



Rotel RC-1590 RS232 / IP ASCII Controller Command List

Date	Version	Update Description
May 22, 2015	1.00	Original Specification
July 17, 2015	1.10	Updated with IP Control port information
September 16, 2016	1.11	Corrected volume scale from 1 - 86 to 1 - 96

The RC-1590 supports an ASCII based RS232 and IP protocol. The RS232 hardware does not support flow control so care needs to be take 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 with either have a terminating “!” character or a byte count for variable length text data that may include a “!” in the returned message. It is up to the sending/receiving control application to properly parse and process the packets.

Note: The byte count only includes the text data and not the length or “,” character.

Note about Rotel Link RCD feature: The input that has been selected for the ROTEL LINK RCD option in the setup menu of the RC-1590 will affect the response string from the unit for that input. If the input has been set as the Rotel Link RCD input, the response string for that input will be the second string listed in the table (i.e. if COAX1 has been set as the Rotel Link RCD input, the response string will be source=coax1_cd! rather than the standard response string of source=coax1!).

Note about PC-USB Transport control codes: The basic transport functions (Play/Pause/Track etc) for PC-USB will ONLY function when the RC-1590 is set for USB 2.0 mode.

RS232 Connection Settings

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

IP Control Settings

The RC-1590 will 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 9590, 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 display update information can be enabled/disabled using the "display_update_auto" and "display_update_manual" commands.

In automatic mode each time the display changes the new display line(s) will be sent. In manual mode the display updates must be requested each time a refresh of the display information is desired. This primarily applies to Front USB metadata information. Basic status information such as volume, power or source changes will still be provided automatically.

Section 1: Control Command List

RC-1590 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!
volume_up!	Volume Up	volume=##!
volume_down!	Volume Down	volume=##!
volume_min!	Set Volume to Min	volume=min!
volume_n!	Set Volume to level n (n = 1 - 96)	volume=##!
mute!	Mute Toggle	mute=on/off!
mute_on!	Mute On	mute=on!
mute_off!	Mute Off	mute=off!
SOURCE SELECTION COMMANDS		
cd!	Source CD	source=cd! / source=analog_cd!
coax1!	Source Coax 1	source=coax1! / source=coax1_cd!
coax2!	Source Coax 2	source=coax2! / source=coax2_cd!
coax3!	Source Coax 3	source=coax3! / source=coax3_cd!
opt1!	Source Optical 1	source=opt1!
opt2!	Source Optical 2	source=opt2!
opt3!	Source Optical 3	source=opt3!
aux!	Source Aux	source=aux!
tuner!	Source Tuner	source=tuner!

RC-1590 ASCII	Command Description	Unit Response
phono!	Source Phono	source=phono!
usb!	Source Front USB	source=usb!
pc_usb!	Source PC-USB	source=pc_usb!
bal_xlr!	Source XLR	source=bal_xlr! / source=bal_xlr_cd!
bluetooth!	Source Bluetooth	source=bluetooth!
rcd!	Source Rotel CD	source=analog_cd! / source=coax1_cd! / source=coax2_cd! / source=bal_xlr_cd!
SOURCE CONTROL COMMANDS		
play!	Play Source	n/a
stop!	Stop Source	n/a
pause!	Pause Source	n/a
track_fwd!	Track Forward/Tune Up	n/a
track_back!	Track Backward/Tune Down	n/a
fast_fwd!	Fast Forward/Search Forward	n/a
fast_back!	Fast Backward/Search Backward	n/a
MENU CONTROL COMMANDS		
menu!	Display the Menu	n/a
exit!	Exit Key	n/a
up!	Cursor Up	n/a
down!	Cursor Down	n/a
left!	Cursor Left	n/a
right!	Cursor Right	n/a
enter!	Enter Key	n/a
NUMERIC KEY COMMANDS		
1!	Number Key 1	n/a
2!	Number Key 2	n/a
3!	Number Key 3	n/a
4!	Number Key 4	n/a
5!	Number Key 5	n/a
6!	Number Key 6	n/a
7!	Number Key 7	n/a
8!	Number Key 8	n/a
9!	Number Key 9	n/a
0!	Number Key 0	n/a
TONE CONTROL COMMANDS		
tone_on!	Tone Controls On	tone=on!
tone_off!	Tone Controls Off	tone=off!
bass_up!	Bass Up	bass=000/+##/-##!
bass_down!	Bass Down	bass=000/+##/-##!
bass_-10!	Set Bass to -10	bass=-10!

