PROFICIENT™
Audio Systems

Control Module
For Third-Party Control Of 'M' Series Multi-Zone Controllers

Introduction

This Proficient Control Module is specifically programmed to interface Proficient 'M' Series Electronics and Third-Party Control Platforms. The RS232 Data I/O connects directly to the Third-Party Control Hardware, and the Expansion Port connects to 'M' Series Electronics via CAT5 cable.

Control Module Features

1. **RS232 DATA I/O** – DB9M terminal connects to the Third-Party Control Hardware via RS232 protocol using a DB9 cable

2. **Address Switch** – 6 Position rotary switch for setting device address

   Note: Address setting is not required for use in Third-Party Control Applications

3. **12VDC Power Jack** – 2.1mm coaxial jack

   Note: Not used in this application, as the Control Module will derive its required power form the 'M' Series Expansion Port

4. **Programming Switch** – Two position switch should remain in the 'OFF' position, except when necessary to update firmware

5. **IR HI/LO Switch** – Two Position switch sets the IR IN Level.

   Note: Not Used in this Application

6. **Power LED** – Red LED illuminates when the Control Module has DC power and completes its internal initialization

Diagram 1

7. **Control Port** – 4 - circuit, 3.5mm mini-jack connects to PC, for firmware updates

8. **Expansion Loop** – RJ45 jack parallel with Expansion Port

9. **Expansion Port** – RJ45 jack used to connect to the Expansion Port on 'M' Series Controllers

10. **IR In** – 3.5mm mini jack receives IR commands from an IR control system

    Note: Not used for Third-Party Control Applications

11. **Activity Indicator** – Green LED will light solid when communication is established, and flashes when a command is executed

Installation *(See Diagram 2)*

When all system components are installed in a central equipment rack or closet, the Control Module should be mounted in a place that provides easy access should reprogramming or service be necessary. The plastic flange extensions and mounting holes allow vertical installation on a cabinet side or equipment room wall.

The CAT-5 connection between the Control Module and 'M' Series Controller is RS485 protocol and the cable length should not exceed 50'.

The DB9 connection between the Third-Party Control Hardware and the Control Module is RS232 protocol, and the cable length should not exceed 50'.
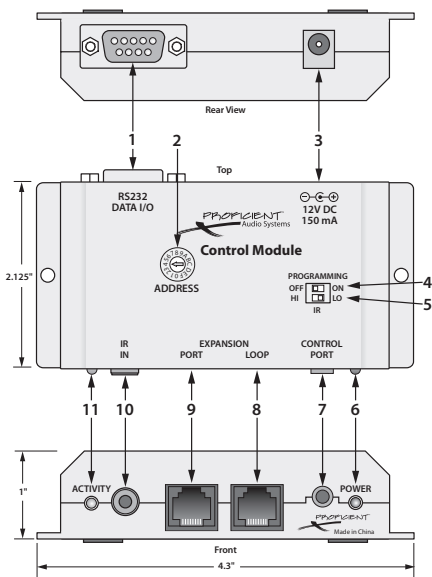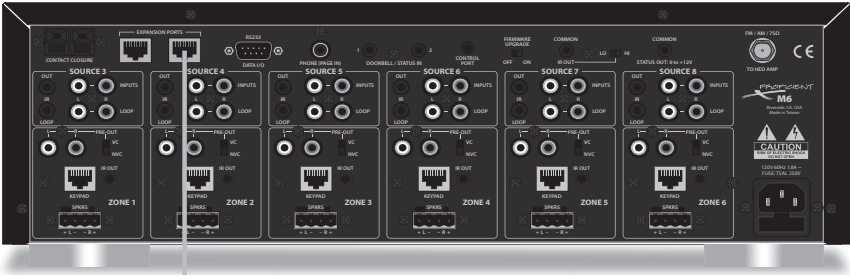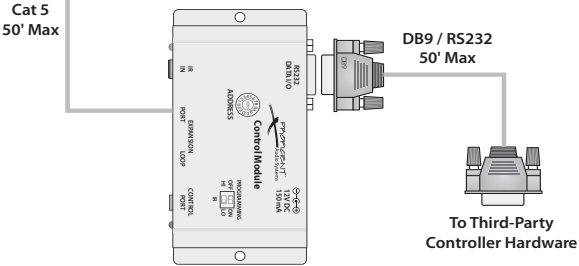
Diagram 2

Cat 5
50' Max

DB9 / RS232
50' Max

To Third-Party
Controller Hardware

Connections

The Control Module *(See Diagrams 3 & 4)* has a DTE pinout. If the controlling device has a DCE pinout, a pass-through cable, (pin to pin), should be used. If the controlling device also has a DTE pinout, then a Null Modem Cable should be used.

The Control Module is supplied with Third-Party Control firmware. In the event of a firmware update, download the update from proficientaudio.com, and use Proficient Editor to download firmware to the Control Module.

