

# **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

## **Appendix I**

### **RS232 Manual**

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# XO/XOi/X86 MANUAL - Appendix I RS232 Manual

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## Serial port specification

### Serial Port Hardware

- Standard DB9 RS232 connector

### Serial Port Communication Protocol

- RS232 asynchronous serial communication
- 38400 bps, 8 bits, 1 stop bit, no parity
- no flow control

## Command set specification

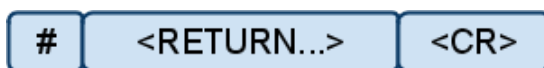
### Command Format

- All commands are in ASCII characters
- All commands begin with "\*" (asterisk) character and end with <CR> character (0D hexadecimal)
- All commands RETURN with some feedback begin with "\*" (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 "?<CR>" characters
- Multiple commands require a delay of 500ms between commands

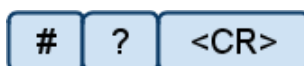
### COMMAND



### RETURN



### ERROR RETURN



## Numbering Format and Range

### Zone Number Range

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

### Source Select Range

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

## Standard Status Feedback Format

### Status Feedback Conditions

- Most commands send to the system will receive this type of Status Feedback unless specified explicitly
- Upon any keypad and IR action, there will be some automatic feedback from the system:
  - Keypad: Upon any key presses from keypads in any zones, the unit will send updated status feedbacks via RS232 port.
  - IR: Upon any IR commands received from any IR receivers, the unit will send updated status feedbacks via RS232 port.

### 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)

### Special Conditions

- When a user press and hold the Power Button on any of the keypads to turn off ALL zones, there will be TWO RS232 responses:
  - The first response is the normal Status Feedback response:  
ZNaa, SRCbb, GRPc, VOL-dd
  - The second response is the ALL ZONES OFF response:  
ZALLOFF

## 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