REFERENCE MANUAL

CONVERGE® HUDDLE
CONSOLE® AI

HUDDLE CONTROL COMMANDS

Notices

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CONVERGE Huddle Control Commands Reference Manual

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Contents

Chapter 1

Concepts

Topics:

This chapter contains key concepts you should understand as you use this manual.

Introduction

This document describes the control commands for a CONVERGE® Huddle.

With CONSOLE® AI software, you can configure and control a device or a stack of connected devices.

You can use telnet commands to control a Huddle.

📝 **Note:** Some features are available **only** through CONSOLE AI.

More information about CONSOLE AI is available in the *CONSOLE® AI User Manual*.

Connection to the Device

You can connect to a CONVERGE Huddle through its telnet session.

Telnet Connection

To communicate with a Huddle through a telnet session, complete the following steps:

1. Attach an ethernet cable to the Huddle's LAN port.

2. Initiate a telnet session with the Huddle on port 23.

   - The default **username** is **clearone**.

   - The default **password** is **converge**.

📝 **Note the following:**

   - If you have changed the username or password with CONSOLE® AI, you must use that username/password combination to connect to the Huddle.

   - You can have up to five concurrent telnet sessions with a Huddle.

End Points

End Points are audio channels you can control and link with a CONVERGE Huddle.

End points can be any of the following:

- **Input** devices (for audio input)
- **Output** devices (for audio output)
- **Both** input and output (for processing audio, so they are both input and output devices)
- **Neither** input nor output (for example, signal generators).

End Point Types

The following two tables describe the types of end points:

Input

Possible input end points include:

Device	End Point Type
Microphones	MIC
USB In	USB_RX
Bluetooth Exp Rx	BTE_RX
CTH Beamforming Mic	CTHBFM
Input Line	INPUT
Mobile Rx	MOBILE_RX

Output

Possible output end points include:

Device	End Point Type
Speakers	SPEAKER
Output (any device attached to the output ports on the device)	OUTPUT
USB Out	USB_TX
Bluetooth Exp Tx	BTE_TX
CTH Beamforming Speaker	CTHBFM_SPKR
Mobile Tx	MOBILE_TX

Other

Some end points are both input and output devices, or neither:

Device	End Point Type
Fader	FADER
Processing Block	PROC
Signal Generator	SGEN
Bluetooth Exp	EXP_BT

End Point Numbering

CONVERGE Huddle channels include simple preset endpoint names: Mic1, Mic2, Mic3.

Example:

To mute the level of the **third** microphone, send the following command:

```
EP Mic3 LEVEL MUTE 1
```

ClearOne strongly recommends the use of meaningful channel labels rather than channel numbers. More information is available in the _Channel Labels_ section of this manual.

Syntax Conventions

The syntax conventions described below apply throughout this manual.

Command-level Syntax Conventions

The following is an example of the syntax at the command level:

```
EP <EPT> <EPN> <BN> <PN>
```

This example shows known commands/parameters using a `monospaced` font.

In this case:

`EP`, which represents End Point, is the command.

<EPT> <EPN> <BN> <PN> [VALUE] are parameters.

Angle brackets < > indicate a **required** parameter.

Square brackets [ ], indicate an **optional** parameter.

⚠ **Important:**

- A space **must** exist between the command, each parameter, and each value.
- **Commands** are **not** case sensitive, i.e., you can send commands in either upper or lower case.
- **Some parameters**, such as a Huddle name, **are case sensitive**.

In this document, following the syntax, a table describes the parameters. The following is an example of a command parameter table:

Parameter	Definition	Description
EPT	End Point Type	Possible options are: MIC, OUTPUT, PROC, SGEN, SPEAKER, USB_RX, USB_TX, VOIP_RX
EPN	End Point Number	Uses the format described in the *End Point Numbering* section of this manual.
BN	Block Number	Refers to an end point block, which corresponds to some functionality of the end point.
PN	Parameter Name	The name of the parameter within a block. Possible values depend on the BN value used.
VALUE	A value	Whether or not a value is needed, and the appropriate value, depend on the parameter. 📝 **Note:** More information about parameter values is available in the Read/Write Modes section of the Introduction.
REL	Relative	This is an optional switch. If used, it indicates that gain and fine gain values are specified in **relative**, rather than absolute, terms. Example:

		A fine gain value of 2 **adds** 2 to the **current** fine gain value. It does **not** set the value to 2dB.

Parameter-level Syntax Conventions

Commands that have many possible parameters have been broken down into sections for different parameter groups. For example, the EP command is broken down by end point types, which are contained in the *<EPT>* parameter, and then further broken down, with one topic for each *<PN>* value.

Here is an example of parameter-level syntax:

```
EP MIC <EPN> LEVEL <PN> [VALUE]
```

In this example, known command/parameter values are indicated in a `monospace` font.

In this case, the parameters being discussed are the EP (end point) MIC (microphone) level parameters, so the focus is on the possible *<PN>* parameters. Therefore, the following table shows the possible *<PN>* parameter values:

PN	Description	Value
GAIN_FINE (1)	Fine gain.	Default decibel range of -65 to 20 Unless adjusted with MAX_GAIN or MIN_GAIN, adjust in increments of 0.5 To retrieve the current value, leave blank. 📝 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section.
MUTE (2)	Mute.	<table><tr><th>Value</th><th>Action</th></tr><tr><td>0</td><td>Unmute</td></tr><tr><td>1</td><td>Mute</td></tr><tr><td>2</td><td>Toggle current state</td></tr><tr><td>Blank</td><td>Retrieve current value</td></tr></table>
PHAN_PWR (3)	Phantom power - 48V power option for microphone.	0 - power off 1 - power on
GAIN_COARSE (4)	Coarse gain.	0 to 56 in increments of 1 Leave blank to retrieve current value
MAX_GAIN (7)	Maximum gain. This also controls maximum ramping.	-65 to 20 in increments of 0.5 Leave blank to retrieve current value
MIN_GAIN (8)	Minimum gain. This also controls minimum ramping.	-65 to 20 in increments of 0.5 Leave blank to retrieve current value

Input/Output

With the serial port, you can send commands to a Huddle (input), and the Huddle sends return information (output).

Input

You can send many of the commands described in this document to a device as input through a telnet connection.

Example 1

The following command mutes MIC channel one:

```
EP MIC 1 LEVEL MUTE 1
```

This command tells the Huddle that you are referring to an end point (EP), and the end point you want to reference is a microphone (MIC) on channel 1 (1).

Stated differently:

The feature you want to either control or get information about is the microphone level (LEVEL), the specific change you want is mute (MUTE), and you want to set mute on (1).

Example 2

To discover if microphone channel 1 is currently muted, send the command **without the final value**, as follows:

```
EP MIC 1 LEVEL MUTE
```

📄 **Note the following:**

- Input **commands** are **not** case sensitive.

- **Some parameters**, such as **box names**, **are** case sensitive.

Output

When you send commands to a Huddle, the Huddle sends you a return command as output.

In Example 1 above, the output from the box would be as follows:

```
EP MIC 101 LEVEL MUTE 1
```

Notice that the output command is the same as the input command.

With very few exceptions, when you send commands, the output echoes the input to confirm that the Huddle received and executed the command.

📄 **Note the following:**

- Return commands use the same end point identification method as the input command. In other words, if you send a command using:

    o An end point number, the return command uses an end point number.

    o A channel label, the return command uses a channel label.

- For commands with incorrect syntax, the Huddle returns "Error Invalid Parameter(s)".

In Example 2 above, in which the command does not include a final value, the Huddle considers this command to be a query and responds to the query. In this particular case, if microphone channel 1 is muted, the Huddle returns the following:

```
EP MIC 101 LEVEL MUTE 1
```

This return command indicates that mute is on (the final 1 indicates that mute is turned on).

If mute is off, the box returns the following:

```
EP MIC 101 LEVEL MUTE 0
```

The final 0 indicates that mute is turned off.

📑 Note: A few end point types, such as PROC, must sometimes send information about their current state. If you are attached to a device by telnet, you may occasionally see such asynchronous notifications regarding status from those end point types.

Text vs. Numerical Parameters

You can express most parameters (unless noted otherwise) as either text or numbers.

As a convention, this document uses text for all parameter examples.

The following example sets the coarse gain on a microphone:

```
EP MIC 101 LEVEL GAIN_COARSE 21
```

The same command, but with numerical values instead of text parameters, is as follows:

Within each topic, when both a text and a numerical version for parameter exist, the numerical values for parameters are shown in parentheses after the text version of the parameter.

```
EP 1 101 1 4 21
```

📑 **Important:**

- You **cannot** mix text and numerical values within the same command.

- You **must** use either all text values or all numerical values.

- For the example shown above, you could **NOT** send the following (replacement of the LEVEL parameter with a 1):

  ```
  EP MIC 101 1 GAIN_COARSE 21
  ```

- This does **not** apply to the [VALUE] at the end of the command.

Read/Write Modes

Many commands can function as both write commands (send information to the Huddle) or read commands (request information from the Huddle).

Write Mode

For commands that have a VALUE parameter, the VALUE is the information you send to the Huddle.

If the command includes a value, the command is in WRITE mode.

For example, the following command mutes microphone channel 1:

```
EP MIC 101 LEVEL MUTE 1
```

The "1" at the end of the command tells the Huddle to turn on mute.

Read Mode

If the command does **not** include a value, the command is in **READ mode.**

The following command (without 1 at the end) enquires about the current mute state of microphone channel 1:

```
EP MIC 101 LEVEL MUTE
```

If mute is off, the Huddle returns the following:

```
EP MIC 101 LEVEL MUTE 0
```

If mute is on, the Huddle returns the following:

```
EP MIC 101 LEVEL MUTE 1
```

📝 **Note:** Commands that have no WRITE mode are designated as "Read only" in the parameter description.

RWC

Many of the tables in this manual include a column heading of "RWC" (or "RW"), as shown below.

Parameter Table

BN	PN	VALUE			Default	RWC
		Min	Max	Gran		
SYSTEM (1)	SFTYMUTE (1)	0	2	1	0	RW
CLOCK (5)	TIME_ZONE (1)	-11	12	1	-7	RW
	DAYLIGHT_SAVING (2)	0	2	1	1	RW
	NTP_IP1 (3)	N/A	N/A	N/A	N/A	RWC
	NTP_IP2 (4)	N/A	N/A	N/A	N/A	RWC
	NTP_ENABLE (5)	0	2	1	0	RWC

Letter	Meaning	If you send the command…	Device response
R	Readable	Without any values	Returns the state.
W	Writable	With a value to change the parameter state.	Returns the newly written state.
C	Clearable.	With the word "CLEAR" in place of a value	Erases whatever value is assigned to the parameter; Leaves it blank until you write a new value.

Channel Labels

With a Huddle and CONSOLE AI, you can create channel labels (a name assigned to one end point channel) to refer to one or more channels. You can use labels as an alternative to individual end point types and numbers. The use of labels makes it easier to remember and refer to end point channels.

📝 **Important:**

- ClearOne strongly recommends that you use meaningful Label names (a reference to a single end point).

- To create channel labels, use CONSOLE AI in offline mode. Via telnet, labels are read-only.

- Label names are case sensitive.

Information about labels is available in the *CONSOLE® AI User Manual* in the section named *Naming Assets and Assigning Assets to Channel Groups*.

Chapter 2

Reference

Topics:

This chapter contains descriptions of each of the CONVERGE Huddle commands.

STACK

Functionality

Changes settings for a Huddle.

Syntax

STACK *<BN> <PN> [VALUE]*

Parameters

Parameter	Description
BN	Block Name/Number. Possible values are ADMIN, CLOCK, and LOCATION.
PN	Parameter Name/Number. A parameter within a block. Possible values depend on the BN value used.
VALUE	A value. Whether or not a value is needed and what value to use depend on the parameter.
	📄 **Note:** More information about parameter values is available in the Read/Write Modes section of the Introduction.

Stack Command Table

The following table shows all the possible parameter combinations for the Stack command:

Parameter Table

BN	PN	VALUE			Default	RWC*
		Min	Max	Gran		
SYSTEM (1)	SFTYMUTE (1)	0	2	1	0	RW
CLOCK (5)	TIME_ZONE (1)	-11	12	1	-7	RW
	DAYLIGHT_SAVING (2)	0	2	1	1	RW
	NTP_IP1 (3)	N/A	N/A	N/A	N/A	RWC
	NTP_IP2 (4)	N/A	N/A	N/A	N/A	RWC
	NTP_ENABLE (5)	0	2	1	0	RWC
LOCATION (6)	COUNTRY (1)	N/A	N/A	N/A	N/A	RWC
	STATE (2)	N/A	N/A	N/A	N/A	RWC
	CITY (3)	N/A	N/A	N/A	N/A	RWC
	COMPANY (4)	N/A	N/A	N/A	N/A	RWC
	BUILDING (5)	N/A	N/A	N/A	N/A	RWC
	ROOM (6)	N/A	N/A	N/A	N/A	RWC
	REGION (7)	N/A	N/A	N/A	N/A	RWC
	SITE_NAME (8)	N/A	N/A	N/A	N/A	RWC
SMTP (8)	EMAIL_GROUP (1)	N/A	N/A	N/A	N/A	RWC
	EMAIL_ROUTING (2)	N/A	N/A	N/A	N/A	RWC
	ENABLE (3)	0	2	1	0	RW
ADMIN (9)	USERNAME (1)	N/A	N/A	N/A	clearone	RW
	PASSWORD (2)	N/A	N/A	N/A	converge	RW

* The meaning of the entries in this column is available in the Read/Write Modes section of this document's Introduction.

Stack-System (1)

Functionality

Turns on the safety mute feature, which mutes all outputs.

Syntax

```
STACK SYSTEM [PN]
```

Input

PN	Description	Values		Default	RW*
SFTYMUTE (1)	Enable the Safety Mute feature, which mutes the entire system.	**Value**	**Action**	0	RW
		0	Disable		
		1	Enable		
		2	Toggle current state		
		Blank	Retrieve current value		

∗ The meaning of the entries in this column is available in the [Read/Write Modes](#) section of the Introduction.

Example 1: SFTYMUTE

This example shows how to turn on Safety Mute for the attached Huddle.

```
STACK SYSTEM SFTYMUTE 1
```

Output

PN	Output
SFTYMUTE	STACK SYSTEM SFTYMUTE 1

Stack-Admin (9)

Functionality

Changes the username and password of a Huddle.

Syntax

```
STACK ADMIN <PN> [VALUE]
```

Input

PN	Description	Value	Default	RW*
USERNAME (1)	Username.	A text string.	clearone	RW
PASSWORD (2)	Password.	A text string.	converge	RW

* The meaning of the entries in this column is available in the [Read/Write Modes](#) section of the Introduction.

Example 1: USERNAME

This example shows how to set a username for a Huddle:

```
STACK ADMIN USERNAME MyUsername
```

Example 2: PASSWORD

This example shows how to set a password for a Huddle:

```
STACK ADMIN PASSWORD MyPassword
```

Output

PN	Output			
USERNAME	STACK	ADMIN	USERNAME	MyUsername
PASSWORD	STACK	ADMIN	PASSWORD	MyPassword

Stack-Clock (5)

Functionality

Changes some clock settings for a Huddle.

📝 **Note:** To change the date and time, use the *CLOCK* command.

Syntax

```
STACK CLOCK <PN> [VALUE]
```

Input

PN	Description	Value	Default	RWC*

TIME_ZONE (1)	Time zone in Universal Time (UT).	-11 to 12 Leave blank to retrieve current value		-7	RW
DAYLIGHT_SAVING (2)	Enable Daylight Savings Time.	**Value**	**Action**	1	RW
		0	Disable		
		1	Enable		
		Blank	Retrieve current value		
NTP_IP1 (3)	Primary Network Time Protocol server.	NTP server address (domain name or IP address) Leave blank to retrieve current value		N/A	RWC
NTP_IP2 (4)	Secondary Network Time Protocol server.	NTP server address (domain name or IP address) Leave blank to retrieve current value		N/A	RWC
NTP_ENABLE (5)	Automatically set time using an NTP server.	**Value**	**Action**	0	RWC
		0	Disable		
		1	Enable		
		Blank	Retrieve current value		

⁎ The meaning of the entries in this column is available in the [Read/Write Modes](#) section of the Introduction.

Example 1: TIME_ZONE

This example shows how to set the time zone for the devices on the stack:

```
STACK CLOCK TIME_ZONE -7
```

Example 2: DAYLIGHT_SAVING

This example shows how to turn on daylight savings time for the devices on the stack:

```
STACK CLOCK DAYLIGHT_SAVING 1
```

Example 3: NTP_IP1

This example shows how to set the address for NTP server 1:

```
STACK CLOCK NTP_IP1 ntp1.timeserver.com
```

Example 4: NTP_IP2

This example shows how to set the address for NTP server 2:

```
STACK CLOCK NTP_IP2 ntp2.timeserver.com
```

Example 5: NTP_ENABLE

This example shows how to tell the device to get its time from the specified NTP server(s):

```
STACK CLOCK NTP_ENABLE 1
```

Output

PN	Output
TIME_ZONE	`STACK CLOCK TIME_ZONE -7`
DAYLIGHT_SAVING	`STACK CLOCK DAYLIGHT_SAVING 1`
NTP_IP1	`STACK CLOCK NTP_IP1 ntp1.timeserver.com`
NTP_IP2	`STACK CLOCK NTP_IP2 ntp2.timeserver.com`
NTP_ENABLE	`STACK CLOCK NTP_ENABLE 1`

Stack-Location (6)

Functionality

Changes the location settings of a Huddle.

