

# MicroLogix 1200 and 1500 Programmable Controllers Firmware Upgrade

(Bulletin 1762 and 1764 Controllers)

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## About This Publication

These release notes for MicroLogix 1200 controllers with Series C FRN 12 operating system firmware and MicroLogix 1500 controllers with Series C FRN 11 operating system firmware supplement the existing documentation supplied with your product.

Keep this document with your *MicroLogix 1200 and MicroLogix 1500 Programmable Controllers Instruction Set Reference Manual*, publication number [1762-RM001](#).

### New Features and Enhancements

#### MicroLogix 1200

Catalog Number	OS <sup>(1)</sup> Series Letter	OS Revision Letter	OS Firmware Release No.	Release Date	Enhancement
1762-L24AWA	A	A	FRN1	March 2000	Initial product release.
1762-L24BWA 1762-L40AWA 1762-L40BWA	A	B	FRN2	May 2000	The trim pots (trimming potentiometers) on the controller operated in reverse of the ladder logic. Corrected.
	B	A	FRN3	November 2000	MicroLogix 1200 controllers now offer: <ul style="list-style-type: none"> <li>• Full ASCII (read/write)</li> <li>• PTO Controlled Stop</li> <li>• PWM Ramping</li> <li>• RTC and String Messaging</li> <li>• Static Data File Protection</li> <li>• Comms Reset Pushbutton Bit</li> </ul>
1762-L24BXB 1762-L40BXB	B	A	FRN3	November 2000	Initial product release. Supports all the features listed above for the 1762-L24xWA and 1762-L40xWA controllers.

**MicroLogix 1200**

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1762-L24AWA 1762-L24BWA 1762-L24BXB 1762-L40AWA 1762-L40BWA 1762-L40BXB	C	A	FRN4 <sup>(2)</sup>	June 2001	MicroLogix 1200 controllers now offer: <ul style="list-style-type: none"> <li>• Floating Point (F) Data File for use with: compare instructions (EQU, GEQ, GRT, LEQ, LES, LIM, NEQ); math instructions (ABS, ADD, CLR, DIV, MUL, NEG, SQR, SUB); move instruction (MOV); file instructions (CPW, FLL); and the message (MSG) instruction</li> <li>• Programmable Limit Switch (PLS) File for use with HSC</li> <li>• RTA - Real Time Clock Adjust</li> <li>• GCD - Gray Code</li> <li>• CPW - Copy Word</li> <li>• ABS - Absolute Value</li> </ul>
	C	B	FRN5 <sup>(3)</sup>	March 2002	Internal firmware revision; no user functionality change.
	C	C	FRN6 <sup>(3)</sup>	September 2002	MicroLogix 1200 Controllers now offer: <ul style="list-style-type: none"> <li>• The Floating Point (F) Data File can now be used with the Scale with Parameters (SCP)</li> <li>• Modbus Memory Mapping Enhancements</li> </ul>

