



ControlNet Adapter Module

(Cat. Nos. 1747-ACN15, 1747-ACNR15)

Series A, Revision B

What This Document Describes

For information on:	Refer to page:
Usage Requirements	below
Module Enhancements	2
Corrected Anomalies	3

Usage Requirements

To use the new features of the ControlNet adapter module, you must:

- use RSNetWorx for ControlNet, version 3.0 or later
- download and install the adapter module's current EDS file (**Major Revision 1, Minor Revision 2**) for RSNetWorx for ControlNet

To download the current EDS file:

- go on-line @ www.ab.com/networks/eds/
- at the **Electronic Data Sheet** homepage:
 - in the **Product Category**, select the **ControlNet** radio button
 - in the **Catalog Number** area, enter 1747-ACN
- click on **Search**
- follow the instructions on the **EDS File Search Results** page to select and download the **Major Revision 1, Minor Revision 2** EDS file for your adapter type.

To install the current EDS file, use the EDS Wizard (located under the **Tools** menu) in RSNetWorx for ControlNet.

Module Enhancements

The following table describes enhancements in this version of the module.

Enhancement:	Description
Multicast Outputs	This feature allows the adapter to receive multicast originator-to-target data from a scanner device. The adapter also supports the same originator-to-target data being sent to multiple modules on the same chassis.
Redundant Connections	This feature allows the adapter to function in a PLC-5 ControlNet hot backup system (Series F, revision C or later firmware is required in the ControlNet PLC-5 controller).
Unscheduled Messaging	This feature allows the adapter to support both connected and unconnected unscheduled messages. It also allows the controller to update output data or gather input data on an event basis.
Current ControlNet Master Library	This release of the module contains the latest ControlNet Master Library (version 1.4 release 5).

Important Considerations

The adapter:

- supports up to 10 simultaneous unscheduled messages. Eleven or more messages will error with code 0X02 “Resource Unavailable.”
- supports a limited number of scheduled and unscheduled connections with large data sizes. There are:
 - 20 allocated buffers of size 576 bytes
 - 30 allocated buffers of size 192 bytes
 - 150 allocated buffers of size 144 bytes

Each scheduled message uses three of the smallest buffers possible for each direction (read or write).

For example, a scheduled connection with 100 words of input data and 75 words of output data will use three buffers from the 576-byte buffer pool and three buffers from the 192-byte buffer pool. Each active unscheduled message will use 2 of the smallest buffers possible for each direction.

- Do not mix Standard module connections and Advanced module connections that use the same Multicast Output data on a single adapter. Multiple Standard module connections or multiple Advanced module connections that use the same Multicast Output data are allowed on a single adapter. Sending the same Multicast Output data to both Standard module connections and Advanced module connections is allowed, providing that both types of connections are configured on different adapters.

Corrected Anomalies

The following tables describe corrected anomalies in this version of the module.

Anomaly:	Description
Exclusive Owner/Input Only scheduled connection causes adapter to produce separate multicast target-to-originator packets. This could cause scheduled data to be sent in the unscheduled bandwidth.	This anomaly has been corrected so that the adapter module produces a single multicast target-to-originator packet when an exclusive owner/input only combination is configured.
Inaccessible bits	In the previous release, the module allowed scheduled connections to modules where all the bits were not accessed. The anomaly has been corrected so that the module will fail the forward open of a connection if all the I/O points of a module cannot be accessed.

(continued on next page)

Anomaly:	Description
Output module status bits not returned.	Previously, the module status bits in the target-to-originator packet of a rack connection only returned the status of input modules. The anomaly has been corrected so that both input and output module status is returned in the module status bits.
Advanced Input Only connection failed.	This release of the adapter allows an Advanced Input Only connection to be made to a module which also has an Advanced Exclusive Owner connection from another scanner with that connection having output data.
Outputs set to the Lost Communication state when the controlling scheduled connection was closed.	This anomaly has been corrected so that Outputs transition into their Program Mode state when the controlling scheduled connection is closed. This allows the outputs on the adapter to remain constant during downloads to the scanner devices. Connections are closed when either the scheduled connection is inhibited or when a save or download is done to the scanner devices.

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