YAMAHA

TXn/ACD1 Remote Control Protocol Specifications

Version 1.12 2nd edition

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This document relates to Firmware of TXn: V1.30, ACD1: V1.12 or later

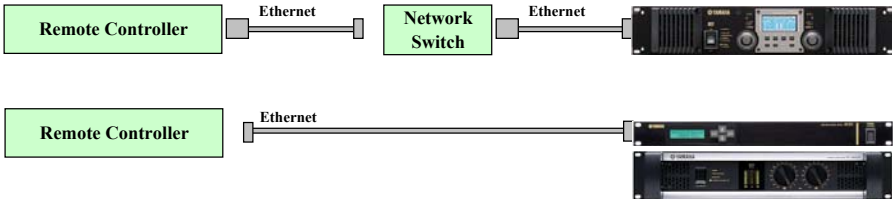
commercial audio

YAMAHA

1. Setup

1.1 Connection

When using this protocol to carry out remote control through the NETWORK connector, connect as follows:



See device manual for details.

1.2 Remote Controller Setting

The TXn and ACD1 can be controlled from an external device via Ethernet (NETWORK connector).
The Remote Controller settings for each connection are indicated below.

Settings for control via Ethernet (the NETWORK connector)

IP Address: Specify the IP address of the TXn and ACD1 to be controlled.
IP Port No.: Specify the IP Port No. of the TXn and ACD1 to be controlled.

1.3 TXn and ACD1 Settings

The TXn and ACD1 can be controlled from an external device via Ethernet (NETWORK connector).

The TXn and ACD1 settings are indicated below.

Settings for control via Ethernet (the NETWORK connector)

To set the "Remote Control via Ethernet" parameter

Connect Amp Editor and the TXn or ACD1 unit(s) and go online. Then, from the Amp Editor [Device setup] --> [Utility] --> [Misc] page, place a check in the [Remote Control via Ethernet] checkbox.

IP Port No. parameter

Generally the IP Port No. does not have to be set. However, it needs to be changed via LCD or Amp Editor when the network consists of another network device other than the TXn and ACD1 if the network device has the same IP Port No. as the TXn and ACD1 series. The default Port No. of TXn and ACD1 is 49152.

2. Command List

Commands Notified to Remote Controller from the TXn/ACD1

No.	Category	Command	Definition
1	Parameter Control	PRM	To notify a parameter change
2		VOL	To notify a parameter change
3	Scene Control	SCN	To notify scene recall
4		CSN	To notify a scene recall number
5		SNM	To notify a scene name
6	Level Meter	MTR	To notify a meter position
7	Amp Connection Status (ACD1)	CON *1	To notify an amp connection status (connected/disconnected)
8	Identify Control	IDENT *1	To notify Identify On/Off

Commands for Controlling the TXn/ACD1

No.	Category	Command	Definition
9	Parameter Control	SPR	To set a parameter
10		SVL	To set a parameter (curve table method)
11		RSPR	To relatively set a parameter
12		RSVL	To relatively set a parameter (curve table method)
13		GPR	To obtain a parameter
14		GVL	To obtain a parameter (curve table method)
15	Scene Control	RSC	To recall a scene (assigning a scene number)
16		RRSC	To recall a scene (assigning a relative value)
17		GCS	To obtain a current scene number
18		GSN	To obtain a scene name
19	Level Meter	GMT	To obtain a level meter position
20		GCMT	To set cyclical obtaining of a level meter position
21		QCMT	To stop cyclical obtaining of a level meter position
22		SMC	To set the cyclical period for obtaining a level meter position
23	GPI Control (ACD1)	SGO	To control GPI OUT
24	Emergency Control	SEMG	To set emergency scene
25	Amp Connection Status (ACD1)	GCON *1	To obtain an amp connection status (connected/disconnected)
26	Fault Out Control	SFO *1	To set/reset Fault Out
27	Identify Control	SIDENT *1	To switch Identify On/Off
28		GIDENT *1	To obtain Identify On/Off

Utility Commands

No.	Category	Command	Definition
29	For debug	ECHO	To set/cancel echo back
30	Communication Control	FRSP	Suppress/re-enable output of parameter change notifications at time of scene recall.

*1 Available only for TXn firmware V1.30, ACD1 firmware V1.12, or later.

3. Command Specifications

3.1 Basic Command Specifications

A command type transmitted between the TXn/ACD1 and the Remote Controller is in the following format:

<Command name> <Option 1> <Option 2> … <Option n><Line feed>

- LF (0 x 0A) will be needed at the end of a command as a line feed code.
- At least one space will be needed between a command name and an option or between options.
- A command must consist of only ASCII character strings. Other character strings cannot be used.
- Optional character strings for parameter values are shown in the following table.

Values	Character strings
-Inf	-13801
-18dB	-1800
-6.5dB	-650
0dB	0
10dB	1000
2kHz	2000
400Hz	400
Pan L 63	-63
Pan Center	0
Pan R 63	+63
ON	1
OFF	0
REVERSE	1
NORMAL	0

Character strings such as "ON" or "HARD" are not returned as a parameter value.

- A fader parameter value will take the following character strings using a curve table method.
(See chapter 3.3.1 for details on curve table methods and the Appendix at the end for values in dB and the character strings.)

A table for a fader of which maximum is 0 dB

Values	Character strings
-Inf	0
-60dB	173
-40dB	323
-30dB	423
-20dB	623
-10dB	823
0dB	1023

A table for a fader of which maximum is 10 dB

Values	Character strings
-Inf	0
-60dB	123
-40dB	223
-30dB	323
-20dB	423
-10dB	623
0dB	823
10dB	1023

3.2 Command Notified to Remote Controller from the TXn and ACD1

3.2.1 Parameter Control Command

1) PRM: Used to change a parameter other than a fader parameter, and a fader using a dB method.
2) VOL: Used to change a fader using a curve table method.

Command	Option
PRM	[AMP ID] [Access ID] [Parameter value]
VOL	[AMP ID] [Access ID] [Level value]

The command names stand for "Parameter" and "Volume" respectively.

These commands will be sent from the TXn/ACD1 when a parameter registered in Remote Control Setup List of TXn/ACD1 Designer is changed.

- If sending from a TXn, [AMP ID] is always 0. If sending from an ACD1, [AMP ID] is the AMP ID (0 to 39) assigned to the amp to be controlled.
- [Access ID] is the 17 strings including "/" of the parameter to be controlled. (See separate parameter map.)
- [Parameter value] and [Level value] contain appropriate character-string values.
- A space will be needed between the command and the option, and between the options.
- No notification is made for changes to library-protected parameters.

E.g.) If the value of TXn parameter (Att chA, Access ID 0000/10/0000/0100) is changed to 0dB, the following string is sent from the TXn.

PRM 0 0000/10/0000/0100 0

If the value of Tn parameter connected to ACD1(Output Mute chA, Access ID 0000/02/0000/0000) is set to MUTE, the following string is sent from the ACD1.

PRM 0 0000/10/0000/0100 0

If the value of a fader parameter (curve-table type, max 10dB) is changed to -20B, the following is sent from the TXn.

VOL 0 0104/00/0100/0000 423

3.2.2 Scene Control Command

3) SCN: Used when a scene is recalled.

Command	Option
SCN	[AMP ID] [Scene #]

The command name stands for "Scene."

The TXn/ACD1 will send the command when a scene is recalled.

- If sending from a TXn, [AMP ID] is always 0. If sending from an ACD1, [AMP ID] is the AMP ID (0 to 39) assigned to the amp to be controlled.
- [Scene #] will have an appropriate character string.
- A space will be needed between the command and the option, and between the options.

E.g.) If scene 8 is recalled, the TXn sends the following string to the controller.
SCN 0 8

3.2.3 Amp Connection Status Command (ACD1)

7) CON: Used when an amp connection is established or lost

Command	Option
CON	[AMP ID] [Amp Connection Status]

The command name stands for "Connection."
This command only applies to ACD1 firmware V1.12 or later.

The ACD1 will send the command when an amp connection is established or lost.

- [AMP ID] is the AMP ID (0 to 39) assigned to the amp to be controlled.
- [Amp Connection Status] will have a character string of either "ON" when connected or "OFF" when disconnected.
- A space will be needed between the command and the option, and between the options.
- The command is not available for the TXn.

E.g.) If the amp with AMP ID #2 is newly connected, the ACD1 sends the following string to the controller.
CON 2 ON

3.2.4 Identify Control Command

8) IDENT: Used when Identify is switched on or off.

Command	Option
IDENT	0 [Identify ON/OFF]

The command name stands for "Identify."
This command only applies to TXn firmware V1.30, ACD1 firmware V1.12, or later.

The TXn/ACD1 will send the command when Identify is switched on or off.

- The first option is always 0.
- [Identify ON/OFF] will have a character string of either "ON" or "OFF."
- A space will be needed between the command and the option, and between the options.

E.g.) If Identify is switched ON, the TXn/ACD1 sends the following string to the controller.
IDENT 0 ON

3.3 Command for the TXn/ACD1 Control

3.3.1 Parameter Control Command

9) SPR: Used to set a parameter other than a fader parameter, and a fader using a dB method.
10) SVL: Used to set a fader using a curve table method.

Command	Option	TXn/ACD1's ACKs if successful	TXn/ACD1's ACKs if unsuccessful
SPR	[AMP ID] [Access ID] [Parameter value]	SPR OK PRM [AMP ID] [Access ID] [Parameter value]	SPR ERR
SVL	[AMP ID] [Access ID] [Curve value]	SVL OK VOL [AMP ID] [Access ID] [Level value]	SVL ERR

The command names stand for "Set Parameter" and "Set Volume" respectively.

- If sending to a TXn, [AMP ID] is always 0. If sending to an ACD1, [AMP ID] is the AMP ID (0 to 39) assigned to the amp to be controlled.
- [Access ID] is the 17 strings including "/" of the parameter to be controlled. (See separate parameter map.)
- [Parameter value] or [curve value] must contain an appropriate value (written as a character string).
- A space will be needed between the command and the option, and between the options.
- This command cannot set a library-protected parameter. Attempt to do so will return an error.

E.g.) To set the value of TXn parameter (Att chA, Access ID 0000/10/0000/0100) to 0dB:
SPR 0 0000/10/0000/0100 0

To change the value of TXn parameter (Matrix Input ch2, Access ID 0104/00/0100/0000) to -30 dB (where setting is curve-table type, max. 10dB):
SVL 0 0104/00/0100/0000 323

- If the parameter value is set successfully, the TXn/ACD1 return a 2-line character string.
  The first line should be a character string, either "SPR OK" or "SVL OK".
  For details on the character strings "PRM" and "VOL" in the second line, see chapter 3.2.1.
  The first line can be ignored; check the second line to find the value after a parameter is changed for a controller.
- If the command fails, the TXn/ACD1 return a one-line character string: either "SPR ERR" or "SVL ERR"

E.g.) ACK when the value of TXn parameter (Att chA, Access ID 0000/10/0000/0100) was successfully changed to 0dB
SPR OK
PRM 0 0000/10/0000/0100 0

ACK if an attempt to change the value of TXn parameter (Att chA, Access ID 0000/10/0000/0100) to 0dB has failed
SPR ERR

ACK if the value of TXn parameter (Matrix Input ch2, Access ID 0104/00/0100/0000) was successfully changed to -30dB (curve-table, max. 10dB)
SVL OK
VOL 0 0104/00/0100/0000 323

ACK if an attempt to change the value of TXn parameter (Matrix Input ch2, Access ID 0104/00/0100/0000) to -30dB (curve-table setting, max. 10dB) has failed
SVL ERR

11) RSPR: Used to relatively set a parameter other than that for a fader, and a fader using a dB method.
12) RSVL: Used to relatively set a fader using a curve table method.

Command	Option	TXn/ACD1's ACKs if successful	TXn/ACD1's ACKs if unsuccessful
RSPR	[AMP ID] [Access ID] [Relative parameter valu	RSPR OK PRM [AMP ID] [Access ID] [Parameter value]	RSPR ERR
RSVL	[AMP ID] [Access ID] [Relative curve value]	RSVL OK VOL [AMP ID] [Access ID] [Level value]	RSVL ERR

The command names stand for "Set Parameter" and "Set Volume" respectively.

- If sending to a TXn, [AMP ID] is always 0. If sending to an ACD1, [AMP ID] is the AMP ID (0 to 39) assigned to the amp to be controlled.
- [Access ID] is the 17 strings including "/" of the parameter to be controlled. (See separate parameter map.)
- [Relative parameter value] or [Curve value] must contain an appropriate relative value (written as a character string).
- One or more spaces are needed between the command and the option, and between the options.
- This command cannot set a library-protected parameter. Attempt to do so will return an error.

