

515RTAENI-N34 Use Cases

Revision 1



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Overview

This documentation is for the most common use cases. This will not go through all the configurable parameter within the 515RTAENI, please refer to the 515RTAENI user guide which can be found on the provided CD.

The following use cases are for the 515RTAENI-N34

(E) = Ethernet Connection

(S) = Serial Connection

For Peer to Peer messaging the first protocol is where the message instruction is in the application.

Ex. SLC (S) to CompactLogix (E). The SLC would have the message command.



RSLogix 500:

MicroLogix (S)

- 1. Verify the serial setting in the Network Tab of the 515RTAENI match the DF1 serial settings for your MicroLogix PLC.
 - a. To verify your PLC DF1 Serial setting refer to PLC Serial Setting section of this guide.
- 2. Make sure using Allen-Bradley 1756-CP3 Cable (DB9 to DB9) or Allen-Bradley 1761-CBL-PM02 Ser. C (Mini din to DB9).
- 3. Load the Latest EDS file.
 - a. You can load the latest EDS for ether the CD or the Utility's tab on the Web based configuration. (Refer to How to load EDS file section of this guide if you need help.)
- 4. Create Ethernet Device Driver in RSLinx
 - a. Use IP Address of the 515RTAENI

Note: Use Ethernet Devices Drivers in RSLinx. SLC and MicroLogix don't work with the Ethernet/IP Driver.

b. Verify your MicroLogix can be found in RS Links:





Open RSLogix 500

Select Comms -> System Comms -> Select your Driver and the 515RTAENI -> Download, Upload

or Online

* RSLogix 500 Starter						
File View Comms Tools Window Help					20	
D 🛎 🖬 @ X 🖻 @ ♡ ભ	- 66		a, ⊡ ♪ _	→ + → -	*	
OFFLINE No Forces No Edits Forces Disabled						
Driver: AB_ETHIP-2 Node : Od	Sit A Timer/Counter	A input/Output A	Compare			
Communications						
🔽 Autobrowse 🛛 Refresh 🛛 🔁 👷 🎹 Browsing - node 10.1.16	6.107 found				OK	
University of the second secon	Address	Device Type	Online Name	Status	Cancel	
由····	10.1.16.107	MicroLogix 1100	UNTITLED	Remote Run	Help	
AB_DFI-1, DH-485					0.1	
10.1.16.107, MicroLogix 1100, UNTITLED					Unline	
표··· 묾 AB_ETHIP-1, Ethernet					Upload	
⊞क्षे AB_ETHIP-2, Ethernet					Download	
亩 📾 AB_VBP-1, 1789-A17/A Virtual Chassis						
Current Selection					Basky Times at	
Server: RSLinx API Driver: AB_ETH-1					10 (Sec.)	
Node: ju Decimal (=0 Octal) Type: SLC300				L A	oply to Project	



SLC 5/03, 04, 05 (S)

- 1. Verify the serial setting in the Network Tab of the 515RTAENI match the DF1 serial settings for your SLC PLC.
 - a. To verify your PLC DF1 Serial setting refer to PLC Serial Setting section of this guide.
- 1. Make sure using Allen-Bradley 1756-CP3 Cable (DB9 to DB9)

Note: Don't use an Allen-Bradley 1761-CBL-PM02 Ser. C (Mini din to DB9) with a SLC 5/04. Channel 1 is used for DH+. It sends +- 14 volts on some pins, thus will result in hardware failure.

- 2. Load the Latest EDS file.
 - a. You can load the latest EDS for ether the CD or the Utility's tab on the Web based configuration. (Refer to How to load EDS file section of this guide if you need help.)
- 3. Create Ethernet Device Driver in links
 - a. Use IP Address of the 515RTAENI

Note: Use Ethernet Device Drivers in RSLinx.

Verify your SLC can be found in RS Links:

🗞 RSLinx Classic Gateway - RSWho -	1			
File Edit View Communications	Station	DDE/OPC	Security	Window
≝ <u>#</u> \$ 0 @ 2 K?				
न्द्र RSWho - 1				
🔽 Autobrowse 🔤 Refresh	0 <u>0</u>	Not Browsing	I	
 B. Workstation, ROCKWELL-BEN B. 器 Linx Gateways, Ethernet B. 器 AB_DF1-1, DH-485 B. 器 AB_ETH-1, Ethernet B. 器 AB_ETH-3, Ethernet 	існ	2.1		
😑 📻 10.1.19.30, SLC-5/04, U	JNTITLED			



Open RSLogix 500

Select Comms -> System Comms -> Select your Driver and the 515RTAENI -> Download, Upload or Online





RSLogix 5000:

CompactLogix (S) (L32E), ControlLogix (S)

- 1. Verify the serial setting in the Network Tab of the 515RTAENI match the DF1 serial settings for your SLC PLC.
 - a. To verify your PLC DF1 Serial setting refer to PLC Serial Setting section of this guide.

