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1.0 Introduction

This document describes the Native DSP Control Protocol for Neutrino System. This document is intended for 3rd Party Controller Programmer use to understand the how to interact with Neutrino System. This protocol supports sending WRITE command to DSP as well as sending READ command to read back the DSP status.

Since NeuConsole version 5.2.0 more support are built into NeuConsole to help user to obtain necessary parameters more easily. It will also help generate the controls string and user can copy and paste it to the program.

Since firmware version 5.3.5, we try to simplify the way of constructing the message to control the DSP. If you have firmware version that is later than or equal to 5.3.5, you can use this simplified version of control string. Within this document and examples provided in section 1 to 4, it tries to provide the full protocol definition, and this full protocol version will work for all firmware versions. However, in section 5, the examples and templates is for simplified version of the protocol.

A summary on the changes is as follow:

- The checksum calculation has been removed, so that 3rd party controller do not need to deal with checksum calculation. We just need to leave the check sum byte to zero. As the DSP processor will ignore this byte.
- When doing TCP control, the source Mac address can also be ignored, leaving this 6 byte mac address as zero. (As these 6 bytes will also be ignored by the DSP processor). By ignoring this source mac address, the same control string can be used by different 3rd party controller, no matter what Mac address they are using. However, the destination Mac address still need to be filled in as the DSP processor will check this field to ensure the message is for this DSP device.
- Some more examples for this simplified protocol version are also included in section 5.0 of this document. As for all DSP processors, the “Input”, “Output”, “Network Input”, “Network Output”, “Logic Input”, “Logic Output” modules are all having the same module ID for all neutrino based devices. So in this document, it will list out the control string as an example, and you only need to replace the Mac address with your target device Mac address. These can be used as a template for 3rd party controller.

2.0 Protocol Description

Neutrino Protocol

Start Flag [0x04]	Packet Header	Control Packet Payload	Stop Flag [0x05]
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Control packets use TCP SOCKET, port #10001.

Read-Control packets (Meters) are received by software thru UDP Socket, port #10003.

Each packet header + payload(s) is wrapped around by a Start and Stop Flag to indicate the beginning and end of a complete packet.

Packet Header

Length	CRC	Type of Connection	Source Mac Address	Destination Mac Address	Type of Payload	Result Code
16	8	8	48	48	8	8 bits

Length:

The Length of the packet is the total length excluding Start and Stop Flags.

CRC:

CRC is modulo-256, excluding itself and Start/Stop Flags in the calculation. In V2.0, DSP devices will ignore this CRC checksum, so you can just leave this byte as zero (if you have firmware version later than or equal to 5.3.5).

Type of Connection:

Four types of connection: Serial = 0, TCP = 1, UDP = 2, UDP_METER = 3

Source Mac Address:

The Mac Address of the device generating the packet. In V2.0, DSP devices will ignore this source Mac address, so you can just leave these 6 bytes as zeros (if you have firmware version later than or equal to 5.3.5).

Destination Mac Address:

The Mac Address of the device receiving the packet.

Type of Payload

Three types of payload: **CONTROL = 0**, CPU = 1, **MULTIPLE CONTROL = 2**

Result Code

Result Code for packet. 0 = NO ERROR.

Single Control Packet Payload [Type 0]

Module Name	Type	R/W	Module #	Channel #	Aux #	Parameter #	Value [WRITE ONLY]
64	8	1	15	8	8	8	32 bits

TYPE: This field is used to indicate how the Neutrino device handles the Control Payload.

Type #	Action
0	Read from External MEM; Write to DSP
1	Read from DSP
2	Read form External MEM; Write to ANALOG
3	Reserved
4	Read from External MEM; Mute IO before writing to ANALOG
5	Read from DSP when Data changed; Write to DSP
6	Read from External MEM; Write to External MEM
7	Read from External MEM; Write to External MEM but bypassed by Preset Recall

For all other fields, please refer to a separate DSP module and parameter documentation for more details.

Single Control Read Packet Payload [Type 0]

Module Name	Type	R/W	Module #	Channel #	Aux #	Parameter #
64	8	1	15	8	8	8

To perform a READ command to get the current setting of a Control parameter, a Read command message will be used. It will be of similar format as a Write message with the following 2 differences.

- The Read/Write Flag before the module number should be set to "0" to indicate this is a READ
- Omit the parameter value of 32 bits field. So the Read message is 4 bytes shorter than the Write message.

After you send this through TCP socket the device will reply back with a Single Control Message on the same TCP connection. This reply message contains the full format including the Start/Stop Flag and Header.

The parameter value will be in the Value field of the reply message.

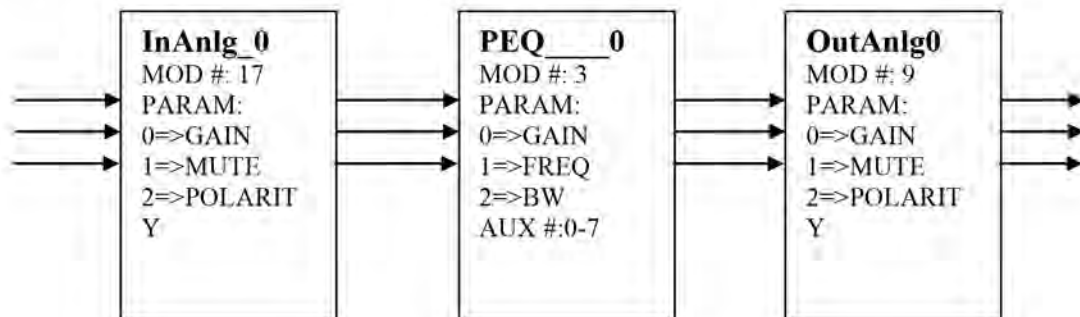
Multiple Control Packet Payload [Type 2]

# of Payloads	Payload 1	Payload 2	...
16	144	144	bits

For Multiple Control Payload, simply construct each payload as above in Type 0 and append each new payload at the end of the previous one.

