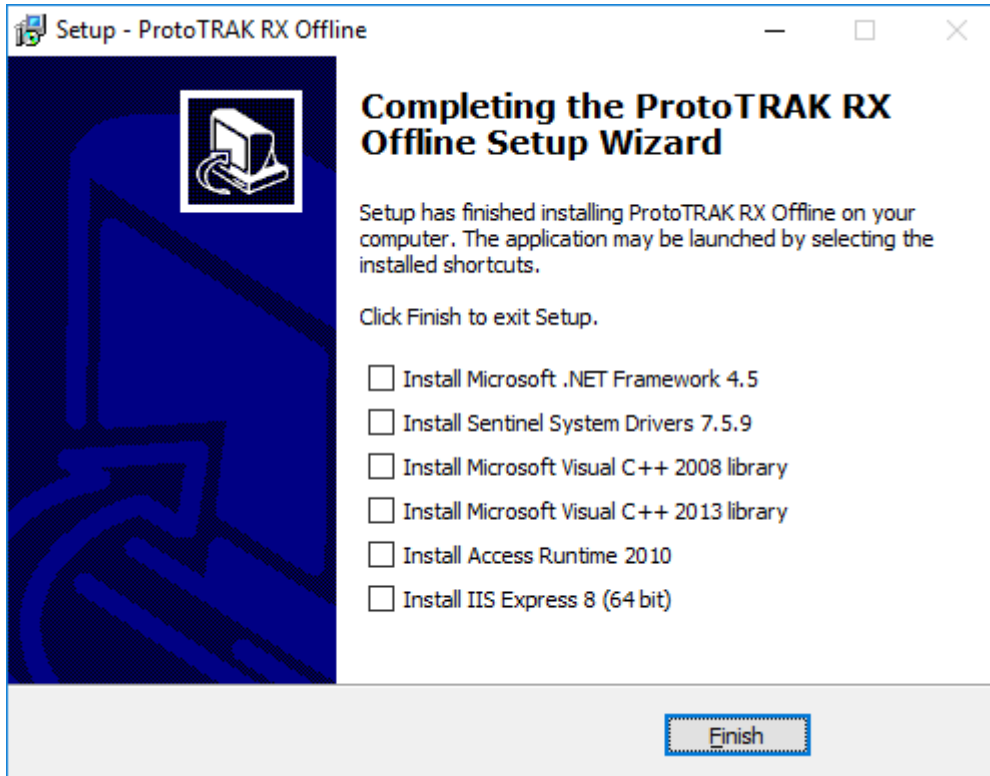
2.2 Installing the Option Key / Dongle

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) **RX 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. Note the same executable runs both mill and lathe software.

2) **RX 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 communicating with a machine. This must be running in the background in order for everything to be simulated properly.
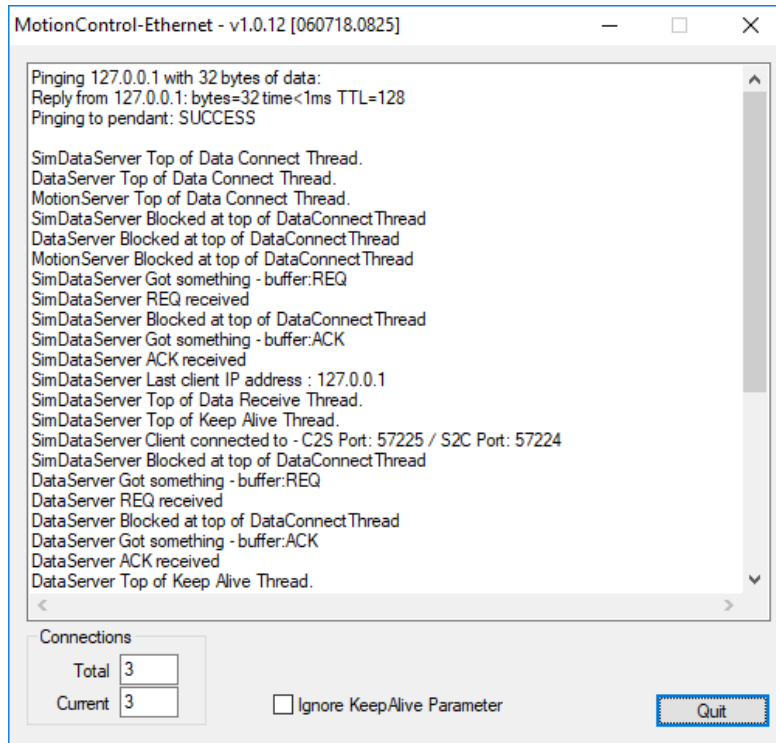
2.4 Checking the Option Key Installation

