

EPSON RC+ 7.5.1A Release Notes

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Thank you for using EPSON RC+ 7.5.1. This document contains the latest information for this release. Please read before using this software.

DOCUMENTATION	2
GETTING STARTED	2
WHAT'S NEW IN VERSION 7.5.1A	2
WHAT'S NEW IN VERSION 7.5.1	2
GENERAL	2
PART FEEDING	2
FIELDBUS	3
VISION GUIDE	3
CONVEYOR TRACKING.....	3
FORCE GUIDE.....	3
SIMULATOR.....	4
WHAT'S FIXED IN VERSION 7.5.1	4
VISION GUIDE	4
PART FEEDING	5
API	5
SIMULATOR.....	5
AOI	6
SPEL_RESET AOI.....	6
VISION GUIDE	7
CAMERA & LENS SELECTION TOOL	7
PARAMETER TUNING TOOL.....	7

Documentation

All RC+ manuals are in PDF format and are installed on the PC hard disk. These manuals are accessible from the EPSON RC+ 7.0 environment Help menu.

Getting Started

Read the Getting Started chapter in the EPSON RC+ 7.0 User's Guide. This chapter will refer you to a robot controller installation manual. This contains information for initial connections and start up.

What's New in version 7.5.1A

1. Added support for T3-B series and T6-B series robots.

What's New in version 7.5.1

General

1. Added support for LS6-B602S-V1 robot.
2. Added support for robot hands. Robot hands can be configured from the Robot Manager Hands page. The robot controller firmware version must be 7.5.1.0 or greater.
3. Added support for SCARA robot joint accuracy calibration. The robot controller firmware version must be 7.5.1.0 or greater.
4. Added Project Wizard for creating new projects. It includes the ability to create simple pick and place projects. Refer to section 5.9.1 in the EPSON RC+ 7.0 User's Guide for details.

Part Feeding

Note: In order to use v7.5.1 Part Feeding, the robot controller firmware version must be 7.5.1.0 or greater.

5. Added the ability for users to control the vibrations from SPEL+. Added the vibration callback function for custom controlling the feeder.
6. The calibration dialog was changed to support manual tuning of vibrations.
7. Added support for selection of centering method.
8. Support for controller backup & restore of feeder configurations.

Fieldbus

9. Support for Allen-Bradley AOI is now included with the installer instead of being provided by a separate installer.
10. Added SPEL_Reset AOI. The robot controller firmware version must be 7.5.1.0 or greater to use this AOI. See the section *AOI* later in this document.
11. Added support for CODESYS function blocks.

Vision Guide

12. Added Basic and Advanced modes for the Vision Guide window property and results grids.
13. Added new Description property for sequences, objects, and calibrations. For Compact Vision, CV2-A firmware version 3.1.4.0 or greater must be installed
14. Added ability to select the object result in the statistics dialog.

Conveyor Tracking

15. Added result screen of the conveyor calibration.

Force Guide

16. Improved performance of Contact object, ContactProbe object and PressProbe object. If you want to maintain compatibility with previous version, set 7.4.0 to Version property of Force Guide sequence.

17. Improved usability of Force Guide window.

The robot controller firmware version must be 7.5.1.0 or greater to use the following functions of Force Guide.

18. Added system sequence and system object.
19. Added function that move multiple consecutive points to PressMove object and FollowMove object.
20. Added function that reduce overshoot on contact to Force Trigger object.
21. Added Force Motion Restriction object for changing executions based on position or orientation of robot.

Simulator

22. Added Virtual Direct Teaching function. It is now possible to perform jog operations by dragging the tip of the robot tool with the mouse.
23. Added Robot Operation Panel. You can use the slide bar to jog each arm of the robot. By the slide bar, it is now possible to perform a jog operation of each arm of the robot.