E.g.) To raise the value of TXn parameter (Att chA, Access ID 0000/10/0000/0100) by 30:
RSPR 0 0000/10/0000/0100 30

To reduce the value of TXn parameter (Att chA, Access ID 0000/10/0000/0100) by 30:
RSPR 0 0000/10/0000/0100 -30

To increase the value of TXn parameter (Matrix Input ch2, Access ID 0104/00/0100/0000) by 10 steps (curve-table setting):
RSVL 0 0104/00/0100/0000 10

To reduce the value of TXn parameter (Matrix Input ch2, Access ID 0104/00/0100/0000) by 10 steps (curve-table setting):
RSVL 0 0104/00/0100/0000 -10

- The TXn/ACD1 will return two lines of character strings if successful.
  The first line will be a character string of "RSPR OK" or "RSVL OK".
  For details on the character strings "PRM" and "VOL" in the second line, see chapter 3.2.1.
  Ignore the first line but see only the second line to find a value after a parameter is changed for a controller.
  A value returned in the second line is the changed value (absolute quantity). Even a relative setting will not return the quantity changed.
- If unsuccessful, the TXn/ACD1 will return a one-line character string, either "RSPR ERR" or "RSVL ERR."

E.g.) ACK if the value of TXn parameter (Att chA, Access ID 0000/10/0000/0100) was successfully increased from -20dB by 30 steps (dB-table)
RSPR OK
PRM 0 0000/10/0000/0100 -170

ACK if an attempt to increase the value of TXn parameter (Att chA, Access ID 0000/10/0000/0100) from -20dB by 30 steps (dB-table) has failed
RSPR ERR

ACK if the value of TXn parameter (Matrix Input ch2, Access ID 0104/00/0100/0000)
was successfully decreased from -20dB by 10 steps (curve-table method, max. 10dB)
RSVL OK
VOL 0 0104/00/0100/0000 413

ACK if an attempt to decrease the value of TXn parameter (Matrix Input ch2, Access ID 0104/00/0100/0000)
from -20dB by 10 steps (curve-table method, max. 10dB) has failed
RSVL ERR

13) GPR: Used to obtain a parameter using a dB method.
14) GVL: Used to obtain a parameter using a curve table method.

Command	Option	TXn/ACD1's ACKs if successful	TXn/ACD1's ACKs if unsuccessful
GPR	[AMP ID] [Access ID]	GPR OK PRM [AMP ID] [Access ID] [Parameter value]	GPR ERR
GVL	[AMP ID] [Access ID]	GVL OK VOL [AMP ID] [Access ID] [Level value]	GVL ERR

The command names stand for "Get Parameter" and "Get Volume" respectively.

- If sending to a TXn, [AMP ID] is always 0. If sending to an ACD1, [AMP ID] is the AMP ID (0 to 39) assigned to the amp to be controlled.
- [Access ID] is the 17 strings including "/" of the parameter to be controlled. (See separate parameter map.)
- One or more spaces are needed between the command and the option, and between the options.
- This command cannot get the value of a library-protected parameter. Attempt to do so will return an error.

E.g.) To get the value of TXn parameter (Att chA, Access ID 0000/10/0000/0100):
GPR 0 0000/10/0000/0100

To the get value of TXn parameter (Matrix Input ch2, Access ID 0104/00/0100/0000), using curve-table method:
GVL 0 0104/00/0100/0000

- The TXn/ACD1 will return two lines of character strings if successful.
  The first line will have a character string: "GPR OK" or "GVL OK".
  For details on the character strings "PRM" and "VOL" in the second line, see chapter 3.2.1.
  The first line can be ignored; check the second line to find the parameter value for a controller.
- The TXn/ACD1 will return a one-line character string of either "GPR ERR" or "GVL ERR" if unsuccessful.

E.g.) ACK if successful in getting the value of TXn parameter (Att chA, Access ID 0000/10/0000/0100) -30dB (dB-table method)
GPR OK
PRM 0 0000/10/0000/0100 -300

ACK if unsuccessful in getting the value of TXn(Att chA, Access ID 0000/10/0000/0100) (dB-table method)
GPR ERR

ACK if successful in getting the value of TXn parameter (Att chA, Access ID 0000/10/0000/0100) -30dB (curve-table method, max. 10dB)
GVL OK
VOL 0 0104/00/0100/0000 323

ACK if unsuccessful in getting the value of TXn parameter (Att chA, Access ID 0000/10/0000/0100) (curve-table method, max. 10dB)
GVL ERR

3.3.2 Scene Control Command

15) RSC: Used to recall a scene.

Command	Option	TXn/ACD1's ACKs if successful	TXn/ACD1's ACKs if unsuccessful
RSC	[AMP ID] [Scene #]	RSC OK SCN [AMP ID] [Scene #]	RSC ERR

The command name stands for "Recall Scene".

- If sending to a TXn, [AMP ID] is always 0. If sending to an ACD1, [AMP ID] is the AMP ID (0 to 39) assigned to the amp to be controlled.
- [Scene #] will have an appropriate number converted to a character string.
- One or more spaces are needed between the command and the option, and between the options.

E.g.) To recall Scene 4:
RSC 0 4

- The TXn/ACD1 will return two lines of character strings if successful.
  The first line will have a character string, "RSC OK".
  For details on the character string "SCN" in the second line, see chapter 3.2.1.
  The first line can be ignored; check the second line to find if a scene is recalled for a controller.
- The TXn/ACD1 will return a one-line character string of "RSC ERR" if unsuccessful.
  (The TXn/ACD1 will return ERR if the Remote Controller sends the RSC command for an unsaved scene.)

E.g.) ACK if successful in recalling Scene 4:
RSC OK
SCN 0 4

ACK if unsuccessful in recalling Scene 4:
RSC ERR

16) RRSC: Used to relatively recall a scene.

Command	Option	TXn/ACD1's ACKs if successful	TXn/ACD1's ACKs if unsuccessful
RRSC	[AMP ID] [Relative scene #]	RRSC OK SCN [AMP ID] [Scene #]	RRSC ERR

The command name stands for "Relatively Recall Scene".

This command will perform relative scene recall. For example, it will enable the user to recall "the next scene" and "the second to last scene".

- If sending to a TXn, [AMP ID] is always 0. If sending to an ACD1, [AMP ID] is the AMP ID (0 to 39) assigned to the amp to be controlled.
- An appropriate number should be given by a character string to [Relative scene #]. A plus sign can be omitted but not a minus.
- One or more spaces are needed between the command and the option, and between the options.

E.g.) To recall the next scene:
RRSC 0 1

To recall the second to last scene (two scenes prior to current one):
RRSC 0 -2

- The TXn/ACD1 will return two lines of character strings if successful.
  The first line will have the character string "RRSC OK."
  For details on the character string "SCN" in the second line, see chapter 3.2.2.
  The first line can be ignored; check the second line to find if a scene is recalled for a controller.
  A scene number after scene recall should be returned in the second line (absolute quantity). Even a relative recall will not return the quantity changed.
- The TXn/ACD1 will return a one-line character string of "RRSC ERR" if unsuccessful.

E.g.) ACK if the current scene is "3" and if successful in recalling the next scene.
RRSC OK
SCN 0 4

ACK if the current scene is "3" and if unsuccessful in recalling the next scene.
RRSC ERR

17) GCS: Used to obtain a current scene number.

Command	Option	TXn/ACD1's ACKs if successful	TXn/ACD1's ACKs if unsuccessful
GCS	[AMP ID]	GCS OK CSN 0 [Scene #]	GCS ERR

The command name stands for "Get Current Scene".

This command will enable the user to obtain a TXn/ACD1 scene name of a specified number from the controller.

- If sending to a TXn, [AMP ID] is always 0. If sending to an ACD1, [AMP ID] is the AMP ID (0 to 39) assigned to the amp to be controlled.
- One or more spaces are needed between the command and the option, and between the options.

E.g.) To obtain a current scene number:
GCS 0

- The TXn/ACD1 will return two lines of character strings if successful.
  The first line will have a character string, "GCS OK".
  The second line will have a character string, "SCN [Scene #]", and t he [Scene #] takes either a scene number from 1 to 999 or number 0.
  The scene number 0 indicates that a scene has not been recalled (no current scene).
  The first character string can be ignored for the controller.
- The TXn/ACD1 will return a one-line character string of "GCS ERR" if unsuccessful.

E.g.) ACK when Scene 4 is returned by obtaining a current scene number.
GCS OK
CSN 0 4 (The character string stands for "Current Scene Number".)

ACK when "no scene" is returned by obtaining a current scene number:
GCS OK
CSN 0 0

ACK is unsuccessful in obtaining a current scene number.
GCS ERR

18) GSN: Used to obtain a scene name.

Command	Option	TXn/ACD1's ACKs if successful	TXn/ACD1's ACKs if unsuccessful
GSN	[AMP ID] [Scene #]	GSN OK SNM [AMP ID] [Scene #] [Scene name]	GSN ERR

The command name stands for "Get Scene Name."

This command will enable the user to obtain a TXn/ACD1 scene name of a specified number from the controller.

- If sending to a TXn, [AMP ID] is always 0. If sending to an ACD1, [AMP ID] is the AMP ID (0 to 39) assigned to the amp to be controlled.
- [Scene #] will have an appropriate number converted to a character string.
- One or more spaces are needed between the command and the option, and between the options.

E.g.) To obtain Scene 4 name:
GSN 0 4

- The TXn/ACD1 will return two lines of character strings if successful.
  The first line will have the character string "GSN OK."
  The second line will have a scene number from 1 to 999 for the [Scene #] and a new name for the [Scene name] by a character string
  The first character string can be ignored for the controller
  A scene name that is blank looks as a scene name is not returned.
- The TXn/ACD1 will return a one-line character string of "GSN ERR" if unsuccessful.

E.g.) ACK when a character string, "Scene 004" is returned by obtaining a name of Scene 4.
GSN OK
SNM 0 0 Initial Data (The character string stands for "Scene NaMe".)

ACK when a character string, " " is returned by obtaining a name of Scene 4.
GSN OK
SNM 4

ACK if unsuccessful in obtaining a name of Scene 4.
GSN ERR

3.3.3 Command to Obtain Level Meter

19) GMT: Used to obtain a level meter position.

Command	Option	TXn/ACD1's ACKs if successful	TXn/ACD1's ACKs if unsuccessful
GMT	[AMP ID] [Meter access ID][Meter #]	GMT OK MTR [AMP ID] [Meter access ID] CUR [CH1] … HOLD [CH1] …	GMT ERR

The command name stands for "Get Meter."
CUR stands for "Current meter value".
HOLD stands for "Peak hold value".

This command will enable the user to obtain a TXn/ACD1 meter value.

- If sending to a TXn, [AMP ID] is always 0. If sending to an ACD1, [AMP ID] is the AMP ID (0 to 39) assigned to the amp to be controlled.
- [Meter access ID] is the access ID of the parameter to be controlled. (See separate meter map).
- The meter number to be obtained should be assigned to [Meter #].
  A value of "1" or greater should be assigned to a meter number to obtain specific meter data.
  For meter numbers, refer to the meter map.
  A value of "0" should be assigned to obtain meter data for every channel.
- One or more spaces are needed between the command and the option, and between the options.

E.g.) To get level meter values for specified channel (Meter access ID 1234, Meter #5):
GMT 0 1234 5

E.g.) To get level meter values for all channels (Meter access ID 1234, Meter #0):
GMT 0 1234 0

- The TXn/ACD1 will return two lines of character strings if successful.
  The first line will have a character string of "GMT OK."
  The second line will have a character string of "MTR [index] CUR [CH1] [CH2] … HOLD [CH1] [CH2] … ".
  The first character string can be ignored for the controller.

  The same number of current meter levels as that of channels comes after CUR in the second line.
  The same number of current meter hold levels as that of channels comes after HOLD in the second line.
  The meter and hold level number ranges from -13801 to 1.
  The following table shows the relationship between character strings and levels sent from the TXn/ACD1.

Character strings	Level
-13801	-Inf
-13800	-138dB
-10000	-100dB
-8000	-80dB
-6000	-60dB
-4000	-40dB
-2000	-20dB
0	0dB
1	Over

- The TXn/ACD1 will return a one-line character string of "GMT ERR" if unsuccessful.

E.g.) ACK when command to get meter values for meter access ID (1234) on channel 4 is successful
GMT OK
MTR 0 1234 CUR -13801 -2000 -3000 -13801 HOLD -13801 -1500 -2800 -13801
(The command name stands for "MeTeR".)

ACK when attempt to get meter values for meter access ID (1234) on channel 8 is successful
GMT OK
MTR 0 1234 CUR -1800 -2300 -200 1 -300 0 -13801 -13801 HOLD -1500 -2000 -0 1 -200 1 -13801 -13801

ACK when command to get meter values for meter access ID (1234) on channel 4 fails
GMT ERR

20) GCMT: Used to set cyclical obtaining of a level meter.