However, one additional field must be added to the front of the payload list. There must be a 16-bits number the total number of payload in the packet.

Example 1

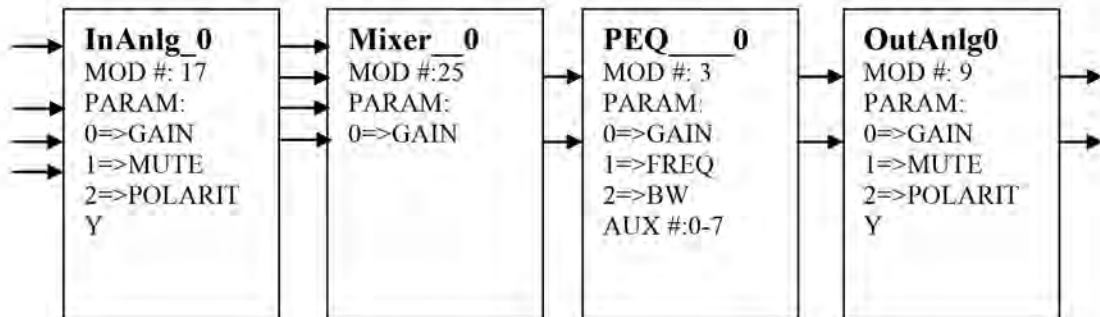


In this schematic, we have 3 modules and each has 3 channels. The MODULE NAME and MODULE # are specified in the box while the PARAMETER available for each module is also listed. Note that there is AUX # for PEQ because it is used to indicate which band of the PEQ the user is controlling. There is a total of 8-band in the above example. So if the user wants set the EQ of CHANNEL 1 so that there is a +5dB@500Hz and -10dB@1000Hz, then they send 4 messages with packet payloads that look something like these:

PEQ__0	0	1	3	0	0	0	5dB*
PEQ__0	0	1	3	0	0	1	500Hz*
PEQ__0	0	1	3	0	1	0	-10dB*
PEQ__0	0	1	3	0	1	1	1000Hz*

* Note the data value in the example are not formatted in accord to the DSP specifications, they are for illustration only.

Example 2



Similar concept as example #1, but this time the PEQ module is MOD #2 because the user added a 4 in-2 out mixer before it.

		OUTPUT	
		1	2
INPUT	1		
	2		
	3		X
	4		

The mixer is a matrix mixer, so how do we control the cross-point at X? We use the AUX value in this situation for the OUTPUT. So if we want to change the gain to -15dB for INPUT channel 3 going to OUTPUT channel 2, we send this message:

Mixer__0	0	1	25	2 (INPUT)	1(OUTPUT)	0	-15dB
----------	---	---	----	-----------	-----------	---	-------

3.0 Control String Examples

NEUTRINO COMMUNICATION PROTOCOL STRINGS

Every string is dependent on a number of variables, so the generic format for different type of controls will be shown first with full examples given in the next page.

Variable Definitions

CS: Checksum, calculated by add all bytes excluding START (0x04), STOP (0x05), and the checksum itself.

XX XX XX XX XX XX: MAC address of device sending the string.

YY YY YY YY YY YY: MAC address of device receiving the string.

CC: Channel number, start counting from zero. (ie. Ch #1 = 0, Channel #2 = 1, etc)

##: Data value as *Signed Integer*.

For Mute, 0x00000001 = ON and 0x00000000 = OFF

For Gain, 1 = 0x00000001 = 0.001dB and -1 = 0xFFFFFFFF = -0.001dB

Generic Strings

Input – Mute ON

04 00 24 CS 01 XX XX XX XX XX XX YY YY YY YY YY YY YY 00 00 49 6E 41 6E 6C
67 5F 30 00 80 0B CC 00 01 ## ## ## ## 05

Input – Mute OFF

04 00 24 CS 01 XX XX XX XX XX XX YY YY YY YY YY YY YY 00 00 49 6E 41 6E 6C
67 5F 30 00 80 0B CC 00 01 ## ## ## ## 05

Output – Mute ON

04 00 24 CS 01 XX XX XX XX XX XX YY YY YY YY YY YY YY 00 00 4F 75 74 41 6E
6C 67 30 00 80 0C CC 00 01 ## ## ## ## 05

Output – Mute OFF

04 00 24 CS 01 XX XX XX XX XX XX YY YY YY YY YY YY YY 00 00 4F 75 74 41 6E
6C 67 30 00 80 0C CC 00 01 ## ## ## ## 05

Input – Set Gain to certain value

04 00 24 CS 01 XX XX XX XX XX XX YY YY YY YY YY YY 00 00 49 6E 41 6E 6C
67 5F 30 00 80 0B CC 00 00 ## ## ## ## 05

Output – Set Gain to certain value

04 00 24 CS 01 XX XX XX XX XX XX YY YY YY YY YY YY 00 00 4F 75 74 41 6E
6C 67 30 00 80 0C CC 00 00 ## ## ## ## 05

Example Strings

These string used [00 00 00 00 00 00] as the source MAC address for simplistic. It is acceptable to use [00 00 00 00 00 00] if the sending device is not expecting any reply messages.

Input 1 – Mute ON

04 00 24 3E 01 00 00 00 00 00 00 00 60 35 12 86 97 00 00 49 6E 41 6E 6C 67 5F 30 00
80 0B 00 00 01 00 00 00 01 05

Checksum =

00+24+01+00+00+00+00+00+00+00+60+35+12+86+97+00+00+49+6E+41+6E+6C+67+5F
+30+00+80+0B+00+00+01+00+00+00+01 = 0x53E

We just need 1 byte, so the final checksum will be 0x3E.