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### MicroLogix 1200

Catalog Number	OS <sup>(1)</sup> Series Letter	OS Revision Letter	OS Firmware Release No.	Release Date	Enhancement
1762-L24AWA 1762-L24BWA 1762-L24BXB 1762-L40AWA 1762-L40BWA 1762-L40BXB	C	D	FRN7	April 2003	MicroLogix 1200 Controllers now offer: <ul style="list-style-type: none"> <li>• DF1 Half-Duplex Master Driver</li> <li>• DF1 Radio Modem Driver</li> <li>• Enhanced DF1 Broadcast Support</li> <li>• ASCII Clear Buffer (ACL) instruction enhancement</li> </ul>
	C	E	FRN8	November 2003	MicroLogix 1200 Controllers now offer: <ul style="list-style-type: none"> <li>• Modbus Master Protocol</li> <li>• PTO Independent Accel/Decel profiles</li> </ul>
1762-L24AWAR 1762-L24BWAR 1762-L24BXBR 1762-L40AWAR 1762-L40BWAR 1762-L40BXBR	C	E	FRN8	March 2004	MicroLogix 1200 Controllers now offer: <ul style="list-style-type: none"> <li>• Additional communications port called the programmer/HMI Port</li> </ul>
1762-L24AWA 1762-L24BWA 1762-L24BXB 1762-L40AWA 1762-L40BWA 1762-L40BXB	C	F	FRN 9	May 2004	<ul style="list-style-type: none"> <li>• Fixed reply of BCC for DF1-Master transmissions</li> <li>• Fixed delay time for DF1-Master transmissions with Half-duplex hand shaking turned on</li> <li>• Supported FUJISTU's and STM's Flash Memory.</li> </ul>
1762-L24AWAR 1762-L24BWAR 1762-L24BXBR 1762-L40AWAR 1762-L40BWAR 1762-L40BXBR	C	G	FRN 10	January 2005	<ul style="list-style-type: none"> <li>• Fixed defects for abnormal shutdown problem for ML1200/ML1210. When EPhardFault() function is called from OS firmware, ML1200/ML1210 does not shutdown properly. The reason is that the pointer UfdlProgramFlashPtr in BOOT firmware was overwritten by OS firmware. So, the pointer areas were reserved to prevent from overwriting by OS firmware.</li> </ul>

**MicroLogix 1200**

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1762-L24AWA 1762-L24BWA 1762-L24BXB 1762-L40AWA 1762-L40BWA 1762-L40BXB	C	H	FRN 11	November 2005	<ul style="list-style-type: none"> <li>Fixed defect for Hard Fault in Bit addressing into a PLS file</li> <li>Fixed defect for Pre-Transmit Delay in DF1-RM.</li> <li>Fixed defect for ACL instruction. If ACL instruction is placed alone on a rung, communication will be blocked by this defect. When both transmit and receive buffer clear options are selected, if default COMM button is pressed, ACL instruction does not purge other buffers</li> <li>Changed the indirect bit address check in the Pre-First Pass. Checking for the indirect bit address is not performed in the Pre-First Pass. So, the controller will generate Fault during RUN mode instead of Hard Fault during Pre-First Pass</li> <li>Promoted OS function type to 0x400B</li> </ul>
1762-L24AWAR 1762-L24BWAR 1762-L24BXBR 1762-L40AWAR 1762-L40BWAR 1762-L40BXBR	C	H	FRN 11	November 2005	<ul style="list-style-type: none"> <li>As above</li> <li>Promoted OS function type to 0x400C</li> </ul>
1762-L24AWA 1762-L24BWA 1762-L24BXB 1762-L40AWA 1762-L40BWA 1762-L40BXB  1762-L24AWAR 1762-L24BWAR 1762-L24BXBR 1762-L40AWAR 1762-L40BWAR 1762-L40BXBR	C	H	FRN 12	April 2008	<ul style="list-style-type: none"> <li>Fixed defect for user flash writing for Ladder Program programming</li> <li>Removed the PowerUpcounter value check with 0xFFFF in Power Down data structure to prevent possible logic error</li> <li>Added the solution for DH485 remote communication issue which controller should always accept a Destination Link ID of zero as valid.</li> </ul>

### MicroLogix 1200

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There are operating system firmware flash upgrades and downgrades available for MicroLogix 1200 controllers from the MicroLogix website, [www.ab.com/micrologix](http://www.ab.com/micrologix). Any controller may be upgraded to the latest release by using these tools. Issues regarding downgrading are discussed below.

- (1) OS = Operating System.
- (2) For users of RSLogix 500 Programming Software version 4.5 - MicroLogix 1200 Series C Revision A controllers with FRN4 firmware may be downgraded for compatibility with this version of software using the ControlFlash FRN3 tool available on the MicroLogix website. Your controller may be later upgraded using the FRN5 (which replaces the FRN4 ControlFlash upgrade, and is a functional equivalent) or higher ControlFlash tool.
- (3) For users of RSLogix 500 Programming Software version 4.5 - MicroLogix 1200 Series C Revision B controllers with FRN5 or later firmware may be downgraded for compatibility with this version of software using the ControlFlash FRN 3.1 tool available on the MicroLogix website. Your controller may be later upgraded using the FRN5 (which replaces the FRN 4 ControlFlash upgrade, and is a functional equivalent) or higher ControlFlash tool.