Command	Option	TXn/ACD1's ACKs if successful	TXn/ACD1's ACKs if unsuccessful
GCMT	[AMP ID] [Access ID] [Meter #]	GCMT OK MTR [AMP ID] [Access ID] CUR [CH1] … HOLD [CH1] …	GCMT ERR

The command name stands for "Get Cyclic Meter".
CUR stands for "Current meter value".
HOLD stands for "Peak hold value".

Registering a meter number to be obtained using this command will send the level meter value cyclically from the TXn/ACD1.
The level meter value will be sent until it is cancelled with a QCMT command described later. Up to 100 meters can be registered.

- If sending to a TXn, [AMP ID] is always 0. If sending to an ACD1, [AMP ID] is the AMP ID (0 to 39) assigned to the amp to be controlled.
- The same as [Access ID] GMT.
- The same as [Meter #] GMT.
- One or more spaces are needed between the command and the option, and between the options.

E.g.) To register to cyclically (periodically) receive level meter values from specified channels (Meter access ID 12345, meter #3):
GCMT 0 1234 3

E.g.) To register to cyclically (periodically) receive level meter values from all channels (Meter access ID 12345, meter #0):
GCMT 0 1234 0

- The TXn/ACD1 will return two lines of character strings if successful.
  The first line will have a character string of "GCMT OK."
  The second line will have the same character string as ACK when obtaining a meter using GMT.
- The TXn/ACD1 will return a one-line character string of "GCMT ERR" if unsuccessful.

E.g.) Communication sequence with TXn, initiated by registering for periodic receipt of meter values for specified channel (Meter access ID 1234, meter #5):
GCMT 0 1234 5
MTR 0 1234 CUR -1800 HOLD 0
: (Remote controller continues to periodically receive meter data from the TXn/ACD1.)
MTR 0 1234 CUR -1700 HOLD 0

E.g.) Communication sequence for periodic receipt of meter values from all channels (Meter access ID 1234, meter #0):
GCMT 0 1234 0
MTR 0 1234 CUR -1800 -2300 -200 1 -300 0 -13801 -13801 HOLD 0 0 0 0 0 10
: (Remote controller continues to periodically receive meter data from the TXn/ACD1.)
MTR 0 1234 CUR -1800 -2300 -200 1 -300 0 -13801 -13801 HOLD 0 0 0 0 0 10

21) QCMT: Used to cancel cyclical obtaining of a level meter.

Command	Option	TXn/ACD1's ACKs if successful	TXn/ACD1's ACKs if unsuccessful
QCMT	[AMP ID][Access ID][Meter #]	QCMT OK	QCMT ERR

The command name stands for "Quit Cyclic Meter".

It will be used to cancel cyclic transmission of a level meter registered in the TXn/ACD1 with the GCMT command.

- If sending to a TXn, [AMP ID] is always 0. If sending to an ACD1, [AMP ID] is the AMP ID (0 to 39) assigned to the amp to be controlled.
- [Access ID] identifies the level meter.
- "0" should be always assigned to [Meter #].
- One or more spaces are needed between the command and the option, and between the options.

E.g.) To discard registration of an obtained meter cycle:
QCMT 0 1234 0

-The TXn/ACD1 will return a one-line character string of "QCMT OK" if successful.
-The TXn/ACD1 will return a one-line character string of "QCMT ERR" if unsuccessful.

E.g.) ACK if successful in discarding meter number registration.
QCMT OK

ACK if unsuccessful in discarding meter number registration.
QCMT ERR

22) SMC: Used to set the cyclical period for automatically obtaining all level meters.

Command	Option	TXn/ACD1's ACKs if successful	TXn/ACD1's ACKs if unsuccessful
SMC	[AMP ID] [Cycle]	SMC OK	SMC ERR

The command name stands for "Set Meter Cycle".

This command will enable the user to set a cycle in ms units for sending all level meters set to be obtained cyclically.
The TXn/ACD1 will send level meters at 100 msec intervals if the TXn/ACD1 have not received this command.

- The first option will always take "0." It is reserved for future extensions to the command.
- The meter transmission interval from the TXn/ACD1 should be assigned to [Cycle] in ms units.
- One or more spaces are needed between the command and the option, and between the options.

E.g.) To change the meter transmission interval from the TXn/ACD1 to 200msec:
SMC 0 200

- The TXn/ACD1 will return a one-line character string of "SMC OK" if successful.
- The TXn/ACD1 will return a one-line character string of "SMC ERR" if unsuccessful.

E.g.) ACK if successful in changing the meter transmission interval:
SMC OK

ACK if unsuccessful in changing the meter transmission interval:
SMC ERR

Guide for setting the cycle
An appropriate cycle needs to be set in accordance with the number of the level meters to be obtained cyclically.
Follow the table below to find an appropriate cycle.

A table of the number of the level meters and the required cycle

TXn

Number of level	Cycle
40	80ms
20	50ms
10	50ms
5	50ms

ACD1

AMP ID: 0-31 (DATA PORT connector)
250ms or longer
AMP ID: 32-39 (MONITOR/REMOTE connectors)

Number of level meters	Cycle
30	100ms
20	70ms
10	50ms
5	50ms

The cycle to automatically obtain a level meter, however, should be set to at least at 50 msec, since too short of a cycle will increase the load of the communication line.
Please determine and set an approximate cycle based on the table above and the estimation of the cycle below.

Estimation of the cycle:

Example 1: To obtain 40 ch of level meters from the TXn,
The table above shows the required cycle for obtaining the level meters is 80 ms.

Example 2: To obtain the total 10 ch of level meters from AMP ID: 32-39 of the ACD1,
The table above shows the required cycle for obtaining the level meters is 50 ms.

Example 3: To obtain the total 10 ch of level meters from both AMP ID: 0-31 and 32-39 of the ACD1,
The table above shows the required cycle is 250 ms if the slower-cycle AMP ID: 0-31 (DATA PORT connector) is accommodated.
You can also choose 50 ms cycle in accordance with AMP ID: 32-39 (MONITOR/REMOTE connectors).
In this case, the same meter values will be transmitted five times in a row for AMP ID: 0-31.

3.3.4 GPI Control Command (ACD1)

23) SGO: Used to control GPI OUT.

Command	Option	ACD1's ACKs when successful	ACD1's ACKs when unsuccessful
SGO	[AMP ID][Port #] [OPEN/CLOSE] …	SGO OK	SGO ERR

The command name stands for "Set GPI Out".

- [AMP ID] is always 0.
- The second option will have a port number by a character string.
- The third option will have a character string of either "OPEN" or "CLOSE."
- One or more spaces are needed between the command and the option, and between the options.
- Multiple GPI outputs can be controlled by adding another option.
- SGO command changes GPI OUT port status without affecting any parameters in the ACD1.

E.g.) To set port 3 open:
SGO 0 3 OPEN

To set port 10 open, port 11 close:
SGO 0 10 OPEN 11 CLOSE

To set port 1 open, port 3 close, port 4 open and port 5 open:
SGO 0 1 OPEN 3 CLOSE 4 OPEN 5 OPEN

- The ACD1 will return a one-line character string of "SGO OK" if successful.
- The ACD1 will return a one-line character string of "SGO ERR" if unsuccessful.

E.g.) ACK when GPI port 3 is successfully turned ON:
SGO OK

ACK when GPI port 3 is unsuccessfully turned ON:
SGO ERR

3.3.5. Emergency Control command

24) SEMG: Used to set Emergency scene

Command	Option	TXn/ACD1's ACKs when successful	TXn/ACD1's ACKs when unsuccessful
SEMG	0	SEMG OK	SEMG ERR

The command name stands for "Set Emergency".

- This command changes the TXn/ACD1 scene number to the Emergency scene.

3.3.6. Amp Connection Status Command (ACD1)

25) GCON: Used to obtain an amp connection status

Command	Option	ACD1's ACKs when successful	ACD1's ACKs when unsuccessful
GCON	[AMP ID]	GCON OK CON [AMP ID] [Amp Connection Status (ON/OFF)]	GCON ERR

The command name stands for "Get Connection".
This command only applies to ACD1 firmware V1.12 or later.

This command will enable the user to obtain an amp connection status (connected or disconnected) from the controller.

- [AMP ID] is the AMP ID (0 to 39) assigned to the amp to be controlled.
- A space will be needed between the command and the option, and between the options.

E.g.) To obtain the connection status of the amp with AMP ID 0 on the ACD1 from the controller:
GCON 0

- The ACD1 will return a two-line character string if successful.
The first line should be a character string "GCON OK".
The second line should be a character string "CON [AMP ID] [Amp Connection Status]".
[Amp Connection Status] will have a character string of either "ON" when connected or "OFF" when disconnected.
The first line can be ignored for the controller.
- The ACD1 will return a one-line character string of "GCON ERR" if unsuccessful.
- The TXn always return the error.

E.g.) ACK if the connection status of the amp with AMP ID 0 on the ACD1 is successfully obtained:
GCON OK
CON 0 ON
ACK if unsuccessful in obtaining an amp connection status:
GCON ERR

3.3.7. Fault Out Control Command

26) SFO: Used to set/reset Fault Out

Command	Option	TXn/ACD1's ACKs when successful	TXn/ACD1's ACKs when unsuccessful
SFO	0 [Fault Out Set/Reset (ON/OFF)]	SFO OK	SFO ERROR

The command name stands for "Set Fault Out".
This command only applies to TXn firmware V1.30, ACD1 firmware V1.12, or later.

This command will enable the user to set/reset the Fault Out status on the TXn/ACD1 from the controller.

- The first option is always 0.
- [Fault Out Set/Reset] should be a character string of either "ON" when setting or "OFF" when resetting.
- A space will be needed between the command and the option, and between the options.

E.g.) To reset the Fault Out status:
SFO 0 OFF

- The TXn/ACD1 will return a one-line character string of "SFO OK" if successful.
- The TXn/ACD1 will return a one-line character string of "SFO ERR" if unsuccessful.

E.g.) ACK if the Fault Out status is successfully reset:
SFO OK

3.3.8. Identify Control Command

27) SIDENT: Used to switch Identify on/off
28) GIDENT: Used to obtain Identify on/off

Command	Option	TXn/ACD1's ACKs when successful	TXn/ACD1's ACKs when unsuccessful
SIDENT	0 [Identify ON/OFF]	SIDENT OK IDENT 0 [Identify ON/OFF]	SIDENT ERR
GIDENT	0	GIDENT OK IDENT 0 [Identify ON/OFF]	GIDENT ERR

The command names stand for "Set Identify" and "Get Identify" respectively.
These commands only apply to TXn firmware V1.30, ACD1 firmware V1.12, or later.

These commands will enable the user to set/obtain the Identify On/Off status on the TXn/ACD1 from the controller.

- The first option is always 0.
- [Identify ON/OFF] should be a character string of either "ON" or "OFF".
- A space will be needed between the command and the option, and between the options.

E.g.) To set the Identify to On:
SIDENT 0 ON
To obtain the Identify On/Off:
GIDENT 0

- The TXn/ACD1 will return a two-line character string if successful.
  The first line should be a character string "SIDENT OK" or "GIDENT OK".
  The second line should be a character string "IDENT 0 [Identify ON/OFF]".
  The first line can be ignored for the controller.
- The TXn/ACD1 will return a one-line character string of "SIDENT ERR" or "GIDENT ERR" if unsuccessful.

E.g.) ACK if Identify ON is successfully set:
SIDENT OK
IDENT 0 ON
ACK if unsuccessful in setting Identify On/Off:
SIDENT ERR
ACK if Identify ON/OFF is successfully obtained when the status is ON:
GIDENT OK
IDENT 0 ON

3.4 Utility Command

3.4.1 Command for Debug

29) ECHO: Used to set/cancel Echo Back.

Command	Option	TXn/ACD1's ACKs if successful	TXn/ACD1's ACKs if unsuccessful
ECHO	0 [ON/OFF]	ECHO OK	ECHO ERR

A character string received by the TXn/ACD1 can be echoed back to debug the controller.
Switching the Echo function on will cause a character string to be echoed back until the Echo function or the TXn/ACD1 are switched off.
The default is OFF.
It may be controlled normally while it is echoed back.

- The first option will always take "0." It is reserved for future extensions to the command.
- [ON/OFF] will have a character string of either "ON" or "OFF."
- One or more spaces are needed between the command and the option, and between the options.

E.g.) To switch the TXn/ACD1 Echo on:
ECHO 0 ON

To switch the TXn/ACD1 Echo off:
ECHO 0 OFF

A character string of "ECHO OK" will be output to the controller if successful, or "ECHO ERR" if unsuccessful.

3.4.2 Communication Control command

30) Suppress/re-enable output of parameter change notifications at time of scene recall.

Command	Option	TXn/ACD1's ACKs if successful	TXn/ACD1's ACKs if unsuccessful
FRSP	0 [ON/OFF]	FRSP OK	FRSP ERR

The command name stands for "Forbid Recall Scene Parameter".

If this feature is turned ON, the TXn/ACD1 will not issue PRM commands to notify of parameter changes caused by scene recalls.
You can use this command to control whether parameter values are sent to the external controller at time of scene change.