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:
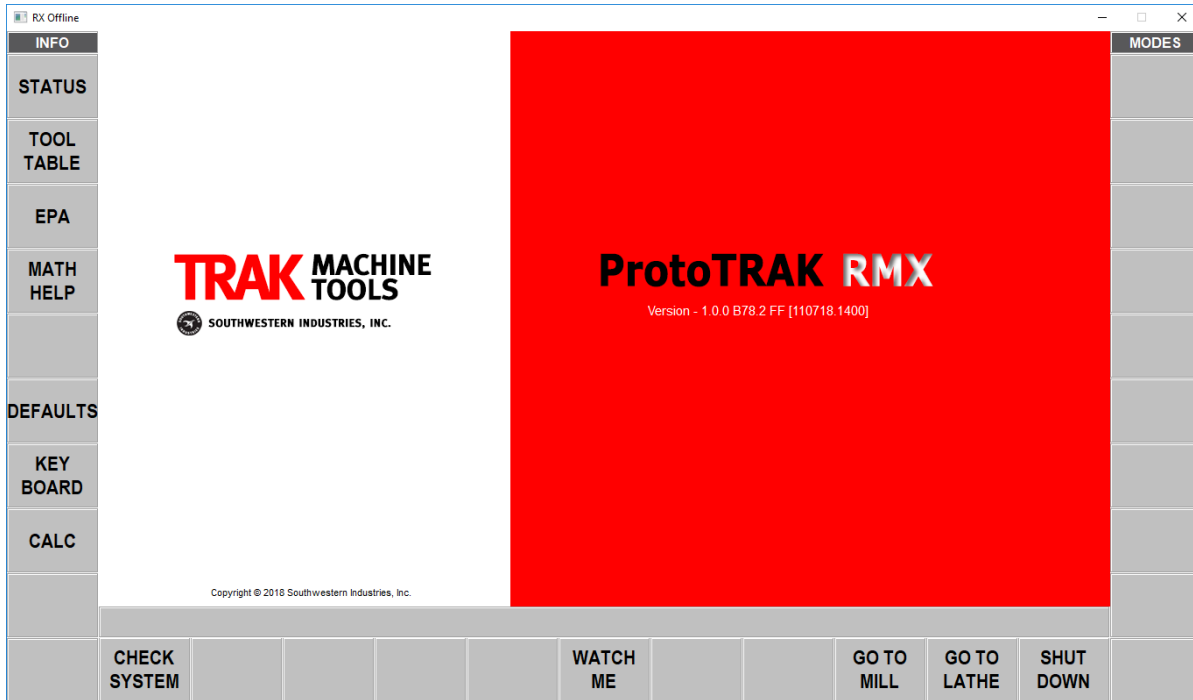
Figure 4.0(a) Main offline screen.
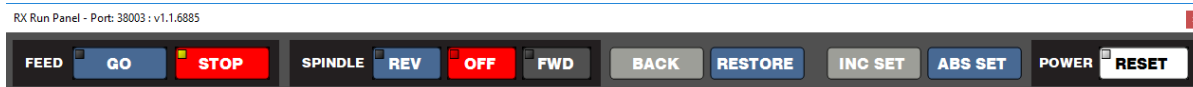
Figure 4.0(b) Run Panel Screen

Figure 4.0
The first Offline Screens.

3.1 Getting Started

Note that the very first time you launch the offline software, it will default to be the RMX control used on the mills. In the first initial screen, you can choose GO TO MILL or GO TO LATHE to run in either mode. If you choose to run as the ProtoTRAK RLX control for the lathe, simply click on the GO TO LATHE button, and the software will relaunch as the RLX control.

Once you've chosen either mill or lathe, click the CHECK SYSTEM button and the MODES selections will appear.

Note: The WATCH ME button will initiate videos that help the user get familiarized with either the ProtoTRAK RMX or RLX CNC.