Input 8 – Mute OFF

04 00 24 44 01 00 00 00 00 00 00 00 60 35 12 86 97 00 00 49 6E 41 6E 6C 67 5F 30 00
80 0B 07 00 01 00 00 00 00 05

Output 5 – Mute ON

04 00 24 65 01 00 00 00 00 00 00 00 60 35 12 86 97 00 00 4F 75 74 41 6E 6C 67 30 00
80 0C 04 00 01 00 00 00 01 05

Output 16 – Mute OFF

04 00 24 6F 01 00 00 00 00 00 00 00 60 35 12 86 97 00 00 4F 75 74 41 6E 6C 67 30 00
80 0C 0F 00 01 00 00 00 00 05

Input 1 – Set Gain to +3.3dB

04 00 24 2C 01 00 00 00 00 00 00 00 60 35 12 86 97 00 00 49 6E 41 6E 6C 67 5F 30 00
80 0B 00 00 00 00 00 0C E4 05

Since 1 = 0.001dB, so 3300 = +3.3dB = 0x00000CE4 (signed integer).

Output 10 – Set Gain to -40.7dB

04 00 24 CB 01 00 00 00 00 00 00 00 60 35 12 86 97 00 00 4F 75 74 41 6E 6C 67 30 00
80 0C 09 00 00 FF FF 61 04 05

Since -1 = -0.001dB, so -40700 = -40.7dB = 0xFFFF61043.3 (signed integer).

More Example Strings**Input 1 – Set Gain to 0dB**

```
04 00 24 3C 01 00 00 00 00 00 00 60 35 12 86 97 00 00 49 6E 41 6E 6C 67 5F 30 00
80 0B 00 00 00 00 00 00 00 05
```

Input 1 – Set Gain to -3dB

```
04 00 24 76 01 00 00 00 00 00 00 60 35 12 86 97 00 00 49 6E 41 6E 6C 67 5F 30 00
80 0B 00 00 00 FF FF F4 48 05
```

Input 1 – Set Gain to -6dB

```
04 00 24 B2 01 00 00 00 00 00 00 60 35 12 86 97 00 00 49 6E 41 6E 6C 67 5F 30 00
80 0B 00 00 00 FF FF E8 90 05
```

Input 1 – Set Gain to -9dB

```
04 00 24 EE 01 00 00 00 00 00 00 60 35 12 86 97 00 00 49 6E 41 6E 6C 67 5F 30 00
80 0B 00 00 00 FF FF DC D8 05
```

Input 1 – Set Gain to -18dB

```
04 00 24 A3 01 00 00 00 00 00 00 60 35 12 86 97 00 00 49 6E 41 6E 6C 67 5F 30 00
80 0B 00 00 00 FF FF B9 B0 05
```

Input 1 – Set Gain to -100dB (off)

```
04 00 24 12 01 00 00 00 00 00 00 60 35 12 86 97 00 00 49 6E 41 6E 6C 67 5F 30 00
80 0B 00 00 00 FF FE 79 60 05
```

Preset – Recall Preset #1

```
04 00 18 0F 01 00 00 00 00 00 00 60 35 12 86 97 01 00 00 31 00 00 00 00 05
```

Note that Preset Recall utilizes a different payload format:

```
04 00 18 CS 01 00 00 00 00 00 00 60 35 12 86 97 01 00 00 31 ## ## 00 00 05
```

The data value is a 16-bit unsigned integer. For current Neutrino system, preset # ranges from 0x0000 to 0x0045 (70 presets in total, first preset numbered as zero)

Please note that these strings only works for the given schematic, the dynamic Module Number might change if the schematic is modified.

For example, if another DSP module is added in front of the Low Filter, the Low Filter's and High Filter's (and all other DSP modules' in the chain) Module Number will be affected.

