

RS232 & IR COMMANDS for 12-Channel Amplifier

Fixed Settings 9600, 8, n, 1

RS232 PINOUT TX, RX, GND

RS232 COMMANDS

Note: An explanation of items in parenthesis ({}) can be found below.

NAME	COMMAND	REMARKS
Zone Power	!{z#}PR{0/1}+	To turn on Zone 2: !2PR1+
		To turn off Zone1: !1PR0+
Zone Power Toggle	!{z#}PT+	
Zone Volume	!{z#}VO{v#}+	
Zone Vol. Inc.	!{z#}VI+	
Zone Vol. Dec.	!{z#}VD+	
Zone Input Select	!{z#}IS{0/1}+	To select BUS: !2IS0+
		To select LINE: !2IS1+
Zone Input Select Toggle	!{z#}IT+	
Mute	!{z#}MU{0/1}+	To mute Zone 3: !3MU1+
		To unmute Zone 4: !4MU0+
Mute Toggle	!{z#}MT+	
Treble	!{z#}TR{bt#}+	
Treble Increment	!{z#}TI+	
Treble Decrement	!{z#}TD+	
Bass	!{z#}BS{bt#}+	
Bass Increment	!{z#}BI+	
Bass Decrement	!{z#}BD+	
Balance	!{z#}BA{b#}+	
Balance Step Left	!{z#}BL+	
Balance Step Right	!{z#}BR+	
Zone Activity Auto Update	!ZA{0/1}+	Enable/Disable Auto Update of the Zone Information when Zone Activity is

NAME	COMMAND	REMARKS
		Detected. (See below for format of the output.)
Zone Max. Volume	!{z#}MX+	Sets current volume setting as a maximum desired volume level for a specific zone. The volume is first adjusted to what is desired as a maximum level. The Zone Max. Volume command is then activated to lock in the setting. This acts as a volume limiter for the system

Where:

{z#} - Zone Number. Range is 1..6

{0/1} – Either 0 (zero) or 1 (one). 0 – Off, 1 – On.

{v#} - Volume Setting. Range is 0..38. See VOLUME LEVEL table below.

{bt#} - Bass/Treble Setting. Range is 0..14. See BASS/TREBLE LEVEL table below.

{b#} - Balance Setting. Range is 0..63. See BALANCE LEVEL table below.

QUERIES

Note: An explanation of items in parenthesis ({}) can be found below.

NAME	QUERY	RESPONSE	EXAMPLE RESPONSE	EXPLANATION
Zone Volume	?{z#}VO+	?{z#}VO{v#}+	?4VO49+	Zone 4 is currently at volume level 49.
Mute	?{z#}MU+	?{z#}MU{0/1}+	?8MU1+	Zone 8 is currently muted.
Power	?{z#}PR+	?{z#}PR{0/1}+	?8PR1+	Zone 8 is currently powered on.
Input Select	?{z#}IS+	?{z#}IS{0/1}+	?8IS1+	Zone 8 input selection is on LINE.
Treble	?{z#}TR+	?{z#}TR{bt#}+	?1TR7+	Zone 1 currently has a treble value of 7 (flat)
Bass	?{z#}BS+	?{z#}BS{bt#}+	?1BS7+	Zone 1 currently has a bass value of 7 (flat)
Balance	?{z#}BA+	?{z#}BA{t#}+	?2BA31+	Zone 2 currently has a balance value of 31 (even)
Zone Activity Auto Update	?ZA+	?ZA{0/1}+	?ZA1+	Zone Activity Auto Update is enabled
Zone Status	?(z#)ZS+	See Below	See Below	Returns the complete status of the Zone.

Where:

{z#} - Zone Number. Range is 1..6

{0/1} – Either 0 (zero) or 1 (one). 0 – Off, 1 – On.

{v#} - Volume Setting. Range is 0..38. See VOLUME LEVEL table below.

{bt#} - Bass/Treble Setting. Range is 0..14. See BASS/TREBLE LEVEL table below.

{b#} - Balance Setting. Range is 0..63. See BALANCE LEVEL table below.

Zone Activity and Zone Status

The new commands/queries for zone status:

ZA – Zone Activity Auto Update Enable Command. Format - !**ZA**{0/1}+

ZS – Zone Status Query. Format - ?(z#)**ZS**+

Zone Activity Auto Update Enable Command

The Activity Update will cause the system to send out the complete Zone State whenever something in the zone changes. The State string will be sent out one second after activity in the zone stops. Also, the Metadata will be sent out whenever it changes.

Zone Status Query

The Zone Status Query will cause the system to send out the full Zone State string along with the Zone Metadata string(s), for the specified zone.

Important Note: Also, use the highest baud rate that the receiving system can support.

When the Amplifier sends out complete Zone Status, (either due to an explicit query or due to an Auto Update, the data is formatted a bit differently than the standard responses to a Command or Query.

All of the Zone Info / Zone Status output lines will begin with the character ‘#’ (the sharp, or number sign).

The format of the Zone State is:

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

An example:

#6ZS VO8 PO1 MU0 IS0+

This line tells us the following info about Zone 6:

Zone Volume – 8

Power – On

Mute – Off

Input Select – Bus

=

IR Remote

NAME	BUTTON NAME	PROGRAM COMMAND	DESCRIPTION
Power On	80	01	Amplifier Zone Power On
Power Off	48	14	Amplifier Zone Power Off
Power Toggle			Toggle between Power states
Zone Vol. Inc.	F0	0F	Increase Volume 2dB/step
Zone Vol. Dec.	98	13	Decrease Volume 2dB/step
Zone Volume Preset #1	00	00	0dB Volume (Mute level)
Zone Volume Preset #2	C0	05	-9dB of Max. Volume
Zone Volume Preset #3	50	06	-18dB of Max Volume
Zone Volume Preset #4	D0	07	-24dB of Max Volume
Zone Volume Preset #5	40	04	-30dB of Max Volume
Zone Volume Preset #6	A0	09	-36dB of Max Volume
Zone Volume Preset #7	30	0A	-42dB of Max Volume
Zone Volume Preset #8	B0	0B	-48dB of Max Volume
Mute On	38	1A	Mute Condition (no audio)
Mute Off	B8	1B	non-Mute Condition (audio)
Mute Toggle	29	58	Toggle between Mute states
Treble Increment	20	08	Increase Treble 2dB/step
Treble Center	60	0C	Return Treble to flat position
Treble Decrement	08	10	Decrease Treble 2dB/step
Bass Increment	E0	0D	Increase Bass 2dB/step
Bass Center	88	11	Return Bass to flat position
Bass Decrement	A8	19	Decrease Bass 2dB/step
Balance Step Left	C8	15	Step Left 2dB/step
Balance Center	58	16	Return Balance to center
Balance Step	D8	17	Step Right 2dB/step

NAME	BUTTON NAME	PROGRAM COMMAND	DESCRIPTION
Right			
Input Select (BUS)	01	40	Set Zone to BUS input
Input Select (LINE)	41	44	Set Zone to LINE input
Toggle Input Select	21	48	Toggle between Inputs
Zone Max. Volume	78	1E	Sets current volume setting as a maximum desired volume level for a specific zone. The volume is first adjusted to what is desired as a maximum level. The Zone Max. Volume command is then activated to lock in the setting. This acts as a volume limiter for the system
ADJ-OFF	90	03	This command unlocks a previous MAX VOLUME setting.

NOTE: When shipped from the factory, all amplifier pairs (zones) are set to Code Group number A0.