

Rotel C8/C8+ RS232 ASCII Controller Command List

Date	Version	Update Description
May 3, 2022	1.00	Original Specification

The C8/C8+ support an ASCII based RS232 protocol. The RS232 hardware does not support flow control so care needs to be taken when sending and receiving data to avoid packet loss.

All commands sent to the attached Rotel device must have a terminating “!” character.

Example Command: power_on!

***Note:** Do not include any spaces in the command, and do not include a carriage return or line feed after the command, only the “!” terminating character.*

Status information from the attached Rotel product will have a terminating “\$” character. It is up to the sending/receiving control application to properly parse and process the packets.

Connection Settings

Baud Rate	Parity	Valid Data Bits	Stop Bit Value	Handshaking	Data Type
115200	N	8	1	None	String

IP Control Settings

The C8/C8+ will only accept and respond to IP control commands if the product is connected to a local network and has a valid IP address.

Commands will be accepted via TCP port 9596, and the unit will send responses back via the same port. The command and response format is identical to the serial commands.

Communication Protocol

Command and response messages are included on the following pages. Automatic status update information can be enabled/disabled using the “rs232_update_on” and “rs232_update_off” commands.

With RS232 update set to ON, any status changes to the unit will be transmitted via RS232. With RS232 update set to OFF, the unit will not send any feedback unless polled by the controller.

Zone Specific Commands

Many commands can include an optional prefix (z1:, z2:, z3:, z4:) to issue a command or request status for a specific zone. If no prefix is included the command or status will apply to all zones. Commands that support zone-specific functions will be prefixed with z#: in the list.

Response Format

Many commands such as volume, mute or tone controls will return a response containing the status for all 4 zones, in comma-separated format. The unit will return status for all 4 zones regardless of if a command was sent for all zones or a specific zone.

Example Command (All Zones): vol_up!
Example Response: volume=50,45,45,40\$

Example Command (Zone Specific): z2:mute_on!
Example Response: mute=off,on,off,off\$

Input Selection

The Source Selection commands will only apply if the Zone has been configured as "Matrix" via the front panel setup menu. If the zone has been configured for a specific input via setup, source selection commands will have no effect on that particular zone.

Section 1: Control Command List

C8 ASCII	Command Description	Unit Response
POWER & VOLUME COMMANDS		
power_on!	Power On	power=on\$
power_off!	Power Off	power=standby\$
power_toggle!	Power Toggle	power=on/standby\$
z#:vol_up!	Volume Up	volume=##,##,##,##\$
z#:vol_dwn!	Volume Down	volume=##,##,##,##\$
z#:vol_nn!	Set volume to level n (n = 00-96)	volume=##,##,##,##\$
z#:mute!	Mute Toggle	mute=on/off,on,on,on\$
z#:mute_on!	Mute On	mute=on,on,on,on\$
z#:mute_off!	Mute Off	mute=off,off,off,off\$
SOURCE SELECTION COMMANDS		
Possible values for each zone can be a / b / c / d		
z#:input_a!	Source Input A	input=a,a,a,a\$
z#:input_b!	Source Input B	input=b,b,b,b\$
z#:input_c!	Source Input C	input=c,c,c,c\$
z#:input_d!	Source Input D	input=d,d,d,d\$