RC-1590 ASCII	Command Description	Unit Response
bass_000!	Set Bass to 0	bass=000!
bass_+10!	Set Bass to +10	bass=+10!
treble_up!	Treble Up	treble=000/###/-##!
treble_down!	Treble Down	treble=000/###/-##!
treble_-10!	Set Treble to -10	treble=-10!
treble_000!	Set Treble to 0	treble=000!
treble_+10!	Set Treble to +10	treble=+10!
BALANCE CONTROL COMMANDS		
balance_right!	Balance Right	balance=000/L##/R##!
balance_left!	Balance Left	balance=000/L##/R##!
balance_L15!	Set Balance to Max Left	balance=L15!
balance_000!	Set Balance to 0	balance=000!
balance_R15!	Set Balance to Max Right	balance=R15!
OTHER COMMANDS		
dimmer!	Toggle display dimmer	dimmer_#!
dimmer_0!	Set display to brightest setting	n/a
dimmer_1!	Set display to dimmer level 1	n/a
dimmer_2!	Set display to dimmer level 2	n/a
dimmer_3!	Set display to dimmer level 3	n/a
dimmer_4!	Set display to dimmer level 4	n/a
dimmer_5!	Set display to dimmer level 5	n/a
dimmer_6!	Set display to dimmest setting	n/a
power_mode_quick!	Set power mode to quick	power_mode=quick!
power_mode_normal!	Set power mode to normal	power_mode=normal!
pcusb_class_1!	Set PC-USB Audio Class to 1.0	pcusb_class=1!
pcusb_class_2!	Set PC-USB Audio Class to 2.0	pcusb_class=2!
factory_default_on!	Reset unit to factory defaults	n/a
DISPLAY REFRESH COMMANDS		
display_update_auto!	Set Display Update to Auto	display_update=auto!
display_update_manual!	Set Display Update to Manual	display_update=manual!

Section 2: Feedback Request Command List

Command:	get_display!
Description:	Request the entire display to be sent
Return String:	display=###,text
Return Description:	Current display data; must include 3 digit length of text string at beginning followed by "," and text string (no terminating character)
Example:	display=040, Sample Text

Command:	get_display1!
Description:	Request display line #1 to be sent
Return String:	display1=##,text
Return Description:	Current display line 1, must include 2 digit length of text string at beginning followed by "," and text string (no terminating character)
Example:	display1=20, Sample Text

Command:	get_display2!
Description:	Request display line #2 to be sent
Return String:	display2=##,text
Return Description:	Current display line 2, must include 2 digit length of text string at beginning followed by "," and text string (no terminating character)
Example:	display2=20, Sample Text

Command:	get_product_type!
Description:	Request the product type
Return String:	product_type=##,text
Return Description:	Rotel product type name, must include 2 digit length of text string at beginning followed by "," and text string (no terminating character)
Example:	product_type=07,RC-1570

Command:	get_product_version!
Description:	Request the main CPU software version
Return String:	product_version=##,text
Return Description:	Rotel main CPU software version, must include 2 digit length of text string at beginning followed by "," and text string (no terminating character)
Example:	product_version=06,V1.1.8

Command:	get_display_size!
Description:	Request display size (Requires Main Software V1.2.9 or later)
Return String:	display_size=##,##!
Return Description:	Columns and rows on current display
Example:	display_size=20,04!

