

Adept ACE Software Startup Guide

The Adept ACE software runs on a PC connected to your robot, usually through an Adept SmartController motion controller. (The Adept Cobra i600 and i800 robots do not use an Adept SmartController motion controller, so the PC connects to them directly.)

This guide is written for the Adept Quattro, Adept Cobra, and Adept Viper robots, excluding the Adept Cobra i600 and i800 robots.

NOTE: The startup of Adept ACE software with those robots is covered in the *Adept Cobra i600/i800 Robot User's Guide* and *Adept Cobra i600/i800 Robot Quick Setup Guide*.

Safety

The robot and controller user's guides must be read by all personnel who install, operate, or maintain Adept systems, or who work within or near the workcell.



WARNING: The instructions for installation, operation, and maintenance given in the robot and controller user's guides must be strictly observed.

Adept systems are computer-controlled and may activate remote devices under program control at times or along paths not anticipated by personnel. It is critical that safeguards be in place to prevent personnel from entering the workcell whenever equipment power is present.



WARNING: Adept Technology strictly prohibits installation, commissioning, or operation of an Adept robot without adequate safeguards according to applicable local and national standards. Installations in EU and EEA countries must comply with EC regulations.

The robot system integrator, or end-user, must ensure that adequate safeguards, safety barriers, light curtains, safety gates, safety floor mats, etc., are installed. The robot workcell must be designed according to all applicable local and national standards.

How to Get Help

Refer to the *How to Get Help Resource Guide* (Adept P/N 00961-00700) for details on getting assistance with your Adept software and hardware. Additionally, you can access information sources on Adept's corporate web site:

<http://www.adept.com>

Adept Document Library

The Adept Document Library (ADL) contains documentation for Adept products. You can access the ADL from:

- the Adept Software CD shipped with your system
or
- the Adept web site. Select **Support > Document Library** from the Adept home page. To go directly to the Adept Document Library, type the following URL into your browser:

http://www.adept.com/Main/KE/DATA/adept_search.htm

To locate information on a specific topic, use the Document Library search engine on the ADL main page, or select one of the available menu options.

Prerequisites

Adept Hardware

- Adept Quattro, Adept Cobra, or Adept Viper robot
- Adept SmartController CX motion controller

PC Requirements

The hardware and software required to run and use the Adept ACE software are covered in the Adept ACE ReadMe file. The ReadMe file is provided with the Adept ACE software distribution (in the ZIP file or on the CD-ROM).

Connecting the PC to the SmartController

The Adept SmartController motion controller must be connected to a user-supplied PC or the Adept SmartVision EX processor for setup, control, and programming.

- Connect an Ethernet crossover cable between the PC and the SmartController motion controller
or
- Use two standard Ethernet cables with a network hub or switch in place of the Ethernet crossover cable.

NOTE: Do not use an Ethernet crossover cable with a network hub or switch.

For more details, refer to the Adept ACE User's Guide.

Installing the Adept ACE Software

The Adept ACE software is installed from the Adept ACE software CD-ROM.

1. Insert the CD-ROM into the CD-ROM drive of your PC.
If Autoplay is enabled, the Adept software CD-ROM menu is displayed. If Autoplay is disabled, you will need to manually start the CD-ROM.
2. Especially if you are upgrading your Adept ACE software installation: from the Adept ACE software CD-ROM menu, click Read Important Information.
3. From the Adept ACE software CD-ROM menu, select:
Install the Adept ACE Software
The Adept ACE Setup wizard opens.
4. Follow the online instructions as you step through the installation process.
5. When the installation is complete, click Finish.
6. After closing the Adept ACE Setup wizard, click Exit on the CD-ROM menu to close the menu.

NOTE: You will have to restart the PC after installing the Adept ACE software.

Running the Adept ACE Software

Before Starting

Verify that the robot is securely mounted, the system is correctly installed, and that all safety equipment is working before going through the system start-up process. For details, see your robot user's guide.



DANGER: After installing the robot, you must test it before you use it for the first time. Failure to do this could cause death or serious injury or equipment damage. For details, see your robot user's guide.

Starting the Robot

Apply power to your system, as described in the following sections:

For the Quattro s650H and s650HS robots, and the Cobra s600, s800, and s800 Inverted robots:

1. Switch on AC power to the robot.
2. Switch on 24 VDC power to the robot.
3. Switch on 24 VDC power to the controller.

For the Cobra s350 robot:

1. Switch on AC power to the MotionBlox-40R.
2. Switch on 24 VDC power to the MotionBlox-40R.
3. Switch on 24 VDC power to the controller.