📝 **Note:** Use of this command is the **only** way to change the Huddle location settings. No equivalent settings are available in CONSOLE AI.

Syntax

`STACK LOCATION <PN> [VALUE]`

Input

PN	Description	Value	Default	RWC*
COUNTRY (1)	Country.	A text string. No spaces allowed. Leave blank to retrieve current value	N/A	RWC
STATE (2)	State.			
CITY (3)	City.			
COMPANY (4)	Company.			
BUILDING (5)	Building.			
ROOM (6)	Room.			
REGION (7)	Region.			
SITE_NAME (8)	Site name.			

* The meaning of the entries in this column is available in the [Read/Write Modes](#) section of the Introduction.

Example 1: COUNTRY

`STACK LOCATION COUNTRY USA`

Example 2: STATE

```
STACK LOCATION STATE COLORADO
```

Example 3: SITE_NAME

```
STACK LOCATION SITE_NAME Headquarters
```

Output

PN	Output
COUNTRY	STACK LOCATION COUNTRY USA
STATE	STACK LOCATION STATE COLORADO
SITE_NAME	STACK LOCATION SITE_NAME Headquarters

Stack-SMTP (8)

Functionality

Sets the email server settings for a Huddle, so that notifications can be sent via email.

Syntax

`STACK SMTP[PN][VALUE]`

Input

PN	Description	Values		Default	RWC*
EMAIL_GROUP (1)	The name of the email address to which you want to send notifications	An email address.		N/A	RWC
EMAIL_ROUTING (2)	The address of an SMTP server.	A server address.		N/A	RWC
ENABLE (3)	Enable email notifications.	**Value**	**Action**	0	RW
		0	Disable		
		1	Enable		
		2	Toggle current state		
		Blank	Retrieve current value		

* The meaning of the entries in this column is available in the Read/Write Modes section of the Introduction.

Example 1: EMAIL_GROUP

This example shows how to set the email address for notifications:

`STACK SMTP EMAIL_GROUP address@mydomain.com`

Example 2: EMAIL_ROUTING

This example shows how to set the SMTP server address for notifications:

`STACK SMTP EMAIL_ROUTING MAIL.MYDOMAIN.COM`

Example 3: ENABLE

This example shows how to enable notifications:

`STACK SMTP ENABLE 1`

Output

PN	Output
EMAIL_GROUP	`STACK SMTP EMAIL_GROUP address@mydomain.com`
EMAIL_ROUTING	`STACK      EMAIL_ROUTING      MAIL.MYDOMAIN.COM`

ENABLE	STACK	ENABLE 1

BOX

Functionality

Gets information about, and configures, a Huddle.

Syntax

```
BOX <BOXNAME> <BN> <PN> [VALUE]
```

Parameters

Parameter	Description
BOXNAME	Use this argument to indicate the name of the Huddle you're referencing. Use the asterisk character (*) to refer to all attached boxes. 📄 **Note:** Huddle names are **case sensitive**.
BN	Block Name/Number. This refers to Huddle feature.
PN	Parameter Name/Number. A parameter within a block. Possible values depend on the BN value you use.
VALUE	A value. Whether or not a value is needed and what value to use depend on the parameter. 📄 **Note:** More information about parameter values is available in this document in the Read/Write Modes section of the Introduction.

Box Command Table

This table shows all the possible parameter combinations for the Box command.

Parameter Table

BN	PN	VALUE			Default	RWC*
		Min	**Max**	**Gran**		
UNIT (1)	IP (1)	N/A	N/A	N/A	N/A	R
	MODEL (2)	N/A	N/A	N/A	N/A	R
	SN (3)	N/A	N/A	N/A	N/A	R
	MAC (4)	N/A	N/A	N/A	N/A	R
	NAME (6)	N/A	N/A	N/A	N/A	R
	DHCP_ENABLE (1)	0	1	1	1	RW
	STATIC_IP (2)	N/A	N/A	N/A	N/A	RWC
ETHERNET_PORT (6)	SUBNET_MASK (3)	N/A	N/A	N/A	N/A	RWC
	GATEWAY_IP (4)	N/A	N/A	N/A	N/A	RWC
	DNS_IP (5)	N/A	N/A	N/A	N/A	RWC
	ALT_DNS_IP (6)	N/A	N/A	N/A	N/A	RWC
	IP_ASSIGN_MODE_CHANNEL (8)	0	1	1	N/A	W
NOTIFICATION (8)	BUTTON (1)	1	5	1	N/A	R

* The meaning of the entries in this column is available in the [Read/Write Modes](#) section of the Introduction.

BN	PN	VALUE			Default	RWC*
		Min	Max	Gran		
	ALT_DNS_IP (9)	N/A	N/A	N/A	N/A	RWC
	DHCP_ENABLE (10)	0	1	1	1	RW

* The meaning of the entries in this column is available in this document in the [Read/Write Modes](#) section of the Introduction.

Box-Ethernet_Port (6)

Functionality

Retrieve or changes the IP settings for a Huddle.

- **Important:** If you want to make **and save** changes, you **must** execute the IP_ASSIGN_MODE_CHANGE (1) command as the last step of the process; **otherwise, the changes do not take effect**.

Syntax

```
BOX <BOXNAME> ETHERNET_PORT <PN> [VALUE]
```

Input

PN	Description	Value		Default	RWC*
DHCP_ENABLE (1)	Specifies whether DHCP should be turned on or off when the IP_ASSIGN_MODE_CHANGE parameter is sent. ⬛ **Note:** This parameter doesn't affect any change; you must send the IP_ASSIGN_MODE_CHANGE parameter to execute any changes.	**Value** | **Action** 0 | Disable 1 | Enable Blank | Retrieve current value		1	RW
STATIC_IP (2)	If DHCP is turned off, use to set a static IP address for a box. ⬛ **Note:** If DHCP is turned on, this argument is ignored.	An IP address. Leave blank to retrieve the current value.		N/A	RWC

PN	Description	Value	Default	RWC*
SUBNET_MASK (3)	If DHCP is turned off, use to set the subnet mask for a box. 📝 **Note:** If DHCP is turned on, this argument is ignored.	A subnet mask. Leave blank to retrieve the current value.	N/A	RWC
GATEWAY_IP (4)	If DHCP is turned off, use to set the address of the gateway. 📝 **Note:** If DHCP is turned on, this argument is ignored.	An IP address. Leave blank to retrieve the current value.	N/A	RWC
DNS_IP (5)	If DHCP is turned off, use to set the primary DNS server address. 📝 **Note:** If DHCP is turned on, this argument is ignored.	An IP address. Leave blank to retrieve the current value.	N/A	RWC
ALT_DNS_IP (6)	If DHCP is turned off, use to set the secondary DNS server address. 📝 **Note:** If DHCP is turned on, this argument is ignored.	An IP address. Leave blank to retrieve the current value.	N/A	RWC
IP_ASSIGN_MODE_CH (8)	Executes the settings you have specified using the other ETHERNET_PORT parameters. 📝 **Note:** This parameter must be sent to a device after specifying the rest of the ETHERNET_PORT settings.	1 - execute.	N/A	W

⁎ The meaning of the entries in this column is available in the [Read/Write Modes](#) section of the Introduction.

Example 1: DHCP_ENABLE

The following example shows how to turn off DHCP for a box called MyBox.

```
BOX MyBox ETHERNET_PORT DHCP_ENABLE 0
```

Example 2: STATIC_IP

The following example shows how to set a static IP address for a box called MyBox.

```
BOX MyBox ETHERNET_PORT STATIC_IP 192.128.16.12
```

Example 3: SUBNET_MASK

This example shows how to set the subnet mask for a box called MyBox

```
BOX MyBox ETHERNET_PORT SUBNET_MASK 255.255.255.0
```

Example 4: GATEWAY_IP

This example shows how to set the gateway address for a box called MyBox:

```
BOX MyBox ETHERNET_PORT GATEWAY_IP 192.128.16.1
```

Example 5: DNS_IP

This example shows how to set the primary DNS server for a box called MyBox:

```
BOX MyBox ETHERNET_PORT DNS_IP 212.212.212.212
```

Example 6: ALT_DNS_IP

This example shows how to set the secondary DNS server for a box called MyBox:

```
BOX MyBox ETHERNET_PORT ALT_DNS_IP 212.212.212.213
```

Example 7: DOMAIN_NAME

This example shows how to retrieve the domain name for a box called MyBox:

```
BOX MyBox ETHERNET_PORT DOMAIN_NAME
```

Example 8: IP_ASSIGN_MODE_CHANGE

This example shows how to execute whatever settings you have specified using the other ETHERNET_PORT parameters:

```
BOX MyBox ETHERNET_PORT IP_ASSIGN_MODE_CHANGE 1
```

Output

PN	Output
DHCP_ENABLE	`BOX Box5 ETHERNET_PORT DHCP_ENABLE 0`
STATIC_IP	`BOX BOX7 ETHERNET_PORT STATIC_IP 192.128.16.12`
SUBNET_MASK	`BOX ETHERNET_PORT SUBNET_MASK 255.255.255.0`
GATEWAY_IP	`BOX ETHERNET_PORT GATEWAY_IP 192.128.16.1`

DNS_IP	BOX ETHERNET_PORT DNS_IP 212.212.212.212
ALT_DNS_IP	BOX ETHERNET_PORT ALT_DNS_IP 212.212.212.213
DOMAIN_NAME	BOX ETHERNET_PORT DOMAIN_NAME MYDOMAIN.COM
IP_ASSIGN_MODE_CHANGE	BOX MyBox ETHERNET_PORT IP_ASSIGN_MODE_CHANGE 1

Box-Notification (8)

Functionality

Returns when you push the "Locate" button on the front of a Huddle.

Syntax

```
BOX <BOXNAME> NOTIFICATION <PN>
```

Input

PN	Description	Value
BUTTON (1)	Received when you push the "Locate" button on the front of a Huddle.	N/A

Output

PN	Output
BUTTON	`BOX Name_1 NOTIFICATION BUTTON 0000-0000-00`

Box-Unit (1)

Functionality

Retrieves information about a particular Huddle and causes the Locate LED light to blink, making it easier to locate a particular Huddle.

Syntax

```
BOX <BOXNAME> UNIT <PN> [VALUE]
```

📝 **Note:** You can use the asterisk character (*) in place of <BOXNAME> to specify all boxes in the stack.

Input

PN	Description	Value	Default	RWC*
IP (1)	Retrieve the IP address.	Read only	N/A	R
MODEL (2)	Retrieve the model number.	Read only	N/A	R
SN (3)	Retrieve the serial number.	Read only	N/A	R
MAC (4)	Retrieve the MAC address.	Read only	N/A	R
NAME (6)	Retrieve the Huddle name.	Read only	N/A	R
LED (7)	Set the Locate LED light state on the specified device(s) (blinking or off).	0 - off 1 - blinking	0	W

* The meaning of the entries in this column is available in the [Read/Write Modes](#) section of the Introduction.

Example 1: IP

This example requests the IP address of a box named MYBOX:

```
BOX MYBOX UNIT IP
```

Example 2: MODEL

This example requests the model number of a box named MYBOX:

```
BOX MYBOX UNIT MODEL
```

Example 3: SN

This example requests the serial number of a box named MYBOX:

```
BOX MYBOX UNIT SN
```

Example 4: MAC

This example requests the MAC address of a box named MYBOX:

```
BOX MYBOX UNIT MAC
```

Example 5: NAME

This example requests the names of all attached boxes:

```
BOX * UNIT NAME
```

Example 6: LED

This example causes the Locate LED light on the front of a box named MYBOX to blink:

```
BOX MYBOX UNIT LED 1
```

Example 7: LED

This example causes all the Locate LED lights on the front of the boxes in the stack to blink:

```
BOX * UNIT LED 1
```

Output

PN	Output
IP	`BOX MYBOX UNIT IP 192.168.1.100`
MODEL	`BOX MYBOX UNIT MODEL CONVERGE Pro 2 128T`
SN	`BOX MYBOX UNIT SN ENG1-0C56-D1`
MAC	`BOX MYBOX UNIT MAC 00:06:24:0C:56:D1`
NAME	`BOX * UNIT NAME MYBOX`
LED	`BOX MYBOX UNIT LED 1`

EP

Functionality

Configures an end point channel.

Syntax

```
EP <EPT><EPN> <BN><PN>[VALUE]
```

⚠ **Important: Review detailed information in the [Labels section](#) in the Introduction**.

Parameters

Parameter	Description
EPT	End Point Type. Possible options are MIC, OUTPUT, PROC, SGEN, SPEAKER, UA, USB_RX, and USB_TX.
EPN	End Point Number.
BN	Block Name/Number. This refers to an end point block, which corresponds to some functionality of the end point.
PN	Parameter Name/Number. A parameter within a block. Possible values depend on the BN value used.
VALUE	A value. Whether or not a value is needed and what value to use depend on the parameter. 📝 **Note:** More information about parameter values is available in the [Read/Write Modes section](#) of the Introduction.
REL	This optional switch, when used, indicates that gain and fine gain values are specified in relative terms, rather than absolute terms. Thus, including a fine gain value of 2 would add 2 to the current fine gain value, rather than setting the value to 2dB. 📝 **Note:** This switch applies only when setting gain or fine gain values.

EP Command Table

This table shows all the possible parameter combinations for the EP command.

Parameter Table

EPT	BN	PN	Value			Default	RW*
			Min	Max	Gran		
MIC (1)	LEVEL (1)	GAIN_FINE (1)	-65	20	0.5	0	RW
		MUTE (2)	0	1	1	0	
		PHAN_PWR (3)	0	1	1	0	
		GAIN_COARSE (4)	0	56	1	0	
		MAX_GAIN (7)	-65	20	0.5	20	
		MIN_GAIN (8)	-65	20	0.5	-65	
		TYPE (9)	0	1	1	0	
	AEC (2)	ENABLE (1)	0	1	1	0	
		NLP (2)	0	3	1	0	
		PTT (3)	0	1	1	0	
		PTT_THR (4)	-120	0	0.5	-50	
	NC (3)	ENABLE (1)	0	1	1	0	
		DEPTH (2)	6	25	1	6	
	AGC (4)	GAIN (1)	0	18	0.5	6	
		TARGET_LEVEL (2)	-30	20	0.5	0	
		RESPONSE_TIME (3)	100	10000	1	2000	
		THRESHOLD (4)	-50	0	0.5	-25	
	AGC_ALC (5)	MODE (1)	0	2	1	0	
	GATING (6)	GROUP (1)	1	6	1	1	
		NONE (2)	0	1	1	1	
		MODE (3)	1	3	1	1	
		CHAIRMAN (4)	0	1	1	0	
		PA_ADAPT (5)	0	1	1	0	
		ADAPT_AMB (6)	0	1	1	1	
		AMB_LEVEL (7)	-80	0	0.5	-40	
		OFF_ATTEN (8)	-60	0	0.5	12	
		GATE_RATIO (9)	-50	0	0.5	15	
		HOLD_TIME (10)	0.1	8	0.01	0.3	
		DECAY_RATE (11)	1	3	1	2	

EPT	BN	PN	Value			Default	RW
			Min	Max	Gran		
	FILTER_1 (7)	TYPE (1)	0	11	1	0	RW
		FCY (2) (except CD Horn)	20	20000	0.01	1000	
		FCY (2) (CD Horn)	50	5000	0.01	1000	
		GAIN (3)	-15	15	0.01	0	
		BW (6)	0.05	5	0.01	0.33	
		ENABLE (7)	0	1	N/A	0	
	FILTER_2 (8)	TYPE (1)	0	11	1	0	
		FCY (2) (except CD Horn)	20	20000	0.01	1000	
		FCY (2) (CD Horn)	50	5000	0.01	1000	
		GAIN (3)	-15	15	0.01	0	
		BW (6)	0.05	5	0.01	0.33	
		ENABLE (7)	0	1	1	0	
	FILTER_3 (9)	TYPE (1)	0	11	1	0	
		FCY (2) (except CD Horn)	20	20000	0.01	1000	
		FCY (2) (CD Horn)	50	5000	0.01	1000	
		GAIN (3)	-15	15	0.01	0	
		BW (6)	0.05	5	0.01	0.33	
		ENABLE (7)	0	1	N/A	0	
	FILTER_4 (10)	TYPE (1)	0	11	1	0	
		FCY (2) (except CD Horn)	20	20000	0.01	1000	
		FCY (2) (CD Horn)	50	5000	0.01	1000	
		GAIN (3)	-15	15	0.01	0	
		BW (6)	0.05	5	0.01	0.33	
		ENABLE (7)	0	1	N/A	0	
OUTPUT (7)	LEVEL (1)	GAIN (1)	-65	20	0.5	0	RW
		MUTE (2)	0	1	1	0	RW
		POLARITY (3)	0	1	1	0	RW
		MICLINE (4)	0	1	1	0	RW
		MAX_GAIN (7)	-65	20	0.5	20	RW
		MIN_GAIN (8)	-65	20	0.5	-65	RW
		TYPE (9)	0	1	1	0	RW
	FILTER_1 (2)	TYPE (1)	0	11	1	0	RW