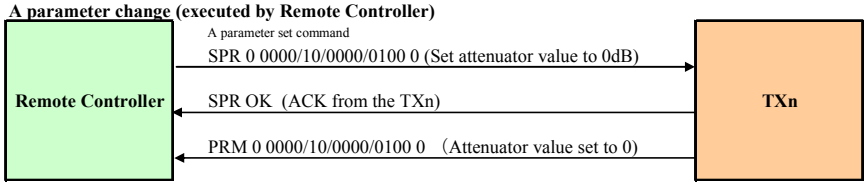
Under default conditions, a scene recall will cause the TXn/ACD1 to send to the external controller a SCN command
(notifying of the recall) together with multiple PRM commands notifying of the corresponding changes to parameter values.
If the scene involves many parameters, then the recall will generate transmission of many PRM commands.
In some cases, however, these PRM commands are essentially meaningless.
If the external controller is only interested in the current scene number at the TXn/ACD1, for example,
then the PRM commands are of no value and are a waste of bandwidth.
In cases such as these, you can use the "FRSP 0 ON"" command to suppress output of these PRM commands.

- The first option will always take "0."
- [ON/OFF] will have a character string of either "ON" or "OFF."
- One or more spaces are needed between the command and the option, and between the options.

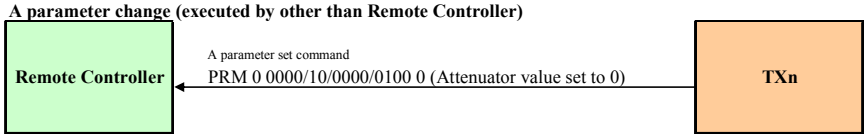
4. Command sequences

Below are some examples of important command sequences.

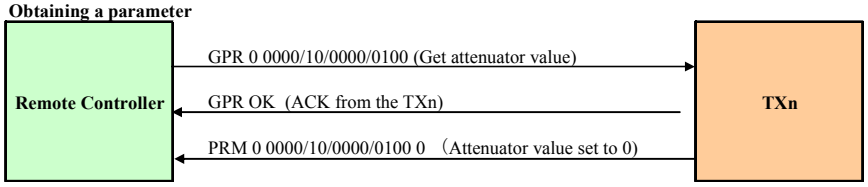
A parameter change (executed by Remote Controller)



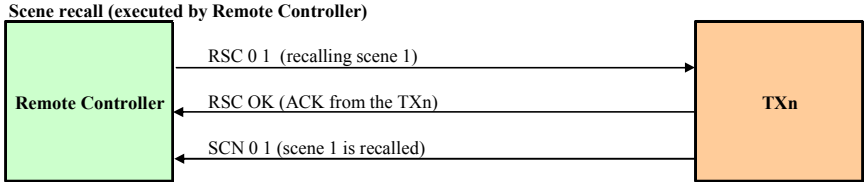
A parameter change (executed by other than Remote Controller)



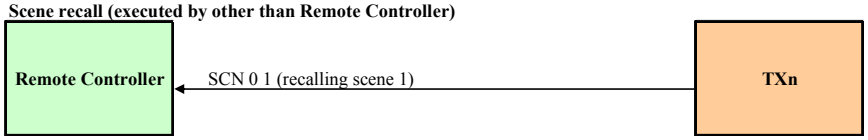
Obtaining a parameter



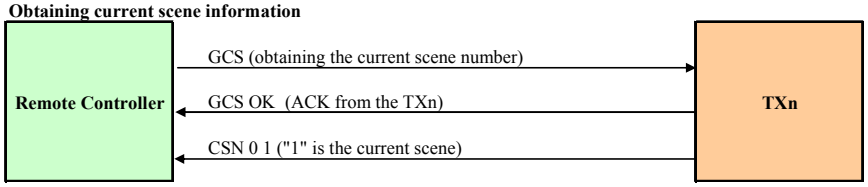
Scene recall (executed by Remote Controller)



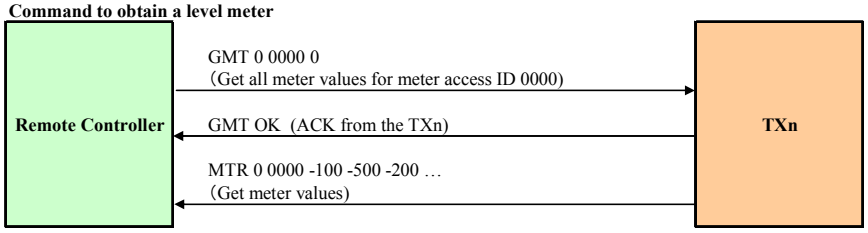
Scene recall (executed by other than Remote Controller)



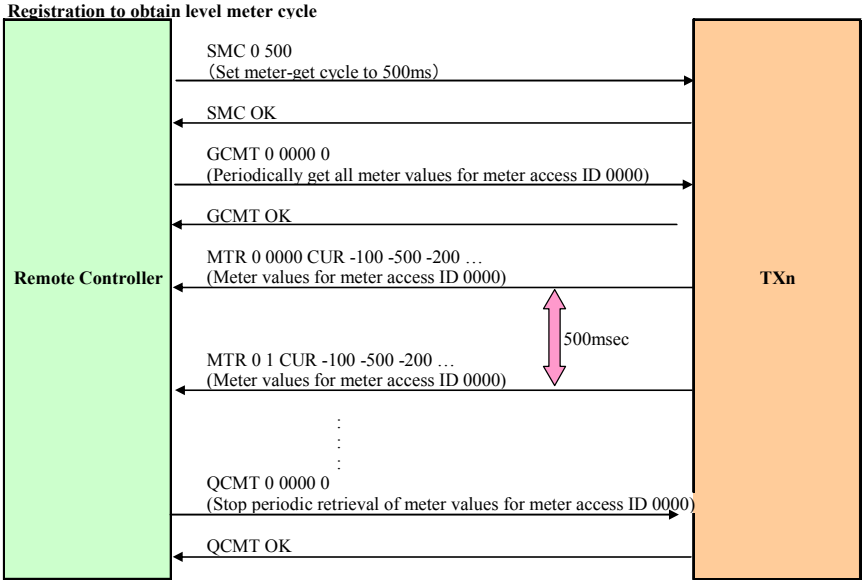
Obtaining current scene information



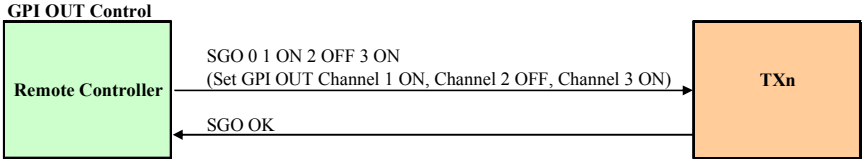
Command to obtain a level meter



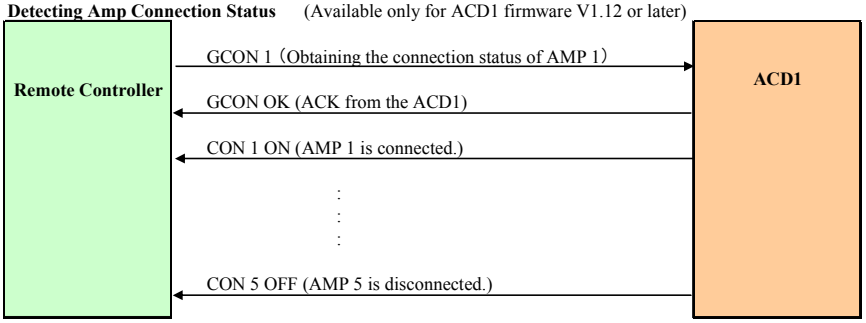
Registration to obtain level meter cycle



GPI OUT Control



Detecting Amp Connection Status (Available only for ACD1 firmware V1.12 or later)



Troubleshooting (FAQ)

Q: Is it possible to control TXn/ACD1 from multiple external control devices?
A: No, only one controlling device is allowed.

Q: Is it okay to leave the port open until all communications have completed?
(Must the port be opened and closed each time a command is sent?)

A: Leaving the port open is okay. There is no need to open and close the port each time a command is sent but the port should not be left open for long periods of time.

Q: What should be used as a line feed code of a command?

A: LF (0x0A) can be used as a line feed code ("$0A" for AMX, "\x0A" for Crestron).
For more information, see the section "3.1 Basic Command Specifications."

Q: Can the TXn/ACD1 receive the parameter setting command SPR in the middle of scene recall processing?

A: No, the command is disabled during recall. All the commands transmitted to the TXn/ACD1 in the middle of scene recall processing will be ignored. When scene recalls are complete, the TXn/ACD1 will restart receiving the SPR command.
The parameter setting command can be transmitted after checking the SCN command notified from the TXn/ACD1 when scene recalls are complete.

Q: If the response speed of the TXn/ACD1 to a command is slow, what are the possible causes and solutions?

A: When a large number of commands are transmitted to the TXn/ACD1 in a short time, processing time may be longer because data is accumulated in the receive buffer.
In this case, make sure that the transmission interval between the commands for the remote controller is long enough for optimum processing.

Q: If the response speed of the meter is slow, what are the possible causes and solutions?

A: The response speed of the meter will be slow when the number of meters displayed on the screen increases.
In this case, try the following solutions.

・If the cyclical period for automatically obtaining a meter is too short, the response speed will be slow due to the accumulation of data. Try to set a cycle as long as possible using the SMC command.
・The response speed will be faster by using the GCMT command that can obtain data cyclically than by using the GMT command that obtains data each time, because the volume of communication decreases.
・If you want to display multiple meters in the same component, you can ensure a faster response speed by assigning a value of "0" to a meter number to obtain data all at once, rather than by assigning a meter number to obtain data individually.
・If you want to display a meter in the Meter component, you can ensure a faster response speed by assigning the multiple-channel Meter component, rather than by assigning multiple one-channel Meter components.

For more information on commands see GMT and GCMT in the section "3.3.3 Command to Obtain Level Meter."

Q: If a parameter is assigned to "GPI OUT" and the port is controlled by the SGO command, does the parameter link?

A: No, the parameter does not link.
Only the GPI output from a port specified by the SGO command is controlled.

Appendix

Parameter (TXn Amp)

TXn AMP section (Common to TX4n, TX5n and TX6n)