For the Viper s650, s850, s1300, and s1700 robots with PA-4:

1. Switch on AC power to the PA-4.
2. Switch on 24 VDC power to the controller.

For the Viper s650 and s850 robots with MotionBlox-60R:

1. Switch on AC power to the MotionBlox-60R.
2. Switch on 24 VDC power to the MotionBlox-60R.
3. Switch on 24 VDC power to the controller.


Starting the Adept ACE Software

The robot should be on, and the status panel should display OK before proceeding.

1. Turn on the PC and start the Adept ACE software.
 - Double-click the Adept ACE icon on your Windows desktop or, from the Windows Start menu bar,
 - Select **Start > Programs > Adept Technology > Adept ACE > Adept ACE**.
2. On the Adept ACE Startup menu, click New SmartController Workspace.
3. Click-select the SmartController you want to use, and click OK.

Enabling High Power

After you have started the Adept ACE software and connected to the controller, enable high power to the robot motors:

1. From the Adept ACE main menu, click the Enable High Power icon: 
2. If the High Power button on the Front Panel is blinking, press and release it.

NOTE: The use of the blinking High Power button can be configured (or eliminated) in software. Your system may not require this step.

NOTE: The Front Panel, P/N 30356-10358, is mounted near the robot. See the following figure:

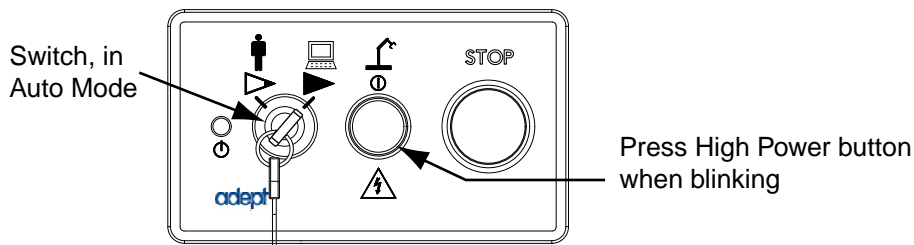


Figure 1. High Power Button on Front Panel

NOTE: If enabled, the Front Panel button must be pressed while blinking (default time-out is 10 seconds). If the button stops blinking, you must enable power again.

This step turns on high power to the robot motors and calibrates the robot.

- For Adept Quattro robots, the robot status LED (on the Status Panel) and the lamp on the bottom of the robot base glow solid amber.

For Adept Cobra robots, the robot status LED glows solid amber.

For all Adept Viper robots, the amplifier status LED blinks green rapidly (a slow green blink has a different meaning).


In addition, for Adept IP-65 Viper robots, the lamps on the robot glow solid amber.

- The status panel on the robot or amplifier chassis displays ON.

Verifying Robot Operation



WARNING: Make sure that the workspace is clear of obstacles, and the robot is free to move.

1. On the Adept ACE toolbar, set the Monitor Speed to 50.
2. Use the Robot Jog Control to verify that the robot moves correctly in all directions. To access the Robot Jog Control, on the Adept ACE toolbar, click the Launch Robot Jog Control icon: 

The Robot Jog Control opens.

- a. Set the jog control Speed to 10%.
 - b. Comp is the default jog control mode.

Set the jog control mode to World for Adept Quattro robots.

Set the jog control mode to Joint for Adept Cobra and Adept Viper robots.
 - c. For Adept Quattro robots, use the jog control to move the robot in all directions.

For other Adept robots, move each joint in both directions.
3. The robot is now ready to use. Go to the next section to verify E-Stops.

Verifying E-Stop Functions

Verify that all E-Stop devices are functional (T2 pendant, Front Panel, and user-supplied E-Stops). Test each mushroom button, safety gate, light curtain, etc., by enabling High Power and then actuating the safety device. The High Power push-button/light on the Front Panel must go out for each E-Stop.

Refer to your robot user's guide for more details.

Learning to Program an Adept Robot

To learn how to use and program the robot, refer to the Adept ACE User's Guide, the AdeptSight User's Guide, and the V+ manual set, which are available in the Adept Document Library. To access the Adept Document Library, type the following URL into your browser:

http://www.adept.com/Main/KE/DATA/adept_search.htm

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