Note: By Default, the L32E CompactLogix serial port is set to BCC.

- 1. Make sure using Allen-Bradley 1756-CP3 Cable (DB9 to DB9)
- 2. Load the Latest EDS file.
 - a. You can load the latest EDS for ether the CD or the Utility's tab on the Web based configuration.
- 3. Create Ethernet Device Driver in links
 - a. Use IP Address of the 515RTAENI





Open RSLogix 5000

Select Communications -> Who Active-> Select your Driver and Drill through the 515RTAENI to the 01, CompactLogix -> Download, Upload or Online.





Peer to Peer MSG:

MicroLogix (E) to SLC 5/03, 04, 05, MicroLogix (S)

Load up RSLogix 500 (E), Create new Program or modify program for MicroLogix (E) Files to Create MG9 Elements 1 RI10 Elements 1

Note: How to Create Files: While offline Right Click Data Files and Add New.

Message Instruction:



	🖹 MSG - MG9:0 : (1 Elements)			- • ×	
0	General MultiHop				
	Ins = Add Hop		Del = Bemove Ho	n	
	From Device	From Port	To Address Type	To Address	
1	This MicroLogix	Channel 1	EtherNet/IP Device (str):	10.1.19.30	IE.

Read Setup:

MSG - MG9:0 : (1 Elements)
General MultiHop
This Controller
Channel: 1 (Integral)
Communication Command: 500CPU Read
Data Table Address: N7:0
Size in Elements: 1
Target Device
Message Timeout : 33
Data Table Address: N7:0
Local / Remote : Local MultiHop: Yes Routing Information File(RI): [R]10:0



Write Setup:

MSG - MG9:0 : (1 Elements)
General MultiHop
This Controller
Channel: 1 (Integral)
Communication Command: 500CPU Write
Data Table Address: N7:0
Size in Elements: 1
Target Device
Message Timeout : 33
Data Table Address: N7:0
Local / Remote : Local MultiHop: Yes
Routing Information File(RI): RI10:0

Select Comms -> System Comms -> Select your Driver and the MicroLogix PLC -> Download

Load up a different RSLogix 500 for the serial PLC (S).

Make sure you have the Target Device Data Table Address in your serial PLC, in the example that is "N7:0"

Select Comms -> System Comms -> Select your Driver and the 515RTAENI -> Download

Note: Make sure all PLC are in Run mode



CompactLogix (E) to SLC 5/03, 04, 05, MicroLogix (S)

Load up RSLogix 5000 (CompactLogix)

Create new Program or modify existing program for your CompactLogix (E) Controller Scope Tags:

Add a Tag for your Message instruction and a Tag for your Data.

Message Instruction:

MSG-
Message (EN) Message Control Message (EN)

Read setup:

Message Confi	guration	- Mess	age			
Configuration	Communi	ication	Tag			
Message Typ	be:	SLC T	Typed Re	ead		\sim
Source Elem	ent:	N7:0				
Number Of E	lements:	1	-			
Destination B	Element:	INT			\sim	
_						
Message Confi	guration	- Mess	age]	
Configuration	Commun	ication	Tag			
Path:	LocalEN	B, 2, 10	.1.19.30		-	
	LocalENB	8, 2, 10.	1.19.30			
O Broadc	ast:		\sim			
					1	

Use "1,1,2,<Ip Address of Gateway>" ex. 1,1,2,192.168.0.100



Write Setup:

Message Configuration - Message
Configuration Communication Tag
Message Type: SLC Typed Write ~
Source Element: INT ~
Number Of Elements:
Destination Element: N7:0
Message Configuration - Message
Configuration Communication Tag
Path: LocalENB, 2, 10.1.19.30
LocalENB, 2, 10.1.19.30
O Broadcast: V

Use "1,1,2,<Ip Address of Gateway>" ex. 1,1,2,192.168.0.100

Note: 1,1 will automatically convert into LocalENB in L32E PLC, L24ER will display Discrete IO and just remove the 1,1 portion.

Download to PLC

Select Communications -> Who Active-> Select your Driver and Drill through the CompactLogix till you get to the 01, CompactLogix ... -> Download.

Note: Make sure your SLC 5/03, 04, 05, MicroLogix (S) is in run mode.



SLC (S) to MicroLogix (E)

Load up RSLogix 500 (SLC), Create new Program or modify existing program Files to Create / Verify N9 Elements 10

Note: How to Create Files: While offline Right Click Data Files and Add New.