EPT	BN	PN	Value			Default	RW
			Min	Max	Gran		
		FCY (2) (except CD Horn)	20	20000	0.01	1000	RW
		FCY (2) (CD Horn)	50	5000	0.01	1000	RW
		GAIN (3)	-15	15	0.01	0	RW
		SLOPE (4)	12	24	6	18	RW
		SFT (5)	2	3	1	2	RW
		BW (6)	0.05	5	0.01	0.33	RW
		ENABLE (7)	0	1	N/A	0	RW
	FILTER_2 (3)	TYPE (1)	0	11	1	0	RW
		FCY (2) (except CD Horn)	20	20000	0.01	1000	RW
		FCY (2) (CD Horn)	50	5000	0.01	1000	RW
		GAIN (3)	-15	15	0.01	0	RW
		SLOPE (4)	12	24	6	18	RW
		SFT (5)	2	3	1	2	RW
		BW (6)	0.05	5	0.01	0.33	RW
		ENABLE (7)	0	1	N/A	0	RW
	FILTER_3 (4)	TYPE (1)	0	11	1	0	RW
		FCY (2) (except CD Horn)	20	20000	0.01	1000	RW
		FCY (2) (CD Horn)	50	5000	0.01	1000	RW
		GAIN (3)	-15	15	0.01	0	RW
		SLOPE (4)	12	24	6	18	RW
		SFT (5)	2	3	1	2	RW
		BW (6)	0.05	5	0.01	0.33	RW
		ENABLE (7)	0	1	N/A	0	RW
	FILTER_4 (5)	TYPE (1)	0	11	1	0	RW
		FCY (2) (except CD Horn)	20	20000	0.01	1000	RW
		FCY (2) (CD Horn)	50	5000	0.01	1000	RW
		FCY (2) (CD Horn)	50	5000	0.01	1000	RW
		GAIN (3)	-15	15	0.01	0	RW
		SLOPE (4)	12	24	6	18	RW
		SFT (5)	2	3	1	2	RW
		BW (6)	0.05	5	0.01	0.33	RW
		ENABLE (7)	0	1	N/A	0	RW
	GRAPHICEQ (6)	ENABLE (1)	0	1	1	0	RW

EPT	BN	PN	Value			Default	RW
			Min	Max	Gran		
		GAIN_1 (2)	-12	12	1	0	RW
		GAIN_2 (3)	-12	12	1	0	RW
		GAIN_3 (4)	-12	12	1	0	RW
		GAIN_4 (5)	-12	12	1	0	RW
		GAIN_5 (6)	-12	12	1	0	RW
		GAIN_6 (7)	-12	12	1	0	RW
		GAIN_7 (8)	-12	12	1	0	RW
		GAIN_8 (9)	-12	12	1	0	RW
		GAIN_9 (10)	-12	12	1	0	RW
		GAIN_10 (11)	-12	12	1	0	RW
	LIMITER (7)	ENABLE (1)	0	1	1	0	RW
		THRESHOLD (2)	-65	20	0.5	0	RW
	DELAY (8)	ENABLE (1)	0	1	1	0	RW
		VALUE (2)	0	250	0.5	0	RW
	COMPRESSOR (9)	ENABLE (1)	0	1	1	0	RW
		GROUP (2)	0	4	1	0	RW
		POST_GAIN (3)	0	20	0.5	0	RW
		THRESHOLD (4)	-60	20	0.5	0	RW
		ATTACK (5)	0	100	0.5	10	RW
		RATIO (6)	1	20	0.5	1	RW
		RELEASE (7)	100	2000	1	500	RW
		DELAY_ ENABLE (8)	0	1	1	0	RW
		DELAY (9)	0	250	0.5	0	RW
SPEAKER (8)	LEVEL (1)	GAIN (1)	-65	20	0.5	0	RW
		MUTE (2)	0	1	1	0	RW
		MAX_GAIN (6)	-65	20	0.5	20	RW
		MIN_GAIN (7)	-65	20	0.5	-65	RW
	FILTER_1 (2)	TYPE (1)	0	11	1	0	RW
		FCY (2) (except CD Horn)	20	20000	0.01	1000	RW
		FCY (2) (CD Horn)	50	5000	0.01	1000	RW
		GAIN (3)	-15	15	0.01	0	RW
		SLOPE (4)	12	24	6	18	RW
		SFT (5)	2	3	1	2	RW

EPT	BN	PN	Value			Default	RW
			Min	Max	Gran		
		BW (6)	0.05	5	0.01	0.33	RW
		ENABLE (7)	0	1	N/A	0	RW
	FILTER_2 (3)	TYPE (1)	0	11	1	0	RW
		FCY (2) (except CD Horn)	20	20000	0.01	1000	RW
		FCY (2) (CD Horn)	50	5000	0.01	1000	RW
		GAIN (3)	-15	15	0.01	0	RW
		SLOPE (4)	12	24	6	18	RW
		SFT (5)	2	3	1	2	RW
		BW (6)	0.05	5	0.01	0.33	RW
		ENABLE (7)	0	1	N/A	0	RW
	FILTER_3 (4)	TYPE (1)	0	11	1	0	RW
		FCY (2) (except CD Horn)	20	20000	0.01	1000	RW
		FCY (2) (CD Horn)	50	5000	0.01	1000	RW
		GAIN (3)	-15	15	0.01	0	RW
		SLOPE (4)	12	24	6	18	RW
		SFT (5)	2	3	1	2	RW
		BW (6)	0.05	5	0.01	0.33	RW
		ENABLE (7)	0	1	N/A	0	RW
	FILTER_4 (5)	TYPE (1)	0	11	1	0	RW
		FCY (2) (except CD Horn)	20	20000	0.01	1000	RW
		FCY (2) (CD Horn)	50	5000	0.01	1000	RW
		GAIN (3)	-15	15	0.01	0	RW
		SLOPE (4)	12	24	6	18	RW
		SFT (5)	2	3	1	2	RW
		BW (6)	0.05	5	0.01	0.33	RW
		ENABLE (7)	0	1	N/A	0	RW
	GRAPHICEQ (6)	ENABLE (1)	0	1	1	0	RW
		GAIN_1 (2)	-12	12	1	0	RW
		GAIN_2 (3)	-12	12	1	0	RW
		GAIN_3 (4)	-12	12	1	0	RW
		GAIN_4 (5)	-12	12	1	0	RW
		GAIN_5 (6)	-12	12	1	0	RW
		GAIN_6 (7)	-12	12	1	0	RW

EPT	BN	PN	Value			Default	RW
			Min	Max	Gran		
		GAIN_7 (8)	-12	12	1	0	RW
		GAIN_8 (9)	-12	12	1	0	RW
		GAIN_9 (10)	-12	12	1	0	RW
		GAIN_10 (11)	-12	12	1	0	RW
	LIMITER (7)	ENABLE (1)	0	1	1	0	RW
		THRESHOLD (2)	-65	20	0.5	0	RW
	DELAY (8)	ENABLE (1)	0	1	1	0	RW
		VALUE (2)	0	250	0.5	0	RW
	COMPRESSOR (9)	ENABLE (1)	0	1	1	0	RW
		GROUP (2)	0	4	1	0	RW
		POST_GAIN (3)	0	20	0.5	0	RW
		THRESHOLD (4)	-60	20	0.5	0	RW
		ATTACK (5)	0	100	0.5	10	RW
		RATIO (6)	1	20	0.5	1	RW
		RELEASE (7)	100	2000	1	500	RW
		DELAY_ ENABLE (8)	0	1	1	0	RW
		DELAY (9)	0	250	0.5	0	RW
PROC (9)	LEVEL (1)	GAIN (1)	-65	20	0.5	0	RW
		MUTE (2)	0	1	1	0	RW
		RAMP_RATE (3)	-50	50	1	1	RW
		MAX_GAIN (6)	-65	20	0.5	20	RW
		MIN_GAIN (7)	-65	20	0.5	-65	RW
	DELAY (2)	ENABLE (1)	0	1	1	0	RW
		VALUE (2)	0	250	0.5	0	RW
	COMPRESSOR (3)	ENABLE (1)	0	1	1	0	RW
		GROUP (2)	0	4	1	0	RW
		POST_GAIN (3)	0	20	0.5	0	RW
		THRESHOLD (4)	-60	20	0.5	0	RW
		ATTACK (5)	0	100	0.5	10	RW
		RATIO (6)	1	20	1	1	RW
		RELEASE (7)	100	2000	1	500	RW
		DELAY_ ENABLE (8)	0	1	1	0	RW
		DELAY (9)	0	250	0.5	0	RW

EPT	BN	PN	Value			Default	RW
			Min	Max	Gran		
	FILTER_1 (4)	TYPE (1)	0	11	1	0	RW
		FCY (2) (except CD Horn)	20	20000	0.01	1000	RW
		FCY (2) (CD Horn)	50	5000	0.01	1000	RW
		GAIN (3)	-15	15	0.01	0	RW
		SLOPE (4)	12	24	6	18	RW
		SFT (5)	2	3	1	2	RW
		BW (6)	0.05	5	0.01	0.33	RW
		ENABLE (7)	0	1	N/A	0	RW
	FILTER_2 (5)	TYPE (1)	0	11	1	0	RW
		FCY (2) (except CD Horn)	20	20000	0.01	1000	RW
		FCY (2) (CD Horn)	50	5000	0.01	1000	RW
		GAIN (3)	-15	15	0.01	0	RW
		SLOPE (4)	12	24	6	18	RW
		SFT (5)	2	3	1	2	RW
		BW (6)	0.05	5	0.01	0.33	RW
		ENABLE (7)	0	1	N/A	0	RW
	FILTER_3 (6)	TYPE (1)	0	11	1	0	RW
		FCY (2) (except CD Horn)	20	20000	0.01	1000	RW
		FCY (2) (CD Horn)	50	5000	0.01	1000	RW
		GAIN (3)	-15	15	0.01	0	RW
		SLOPE (4)	12	24	6	18	RW
		SFT (5)	2	3	1	2	RW
		BW (6)	0.05	5	0.01	0.33	RW
		ENABLE (7)	0	1	N/A	0	RW
	FILTER_4 (7)	TYPE (1)	0	11	1	0	RW
		FCY (2) (except CD Horn)	20	20000	0.01	1000	RW
		FCY (2) (CD Horn)	50	5000	0.01	1000	RW
		GAIN (3)	-15	15	0.01	0	RW
		SLOPE (4)	12	24	6	18	RW
		SFT (5)	2	3	1	2	RW
		BW (6)	0.05	5	0.01	0.33	RW
		ENABLE (7)	0	1	N/A	0	RW
	FILTER_5 (8)	TYPE (1)	0	11	1	0	RW

EPT	BN	PN	Value			Default	RW
			Min	Max	Gran		
		FCY (2) (except CD Horn)	20	20000	0.01	1000	RW
		FCY (2) (CD Horn)	50	5000	0.01	1000	RW
		GAIN (3)	-15	15	0.01	0	RW
		SLOPE (4)	12	24	6	18	RW
		SFT (5)	2	3	1	2	RW
		BW (6)	0.05	5	0.01	0.33	RW
		ENABLE (7)	0	1	N/A	0	RW
	FILTER_6 (9)	TYPE (1)	0	11	1	0	RW
		FCY (2) (except CD Horn)	20	20000	0.01	1000	RW
		FCY (2) (CD Horn)	50	5000	0.01	1000	RW
		GAIN (3)	-15	15	0.01	0	RW
		SLOPE (4)	12	24	6	18	RW
		SFT (5)	2	3	1	2	RW
		BW (6)	0.05	5	0.01	0.33	RW
		ENABLE (7)	0	1	N/A	0	RW
	FILTER_7 (10)	TYPE (1)	0	11	1	0	RW
		FCY (2) (except CD Horn)	20	20000	0.01	1000	RW
		FCY (2) (CD Horn)	50	5000	0.01	1000	RW
		GAIN (3)	-15	15	0.01	0	RW
		SLOPE (4)	12	24	6	18	RW
		SFT (5)	2	3	1	2	RW
		BW (6)	0.05	5	0.01	0.33	RW
		ENABLE (7)	0	1	N/A	0	RW
	FILTER_8 (11)	TYPE (1)	0	11	1	0	RW
		FCY (2) (except CD Horn)	20	20000	0.01	1000	RW
		FCY (2) (CD Horn)	50	5000	0.01	1000	RW
		GAIN (3)	-15	15	0.01	0	RW
		SLOPE (4)	12	24	6	18	RW
		SFT (5)	2	3	1	2	RW
		BW (6)	0.05	5	0.01	0.33	RW
		ENABLE (7)	0	1	N/A	0	RW
	FILTER_9 (12)	TYPE (1)	0	11	1	0	RW
		FCY (2) (except CD Horn)	20	20000	0.01	1000	RW

EPT	BN	PN	Value			Default	RW
			Min	Max	Gran		
		FCY (2) (CD Horn)	50	5000	0.01	1000	RW
		GAIN (3)	-15	15	0.01	0	RW
		SLOPE (4)	12	24	6	18	RW
		SFT (5)	2	3	1	2	RW
		BW (6)	0.05	5	0.01	0.33	RW
		ENABLE (7)	0	1	N/A	0	RW
	FILTER_10 (13)	TYPE (1)	0	11	1	0	RW
		FCY (2) (except CD Horn)	20	20000	0.01	1000	RW
		FCY (2) (CD Horn)	50	5000	0.01	1000	RW
		GAIN (3)	-15	15	0.01	0	RW
		SLOPE (4)	12	24	6	18	RW
		SFT (5)	2	3	1	2	RW
		BW (6)	0.05	5	0.01	0.33	RW
		ENABLE (7)	0	1	N/A	0	RW
	FILTER_11 (14)	TYPE (1)	0	11	1	0	RW
		FCY (2) (except CD Horn)	20	20000	0.01	1000	RW
		FCY (2) (CD Horn)	50	5000	0.01	1000	RW
		GAIN (3)	-15	15	0.01	0	RW
		SLOPE (4)	12	24	6	18	RW
		SFT (5)	2	3	1	2	RW
		BW (6)	0.05	5	0.01	0.33	RW
		ENABLE (7)	0	1	N/A	0	RW
	FILTER_12 (15)	TYPE (1)	0	11	1	0	RW
		FCY (2) (except CD Horn)	20	20000	0.01	1000	RW
		FCY (2) (CD Horn)	50	5000	0.01	1000	RW
		GAIN (3)	-15	15	0.01	0	RW
		SLOPE (4)	12	24	6	18	RW
		SFT (5)	2	3	1	2	RW
		BW (6)	0.05	5	0.01	0.33	RW
		ENABLE (7)	0	1	N/A	0	RW
	FILTER_13 (16)	TYPE (1)	0	11	1	0	RW
		FCY (2) (except CD Horn)	20	20000	0.01	1000	RW
		FCY (2) (CD Horn)	50	5000	0.01	1000	RW

EPT	BN	PN	Value			Default	RW
			Min	Max	Gran		
		GAIN (3)	-15	15	0.01	0	RW
		SLOPE (4)	12	24	6	18	RW
		SFT (5)	2	3	1	2	RW
		BW (6)	0.05	5	0.01	0.33	RW
		ENABLE (7)	0	1	N/A	0	RW
	FILTER_14 (17)	TYPE (1)	0	11	1	0	RW
		FCY (2) (except CD Horn)	20	20000	0.01	1000	RW
		FCY (2) (CD Horn)	50	5000	0.01	1000	RW
		GAIN (3)	-15	15	0.01	0	RW
		SLOPE (4)	12	24	6	18	RW
		SFT (5)	2	3	1	2	RW
		BW (6)	0.05	5	0.01	0.33	RW
		ENABLE (7)	0	1	N/A	0	RW
	FILTER_15 (18)	TYPE (1)	0	11	1	0	RW
		FCY (2) (except CD Horn)	20	20000	0.01	1000	RW
		FCY (2) (CD Horn)	50	5000	0.01	1000	RW
		GAIN (3)	-15	15	0.01	0	RW
		SLOPE (4)	12	24	6	18	RW
		SFT (5)	2	3	1	2	RW
		BW (6)	0.05	5	0.01	0.33	RW
		ENABLE (7)	0	1	N/A	0	RW
	FBE (37)	ENABLE (7)	0	1	1	0	RW
USB_RX (14)	LEVEL (1)	GAIN (1)	-65	20	0.5	0	RW
		MUTE (2)	0	1	1	0	RW
		MAX_GAIN (5)	-65	20	0.5	20	RW
		MIN_GAIN (6)	-65	20	0.5	-65	RW
USB_TX (15)	LEVEL (1)	GAIN (1)	-65	20	0.5	0	RW
		MUTE (2)	0	1	1	0	RW
		MAX_GAIN (5)	-65	20	0.5	20	RW
		MIN_GAIN (6)	-65	20	0.5	-65	RW
SGEN (22)	LEVEL (1)	TYPE (1)	1	5	1	1	RW
		FCY (2)	20	24000	0.01	1000	RW
		ENABLE (3)	0	1	N/A	0	RW

EPT	BN	PN	Value			Default	RW
			Min	Max	Gran		
		GAIN (4)	-65	20	0.5	0	RW

✱ The meaning of the entries in this column is available in the [Read/Write Modes](#) section of the Introduction.

MIC

EP-MIC (1) Acoustic Echo Cancellation (AEC) (2)

Functionality

Manages the Acoustic Echo Cancellation of a microphone.

