



## Rotel RCD-1572 RS232 ASCII Controller Command List

Date	Version	Update Description
July 19, 2017	1.00	Original Specification
January 6, 2019	2.00	Add V2.0 specification and details on change

The RCD-1572 supports 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 either have a terminating “!” or “\$” character, depending on the protocol revision (see update below), 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.*

### Important Protocol Revision

As of software V2.33, the RS232 protocol was updated with changes to some commands as well as all feedback strings. **This change will impact existing control systems so any connected control systems should be updated to utilize the new protocol before updating the software in the RCD-1572.**

The current commands and feedback strings are documented in Sections 1 & 2, while the legacy commands for older software is documented in Sections 3 & 4. A summary and list of specific changes is also provided in Appendix A.

### Connection Settings

Baud Rate	Parity	Valid Data Bits	Stop Bit Value	Handshaking	Data Type
57600	N	8	1	None	String

### 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.

## Section 1: Control Command List V2.0

*Applies to RCD-1572 V2.33 and newer*

RCD-1572 ASCII	Command Description	Unit Response
<b>POWER COMMANDS</b>		
power_on!	Power On	power=on\$
power_off!	Power Off	power=standby\$
power_toggle!	Power Toggle	power=on/standby\$
<b>CD TRANSPORT COMMANDS</b>		
play!	Play	status=play\$
stop!	Stop	status=pause/stop\$
pause!	Pause Toggle	status=pause/play\$
trkf!	Track Forward	track=###\$
trkb!	Track Backward	track=###\$
ff!	Fast Forward	n/a
fb!	Fast Backward	n/a
rnd!	Random Play Mode Toggle	rnd=on/off\$
rpt!	Repeat Play Mode Toggle	rpt=track/disc/off\$
<b>NUMERIC KEY COMMANDS</b>		
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
<b>OTHER COMMANDS</b>		
eject!	Eject CD	tray_status=open/close\$
time!	Toggle CD Time Display	n/a
dimmer!	Toggle Display Dimmer	dimmer_#\$
dimmer_0!	Set Display to 0 (Brightest)	dimmer=0\$
dimmer_1!	Set Display to 1	dimmer=1\$
dimmer_2!	Set Display to 2	dimmer=2\$
dimmer_3!	Set Display to 3	dimmer=3\$
dimmer_4!	Set Display to 4	dimmer=4\$
dimmer_5!	Set Display to 5	dimmer=5\$
dimmer_6!	Set Display to 6 (Dimmest)	dimmer=6\$
<b>RS232 FEEDBACK COMMANDS</b>		
rs232_update_on!	Set RS232 Update to Auto (On)	update_mode=auto\$
rs232_update_off!	Set RS232 Update to Manual (Off)	update_mode>manual\$

## Section 2: Feedback Request Command List V2.0

*Applies to RCD-1572 V2.33 and newer*

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

<b>Command:</b>	status?
<b>Description:</b>	Request CD play status
<b>Return String(s):</b>	status=play\$ / status=stop\$ / status=pause\$
<b>Return Description:</b>	CD Play Status
<b>Example:</b>	status=pause\$

<b>Command:</b>	track?
<b>Description:</b>	Request current CD track number
<b>Return String(s):</b>	track=###\$
<b>Return Description:</b>	Current CD track
<b>Example:</b>	track=002\$

<b>Command:</b>	track_name?
<b>Description:</b>	Request current CD track name
<b>Return String(s):</b>	track_name=text\$\$
<b>Return Description:</b>	Current CD track name. (UTF-8 text encoding)
<b>Example:</b>	track_name=Sample Track Name\$\$

<b>Command:</b>	tray_status?
<b>Description:</b>	Request current CD mechanism status
<b>Return String(s):</b>	tray_status=open\$ / tray_status=close\$ / tray_status=load\$
<b>Return Description:</b>	Current CD tray status
<b>Example:</b>	tray_status=close\$

<b>Command:</b>	rnd?
<b>Description:</b>	Request current random play mode
<b>Return String(s):</b>	rnd=on\$ / rnd=off\$
<b>Return Description:</b>	Random play mode
<b>Example:</b>	rnd=on\$

<b>Command:</b>	rpt?
<b>Description:</b>	Request current repeat play mode
<b>Return String(s):</b>	rpt=track\$ / rpt=disc\$ / rpt=off\$
<b>Return Description:</b>	Repeat play mode
<b>Example:</b>	rpt=track\$

<b>Command:</b>	time?
<b>Description:</b>	Request current CD track time
<b>Return String(s):</b>	time=#:##:##\$\$
<b>Return Description:</b>	Text string of time, depending on which time display mode has been set (track time elapsed or remaining, disc time elapsed or remaining)
<b>Example:</b>	time=0:02:45\$\$ / time=1:10:32\$\$