What's Fixed in version 7.5.1

Vision Guide

1. Fixed a memory leak problem which occurred when a vision sequence was run with the ShowProcessing property set to False. This affects PC Vision and Compact Vision. For Compact Vision, CV2-A firmware version 3.1.3.2 or greater must be installed.
2. Fixed a problem where after teaching vision calibration points from the Vision Guide window, the Teach Points and Calibration buttons are hidden.
3. Fixed a problem for strobed image acquisition. The CV2-A unit became unresponsive after VRun is executed for a sequence with RuntimeAcquire set to Strobed. CV2-A firmware v3.1.3.1 must be installed, which is included in 7.5.0 R1.
4. Fixed a problem where RC+ 7.5.0 could not connect to CV2-A units using firmware v3.1.0.1 or before. Using 7.5.1, after connecting to the CV2-A, the firmware should be upgraded to v3.1.3.1 or greater to allow operation with robot controllers.
5. Fixed a problem for when the Vision Guide window was opened in offline mode for RC+ sessions other than the first session and PC vision or virtual cameras were being used in the project, then an exception occurred.
6. Fixed a problem for upward camera calibration when the specified RobotTool has large offsets. The calibration could not be performed.
7. Fixed a problem for VGoCenter. The Abort button was not stopping the process.
8. Fixed AngleObjResult for the Point object. You could only select up to result 2.
9. Now HDRMode is prevented when using a color camera and ImageColor is not GrayScale.

10. Fixed a problem for changing to program mode during startup in auto mode. If the control device was remote, and there were background tasks running, you could not stop the background tasks.
11. Fixed a problem where when using Compact Vision, if you changed the size of a model window, the model should have been deleted, but after restarting RC+ or the CV unit, the model was still valid.
12. Fixed a problem for OCR ExportFont for when a network URL is used.
13. Fixed a problem for importing a vision sequence that included a Contour object with a taught model. The model file was not being imported.
14. Fixed a problem for CodeReader when CodeType is set to EAN13 and Code128OutputChecksum is set to True.
15. Fixed a problem for OCR where if the object was renamed, the model data was lost.
16. Fixed a problem for the Point object. When copied, the CenterPointObject properties were not copied.
17. Fixed a problem for the ColorMatch object. If the SearchWinType was changed to Circle, an invalid error "Illegal value for Type property" occurred.

Part Feeding

18. Added the ability to import multiple parts at the same time from another project.
19. Fixed a problem where the ThresholdColor property setting in the part blob sequence was not being used by the system.
20. Fixed a problem where a user aborted error was occurring instead of the correct error during PF calibration.

API

21. Fixed a problem for the API EStopOn property. A "String was not recognized as a valid Boolean" exception was occurring.

Simulator

22. Fixed a problem where the default name of the Surveillance area and the Surveillance plane object could not be changed to more than 16 characters even though it exceeds 16 characters. The simulator now allows these names to be up to 32 characters in length, including Box, Sphere, Cylinder, and Plane objects.

23. Fixed a problem where when the collision margin was enabled for a mobile camera, the collision was detected even though it did not collide with other objects.
24. Fixed a problem where the rotation guide displayed when rotating the Surveillance area object by mouse operation was not displayed correctly.
25. Fixed a problem where RC+ crashes when acA1600-60gm and acA1600-60gc are selected in the camera addition dialog.
26. Fixed a problem where the Hand object and the Force sensor would collide.
27. Fixed a problem where RC+ crashes when the Pick, Place, and SetParent properties are used in the SimSet command.
28. Fixed a problem where it took a long time to open a project that uses many point files.
29. Fixed a problem that RC+ might crash when pressing the Teach button in the teach dialog.

AOI

The SPEL_Reset AOI has been added. Controller firmware version 7.5.1.0 or greater is required.

SPEL_Reset AOI

Description

Resets the robot controller to an initialized state.

Common Inputs and Outputs

Refer to section 2.4 *Function Block Common Inputs and Output* in the PLC Function Block manual.

Operation

Refer to section 2.5 *Function Block General Operation* in the Function Block manual.

Refer to the *Reset Statement* in the SPEL+ Language Reference manual. The SPEL_Reset AOI performs the same functionality as the SPEL+ Reset statement. Note that the Reset Error statement described in the SPEL+ language reference is not the same as the SPEL_ResetError AOI. The Reset Error statement is for use in SPEL+ programs with advanced task commands enabled in the controller so that a system error can be reset from within a program and is not required for PLC control. The SPEL_ResetError AOI is for resetting an error that occurred during an AOI execution.

Vision Guide

Camera & Lens Selection Tool

A camera and lens selection tool is provided in the EpsonRC70\Tools folder after installation. A PDF file with instructions is provided in the folder.

Parameter Tuning Tool

A sample project for a vision parameter tuning tool is provided in EpsonRC70\Projects\Samples\Vision\VGTuningTool. A PDF file with instructions is provided in the folder. The GUI Builder option is required to use this tool.