Hexagon Absolute Arm

This Quick-start guide applies to the setup of the Hexagon and Romer Absolute Arms including external and integrated scanners.

RDS Installation and Configuration:

Download and install the correct version of RDS for your SA version. RDS Installers can be found here:

ftp://ftp.kinematics.com/pub/SA/Install/Driver%20Downloads/PCMM%20Arms/Hexagon/

- SA version 2018.02.16 through 2021.1 require a version between 4.3 to 5.4.1
- SA version 2021.2.## version requires RDS 6.0.1 and must be run using the new *Hexagon Portable CMM Arms* interface.

Run the RDS Installer and follow the prompts. Once installed, plug in the arm via the USB cable and verify Windows has properly recognized the device and installed the drivers properly.

RDS will always be active in the system tray (Figure 4-55) and will show the current connection status of your arm. It is your primary tool for calibration and arm configuration.

Figure 4-55. RDS in the System Tray.
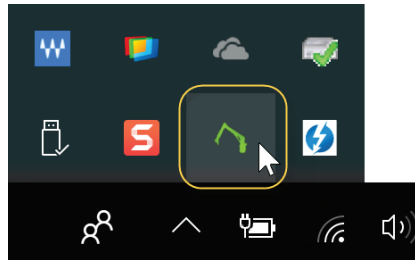
In order to perform a calibration you will need to be an "Advanced" user which requires a password. "Advanced" is also the default password (Figure 4-56):

Figure 4-56. The RDS status window.
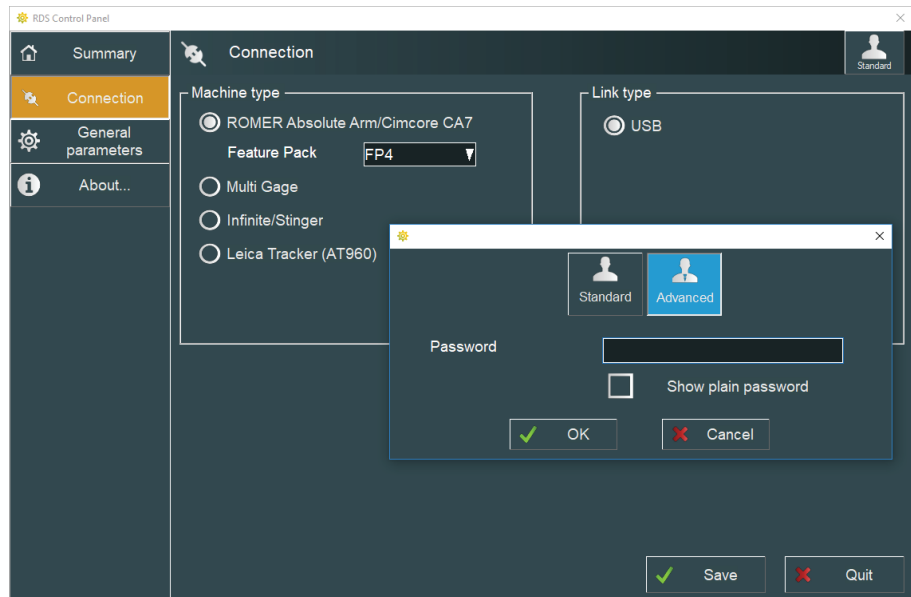
Genera Scanner Configuration

If your arm comes with a scanner you will need to configure RDS and the system use it. Steps include the following:

1. Ensure that the Ethernet cable is connected to your PC.

2. Set the Computers network card to an appropriate IP address.

The default scanner IP address of *192.168.178.200.*

Make sure the computer IP address is 192.168.178.XXX with the last digits being between 0-255 but not 200. Example, 192.168.178.100 for the computer. For more information on changing IP addresses please consult the IP Address Basic section.

