

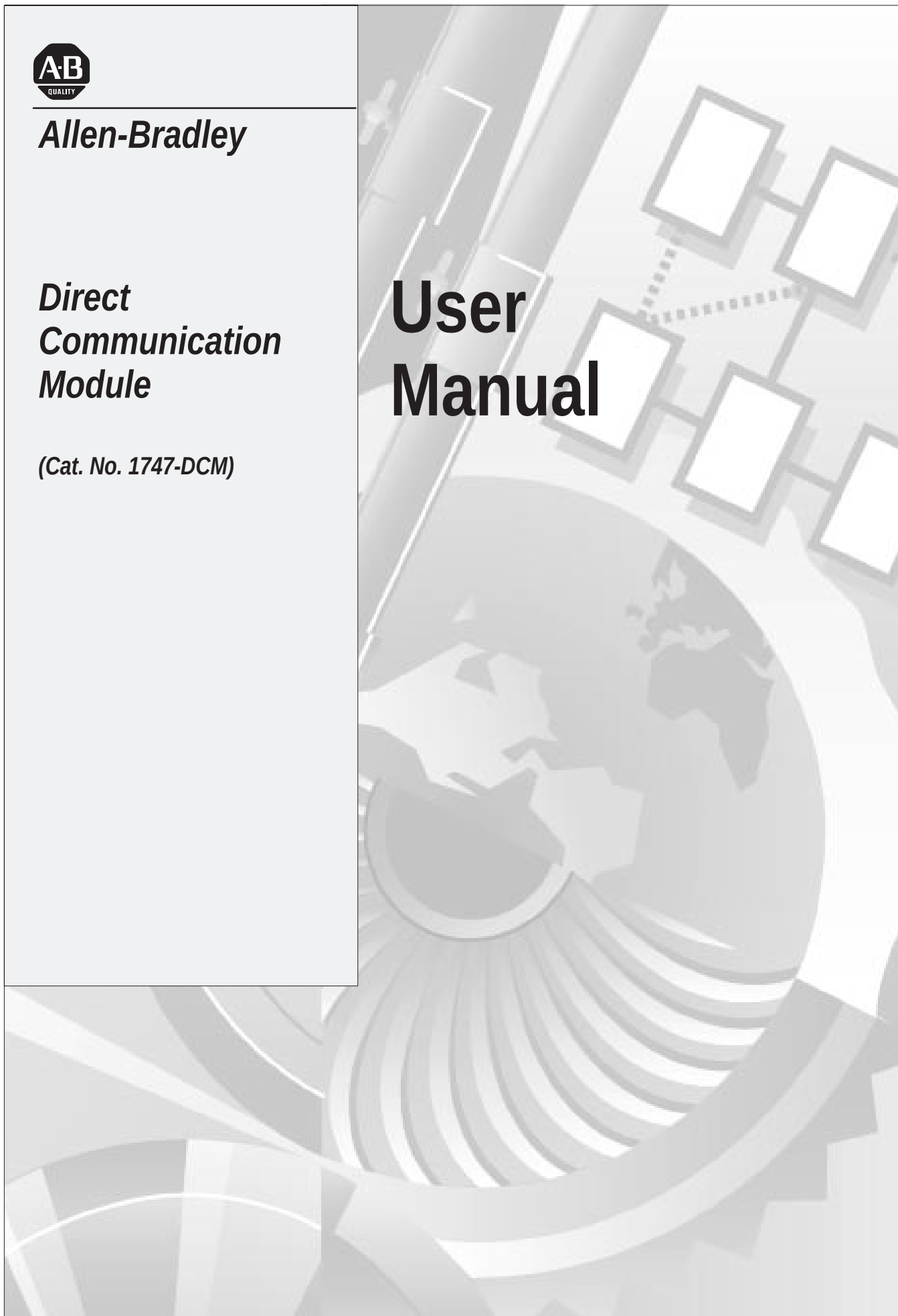


Allen-Bradley

***Direct
Communication
Module***

(Cat. No. 1747-DCM)

User Manual



Procedures

1.	Check the contents of the shipping box.	Reference
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Unpack the module making sure that the contents include:

- Direct Communication Module (Catalog Number 1747-DCM)
- removable connector (factory-installed on module)
- cable tie
- user manual (Catalog Number 1747-NM007)

If the contents are incomplete, call your local Allen-Bradley representative for assistance.

2.	Select a scanner.	Reference
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To begin configuration of your RIO system, you should know three things:

- which scanner is compatible with your PLC/SLC controller. Use the table below to select a scanner that is compatible with your processor. The DCM is compatible with all RIO scanners.

**The manual for
the scanner you
select**

Catalog Number	Description
1747-SN ^①	SLC Remote I/O Scanner
1771-SN ^②	Sub I/O scanner for Mini-PLC-2 [®] and PLC-5 families
1772-SD, -SD2 ^{③④}	Remote scanner/distribution panel for PLC-2 family
1775-S4A, -S4B, -S5 ^①	I/O scanner-programmer interface module for PLC-3 [®] family
1775-SR, -SR5 ^①	Remote scanner/distribution panel for PLC-3/10 family
1785-L11B ^①	PLC 5/11™ (in scanner mode)
1785-LT/x ^{①⑤}	PLC 5/15 (in scanner mode)
1785-L20B ^①	PLC 5/20™ (in scanner mode)
1785-LT2 ^{①⑤}	PLC 5/25 (in scanner mode)
1785-L30x ^①	PLC 5/30™ (in scanner mode)
1785-L40x ^①	PLC 5/40™ (in scanner mode)
1785-L60x ^①	PLC 5/60™ (in scanner mode)
5250-RS ^①	Remote scanner for PLC 5/250
6008-SI ^①	IBM [®] PC I/O Scanner Module
6008-SV ^①	VMEbus I/O Scanner Module
6008-SQH1, -SQH2	Q-bus I/O Scanner Module

^① Extended node capability.