Syntax

```
EP MIC <EPN> AEC <PN> [VALUE]
```

⚠ **Important: Review detailed information in the [Labels section](#) in the Introduction.**

Input

PN	Description	Values		Default	RW*
ENABLE (1)	Enable AEC.	**Value**	**Action**	0	RW
		0	Disable		
		1	Enable		
		2	Toggle current state		
		Blank	Retrieve current value		
NLP (2)	Set non-linear processing (NLP). NLP increases the power of echo cancellation for difficult acoustical environments. 📝 **Note: Use NLP with care**. There are trade-offs associated with NLP, including suppression and half- duplex audio.	**Value**	**Action**	0	RW
		0	Disable		
		1	Soft		
		2	Medium		
		3	Aggressive		
		Blank	Retrieve current value		
PTT (3)	Enable Push-to-Talk.	**Value**	**Action**	0	RW
		0	Disable		
		1	Enable		
		Blank	Retrieve current value		
PTT_THR (4)	Set the Push-to-Talk threshold.	-120 to 0 in increments of 0.5.		-50	RW

✱ The meaning of the entries in this column is available in the [Read/Write Modes](#) section of the Introduction.

Example 1: ENABLE

This example shows how to enable AEC on a MIC channel with the label ChannelName:

```
EP ChannelName AEC ENABLE 1
```

Example 2: NLP

This example shows how to set NLP to aggressive for a MIC channel with the label ChannelName:

```
EP ChannelName AEC NLP 3
```

Example 3: PTT

This example shows how to enable Push-to-Talk for a MIC channel with the label ChannelName:

```
EP ChannelName AEC PTT 1
```

Example 4: PTT_THR

This example shows how to set the Push-to-Talk threshold for a MIC channel with the label ChannelName:

```
EP ChannelName AEC PTT_THR -30
```

Output

PN	Output
ENABLE	`EP ChannelName AEC ENABLE 1`
NLP	`EP ChannelName AEC NLP 3`
PTT	`EP ChannelName AEC PTT 1`
PTT_THR	`EP ChannelName AEC PTT_THR -30`

EP-MIC (1) Automatic Gain Control (AGC) (4)

Functionality

Configures the Automatic Gain Control settings of a microphone. AGC keeps an input signal at a target gain level.

Syntax

```
EP MIC<EPN>AGC <PN>[VALUE]
```

⚠ **Important: Review detailed information in the Labels section in the Introduction.**

Input

PN	Description	Value	Default	RW*
GAIN (1)	Gain.	0 to 18dB range in increments of 0.5 Leave blank to retrieve current value	6	RW

PN	Description	Value	Default	RW*
TARGET_LEVEL (2)	Target Level sets the dB level for AGC to maintain.	-30 to 20, in increments of 0.5 Leave blank to retrieve current value	0	RW
RESPONSE_TIME (3)	Response Time sets the amount of time (in ms) over which the level is averaged before AGC is enable or disabled, to keep the gain from seeming too abrupt.	100 to 10000 in increments of 1 Leave blank to retrieve current value	2000	RW
THRESHOLD (4)	Threshold sets the dB level at which AGC engages.	-50dB to 0dB, in increments of 0.5. Setting the Threshold above the background noise level will prevent AGC from amplifying background noise. Leave blank to retrieve current value	-25	RW

* The meaning of the entries in this column is available in the [Read/Write Modes](#) section of the Introduction.

Example 1: GAIN

This example shows how to indicate the amount of gain control for a MIC channel with the label ChannelName:

```
EP ChannelName AGC GAIN 11.5
```

Example 2: TARGET_LEVEL

This example shows how to set the gain control target level for a MIC channel with the label ChannelName:

```
EP ChannelName AGC TARGET_LEVEL -5.5
```

Example 3: RESPONSE_TIME

This example shows how to set the gain control response time for a MIC channel with the label ChannelName:

```
EP ChannelName AGC RESPONSE_TIME 8562.0
```

Example 4: THRESHOLD

This example shows how to set the gain control threshold for a MIC channel with the label ChannelName:

```
EP ChannelName AGC THRESHOLD -30.5
```

Output

PN	Output
GAIN	```EP ChannelName AGC GAIN 11.5```

TARGET_LEVEL	`EP ChannelName AGC TARGET_LEVEL -5.5`
RESPONSE_TIME	`EP ChannelName AGC RESPONSE_TIME 8562.0`
THRESHOLD	`EP ChannelName AGC THRESHOLD -30.5`

EP-MIC (1) Automatic Gain Control/Automatic Level Control (AGC_ALC) (5)

You can use the EP command to turn on either automatic gain control (AGC) or automatic level control (ALC) for a microphone. AGC and ALC both try to keep a signal at a target level, but AGC can do so within greater ranges and with more refined controls. ALC can make only up to 6db adjustments to a signal, but can respond more quickly and aggressively to variations. AGC is generally used for line-level inputs, and ALC is generally used for mic-level inputs.

📝 **Note:** AGC settings are adjusted with the EP MIC AGC command/parameter.

Syntax

```
EP MIC <EPN> AGC_ALC <PN> [VALUE]
```

⚠ **Important: Review detailed information in the Labels section in the Introduction**.

Input

PN	Description	Value		Default	RW*
MODE (1)	AGC/ALC mode.	**Value**	**Action**	0	RW
		0	Off		
		1	AGC		
		2	ALC		
		Blank	Retrieve current value		

＊ The meaning of the entries in this column is available in the Read/Write Modes section of the Introduction.

Example 1: MODE

This example shows how to turn on automatic gain control for a MIC channel with the label ChannelName:

```
EP ChannelName AGC_ALC MODE 1
```

Output

PN	Output
MODE	EP ChannelName AGC_ALC MODE 1

EP-MIC (1) Filter_1 (7)

You can use the EP command to configure the Filter_1 settings of a microphone channel.

📝 **Note:** You can also use the FILTER command to change filter settings. ClearOne recommends the use of the FILTER command. See *FILTER* for more information.

Syntax

```
EP MIC <EPN> FILTER_1 <PN> [VALUE]
```

⚠ **Important:** Review detailed information in the <u>**Labels section**</u> in the Introduction.

Input

PN	Description	Value	Default	RW*
TYPE (1)	Select a filter type. 📋 **Note:** You must send this parameter first, because when you send this parameter, the rest of the filter settings are set to their default values.	Allowable filter types are: 0 (filter is off) 1 (all pass) 2 (low pass) 3 (high pass) 6 (parametric equalizer) 11 (notch) Leave blank to retrieve current value	0	RW
FCY (2)	Set the center frequency (in Hz). 📋 **Note:** Applies to all filter types.	20 to 20000 in increments of 0.01 Leave blank to retrieve current value	1000	RW

GAIN (3)	Set the gain value.
	
	📋 **Note:** Applies only to the following types:
	
	    6, parametric equalizer
	
	    11, notch
		-15 to 15 in increments of 0.01
		
		Leave blank to retrieve current value
			0	RW

BW (6)	Set the difference between the upper and lower points of a filter's audio pass band.
	
	📋 **Note:** Applies only to the following types:
	
	    6, parametric equalizer
	
	    11, notch
		0.05 to 5 in increments of 0.01
		
		Leave blank to retrieve current value
			0.33	RW

ENABLE (7)	Enable or disable this filter.	<table><tr><td>**Value**</td><td>**Action**</td></tr><tr><td>0</td><td>Disable</td></tr><tr><td>1</td><td>Enable</td></tr><tr><td>2</td><td>Toggle current state</td></tr><tr><td>Blank</td><td>Retrieve current value</td></tr></table>	0	RW

∗ The meaning of the entries in this column is available in the <u>Read/Write Modes</u> section of the Introduction.

Example 1: TYPE

This example shows how to select a low pass filter type for FILTER_1 on a MIC channel with the label ChannelName:

```
EP ChannelName FILTER_1 TYPE 1
```

Example 2: FCY

This example shows how to set the frequency to 5000 for FILTER_1 on a MIC channel with the label ChannelName:

```
EP ChannelName FILTER_1 FCY 5000
```

Example 3: GAIN

This example shows how to set a gain value of 5.05 for FILTER_1 on a MIC channel with the label ChannelName:

```
EP ChannelName FILTER_1 GAIN 5.05
```

Example 4: BW

This example shows how to set the bandwidth to 2.33 for FILTER_1 on a MIC channel with the label ChannelName:

```
EP ChannelName FILTER_1 BW 2.33
```

Example 5: ENABLE

This example shows how to enable FILTER_1 on a MIC channel with the label ChannelName:

```
EP ChannelName FILTER_1 ENABLE 1
```

Output

PN	Output
TYPE	EP ChannelName FILTER_1 TYPE 1
FCY	EP ChannelName FILTER_1 FCY 5000
GAIN	EP ChannelName FILTER_1 GAIN 5.05
BW	EP ChannelName FILTER_1 BW 2.33
ENABLE	EP ChannelName FILTER_1 ENABLE 1

EP-MIC (1) Filter_2 (8)

The settings for this parameter are the same as for the MIC Filter_1 parameter.

Related reference

EP-MIC (1) Filter_1 (7)

EP-MIC (1) Filter_3 (9)

The settings for this parameter are the same as for the MIC Filter_1 parameter.

Related reference

EP-MIC (1) Filter_1 (7)

EP-MIC (1) Filter_4 (10)

The settings for this parameter are the same as for the MIC Filter_1 parameter.

Related reference

EP-MIC (1) Filter_1 (7)

EP-MIC (1) Gating (6)

You can use the EP command to configure the gating control of a microphone. Gating controls the priority relationships in a group of microphones.

Syntax

```
EP MIC<EPN>GATING <PN>[VALUE]
```

⚠ **Important: Review detailed information in the Labels section in the Introduction**.

Input

PN	Description	Value	Default	RW*
GROUP (1)	GROUP enables assignment of channels with same settings to up to eight (8) gating groups. 📝 **Note:** The preferred way to assign mics to a group is to use the GATEGROUP command.	1 to 8 Leave blank to retrieve current value	1	RW
NONE (2)	Assign the mic to a "None" gating group. 📝 **Note:** • If you have assigned a MIC channel to the NONE group and to a numbered group, the NONE group takes precedence. • The preferred way to assign mics to a group is to use the GATEGROUP command.	<table><tr><td>**Value**</td><td>**Action**</td></tr><tr><td>0</td><td>Disable</td></tr><tr><td>1</td><td>Enable</td></tr><tr><td>2</td><td>Toggle current state</td></tr><tr><td>Blank</td><td>Retrieve current value</td></tr></table>📝 **Note:** Inputs are routed to Group 1 by default.	1	RW
MODE (3)	MODE allows you to configure group settings.	<table><tr><td>**Value**</td><td>**Action**</td></tr><tr><td>1</td><td>First Mic Priority</td></tr><tr><td>2</td><td>Maximum number of mics</td></tr><tr><td>3</td><td>Last Mic mode</td></tr><tr><td>Blank</td><td>Retrieve current value</td></tr></table>	1	RW

* The meaning of the entries in this column is available in the Read/Write Modes section of the Introduction.

PN	Description	Value		Default	RW*
CHAIRMAN (4)	Chairman override provides gating priority for selected channels over any other channel within the same group.	**Value** / 0 / 1 / 2 / Blank	**Action** / Disable / Enable / Toggle current state / Retrieve current value	0	RW
PA_ADAPT (5)	Power Amplifier Adaptive automatically adjusts the ambient reference level to prevent the audio from gating on microphones.	**Value** / 0 / 1 / 2 / Blank	**Action** / Disable / Enable / Toggle current state / Retrieve current value	0	RW
ADAPT_AMB (6)	Adapt Ambient automatically adjusts the ambient reference level as noise and room conditions change.	**Value** / 0 / 1 / 2 / Blank	**Action** / Disable / Enable / Toggle current state / Retrieve current value	1	RW
AMB_LEVEL (7)	Ambient Level lets you manually specify a fixed ambient level.	-80dB to 0dB, in increments of 0.5 Leave blank to retrieve current value		-40	RW
OFF_ATTEN (8)	Off Attenuation allows you to set the amount of level reduction applied to a channel when it is gated off.	-60dB to 0dB, in increments of 0.5. Leave blank to retrieve current value		12	RW
GATE_RATIO (9)	Gate Ratio allows you to specify how much louder the audio level must be than the ambient level before the channel automatically gates on.	-50dB to 0dB, in increments of 0.5. Leave blank to retrieve current value		15	RW
HOLD_TIME (10)	Hold Time allows you to determine how long the channel stays gated on after the audio falls below the Gate Ratio threshold.	-.1 to 8.0, in increments of 0.01. Leave blank to retrieve current value		0.3	RW

DECAY_RATE (11)	Decay Rate allows you to determine how fast a channel gates off after the Hold Time expires.	Value	Action	2	RW
		1	Slow (12dB/s)		
		2	Medium (25dB/s)		
		3	Fast (50dB/s)		
		Blank	Retrieve current value		

* The meaning of the entries in this column is available in the [Read/Write Modes](#) section of the Introduction.

Example 1: GROUP

This example shows how to assign a MIC channel with the label ChannelName to Group 8:

```
EP ChannelName GATING GROUP 8
```

Example 2: NONE

This example shows how to assign a MIC channel with the label ChannelName to the NONE group:

```
EP ChannelName GATING NONE 1
```

Example 3: MODE

This example shows how to enable First Mic Priority on a MIC channel with the label ChannelName:

```
EP ChannelName GATING MODE 1
```

Example 4: CHAIRMAN

This example shows how to enable the Chairman feature on a MIC channel with the label ChannelName:

```
EP ChannelName GATING CHAIRMAN 1
```

Example 5: PA_ADAPT

This example shows how to enable the power amplifier adapt on a MIC channel with the label ChannelName:

```
EP ChannelName GATING PA_ADAPT 1
```

Example 6: AMB_ADAPT

This example shows how to enable ambient adapt on a MIC channel with the label ChannelName:

```
EP ChannelName GATING AMB_ADAPT 1
```

Example 7: AMB_TRK

This example shows how to adjust the ambient level on a MIC channel with the label ChannelName:

```
EP ChannelName GATING AMB_TRK -63.5
```

Example 8: OFF_ATTEN

This example shows how to set the amount of level reduction applied to a MIC channel with the label ChannelName, when gated off:

```
EP ChannelName GATING OFF_ATTEN -52.5
```

Example 9: GATE_RATIO

This example shows how to set the Gate Ratio on a MIC channel with the label ChannelName:

```
EP ChannelName GATING GATE_RATIO -40.5
```

Example 10: HOLD_TIME

This example shows how to set the Hold Time on a MIC channel with the label ChannelName:

```
EP ChannelName GATING HOLD_TIME 4.02
```

Example 11: DECAY_RATE

This example shows how to set the Decay Rate on a MIC channel with the label ChannelName:

```
EP ChannelName GATING DECAY_RATE 3
```

Output

PN	Output
GROUP	`EP ChannelName GATING GROUP 8`
NONE	`EP ChannelName GATING NONE 1`
MODE	`EP ChannelName GATING MODE 1`
CHAIRMAN	`EP ChannelName GATING CHAIRMAN 1`
PA_ADAPT	`EP ChannelName GATING PA_ADAPT 1`
AMB_ADAPT	`EP ChannelName GATING AMB_ADAPT 1`
AMB_TRK	`EP ChannelName GATING AMB_TRK -63.5`
OFF_ATTEN	`EP ChannelName GATING OFF_ATTEN -52.5`
GATE_RATIO	`EP ChannelName GATING GATE_RATIO -40.5`
HOLD_TIME	`EP ChannelName GATING HOLD_TIME 4.02`
DECAY_RATE	`EP ChannelName GATING DECAY_RATE 3`

EP-MIC (1) Level (1)

You can use the EP command to change the level and type (analog or digital) of a microphone.

Syntax

```
EP MIC <EPN> LEVEL <PN> [VALUE]
```

⚠ **Important: Review detailed information in the Labels section in the Introduction**.

Input

PN	Description	Value	Default	RW*
GAIN_FINE (1)	Fine gain.	Default decibel range of -65 to 20 unless adjusted with MAX_GAIN or MIN_GAIN, adjust in increments of 0.5 📋 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section. Leave blank to retrieve current value	0	RW
MUTE (2)	Mute.	<table><tr><th>Value</th><th>Action</th></tr><tr><td>0</td><td>Unmute</td></tr><tr><td>1</td><td>Mute</td></tr><tr><td>2</td><td>Toggle current state</td></tr><tr><td>Blank</td><td>Retrieve current value</td></tr></table>	0	RW
PHAN_PWR (3)	Phantom power - 48V power option for microphone.	<table><tr><th>Value</th><th>Action</th></tr><tr><td>0</td><td>Power off</td></tr><tr><td>1</td><td>Power Onn</td></tr></table>	0	RW

| GAIN_COARSE (4) | Coarse gain. | Can be one of the following values: 0, 7, 14, 21, 28, 35, 41, 50, or 56.

📝 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section.

Leave blank to retrieve current value | 0 | RW |

* The meaning of the entries in this column is available in the Read/Write Modes section of the Introduction.

PN	Description	Value	Default	RW
MAX_GAIN (7)	Maximum gain. This controls how high gain can be set, and also how high ramping can go.	-65 to 20 in increments of 0.5 Leave blank to retrieve current value	20	RW
MIN_GAIN (8)	Minimum gain. This controls how low gain can be set, and also how low ramping can go.	-65 to 20 in increments of 0.5 Leave blank to retrieve current value	-65	RW
TYPE (9)	Whether the channel is analog or digital. 📝 **Note:** Changing the type for this channel to digital means that the signal for this channel will come from the corresponding DANTE_RX channel rather than from the MIC port on the device. For example, if you set MIC channel 101 to be digital, the channel will receive its signal from DANTE_RX channel 101.	<table><tr><th>Value</th><th>Action</th></tr><tr><td>0</td><td>Analog</td></tr><tr><td>1</td><td>Digital</td></tr></table>	0	RW

* The meaning of the entries in this column is available in the [Read/Write Modes](#) section of the Introduction.

