

NUT

Control protocol



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This document describes NUT audio processor's remote control protocol, that you can implement in remote control pannels equipped with an RS232 port (Extron/Crestron/AMX/etc).

To know how to implement these commands in the chosen remote control, please refer to its user manual.

1 Hardware configuration

The NUT control protocol is available on the RS232 and/or the Ethernet connection.

RS232 setup:

- 9600 bauds
- 8 bits data
- 1 bit stop
- No parity

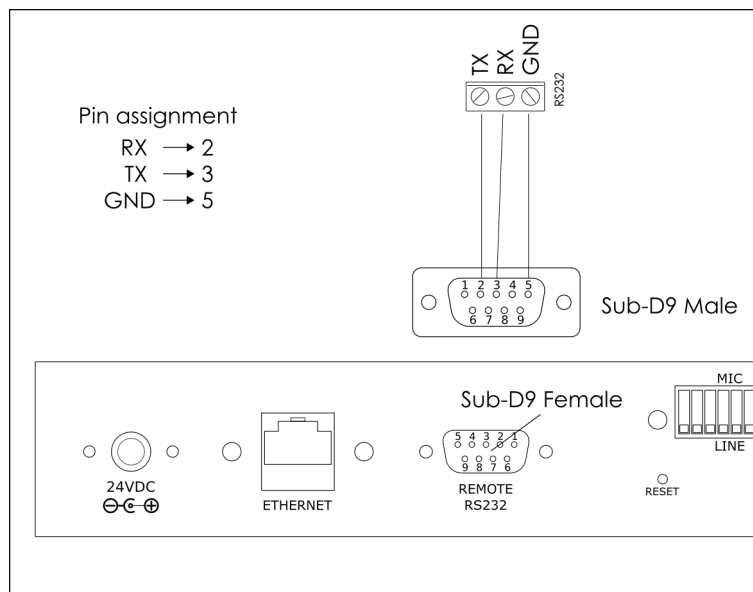


Figure 1: Cabling RS232

Ethernet setup :

- Use UDP port number 30304

2 Protocol

The protocol is a strict **Request/Answer process**: the NUT processor only sends data if requested beforehand.

Therefore, if you want to get a piece of information, the only way to get it is to request it.

2.1 Request format

All requests are structured like this:

COMMAND ID ARG\n

COMMAND	command (see Section 3)
ID	control identifier (see Section 4)
ARG	value (used only with Set/Change commands)
\n	“carriage return” character (hex code: 0x0D)

Fields are separated with spaces (hex code 0x20).

The protocol is case-insensitive.

2.2 Answer format

All commands will be answered by either :

- a numeric value
- OK
- ERR

3 Commands

COMMAND	ID (see Section 4)	ARG	Description
SG	From 1 to 20	From -110 to 24	Set Gain
GG	From 1 to 20	-	Get Gain
CG	From 1 to 20	From -110 to 24	Change Gain
SM	From 1 to 20	0 (unmute) or 1 (mute)	Set Mute
GM	From 1 to 20	-	Get Mute
CM	From 1 to 20	0 (unmute) or 1 (mute)	Change Mute
SP	From 1 to 16	-	Save configuration as Preset
GP	From 1 to 16	-	Recall Preset
PP	From 1 to 16	-	Check if preset is used

4 Identifiers

The **Gain** and **Mute** identifiers are ordered as:

General / Inputs / Outputs

For example, for a NUT app with 8 inputs and 6 outputs:

1 → General Gain/Mute

2-9 → Gain/Mute specific input

10-15 → Gain/Mute specific output

Preset identifiers can only be 1 to 16.



The number of Preset identifiers varies depending on the app used. Use the “PP” command to make sure the preset is in use.

5 Examples

5.1 Gains

Example sequence (REM is the remote control, and NUT is the NUT processor)

REM		
	SG 2 6\n	<i>Set gain number 2 (input 1) to 6dB</i>
NUT		
	OK\n	
REM		
	GG 2\n	<i>Get the gain number 2</i>
NUT		
	6\n	<i>Gain number 2 is 6dB</i>
REM		
	CG 2 3\n	<i>Change gain number 2 by 3dB</i>
NUT		
	OK\n	
REM		
	GG 2\n	<i>Get the gain number 2</i>
NUT		
	9\n	<i>Gain number 2 is 9dB</i>

5.2 Mutes

Example sequence (REM is the remote control, and NUT is the NUT processor)

REM		
	SM 1 1\n	<i>Set Mute number 1 (general) to mute</i>
NUT		
	OK\n	
REM		
	GM 1\n	<i>Get mute number 1</i>
NUT		
	1\n	<i>Mute number 1 is mute</i>
REM		
	CM 1\n	<i>Change Mute number 1</i>
NUT		
	OK\n	
REM		
	GM 1\n	<i>Get mute number 1</i>
NUT		
	0\n	<i>Mute number 1 is unmute</i>

5.3 Presets

Example sequence (REM is the remote control, and NUT is the NUT processor)

REM		
	PP 8\n	<i>Check if preset number 8 exists</i>
NUT		
	0\n	<i>Preset exists</i>
REM		
	GP 8\n	<i>Get preset number 8</i>
NUT		
	ERR\n	<i>Error (preset does not exist)</i>
REM		
	PP 9\n	<i>Check if preset number 9 exists</i>
NUT		
	1\n	<i>Preset exists</i>
REM		
	GP 9\n	<i>Get preset number 9</i>
NUT		
	OK\n	<i>Preset 9 recalled</i>

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