3. Calibrate the Scanner using the utilities provided as part of RDS.

Adjust the default settings as needed. The Scanning page in RDS becomes available when the scanner is engaged (Figure 4-57).
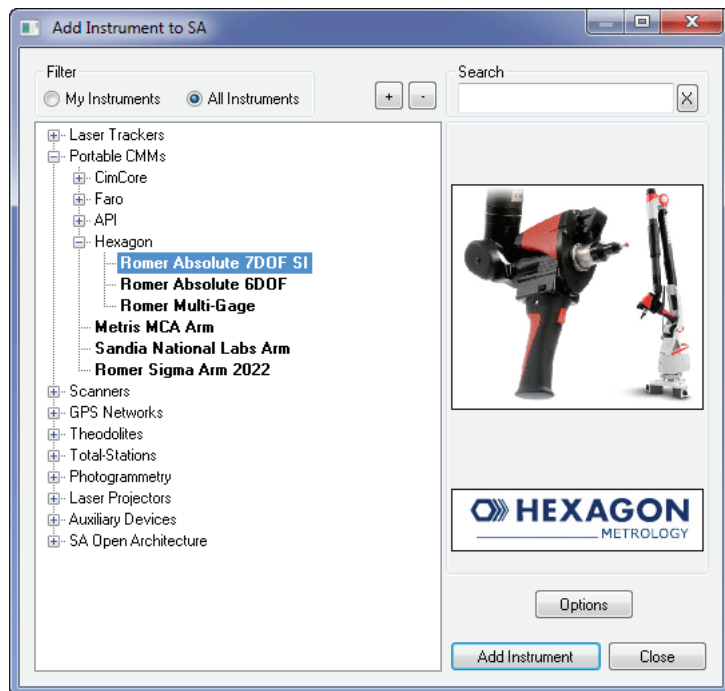
Figure 4-57. RDS Scanner Settings page
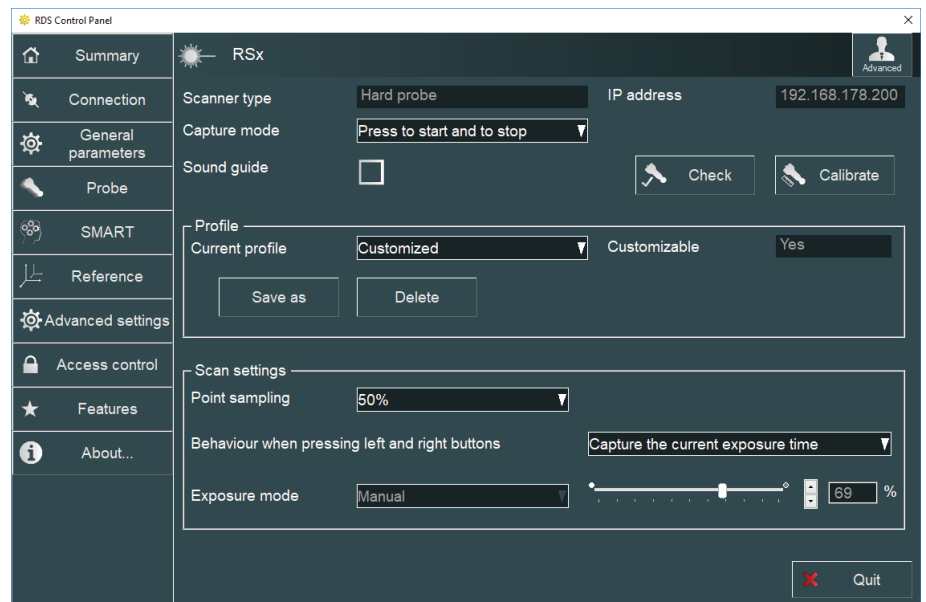
Running the Absolute Arm

1. Add an AbsoluteArm to SA via Instrument>Add or using the icon (Figure 4-58). Select the respective Absolute Arm and click Add Instrument.

Figure 4-58. Adding the Absolute arm to SA.

2. Run the instrument interface via Instrument>Run Interface Module and Connect or using the icon.

 Most basic arm measurement operations are available through the instrument toolbar including point naming, single point and point scanning. It even includes right-click configuration (Figure 4-59).

Figure 4-59. Instrument Toolbar Controls

Scanning with the Absolute Arm (SI)

Scanning is as simple as sliding the switch on the back of the grip. As soon as the scanner is engaged the RDS Scanning control interface will appear (Figure 4-60). The "Previewing" window will be displayed as network communication with the scanner is established.

Figure 4-60. The RDS Scanning interface.
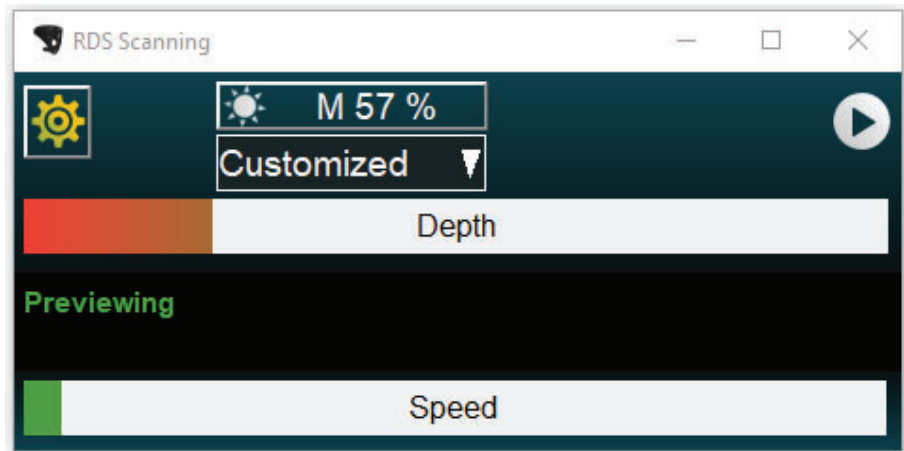
Additional Notes on Scanning:

There are a number of very important optional controls available within the arm interface's settings "Edit Arm Settings" on page 169.

- **Auto-Increment Names.** Cloud names can be automatically incremented by checking the option in the **Arm Settings> Fit/ Meas Options.**

- **Auto-exposure.** An auto-exposure routine can initialized by pressing both buttons at the same time.

- **Proximity Triggers.** The scanner can be used to collect measurements in a particular location using **Instrument>Automatic Measurement>Auto Correspond with Proximity trigger>.** The choice of which mode to use is controlled in the **Arm Settings> Fit/Meas Option.**

Data thinning for RS6 and AS1 scanners

These newer scanners also require a newer arm firmware and RDS update. Check with the manufacturer on the correct firmware and feature pack for your system.

These scanners can send a lot of Data to SA very quickly which can lead to graphic performance problems. Generally the *Point Sample*

within RDS can be turned down to its lowest setting. This reduces the number of points along a scan line which is often excessive unless trying to detect edges. The *Scan Speed* should remain as fast as possible (300Hz) in order to allow a user to move the scanner quick.

If you still have performance issues with these settings, further reductions in data density can be made within the Arm Settings in the SA interface.

- **Thinning Factor.** This provides a means to decrease the density of the scans sent to SA as needed.

- **Min Angle Filter.** This is a more advance filter option that considers the curvature of a scan line. It offers a *Minimum Angle* threshold to thin data in flat regions, and a *Max* distance value which ensures some data is returned on wide flat expanses.

- **Voxelization.** Data can also be voxelized before sending it to SA which can greatly reduce noise.