INDUSTRIAL CONTROL COMMUNICATIONS, INC.

DMX-512 Master Driver Manual

October 30, 2014

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1 DMX-512 Master

1.1 Overview

This driver supports the DMX-512 master protocol, which allows connected equipment (such as a PLC or a building automation system) to be used as a universal DMX controller device. Some notes of interest are:

- Provides for control of all 512 channels.
- Control any DMX-enabled device including lighting fixtures, dimmers, special effects, and fog machines.
- Configurable, variable channel output.
- Simple configuration consisting of channel-to-database address assignments.

1.2 Connections

This section describes the typical connections used for a Millennium Series gateway.

While there are a variety of different DMX-512 connector types in existence, most standard DMX-512 connectors use either XLR 5-pin or 3-pin connectors (refer to Figure 1 and Figure 2). A female connector is fitted to a transmitter device (e.g. a console,) while a male connector is fitted to a receiver device (e.g. a dimmer or servo).

Figure 1: 5-Pin XLR Connector

Figure 2: 3-Pin XLR Connectors

An appropriate wiring harness must be used when connecting the DMX-512 network to the gateway's RS-485 port. This can be accomplished by using off-the-shelf DMX-512 cabling with bare-wire terminations on one end, or by simply cutting a standard DMX-512 cable in half and stripping back the wires. Refer to Table 1 for an overview of DMX-512 pin assignments and connections.

Table 1: DMX-512 Pin Assignments

Pin	Usage	Gateway Connection
1	Network GND reference	GND
2	Primary data-	B & Z
3	Primary data+	A & Y
4	Optional secondary data- (not available on 3-pin connectors)	N/A
5	Optional secondary data+ (not available on 3-pin connectors)	N/A

1.3 Master Settings

Baud Rate

Fixed at 250kbaud.

Parity

Fixed at No Parity (2 Stop Bit).

Scan Rate

This is the time in milliseconds the driver will wait between sending requests. This is a useful feature for certain devices that may not be capable of sustaining the maximum packet rates that the driver is capable of producing. The start time for this delay is taken with respect to the moment at which the driver is capable of sending the next packet. If no additional time is required, setting this field to 0 instructs the driver to send its next request packet as soon as possible.

1.4 Data Settings

Database Start Address

Defines the location in the database where the channels will be mapped starting with channel 1. The DMX-512 Master configuration consists of assigning database bytes to channel numbers in the DMX universe. Each byte in the database corresponds to one channel in the DMX packet.

Number of Channels

Defines the number of consecutive channels (1…512) to map into the database.

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INDUSTRIAL CONTROL COMMUNICATIONS, INC.

1600 Aspen Commons, Suite 210
Middleton, WI USA 53562-4720
Tel: [608] 831-1255 Fax: [608] 831-2045

http://www.iccdesigns.com

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