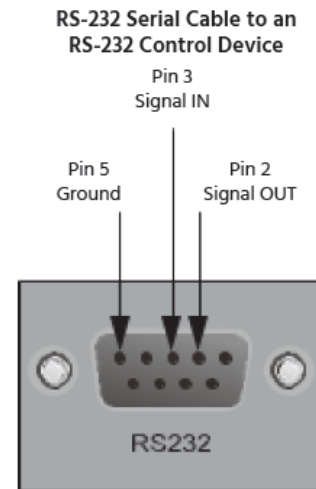


RS-232 CONNECTION

Use an RS-232 serial cable (not included) to connect the amplifier to a computer or other serial control device for issuing RS-232 control commands. Pin 2 is the signal output, pin 3 is the signal input, and pin 5 is the common ground.



RS-232 COMMANDS

This amplifier can accept RS-232 commands from a connected PC to change settings and get status reports. RS-232 commands should be issued through any third party RS-232 control software. The following table lists the serial communications parameters:

Baud Rate	9600
Data Bits	8
Parity	none
Stop Bits	1
Flow Control	none

The following table explains the meaning and value range for the variables in the RS-232 commands.

Variable	Value Range	Description
{z#}	1 ~ 6	Zone number.
{c#}	1 ~ 12	Channel number (each zone has two channels).
{0 / 1}	0 ~ 1	Binary selection. 0 = Off, 1 = On.

{v#}	0 ~ 38	Volume level (see the <i>Volume Level</i> table below).
{bt#}	0 ~ 14	Bass/Treble level (see the <i>Bass/Treble Level</i> table below).
{b#}	0 ~ 63	Balance setting (see the <i>Balance Setting</i> table below).

RS-232 Commands

Function	Command	Remarks
Zone Power	!{z#]PR{0 / 1}+	Turns zone power on or off.
Zone Power Toggle	!{z#]PT+	Toggles zone power from on to off or from off to on.
Zone Volume	!{z#]VO{v#}+	Sets zone volume to an absolute value.
Zone Volume Increase	!{z#]VI+	Increase zone volume one step.
Zone Volume Decrease	!{z#]VD+	Decrease zone volume one step.
Zone Input Select	!{z#]IS{0 / 1}+	Sets the zone input to BUS or LINE. 0 = BUS, 1 = LINE.
Zone Input Select Toggle	!{z#]IT+	Toggles the zone input from BUS to LINE or from LINE to BUS.
Channel Input Select	!{c#]CS{0 / 1}+	Sets the channel input to BUS or LINE. 0 = BUS, 1 = Line. Note that setting one channel in a zone will automatically set the paired channel to the same input.
Channel Input Select Toggle	!{c#]CT+	Toggles the channel input from BUS to LINE or from LINE to BUS. Note that setting one channel in a zone will automatically set the paired channel to the same input.

Zone Audio Mute	!{z#}MU{0 / 1}+	Turns zone muting on or off. 0 = Off, 1 = On.
Zone Audio Mute Toggle	!{z#}MT+	Toggles zone muting from on to off or from off to on.
Zone Treble	!{z#}TR{bt#}+	Sets the zone treble level (see the <i>Bass/Treble Level</i> table below).
Increase Treble	!{z#}TI+	Increase the zone treble level one step.
Decrease Treble	!{z#}TD+	Decrease the zone treble level one step.
Zone Bass	!{z#}BS{bt#}+	Sets the zone bass level (see the <i>Bass/Treble Level</i> table below).
Increase Bass	!{z#}BI+	Increase the zone bass level one step.
Decrease Bass	!{z#}BD+	Decrease the zone bass level one step.
Zone Balance	!{z#}BA{b#}	Sets the zone balance (see the <i>Balance Setting</i> table below).
Zone Balance Step Left	!{z#}BL+	Moves the zone balance one step to the left.
Zone Balance Step Right	!{z#}BR+	Moves the zone balance one step to the right.
Zone Activity Auto Update	!ZA{0 / 1}+	Enables or disables automatic updating of zone information whenever anything about the zone changes (see the <i>Zone Status</i> section below).
Zone Maximum Volume	!{z#}MX+	Sets the current zone volume level as the maximum level allowed. This acts as a volume limiter for the zone.

RS-232 Queries

Function	Query	Response	Description
Zone Volume	?{z#}VO+	?{z#}VO{v#}+	
Channel Volume	?{c#}CH+	?{c#}CH{v#}+	
Zone Audio Mute	?{z#}MU+	?{z#}MU{0 / 1}+	
Zone Power	?{z#}PR+	?{z#}PR{0 / 1}+	
Zone Input Select	?{z#}IS+	?{z#}IS{0 / 1}+	0 = BUS, 1 = LINE.
Zone Treble	?{z#}TR+	?{z#}TR{bt#}+	
Zone Bass	?{z#}BS+	?{z#}BS{bt#}+	
Zone Balance	?{z#}BA+	?{z#}BA(b#)+	
Zone Activity Auto Update	?ZA+	?ZA{0 / 1}+	
Zone Status	?ZS+	See the <i>Zone Status</i> section below.	

Zone Status

Whenever a Zone Status query is issued or if the Zone Activity Auto Update function is enabled and something about the zone changes, a Zone Status Report will be sent. The automatic Zone Status Report will be sent one second after zone activity stops. The metadata is also sent whenever it changes. The Zone Status Report is a string of characters that conforms to the various RS-232 Commands above. The format of the string is as follows:

#{z#}ZS VO{v#} PO{0 / 1} MU{0 / 1} IS{0 / 1}+

Following is an example of a Zone Status Report string:

#6ZS VO8 PO1 MU0 IS0+

This is interpreted as Zone 6 (#6ZS) is powered on (PO1), has the volume level set to 8 (VO8), audio muting off (MU0), and with the BUS as the audio input (IS0).

Volume Level

Volume Setting	Attenuation (dB)	Volume Setting	Attenuation (dB)
0	-78.75	20	-22.50
1	-75.00	21	-21.25
2	-71.25	22	-20.00
3	-67.50	23	-18.75
4	-63.75	24	-17.50
5	-60.00	25	-16.25
6	-56.25	26	-15.00
7	-52.25	27	-13.75
8	-50.00	28	-12.50
9	-47.50	29	-11.25
10	-45.00	30	-10.00
11	-42.50	31	-8.75
12	-40.00	32	-7.50
13	-37.50	33	-6.25
14	-35.00	34	-5.00
15	-35.50	35	-3.75
16	-30.00	36	-2.50
17	-27.50	37	-1.25
18	-25.00	38	0
19	-23.75		

Bass/Treble Level

Setting	Level (+/-dB)
0	-14
1	-12
2	-10
3	-8
4	-6
5	-4
6	-2
7	0
8	+2
9	+4
10	+6
11	+8
12	+10
13	+12
14	+14

Balance Setting

Setting	Left Channel (+/-dB)	Right Channel (+/-dB)
0	0	Mute
1	0	-37.50
2	0	-36.25
...
29	0	-2.50
30	0	-1.25
31	0	0
32	0	0
33	-1.25	0
34	-2.50	0
...
61	-36.25	0
62	-37.50	0
63	Mute	0

TECHNICAL SUPPORT

Monoprice is pleased to provide free, live, online technical support to assist you with any questions you may have about installation, setup, troubleshooting, or product recommendations. If you ever need assistance with your new product, please come online to talk to one of our friendly and knowledgeable Tech Support Associates. Technical support is available through the online chat button on our website www.monoprice.com during regular business hours, 7 days a week. You can also get assistance through email by sending a message to tech@monoprice.com