Message Instruction:

Read Setup:



Write Setup:



Note: In Message Instruction, you can use any Node to talk to the MicroLogix

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Load up RSLogix 500 (MicroLogix)

Create new Program or modify existing program

Make sure you have the Target Device Data Table Address in your PLC, in the example that is "N7:0" $\,$



SLC (S) to CompactLogix (E)

Load up RSLogix 500 (SLC), Create new Program or modify existing program Files to Create / Verify N9 Elements 10

Note: How to Create Files: While offline Right Click Data Files and Add New.

Message Instruction:

Read Setup:

MSG Read/Write Message Type Peer-To-Peer Read/Write Read Target Device 500CPU	(EN)	MSG - N9:0 : (14 Elements) General This Controller Communication Command: 500CPU Read Data Table Address: N7:0 Size in Elements: 1 Channel: 0
Local/Remote Local Control Block N9:0 Control Block Length 14 Setup Screen	(ER)	Target Device Message Timeout : 5 Data Table Address: N7:0 Local Node Addr (dec): 45 (octal): 55 Local / Remote : Local

Write Setup:

	2 MSG - N9:0 : (14 Elements)
MSG Read/Write Message Type Peer-To-Peer Read/Write Write Target Device 500CPU Local/Remote Local Control Block N9:0 Control Block Length 14 Setup Screen <	General This Controller Communication Command: Data Table Address: N7:0 Size in Elements: Channel: 0 Target Device Message Timeout : Data Table Address: N7:0 Local Node Addr (dec): 45 Local / Remote : Local

Note: In Message Instruction, you can only use node 45-49 to talk to the CompactLogix



Load up RSLogix 5000 (CompactLogix)

Create new Program or modify existing program

Make sure you have the Target Device Data Table Address in your PLC, in the example that is "N7:0"

Note: To link a File to Tag "Logic -> Map PLC/SLC Messages -> *select File you want to use* and * Tag you made*"

dit View Search <mark>Logic</mark> Comm	unications lools Window Help	
	PLC2,5 / SLC Mapping	Select a Langu
Controller OK	PLC 5 / SLC Mapping	OK Cancel /Counter 🗶 Input/Out
ller Organizer 🛛 👻 🗜 🕻		Help
Controller Micro_to_Compact Controller Tags Controller Fault Handler Power-Up Handler Tasks MainTask MainTask Unscheduled Programs	Delete Map	Data Type INT
Motion Groups I Ungrouped Axes Add-On Instructions Data Types I User-Defined	PLC 2 Mapping Tag Name :	
🛶 Strings		



MicroLogix (S) to CompactLogix (E)

Load up RSLogix 500 (MicroLogix), Create new Program or modify existing program Files to Create / Verify N9 Elements 10

Note: How to Create Files: While offline Right Click Data Files and Add New.

Message Instruction:

Read Setup:



Write Setup:

	MSG - N9:0 : (14 Elements)
	General
	This Controller
	Data Table Address: N7:0
	Size in Elements: 1 Channel:: 0
	Target Device
MSG	Message Timeout : 5
- Read/Write Message (EN)-	Local Node Addr (dec): 45 (octal): 55
MSG File MG9:0	Local / Remote : Local
Setup Screen <er< th=""><th></th></er<>	

Note: In Message Instruction, you can only use node 45-49 to talk to the CompactLogix



Load up RSLogix 5000 (CompactLogix)

Create new Program or modify existing program

Make sure you have the Target Device Data Table Address in your PLC, in the example that is "N7:0"

Note: To link a File to Tag "Logic -> Map PLC/SLC Messages -> *select File you want to use* and * Tag you made*"

dit View Search <mark>Logic</mark> Comm	unications lools Window Help	
	PLC2,5 / SLC Mapping	Select a Langu
Controller OK	PLC 5 / SLC Mapping	OK Cancel /Counter 🗶 Input/Out
ller Organizer 🛛 👻 🗜 🕻		Help
Controller Micro_to_Compact Controller Tags Controller Fault Handler Power-Up Handler Tasks MainTask MainTask Unscheduled Programs	Delete Map	Data Type INT
Motion Groups I Ungrouped Axes Add-On Instructions Data Types I User-Defined	PLC 2 Mapping Tag Name :	
🛶 Strings		



Message Routing

How to set up 515RTAENI Node to IP Address Routing

Load the 515RTAENI's web based configuration.