Example 1: GAIN FINE

This example shows how to change the level of a MIC channel with the label ChannelName using fine gain:

```
EP ChannelName LEVEL GAIN_FINE 5.5
```

📝 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section. to the current level, rather than setting the level to 2.

Example 2: MUTE

This example shows how to mute the level of a MIC channel with the label ChannelName:

```
EP ChannelName LEVEL MUTE 1
```

Example 3: PHAN_PWR

This example shows how to switch off phantom power for a MIC channel with the label ChannelName:

```
EP ChannelName LEVEL PHAN_PWR 0
```

Example 4: GAIN_COARSE

This example shows how to change the level of a MIC channel with the label ChannelName using fine gain:

```
EP ChannelName LEVEL GAIN_COARSE 21
```

Example 5: MAX_GAIN

This example shows how to set maximum gain for a MIC channel with the label ChannelName:

```
EP ChannelName LEVEL MAX_GAIN 16.5
```

Example 6: MIN_GAIN

This example shows how to set minimum gain for a MIC channel with the label ChannelName:

```
EP ChannelName LEVEL MIN_GAIN -32.5
```

Example 7: TYPE

This example shows how to set a MIC channel with the label ChannelName to be a digital channel:

```
EP ChannelName LEVEL TYPE 1
```

Output

PN	Output
GAIN_FINE	`EP ChannelName LEVEL GAIN_FINE 5.5`
MUTE	`EP ChannelName LEVEL MUTE 1`
PHAN_PWR	`EP ChannelName LEVEL PHAN_PWR 0`
GAIN_COARSE	`EP ChannelName LEVEL GAIN_COARSE 21`
MAX_GAIN	`EP ChannelName LEVEL MAX_GAIN 16.5`
MIN_GAIN	`EP ChannelName LEVEL MIN_GAIN -32.5`
TYPE	`EP ChannelName LEVEL TYPE 1`

EP-MIC (1) Noise Cancellation (NC) (3)

You can use the EP command to manage the noise cancellation (NC) of a microphone. Noise cancellation cancels background noise.

Syntax

```
EP MIC <EPN> NC <PN> [VALUE]
```

⚠ **Important: Review detailed information in the Labels section in the Introduction.**

Input

PN	Description	Value		Default	RW*
ENABLE (1)	Enable noise cancellation.	**Value**	**Action**	0	RW
		0	Disable		
		1	Enable		
		2	Toggle current state		

		Blank	Retrieve current value		

PN	Description	Value	Default	RW
DEPTH (2)	Depth of noise cancellation.	6 to 25 in increments of 1 Leave blank to retrieve current value	6	RW

* The meaning of the entries in this column is available in the [Read/Write Modes](#) section of the Introduction.

Example 1: ENABLE

This example shows how to enable NC on a MIC channel with the label ChannelName:

```
EP ChannelName NC ENABLE 1
```

Example 2: DEPTH

This example shows how to adjust the depth of noise suppression on a MIC channel with the label ChannelName:

```
EP ChannelName NC DEPTH 22
```

Output

PN	Output
ENABLE	`EP MIC 1 NC ENABLE 1`
DEPTH	`EP MIC 1 NC DEPTH 22`

OUTPUT

Functionality

EP-OUTPUT (7) Compressor (9)

Enables compression on an output channel based on configurable parameters.

Syntax

```
EP OUTPUT <EPN> COMPRESSOR <PN> [VALUE]
```

⚠ **Important:** **Review detailed information in the Labels section in the Introduction**.

Input

PN	Description	Value		Default	RW*
ENABLE (1)	Turn on the compression feature.	**Value** / **Action** 0 / Disable 1 / Enable 2 / Toggle current state Blank / Retrieve current value		0	RW
POST_GAIN (3)	The target level, in dB, after compression has been applied.	0 to 20 in increments of 0.5 Leave blank to retrieve current value		0	RW
THRESHOLD (4)	The level at which the compressor is invoked, in dB.	-60 to 20 in increments of 0.5 Leave blank to retrieve current value		0	RW
ATTACK (5)	The signal reduction increment value, in dB, used to compress the signal.	0 to 100 in increments of 0.5 Leave blank to retrieve current value		10	RW

* The meaning of the entries in this column is available in the Read/Write Modes section of the Introduction.

Example 1: ENABLE

This example shows how to turn on compression for an OUTPUT channel with the label ChannelName:

```
EP ChannelName COMPRESSOR ENABLE 1
```

Example 2: POST_GAIN

This example shows how to set the compression target level for an OUTPUT channel with the label ChannelName to 8:

```
EP ChannelName COMPRESSOR POST_GAIN 8
```

Example 3: THRESHOLD

This example shows how set the compression threshold for an OUTPUT channel with the label ChannelName to 37:

```
EP ChannelName COMPRESSOR THRESHOLD 37
```

Example 4: ATTACK

This example shows how to set the attack time for an OUTPUT channel with the label ChannelName to 16:

```
EP ChannelName COMPRESSOR ATTACK 16
```

Example 5: RATIO

This example shows how to set the OUTPUT channel with the label ChannelName compression ratio to 1:

```
EP ChannelName COMPRESSOR RATIO 1
```

Example 7: RELEASE

This example shows how to set the OUTPUT channel with the label ChannelName release value to 200:

```
EP ChannelName COMPRESSOR RELEASE 200
```

Example 8: DELAY_ENABLE

This example shows how to turn on compression delay for an OUTPUT channel with the label ChannelName:

```
EP ChannelName COMPRESSOR DELAY_ENABLE 1
```

Example 9: DELAY

This example shows how to set the compression delay to 50 for an OUTPUT channel with the label ChannelName:

```
EP ChannelName COMPRESSOR DELAY 50
```

Output

EP-OUTPUT (7) Delay (8)

You can use the EP command to set a signal delay value for an output end point.

Syntax

```
EP OUTPUT<EPN> DELAY<PN>[VALUE]
```

Input

* The meaning of the entries in this column is available in the Read/Write Modes section of the Introduction.

Example 1: ENABLE

This example shows how to turn on delay for an OUTPUT channel with the label ChannelName:

```
EP ChannelName DELAY ENABLE 1
```

Example 2: VALUE

This example shows how to set the delay on an OUTPUT channel with the label ChannelName:

```
EP ChannelName DELAY VALUE 100
```

Output

EP-OUTPUT (7) Filter_1 (2)

You can use the EP command to configure the Filter_1 settings of an output end point.

📝 **Note:** You can also use the FILTER command to change filter settings. ClearOne recommends the use of the FILTER command. See *FILTER* for more information.

Syntax

```
EP OUTPUT <EPN> FILTER_1 <PN> [VALUE]
```

Input

This example shows how to select a low pass filter type for FILTER_1 on a MIC channel with the label ChannelName:

```
EP ChannelName FILTER_1 TYPE 1
```

Example 2: FCY

This example shows how to set the frequency to 5000 for FILTER_1 on a MIC channel with the label ChannelName:

```
EP ChannelName FILTER_1 FCY 5000
```

Example 3: GAIN

This example shows how to set a gain value of 5.05 for FILTER_1 on a MIC channel with the label ChannelName:

```
EP ChannelName FILTER_1 GAIN 5.05
```

Example 4: SLOPE

These examples show how to set the slope to 18 for FILTER_1 on a MIC channel with the label ChannelName:

```
EP ChannelName FILTER_1 SLOPE 18
```

Example 5: SFT

This example shows how to set the slope filter type (SFT) to low for FILTER_1 on a MIC channel with the label ChannelName:

```
EP ChannelName FILTER_1 SFT 2
```

Example 6: BW

This example shows how to set the bandwidth to 2.33 for FILTER_1 on a MIC channel with the label ChannelName:

```
EP ChannelName FILTER_1 BW 2.33
```

Example 7: ENABLE

This example shows how to enable FILTER_1 on a MIC channel with the label ChannelName:

```
EP ChannelName FILTER_1 ENABLE 1
```

Output

EP-OUTPUT (7) Filter_2 (3)

The settings for this parameter are the same as for the OUTPUT Filter_1 parameter.

Related reference

EP-OUTPUT (7) Filter_1 (2)

EP-OUTPUT (7) Filter_3 (4)

The settings for this parameter are the same as for the OUTPUT Filter_1 parameter.

Related reference

EP-OUTPUT (7) Filter_1 (2)

EP-OUTPUT (7) Filter_4 (5)

The settings for this parameter are the same as for the OUTPUT Filter_1 parameter.

Related reference

EP-OUTPUT (7) Filter_1 (2)

EP-OUTPUT (7) GraphicEQ (6)

You can use the EP command to change the graphic equalizer settings of an output end point.

Syntax

```
EP OUTPUT <EPN> GRAPHIC_EQ <PN> [VALUE]
```

⚠ **Important: Review detailed information in the Labels section in the Introduction**.

Input

∗ The meaning of the entries in this column is available in the Read/Write Modes section of the Introduction.

PN	Description	Value	Default	RW*
GAIN_3 (4)	The amount of gain, in dB, to apply to band 3, 125 Hz.	-12 to 12 in increments of 1 📝 **Note:** Additional information about setting gain values is available in this document in the [Syntax Conventions section](#). to the current level, rather than setting the level to 2. Leave blank to retrieve current value	0	RW
GAIN_4 (5)	The amount of gain, in dB, to apply to band 4, 250 Hz.	-12 to 12 in increments of 1 📝 **Note:** Additional information about setting gain values is available in this document in the [Syntax Conventions section](#). to the current level, rather than setting the level to 2. Leave blank to retrieve current value	0	RW
GAIN_5 (6)	The amount of gain, in dB, to apply to band 5, 500 Hz.	-12 to 12 in increments of 1 📝 **Note:** Additional information about setting gain values is available in this document in the [Syntax Conventions section](#). to the current level, rather than setting the level to 2. Leave blank to retrieve current value	0	RW

* The meaning of the entries in this column is available in the [Read/Write Modes](#) section of the Introduction.

PN	Description	Value	Default	RW*
GAIN_6 (7)	The amount of gain, in dB, to apply to band 6, 1000 Hz.	-12 to 12 in increments of 1 📑 **Note:** Additional information about setting gain values is available in this document in the [Syntax Conventions section](). to the current level, rather than setting the level to 2. Leave blank to retrieve current value	0	RW
GAIN_7 (8)	The amount of gain, in dB, to apply to band 7, 2000 Hz.	-12 to 12 in increments of 1 📑 **Note:** Additional information about setting gain values is available in this document in the [Syntax Conventions section](). to the current level, rather than setting the level to 2. Leave blank to retrieve current value	0	RW
GAIN_8 (9)	The amount of gain, in dB, to apply to band 8, 4000 Hz.	-12 to 12 in increments of 1 📑 **Note:** Additional information about setting gain values is available in this document in the [Syntax Conventions section](). to the current level, rather than setting the level to 2. Leave blank to retrieve current value	0	RW

* The meaning of the entries in this column is available in the [Read/Write Modes]() section of the Introduction.

PN	Description	Value	Default	RW*
GAIN_9 (10)	The amount of gain, in dB, to apply to band 9, 8000 Hz.	-12 to 12 in increments of 1 📝 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section. to the current level, rather than setting the level to 2. Leave blank to retrieve current value	0	RW
GAIN_10 (11)	The amount of gain, in dB, to apply to band 10, 16000 Hz.	-12 to 12 in increments of 1 📝 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section. to the current level, rather than setting the level to 2. Leave blank to retrieve current value	0	RW

＊ The meaning of the entries in this column is available in the Read/Write Modes section of the Introduction.

Example 1: ENABLE

This example shows how to enable the graphic equalizer for an OUTPUT channel with the label ChannelName:

```
EP ChannelName GRAPHICEQ ENABLE 1
```

Example 2: GAIN_1

This example shows how to set the band 1 gain value for an OUTPUT channel with the label ChannelName:

```
EP ChannelName GRAPHICEQ GAIN_1 6
```

📝 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section. to the current level, rather than setting the level to 2.

Output

PN	Output
ENABLE	`EP ChannelName GRAPHICEQ ENABLE 1`
GAIN_1	`EP ChannelName GRAPHICEQ GAIN_1 6`

EP-OUTPUT (7) Level (1)

You can use the EP command to change the level, polarity, and type (analog only or analog and digital) of an output channel.

Syntax

```
EP OUTPUT <EPN> LEVEL <PN> [VALUE]
```

⚠ **Important:** Review detailed information in the <u>Labels section</u> in the Introduction.

Input

PN	Description	Value	Default	RW*
GAIN (1)	Gain.	Default decibel range of -65 to 20 unless adjusted with MAX_GAIN or MIN_GAIN, adjust in increments of 0.5 📝 **Note:** Additional information about setting gain values is available in this document in the <u>Syntax Conventions section</u>. Leave blank to retrieve current value	0	RW
MUTE (2)	Mute.	<table><tr><td>**Value**</td><td>**Action**</td></tr><tr><td>0</td><td>Unmute</td></tr><tr><td>1</td><td>Mute</td></tr><tr><td>2</td><td>Toggle current state</td></tr><tr><td>Blank</td><td>Retrieve current value</td></tr></table>	0	RW

* The meaning of the entries in this column is available in the <u>Read/Write Modes</u> section of the Introduction.

PN	Description	Value			Default	RW*
POLARITY (3)	Reverse the polarity.	**Value**	**Action**		0	RW
		0	Leave polarity unchanged			
		1	Reverse polarity			
		2	Toggle current state			
		Blank	Retrieve current value			
MICLINE (4)	Turn on the MICLINE feature, which changes the output to be line level (instead of mic level), increasing the level approximately 40dBu.	**Value**	**Action**		0	RW
		0	Disable			
		1	Enable			
		2	Toggle current state			
		Blank	Retrieve current value			
MAX_GAIN (7)	Maximum gain. This controls how high gain can be set, and also how high ramping can go.	-65 to 20, in increments of 0.5 Leave blank to retrieve current value			20	RW
MIN_GAIN (8)	Minimum gain. This controls how low gain can be set, and also how low ramping can go.	-65 to 20, in increments of 0.5 Leave blank to retrieve current value			-65	RW
TYPE (9)	Whether the channel is analog or digital. 📝 **Note:** Changing the type for this channel to analog and digital means that the signal for this channel will still be available as an analog output and additionally be available to the corresponding DANTE_TX channel. For example, if you set OUTPUT channel 101 to be digital, you can get analog output on OUTPUT channel 101 and digital output on DANTE_TX channel 101.	**Value**	**Action**		0	RW
		0	Analog only			
		1	Analog & digital			

⁎ The meaning of the entries in this column is available in the [Read/Write Modes](#) section of the Introduction.

Example 1: GAIN

This example shows how to change the gain of an OUTPUT channel with the label ChannelName:

```
EP ChannelName LEVEL GAIN 5.5
```

📝 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section.

Example 2: MUTE

This example shows how to mute the level of an OUTPUT channel with the label ChannelName:

```
EP ChannelName LEVEL MUTE 1
```

Example 3: POLARITY

This example shows how to reverse the polarity for an OUTPUT channel with the label ChannelName:

```
EP ChannelName LEVEL POLARITY 1
```

Example 4: MICLINE

This example shows how to turn on the MICLINE feature for an OUTPUT channel with the label ChannelName:

```
EP ChannelName LEVEL MICLINE 1
```

Example 5: MAX_GAIN

This example shows how to set maximum gain for an OUTPUT channel with the label ChannelName:

```
EP ChannelName LEVEL MAX_GAIN 16
```

Example 6: MIN_GAIN

This example shows how to set minimum gain for an OUTPUT channel with the label ChannelName:

```
EP ChannelName LEVEL MIN_GAIN -32.5
```

Example 7: TYPE

This example shows how to set an OUTPUT channel with the label ChannelName to be a digital channel:

```
EP ChannelName LEVEL TYPE 1
```

Output

PN	Output
GAIN	`EP ChannelName LEVEL GAIN 5.5`
MUTE	`EP ChannelName LEVEL MUTE 1`
POLARITY	`EP ChannelName LEVEL POLARITY 1`
MICLINE	`EP ChannelName LEVEL MICLINE 1`
MAX_GAIN	`EP ChannelName LEVEL MAX_GAIN 16`
MIN_GAIN	`EP ChannelName LEVEL MIN_GAIN -32.5`
TYPE	`EP ChannelName LEVEL TYPE 1`

EP-OUTPUT (7) Limiter (7)

You can use the EP command to change the limiter settings for an output channel. A limiter keeps an audio signal from exceeding a defined threshold.

Syntax

```
EP OUTPUT <EPN> LIMITER <PN> [VALUE]
```

⚠ **Important:** Review detailed information in the **Labels section** in the Introduction.

Input

PN	Description	Value		Default	RW*
ENABLE (1)	Enable the limiter.	**Value**	**Action**	0	RW
		0	Disable		
		1	Enable		
		2	Toggle current state		
		Blank	Retrieve current value		
THRESHOLD (2)	Set the allowed audio threshold, in dB.	-65 to 20 in 0.5 increments. Leave blank to retrieve current value		0	RW

∗ The meaning of the entries in this column is available in the [Read/Write Modes](#) section of the Introduction.