Access ID										Parameter information					
										Parameter category	Parameter name	MIN	MAX	unit	Remarks
00	00	/	01	/	00:Ch A 01:Ch B	00	/	00	00	Analog Input Voltage	Alert Max Threshold	-800	0	dBFS	value x 0.1[dBFS] (-80.0 - 0.0[dBFS]) ex -42.3[dBFS]=-423
								01	00		Enable	0	1	-	0:Disable 1:Enable
00	00	/	02	/	00:Ch A 01:Ch B	00	/	00	00	Slot Input Voltage	Alert Max Threshold	-800	0	dBFS	value x 0.1[dBFS] (-80.0 - 0.0[dBFS]) ex -42.3[dBFS]=-423
								01	00		Enable	0	1	-	0:Disable 1:Enable
00	00	/	03	/	00:Ch 1 01:Ch 2 02:Ch 3 03:Ch 4	00	/	00	00	Matrix Mixer Input Voltage	Alert Max Threshold	-800	0	dBFS	value x 0.1[dBFS] (-80.0 - 0.0[dBFS]) ex -42.3[dBFS]=-423
								01	00		Enable	0	1	-	0:Disable 1:Enable
00	00	/	04	/	00:Ch 1 01:Ch 2 : : 15:Ch16	00	/	00	00	Slot Output Voltage	Alert Max Threshold	-800	0	dBFS	value x 0.1[dBFS] (-80.0 - 0.0[dBFS]) ex -42.3[dBFS]=-423
								01	00		Enable	0	1	-	0:Disable 1:Enable
00	00	/	05	/	00	00	/	00	00	Analog Input Detection	Alert Detection Time	1	10	s	0
								01	00		Alert Count	1	100	-	0
00	00	/	06	/	00	00	/	00	00	Slot Input Detection	Alert Detection Time	1	10	s	0
								01	00		Alert Count	1	100	-	0
00	00	/	07	/	00	00	/	00	00	Matrix Mixer Input Detection	Alert Detection Time	1	10	s	0
								01	00		Alert Count	1	100	-	0
00	00	/	08	/	00	00	/	00	00	Slot Output Detection	Alert Detection Time	1	10	s	0
								01	00		Alert Count	1	100	-	0
00	00	/	09	/	00	00	/	00	00	Standby	Standby/On	0	1	-	0:Standby 1:On
00	00	/	10	/	00:Ch A 01:Ch B	00	/	00	00	Output	Mute	0	1	-	0:UnMuted 1:Muted
								01	00		Attenuation	-805	0	dB	-805:-∞ value x 0.1[dB] 5step (-∞,-80.0 - 0.0[dB] 0.5[dB]step) ex -36.5[dBFS]=-365
00	00	/	11	/	00	00	/	00	00	Attenuation Link	Link	0	1	-	0:Link Off 1:Link On
00	00	/	12	/	00:Ch A 01:Ch B	00	/	00	00	Thermal Meter	Alert Max Threshold	0	100	%	Step:5%
00	00	/	15	/	00:Ch A 01:Ch B	00	/	00	00	Analog Input Signal Chain	Detection Threshold	-800	0	dBFS	value x 0.1[dBFS] (-80.0 - 0.0[dBFS]) ex -42.3[dBFS]=-423
								01	00		Enable	0	1	-	0:Disable 1:Enable
								02	00		Detection Time	0	100	s	0
								03	00		Notch On	0	1	-	0:Off 1:On
								04	00		Notch Freq	5	40000	Hz	value[Hz] ex 102.6[Hz]=1026 (5[Hz] - 40[kHz]) /27.806[kHz]=27806
								05	00		Notch Q	0	112	-	See parameter table1
00	00	/	16	/	00:Ch A 01:Ch B	00	/	00	00	Slot Input Signal Chain	Detection Threshold	-800	0	dBFS	value x 0.1[dBFS] (-80.0 - 0.0[dBFS]) ex -42.3[dBFS]=-423
								01	00		Enable	0	1	-	0:Disable 1:Enable
								02	00		Detection Time	0	100	s	0
								03	00		Notch On	0	1	-	0:Off 1:On
								04	00		Notch Freq	5	40000	Hz	value[Hz] ex 102.6[Hz]=1026 (5[Hz] - 40[kHz]) /27.806[kHz]=27806
								05	00		Notch Q	0	112	-	See parameter table1
00	00	/	17	/	00:Ch A 01:Ch B	00	/	00	00	Output Signal Chain	H Freq Enable	0	1	-	0:Disable 1:Enable
								01	00		L Freq Enable	0	1	-	0:Disable 1:Enable
								02	00		H Freq Level	1	100	V	value x 0.1[V] (0.1 - 10.0[10]) ex 7.4[V]=74
								03	00		L Freq Level	1	100	V	value x 0.1[V] (0.1 - 10.0[10]) ex 7.4[V]=74
								04	00		H Freq Detection Imp Max	0	2500	ohms	value x 0.1[ohms] (0.0 - 250.0[ohms]) ex 95.6[ohms]=956
								05	00		H Freq Detection Imp Min	0	2500	ohms	value x 0.1[ohms] (0.0 - 250.0[ohms]) ex 95.6[ohms]=956
								06	00		L Freq Detection Imp Max	0	2500	ohms	value x 0.1[ohms] (0.0 - 250.0[ohms]) ex 95.6[ohms]=956
								07	00		L Freq Detection Imp Min	0	2500	ohms	value x 0.1[ohms] (0.0 - 250.0[ohms]) ex 95.6[ohms]=956
								08	00		H Freq Detection Threshold	1	100	V	value x 0.1[V] (0.1 - 10.0[10]) ex 7.4[V]=74
								09	00		L Freq Detection Threshold	1	100	V	value x 0.1[V] (0.1 - 10.0[10]) ex 7.4[V]=74
								10	00		Detection Time	0	100	s	0
00	00	/	18	/	00:Ch A 01:Ch B	00	/	00	00	Calibration	H Freq Enable	0	1	-	0:Disable 1:Enable
								01	00		L Freq Enable	0	1	-	0:Disable 1:Enable
00	00	/	19	/	00	00	/	00	00	Input Redundancy	Mode	0	2	-	0:Off 1:Redundant Backup 2:Redaundant Override
								01	00		Auto Return	0(*6)	1(*6)	-	0:Off 1:On
								02	00		Override Channel Link	0(*8)	1(*8)	-	0:Off 1:On
00	00	/	20	/	00:Ch A 01:Ch B	00	/	00	00		Override Threshold	-300(*7)	0(*7)	dBFS	value x 0.1[dBFS] (-30.0 - 0.0[dBFS]) ex -12.3[dBFS]=-123
								01	00		Auto Return Delay	0(*8/*9)	60(*9)	s	0
00	00	/	22	/	00	00	/	00	00	Output Signal Chain Tone	Frequency Type	0	1	0	1:5Hz, 20kHz 2:10Hz, 20kHz 3:5Hz, 25kHz(*3) 4:10Hz, 25kHz(*3)

TXn AMP section (Model dependent)

Access ID										Parameter information									
												TX6n		TX5n		TX4n			
					Parameter category					Parameter name	MIN	MAX	MIN	MAX	MIN	MAX	unit	Remarks
00	01	/	00	/	00	00	/	00	00	Power Amp Mode	Power Amp Mode	0	2	0	2	0	2	0	0:Stereo 1:Bridge 2:Parallel
								01	00	Gain Setting Mode	Gain Setting Mode	0	1	0	1	0	1	0	0:Link OFF 1:Link On
00	01	/	01	/	00:Ch A 01:Ch B(*1)	00	/	00	00	Sensitivity	Sensitivity	0	240	-14	226	-21	219	dBu	value x 0.1[dBu] TX4n:(-2.1 - 21.9[dBu]) TX5n:(-1.4 - 22.6[dBu]) TX6n:(0.0 - 24.0[dBu]) (*4)(*5) ex 11.6[dBu]=116
		/		/		00	/	01	00		Power Amp Gain	198(*1) 258(*2)	438(*1) 498(*2)	198(*1) 258(*2)	438(*1) 498(*2)	198(*1) 258(*2)	438(*1) 498(*2)	dB	value x 0.1[dB] (19.8 - 49.8(*1)/25.8 - 49.8(*2)[dB]) (*4)(*5) ex 29.1[dB]=291
00	01	/	02	/	00:Ch A 01:Ch B(*1)	00	/	00	00	Speaker Output Voltage	Alert Max Threshold	-380(*1) -320(*2)	450(*1) 510(*2)	-380(*1) -320(*2)	450(*1) 510(*2)	-380(*1) -320(*2)	450(*1) 510(*2)	dBu	value x 0.1[dBu] (-38.0 - 45.0(*1)/-32.0 - 51.0(*2)[dBu]) ex -5.4[dBu]=-54
						00	/	01	00		Enable	0	1	0	1	0	1	0	0:Disable 1:Enable
00	01	/	03	/	00:Ch A 01:Ch B(*1)	00	/	00	00	Speaker Output Power	Alert Max Threshold	0 0	4800(*1) 9600(*2)	0 0	4200(*1) 8400(*2)	0 0	3600(*1) 7200(*2)	W	0
						00	/	01	00		Enable	0	1	0	1	0	1	0	0:Disable 1:Enable
00	01	/	04	/	00:Ch A 01:Ch B(*1)	00	/	00	00	Speaker Output Imp	Alert Max Threshold	0	2500	0	2500	0	2500	ohms	value x 0.1[ohms] (0.0 - 250.0[ohms]) ex 95.6[ohms]=956
								01	00		Alert Min Threshold	0	2500	0	2500	0	2500	ohms	value x 0.1[ohms] (0.0 - 250.0[ohms]) ex 95.6[ohms]=956
								02	00		Enable	0	1	0	1	0	1	0	0:Disable 1:Enable
00	01	/	05	/	00	00	/	00	00	Speaker Output Detection	Alert Detection Time	1	10	1	10	1	10	s	0
								01	00		Alert Count	1	100	1	100	1	100	0	0
00	01	/	06	/	00:Ch A 01:Ch B(*1)	00	/	00	00	Voltage Limiter	Threshold	0(*1) 0(*2)	450(*1) 510(*2)	0(*1) 0(*2)	450(*1) 510(*2)	0(*1) 0(*2)	450(*1) 510(*2)	dBu	value x 0.1[dBu] (-38.0 - 45.0(*1)/-32.0 - 51.0(*2)[dBu]) ex -5.4[dBu]=-54
								01	00		Attack	1	100	1	100	1	100	ms	0
								02	00		Release	1	1000	1	1000	1	1000	s	value x 0.01[s] (0.0 - 10.0[s]) ex 1.54[s]=154
								03	00		On	0	1	0	1	0	1		0:Off 1:On
00	01	/	07	/	00:Ch A 01:Ch B(*1)	00	/	00	00	Power Limiter	Threshold	10 10	4800(*1) 9600(*2)	10 10	4200(*1) 8400(*2)	10 10	3600(*1) 7200(*2)	W	0
								01	00		On								0:Off 1:On
00	01	/	08	/	00	00	/	00	00	Limiter Gain Reduction	Link	0	1	0	1	0	1	0	0:Off 1:On

*1: Power Amp Mode=Stereo or Parallel
*2: Power Amp Mode=Bridge
*3: High Sample Mode Only
*4: Sensitivity and PowerAmpGain operate together
*5: When Gain Setting Mode=0(Link On), chA and B take same value.
*6: Can be set when Redundant Mode is not "OFF".
*7: Can be set when Redundant Mode = Override
*8: Can be set when Redundant Mode =Overrride and AutoReturn=1
*9: When Redundant Mode=Override/AutoReturn=1/OverrideChannelLink=1, chB cannot be set

TXn Status section (Common to TX4n, TX5n and TX6n)

Access ID										Parameter information					
										Parameter category	Parameter name	MIN	MAX	unit	Remarks
02	00	/	00	/	00:Ch A 01:Ch B	00	/	00	00	Analog Input Voltage	Above High Threshold	0	1	-	0:Not above threshold level 1:Above threshold level
02	00	/	01	/	00:Ch 1 01:Ch 2	00	/	00	00	Slot Input Voltage	Above High Threshold	0	1	-	0:Not above threshold level 1:Above threshold level
02	00	/	02	/	00:Ch 1 01:Ch 2 02:Ch 3 03:Ch 4	00	/	00	00	Matrix Mixer Input Voltage	Above High Threshold	0	1	-	0:Not above threshold level 1:Above threshold level
02	00	/	03	/	00:Ch 1 01:Ch 2 : : 15:Ch16	00	/	00	00	Slot Output Voltage	Above High Threshold	0	1	-	0:Not above threshold level 1:Above threshold level
02	00	/	04	/	00:Ch A 01:Ch B	00	/	00	00	Output	Mute(protection function)	0	1	-	0:Unmuted 1:Muted
02	00	/	05	/	00:Ch A 01:Ch B	00	/	00	00	Thermal Meter	Above High Threshold	0	1	-	0:Not above threshold level 1:Above threshold level
							/	01	00		Power Supply Hot	0	1	-	0:Not hot
							/	02	00		Meter	0	100	%	Step:5%
							/	03	00		Peak Hold Value	0	100	%	Step:5%
02	00	/	06	/	00:Ch A 01:Ch B	00	/	00	00	Fan	Failure Status	0	1	-	0:Rotate 1:Stop
02	00	/	07	/	00	00	/	00	00	Fan Speed Meter	Meter	0	100	%	Step:20%
							/	01	00		Peak Hold Value	0	100	%	Step:20%
02	00	/	09	/	00:Ch A 01:Ch B	00	/	00	00	Protection	Protecting	0	1	-	0:Not protecting 1:Protecting
02	00	/	10	/	00:Ch A 01:Ch B	00	/	00	00	Power Supply Protection	Shutdown	0	1	-	0:Not shutdown 1:Shutdown amplifier
02	00	/	11	/	00:Ch A 01:Ch B	00	/	00	00	Analog Input Signal Chain	Below Low Threshold	0	1	-	0:Not below threshold level 1:Below threshold level
							/	01	00		Detected Level (Result)	-805	0	dBFS	value x 0.1[dBFS] (-80.5 - 0.0[dBFS])
02	00	/	12	/	00:Ch A 01:Ch B	00	/	00	00	Slot Input Signal Chain	Below Low Threshold	0	1	-	0:Not below threshold level 1:Below threshold level
							/	01	00		Detected Level (Result)	-805	0	dBFS	value x 0.1[dBFS] (-80.5 - 0.0[dBFS])
02	00	/	13	/	00:Ch A 01:Ch B	00	/	00	00	Output Signal Chain	HF Below Low Threshold	0	1	-	0:Not below threshold level 1:Below threshold level
							/	01	00		LF Below Low Threshold	0	1	-	0:Not below threshold level
							/	02	00		HF Imp Below Low Threshold	0	1	-	0:Not below threshold level
							/	03	00		HF Imp Above High Threshold	0	1	-	0:Not above threshold level
							/	04	00		LF Imp Below Low Threshold	0	1	-	0:Not below threshold level
							/	05	00		LF Imp Above High Threshold	0	1	-	0:Not above threshold level
							/	06	00		HF Detected Level (Result)	0	100	V	value x 0.1[V] (0.1 - 10.0[10])
							/	07	00		LF Detected Level (Result)	0	100	V	value x 0.1[V] (0.1 - 10.0[10])
							/	08	00		HF Detected Imp (Result)	0	2500	ohms	value x 0.1[ohms] (0.0 - 250.0[ohms])
							/	09	00		LF Detected Imp (Result)	0	2500	ohms	value x 0.1[ohms] (0.0 - 250.0[ohms])
02	00	/	14	/	00:Ch A 01:Ch B	00	/	00	00	Calibration	State (Start/Stop)	0	1	-	Calibration for signal chain check 0:Stop 1:Start
02	00	/	15	/	00:Ch A 01:Ch B	00	/	00	00	Input Redundancy	Select	0	1	-	0:from SLOT Input 1:from Analog Input
02	00	/	16	/	00:Ch A 01:Ch B	00	/	00	00	Speaker Output Voltage	Above High Threshold	0	1	-	0:Not above threshold level 1:Above threshold level
02	00	/	17	/	00:Ch A 01:Ch B	00	/	00	00	Speaker Output Power	Above High Threshold	0	1	-	0:Not above threshold level 1:Above threshold level
02	00	/	18	/	00:Ch A 01:Ch B	00	/	00	00	Speaker Output Imp	Above High Threshold	0	1	-	0:Not above threshold level 1:Above threshold level
						00	/	01	00		Below Low Threshold	0	1	-	0:Not below threshold level
02	00	/	19	/	00:Ch A 01:Ch B	00	/	00	00	Clip Limiter	Clipping	0	1	-	0:Not Clipping 1:Cliping
02	00	/	20	/	00:Ch A 01:Ch B	00	/	00	00	Protection Limiter	Limiting	0	1	-	0:Not limiting 1:Limiting
02	00	/	21	/	00	00	/	00	00	PowerSequencer	Execution	0	2	-	0:Idle activity 1:-------- 2:Executing power sequencer