Low Filter – Set Level to +6dB

04 00 24 9A 01 00 00 00 00 00 00 00 60 35 12 86 97 00 00 4C 53 46 5F 5F 5F 5F 30 00
80 1A FF 00 00 00 00 17 70 05

Low Filter – Set Level to +3dB

04 00 24 D6 01 00 00 00 00 00 00 00 60 35 12 86 97 00 00 4C 53 46 5F 5F 5F 5F 30 00
80 1A FF 00 00 00 00 0B B8 05

Low Filter – Set Level to 0dB

04 00 24 13 01 00 00 00 00 00 00 00 60 35 12 86 97 00 00 4C 53 46 5F 5F 5F 5F 30 00
80 1A FF 00 00 00 00 00 00 05

Low Filter – Set Level to -3dB

04 00 24 4D 01 00 00 00 00 00 00 00 60 35 12 86 97 00 00 4C 53 46 5F 5F 5F 5F 30 00
80 1A FF 00 00 FF FF F4 48 05

Low Filter – Set Level to -6dB

04 00 24 89 01 00 00 00 00 00 00 00 60 35 12 86 97 00 00 4C 53 46 5F 5F 5F 5F 30 00
80 1A FF 00 00 FF FF E8 90 05

High Filter – Set Level to +6dB

04 00 24 95 01 00 00 00 00 00 00 00 60 35 12 86 97 00 00 48 53 46 5F 5F 5F 5F 30 00
80 19 FF 00 00 00 00 17 70 05

High Filter – Set Level to +3dB

04 00 24 D1 01 00 00 00 00 00 00 00 60 35 12 86 97 00 00 48 53 46 5F 5F 5F 5F 30 00
80 19 FF 00 00 00 00 0B B8 05

High Filter – Set Level to 0dB

04 00 24 0E 01 00 00 00 00 00 00 00 60 35 12 86 97 00 00 48 53 46 5F 5F 5F 5F 30 00
80 19 FF 00 00 00 00 00 00 05

High Filter – Set Level to -3dB

04 00 24 48 01 00 00 00 00 00 00 00 60 35 12 86 97 00 00 48 53 46 5F 5F 5F 5F 30 00
80 19 FF 00 00 FF FF F4 48 05

High Filter – Set Level to -6dB

04 00 24 84 01 00 00 00 00 00 00 00 60 35 12 86 97 00 00 48 53 46 5F 5F 5F 5F 30 00
80 19 FF 00 00 FF FF E8 90 05

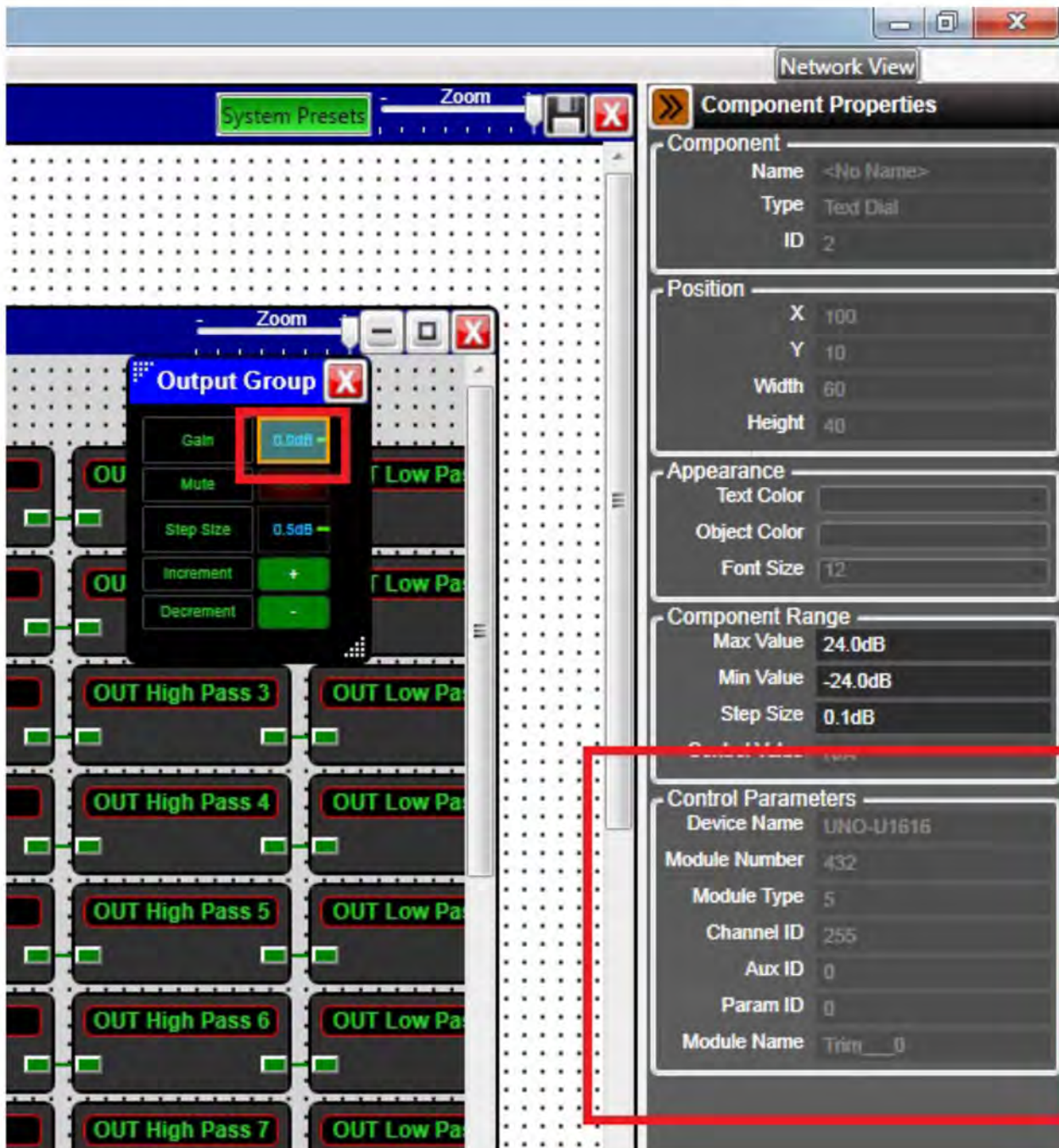
4.0 Obtaining Information from NeuConsole

Since NeuConsole version 5.2.0 more support has been added to make it easier for user to obtain the proper control string.

Obtaining necessary parameters from NeuConsole

To obtain necessary parameters value from NeuConsole, the following procedure can be used:

- In NeuConsole, open up the module control page that you want a 3rd party controller to control. Double click on the module to bring up the control page.
- Use a bounding rectangle to high light the control element you want a 3rd party controller to control.
- Once you have highlighted the control element, the component property on the right hand side of the application will display the "Control Parameters" you need for your programming.