Null-Modem connection

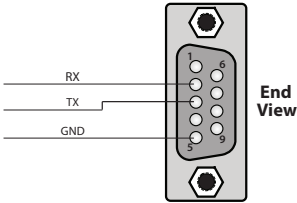| Signal Name	Female DB-9 Pin		Female DB-9 Pin	
FG (Frame Ground)	–		–	FG
TD (Transmit Data)	3	–	2	RD
RD (Receive Data)	2	–	3	TD
RTS (Request To Send)	7	–	8	CTS
CTS (Clear To Send)	8	–	7	RTS
SG (Signal Ground)	5	–	5	SG
DSR (Data Set Ready)	6	–	4	DTR
CD (Carrier Detect)	1	–	4	DTR
DTR (Data Terminal Ready)	4	–	1	CD
DTR (Data Terminal Ready)	4	–	6	DSR

The highlighted numbers are the important ones here. Be sure it's female to female, with these 2 pairs of pins swapped on one end of the cable and pin 5 goes straight through to the other pin 5.

Diagram 3

Control Module DB9 Pin Out

RX
TX
GND

End View

Signal Connections
Pin 2 - Data is received into the Control Module via this pin
Pin 3 - Data is sent out of the Control Module via this pin
Pin 5 - Ground
Sleeve - Ground

Diagram 4

Troubleshooting

In the unlikely event that the Third-Party Control Hardware is unable to communicate with the 'M' Series Controller, download Proficient's 'Third-Party Control Emulation' program from proficientaudio.com. Run the emulation application to verify that the Control Module and the 'M' Series controller are functioning properly. Use the USB to RS232 adapter included with the 'M' Series Controller for connecting a PC to the Control Module, when running the emulation.

Specifications

Dimensions:	4.3" X 2.125" X 1"
Power Requirement:	12VDC; 200mA Supplied via CAT5 connection to Expansion Port

Connectors:

Power:	2.1mm coaxial jack
IR In:	3.5mm mini-jack
Network:	2 x RJ45
RS232:	DB9M
Control Port:	3.5mm mini jack (4 conductor)

RS232 Parameters:

Baud Rate:	300, 1200, 2400, 4800, 9600, 19200, 38400, 57600 Selectable
Data Bits:	7, 9 Selectable
Stop Bits:	1, 2 Selectable
Parity:	None, Odd, Even Selectable
Command String:	100 Characters Max.
Character Delay:	0-50 mS
Response String:	0-100 Characters
Response Timeout:	0.0 -10.0 Seconds

Transmission Length

Network (RS485)(CAT5):	50' Max.
RS232 Data I/O:	50' Max.

LIMITED 2-YEAR WARRANTY

Proficient Audio Systems ("Proficient") warrants to the original retail purchaser only ("you") that this product will be free from defects in materials and workmanship for a period of two years (the "Warranty Period"), subject to the limitations and exclusions set out in this Limited Warranty. This warranty is not transferable to subsequent owners of the product. If you discover a defect in material or workmanship within the Warranty Period, you can obtain warranty service by contacting Proficient during the Warranty Period at 877.888.9004 or techsupport@proficientaudio.com or by sending the product to Proficient at 940 Columbia Avenue, Riverside, CA 92507 or to the dealer from whom you purchased the product. Defective products must be shipped, prepaid and insured, together with proof of purchase. Warranty service requests made without proof of date of purchase will be denied. Freight collect shipments will be refused. It is preferable to ship this product in the original shipping container to lessen the chance of transit damage. In any case, the risk of loss or damage in transit is to be borne by the purchaser.

If, upon examination by Proficient or its authorized dealer, it is determined that the unit is in fact defective, Proficient will, at its option:

• Repair or replace the product at no additional charge; or
• If the model is no longer available and can not be repaired effectively, replace the unit with a current model of equal or greater value. In some cases where a new model is substituted, a modification to the mounting surface may be required. If mounting surface modification is required, Proficient assumes no responsibility or liability for such modification.

Proficient will bear the cost of returning the repaired or replaced product to you, freight prepaid. All replaced parts and product become the property of Proficient Audio Systems. The foregoing is your sole and exclusive remedy for breach of warranty. If the product is not found to be defective, Proficient will contact you to arrange for return of the product to you, at your expense.

EXCLUSIONS:
• This Warranty does not include service or parts to repair damage caused by accident, disaster, misuse, abuse, negligence, inadequate packing or shipping procedures, commercial use, voltage inputs in excess of the rated maximum of the unit, or service, repair or modification of the product by unauthorized dealers. This Warranty also excludes normal cosmetic deterioration caused by environmental conditions.
• This Warranty will be void if:
  • the Serial Number on the product has been removed, tampered with or defaced.
  • the product was not purchased from an authorized dealer.

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