Example 1: ENABLE

This example shows how to turn a limiter on an OUTPUT channel with the label ChannelName:

```
EP ChannelName LIMITER ENABLE 1
```

Example 2: THRESHOLD

This example shows how to set the limiter threshold for an OUTPUT channel with the label ChannelName:

```
EP ChannelName LIMITER THRESHOLD 5
```

Output

PN	Output
ENABLE	`EP ChannelName LIMITER ENABLE 1`
THRESHOLD	`EP ChannelName LIMITER THRESHOLD 5`

PROC

Functionality

EP-PROC (9) Compressor (3)

Turns on compression for a processor (PROC) channel.

Compression keeps the level from exceeding a certain threshold, moving the level down at a graduated rate if the level spikes, so that the adjustment isn't so abrupt.

Syntax

```
EP PROC <EPN> COMPRESSOR <PN> [VALUE]
```

⚠ **Important: Review detailed information in the Labels section in the Introduction.**

Input

PN	Description	Value		Default	RW*
ENABLE (1)	Turn on the compression feature.	**Value**	**Action**	0	RW
		0	Disable		
		1	Enable		
		2	Toggle current state		
		Blank	Retrieve current value		
POST_GAIN (3)	The target level, in dB, after compression has been applied.	0 to 20 in increments of 0.5. Leave blank to retrieve current value		0	
THRESHOLD (4)	The level at which the compressor is invoked, in dB.	-60 to 20 in increments of 0.5. Leave blank to retrieve current value		0	
ATTACK (5)	The signal reduction increment value, in dB, used to compress the signal.	0 to 100 in increments of 0.5. Leave blank to retrieve current value		10	

* The meaning of the entries in this column is available in the Read/Write Modes section of the Introduction.

PN	Description	Value	Default	RW*
RATIO (6)	The rate of compression (the amount of compression applied relative to the amount that the threshold has been exceeded). Using a value of 1 means 1:1. Using a value of 20 means 1:20.	1 to 20 in increments of1. Leave blank to retrieve current value	1	RW
RELEASE (7)	The duration of the compression period (the amount of time it takes to adjust the signal) in ms.	100 to 2000 in increments of 1. Leave blank to retrieve current value	500	
DELAY_ENABLE (8)	Specify that a delay occurs before compression begins.	<table><tr><td>Value</td><td>Action</td></tr><tr><td>0</td><td>Disable</td></tr><tr><td>1</td><td>Enable</td></tr><tr><td>2</td><td>Toggle current state</td></tr><tr><td>Blank</td><td>Retrieve current value</td></tr></table>	0	
DELAY (9)	An amount of time, in ms, after the threshold is exceeded and before compression begins.	0 to 250 in increments of 0.5. Leave blank to retrieve current value	0	

∗ The meaning of the entries in this column is available in the [Read/Write Modes](#) section of the Introduction.

Example 1: ENABLE

This example shows how to turn on compression for a PROC channel with the label ChannelName:

```
EP ChannelName COMPRESSOR ENABLE 1
```

Example 2: GROUP

This example shows how to add a PROC channel with the label ChannelName to compressor group 1:

```
EP ChannelName COMPRESSOR GROUP 1
```

Example 3: POST_GAIN

This example shows how to set the compression target level for a PROC channel with the label ChannelName:

```
EP ChannelName COMPRESSOR POST_GAIN 8
```

Example 4: THRESHOLD

This example shows how set the compression threshold for a PROC channel with the label ChannelName:

```
EP ChannelName COMPRESSOR THRESHOLD 37
```

Example 5: ATTACK

This example shows how to set the attack time to 16 for a PROC channel with the label ChannelName:

```
EP ChannelName COMPRESSOR ATTACK 16
```

Example 6: RATIO

This example shows how to compression ratio to 1 for a PROC channel with the label ChannelName:

```
EP ChannelName COMPRESSOR RATIO 1
```

Example 7: RELEASE

This example shows how to set the release value for a PROC channel with the label ChannelName:

```
EP ChannelName COMPRESSOR RELEASE 200
```

Example 8: DELAY_ENABLE

This example shows how to turn on compression delay for a PROC channel with the label ChannelName:

```
EP ChannelName COMPRESSOR DELAY_ENABLE 1
```

Example 9: DELAY

This example shows how to set the compression delay for a PROC channel with the label ChannelName:

```
EP ChannelName COMPRESSOR DELAY 50
```

Output

PN	Output
ENABLE	`EP ChannelName COMPRESSOR ENABLE 1`
GROUP	`EP ChannelName COMPRESSOR GROUP 1`
POST_GAIN	`EP ChannelName COMPRESSOR POST_GAIN 8`
THRESHOLD	`EP ChannelName COMPRESSOR THRESHOLD 37`
ATTACK	`EP ChannelName COMPRESSOR ATTACK 16`
RATIO	`EP ChannelName COMPRESSOR RATIO 1`
RELEASE	`EP ChannelName COMPRESSOR RELEASE 200`
DELAY_ENABLE	`EP ChannelName COMPRESSOR DELAY_ENABLE 1`
DELAY	`EP ChannelName COMPRESSOR DELAY 50`

EP-PROC (9) Delay (2)

You can use the EP command to set a delay for a processor end point.

Syntax

```
EP PROC <EPN> DELAY <PN> [VALUE]
```

- **Important: Review detailed information in the Labels section in the Introduction**.

.

Input

PN	Description	Value		Default	RW*
ENABLE (1)	Turn on delay.	**Value**	**Action**	0	RW
		0	Disable		
		1	Enable		
		2	Toggle current state		
		Blank	Retrieve current value		
VALUE (2)	Set the amount of the delay in ms.	0 to 250 in increments of 0.5. Leave blank to retrieve current value		0	

∗ The meaning of the entries in this column is available in the Read/Write Modes section of the Introduction.

Example 1: ENABLE

This example shows how to turn on delay for a PROC channel with the label ChannelName:

```
EP ChannelName DELAY ENABLE 1
```

Example 2: VALUE

This example shows how to set the delay on a PROC channel with the label ChannelName:

```
EP ChannelName DELAY VALUE 100
```

Output

PN	Output
ENABLE	`EP ChannelName DELAY ENABLE 1`
VALUE	`EP ChannelName DELAY VALUE 100`

EP-PROC (9) FBE (37)

You can use the EP command to enable the feedback eliminator (FBE) feature. When you setup with CONSOLE AI, FBE analyzes the audio in a room and determines whether the audio configuration is causing feedback.

If FBE detects feedback, CONSOLE AI creates notch filters to eliminate the feedback. These are called fixed nodes. When enabled, FBE implements fixed nodes and continues to look for dynamic nodes (new instances of feedback that may have arisen within a room that require mitigation).

Syntax

```
EP PROC <EPN> FBE <PN> [VALUE]
```

- **Important: Review detailed information in the Labels section in the Introduction**.

    .

Input

PN	Description	Values	Default	RW*
ENABLE (7)	Enables the FBE feature (assuming it has already been set up in the CONSOLE AI).	0 – off 1- on	0	RW

Example 1: ENABLE

The following command turns on FBE for a channel named ChannelName:

```
EP ChannelName FBE ENABLE 1
```

Output

PN	Output
ENABLE	`EP ChannelName FBE ENABLE 1`

EP-PROC (9) Filter_1 (4)

You can use the EP command to configure the Filter_1 settings of a processor (PROC) end point.

📋 **Note:** You can also use the FILTER command to change filter settings. ClearOne recommends the use of the FILTER command. See *FILTER* for more information.

Syntax

```
EP PROC <EPN> FILTER_1 <PN> [VALUE]
```

⚠ **Important: Review detailed information in the Labels section in the Introduction.**

Input

PN	Description	Value	Default	RW*
TYPE (1)	Select a filter type. 📝 **Note the following:** • When you send this parameter, the rest of the filter settings are set to their default values. • Therefore, **you must send this parameter first.**	Allowable filter types are: 0 (filter is off) 1 (all pass) 2 (low pass) 3 (high pass) 4 (low shelving) 5 (high shelving) 6 (parametric equalizer) 7 (CD horn) 8 (Bessel crossover) 9 (Butterworth crossover) 10 (Linkwitz-Riley crossover) 11 (notch) Leave blank to retrieve current value	0	RW
FCY (2)	Set the center frequency (in Hz).	20 to 20000 in increments of 0.01 Leave blank to retrieve current value	1000	
GAIN (3)	Set the gain value. 📝 **Note:** Applies only to the following types: 4, low shelving 5, high shelving 6, parametric equalizer	-15 to 15 in increments of 0.01 Leave blank to retrieve current value	0	
SLOPE (4)	Set the slope value. 📝 **Note:** Applies only to the crossover filter types (8, 9, and 10).	12 to 24 in increments of 6.	18	
SFT (5)	Set the Slope Filter Type. 📝 **Note:** Applies only to the crossover filter types (8, 9, and 10).	<table><tr><th>Value</th><th>Action</th></tr><tr><td>2</td><td>Low</td></tr><tr><td>3</td><td>High</td></tr></table>	2	

＊ The meaning of the entries in this column is available in the [Read/Write Modes](#) section of the Introduction.

PN	Description	Value	Default	RW*

BW (6)	Set the difference between the upper and lower points of a filter's audio pass band.
	Note: Applies only to the following types:
	    6, parametric equalizer
	    11, notch.
		0.05 to 5 in increments of 0.01
		
		Leave blank to retrieve current value
			0.33	RW

ENABLE (7)	Enable or disable this filter.	<table><tr><td>**Value**</td><td>**Action**</td></tr><tr><td>0</td><td>Disable</td></tr><tr><td>1</td><td>Enable</td></tr><tr><td>2</td><td>Toggle current state</td></tr><tr><td>Blank</td><td>Retrieve current value</td></tr></table>	0	

* The meaning of the entries in this column is available in the [Read/Write Modes](#) section of the Introduction.

Example 1: TYPE

This example shows how to select a low pass filter type for FILTER_1 on a PROC channel with the label ChannelName:

```
EP ChannelName FILTER_1 TYPE 1
```

Example 2: FCY

This example shows how to set the frequency to 5000 for FILTER_1 on a PROC channel with the label ChannelName:

```
EP ChannelName FILTER_1 FCY 5000
```

Example 3: GAIN

This example shows how to set a gain value of 5.05 for FILTER_1 on a PROC channel with the label ChannelName:

```
EP ChannelName FILTER_1 GAIN 5.05
```

Example 4: SLOPE

These examples show how to set the slope to 18 for FILTER_1 on a PROC channel with the label ChannelName:

```
EP ChannelName FILTER_1 SLOPE 18
```

Example 5: SFT

This example shows how to set the slope filter type (SFT) to low for FILTER_1 on a PROC channel with the label ChannelName:

```
EP ChannelName FILTER_1 SFT 2
```

Example 6: BW

This example shows how to set the bandwidth to 2.33 for FILTER_1 on a PROC channel with the label ChannelName:

```
EP ChannelName FILTER_1 BW 2.33
```

Example 7: ENABLE

This example shows how to enable FILTER_1 on a PROC channel with the label ChannelName:

```
EP ChannelName FILTER_1 ENABLE 1
```

Output

PN	Output
TYPE	`EP ChannelName FILTER_1 TYPE 1`
FCY	`EP ChannelName FILTER_1 FCY 5000`
GAIN	`EP ChannelName FILTER_1 GAIN 5.05`
SLOPE	`EP ChannelName FILTER_1 SLOPE 18`
SFT	`EP ChannelName FILTER_1 SFT 2`
BW	`EP ChannelName FILTER_1 BW 2.33`
ENABLE	`EP ChannelName FILTER_1 ENABLE 1`

EP-PROC (9) Filter_2 (5)

The settings for this parameter are the same as for the PROC Filter_1 parameter.

Related reference

EP-PROC (9) Filter_3 (6)

The settings for this parameter are the same as for the PROC Filter_1 parameter.

Related reference

EP-PROC (9) Filter_1 (4)

EP-PROC (9) Filter_4 (7)

The settings for this parameter are the same as for the PROC Filter_1 parameter.

Related reference

EP-PROC (9) Filter_1 (4)

EP-PROC (9) Filter_5 (8)

The settings for this parameter are the same as for the PROC Filter_1 parameter.

Related reference

EP-PROC (9) Filter_1 (4)

EP-PROC (9) Filter_6 (9)

The settings for this parameter are the same as for the PROC Filter_1 parameter.

Related reference

EP-PROC (9) Filter_1 (4)

EP-PROC (9) Filter_7 (10)

The settings for this parameter are the same as for the PROC Filter_1 parameter.

Related reference

EP-PROC (9) Filter_1 (4) on page 120

EP-PROC (9) Filter_8 (11)

The settings for this parameter are the same as for the PROC Filter_1 parameter.

Related reference

EP-PROC (9) Filter_1 (4)

EP-PROC (9) Filter_9 (12)

The settings for this parameter are the same as for the PROC Filter_1 parameter.

Related reference

EP-PROC (9) Filter_1 (4)

EP-PROC (9) Filter_10 (13)

The settings for this parameter are the same as for the PROC Filter_1 parameter.

Related reference

EP-PROC (9) Filter_1 (4)

EP-PROC (9) Filter_11 (14)

The settings for this parameter are the same as for the PROC Filter_1 parameter.

Related reference

EP-PROC (9) Filter_1 (4)

EP-PROC (9) Filter_12 (15)

The settings for this parameter are the same as for the PROC Filter_1 parameter.

Related reference

EP-PROC (9) Filter_1 (4)

EP-PROC (9) Filter_13 (16)

The settings for this parameter are the same as for the PROC Filter_1 parameter.

Related reference

EP-PROC (9) Filter_1 (4)

EP-PROC (9) Filter_14 (17)

The settings for this parameter are the same as for the PROC Filter_1 parameter.

Related reference

EP-PROC (9) Filter_1 (4)

EP-PROC (9) Filter_15 (18)

The settings for this parameter are the same as for the PROC Filter_1 parameter.

Related reference

EP-PROC (9) Filter_1 (4)

EP-PROC (9) Level (1)

You can use the EP command to change the level of a processor.

Syntax

```
EP PROC <EPN> LEVEL <PN> [VALUE]
```

⚠️ **Important: Review detailed information in the Labels section in the Introduction**.

Input

PN	Description	Value	Default	RW*
GAIN (1)	Gain.	Default decibel range of -65 to 20 unless adjusted with MAX_GAIN or MIN_GAIN, adjust in increments of 0.5 📝 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section. to the current level, rather than setting the level to 2. Leave blank to retrieve current value	0	RW
MUTE (2)	Mute.	<table><tr><th>Value</th><th>Action</th></tr><tr><td>0</td><td>Unmute</td></tr><tr><td>1</td><td>Mute</td></tr><tr><td>2</td><td>Toggle current state</td></tr><tr><td>Blank</td><td>Retrieve current value</td></tr></table>	0	RW
MAX_GAIN (6)	Maximum gain. This controls how high gain can be set, and how high ramping can go.	-65 to 20, in increments of 0.5 Leave blank to retrieve current value	20	RW
MIN_GAIN (7)	Minimum gain. This controls how low gain can be set, and also how low ramping can go.	-65 to 20, in increments of 0.5 Leave blank to retrieve current value	-65	RW

* The meaning of the entries in this column is available in the [Read/Write Modes](#) section of the Introduction.

Example 1: GAIN

This example shows how to change the gain of a PROC channel with the label ChannelName:

```
EP ChannelName LEVEL GAIN 5.5
```

📝 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section. to the current level, rather than setting the level to 2.

Example 2: MUTE

This example shows how to mute the level of a PROC channel with the label ChannelName:

```
EP ChannelName LEVEL MUTE 1
```

Example 3: MAX_GAIN

This example shows how to set maximum gain for a PROC channel with the label ChannelName:

```
EP ChannelName LEVEL MAX_GAIN 16
```

Example 4: MIN_GAIN

This example shows how to set minimum gain for a PROC channel with the label ChannelName:

```
EP ChannelName LEVEL MIN_GAIN -32.5
```

Output

PN	Output
GAIN	`EP ChannelName LEVEL GAIN 5.5`
MUTE	`EP ChannelName LEVEL MUTE 1`
MAX_GAIN	`EP ChannelName LEVEL MAX_GAIN 16.5`
MIN_GAIN	`EP ChannelName LEVEL MIN_GAIN -32.5`

SGEN

Functionality

EP-SGEN (22) Level (1)

Specifies settings for a signal generator end point.

Syntax

```
EP SGEN <EPN> LEVEL <PN> [VALUE]
```

⚠ **Important:** **Review detailed information in the** Labels section **in the Introduction**.