Meter (TXn)

TXn AMP

Meter access ID		Meter No.	Meter name	Parameter Information			
				MIN	MAX	Unit	Remarks
00	00	1	SP Out A	-400	450	dBu	-40.0 - 45.0[dBu] ex 12.6[dBu]=126
		2	SP Out B				-34.0 - 51.0[dBu](*) 18.6[dBu]=126
00	00	3	Impedance A				value x 0.1[ohms] (0.0 - 250.0[ohms]) NOTE1: measurement fail -1
00		4	Impedance B	-1	2500	ohms	NOTE2: Short circuit 0 ex 95.6[ohms]=956
00	00	5	SP Out Power A				
		6	SP Out Power B	0	See table	W	See table "Speaker output Power "
00	00	7	SP Out Gain Reduction A				
		8	SP Out Gain Reduction B	-1920	0	dB	value x 0.1[dB] ex -4.3[dB]=-43
01	18	1	Analog Input A				ex -∞[dBFS]=-1920
		2	Analog Input B	-1920	10	dBFS	value x 0.1[dBFS] 1[dBFS]=OVER -42.3[dBFS]=-423
01	12	3	Slot Input A				ex -∞[dBFS]=-1920
		4	Slot Input B	-1920	10	dBFS	value x 0.1[dBFS] 1[dBFS]=OVER -42.3[dBFS]=-423
01	14	1: Ch 1 2: Ch 2 3: Ch 3 4: Ch 4	Matrix Mixer Input #	-1920	10	dBFS	ex -∞[dBFS]=-1920 value x 0.1[dBFS] 1[dBFS]=OVER -42.3[dBFS]=-423
01	15	1: Ch 1 2: Ch 2 : 16: Ch16	Slot Output #	-1920	10	dBFS	ex -∞[dBFS]=-1920 value x 0.1[dBFS] 1[dBFS]=OVER -42.3[dBFS]=-423

* Power Amplifier Mode = Bridge

Others

Meter Access ID		Meter No.	Meter name	Parameter Information			
				MIN	MAX	Unit	Remarks
01	16	1	Oscillator 1	-1920	10	dBFS	ex -∞[dBFS]=-1920 value x 0.1[dBFS] 1[dBFS]=OVER -42.3[dBFS]=-423
01	17	1	Oscillator 2				
01	12	1	OSC MIX PGM 1	-1920	10	dBFS	ex -∞[dBFS]=-1920 value x 0.1[dBFS] 1[dBFS]=OVER -42.3[dBFS]=-423
01	12	2	OSC MIX PGM 2				
01	10	1	Speaker Processor Ach Output Level	-1920	0	dBFS	ex -∞[dBFS]=-1920 value x 0.1[dBFS] 1[dBFS]=OVER -42.3[dBFS]=-423
01	10	2	Speaker Processor Ach Gain Reduction	-1920	0	dB	value x 0.1[dB] ex -4.3[dB]=-43
01	11	1	Speaker Processor Bch Output Level	-1920	10	dBFS	ex -∞[dBFS]=-1920 value x 0.1[dBFS] 1[dBFS]=OVER -42.3[dBFS]=-423
01	11	2	Speaker Processor Bch Gain Reduction	-1920	0	dB	value x 0.1[dB] ex -4.3[dB]=-43

TXn AMP (Model dependent)

Speaker Output Power

Model	Parameter Information					
	Stereo/Parallel		Bridge		Unit	Remarks
	MIN	MAX	MIN	MAX		
TX6n	0	4800	0	9600	W	value[W] ex 598[W]=598
TX5n	0	4200	0	8400	W	
TX4n	0	3600	0	7200	W	

TXn Signal Path (Common to TX4n, TX5n and TX6n)

Access ID									Parameter Information							
									Parameter Category		Parameter Name	MIN	MAX	Unit	Fader Type	Remarks
01	04	/	00	/		00	/	00 00	4x4 Matrix Mixer	Input Master	Level	-13801	1000	dBFS	○	value x 0.01[dBFS] ex -∞[dBFS]=-13801 (-∞, -138.0 - 10.0[dBFS]) -42.3[dBFS]=-4230 See parameter table (fader)
			00	/	00:Ch 1 01:Ch 2	00	/	02 00			Polarity	0	1	-		0:Normal 1:Inverted
			01	/	02:Ch 3 03:Ch 4	00:Ch 1 01:Ch 2 02:Ch 3 03:Ch 4	/	01 00		Send	On	0	1	-		0:Off 1:On
01	04	/	00	/		00	/	01 00	Input On/Off	Input	On	0	1	-		0:Off 1:On
01	05:Ch A 06:Ch B	/	01	/	00	00:Band A 01:Band B 02:Band C	/	00 00	8 Band Input EQ A/Bch	PEQ	Q	0	112	-		See table 1 !This parameter can not be displayed, when value except "PEQ"
			01	/	00	03:Band D 04:Band E	/	01 00			Frequency	20	20000	Hz		value[Hz] ex 102.6[Hz]=1026 (20[Hz] - 20[kHz]) /27.806[kHz]=27806
			01	/	00	05:Band F 06:Band G 07:Band H	/	02 00			Gain	-1800	1800	dB		value x 0.01[dB] ex -2.05[dB]=-205 (-18.00 - 18.00[dB]) !This parameter can not be displayed, when value "HPF"/"LPF".
			01	/	00		/	03 00			Bypass	0	1	-		0:Bypass Off 1:Bypass On
01	05:Ch A 06:Ch B	/	01	/	00	00:Band A 07:Band H	/	04 00			Type	0	6	-		0:PEQ 1:L.SHELF 6dB/Oct 2:L.SHELF 12dB/Oct 3:H.SHELF 6dB/Oct 4:H.SHELF 12dB/Oct 5:HPF 6:LPF !Can not operate a Band B to G
			03	/	00	00	/	01 00		Property	PEQOn	0	1	-		0:PEQ On 1:PEQ Off
01	07:Ch A 08:Ch B	/	01	/	00	00	/	02 00	Input Delay A/Bch	Delay	On	0	1	-		0:Off 1:On
			01	/	00	00	/	03 00			Delay	0	1300000	ms		value x 0.001[ms] ex 26.92[ms]=26920 (0.000 - 1300.000[ms])
01	09	/	00	/	0:PGM To SP 1:PGM To SP 2:Osc 1 To SP 3:Osc 2 To SP	00	/	03 00	Oscillator Mix	Input	On	0	1	-		0:Off 1:On
01	10:Ch A 11:Ch B		00	/	00	00	/	00 00	Speaker Processor A/Bch	Input	Level	-13801	0	dBFS	○	value x 0.01[dBFS] ex -∞[dBFS]=-13801 (-∞, -138.0 - 0.0[dBFS]) -42.3[dBFS]=-4230 See parameter table (fader)
			01	/	00	00	/	00 00		Delay	On	0	1	-		0:Off 1:On
			01	/	00	00	/	01 00			Delay	0	500000	ms		value x 0.001[ms] ex 26.92[ms]=26920 (0.000 - 500.000[ms])
			02	/	00	00	/	02 00		X-Over	LPFFrequency	20	20000	Hz		value[Hz] (20[Hz] - 20[kHz])
			02	/	00	00	/	03 00			HPFFrequency	20	20000	Hz		value[Hz] (20[Hz] - 20[kHz])
			02	/	00	00	/	04 00			LPFType	0	19	-		See parameter table2
			02	/	00	00	/	05 00			HPFType	0	19	-		See parameter table2
			02	/	00	00	/	06 00			LPFGc	-6	6	-		!This parameter can not be displayed, when value except "**dB/Oct AdjustGC".
			02	/	00	00	/	07 00			HPFGc	-6	6	-		!This parameter can not be displayed, when value except "**dB/Oct AdjustGC".
			02	/	00	00	/	08 00		Polarity	Polarity	0	1	-		0:Normal 1:Inverted
			04	/	00		/	00 00		PEQ	Q	0	112	-		See table 1 !This parameter can not be displayed, when value except "PEQ"/"APF 2nd".
			04	/	00		/	01 00			Frequency	20	20000	Hz		value[Hz] ex 102.6[Hz]=1026 (20[Hz] - 20[kHz]) /27.806[kHz]=27806
			04	/	00		/	02 00			Gain	-1800	1800	dB		value x 0.01[dB] (-18.00 - 18.00[dB]) !This parameter can not be displayed, when value "LPF"/"HPF"/"APF 1st".
			04	/	00	00:Band A 01:Band B 02:Band C	/	03 00			Bypass	0	1	-		0:Bypass Off 1:Bypass On
			04	/	00	03:Band D 04:Band E 05:Band F	/	04 00			Type	0	9	-		0:PEQ 1:L.SHELF 6dB/Oct 2:L.SHELF 12dB/Oct 3:H.SHELF 6dB/Oct 4:H.SHELF 12dB/Oct 5:HPF 6:LPF 7:APF 1st 8:APF 2nd 9:Horn EQ
			05	/	00	00	/	00 00		Limiter	Threshold	-54	0	dB		
											Attack	0	1200	ms		value x 0.1[ms] ex 48.7[ms]=487 (0.0 - 120.0[ms]) !This parameter can not be displayed, when value except "Manual" .
01	10:Ch A 11:Ch B	/	05	/	00	00	/	01 00								
			05	/	00	00	/	02 00			Release	0	159	s		See parameter table3 !This parameter can not be displayed, when value except "Manual"
			05	/	00	00	/	03 00			On	0	1	-		0:Off 1:On
			04	/	00	00	/	04 00			AttackMode	0	3	-		0:Fast 1:Mid 2:Slow 3:Manual
			05	/	00	00	/	05 00			ReleaseMode	0	3	-		0:Fast 1:Mid 2:Slow 3:Manual
			06	/	00	00	/	00 00		Out	Level	-13801	0	dBFS	○	value x 0.1[dBFS] ex -∞[dBFS]=-13801 (-∞, -138.0 - 0.0[dBFS]) -42.3[dBFS]=-423 See parameter table (fader)
			06	/	00	00	/	01 00			Mute	0	1	-		0:Unmuted 1:Muted
			06	/	00	00	/	02 00			PEQOn	0	1	-		0:PEQ Off 1:PEQ On
01	13	/	00	/	00	00:Slot Ch 1 01:Slot Ch 2 : : 15:Slot Ch16	/	00 00	Output Router	Output	Assign	0	8	-		0:None 1:4x4 Matrix Mixer Output 3 2:4x4 Matrix Mixer Output 4 3:OscMix Input 1 4:OscMix Input 2 5:Speaker Processor Ach 6:Speaker Processor Bch 7:Osillator 1 8:Osillator 2
01	16:OSC 1 17:OSC 2	/	00	/	00	00	/	00 00	Oscillator 1/2	Osc	Level	-13801	0	dBFS	○	value x 0.01[dBFS] ex -∞[dBFS]=-13801 (-∞, -138.0 - 0.0[dBFS]) -42.3[dBFS]=-4230 See parameter table (fader)
			00	/	00	00	/	01 00			On	0	1	-		0:Off 1:On
			00	/	00	00	/	02 00			VariFrequency	20	20000	Hz		value[Hz] ex 102.6[Hz]=1026 (20[Hz] - 20[kHz]) /27.806[kHz]=27806
			00	/	00	00	/	03 00			Waveform	0	5	-		0:Sine 100Hz 1:Sine 1kHz 2:Sine10kHz 3:PINK NOISE 4:BURST 5:Vari
01	19	/	00	/	00:Slot In Ch 1 01:Slot In Ch 2 : : 15:Slot In	00	/	00 00	Slot Input Gain	Input Gain	Gain	-240	240	dB		
01	19	/	01	/	00	00:Select 1 01:Select 2	/	00 00	Input Router	Input	Assign	0	16	-		0:None 1:SLOT Input 1 2:SLOT Input 2 : : 16:SLOT Input 16