Command:	get_display_update!
Description:	Request display update (Requires Main Software V1.2.9 or later)
Return String(s):	display_update=auto! / display_update=manual!
Return Description:	Status of if the display refresh is automatic or manual
Example:	display_update=auto!

Command:	get_current_power!
Description:	Request current power status
Return String(s):	power=on! / power=standby!
Return Description:	Current power status
Example:	power=on!

Command:	get_current_source!
Description:	Request current source
Return String(s):	source=analog_cd! / source=cd! / source=coax1! / source=coax1_cd! / source=coax2! / source=coax2_cd! / source=coax3! / source=coax3_cd! / source=opt1! / source=opt2! / source=opt3! / source=tuner! / source=phono! / source=usb! / source=pc_usb! / source=aux! / source=bluetooth! / source=bal_xlr! / source=bal_xlr_cd!
Return Description:	Current source
Example:	source=pc_usb!

Command:	get_tone!
Description:	Request current tone control state
Return String(s):	tone=on! / tone=off!
Return Description:	Current tone control state
Example:	tone=off!

Command:	get_bass!
Description:	Request current bass level
Return String(s):	bass=###! (+01-10, -01-10, 000)
Return Description:	Current tone control bass level
Example:	bass=+02!

Command:	get_treble!
Description:	Request current treble level
Return String(s):	treble=###! (+01-10, -01-10, 000)
Return Description:	Current tone control treble level
Example:	treble=-01!

Command:	get_balance!
Description:	Request current balance setting
Return String(s):	balance=###! (L01-15, R01-15, 000)
Return Description:	Current balance setting
Example:	balance=L03!

Command:	get_pcusb_class!
Description:	Request current PC-USB class
Return String(s):	pcusb_class=1! / pcusb_class=2!
Return Description:	Current PC-USB class
Example:	pcusb_class=1!

Command:	get_current_freq!
Description:	Request current frequency for digital source input
Return String(s):	freq=off! / freq=32! / freq=44.1! / freq=48! / freq=88.2! / freq=96! / freq=176.4! / freq=192!
Return Description:	Current frequency for digital source input
Example:	freq=48!

Command:	get_volume_max!
Description:	Request Max volume value
Return String(s):	volume_max=##!
Return Description:	2 digit volume max level
Example:	volume_max=80!

Command:	get_volume_min!
Description:	Request Min volume value
Return String(s):	volume_min=0!
Return Description:	2 digit volume min level
Example:	volume_min=0!

Command:	get_volume!
Description:	Request current volume value
Return String(s):	volume=##!
Return Description:	2 digit current volume level
Example:	volume=40!













Command:	get_tone_max!
Description:	Request Max Tone value
Return String(s):	tone_max=10!
Return Description:	2 digit tone max level
Example:	tone_max=10!

Command:	get_mute_status!
Description:	Request current mute status.
Return String(s):	mute=off! / mute=on!
Return Description:	Current mute state
Example:	mute=on!

Command:	get_power_mode!
Description:	Request current power mode. (Quick or Normal)
Return String(s):	power_mode=normal! / power_mode=quick!
Return Description:	Current power mode
Example:	power_mode=quick!

Section 3: Special Character Mapping

Certain characters on the RC-1570 display may be represented by a combination of 2-3 hex bytes in the feedback string provided by the unit. Refer to the chart below for a mapping of the different characters.

Symbol	Hex Value	Symbol	Hex Value	Symbol	Hex Value
A	EE 82 85	D	EE 82 8A		EE 82 99
C	EE 82 84		EE 82 8B		EE 82 9A
F	EE 82 92	 	EE 82 81		EE 82 88
G	EE 82 87		EE 82 82		EE 82 95
I	EE 82 8E		EE 82 83		EE 82 96
L	EE 82 89		EE 82 94	*	EE 82 90
M	EE 82 93		EE 82 97		EE 82 91
R	EE 82 8C		EE 82 98	Z	EE 82 8D
S	EE 82 8F	T	EE 82 80	END	EE 80 80 EE 80 81 EE 80 82