Input

PN	Description	Value		Default	RW*
TYPE (1)	Specify the type of signal to generate.	**Value**	**Action**	1	RW
		1	Pink noise		
		2	White noise		
		3	Tone		
		4	Logarithmic swept sine wave		
		Blank	Retrieve current value		
FCY (2)	Specify the signal frequency.	20 to 24000 in increments of 0.01 Leave blank to retrieve current value		1000	RW
ENABLE (3)	Specify whether to enable the signal generator.	**Value**	**Action**	0	RW
		0	Disable		
		1	Enable		
		2	Toggle current state		
		Blank	Retrieve current value		
GAIN (4)	Signal gain. 📝 **Note:** Gain applies only to pink noise, white noise, and logarithmic.	-65 to 20, adjust in increments of 1 📝 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section. Leave blank to retrieve current value		0	RW

***** The meaning of the entries in this column is available in the Read/Write Modes section of the Introduction.

Example 1: TYPE

This example shows how to specify a pink noise signal type on SGEN 1:

```
EP SGEN 1 LEVEL TYPE 1
```

Example 2: FCY

This example shows how to set the signal frequency on SGEN 1:

```
EP SGEN 1 LEVEL FCY 1000
```

Example 3: ENABLE

This example shows how to enable the signal on SGEN 1:

```
EP SGEN 1 LEVEL ENABLE 1
```

Example 4: GAIN

This example shows how to adjust the signal gain on SGEN 1:

```
EP SGEN 1 LEVEL GAIN 5
```

📝 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section. to the current level, rather than setting the level to 2.

Output

PN	Output
TYPE	`EP SGEN 1 LEVEL TYPE 1`
FCY	`EP SGEN 1 LEVEL FCY 1000`
ENABLE	`EP SGEN 1 LEVEL ENABLE 1`
GAIN	`EP SGEN 1 LEVEL GAIN 5`

SPEAKER

Functionality
EP-SPEAKER (8) Compressor (9)

Turns on compression for a speaker end point.

Compression keeps the level from exceeding a certain threshold, moving the level down at a graduated rate if the level spikes, so that the adjustment isn't so abrupt.

Syntax

```
EP SPEAKER <EPN> COMPRESSOR <PN> [VALUE]
```

⚠️ **Important: Review detailed information in the Labels section in the Introduction**.

Input

PN	Description	Value		Default	RW*
ENABLE (1)	Turn on the compression feature.	**Value**	**Action**	0	RW
		0	Disable		
		1	Enable		
		2	Toggle current state		
		Blank	Retrieve current value		
GROUP (2)	Use to add a compressor to a group, all of which are compressed in the same way when any of them is compressed.	0 to 4. 0 turns off grouping. Use 1-4 to specify one of those numbered groups.		0	RW
POST_GAIN (3)	The target level, in dB, after compression has been applied.	0 to 20 in increments of 0.5. Leave blank to retrieve current value		0	RW
THRESHOLD (4)	The level at which the compressor is invoked, in dB.	-60 to 20 in increments of 0.5. Leave blank to retrieve current value		0	RW
ATTACK (5)	The signal reduction increment value, in dB, used to compress the signal.	0 to 100 in increments of 0.5. Leave blank to retrieve current value		10	RW

PN	Description	Value	Default	RW*
RATIO (6)	The rate of compression (the amount of compression applied relative to the amount that the threshold has been exceeded). Using a value of 1 means 1:1. Using a value of 20 means 1:20.	1 to 20 in increments of 1. Leave blank to retrieve current value	1	RW
RELEASE (7)	The duration of the compression period (the amount of time it takes to adjust the signal) in ms.	100 to 2000 in increments of 1. Leave blank to retrieve current value	500	RW
DELAY_ENABLE (8)	Specify that a delay occurs before compression begins.	<table><tr><th>Value</th><th>Action</th></tr><tr><td>0</td><td>Disable</td></tr><tr><td>1</td><td>Enable</td></tr><tr><td>2</td><td>Toggle current state</td></tr><tr><td>Blank</td><td>Retrieve current value</td></tr></table>	0	RW
DELAY (9)	An amount of time, in ms, after the threshold is exceeded and before compression begins.	0 to 250 in increments of 0.5. Leave blank to retrieve current value	0	RW

* The meaning of the entries in this column is available in the [Read/Write Modes](#) section of the Introduction.

Example 1: ENABLE

This example shows how to turn on compression for a SPEAKER channel with the label ChannelName:

```
EP ChannelName COMPRESSOR ENABLE 1
```

Example 2: GROUP

This example shows how to add a SPEAKER channel with the label ChannelName to compressor group 1:

```
EP ChannelName COMPRESSOR GROUP 1
```

Example 3: POST_GAIN

This example shows how to set the compression target level for a SPEAKER channel with the label ChannelName:

```
EP ChannelName COMPRESSOR POST_GAIN 8
```

Example 4: THRESHOLD

This example shows how set the compression threshold for a SPEAKER channel with the label ChannelName:

```
EP ChannelName COMPRESSOR THRESHOLD 37
```

Example 5: ATTACK

This example shows how to set the attack time for a SPEAKER channel with the label ChannelName:

```
EP ChannelName COMPRESSOR ATTACK 16
```

Example 6: RATIO

This example shows how to compression ratio for a SPEAKER channel with the label ChannelName:

```
EP ChannelName COMPRESSOR RATIO 1
```

Example 7: RELEASE

This example shows how to set the release value for a SPEAKER channel with the label ChannelName:

```
EP ChannelName COMPRESSOR RELEASE 200
```

Example 8: DELAY_ENABLE

This example shows how to turn on compression delay for a SPEAKER channel with the label ChannelName:

```
EP ChannelName COMPRESSOR DELAY_ENABLE 1
```

Example 9: DELAY

This example shows how to set the compression delay for a SPEAKER channel with the label ChannelName:

```
EP ChannelName COMPRESSOR DELAY 50
```

Output

PN	Proc
ENABLE	`EP ChannelName COMPRESSOR ENABLE 1`
GROUP	`EP ChannelName COMPRESSOR GROUP 1`
POST_GAIN	`EP ChannelName COMPRESSOR POST_GAIN 8`
THRESHOLD	`EP ChannelName COMPRESSOR THRESHOLD 37`
ATTACK	`EP ChannelName COMPRESSOR ATTACK 16`
RATIO	`EP ChannelName COMPRESSOR RATIO 1`
RELEASE	`EP ChannelName COMPRESSOR RELEASE 200`
DELAY_ENABLE	`EP ChannelName COMPRESSOR DELAY_ENABLE 1`
DELAY	`EP ChannelName COMPRESSOR DELAY 50`

EP-SPEAKER (8) Delay (8)

You can use the EP command to set a delay for a speaker end point.

Syntax

```
EP SPEAKER <EPN> DELAY <PN> [VALUE]
```

⚠ **Important: Review detailed information in the Labels section in the Introduction**.

Input

PN	Description	Value		Default	RW*
ENABLE (1)	Turn on delay.	**Value**	**Action**	0	RW
		0	Disable		
		1	Enable		
		2	Toggle current state		
		Blank	Retrieve current value		
VALUE (2)	Set the amount of the delay in ms.	0 to 250 in increments of 0.5. Leave blank to retrieve current value		0	RW

* The meaning of the entries in this column is available in the <u>Read/Write Modes</u> section of the Introduction.

Example 1: ENABLE

This example shows how to turn on delay for a SPEAKER channel with the label ChannelName:

```
EP ChannelName DELAY ENABLE 1
```

Example 2: VALUE

This example shows how to set the delay on a SPEAKER channel with the label ChannelName:

```
EP ChannelName DELAY VALUE 100
```

Output

PN	Output
ENABLE	`EP ChannelName DELAY ENABLE 1`
VALUE	`EP ChannelName DELAY VALUE 100`

EP-SPEAKER (8) Filter_1 (2)

You can use the EP command to configure the Filter_1 settings of a speaker end point.

📝 **Note:** ClearOne recommends the use of the FILTER command. See *FILTER* for more information.

Syntax

```
EP SPEAKER <EPN> FILTER_1 <PN> [VALUE]
```

⚠ **Important: Review detailed information in the <u>Labels section</u> in the Introduction**.

Input

PN	Description	Value	Default	RW*
TYPE (1)	Select a filter type. 📝 **Note:** You must send this parameter first, because when you send this parameter, the rest of the filter settings are set to their default values.	Allowable filter types are: 0 (filter is off) 1 (all pass) 2 (low pass) 3 (high pass) 4 (low shelving) 5 (high shelving) 6 (parametric equalizer) 7 (CD horn) 8 (Bessel crossover) 9 (Butterworth crossover) 10 (Linkwitz-Riley crossover) 11 (notch) Leave blank to retrieve current value	0	RW
FCY (2)	Set the center frequency (in Hz).	20 to 20000 in increments of 0.01 Leave blank to retrieve current value	1000	RW

GAIN (3)	Set the gain value.
	
	📝 **Note:** Applies only to the following types:
	
	    4, low shelving
	
	    5, high shelving
	
	    6, parametric equalizer
		-15 to 15 in increments of 0.01
		
		Leave blank to retrieve current value
			0	RW

SLOPE (4)	Set the slope value. 📝 **Note:** Applies only to the crossover filter types (8, 9, and 10).	12 to 24 in increments of 6.	18	RW
SFT (5)	Set the Slope Filter Type. 📝 **Note:** Applies only to the crossover filter types (8, 9, and 10).	<table><tr><th>Value</th><th>Action</th></tr><tr><td>2</td><td>Low</td></tr><tr><td>3</td><td>High</td></tr></table>	2	RW

* The meaning of the entries in this column is available in the [Read/Write Modes](#) section of the Introduction.

PN	Description	Value	Default	RW*

BW (6)	Set the difference between the upper and lower points of a filter's audio pass band.
	
	 📝 **Note:** Applies only to the following types:
	
	     6, parametric equalizer
	
	     11, notch.
		0.05 to 5 in increments of 0.01
		
		 Leave blank to retrieve current value
			0.33	RW

ENABLE (7)	Enable or disable this filter.	<table><tr><th>Value</th><th>Action</th></tr><tr><td>0</td><td>Disable</td></tr><tr><td>1</td><td>Enable</td></tr><tr><td>2</td><td>Toggle current state</td></tr><tr><td>Blank</td><td>Retrieve current value</td></tr></table>	0	RW

٭ The meaning of the entries in this column is available in the [Read/Write Modes](#) section of the Introduction.

Example 1: TYPE

This example shows how to select a low pass filter type for FILTER_1 on a speaker channel with the label ChannelName:

```
EP ChannelName FILTER_1 TYPE 1
```

Example 2: FCY

This example shows how to set the frequency to 5000 for FILTER_1 on a speaker channel with the label ChannelName:

```
EP ChannelName FILTER_1 FCY 5000
```

Example 3: GAIN

This example shows how to set a gain value of 5.05 for FILTER_1 on a speaker channel with the label ChannelName:

```
EP ChannelName FILTER_1 GAIN 5.05
```

Example 4: SLOPE

These examples show how to set the slope to 18 for FILTER_1 on a speaker channel with the label ChannelName:

```
EP ChannelName FILTER_1 SLOPE 18
```

Example 5: SFT

This example shows how to set the slope filter type (SFT) to low for FILTER_1 on a speaker channel with the label ChannelName:

```
EP ChannelName FILTER_1 SFT 2
```

Example 6: BW

This example shows how to set the bandwidth to 2.33 for FILTER_1 on a speaker channel with the label ChannelName:

```
EP ChannelName FILTER_1 BW 2.33
```

Example 7: ENABLE

This example shows how to enable FILTER_1 on a speaker channel with the label ChannelName:

```
EP ChannelName FILTER_1 ENABLE 1
```

Output

PN	Output
TYPE	`EP ChannelName FILTER_1 TYPE 1`
FCY	`EP ChannelName FILTER_1 FCY 5000`
GAIN	`EP ChannelName FILTER_1 GAIN 5.05`
SLOPE	`EP ChannelName FILTER_1 SLOPE 18`
SFT	`EP ChannelName FILTER_1 SFT 2`
BW	`EP ChannelName FILTER_1 BW 2.33`
ENABLE	`EP ChannelName FILTER_1 ENABLE 1`

EP-SPEAKER (8) Filter_2 (2)

The settings for this parameter are the same as for the SPEAKER Filter_1 parameter.

Related reference

EP-SPEAKER (8) Filter_1 (2)

EP-SPEAKER (8) Filter_3 (2)

The settings for this parameter are the same as for the SPEAKER Filter_1 parameter.

Related reference

EP-SPEAKER (8) Filter_1 (2)

EP-SPEAKER (8) Filter_4 (2)

The settings for this parameter are the same as for the SPEAKER Filter_1 parameter.

Related reference

EP-SPEAKER (8) Filter_1 (2)

EP-SPEAKER (8) GraphicEQ (6)

You can use the EP command to change the graphic equalizer settings of a speaker end point.

Syntax

`EP SPEAKER <EPN> GRAPHIC_EQ <PN> [VALUE]`

⚠ **Important: Review detailed information in the Labels section in the Introduction**.

Input

PN	Description	Value		Default	RW*
ENABLE (1)	Enable the graphic equalizer feature.	**Value**	**Action**	0	RW
		0	Disable		
		1	Enable		
		2	Toggle current state		
		Blank	Retrieve current value		
GAIN_1 (2)	The amount of gain, in dB, to apply to band 1, 32.25 Hz.	-12 to 12 in increments of 1 📝 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section. Leave blank to retrieve current value		0	RW
GAIN_2 (3)	The amount of gain, in dB, to apply to band 2, 62.5 Hz.	-12 to 12 in increments of 1 📝 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section. Leave blank to retrieve current value		0	RW

* The meaning of the entries in this column is available in the Read/Write Modes section of the Introduction.

PN	Description	Value	Default	RW*
GAIN_3 (4)	The amount of gain, in dB, to apply to band 3, 125 Hz.	-12 to 12 in increments of 1 📝 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section. Leave blank to retrieve current value	0	RW
GAIN_4 (5)	The amount of gain, in dB, to apply to band 4, 250 Hz.	-12 to 12 in increments of 1 📝 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section. Leave blank to retrieve current value	0	RW
GAIN_5 (6)	The amount of gain, in dB, to apply to band 5, 500 Hz.	-12 to 12 in increments of 1 📝 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section. Leave blank to retrieve current value	0	RW

* The meaning of the entries in this column is available in the Read/Write Modes section of the Introduction.

PN	Description	Value	Default	RW*
GAIN_6 (7)	The amount of gain, in dB, to apply to band 6, 1000 Hz.	-12 to 12 in increments of 1 📝 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section. Leave blank to retrieve current value	0	RW
GAIN_7 (8)	The amount of gain, in dB, to apply to band 7, 2000 Hz.	-12 to 12 in increments of 1 📝 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section. Leave blank to retrieve current value	0	RW
GAIN_8 (9)	The amount of gain, in dB, to apply to band 8, 4000 Hz.	-12 to 12 in increments of 1 📝 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section. Leave blank to retrieve current value	0	RW

* The meaning of the entries in this column is available in the Read/Write Modes section of the Introduction.

PN	Description	Value	Default	RW*
GAIN_9 (10)	The amount of gain, in dB, to apply to band 9, 8000 Hz.	-12 to 12 in increments of 1 📝 **Note:** Additional information about <u>setting gain values is available in this document in the</u> <u>Syntax Conventions section</u>. Leave blank to retrieve current value	0	RW
GAIN_10 (11)	The amount of gain, in dB, to apply to band 10, 16000 Hz.	-12 to 12 in increments of 1 📝 **Note:** Additional information about <u>setting gain values is available in this document in the</u> <u>Syntax Conventions section</u>. Leave blank to retrieve current value	0	RW

* The meaning of the entries in this column is available in the <u>Read/Write Modes</u> section of the Introduction.

Example 1: ENABLE

This example shows how to enable the graphic equalizer for a SPEAKER channel with the label ChannelName:

```
EP ChannelName GRAPHICEQ ENABLE 1
```

Example 2: GAIN_1

This example shows how to set the band 1 gain value for a SPEAKER channel with the label ChannelName:

```
EP ChannelName GRAPHICEQ GAIN_1 6
```

📝 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section. to the current level, rather than setting the level to 2.

Output

PN	Output
ENABLE	`EP ChannelName GRAPHICEQ ENABLE 1`
GAIN_1	`EP ChannelName GRAPHICEQ GAIN_1 6`

EP-SPEAKER (8) Level (1)

Changes the level of a speaker.

Syntax

```
EP SPEAKER <EPN> LEVEL <PN> [VALUE]
```

⚠️ **Important: Review detailed information in the <u>Labels section</u> in the Introduction**.

Input

PN	Description	Value	Default	RW*
GAIN (1)	Gain.	Default decibel range of -65 to 20 unless adjusted with MAX_GAIN or MIN_GAIN, adjust in increments of 0.5 **Note:** Additional information about setting gain values is available in this document in the <u>Syntax Conventions section</u>. Leave blank to retrieve current value	0	RW
MUTE (2)	Mute.	<table><tr><td>**Value**</td><td>**Action**</td></tr><tr><td>0</td><td>Unmute</td></tr><tr><td>1</td><td>Mute</td></tr><tr><td>2</td><td>Toggle current state</td></tr><tr><td>Blank</td><td>Retrieve current value</td></tr></table>	0	RW
POLARITY (3)	Reverse the polarity.	<table><tr><td>**Value**</td><td>**Action**</td></tr><tr><td>0</td><td>Leave polarity unchanged</td></tr><tr><td>1</td><td>Reverse polarity</td></tr><tr><td>2</td><td>Toggle current state</td></tr><tr><td>Blank</td><td>Retrieve current value</td></tr></table>	0	RW

* The meaning of the entries in this column is available in the <u>Read/Write Modes</u> section of the Introduction.