Obtaining exact control string from NeuConsole

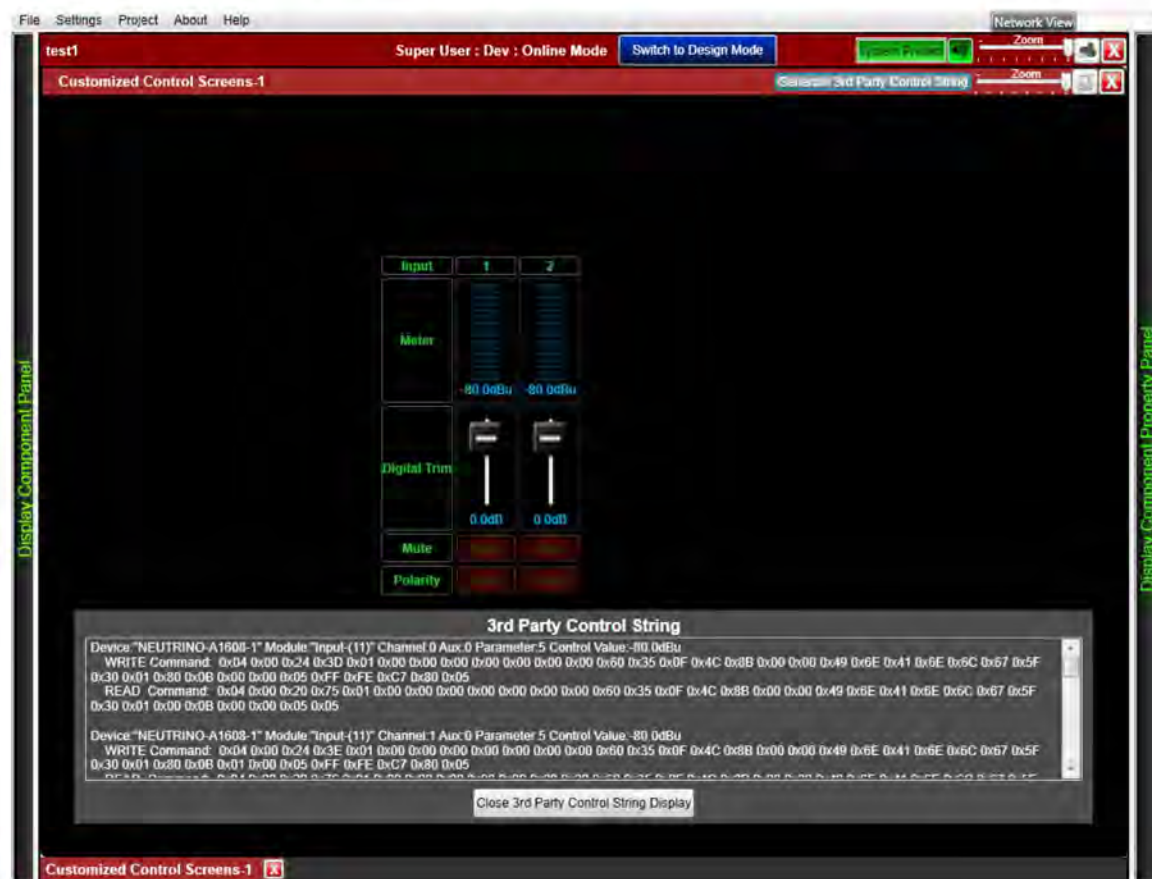
A new feature has been added to NeuConsole to help build the control string.

In your Project, you can bring in a “Custom Control Screen” element from the component list on the left hand side. This “Custom Control Screen” is very similar to the

NeuPanel PC except it can only run inside NeuConsole. For items that you want to be controlled by 3rd Party Controller, you drag and drop it into this control page. After you have pull in all the required control items, you can then bring the project ONLINE.

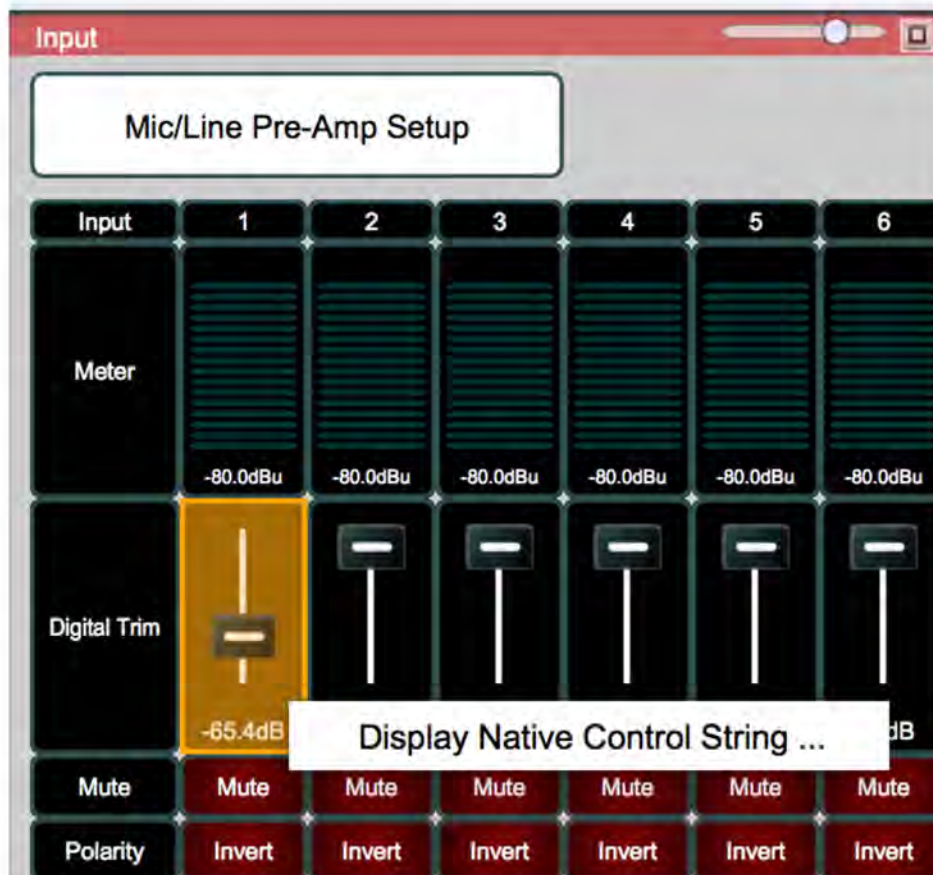
In ONLINE mode, this “Custom Control Screen” will work like a control panel with your own design. Under ONLINE mode, there is a button “Generate 3rd Party Control String” appear on the title bar. Press this button and the bottom part of the control screen will display all the control strings (Including WRITE and READ command). You can copy and paste these strings to your program.