3.2 Tips for Using the Offline Programming

Most of what you would want to do with the PTRXOL 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 or RLX control 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 RX 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 and RLX:

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
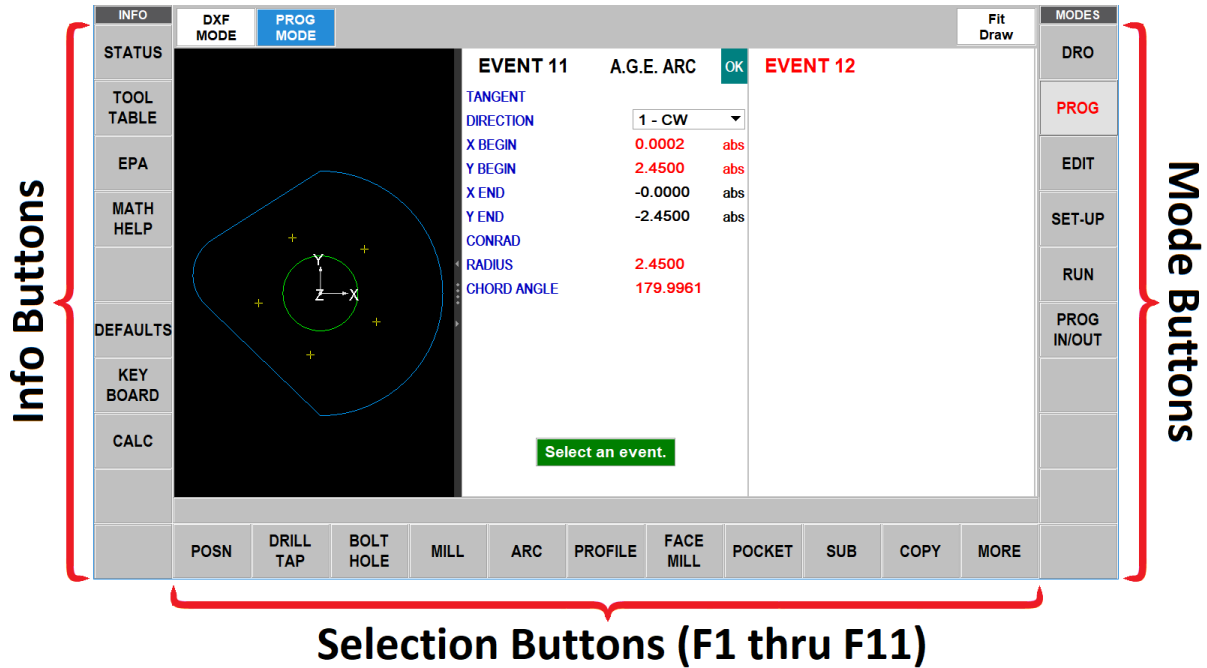Cursor up = Up arrow
Cursor Down = Down arrow
Page Back / Cursor Left = Left arrow
Page FWD / Cursor Right = Right arrow
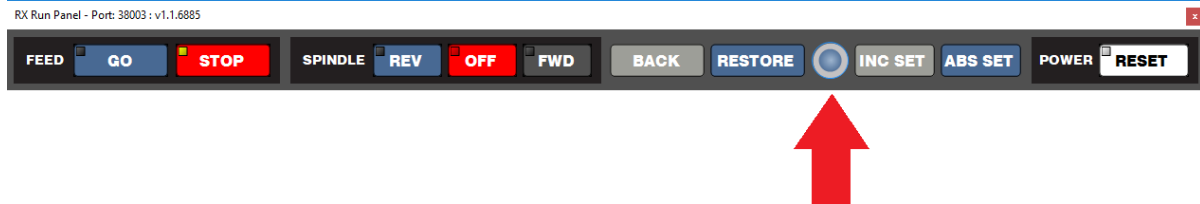Toggle ABS / INC = Alt + [
Toggle Inch / metric = Alt +]
Selection Softkeys = F1 thru F11

Info Buttons

Mode Buttons

Selection Buttons (F1 thru F11)

3.2.3 Lathe Jogstick

When running the offline software in lathe mode, there will be a Jogstick available in the Run Panel, should you want to mimic jogging the axis around in DRO mode.

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 initial 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.

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TRAK Warranty Policy

Warranty

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

Product	Warranty Period	
	Materials	**Factory Labor**
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 proves to be defective in workmanship and fails within the warranty period, 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. Evidence that the product does not receive adequate Preventative Maintenance may invalidate the warranty. Excessive chips built up around ballscrews and way surfaces is an example of this evidence.

- 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.

- Warranty does not cover wear items that are consumed under normal use of the product. These items include, but are not limited to: windows, bellows, wipers, filters, drawbars and belts.