<b>Command:</b>	disc_name?
<b>Description:</b>	Request current CD name
<b>Return String(s):</b>	disc_name=text\$\$
<b>Return Description:</b>	Current CD name. (UTF-8 text encoding)
<b>Example:</b>	disc_name=Sample CD Name\$\$

<b>Command:</b>	disc_type?
<b>Description:</b>	Request type of loaded CD
<b>Return String(s):</b>	disc_type=None\$\$ / disc_type=CD-DA\$\$ / disc_type=HDCD\$\$ / disc_type=MP3\$\$ / disc_type=WMA\$\$
<b>Return Description:</b>	Disc type
<b>Example:</b>	disc_type=CD-DA\$\$

<b>Command:</b>	dimmer?
<b>Description:</b>	Request current front display dimmer level
<b>Return String(s):</b>	dimmer=0\$ / dimmer=1\$ / dimmer=2\$ / dimmer=3\$ / dimmer=4\$ / dimmer=5\$ / dimmer=6\$
<b>Return Description:</b>	Current front display dimmer level
<b>Example:</b>	dimmer=3\$

<b>Command:</b>	version?
<b>Description:</b>	Request the main CPU software version
<b>Return String:</b>	version=#.##\$
<b>Return Description:</b>	Rotel main CPU software version
<b>Example:</b>	version=2.33\$

<b>Command:</b>	model?
<b>Description:</b>	Request the model number
<b>Return String:</b>	model=text\$
<b>Return Description:</b>	Rotel model number
<b>Example:</b>	model= RCD-1572\$

## Section 3: Control Command List V1.0

*Applies to RCD-1572 prior to V2.33*

RCD-1572 ASCII	Command Description	Unit Response
<b>POWER COMMANDS</b>		
power_on!	Power On	power=on!
power_off!	Power Off	power=standby!
power_toggle!	Power Toggle	power=on/standby!
<b>CD TRANSPORT COMMANDS</b>		
play!	Play	play_status=play!
stop!	Stop	play_status=stop!
pause!	Pause	play_status=pause!
track_fwd!	Track Forward	n/a
track_back!	Track Backward	n/a
fast_fwd!	Fast Forward	n/a
fast_back!	Fast Backward	n/a
random!	Random Play Mode Toggle	rnd=off/on!
repeat!	Repeat Play Mode Toggle	rpt=track/disc/off!
<b>MENU CONTROL COMMANDS</b>		
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
<b>NUMERIC KEY COMMANDS</b>		
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
<b>OTHER COMMANDS</b>		
eject!	Eject CD	eject_status=open/close!
time!	Toggle CD Time Display	n/a
program!	Program Key	n/a
dimmer!	Toggle Display Dimmer	dimmer_#!
dimmer_0!	Set Display to 0 (Brightest)	dimmer=0!
dimmer_1!	Set Display to 1	dimmer=1!

RCD-1572 ASCII	Command Description	Unit Response
dimmer_2!	Set Display to 2	dimmer=2!
dimmer_3!	Set Display to 3	dimmer=3!
dimmer_4!	Set Display to 4	dimmer=4!
dimmer_5!	Set Display to 5	dimmer=5!
dimmer_6!	Set Display to 6 (Dimmest)	dimmer=6!
<b>DISPLAY REFRESH COMMANDS</b>		
display_update_auto!	Set Display Update to Auto	display_update=auto!
display_update_manual!	Set Display Update to Manual	display_update=manual!

## Section 4: Feedback Request Command List V1.0

*Applies to RCD-1572 prior to V2.33*

<b>Command:</b>	get_display!
<b>Description:</b>	Request the entire display to be sent
<b>Return String:</b>	display=###,text
<b>Return Description:</b>	Current display data; must include 3 digit length of text string at beginning followed by "," text string and terminating character (!)
<b>Example:</b>	display=040, Sample Text !

<b>Command:</b>	get_display1!
<b>Description:</b>	Request display line #1 to be sent
<b>Return String:</b>	display1=##,text!
<b>Return Description:</b>	Current display line 1, must include 2 digit length of text string at beginning followed by "," text string and terminating character (!)
<b>Example:</b>	display1=20, Sample Text !

<b>Command:</b>	get_display2!
<b>Description:</b>	Request display line #2 to be sent
<b>Return String:</b>	display2=##,text
<b>Return Description:</b>	Current display line 2, must include 2 digit length of text string at beginning followed by "," text string and terminating character (!)
<b>Example:</b>	display2=20, Sample Text

<b>Command:</b>	get_product_type!
<b>Description:</b>	Request the product type
<b>Return String:</b>	product_type=##,text
<b>Return Description:</b>	Rotel product type name, must include 2 digit length of text string at beginning followed by "," and text string (no terminating character)
<b>Example:</b>	product_type=08,RCD-1572

<b>Command:</b>	get_product_version!
<b>Description:</b>	Request the main CPU software version
<b>Return String:</b>	product_version=##,text
<b>Return Description:</b>	Rotel main CPU software version, must include 2 digit length of text string at beginning followed by "," and text string with terminating character (!)
<b>Example:</b>	product_version=05,V2.29!