**MicroLogix 1500**

<b>Catalog Number</b>	<b>OS<sup>(1)</sup> Series Letter</b>	<b>OS Revision Letter</b>	<b>OS Firmware Release No.</b>	<b>Release Date</b>	<b>Enhancement</b>
1764-LSP	A	B	FRN2	February 1999	Initial product release.
1764-LSP	A	C	FRN3	October 1999	MicroLogix 1500 Controllers with 1764-LSP Processor can now be used with Compact I/O (Bulletin 1769) Expansion Cables and Power Supplies.
1764-LSP	B	A	FRN4	April 2000	MicroLogix 1500 Controllers with 1764-LSP Processor can now use: <ul style="list-style-type: none"> <li>• String Data File Type</li> <li>• ASCII Instruction Set Support</li> <li>• Modbus RTU Slave protocol</li> <li>• Ramping, when using PWM outputs</li> <li>• Static Data File Protection</li> <li>• RTC Messaging</li> </ul>
1764-LRP	B	A	FRN4	April 2000	Initial product release. MicroLogix 1500 Controllers with 1764-LRP Processor has all the features of the 1764-LSP, plus: <ul style="list-style-type: none"> <li>• Second communications port (isolated RS-232)</li> <li>• Data Logging capability</li> </ul>
1764-LSP 1764-LRP	B	B	FRN5	October 2000	For both the 1764-LSP and LRP processors: <ul style="list-style-type: none"> <li>• When using the PTO feature, the controller can now perform a controlled stop when using PTO outputs. The deceleration phase of the PTO can be initiated early via ladder logic.</li> <li>• Enhanced program compare bit functionality in the Memory Module.</li> </ul>

**MicroLogix 1500**

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1764-LSP 1764-LRP	C	A	FRN6	September 2001	<p>MicroLogix 1500 Controllers now offer:</p> <ul style="list-style-type: none"> <li>Floating Point (F) Data File for use with: compare instructions (EQU, GEQ, GRT, LEQ, LES, LIM, NEQ); math instructions (ABS, ADD, CLR, DIV, JUL, NEG, SQR, SUB); move instruction (MOV); file instructions (CPW, FLL); and the message (MSG) instruction</li> <li>Programmable Limit Switch (PLS) File for use with HSC</li> <li>RTA - Real Time Clock Adjust</li> <li>GCD - Gray Code</li> <li>CPW - Copy Word</li> <li>ABS - Absolute Value</li> <li>RCP - Recipe</li> <li>MSG - Message on DeviceNet (<i>1764-LRP only</i>)</li> </ul>
1764-LSP 1764-LRP	C	B	FRN7	September 2002	<p>MicroLogix 1500 Controllers now offer:</p> <ul style="list-style-type: none"> <li>The Floating Point (F) Data File can now be used with the Scale with Parameters (SCP)</li> <li>Modbus Memory Mapping Enhancements</li> </ul>
1764-LSP 1764-LRP	C	C	FRN8	April 2003	<p>MicroLogix 1500 Controllers now offer:</p> <ul style="list-style-type: none"> <li>DF1 Half-Duplex Master Driver</li> <li>DF1 Radio Modem Driver</li> <li>Enhanced DF1 Broadcast Support</li> <li>ASCII Clear Buffer (ACL) instruction enhancement</li> </ul>
1764-LRP	C	C	FRN8	April 2003	<p>MicroLogix 1500 Controllers now offer:</p> <ul style="list-style-type: none"> <li>Channel Diagnostic Counter Reset enhancement</li> </ul>

