



Audia/Nexia Text Protocol

Audia and Nexia can be controlled via the control dialogs in the Audia/Nexia software, or via third-party controllers using RS-232 or Telnet.

For control of Audia/Nexia, Biamp created ATP (Audia Text Protocol) and NTP (Nexia Text Protocol). This simply means that Audia/Nexia will accept strings of ASCII characters to control and read settings of gain, mute, logic state, frequency, audio levels, and other parameters of DSP Blocks in Audia products.

ATP and NTP strings can be sent via third-party controllers using RS-232 or Telnet via TCP/IP. A line feed character (ASCII hex 0A) needs to be sent after each command string sent.

A comprehensive look at the RS-232 and Telnet protocol commands is found in both the Audia and Nexia programs under **Help > Help Topics**. Under the *Contents* tab, explore *System Control > RS-232 and Telnet Protocol*.

Command structure

The command structure for Audia and Nexia (ATP and NTP) is the same, and is shown below. The descriptions reference Audia only, but are applicable to both Audia and Nexia.

Command DeviceID Attribute InstanceID Index1 Index2 Value<LF>

- **Command**

- SET - Tells Audia that a DSP attribute is to be set to a specific value – may contain negative numbers and/or decimal points
- GET - Tells Audia that a DSP attribute is to be read – the response may contain a decimal point and/or a negative number.
- INC - Tells Audia that a DSP attribute is to be incremented by a specific amount.
- DEC - Tells Audia that a DSP attribute is to be decremented by a specific amount.
- RECALL – Tells Audia that a preset is to be recalled.
- DIAL – Tells Audia to dial a phone number on a telephone interface.

SETL and GETL can be used if negative numbers and/or decimals are not supported by a control system. Refer to the Audia software help file for more information.

- **Device_ID**
 - In a multi-unit system, each DSP block is assigned to a device during the compilation process. See [this page](#) for more information on finding the Device ID of a block.
- **ATTRIBUTE**
 - Each processing block carries a set of attributes to control various settings of the block.
- **INSTANCE_ID**
 - A unique number assigned to each block during the compilation process. See [this page](#) for more information on finding the Instance ID of a block.
- **INDEX_1**
 - Depending on the attributes, Index1 will refer to an input or a row of cross points. Some commands don't require an Index1. In these cases, the Index1 value is omitted from the command.
- **INDEX_2**
 - Depending on the attributes, Index2 will refer to an output or a column of cross points. Some commands don't require an Index2. In these cases, the Index2 value is omitted from the command.
- **VALUE**
 - Specified setting /adjustment to be performed on the defined attribute.
- **<LF>**
 - A line feed (ASCII hex 0A) must always terminate a command.

DeviceID, InstanceID, and Index can be derived from the Audia/Nexia software. Command and Attribute can be derived from the help file in the Audia/Nexia software.

Example

In a multi-unit system (Device 3), increase (INC) the gain of a level control block (FDR LVL). The Instance ID shall be 2, the channel 4 (Index 1) and the increment of 2dB (VALUE).

INC 3 FDRLVL 2 4 2 <LF>

Recall (RECALL) preset 1004 in a multi-units system (DEVICE_ID is 0 since presets apply to the entire system)

RECALL 0 PRESET 1004 <LF>

Full path ATP/NTP response

A slight adjustment to the ATP/NTP command can change the way the Audia or Nexia responds to the command. Normally, a successful command elicits a response of "+OK". However, in some cases, more information is desired.

1. Command Syntax

For maximum flexibility and complete backwards compatibility, firmware provides a set of services (ATP commands) for “full path” (or “Detailed”) responses:

- SETD
- GETD
- INCD
- DECD
- SETLD
- GETLD

The ATP/NTP command syntax is otherwise unchanged. In particular, for any valid SET/GET/INC/DEC command, the corresponding “D” variant is valid and will provide the “ full path” response.

The “Full path” response syntax is:

1. “#”
2. followed by the original command less any value specified and a space;
3. followed by the resulting value and a space;
4. followed by the “full path off” response.

An example follows. Note that the IP address returned, underlined for identification, should not be thought of as the set value, but the resulting value.

```
SETD 0 IPADDR 192.168.1.197
#SETD 0 IPADDR 192.168.1.197 +OK
```

Following are examples of current commands and the corresponding new commands side-by-side for comparison. Responses are underlined for easy identification.

Current response format

```
SET 1 IPADDR 192.168.1.197
+OK
```

```
GET 1 IPADDR
192.168.1.197
```

```
SET 1 MMLVLXP 38 1 1 -1.1
+OK
```

```
INC 1 MMLVLXP 38 1 1 1.0
+OK
```

```
GET MMLVLXP 38 1 1
-ERR:INVALID OBJECT
```

```
GET 1 MMLVLXP 39 1 1
-ERR:# 0x16
-ERR:XACTION ERROR
```

"Full Path" response format

```
SETD 1 IPADDR 192.168.1.197
#SET 1 IPADDR 192.168.1.197 +OK
```

```
GETD 1 IPADDR
#GETD 1 IPADDR 192.168.1.197
```

```
SETD 1 MMLVLXP 38 1 1 -1.1
#SETD 1 MMLVLXP 38 1 1 -1.1 +OK
```

```
INCD 1 MMLVLXP 38 1 1 1.0
#INCD 1 MMLVLXP 38 1 1 -0.100000 +OK
```

```
GETD MMLVLXP 38 1 1
#GETD MMLVLXP 38 1 1 -ERR:INVALID OBJECT
```

```
GETD 1 MMLVLXP 39 1 1
#GETD 1 MMLVLXP 39 1 1 -ERR:# 0x16
#GETD 1 MMLVLXP 39 1 1 -ERR:XACTION
ERROR
```

GET 1 MMLVLXP 38 1 1
-0.100000

GETD 1 MMLVLXP 38 1 1
#GETD 1 MMLVLXP 38 1 1 -0.100000

Please note these details:

- The INCD response provides the resulting value, rather than the increment value. DECD behaves the same.
- One of the examples resulted in two error messages, and each is expressed with the "full path" syntax.

ATP/NTP protocol reference manual

In Audia/Nexia software, a complete list of commands is available under the “**System Control**” section of the help file. A control protocol manual is also available for download on the Biamp Systems website.

Further reading

- [How to find the Instance ID and Device ID of a block](#)