

# EPSON RC+ 7.0.5 Release Notes

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Thank you for using EPSON RC+ 7.0.5. This document contains the latest information for this release. Please read before using this software.

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## 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 the RC700/RC90 Controller manual Installation chapter. This contains information for initial connections and start up.

## What's Fixed in version 7.0.5

### General

1. Fixed I/O Monitor and I/O Label Editor for expansion I/O. Previously, there were 32 bits of inputs and outputs displayed per board, but it should have been 24 bits of inputs and 16 bits of outputs per board.
2. Fixed a problem for Robot Manager when using multiple robots. If the Robot Manager was open, and the controller connection was changed from the Setup | PC to Robot Controller Communications dialog, then the robot was not updated in Robot Manager.
3. Fixed several minor GUI issues.

### Fieldbus

4. Fixed a problem for FBusIO\_GetDeviceStatus when it was called before executing any I/O commands for Fieldbus.

### RC+ API

5. Fixed a problem when using the RC+ 7.0 API in LabVIEW with multiple controllers. Before, only one controller could be used from LabVIEW.
6. Added float (Single) data type support for VGet and VSet.
7. Removed the message box that was displayed when an error occurred for VGet. Only the exception should have been generated.

### Vision Guide

8. Fixed an issue for Point object when a sequence was aborted by a previous object which had AbortSeqOnFail set to True.
9. Fixed exception that occurred when a center point object for a Point was deleted.
10. Fixed drawing size for Point object when ImageSize is 320 x 240.
11. Fixed teaching for ColorMatch when a CenterPointObject was used. Before, after running the object, when Teach was attempted, an exception occurred.
12. Now a floating point value can be entered for ModelWinAngle in the Vision Guide window. Before, only integer values could be entered.

13. Fixed a problem in PC Vision for Correlation and Geometric tools where PixelX and PixelY results were shifted when the model window was rotated and ModelOrgAutoCenter was set to False. For CV1 vision, this problem was fixed in firmware version 2.1.0.8.
14. Fixed a problem for ModelOrgX and ModelOrgY. Sometimes these values could not be changed from the Vision Guide window property grid when the model window angle is not zero.
15. Fixed a problem for CodeReader. If the CodeType was set to Code128, then the FoundCodeType was Code39.

## RC+ API 7.0

### **General**

RC+ API 7.0 was named VB Guide in previous EPSON RC+ products.

### **Using ResetAbort**

The RC+ API has a safety mechanism that prevents methods from executing after Abort or Stop has been executed. This feature is enabled by default.

For example, if the Stop method is executed, an internal abort flag is set. If the stop occurred during the first Go method below, then the motion is stopped. When the second Go method executes, an exception will be thrown indicating that a stop has occurred.

```
m_spel.Go(1);  
m_spel.Go(2);
```

To clear this condition, the ResetAbort method must be executed.

You can disable this mechanism by setting ResetAbortEnabled to False, but use caution, since after a Stop, the next method will execute. For example, in the code above, if ResetAbortEnabled = False, and Stop is executed during the first Go method or between the Go methods, the second Go method will execute.

### **Executing Spel commands within a button click event**

In .NET, if you execute a method in a button click event, you cannot click another button to execute another method on the first click. For example, if you execute the Go method in a button click event, and attempt to click another button to execute the Abort method, the second button will not respond the first time. This is true even if Connectivity 7.0 is not used. Instead, use the button MouseDown event to execute the Go method, or execute Spel commands in a separate thread as described in the following topic.

## ***Executing Spel motion commands in a separate thread***

If you will be executing Spel motion commands from your .NET application, it is recommended that you execute them in a separate thread. This will allow other methods such as Abort to be executed from other buttons. The example below shows a separate thread for Spel motion commands.

```
private void btnStartCycle_Click(object sender, EventArgs e)
{
    btnStartCycle.Enabled = false;
    btnStopCycle.Enabled = true;
    m_stop = false;
    m_spel.ResetAbort();

    // Start the robot cycle
    System.Threading.Thread t = new System.Threading.Thread(RobotCycle);
    t.Start();
}

private void btnStopCycle_Click(object sender, EventArgs e)
{
    m_stop = true;
    m_spel.Abort(); // Optional. This will immediately stop the cycle
    btnStopCycle.Enabled = false;
    btnStartCycle.Enabled = true;
}

private void RobotCycle()
{
    try
    {
        do
        {
            m_spel.Jump("pick");
            m_spel.On("GripOn");
            m_spel.Delay(100);
            m_spel.Jump("place");
            m_spel.Off("GripOn");
            m_spel.Delay(100);
        } while (!m_stop);
    }
    catch (SpelException e)
    {
        // If the error is not "Command aborted by user",
        // then show the error message
        if (e.ErrorNumber != 10101)
            MessageBox.Show("Spel error occurred\r\n\r\n" + e.Message);
    }
}
```

## **Vision Guide 7.0**

### ***Using one camera from two controllers***

The EPSON CV1 supports two vision projects. Each vision project can be used by one controller, so two controllers can use the same CV1. Project 1 is used by default. To use project 2, change the camera project number from RC+ Project | Properties | Vision.

### ***Offline Mode***

When you open the Vision Guide window, RC+ attempts to communicate with the network cameras configured in Setup | System Configuration | Vision. If communication cannot be initiated, a message box is displayed stating that one or more network 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, re-select the camera in the Sequence property grid, or close the Vision Guide window, then open it again.

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

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

To import a project:

1. In EPSON RC+ 7.0, 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+ 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+ 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 7.0, 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.

### ***Camera connected to another PC warning message***

Normally, if one PC tries to connect to a network 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 the RC+ process is terminated while connected to a CV1, then on the next connection attempt, you may receive the message described above. In this case, reset the camera from Setup | System Configuration | Vision, or power cycle the camera. Then rebuild the current project using Project | Rebuild.