Parameter (ACD1 Amp Control)

Tn AMP (Tn common)

Access ID										Parameter Information					
										Parameter Category	Parameter name	MIN	MAX	Unit	Remarks
00	00	/	01	/	00	00	/	00	00	Standby	Standby/On	0	1	-	0:Standby 1:Power On
00	00	/	02	/	00:Ch A 01:Ch B	00	/	00	00	Output	Mute	0	1	-	0:UnMuted 1:Muted
						00	/	01	00		Attenuation	-805	0	dB	-805:-∞ value x 0.1[dB] 5step (-∞,-80.0 - 0.0[dB] 0.5[dB]step) ex -36.5[dBFS]=-365
						00	/	02	00		Polarity	0	1	-	0:Normal 1:Inverted
00	00	/	03	/	00:Ch A 01:Ch B	00	/	00	00	Analog Input Voltage	Alert Max Threshold	-560	240	dBu	value x 0.1[dBFS] (-80.0 - 0.0[dBFS]) ex -42.3[dBFS]=-423
						00	/	01	00		Enable	0	1	-	0:Disable 1:Enable
00	00	/	04	/	00:Ch A 01:Ch B	00	/	00	00	Thermal Meter	Alert Max Threshold	0	100	%	0
00	00	/	06	/	00	00	/	00	00	Attenuation Link	Link	0	1	-	0:Link Off 1:Link On

Tn AMP (Model dependent)

Access ID										Parameter Information									
												T5n		T4n		T3n			
										Parameter Category	Parameter name	MIN	MAX	MIN	MAX	MIN	MAX	Unit	Remarks
00	01	/	00	/	00	00	/	00	00	Mode	Power Amp Mode	0	2	0	2	0	2	0	0:Stereo 1:Bridge 2:Parallel
00	01	/	01	/	00:Ch A 01:Ch B(*1)	00	/	00	00	Speaker Output Voltage	Alert Max Threshold	-380(*1) -320(*2)	430(*1) 490(*2)	-380(*1) -320(*2)	430(*1) 490(*2)	-380(*1) -320(*2)	430(*1) 490(*2)	dBu	value x ex -5.4[dBu]=-54
						00	/	01	00		Enable	0	1	0	1	0	1	0	0:Disable 1:Enable
00	01	/	02	/	00:Ch A 01:Ch B(*1)	00	/	00	00	Speaker Output Power	Alert Max Threshold	0 0	3100(*1) 6200(*2)	0 0	2650(*1) 5300(*2)	0 0	2200(*1) 4400(*2)	W	0
						00	/	01	00		Enable	0	1	0	1	0	1	0	0:Disable 1:Enable
00	01	/	03	/	00:Ch A 01:Ch B(*1)	00	/	00	00	Speaker Output Imp	Alert Max Threshold	0	2500	0	2500	0	2500	ohms	value x 0.1[ohms] (0.0 - 250.0[ohms]) ex 95.6[ohms]=956
						00	/	01	00		Alert Min Threshold	0	2500	0	2500	0	2500	ohms	value x 0.1[ohms] (0.0 - 250.0[ohms]) ex 95.6[ohms]=956
						00	/	02	00		Enable	0	1	0	1	0	1	0	0:Disable 1:Enable

*1:Power Amp Mode=Stereo or Parallel
*2:Power Amp Mode=Bridge

PCN AMP (PCN common)

Access ID										Parameter Information					
										Parameter Category	Parameter name	MIN	MAX	Unit	Remarks
00	00	/	01	/	00	00	/	00	00	Standby	Standby/On	0	1	-	0:Standby 1:Power On
00	00	/	02	/	00:Ch A 01:Ch B	00	/	00	00	Output	Mute	0	1	-	0:UnMuted 1:Muted
						00	/	01	00		Attenuation	-805	0	dB	-805:-∞ value x 0.1[dB] 5step (-∞,-80.0 - 0.0[dB] 0.5[dB]step) ex -36.5[dBFS]=-365
						00	/	02	00		Polarity	0	1	-	0:Normal 1:Inverted
00	00	/	03	/	00:Ch A 01:Ch B	00	/	00	00	Analog Input Voltage	Alert Max Threshold	-580	220	dBu	value x 0.1[dBFS] (-80.0 - 0.0[dBFS]) ex -42.3[dBFS]=-423
						00	/	01	00		Enable	0	1	-	0:Disable 1:Enable
00	00	/	04	/	00:Ch A 01:Ch B	00	/	00	00	Thermal Meter	Alert Max Threshold	0	100	%	Step:5%
00	00	/	06	/	00	00	/	00	00	Attenuation Link	Link	0	1	-	0:Link Off 1:Link On

PCN AMP (Model dependent)

Access ID										Parameter Information													
												PC9501/9500N		PC6501N		PC4801N/4800N		PC3301N/3300N		PC2001N			
										Parameter Category	Parameter name	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	Unit	Remarks
00	01	/	00	/	00	00	/	00	00	Mode	Power Amp Mode	0	2	0	2	0	2	0	2	0	2	0	0:Stereo 1:Bridge 2:Parallel
00	01	/	01	/	00:Ch A 01:Ch B(*1)	00	/	00	00	Speaker Output Voltage	Alert Max Threshold	-380(*1) -320(*2)	420(*1) 480(*2)	-380(*1) -320(*2)	420(*1) 480(*2)	-380(*1) -320(*2)	420(*1) 480(*2)	-380(*1) -320(*2)	420(*1) 480(*2)	-380(*1) -320(*2)	420(*1) 480(*2)	dBu	value x 0.1[dBu] (-38.0 - 45.0(*1)/-32.0 - 51.0(*2)[dBu])
						00	/	01	00		Enable	0	1	0	1	0	1	0	1	0	1	0	0:Disable 1:Enable
00	01	/	02	/	00:Ch A 01:Ch B(*1)	00	/	00	00	Speaker Output Power	Alert Max Threshold	0 0	2200(*1) 4400(*2)	0 0	1500(*1) 3000(*2)	0 0	1100(*1) 2200(*2)	0 0	800(*1) 1600(*2)	0 0	500(*1) 1000(*2)	W	0
						00	/	01	00		Enable	0	1	0	1	0	1	0	1	0	1	0	0:Disable 1:Enable
00	01	/	03	/	00:Ch A 01:Ch B	00	/	00	00	Speaker Output Imp	Alert Max Threshold	0	2500	0	2500	0	2500	0	2500	0	2500	ohms	value x 0.1[ohms]
						00	/	01	00		Alert Min Threshold	0	2500	0	2500	0	2500	0	2500	0	2500	ohms	(0.0 - 250.0[ohms]) ex 95.6[ohms]=956
						00	/	02	00		Enable	0	1	0	1	0	1	0	1	0	1	0	0:Disable 1:Enable

*1:Power Amp Mode=Stereo or Parallel
*2:Power Amp Mode=Bridge

Tn/PCN Status (Common)

Access ID										Parameter Information					
										Parameter Category	Parameter name	MIN	MAX	Unit	Remarks
02	00	/	00	/	00:Ch A 01:Ch B	00	/	00	00	Protection	Protecting	0	1	-	0:Not protecting 1:Protecting
02	00	/	01	/	00:Ch A 01:Ch B	00	/	00	00	Speaker Output Voltage	Above High Threshold	0	1	-	0:Not above threshold level 1:Above threshold level
02	00	/	02	/	00:Ch A 01:Ch B	00	/	00	00	Clip Limiter	Clipping	0	1	-	0:Not Clipping 1:Cliping
02	00	/	03	/	00:Ch A 01:Ch B	00	/	00	00	Analog Input Voltage	Above High Threshold	0	1	-	0:Not above threshold level 1:Above threshold level
02	00	/	04	/	00:Ch A 01:Ch B	00	/	00	00	Speaker Output Power	Above High Threshold	0	1	-	0:Not above threshold level 1:Above threshold level
02	00	/	05	/	00:Ch A 01:Ch B	00	/	00	00	Speaker Output Imp	Above High Threshold	0	1	-	0:Not above threshold level 1:Above threshold level
						00	/	01	00		Below Low Threshold	0	1	-	0:Not below threshold level 1:Below threshold level
02	00	/	06	/	00:Ch A 01:Ch B	00	/	00	00	Thermal Meter	Above High Threshold	0	1	-	0:Not above threshold level 1:Above threshold level
								01	00		Meter	0	100	%	Step:5%
								02	00		Peak Hold Value	0	100	%	Step:5%
02	00	/	07	/	00	00	/	00	00	PowerSequencer	Execution	0	2	-	0:Idle activity 1:-------- 2:Executing power sequencer

XP AMP (XP common)

Access ID											Parameter Information					
											Parameter Category	Parameter name	MIN	MAX	Unit	Remarks
00	00	/	00	/	00	00	/	00	00		Mode	Power Amp Mode	0	2	0	0:Stereo 1:Bridge 2:Parallel
00	00	/	01	/	00:Ch A 01:Ch B	00	/	00	00		Speaker Output Voltage	Alert Max Threshold	-380(*1) -320(*2)	420(*1) 480(*2)	dBu	value x 0.1[dBu] (-38.0 - 45.0(*1)/-32.0 - 51.0(*2)[dBu]) ex -5.4[dBu]=-54
						00	/	01	00			Enable	0	1	-	0:Disable 1:Enable
00	00	/	02	/	00	00	/	00	00		Standby	Standby/On	0	1	-	0:Standby 1:Power On
00	00	/	03	/	00:Ch A 01:Ch B	00	/	00	00		Output	Mute	0	1	-	0:UnMuted 1:Muted

*1:Power Amp Mode=Stereo or Parallel
*2:Power Amp Mode=Bridge

XP Status (Model dependent)

Access ID											Parameter Information					
											Parameter Category	Parameter name	MIN	MAX	Unit	Remarks
02	00	/	00	/	00:Ch A 01:Ch B	00	/	00	00		Protection	Protecting	0	1	-	0:Not protecting 1:Protecting
02	00	/	01	/	00:Ch A 01:Ch B	00	/	00	00		Speaker Output Voltage	Above High Threshold	0	1	-	0:Not above threshold level 1:Above threshold level
02	00	/	02	/	00	00	/	00	00		PowerSequencer	Execution	0	2	-	0:Idle activity 1:-------- 2:Executing power sequencer

XM AMP (XP common)

Access ID											Parameter Information					
											Parameter Category	Parameter name	MIN	MAX	Unit	Remarks
00	00	/	00	/	00	00	/	00	00		Mode	Power Amp Mode	0	2	0	0:Stereo 1:Bridge 2:Parallel
00	00	/	01	/	00:Ch A 01:Ch B	00	/	00	00		Speaker Output Voltage AB	Alert Max Threshold	-380(*1) -320(*2)	420(*1) 480(*2)	dBu	value x 0.1[dBu] (-38.0 - 45.0(*1)/-32.0 - 51.0(*2)[dBu]) ex -5.4[dBu]=-54
						00	/	01	00			Enable	0	1	-	0:Disable 1:Enable
00	00	/	02	/	00:Ch C 01:Ch D	00	/	00	00		Speaker Output Voltage CD	Alert Max Threshold	-380(*1) -320(*2)	420(*1) 480(*2)	dBu	value x 0.1[dBu] (-38.0 - 45.0(*1)/-32.0 - 51.0(*2)[dBu]) ex -5.4[dBu]=-54
						00	/	01	00			Enable	0	1	-	0:Disable 1:Enable
00	00	/	03	/	00	00	/	00	00		Standby	Standby/On	0	1	-	0:Standby 1:Power On
00	00	/	04	/	00:Ch A 01:Ch B 02:Ch C 03:Ch D	00	/	00	00		Output	Mute	0	1	-	0:UnMuted 1:Muted

XM Status (Common)

Access ID											Parameter Information					
											Parameter Category	Parameter name	MIN	MAX	Unit	Remarks
02	00	/	00	/	00:Ch A 01:Ch B 02:Ch C 03:Ch D	00	/	00	00		Protection	Protecting	0	1	-	0:Not protecting 1:Protecting
			01			00	/	00	00		Speaker Output Voltage	Above High Threshold	0	1	-	0:Not above threshold level 1:Above threshold level
02	00	/	02	/	00	00	/	00	00		PowerSequencer	Execution	0	2	-	0:Idle activity 1:-------- 2:Executing power sequencer