The generated string will depends on the control point value that you want to send to the device. (Example if you want a fader to send -5dB, you just adjust the fader on screen to the value you want, and then click the “Generate 3rd Party Control String” button again. The string value will be updated.



5.0 Obtaining information from SolaroConsole

In SolaroConsole 1.5.0 or later release, it supports a convenient way of obtaining the Native control string to Neutrino device. To obtain such string, you must put your project **ONLINE** first, and under control mode, you can Ctrl-click or Command-click to select a control object. Then left mouse click to bring up the menu and select “Display Native Control String...” option. A dialog will be displayed to show you the actual control string for the Read and Write of this value.



This option will only be available when you selected one and only one control object. If more than 1 object is selected, such menu option will not be available. Depending on the control object, sometimes, only Read command is available (i.e. meter).

Control Write String

For Control write string, the control items value will be following the control object current value. If you want control string to control a different value, you need to change the control object to such value and then bring up the dialog again.



Preset Control String

For Preset button control string, you can drop a preset button to a SolaroControl design page. When you put your project ONLINE, you can select such preset button the same way as normal control object and obtain the Native control string that way.

6.0 Generic Example for common modules

If you have firmware version later than or equal 5.3.5, you can make use of the following simplified protocol. The following examples include definition for all control parameters for the following modules. You can use these as templates in other 3rd party controller.

- Audio Input
- Audio Output
- Network Input
- Network Output
- Preset Recall

In these examples, some bytes need to be replaced with the following notations. And these notations are implementation specific. You need to replace the proper value into it.

xx xx xx xx xx xx - 6 bytes of destination mac address for the DSP device that you are trying to control.

yy yy yy yy - 4 bytes of signed integer value that you want to control the DSP parameter to.

5.1 Audio Input Module: (The module ID is always be 11 for all DSP devices)

Audio Input Channel Mute On/Off:

Channel 1 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 00 00 01 00 00 00 01 05
Channel 2 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 01 00 01 00 00 00 01 05
Channel 3 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 02 00 01 00 00 00 01 05
Channel 4 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 03 00 01 00 00 00 01 05
Channel 5 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 04 00 01 00 00 00 01 05
Channel 6 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 05 00 01 00 00 00 01 05
Channel 7 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 06 00 01 00 00 00 01 05
Channel 8 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 07 00 01 00 00 00 01 05
Channel 9 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 08 00 01 00 00 00 01 05
Channel 10 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 09 00 01 00 00 00 01 05
Channel 11 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 0A 00 01 00 00 00 01 05
Channel 12 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 0B 00 01 00 00 00 01 05
Channel 13 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 0C 00 01 00 00 00 01 05
Channel 14 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 0D 00 01 00 00 00 01 05
Channel 15 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 0E 00 01 00 00 00 01 05
Channel 16 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 0F 00 01 00 00 00 01 05

Channel 1 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 00 00 01 00 00 00 00 05
Channel 2 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 01 00 01 00 00 00 00 05
Channel 3 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 02 00 01 00 00 00 00 05
Channel 4 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 03 00 01 00 00 00 00 05
Channel 5 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 04 00 01 00 00 00 00 05
Channel 6 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 05 00 01 00 00 00 00 05
Channel 7 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 06 00 01 00 00 00 00 05
Channel 8 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 07 00 01 00 00 00 00 05
Channel 9 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 08 00 01 00 00 00 00 05
Channel 10 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 09 00 01 00 00 00 00 05
Channel 11 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 0A 00 01 00 00 00 00 05
Channel 12 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 0B 00 01 00 00 00 00 05
Channel 13 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 0C 00 01 00 00 00 00 05
Channel 14 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 0D 00 01 00 00 00 00 05
Channel 15 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 0E 00 01 00 00 00 00 05
Channel 16 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 0F 00 01 00 00 00 00 05

Audio Input Channel Gain:

Channel 1 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 00 00 00 yy yy yy yy 05
Channel 2 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 01 00 00 yy yy yy yy 05
Channel 3 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 02 00 00 yy yy yy yy 05
Channel 4 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 03 00 00 yy yy yy yy 05
Channel 5 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 04 00 00 yy yy yy yy 05
Channel 6 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 05 00 00 yy yy yy yy 05
Channel 7 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 06 00 00 yy yy yy yy 05
Channel 8 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 07 00 00 yy yy yy yy 05
Channel 9 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 08 00 00 yy yy yy yy 05
Channel 10 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 09 00 00 yy yy yy yy 05
Channel 11 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 0A 00 00 yy yy yy yy 05
Channel 12 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 0B 00 00 yy yy yy yy 05
Channel 13 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 0C 00 00 yy yy yy yy 05
Channel 14 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 0D 00 00 yy yy yy yy 05
Channel 15 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 0E 00 00 yy yy yy yy 05
Channel 16 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 41 6E 6C 67 5F 30 00 80 0B 0F 00 00 yy yy yy yy 05

Audio Output Channel On/Off:

Channel 1 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 00 00 01 00 00 00 01 05
Channel 2 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 01 00 01 00 00 00 01 05
Channel 3 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 02 00 01 00 00 00 01 05
Channel 4 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 03 00 01 00 00 00 01 05
Channel 5 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 04 00 01 00 00 00 01 05
Channel 6 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 05 00 01 00 00 00 01 05
Channel 7 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 06 00 01 00 00 00 01 05
Channel 8 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 07 00 01 00 00 00 01 05
Channel 9 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 08 00 01 00 00 00 01 05
Channel 10 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 09 00 01 00 00 00 01 05
Channel 11 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 0A 00 01 00 00 00 01 05
Channel 12 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 0B 00 01 00 00 00 01 05
Channel 13 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 0C 00 01 00 00 00 01 05
Channel 14 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 0D 00 01 00 00 00 01 05
Channel 15 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 0E 00 01 00 00 00 01 05
Channel 16 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 0F 00 01 00 00 00 01 05