<b>Command:</b>	get_display_size!
<b>Description:</b>	Request display size
<b>Return String:</b>	display_size=##,##!
<b>Return Description:</b>	Columns and rows on current display
<b>Example:</b>	display_size=20,02!

<b>Command:</b>	get_display_update!
<b>Description:</b>	Request display update
<b>Return String(s):</b>	display_update=auto! / display_update=manual!
<b>Return Description:</b>	Status of if the display refresh is automatic or manual
<b>Example:</b>	display_update=auto!

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

<b>Command:</b>	get_current_dimmer!
<b>Description:</b>	Request current display dimmer status
<b>Return String(s):</b>	dimmer=#!
<b>Return Description:</b>	Current dimmer status (0=brightest, 6=dimkest)
<b>Example:</b>	dimmer=3!

<b>Command:</b>	get_cd_tray_status!
<b>Description:</b>	Request current CD mechanism status
<b>Return String(s):</b>	eject_status=open! / eject_status=close! / eject_status=loading!
<b>Return Description:</b>	Current CD tray status
<b>Example:</b>	eject_status=close!

<b>Command:</b>	get_cd_play_status!
<b>Description:</b>	Request CD play status
<b>Return String(s):</b>	play_status=play! / play_status=stop! / play_status=pause!
<b>Return Description:</b>	CD Play Status
<b>Example:</b>	play_status=pause!

<b>Command:</b>	get_cd_disc_type!
<b>Description:</b>	Request type of loaded CD
<b>Return String(s):</b>	disc_type=None! / disc_type=CD-DA!
<b>Return Description:</b>	Disc type
<b>Example:</b>	disc_type=CD-DA!

## Section 5: Special Character Mapping

Certain characters on the RCD-1572 display may be represented by a combination of 2 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	Description
<b>R</b>	C2 8C	Time Remaining (Invert R)
<b>T</b>	C2 54	Track (Invert T)
<b>  </b>	C2 81	Pause
<b>▶</b>	C2 82	Play
<b>■</b>	C2 83	Stop



## Appendix A: Summary of Changes V1.0 – V2.0

A list of the specific changed commands and feedback strings between the V1.0 and V2.0 specification is detailed here.

### Global Changes

In addition to the specific changes below, the terminating character on all feedback strings has changed to the "\$" character instead of the previous "!" character.

An example response string is provided below.

Unit Response V1.0	Unit Response V2.0
bypass=off!	bypass=off\$

### Control Command Changes

Command V1.0	Command V2.0	Response V1.0	Response V2.0
track_fwd!	trkf!	n/a	n/a
track_back!	trkb!	n/a	n/a
fast_fwd!	ff!	n/a	n/a
fast_back!	fb!	n/a	n/a
random!	rnd!	rnd=off/on!	rnd=on/off\$
repeat!	rpt!	rpt=track/disc/off!	rpt=track/disc/off\$
program!	n/a	n/a	n/a
display_update_auto!	rs232_update_on!	display_update=auto!	update_mode=auto\$
display_update_manual!	rs232_update_off!	display_update=manual!	update_mode=manual\$
menu!	n/a	n/a	n/a
exit!	n/a	n/a	n/a
up!	n/a	n/a	n/a
down!	n/a	n/a	n/a
left!	n/a	n/a	n/a
right!	n/a	n/a	n/a
enter!	n/a	n/a	n/a

### Feedback Request Command Changes

Note the listed responses below may not include all values – refer to the appropriate command in the main documentation sections for the full list of potential response values.

Command V1.0	Command V2.0	Response V1.0	Response V2.0
get_current_power!	power?	power=on!	power=on\$
get_cd_play_status!	status?	play_status=pause!	status=pause\$
get_cd_disc_type!	disc_type?	disc_type=CD-DA!	disc_type=CD-DA\$\$
get_cd_tray_status!	tray_status?	eject_status=close!	tray_status=close\$
n/a	track?	n/a	track=###\$
n/a	track_name?	n/a	track_name=text\$\$
n/a	rnd?	n/a	rnd=on/off\$

Command V1.0	Command V2.0	Response V1.0	Response V2.0
n/a	rpt?	n/a	rpt=track\$
n/a	time?	n/a	time=#:##:##\$\$
n/a	disc_name?	n/a	disc_name=text\$\$
get_current_dimmer!	dimmer?	dimmer=#!	dimmer=#\$
get_display!	n/a	display=###,text	n/a
get_display1!	n/a	display1=###,text	n/a
get_display2!	n/a	display2=###,text	n/a
get_product_type!	model?	product_type=##,text	model=text\$
get_product_version!	version?	product_version=##,text	version=#.##\$
get_display_size!	n/a	display_size=##,##!	n/a
get_display_update!	n/a	display_update=auto!	n/a