EPSON RC+ 5.0 Ver.5.2.0 SP4 Release Notes
September 4, 2008

Thank you for using EPSON RC+ 5.0 Ver.5.2.0.   This document contains the latest information for this release.   Please read before using this software.

Documentation

All EPSON RC+ manuals are in PDF format and are installed on the PC hard disk. These manuals are accessible from the EPSON RC+ environment Help menu.

Getting Started

Read the Getting Started chapter in the EPSON RC+ 5.0 User's Guide. This chapter will refer you to the RC170 Controller manual Installation chapter. This contains information for initial connections and start up.

Installing Service Pack 4

EPSON RC+ 5.0 Ver.5.2.0 Service Pack 4 is included on the current Ver.5.2.0 installation CD. It is not automatically installed with the Ver.5.2.0 installation program. It must be installed separately. If your system was configured at the factory, the service pack will already be installed.

How to verify if Service Pack 4 is installed

1. Run EPSON RC+ 5.0.
2. Select Help | About.
3. If the service pack is installed, the version number will be 5.2.0 SP4.

How to install Service Pack 4

To install Service Pack 4:
1. Navigate to the \EpsonRC50\Service_Packs directory on the installation CD.
2. Run the file **erc520sp4.exe** and follow the on screen instructions.

How to uninstall Service Pack 4

To uninstall Service Pack 4:
1. Open Add / Remove Programs in the Windows Control Panel.
2. Select EPSON RC+ 5.0 and run it to uninstall.
3. Run the EPSON RC+ 5.0 Ver.5.2.0 installer from the installation CD to re-install it.

What's Fixed in version 5.2.0 SP4

1. Fixed a problem where if the size of a program, include, or point file is a multiple of 4096, the controller can hang.

2. Added a warning if the current Windows DPI setting is not 96 (Normal).

3. Fixed a problem where if a vision sequence is deleted that is not the last sequence, the calibrations using sequences created after the deleted sequence are not updated and all sequences and calibrations are lost during save.

4. Fixed the syntax error message in the status bar.

What's Fixed in version 5.2.0 SP3

1. Fixed a problem for Vista Service Pack 1 where sometimes if the controller is reset from Tools | Controller when connected via USB, a blue screen can occur.

2. Fixed a problem for Smart Cameras when using multiple projects and multiple cameras from one PC. The current project was overwriting the previous project in the camera if the camera was not used in the current project. For example, if Project 1 is configured to use Controller 1 and Camera 1, and Project 2 is configured to use Controller 2 and Camera 2 and both cameras were on the same network, the project in Camera 1 was overwritten when Project 2 was built. Starting with 5.2.0 SP3, the project build overwrites the project only in the cameras used in that project. For details on using multiple cameras in separate projects, see *Using multiple cameras in separate projects* in section *Vision Guide 5.0* later in this document.

3. Fixed a problem for Smart Cameras where after a sequence is created, a timeout occurs for Camera 1. For this problem to be fixed, you must also update your Smart Camera firmware to v1.0.0.3 or greater. Firmware v1.0.0.3 is included with 5.2.0 SP3.

4. Fixed a problem where the controller execution could hang if a variable is declared after it is used.

5. Fixed a problem where if a global array was declared in one file and a global of the same name which is not an array was declared in another file, no compiler error occurred.

6. Fixed a problem where sometimes if a function or variable is used in one program file but defined in another, the wrong function or variable could be used.

7. Fixed a problem where if the following statements are using a variable which is defined in another program file, the compiler may have errors.

    ParseStr, UBound, Redim, Readbin, WriteBin

8. Fixed a problem where sometimes the project in the controller is combined with the current project when using monitor mode and Project | Open.

What's Fixed in version 5.2.0 SP2

1. Fixed a problem where a function is executed during a task command when the task is not running. The affected task commands are: Error, Halt, Quit, Resume, Ton, Toff, TaskDone, TaskState, TaskInfo, TaskInfo$, and TaskWait. For example, when the following statement executes, the function MyFunc is executed if it is not already running and it is in another program file:

   Program file main.prg

   ```
   Function main
     Halt MyFunc
   Fend
   ```

   Program file functions.prg

   ```
   Function MyFunc
     Do
       Print "MyFunc executing"
       ' some processing here
     Loop
   Fend
   ```

What's Fixed in version 5.2.0 SP1

1. Fixed arm and tool for Vision Guide upward camera calibration. During calibration, arm and tool were being set to zero. They should be set to the RobotArm and RobotTool calibration property values during calibration.

2. Fixed arm and tool for Vision Guide teaching of calibration points. Now when calibration points are taught, the robot arm and tool are set to the RobotArm and RobotTool calibration property values before teaching the reference point.

3. Fixed Setup | Robot | Amplifiers for G10 robots.

4. In VB Guide 5.0 previous versions, opening the Robot Manager with RunDialog after setting the Project property did not automatically build the project, so points in the controller were not up to date. Now when the Project property is set after connection to the controller, the project is built and sent to the controller.

What's New in version 5.2.0

1. Microsoft Windows Vista Business is now supported

2. G-series robots are now supported.

3. Vision Guide supports "Don't care pixels"

4. Boxes and Planes.   You can specify up to 15 Boxes and 15 Planes.   You can detect if the robot is inside a box or plane using InsideBox, InsidePlane, and Wait.   There are also corresponding remote output bits.   This feature requires controller version 1.6.0.0 or greater.

5. You can now have up to 15 arm definitions and 15 tool definitions.   This feature requires controller version 1.6.0.0 or greater.