Channel 1 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 00 00 01 00 00 00 00 05
Channel 2 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 01 00 01 00 00 00 00 05
Channel 3 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 02 00 01 00 00 00 00 05
Channel 4 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 03 00 01 00 00 00 00 05
Channel 5 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 04 00 01 00 00 00 00 05
Channel 6 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 05 00 01 00 00 00 00 05
Channel 7 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 06 00 01 00 00 00 00 05
Channel 8 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 07 00 01 00 00 00 00 05
Channel 9 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 08 00 01 00 00 00 00 05
Channel 10 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 09 00 01 00 00 00 00 05
Channel 11 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 0A 00 01 00 00 00 00 05
Channel 12 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 0B 00 01 00 00 00 00 05
Channel 13 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 0C 00 01 00 00 00 00 05
Channel 14 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 0D 00 01 00 00 00 00 05
Channel 15 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 0E 00 01 00 00 00 00 05
Channel 16 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 0F 00 01 00 00 00 00 05

Audio Output Channel Gain:

Channel 1 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 00 00 00 yy yy yy yy 05
Channel 2 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 01 00 00 yy yy yy yy 05
Channel 3 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 02 00 00 yy yy yy yy 05
Channel 4 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 03 00 00 yy yy yy yy 05
Channel 5 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 04 00 00 yy yy yy yy 05
Channel 6 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 05 00 00 yy yy yy yy 05
Channel 7 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 06 00 00 yy yy yy yy 05
Channel 8 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 07 00 00 yy yy yy yy 05
Channel 9 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 08 00 00 yy yy yy yy 05
Channel 10 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 09 00 00 yy yy yy yy 05
Channel 11 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 0A 00 00 yy yy yy yy 05
Channel 12 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 0B 00 00 yy yy yy yy 05
Channel 13 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 0C 00 00 yy yy yy yy 05
Channel 14 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 0D 00 00 yy yy yy yy 05
Channel 15 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 0E 00 00 yy yy yy yy 05
Channel 16 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 41 6E 6C 67 30 00 80 0C 0F 00 00 yy yy yy yy 05

Network Input Channel Mute On/Off:

Channel 1 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 00 00 01 00 00 00 01 05
Channel 2 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 01 00 01 00 00 00 01 05
Channel 3 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 02 00 01 00 00 00 01 05
Channel 4 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 03 00 01 00 00 00 01 05
Channel 5 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 04 00 01 00 00 00 01 05
Channel 6 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 05 00 01 00 00 00 01 05
Channel 7 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 06 00 01 00 00 00 01 05
Channel 8 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 07 00 01 00 00 00 01 05
Channel 9 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 08 00 01 00 00 00 01 05
Channel 10 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 09 00 01 00 00 00 01 05
Channel 11 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 0A 00 01 00 00 00 01 05
Channel 12 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 0B 00 01 00 00 00 01 05
Channel 13 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 0C 00 01 00 00 00 01 05
Channel 14 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 0D 00 01 00 00 00 01 05
Channel 15 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 0E 00 01 00 00 00 01 05
Channel 16 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 0F 00 01 00 00 00 01 05

Channel 1 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 00 00 01 00 00 00 00 05
Channel 2 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 01 00 01 00 00 00 00 05
Channel 3 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 02 00 01 00 00 00 00 05
Channel 4 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 03 00 01 00 00 00 00 05
Channel 5 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 04 00 01 00 00 00 00 05
Channel 6 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 05 00 01 00 00 00 00 05
Channel 7 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 06 00 01 00 00 00 00 05
Channel 8 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 07 00 01 00 00 00 00 05
Channel 9 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 08 00 01 00 00 00 00 05
Channel 10 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 09 00 01 00 00 00 00 05
Channel 11 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 0A 00 01 00 00 00 00 05
Channel 12 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 0B 00 01 00 00 00 00 05
Channel 13 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 0C 00 01 00 00 00 00 05
Channel 14 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 0D 00 01 00 00 00 00 05
Channel 15 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 0E 00 01 00 00 00 00 05
Channel 16 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 0F 00 01 00 00 00 00 05

Network Input Channel Gain:

Channel 1 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 00 00 00 yy yy yy yy 05
Channel 2 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 01 00 00 yy yy yy yy 05
Channel 3 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 02 00 00 yy yy yy yy 05
Channel 4 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 03 00 00 yy yy yy yy 05
Channel 5 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 04 00 00 yy yy yy yy 05
Channel 6 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 05 00 00 yy yy yy yy 05
Channel 7 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 06 00 00 yy yy yy yy 05
Channel 8 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 07 00 00 yy yy yy yy 05
Channel 9 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 08 00 00 yy yy yy yy 05
Channel 10 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 09 00 00 yy yy yy yy 05
Channel 11 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 0A 00 00 yy yy yy yy 05
Channel 12 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 0B 00 00 yy yy yy yy 05
Channel 13 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 0C 00 00 yy yy yy yy 05
Channel 14 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 0D 00 00 yy yy yy yy 05
Channel 15 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 0E 00 00 yy yy yy yy 05
Channel 16 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 49 6E 4E 65 74 5F 5F 30 00 80 0F 0F 00 00 yy yy yy yy 05

Network Output Channel On/Off:

