

# **AMC XO**

8 Zone 8 Source Audio Digital Home System

# **XOi**

4 Zone 4 Source Audio Digital Home System

# **X86**

6 Zone 8 Source Audio / Video Digital Home System

## **RS485 Manual**

RS485 ↔ RS232 Converter Module

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# XO/XOi/X86 MANUAL

## RS485 Manual

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# Serial port specification

## Serial Port Hardware

- RS-232
  - DB-9 Female
- RS-485
  - Screw Terminal (4 connections)
  - RJ-45

## Serial Port Communication Protocol

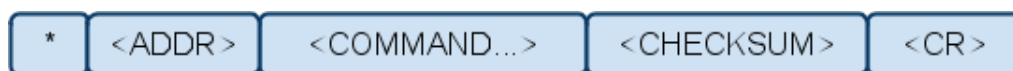
- RS-485 asynchronous serial communication
- Two Wire Half Duplex
- 9600 bps, 8 bits, 1 stop bit, no parity
- no flow control

# Command set specification

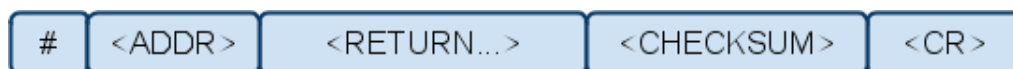
## Command Format

- All commands are in ASCII characters format except the first DEVICE ADDRESS byte
- DEVICE ADDRESS is an 8 bit hexadecimal character assigned by the 8 bit DIP switch on this device
- All commands begin with DEVICE ADDRESS and "\*" (asterisk) character and end with <CR> character (0D hexadecimal)
- All commands RETURN with some feedback begin with DEVICE ADDRESS and "\*" (asterisk) character and end with <CR> character (0D hexadecimal)
- If a command produces an error or structured with incorrect syntax, the system will return with "<ADDR>?<CR>" characters
- Multiple commands require a delay of 500ms between commands

## COMMAND



## RETURN



## ERROR RETURN



## Numbering Format and Range

### Zone Number Range

- XO: 01-08
- XOi: 01-04
- X86: 01-08

### Source Select Range

- XO: 01-08
- XOi: 01-04
- X86: 01-06

## Standard Status Feedback Format

### Status Feedback Conditions

- Most commands send to the system will receive this type of Status Feedback unless specified explicitly

### Status Feedback Format

RETURN	ZNaa,SRcbb,GRPc,VOL-dd
RETURN PARAMETERS	aa = Zone Number bb = Source Select c = 0 (Group Mode Off), 1 (Group Mode On) dd = dBs of attenuation (00 - 62 where 62=mute)

## Command Reference

### Zone Status

ACTION	Zone Status Command returns status information on the given zone
COMMAND	ZnnSTA00
COMMAND PARAMETERS	nn = Zone Number
RETURN	Standard Status Feedback Format
RETURN PARAMETERS	

### Tone Control Settings

ACTION	Return tone control settings on the given zone
COMMAND	ZNnnSET00
COMMAND PARAMETERS	nn = Zone Number
RETURN	ZNaa,BASSbb,TREBbb,GRPc
RETURN PARAMETERS	aa = Zone Number bb = EQ level +/- 8,6,4,0 c = 0 (Group Mode Off), 1 (Group Mode On)

### Power OFF

ACTION	Power OFF the given zone (turn off ALL zones in group mode and leave group mode)
COMMAND	ZNnnPWR00
COMMAND PARAMETERS	nn = Zone Number
RETURN	Standard Status Feedback Format
RETURN PARAMETERS	

### Power ON

ACTION	Power ON the given zone (restore last select source and volume level)
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COMMAND	ZNnnPWR01
COMMAND PARAMETERS	nn = Zone Number
RETURN	Standard Status Feedback Format
RETURN PARAMETERS	

## Power Toggle

ACTION	Toggle between power On/Off for the given zone
COMMAND	ZNnnPWR02
COMMAND PARAMETERS	nn = Zone Number
RETURN	Standard Status Feedback Format
RETURN PARAMETERS	

## All Zones OFF

ACTION	Turn off ALL Zones
COMMAND	ZALLPWR00
COMMAND PARAMETERS	
RETURN	ZALLOFF
RETURN PARAMETERS	

## Un-mute all Zones

ACTION	Disable mute for ALL Zones
COMMAND	ZALLMUT00
COMMAND PARAMETERS	
RETURN	ZALLMOFF
RETURN PARAMETERS	

## Mute all Zones

ACTION	Apply mute for ALL Zones
COMMAND	ZALLMUT01
COMMAND PARAMETERS	
RETURN	ZALLMON
RETURN PARAMETERS	

## Source Select

ACTION	Change a input source for the given zone
COMMAND	ZNnnSRCss
COMMAND PARAMETERS	nn = Zone Number ss = Input Source
RETURN	Standard Status Feedback Format
RETURN PARAMETERS	

## Adjust Volume

ACTION	Adjust volume for the given zone
COMMAND	ZNnnVOLvv
COMMAND PARAMETERS	nn = Zone Number vv = Volume Level (00 - 62 where 62=mute)
RETURN	Standard Status Feedback Format
RETURN PARAMETERS	

## Volume Up 1dB

ACTION	Step volume up 1dB for given zone
COMMAND	ZNnnVOLUP
COMMAND PARAMETERS	nn = Zone Number
RETURN	Standard Status Feedback Format
RETURN PARAMETERS	

**Volume Down 1dB**

ACTION	Step volume down 1dB for given zone
COMMAND	ZNnnVOLDN
COMMAND PARAMETERS	nn = Zone Number
RETURN	Standard Status Feedback Format
RETURN PARAMETERS	

**Zone Mute OFF**

ACTION	Disable mute for the given zone with last volume preserved
COMMAND	ZNnnMUT00
COMMAND PARAMETERS	nn = Zone Number
RETURN	Standard Status Feedback Format
RETURN PARAMETERS	

**Zone Mute ON**

ACTION	Apply mute for the given zone and memorize the current volume
COMMAND	ZNnnMUT01
COMMAND PARAMETERS	nn = Zone Number
RETURN	Standard Status Feedback Format
RETURN PARAMETERS	

**Adjust Bass**

ACTION	Adjust Bass by +/- 0,4,6,8 dB
COMMAND	ZNnnBASsn
COMMAND PARAMETERS	nn = Zone Number s = + or - sign n = Bass Adjustment Level (0,4,6,8)

RETURN	ZNaa,BASSbb,TREBbb,GRPc
RETURN PARAMETERS	aa = Zone Number bb = EQ level +/- 8,6,4,0 c = 0 (Group Mode Off), 1 (Group Mode On)

## Adjust Treble

ACTION	Adjust Treble by +/- 0,4,6,8 dB
COMMAND	ZNnnTRBsn
COMMAND PARAMETERS	nn = Zone Number s = + or - sign n = Treble Adjustment Level (0,4,6,8)
RETURN	ZNaa,BASSbb,TREBbb,GRPc
RETURN PARAMETERS	aa = Zone Number bb = EQ level +/- 8,6,4,0 c = 0 (Group Mode Off), 1 (Group Mode On)

## Group Mode OFF

ACTION	Disable Group Mode
COMMAND	ZALLGRP00
COMMAND PARAMETERS	
RETURN	GRPOFF
RETURN PARAMETERS	

## Group Mode ON

ACTION	Activate Group Mode
COMMAND	ZALLGRPss
COMMAND PARAMETERS	ss = Input Source for this group (01 - 04/08)
RETURN	GRPON,STCss
RETURN PARAMETERS	ss = Input Source selected for this group