6. Demos have been added for Visual C# and Visual C++.

7. New LJM Command.   The LJM command instructs the controller to use the least joint motion to move to a point.   This feature requires controller version 1.6.0.0 or greater.

8   You can now specify NoPause or NoEmgAbort for the task type. These special tasks continuously process when the system is paused, the safeguard is open, or emergency stop has occurred.   This feature requires controller version 1.6.0.0 or greater.

9. New OLAccel Command.   The OLAccel command configures the automatic adjustment of acceleration/deceleration according to the overload rating of the robot.   This feature requires controller version 1.6.0.0 or greater.

What's Fixed in version 5.2.0

1. VB Guide SetVar now works for long and Boolean data types.
2. FoundColor and Graphics properties now work from VSet executed at runtime.
3. Angle result for the Polar object now returns the correct value.
4. Fixed memory leak for ImageOp flip operations.
5. Fixed several minor GUI problems.

GUI

Buttons or other GUI components are displayed incorrectly

Buttons or other GUI components are displayed incorrectly if the Windows DPI setting is not 96.   Also, when using Vision Guide, Smart Camera communication timeout errors can occur.   EPSON RC+ 5.0 currently does not support Windows DPI settings other than 96.   Some laptops are shipped with DPI set to 120, so it needs to be changed to 96 to use EPSON RC+ 5.0.   To change the Windows DPI, open Display properties from the Control Panel, then go to Settings | Advanced | General | DPI. Change to Normal (96).

Starting with version 5.2.0 SP4, a warning message is displayed when EPSON RC+ is started and the Windows DPI setting is not 96.

Vision Guide 5.0

Communication timeout can occur when opening Vision Guide

When you attempt to open the Vision Guide window, you may receive a communication timeout error if the Windows DPI setting is not set to 96 (normal).   See the section Buttons or other GUI components are displayed incorrectly above for more information.

ImageFile Property

The EPSON Smart Camera supports one image file stored in each camera project. When an ImageFile is specified for a sequence, it is copied to the camera when the sequence is selected from the Vision Guide GUI.

You can use the SaveImage property to save an unlimited number of images on the PC.

Using one camera from two controllers

The EPSON Smart Camera supports two vision projects.   Each vision project can be used by one controller, so two controllers can use the same camera.   Project 1 is used by default.   To use project 2, change the camera project number from EPSON RC+ Project | Properties | Vision.

Using multiple cameras in separate projects

In some scenarios you may want to have separate projects for each Smart Camera and controller.   For example, Project 1 uses Smart Camera 1 and Controller 1, Project 2 uses Smart Camera 2 and Controller 2, etc.   Improvements were made in 5.2.0 SP3 for this. In this situation, after configuring the sequence camera(s) in each project, go back and rebuild each project once to send the correct project file to each camera.   This is because when a new sequence is created, the current project file is sent to camera 1, the default camera, which overwrites the existing project file in the camera.   Once the cameras are configured correctly, you can make changes to each project and build normally.   When debugging your projects, it is recommended that you start a separate EPSON RC+ session for each project.   In each session, open one of the projects and connect to the corresponding controller.

Offline Mode

When you open the Vision Guide window, EPSON RC+ attempts to communicate with the Smart Cameras configured in Setup | Vision that are used in the current project.   If communication cannot be initiated, a message box is displayed stating that one or more Smart Cameras cannot be connected and asking if you would like to open Vision Guide in offline mode.   Answer Yes to enter Offline Mode.   In Offline Mode, you can edit Sequences, Objects, and Calibrations.   To enter Online Mode, close the Vision Guide window, then open it again.

Importing from EPSON RC+ Ver.3.x and Ver.4.x with Vision Guide

You can import projects that were created in EPSON RC+ Ver.3.x and Ver.4.x that used the Vision Guide option.

To import a project:

1. In EPSON RC+ 5.0, select Project | Import.
2. Select PC and click Next.
3. Select EPSON RC+ 3.x / 4.x for the Project Type.
4. Select the drive and project to import and continue with the wizard.

Please review the following information regarding imported EPSON RC+ Ver.4.x projects:

- Vision calibrations are imported, but the associated calibration data is not imported.   You will need to run your calibrations after import.

- The RobotU vision result is changed.   In EPSON RC+ Ver.4.x, RobotU was reported with 0 degrees aligned with the robot world Y axis.   Now RobotU is reported with 0 degrees aligned with the robot world X axis.

- Maximum NumberToFind is changed. In Vision Guide 5.0, the maximum NumberToFind for any multi-result object is 100. During import, NumberToFind is reduced to 100 if necessary.

- Calibration properties cannot be set at runtime.

- VCalPoints and VCal are not supported. Vision calibrations cannot be executed at runtime.

- Vision model properties cannot be set at runtime.

- VTeach is not supported. Vision models cannot be taught at runtime.

- OCR and Code Reader objects are currently not supported in Vision Guide 5.0. During import, OCR objects are converted to Correlation objects, and Code Reader objects are converted to Blob objects.

Camera connected to another PC warning message

Normally, if one PC tries to connect to a Smart Camera that is already connected to another PC or controller, you will see a message box stating this.

However, sometimes if the Ethernet cable is disconnected or if EPSON RC+ is terminated while connected to a Smart Camera, then on the next connection attempt, you will receive the message described above. In this case, reset the camera from Setup | Vision, or power cycle the camera. Then rebuild the current project using Project | Rebuild.

VB Guide 5.0

Upgrading from previous versions

After upgrading EPSON RC+, you will need to update the reference files in your .NET project. To do this, remove the reference to SpelNetLib.dll, then add it again.