PN	Description	Value	Default	RW*
MAX_GAIN (7)	Maximum gain. This controls how high gain can be set, and also how high ramping can go.	-65 to 20, in increments of 0.5 Leave blank to retrieve current value	20	RW
MIN_GAIN (8)	Minimum gain. This controls how low gain can be set, and also how low ramping can go.	-65 to 20, in increments of 0.5 Leave blank to retrieve current value	-65	RW

Example 1: GAIN

This example shows how to change the gain of a SPEAKER channel with the label ChannelName:

```
EP ChannelName LEVEL GAIN 5.5
```

📝 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section. to the current level, rather than setting the level to 2.

Example 2: MUTE

This example shows how to mute the level of a SPEAKER channel with the label ChannelName:

```
EP ChannelName LEVEL MUTE 1
```

Example 3: MAX_GAIN

This example shows how to set maximum gain for a SPEAKER channel with the label ChannelName:

```
EP ChannelName LEVEL MAX_GAIN 16
```

Example 4: MIN_GAIN

This example shows how to set minimum gain for a SPEAKER channel with the label ChannelName:

```
EP ChannelName LEVEL MIN_GAIN -32.5
```

Output

PN	Output
GAIN	`EP ChannelName LEVEL GAIN 5.5`
MUTE	`EP ChannelName LEVEL MUTE 1`
MAX_GAIN	`EP ChannelName LEVEL MAX_GAIN 16.5`
MIN_GAIN	`EP ChannelName LEVEL MIN_GAIN -32.5`

EP-SPEAKER (8) Limiter (7)

You can use the EP command to change the limiter settings for a speaker end point. A limiter keeps an audio signal from exceeding a defined threshold.

Syntax

```
EP SPEAKER <EPN> LIMITER <PN> [VALUE]
```

⚠ **Important: Review detailed information in the Labels section in the Introduction.**

Input

PN	Description	Value		Default	RW*
ENABLE (1)	Enable the limiter.	**Value**	**Action**	0	RW
		0	Disable		
		1	Enable		
		2	Toggle current state		
		Blank	Retrieve current value		
THRESHOLD (2)	Set the allowed audio threshold, in dB.	-65 to 20 in 0.5 increments. Leave blank to retrieve current value		0	RW

* The meaning of the entries in this column is available in the [Read/Write Modes](#) section of the Introduction.

Example 1: ENABLE

This example shows how to turn a limiter on for a SPEAKER channel with the label ChannelName:

```
EP ChannelName LIMITER ENABLE 1
```

Example 2: THRESHOLD

This example shows how to set the limiter threshold for a SPEAKER channel with the label ChannelName:

```
EP ChannelName LIMITER THRESHOLD 5
```

Output

PN	Output
ENABLE	`EP ChannelName LIMITER ENABLE 1`
THRESHOLD	`EP ChannelName LIMITER THRESHOLD 5`

USB_RX

Functionality

EP-USB_RX (14) Level (1)

Changes the level of a USB_RX end point.

Syntax

```
EP USB_RX <EPN> LEVEL <PN> [VALUE]
```

⚠ **Important: Review detailed information in the Labels section in the Introduction**.

Input

PN	Description	Value	Default	RW*
GAIN (1)	Gain	Default decibel range of -65 to 20 unless adjusted with MAX_GAIN or MIN_GAIN, adjust in increments of 0.5 📝 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section. Leave blank to retrieve current value	0	RW
MUTE (2)	Mute	<table><tr><th>Value</th><th>Action</th></tr><tr><td>0</td><td>Unmute</td></tr><tr><td>1</td><td>Mute</td></tr><tr><td>2</td><td>Toggle current state</td></tr><tr><td>Blank</td><td>Retrieve current value</td></tr></table>	0	RW
MAX_GAIN (3)	Maximum gain. This controls how high gain can be set, and also how high ramping can go.	-65 to 20, in increments of 0.5 Leave blank to retrieve current value	20	RW

PN	Description	Value	Default	RW*
MIN_GAIN (4)	Minimum gain. This controls how low gain can be set, and also how low ramping can go.	-65 to 20, in increments of 0.5 Leave blank to retrieve current value	-65	RW

* The meaning of the entries in this column is available in the Read/Write Modes section of the Introduction.

Example 1: GAIN FINE

This example shows how to change the gain level of a USB_RX channel with the label ChannelName:

```
EP ChannelName LEVEL GAIN 5.5
```

📝 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section. to the current level, rather than setting the level to 2.

Example 2: MUTE

This example shows how to mute the level of a USB_RX channel with the label ChannelName:

```
EP ChannelName LEVEL MUTE 1
```

Example 3: MAX_GAIN

This example shows how to set maximum gain for a USB_RX channel with the label ChannelName:

```
EP ChannelName LEVEL MAX_GAIN 16
```

Example 4: MIN_GAIN

This example shows how to set minimum gain for a USB_RX channel with the label ChannelName:

```
EP ChannelName LEVEL MIN_GAIN -32.5
```

Output

PN	Output
GAIN_FINE	`EP ChannelName LEVEL GAIN 5.5`
MUTE	`EP ChannelName LEVEL MUTE 1`
MAX_GAIN	`EP ChannelName LEVEL MAX_GAIN 16`
MIN_GAIN	`EP ChannelName LEVEL MIN_GAIN -32.5`

USB_TX

Functionality

EP-USB_TX (15) Level (1)

Changes the level of a USB_TX end point.

Syntax

```
EP USB_TX <EPN> LEVEL <PN> [VALUE]
```

⚠ **Important: Review detailed information in the Labels section in the Introduction**.

Input

PN	Description	Value	Default	RW*
GAIN (1)	Gain	Default decibel range of -65 to 20 unless adjusted with MAX_GAIN or MIN_GAIN, adjust in increments of 0.5 📝 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section. Leave blank to retrieve current value	0	RW
MUTE (2)	Mute	<table><tr><td>**Value**</td><td>**Action**</td></tr><tr><td>0</td><td>Unmute</td></tr><tr><td>1</td><td>Mute</td></tr><tr><td>2</td><td>Toggle current state</td></tr><tr><td>Blank</td><td>Retrieve current value</td></tr></table>	0	RW
MAX_GAIN (3)	Maximum gain. This controls how high gain can be set, and also how high ramping can go.	-65 to 20, in increments of 0.5 Leave blank to retrieve current value	20	RW

PN	Description	Value	Default	RW*
MIN_GAIN (4)	Minimum gain. This controls how low gain can be set, and also how low ramping can go.	-65 to 20, in increments of 0.5 Leave blank to retrieve current value	-65	RW

* The meaning of the entries in this column is available in the [Read/Write Modes](#) section of the Introduction.

Example 1: GAIN FINE

This example shows how to change the gain level of a USB_TX channel with the label ChannelName:

```
EP ChannelName LEVEL GAIN 5.5
```

📝 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section. to the current level, rather than setting the level to 2.

Example 2: MUTE

This example shows how to mute the level of a USB_TX channel with the label ChannelName:

```
EP ChannelName LEVEL MUTE 1
```

Example 3: MAX_GAIN

This example shows how to set maximum gain for a USB_TX channel with the label ChannelName:

```
EP ChannelName LEVEL MAX_GAIN 16
```

Example 4: MIN_GAIN

This example shows how to set minimum gain for a USB_TX channel with the label ChannelName:

```
EP ChannelName LEVEL MIN_GAIN -32.5
```

Output

PN	Output
GAIN_FINE	`EP ChannelName LEVEL GAIN 5.5`
MUTE	`EP ChannelName LEVEL MUTE 1`
MAX_GAIN	`EP ChannelName LEVEL MAX_GAIN 16`
MIN_GAIN	`EP ChannelName LEVEL MIN_GAIN -32.5`

PN	Description	Value			Default	RW*
GAIN (1)	Gain	Default decibel range of -65 to 20 unless adjusted with MAX_GAIN or MIN_GAIN, adjust in increments of 0.5 📝 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section. Leave blank to retrieve current value			0	RW
MUTE (2)	Mute	**Value**	**Action**		0	RW
		0	Unmute			
		1	Mute			
		2	Toggle current state			
		Blank	Retrieve current value			
MAX_GAIN (3)	Maximum gain. This controls how high gain can be set, and also how high ramping can go.	-65 to 20, in increments of 0.5 Leave blank to retrieve current value			20	RW

* The meaning of the entries in this column is available in the Read/Write Modes section of the Introduction.

PN	Description	Value	Default	RW*
MIN_GAIN (4)	Minimum gain. This controls how low gain can be set, and also how low ramping can go.	-65 to 20, in increments of 0.5 Leave blank to retrieve current value	-65	RW

* The meaning of the entries in this column is available in the [Read/Write Modes](#) section of the Introduction.

Example 1: GAIN

This example shows how to change the gain level of a VOIP_RX channel with the label ChannelName:

```
EP ChannelName LEVEL GAIN 10
```

📝 **Note:** Additional information about setting gain values is available in this document in the Syntax Conventions section. to the current level, rather than setting the level to 2.

Example 2: MUTE

This example shows how to mute a VOIP_RX channel with the label ChannelName:

```
EP ChannelName LEVEL MUTE 1
```

Example 3: MAX_GAIN

This example shows how to set maximum gain for a VOIP_RX channel with the label ChannelName:

```
EP ChannelName LEVEL MAX_GAIN 16
```

Example 4: MIN_GAIN

This example shows how to set minimum gain for a VOIP_RX channel with the label ChannelName:

```
EP ChannelName LEVEL MIN_GAIN -32.5
```

Output

PN	Output
GAIN	```EP ChannelName LEVEL GAIN 10```
MUTE	```EP ChannelName LEVEL MUTE 1```
MAX_GAIN	```EP ChannelName LEVEL MAX_GAIN 16```
MIN_GAIN	```EP ChannelName LEVEL MIN_GAIN -32.5```

FILTER

Functionality

Sends **all** the filter settings to an end point (instead of sending them one at a time, as the EP command does).

Syntax

```
FILTER <EPT> <EPN> <FILTER_NO> <ENABLE> <TYPE> [P1] [P2] [P3]
```

⚠ **Important: Review detailed information in the Labels section in the Introduction**.

Parameters

Table 1: Common Command Parameters

Parameter	Description
EPT	End Point Type. 📝 **Note:** EPT and EPN can be replaced by a channel label.
EPN	End Point Number. 📝 **Note:** EPT and EPN can be replaced by a channel label.
FILTER_NO	The number of the filter to change. PROC end points allow up to 15 filters. The BFM, MIC, OUTPUT, SPEAKER, end points allow up to 4 filters. 📝 **Note:** You can include only the first three parameters as a read-only command to query the existing filter state.
ENABLE	Whether to enable the specified filter. <table><tr><th>Value</th><th>Action</th></tr><tr><td>0</td><td>Disable</td></tr><tr><td>1</td><td>Enable</td></tr></table>

Parameter	Description
TYPE	Filter type. Allowable filter types are: 1 (all pass) 2 (low pass) 3 (high pass) 4 (low shelving) 5 (high shelving) 6 (parametric equalizer) 7 (CD horn) 8 (Bessel crossover) 9 (Butterworth crossover) 10 (Linkwitz-Riley crossover) 11 (notch) 📄 **Note:** For microphone end points (MIC and BFM), you can use only types 1, 2, 3, 6, and 11.
P1, P2, and P3	Depending on the type of filter you are adding, up to three additional parameters can exist. See the Table 2 below for details about which type-specific parameters can be used for particular filter types. Descriptions of the possible P1, P2, and P3 values are described in Table 3. 📄 **Note the following:** • You can use a period (.) to "skip" a filter-specific parameter that has a following parameter, which leaves that parameter unchanged if you're not changing the filter type or set to default values if you are changing the filter type. • Similarly, you can skip filter-specific parameters at the end of the command, which also leaves them unchanged (same filter type) or set to default values (new filter type). See the examples below for more details.

Table 2: Type-Specific Parameters

Number	Filter Type	P1	P2	P3
0	None	N/A	N/A	N/A
1	All Pass	FCY	N/A	N/A
2	Low Pass	FCY	N/A	N/A
3	High Pass	FCY	N/A	N/A
4	Low Shelving	FCY	GAIN	N/A
5	High Shelving	FCY	GAIN	N/A

Number	Filter Type	P1	P2	P3
6	Parametric EQ	FCY	GAIN	BW
7	CD Horn	FCY	N/A	N/A
8	Bessel Crossover	FCY	SLOPE	SFT
9	Butterworth Crossover	FCY	SLOPE	SFT
10	Linkwitz-Rile Crossover	FCY	SLOPE	SFT
11	Notch	FCY	BW	N/A

Table 3: Type-Specific Parameter Descriptions

PN	Description	Value	Default
FCY	Set the center frequency (in Hz). 📝 **Note:** Applies to all types.	20 to 20000 in increments of 0.01. 📝 **Note:** CD HORN uses a frequency range of 500 to 5000 in increments of 0.01.	1000
GAIN	Set the gain value. **Note:** Applies only to the following types: 4, low shelving 5, high shelving, 6, parametric equalizer.	-15 to 15 in increments of 0.01	0
SLOPE	Set the slope value. 📝 **Note:** Applies only to the crossover filter types (8, 9, and 10).	12 to 24 in increments of 6 (12 in the case of Linkwitz- Riley).	Bessel: 18 Butterworth: 18 Linkwitz-Riley: 12
SFT	Set the Slope Filter Type. 📝 **Note:** Applies only to the crossover filter types (8, 9, and 10).	2 - low 3 - high	2
BW	Set the difference between the upper and lower points of a filter's audio pass band. **Note:** Applies only to the following types: 6, parametric equalizer 11, notch	0.05 to 5 in increments of 0.01	5

Examples

Example 1:

This example shows how to turn on a parametric equalizer filter and set its FCY to 2500.00 on Filter 1 of a channel with the label TableMic:

```
FILTER TableMic 1 1 6 2500
```

📝 **Note:** This example changes the frequency and the BW, and affects the GAIN as follows:

- If you're **not changing** the filter type, the GAIN value remains changed
- If you **are changing** the filter type, the GAINis set to the default value.

Example 2:

This example shows how to turn on a parametric equalizer filter and set its FCY to 2500.00 and its BW to

2.00 on Filter 1 of a channel with the label TableMic:

```
FILTER TableMic 1 1 6 2500 . 2.00
```

📝 **Note:** This example changes the frequency and the BW, and affects the GAIN as follows:

- If you're **not changing** the filter type, the GAIN value remains changed
- If you **are changing** the filter type, the GAINis set to the default value.

Example 3:

This example shows how to turn on a Bessel Crossover filter and set its FCY to 1000, its SLOPE to 12 and its SFT to high to on Filter 1 of a channel with the label WallSpeaker:

```
FILTER WallSpeaker 1 1 8 1000 12 3
```

📝 **Note:** This example changes the frequency and the BW, and affects the GAIN as follows:

- If you're **not changing** the filter type, the GAIN value remains changed
- If you **are changing** the filter type, the GAINis set to the default value.

Example 4:

This example shows how to turn off the filter shown in example 3:

```
FILTER WallSpeaker 1 0
```

Example 5:

This example shows how to query the status of filter 1 on a channel with the label TableMic:

```
FILTER TableMic 1
```

Output

Example 1:

```
FILTER TableMic 1 1 6 2500 0 5
```

Example 2:

```
FILTER TableMic 1 1 6 2500 0 2.00
```

Example 3:

```
FILTER WallSpeaker 1 1 8 1000 12 3
```

Example 4:

```
FILTER WallSpeaker 1 0
```

Example 5:

```
FILTER TableMic 1 1 6 2500 0 5
```

GATE

Functionality

Retrieves gating information for a box.

Note: The GATEREPORT command returns the information.

Syntax

```
GATE <BOXNAME> <TOV> <RN>
```

Parameters

Parameter	Description
BOXNAME	The name of a box. Use * to indicate all attached boxes.
TOV	Time Out Value. How long to let the command run in seconds. You can enter up to 4 digits. **Note:** To stop the report, enter a TOV of 0.
RN	Report Number. Must be a 1.

Output

Output is returned in a GATEREPORT command, and appears as follows:

```
GATEREPORT 1 9998 1 1 000000001000 18 001000000
```

Note: MIC EPNs are shown from right to left (12 is on the left and 1 is on the right).

VERSION

Functionality

Retrieves the firmware version of a Huddle.

Syntax

```
VERSION <BOXNAME> <TYPE> 1
```

Parameters

Parameter	Description
BOXNAME	The name of the Huddle.

TYPE	The version type to request:
	FW: Firmware of the specified CP2 device(s)
	BFM: Firmware version of any attached Beamforming Microphone Array 2 devices

Examples

Example 1: FW

```
STACK CLOCK TIME_ZONE -7
```

Output

```
VERSION MyBox FW 1 1.0.42.0 "Tue Sep 6 13:24:39 MDT 2016"
```

Example 2: BFM

📝 **Note the following:**

- This example shows the results from a stack with two CP2 devices – MyBox1 and MyBox2.
    - MyBox1 has three attached BFMs
    - MyBox 2 has no attached BFM2s.
- The output echoes-back the original command and then displays the number of the device (1, 2, and 3) and its firmware version.

```
STACK CLOCK TIME_ZONE -7
```

Output

```
VERSION MyBox1 BFM 1 1,1.0.1.16

VERSION MyBox1 BFM 1 2,1.0.1.16

VERSION MyBox1 BFM 1 3,1.0.1.16

VERSION MyBox2 BFM 1 No BFM Devices
```

RESET

Functionality

Resets a Huddle

Syntax

```
RESET <BOXNAME>
```

Parameters

Parameter	Description
BOXNAME	The name of a Huddle.

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