Navigate to the Routing tab

Select the Edit option on the right side, select the node you want add IP Address of the end device then Save.

rtaautomation.com								515R	TAE	NI
Home	Data View	/ N	etwork	Mapping		Utility	y	Real Time Automa	ation	
PLC Connection	n Diagnostic	s				Configu	rable Ma	pping	ľ	
IP Address	Node #	Requests	Responses	Timeouts		Node #	Config	IP Address		
10.1.38.101	0	0	0	0		0	100	10.1.38.101		
0.0.0.0	1	0	0	0		1	101	0.0.0.0		
0.0.0.0	2	0	0	0		2	102	0.0.0.0		
0.0.0.0	3	0	0	0		3	103	0.0.0.0		
0.0.0.0	4	0	0	0		4	104	0.0.0.0		
0.0.0.0	5	0	0	0		5	105	0.0.0.0		
0.0.0.0	6	0	0	0		6	106	0.0.0.0		
0.0.0.0	7	0	0	0		7	107	0.0.0.0		
0.0.0.0	8	0	0	0		8	108	0.0.0.0		
0.0.0.0	9	0	0	0 Clear	•	9	109	0.0.0.0	*	

Note: Make sure all PLC are in run mode



PLC Serial setting

Verify the Serial settings of your Serial PLC.

- 1. Connect a Null modem cable from your PC to your PLC.
- 2. Open RSLinx and navigate to Communication -> Configure Drivers.



3. In the Dropdown select RS-232 DF1 Devices then "Add New".

onfigure Drivers		
Available Driver Types:		
RS-232 DF1 devices	-	Add New

4. Name your Driver and Select "Ok"

×
ОК
Cancel



5. Then Select the correct Comm Port of your PC, Click Auto-Configure.

Baud Rate:	19200	J Station	n Number: 000)	
Parity:	None _	Error I	Checking: Cf	RC	•
Stop Bits:	1	J	Protocol: Fu	Il Duplex	¥
Auto-Configu	Ire Auto Conf	iguration Succe	:ssfull		Ĩ
	🗆 Use Modem I	Dialer Co	onfigure Dialer]	
04	Use Modem (Dialer <u>Co</u>	onfigure Dialer	Help	

6. If you did not get a successful message verify your Comm Port.

Device	Name: AB	_DF1-2		
Comm Port: COM1	Device:	SLC-CH0/N	1icro/PaneMie	ew 💌
Baud Rate: 19200 💌] Sta (De	tion Number: :cimal)	00	
Parity: None 💌] Err	or Checking:	BCC	•
Stop Bits: 1]	Protocol:	Full Duplex	•
Auto-Configure Failed to fir Check all c	nd the baud ables and s	and parity! witch settings	1	
🔽 Use Modem D	ialer	Configure Di	aler	
OK Cancel	1	Delete	Helr	, I

7. PC Device Manager -Ports.

×	-	Ports (COM & LPT)
	D -	Communications Port (COM1)
		🛱 Intel(R) Active Management Technology -
		Prolific USB-to-Serial Comm Port (COM4)

If still having issues verify you are using a Null Modem Cable, if using an adapter verify that it is working or swap it out.



How to Load EDS File:

EDS Hardware Installation Tool

- 1. Move EDS File to Desktop.
 - a. EDS files can be found on provided CD or on the Web based configuration of the Gateway, located on the Utilities tab (Save .eds link as).
- 2. Launch Allen-Bradley's EDS Hardware Installation Tool. (Might need to run as administrator)

Rockwell Automation - Hardware Installation Tool 25.0.17.0 This tool allows you to change the hardware description information currently installed on your computer.					
Add	Launch the EDS Wizard and add selected hardware description files only.				
Remove	Launch the EDS Wizard and remove selected hardware description files only.				
	Exit				

- 3. Select Add
- 4. Select Browse a navigate to the Desktop where you saved off the EDS file in step 1. Then select "Next"

Registration Electronic Data Sheet file(s) will be added to your system for use in Rockwell Automation applications.						
r Register a single file						
Register a directory of EDS files	🗖 Look in subfolders					
Named:						
C:\Users\Desktop\0032002B02030300.eds	3	Browse				
• If there is an icon file (ico) with the then this image will be associated w	e same name as the file(s) you th the device.	u are registering				
		To perform an installation test on the file(s), click Next				



5. Verify that the path is correct. then select "Next"

Rockwell Automation's EDS Wizard EDS File Installation Test Results This test evaluates each EDS file for errors in the EDS file. This test does not guarantee	e EDS file validity.	×
□ Installation Test Results		
View file	< Back Next >	Cancel

6. Verify that the Graphic is correct. Select "Next"

Rockwell Automation's EDS Wizard			×
Change Graphic Image You can change the graphic image that is associated with a device.			N.
Change icon Product Types Vendor Specific Type 51SRTAENI			
	< Back	Next >	Cancel



7. Verify Task. Select "Next"



8. You have now installed the EDS File successfully. Select "Finish".