Channel 1 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 00 00 01 00 00 00 01 05
Channel 2 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 01 00 01 00 00 00 01 05
Channel 3 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 02 00 01 00 00 00 01 05
Channel 4 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 03 00 01 00 00 00 01 05
Channel 5 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 04 00 01 00 00 00 01 05
Channel 6 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 05 00 01 00 00 00 01 05
Channel 7 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 06 00 01 00 00 00 01 05
Channel 8 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 07 00 01 00 00 00 01 05
Channel 9 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 08 00 01 00 00 00 01 05
Channel 10 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 09 00 01 00 00 00 01 05
Channel 11 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 0A 00 01 00 00 00 01 05
Channel 12 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 0B 00 01 00 00 00 01 05
Channel 13 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 0C 00 01 00 00 00 01 05
Channel 14 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 0D 00 01 00 00 00 01 05
Channel 15 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 0E 00 01 00 00 00 01 05
Channel 16 Mute On	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 0F 00 01 00 00 00 01 05

Channel 1 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 00 00 01 00 00 00 00 05
Channel 2 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 01 00 01 00 00 00 00 05
Channel 3 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 02 00 01 00 00 00 00 05
Channel 4 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 03 00 01 00 00 00 00 05
Channel 5 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 04 00 01 00 00 00 00 05
Channel 6 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 05 00 01 00 00 00 00 05
Channel 7 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 06 00 01 00 00 00 00 05
Channel 8 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 07 00 01 00 00 00 00 05
Channel 9 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 08 00 01 00 00 00 00 05
Channel 10 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 09 00 01 00 00 00 00 05
Channel 11 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 0A 00 01 00 00 00 00 05
Channel 12 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 0B 00 01 00 00 00 00 05
Channel 13 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 0C 00 01 00 00 00 00 05
Channel 14 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 0D 00 01 00 00 00 00 05
Channel 15 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 0E 00 01 00 00 00 00 05
Channel 16 Mute Off	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 0F 00 01 00 00 00 00 05

Network Output Channel Gain:

Channel 1 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 00 00 00 yy yy yy yy 05
Channel 2 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 01 00 00 yy yy yy yy 05
Channel 3 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 02 00 00 yy yy yy yy 05
Channel 4 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 03 00 00 yy yy yy yy 05
Channel 5 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 04 00 00 yy yy yy yy 05
Channel 6 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 05 00 00 yy yy yy yy 05
Channel 7 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 06 00 00 yy yy yy yy 05
Channel 8 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 07 00 00 yy yy yy yy 05
Channel 9 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 08 00 00 yy yy yy yy 05
Channel 10 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 09 00 00 yy yy yy yy 05
Channel 11 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 0A 00 00 yy yy yy yy 05
Channel 12 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 0B 00 00 yy yy yy yy 05
Channel 13 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 0C 00 00 yy yy yy yy 05
Channel 14 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 0D 00 00 yy yy yy yy 05
Channel 15 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 0E 00 00 yy yy yy yy 05
Channel 16 Gain	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 4F 75 74 4E 65 74 5F 30 00 80 10 0F 00 00 yy yy yy yy 05

Device Preset:

Preset 1	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 00 05
Preset 2	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 01 05
Preset 3	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 02 05
Preset 4	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 03 05
Preset 5	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 04 05
Preset 6	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 05 05
Preset 7	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 06 05
Preset 8	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 07 05
Preset 9	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 08 05
Preset 10	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 09 05
Preset 11	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 0A 05
Preset 12	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 0B 05
Preset 13	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 0C 05
Preset 14	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 0D 05
Preset 15	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 0E 05
Preset 16	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 0F 05
Preset 17	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 10 05
Preset 18	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 11 05
Preset 19	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 12 05
Preset 20	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 13 05
Preset 21	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 14 05
Preset 22	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 43 50

	55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 15 05
Preset 23	04 00 24 00 01 00 00 00 00 00 00 xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 16 05
Preset 24	04 00 24 00 01 00 00 00 00 00 00 xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 17 05
Preset 25	04 00 24 00 01 00 00 00 00 00 00 xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 18 05
Preset 26	04 00 24 00 01 00 00 00 00 00 00 xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 19 05
Preset 27	04 00 24 00 01 00 00 00 00 00 00 xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 1A 05
Preset 28	04 00 24 00 01 00 00 00 00 00 00 xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 1B 05
Preset 29	04 00 24 00 01 00 00 00 00 00 00 xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 1C 05
Preset 30	04 00 24 00 01 00 00 00 00 00 00 xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 1D 05
Preset 31	04 00 24 00 01 00 00 00 00 00 00 xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 1E 05
Preset 32	04 00 24 00 01 00 00 00 00 00 00 xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 1F 05
Preset 33	04 00 24 00 01 00 00 00 00 00 00 xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 20 05
Preset 34	04 00 24 00 01 00 00 00 00 00 00 xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 21 05
Preset 35	04 00 24 00 01 00 00 00 00 00 00 xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 22 05
Preset 36	04 00 24 00 01 00 00 00 00 00 00 xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 23 05
Preset 37	04 00 24 00 01 00 00 00 00 00 00 xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 24 05
Preset 38	04 00 24 00 01 00 00 00 00 00 00 xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 25 05
Preset 39	04 00 24 00 01 00 00 00 00 00 00 xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 26 05
Preset 40	04 00 24 00 01 00 00 00 00 00 00 xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 27 05
Preset 41	04 00 24 00 01 00 00 00 00 00 00 xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 28 05
Preset 42	04 00 24 00 01 00 00 00 00 00 00 xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 29 05
Preset 43	04 00 24 00 01 00 00 00 00 00 00 xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 2A 05
Preset 44	04 00 24 00 01 00 00 00 00 00 00 xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 2B 05

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	55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 42 05
Preset 68	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 43 05
Preset 69	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 44 05
Preset 70	04 00 24 00 01 00 00 00 00 00 00 00 xx xx xx xx xx xx 00 00 43 50 55 5F 5F 5F 5F 30 07 80 01 FF 00 00 00 00 00 45 05