C8 ASCII	Command Description	Unit Response
TONE CONTROL COMMANDS		
Possible values for each zone can be +## / -## / 000 (flat)		
z#:bass_up!	Bass Up	bass=+##,+##,+##,+##\$
z#:bass_down!	Bass Down	bass=-##,-##,-##,-##\$
z#:bass_-n!	Set Bass to -n (n = 01-10)	bass=-##,-##,-##,-##\$
z#:bass_000!	Set Bass to 0	bass=000,000,000,000\$
z#:bass_+nn!	Set Bass to +n (n = 01-10)	bass=+##,+##,+##,+##\$
z#:treble_up!	Treble Up	treble=+##,+##,+##,+##\$
z#:treble_down!	Treble Down	treble=-##,-##,-##,-##\$
z#:treble_-n!	Set Treble to -n (n = 01-10)	treble=-##,-##,-##,-##\$
z#:treble_000!	Set Treble to 0	treble=000,000,000,000\$
z#:treble_+nn!	Set Treble to +n (n = 01-10)	treble=+##,+##,+##,+##\$
BALANCE CONTROL COMMANDS		
Possible values for each zone can be r## / l## / 000 (center)		
z#:balance_r!	Balance Right	balance=r##,r##,r##,r##\$
z#:balance_l!	Balance Left	balance=l##,l##,l##,l##\$
z#:balance_lnn!	Set Balance to left n (n = 01-10)	balance=l##,l##,l##,l##\$
z#:balance_000!	Set Balance to 0	balance=000,000,000,000\$
z#:balance_rnn!	Set Balance to right n (n = 01-10)	balance=r##,r##,r##,r##\$
OTHER COMMANDS		
dimmer!	Toggle display dimmer	dimmer=#\$
dimmer_0!	Set display to brightest setting	dimmer=0\$
dimmer_1!	Set display to dimmer level 1	dimmer=1\$
dimmer_2!	Set display to dimmer level 2	dimmer=2\$
dimmer_3!	Set display to dimmer level 3	dimmer=3\$
dimmer_4!	Set display to dimmest setting	dimmer=4\$
RS232 FEEDBACK COMMANDS		
rs232_update_on!	Set RS232 Update to Auto (On)	update_mode=auto\$
rs232_update_off!	Set RS232 Update to Manual (Off)	n/a

Section 2: Feedback Request Command List

When returning status, the unit will return status for all 4 zones in a comma-separated format.

Command:	power?
Description:	Request current power status
Return String(s):	power=on\$ / power=standby\$
Return Description:	Current power status
Example:	power=on\$

Command:	input?
Description:	Request current source
Return String(s):	input=a,b,c,d\$
Return Description:	Current source for each zone (z1,z2,z3,z4)
Example:	input=a,a,c,a\$

Command:	volume?
Description:	Request current volume value
Return String(s):	volume=##,##,##,##\$
Return Description:	2 digit current volume level for each zone (z1,z2,z3,z4)
Example:	volume=40,32,55,20\$

Command:	mute?
Description:	Request current mute status
Return String(s):	mute=on/off,on/off,on/off,on/off\$
Return Description:	Current mute status for each zone (z1,z2,z3,z4)
Example:	mute=off,off,on,off\$

Command:	bass?
Description:	Request current bass level
Return String(s):	bass=###,###,###,###\$ (+01-10, -01-10, 000)
Return Description:	Current tone control bass level for each zone (z1,z2,z3,z4)
Example:	bass=+02,+02,-01,000\$

Command:	treble?
Description:	Request current treble level
Return String(s):	treble=###,###,###,###\$ (+01-10, -01-10, 000)
Return Description:	Current tone control treble level for each zone (z1,z2,z3,z4)
Example:	treble=-01,+03,000,000\$

Command:	balance?
Description:	Request current balance setting
Return String(s):	balance=###,###,###,###\$ (l01-10, r01-10, 000)

Return Description:	Current balance setting for each zone (z1,z2,z3,z4)
Example:	balance=r03,000,I02,r01\$

Command:	freq?
Description:	Request current frequency for digital source input
Return String(s):	freq=none,none,none,none\$ Possible values for freq: none, 44.1, 48, 88.2, 96, 176.4, 192
Return Description:	Current frequency for digital source input for each zone (z1,z2,z3,z4)
Example:	freq=48,none,none,44.1\$

Command:	dimmer?
Description:	Request current front display dimmer level
Return String(s):	dimmer=0\$ / dimmer=1\$ / dimmer=2\$ / dimmer=3\$ / dimmer=4\$
Return Description:	Current front display dimmer level
Example:	dimmer=3\$

Command:	version?
Description:	Request the main CPU software version
Return String:	version=#.##\$
Return Description:	Rotel main CPU software version
Example:	version=1.00\$

Command:	ip?
Description:	Request the IP address of the product
Return String:	ip=###.###.###.###\$
Return Description:	Current IP address
Example:	ip =192.168.100.8\$

Command:	mac?
Description:	Request the MAC address of the product
Return String:	mac=#####\$
Return Description:	MAC address (uppercase characters)
Example:	mac=0CEFAF90125E\$

Command:	model?
Description:	Request the model number
Return String:	model=text\$
Return Description:	Rotel model number
Example:	model=c8\$

Command:	discover?
Description:	Request the device to identify itself on the network
Return String:	discover=ip=###.###.###.### port=#### mac=#####\$

Return Description:	Device's IP address, port number and MAC address
Example:	discover=ip=192.168.100.25 port=9590 mac=0cefaf90125e\$