



## **ControlNet Adapter Module**

### **Catalog Number 1771-ACN15 and 1771-ACNR15**

#### **Series B, Revision L**

### **What This Document Describes**

This document describes the software requirement, enhancements and corrected anomalies for the current and previous firmware releases of the ControlNet adapter module.

### **Software Requirement, Enhancement and Corrected Anomalies for this Release**

#### **Software Requirement**

Some of the following enhancements and corrected anomalies require the latest Electronic Data Sheet for the ControlNet adapter module. To get the current EDS, go online at [www.ab.com/networks/eds](http://www.ab.com/networks/eds) or contact Rockwell Automation Technical Support at 440-646-5800.

#### **Enhancement**

**Adapter Module Compatibility Key** - with this release, the 1771-ACNR15 adapter module can accept a 1771-ACN15 adapter module's compatibility key. This will allow you to replace a 1771-ACN15 single-port module with a 1771-ACNR15 redundant-port module without modifying the key qualification.

## Corrected Anomalies

The following anomalies have been corrected in this release.

Corrected anomaly:	Description:
While inhibiting an MCO (Multicast Output) connection, the adapter module may stop sending data to other Block Transfer modules.	Setting the inhibit bit of an MCO may cause other modules of the same MCO to no longer receive updated output data.
The adapter module may FALT 707 if ControlLogix sends MSGs to empty Block Transfer slots.	If a ControlLogix controller is configured to send MSGs to empty or non-Block Transfer slots in the adapter module's chassis, the adapter module may eventually FALT 707 fault.
The adapter module will fault when attempting to open more than 32 unscheduled message connections.	If the adapter module tries to open more than 32 unscheduled message connections, it will fault.
The adapter module may stop responding to open connection requests while under heavy load of unscheduled message connections.	Under a heavy load of unscheduled message connections (and the connections are being open and closed), the adapter module may stop responding to open connection requests.
The adapter module may FALT 707 with multiple CIOs to a single Block Transfer slot.	While using multiple controllers with at least one being a ControlLogix controller performing non-cached MSGs to a single Block Transfer slot, the adapter module may eventually FALT 707.
If an MCO connection times out, all Block Transfer connections will close.	If an MCO times out, the adapter module will close all Block Transfer connections. This would only be temporary, as the scanner module would detect that the connection had stopped responding. The scanner would close the connection and then reopen it. This anomaly has been corrected so that the adapter module only closes the connections associated with the single MCO.

## Enhancements and Corrected Anomalies from the Series B, Revision K Release

### Enhancements

**Optimized performance** - the adapter module's Block Transfer performance has been improved by up to 50% from the previous release. This improvement reduces throughput time.

**Improved noise immunity** - the adapter module has increased immunity to cable breaks and cable noise, thus reducing lock-ups and faults.

**ControlNet Conformant** - this release is conformant to the ControlNet Conformance Test Version 12.

## Corrected Anomalies

The following anomalies have been corrected in this release.

Corrected anomaly:	Description:
Adapter module may lock up while managing a large number of scheduled or unscheduled connections.	If the adapter module was managing more than 28 64-word CIO messages, the adapter may lock up with the OK indicator solid green, and the display stopped at either RUN or the adapter node number.
Two exclusive owner rack connections may produce ControlNet error code 0x119.	With two exclusive owner rack connections, the adapter may return an error code of 0x119 meaning "connection request failed." This anomaly has been corrected so that when there are two exclusive owner rack connections, the adapter returns the ControlNet error code 0x106 meaning "connection used by another node."
Outputs will not reset when the adapter module's firmware detects a fault condition.	If the adapter module's firmware detects a fault condition, the outputs would be left in their last state, regardless of the last-state switch setting. This anomaly has been corrected so that if the adapter module's firmware detects a fault condition, the outputs will follow their last-state switch setting.

## Enhancements and Corrected Anomalies from the Series B, Revision J Release

### Enhancements

**Multicast outputs** - this enhancement enables the module to support multicast outputs from both exclusive and redundant owners on the ControlNet network.

**Important:** When making module connections with multicast outputs to Block Transfer modules in the same chassis - inhibiting one of those connections may stop sending data to other multicast output connections with the same multicast ID number. This may vary depending on the order the connections were made.

**Redundant connections** - this enhancement enables the 1771-ACN15 module to support both redundant rack and redundant module connections.

**Optimized performance** - the adapter module's Block Transfer performance has been increased to reduce throughput time.

**Mismatched I/O size support** - the adapter module now supports mismatched I/O sizes for redundant rack connections from two different processors.

**Improved noise immunity** - the adapter module has increased immunity to cable breaks and cable noise, thus reducing lock-ups and fatal faults.

# AB PLCs

## Corrected Anomalies

The following anomalies have been corrected in this release.

Corrected anomaly:	Description:
Adapter module fatal faults when controlling a large number of modules with CIOs.	If the adapter module was controlling a larger number of modules with CIOs from the processor, the adapter would fatal fault.
Connection status reports no error if block transfer module fails.	When a module connection was made to an empty slot, only the "data invalid" status bit would be set. If the module was present, but its configuration failed, neither the "connection error" or "data invalid" status bits would be set. This anomaly has been corrected so that in both cases, both the "connection error" or "data invalid" status bits will be set along with the ControlNet error code 0x110=connection unconfigured.
Connection time-out errors with multiple CIOs to one block transfer module.	If multiple CIOs were configured from different processors to the same block transfer module, the connection would randomly time out. In the case of a read/write CIO pair, a block transfer error code of -5 "invalid read data" is randomly reported. This anomaly has been corrected so that the adapter module correctly handles multiple CIOs to one block transfer module.

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