**MicroLogix 1500**

<b>Catalog Number</b>	<b>OS <sup>(1)</sup> Series Letter</b>	<b>OS Revision Letter</b>	<b>OS Firmware Release No.</b>	<b>Release Date</b>	<b>Enhancement</b>
1764-LSP 1764-LRP	C	D	FRN9	November 2003	MicroLogix 1500 Controllers now offer: <ul style="list-style-type: none"><li>• Modbus Master Protocol</li><li>• PTO Independent Accel/Decel profiles</li></ul>

## MicroLogix 1500

Catalog Number	OS <sup>(1)</sup> Series Letter	OS Revision Letter	OS Firmware Release No.	Release Date	Enhancement
1764-LSP 1764-LRP	C	D	FRN10	November 2005	<ul style="list-style-type: none"> <li>• Added support for the MM3/MM3RTC. The MM3/MM3RTC has the same user memory size as the MM2/MM2RTC except recipe data area. Recipe data which was stored to Data Log Queue area in ML1510 can be stored to upper 64Kbytes (actually maximum 48Kbytes) of the MM3/MM3RTC. So, this memory module will be used in ML1510 when Recipe data exists and is stored to Data Log Queue. There is no difference in the functionality between MM2/MM2RTC and MM3/MM3RTC except storing Recipe data in the Data Log Queue.</li> <li>• Removed support for the Memory Module Initialization features for MM1/MM1RTC/RTC /MM2/MM2RTC via serial communication due to Flash memory space. But, the Memory Module Initialization feature for MM3/MM3RTC is included.</li> <li>• Fixed defect for Hard Fault in Bit addressing into a PLS file.</li> <li>• Fixed defect for Pre-Transmit Delay in DF1-RM. This fix does not include the packet flush feature.</li> <li>• Fixed defect for ACL instruction. If ACL instruction is placed alone on a rung, communication will be blocked by this defect. When both transmit and receive buffer clear options are selected, if default COMM button is pressed, ACL instruction does not purge other buffers.</li> <li>• Changed the indirect bit address check in the Pre-First Pass. Checking for the indirect bit address is not performed in the Pre-First Pass. So, the controller will generate Fault during RUN mode instead of Hard Fault during Pre-First Pass.</li> </ul>

**MicroLogix 1500**

<b>Catalog Number</b>	<b>OS <sup>(1)</sup> Series Letter</b>	<b>OS Revision Letter</b>	<b>OS Firmware Release No.</b>	<b>Release Date</b>	<b>Enhancement</b>
1764-LSP 1764-LRP	C	D	FRN11	January 2006	<ul style="list-style-type: none"><li>Fixed defect for the maximum Processor Image reading/writing from/to MM3/MM3RTC.</li></ul>

<sup>(1)</sup> OS = Operating System.

## Rockwell Automation Support

Rockwell Automation provides technical information on the Web to assist you in using its products. At <http://support.rockwellautomation.com>, you can find technical manuals, a knowledge base of FAQs, technical and application notes, sample code and links to software service packs, and a MySupport feature that you can customize to make the best use of these tools.

For an additional level of technical phone support for installation, configuration, and troubleshooting, we offer TechConnect support programs. For more information, contact your local distributor or Rockwell Automation representative, or visit <http://support.rockwellautomation.com>.

## Installation Assistance

If you experience a problem within the first 24 hours of installation, please review the information that's contained in this manual. You can also contact a special Customer Support number for initial help in getting your product up and running.

United States	1.440.646.3434 Monday – Friday, 8 a.m. – 5 p.m. EST
Outside United States	Please contact your local Rockwell Automation representative for any technical support issues.

## New Product Satisfaction Return

Rockwell Automation tests all of its products to ensure that they are fully operational when shipped from the manufacturing facility. However, if your product is not functioning and needs to be returned, follow these procedures.

United States	Contact your distributor. You must provide a Customer Support case number (see phone number above to obtain one) to your distributor in order to complete the return process.
Outside United States	Please contact your local Rockwell Automation representative for the return procedure.

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Publication 1762-RN001B-EN-P - December 2009

Supersedes Publication 1762-RN001A-EN-P - April 2003

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