^② Revision D or later.

^③ Rev. 3 or later.

^④ Extended node capability not available with Series A.

^⑤ Rev. 3 or later. PLC 5/15 Series B Revision H or later have partial rack addressing. Earlier versions are limited to 3 devices. PLC 5/25 Series A Revision D or later have partial rack addressing. Earlier versions are limited to 7 devices.

Rack Address (SW1-1 through SW1-6)

The rack address refers to the logical rack number from the scanner image that contains a particular DCMs image.

The table on page 4-4 gives the switch settings that define possible rack address choices for all scanners. To use this table, first determine which of the following categories applies to your scanner:

- PLC-2, mini PLCs, PLC-2/30 with 1772-SD, SD2 remote scanner
- PLC-3 and PLC-5/250 processors. (This category includes those with built-in scanners, as well as the following without built-in scanners: catalog numbers 1775-54A, -54B, -S5, -SR, -SR5 and 5250-RS.)
- PLC-5/11, PLC-5/15, PLC-5/20, PLC-5/25, PLC-5/30, PLC-5/40, or PLC-5/60 and 1771-SN. (This category includes all smaller in-rack processors and standalone scanners that have local and remote I/O and begin rack addressing at rack 1.)
- SLC-5/02 (or above) with 1747-SN scanner

After determining which category applies to your DCM application:

1. Find the column for the scanner used in your application.
2. Go down the column to the rack address that you assigned to the DCM.
3. Use the switch settings in the right-most columns of the table that correspond to your rack address.

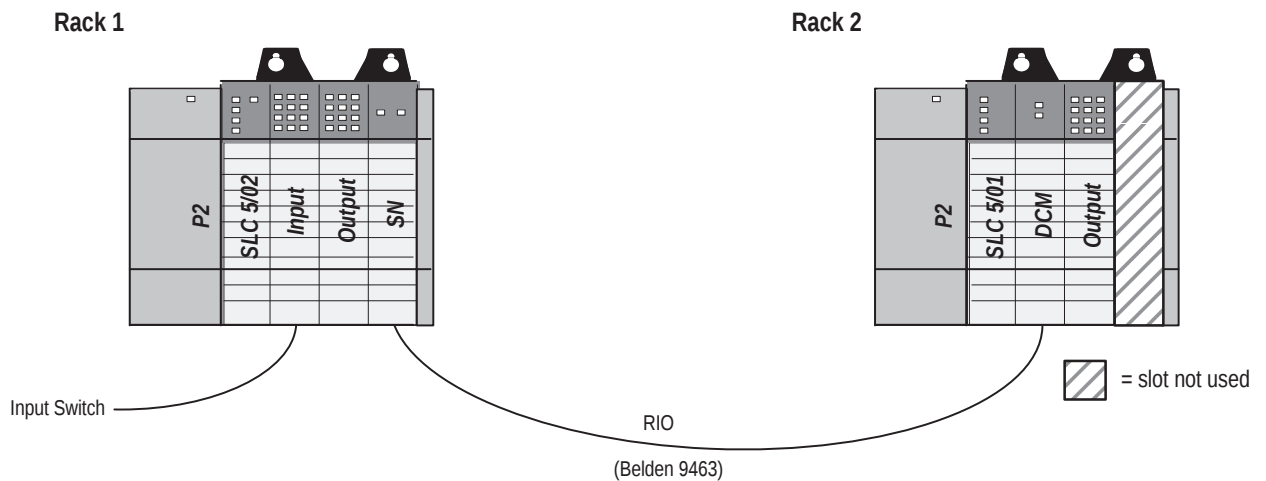
Application Examples

This chapter provides and examines two applications of the DCM.

- basic example
- supplementary example

Basic Example

In the following application, the 1747-DCM in the remote rack 2 will monitor the 1747-SN data from the local rack 1. The program examples in both local and remote rack CPUs consist of 1 rung each. When input I:1/0 is enabled in the local rack, the output O:3.1/0 condition is transferred to the 1747-DCM input image via the 1747-SN output image. This condition enables O:2/0 in the remote rack output card.



1747-SN Module Configuration^①

Baud Rate = 57.6K baud

G-file Size = 3 words

G-File

	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	
Word 0	Reserved																
Word 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	= Starting Address 0
Word 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	= 1/4 Rack Size

^① See SN manual for further details on configuration.

DCM configuration:

Rack Address = 1
 I/O Group = 0
 Baud Rate = 57.6K baud
 Clear On Fault = no
 Last Rack = no
 Rack Size = 1/4

DIP Switch Settings

	Switch 1								Switch 2							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
ON	X	X	X	X	X		X	X	X	X	X	X	X	X		
OFF						X										

 = Not used

System Configuration for Rack 1

Amount	Device	Catalog Number
1	Power Supply	1746-P2
1	SLC 5/02 Processor	1747-L524
1	4-Slot Rack	1746-A4
1	AC Input, 16 Inputs	1746-IA16
1	Relay Output, 16 Outputs	1746-OW16
1	Scanner	1747-SN

System Configuration for Rack 2

Amount	Device	Catalog Number
1	Power Supply	1746-P2
1	SLC 5/01 Processor	1747-L511
1	4-Slot Rack	1746-A4
1	Relay Output, 16 Outputs	1746-OW16
1	DCM	1747-DCM