XH AMP

Access ID											Parameter Information					
											Parameter Category	Parameter name	MIN	MAX	Unit	Remarks
00	00	/	00	/	00:Ch A 01:Ch B	00	/	00	00		Speaker Output Voltage	Alert Max Threshold	-380(*1)	420(*1)	dBu	value x 0.1[dBu] (-38.0 - 45.0(*1)/-32.0 - 51.0(*2)[dBu]) ex -5.4[dBu]=-54
						00	/	01	00			Enable	0	1	-	0:Disable 1:Enable
00	00	/	01	/	00	00	/	00	00		Standby	Standby/On	0	1	-	0:Standby 1:Power On
00	00	/	02	/	00:Ch A 01:Ch B	00	/	00	00		Output	Mute	0	1	-	0:UnMuted 1:Muted

XH Status

Access ID											Parameter Information					
											Parameter Category	Parameter name	MIN	MAX	Unit	Remarks
02	00	/	00	/	00:Ch A 01:Ch B	00	/	00	00		Protection	Protecting	0	1	-	0:Not protecting 1:Protecting
02	00	/	01	/	00:Ch A 01:Ch B	00	/	00	00		Speaker Output Voltage	Above High Threshold	0	1	-	0:Not above threshold level 1:Above threshold level
02	00	/	02	/	00	00	/	00	00		PowerSequencer	Execution	0	2	-	0:Idle activity 1:-------- 2:Executing power sequencer

Meter (ACD1 Amp Control)

Tn AMP

Meter access ID		Meter #	Meter name	Parameter Information				
				MIN	MAX	Unit	Remarks	
00	00	1	SP Out A	-170	430	dBu	value x 0.1[dBu]	ex 12.6[dBu]=126
		2	SP Out B	-110(*)	490(*)			
00	00	3	Impedance A				value x 0.1[ohms]	
00	00	4	Impedance B	4	2500	ohms	(0.0 - 250.0[ohms])	ex 95.6[ohms]=956
00	00	5	Power A	-	-	W	See Speaker output power table	
00	00	6	Power B					
00	00	7	Analog Input A	-360	240	dBu	value x 0.1[dBu]	ex 12.6[dBu]=126
00	00	8	Analog Input B					

PCN AMP

Meter access ID		Meter #	Meter name	Parameter Information				
				MIN	MAX	Unit	Remarks	
00	00	1	SP Out A	-180	420	dBu	value x 0.1[dBu]	ex 12.6[dBu]=126
		2	SP Out B	-120(*)	480(*)			
00	00	3	Impedance A				value x 0.1[ohms]	
00	00	4	Impedance B	4	2500	ohms	(0.0 - 250.0[ohms])	ex 95.6[ohms]=956
00	00	5	Power A	-	-	W	See Speaker output power table	
00	00	6	Power B					
01	00	7	Analog Input A	-380	220	dBu	value x 0.1[dBu]	ex 12.6[dBu]=126
01	00	8	Analog Input B					

XP AMP

Meter access ID		Meter #	Meter name	Parameter Information				
				MIN	MAX	Unit	Remarks	
00	00	1	SP Out A	-180	420	dBu	value x 0.1[dBu]	ex 12.6[dBu]=126
		2	SP Out B	-120(*)	480(*)			

XM AMP

Meter access ID		Meter #	Meter name	Parameter Information				
				MIN	MAX	Unit	Remarks	
00	00	1	SP Out A	-180	420	dBu	value x 0.1[dBu]	ex 12.6[dBu]=126
		2	SP Out B	-120(*)	480(*)			
		3	SP Out C					
		4	SP Out D					

XH AMP

Meter access ID		Meter #	Meter name	Parameter Information				
				MIN	MAX	Unit	Remarks	
00	00	1	SP Out A	-180	420	dBu	value x 0.1[dBu]	ex 12.6[dBu]=126
		2	SP Out B	-120(*)	480(*)			

ACD1 AMP (Model dependent)

Speaker Output Power

Model	Parameter Information						
	Stereo/Parallel		Bridge		Unit	Remarks	
	MIN	MAX	MIN	MAX			
T5n	4	3100	8	6200			
T4n	4	2650	8	5300			
T3n	3	2200	6	4400			
PC9501N/9500N	3	2200	6	4400	W	value[W]	ex 598[W]=598
PC6501N	2	1500	5	3000			
PC4801N/4800N	2	1100	3	2200			
PC3301N/3300N	2	800	3	1600			
PC2001N	1	500	2	1000			

Table 1: Parameter table "Q"

value	Display	value	Display
0	0.1	81	10.5
1	0.105	82	11
2	0.11	83	12
3	0.12	84	12.5
4	0.125	85	13
5	0.13	86	14
6	0.14	87	15
7	0.15	88	16
8	0.16	89	17
9	0.17	90	18
10	0.18	91	19
11	0.19	92	20
12	0.2	93	21
13	0.21	94	22
14	0.22	95	24
15	0.24	96	25
16	0.25	97	27
17	0.27	98	28
18	0.28	99	30
19	0.3	100	32
20	0.32	101	34
21	0.33	102	35
22	0.35	103	38
23	0.38	104	40
24	0.4	105	42
25	0.42	106	45
26	0.45	107	47
27	0.47	108	50
28	0.5	109	53
29	0.53	110	56
30	0.56	111	60
31	0.6	112	63
32	0.63		
33	0.67		
34	0.7		
35	0.75		
36	0.8		
37	0.85		
38	0.9		
39	0.95		
40	1		
41	1.05		
42	1.1		
43	1.2		
44	1.25		
45	1.3		
46	1.4		
47	1.5		
48	1.6		
49	1.7		
50	1.8		
51	1.9		
52	2		
53	2.1		
54	2.2		
55	2.4		
56	2.5		
57	2.7		
58	2.8		
59	3		
60	3.2		
61	3.3		
62	3.5		
63	3.8		
64	4		
65	4.2		
66	4.5		
67	4.7		
68	5		
69	5.3		
70	5.6		
71	6		
72	6.3		
73	6.7		
74	7		
75	7.5		
76	8		
77	8.4		
78	9		
79	9.5		
80	10		

Table 2: Parameter table "Filter type"

value	Display
0	Thru
1	6dB/Oct
2	12dB/Oct AdjustGc
3	12dB/Oct Butrwrth
4	12dB/Oct Bessel
5	12dB/Oct Linkwitz
6	18dB/Oct AdjustGc
7	18dB/Oct Butrwrth
8	18dB/Oct Bessel
9	24dB/Oct AdjustGc
10	24dB/Oct Butrwrth
11	24dB/Oct Bessel
12	24dB/Oct Linkwitz
13	32dB/Oct AdjustGc
14	32dB/Oct Butrwrth
15	32dB/Oct Bessel
16	48dB/Oct AdjustGc
17	48dB/Oct Butrwrth
18	48dB/Oct Bessel
19	48dB/Oct Linkwitz

Table 3: Parameter table "Release"

value	Display				value	Display			
	44.1kHz	48kHz	88.2kHz	96kHz		44.1kHz	48kHz	88.2kHz	96kHz
0	6m	5m	3m	3m	80	1.49	1.37	746m	685m
1	12m	11m	6m	6m	81	1.58	1.45	792m	728m
2	17m	16m	9m	8m	82	1.67	1.54	839m	771m
3	23m	21m	12m	11m	83	1.77	1.62	885m	813m
4	29m	27m	15m	14m	84	1.86	1.71	932m	856m
5	35m	32m	18m	16m	85	1.95	1.79	978m	899m
6	41m	37m	21m	19m	86	2.04	1.88	1.02	941m
7	46m	43m	23m	22m	87	2.14	1.96	1.07	984m
8	52m	48m	26m	24m	88	2.23	2.05	1.11	1.02
9	58m	53m	29m	27m	89	2.32	2.13	1.16	1.06
10	64m	59m	32m	30m	90	2.42	2.22	1.21	1.11
11	70m	64m	35m	32m	91	2.51	2.30	1.25	1.15
12	75m	69m	38m	35m	92	2.60	2.39	1.30	1.19
13	81m	75m	41m	38m	93	2.69	2.47	1.35	1.24
14	87m	80m	44m	40m	94	2.79	2.56	1.39	1.28
15	93m	85m	47m	43m	95	2.88	2.65	1.44	1.32
16	99m	91m	50m	46m	96	2.97	2.73	1.48	1.36
17	104m	96m	52m	48m	97	3.16	2.90	1.58	1.45
18	110m	101m	55m	51m	98	3.34	3.07	1.67	1.53
19	116m	107m	58m	54m	99	3.53	3.24	1.76	1.62
20	122m	112m	61m	56m	100	3.72	3.41	1.86	1.70
21	128m	117m	64m	59m	101	3.90	3.58	1.95	1.79
22	133m	123m	67m	62m	102	4.09	3.75	2.04	1.88
23	139m	128m	70m	64m	103	4.27	3.93	2.13	1.96
24	145m	133m	73m	67m	104	4.46	4.10	2.23	2.05
25	151m	139m	76m	70m	105	4.64	4.27	2.32	2.13
26	157m	144m	79m	72m	106	4.83	4.44	2.41	2.22
27	163m	149m	82m	75m	107	5.02	4.61	2.51	2.30
28	168m	155m	84m	78m	108	5.20	4.78	2.60	2.39
29	174m	160m	87m	80m	109	5.39	4.95	2.69	2.47
30	180m	165m	90m	83m	110	5.57	5.12	2.78	2.56
31	186m	171m	93m	86m	111	5.76	5.29	2.88	2.64
32	192m	176m	96m	88m	112	5.94	5.46	2.97	2.73
33	203m	187m	102m	94m	113	6.32	5.80	3.16	2.90
34	215m	197m	108m	99m	114	6.69	6.14	3.34	3.07
35	226m	208m	113m	104m	115	7.06	6.48	3.53	3.24
36	238m	219m	119m	110m	116	7.43	6.83	3.71	3.41
37	250m	229m	125m	115m	117	7.80	7.17	3.90	3.58
38	261m	240m	131m	120m	118	8.17	7.51	4.08	3.75
39	273m	251m	137m	126m	119	8.54	7.85	4.27	3.92
40	284m	261m	142m	131m	120	8.92	8.19	4.46	4.09
41	296m	272m	148m	136m	121	9.29	8.53	4.64	4.26
42	308m	283m	154m	142m	122	9.66	8.87	4.83	4.43
43	319m	293m	160m	147m	123	10.0	9.21	5.01	4.61
44	331m	304m	166m	152m	124	10.4	9.56	5.20	4.78
45	342m	315m	171m	158m	125	10.7	9.90	5.38	4.95
46	354m	325m	177m	163m	126	11.1	10.2	5.57	5.12
47	366m	336m	183m	168m	127	11.5	10.5	5.76	5.29
48	377m	347m	189m	174m	128	11.8	10.9	5.94	5.46
49	400m	368m	200m	184m	129	12.6	11.6	6.31	5.80
50	424m	389m	212m	195m	130	13.3	12.2	6.68	6.14
51	447m	411m	224m	206m	131	14.1	12.9	7.06	6.48
52	470m	432m	235m	216m	132	14.8	13.6	7.43	6.82
53	493m	453m	247m	227m	133	15.6	14.3	7.80	7.16
54	517m	475m	259m	238m	134	16.3	15.0	8.17	7.51
55	540m	496m	270m	248m	135	17.0	15.7	8.54	7.85
56	563m	517m	282m	259m	136	17.8	16.3	8.91	8.19
57	586m	539m	293m	270m	137	18.5	17.0	9.28	8.53
58	609m	560m	305m	280m	138	19.3	17.7	9.66	8.87
59	633m	581m	317m	291m	139	20.0	18.4	10.0	9.21
60	656m	603m	328m	302m	140	20.8	19.1	10.4	9.55
61	679m	624m	340m	312m	141	21.5	19.7	10.7	9.89
62	702m	645m	351m	323m	142	22.2	20.4	11.1	10.2
63	725m	667m	363m	334m	143	23.0	21.1	11.5	10.5
64	749m	688m	375m	344m	144	23.7	21.8	11.8	10.9
65	795m	730m	398m	365m	145	25.2	23.2	12.6	11.6
66	842m	773m	421m	387m	146	26.7	24.5	13.3	12.2
67	888m	816m	444m	408m	147	28.2	25.9	14.1	12.9
68	934m	858m	467m	429m	148	29.7	27.3	14.8	13.6
69	981m	901m	491m	451m	149	31.2	28.6	15.6	14.3
70	1.02	944m	514m	472m	150	32.6	30.0	16.3	15.0
71	1.07	986m	537m	493m	151	34.1	31.4	17.0	15.7
72	1.12	1.02	560m	515m	152	35.6	32.7	17.8	16.3
73	1.16	1.07	584m	536m	153	37.1	34.1	18.5	17.0
74	1.21	1.11	607m	557m	154	38.6	35.4	19.3	17.7
75	1.25	1.15	630m	579m	155	40.1	36.8	20.0	18.4
76	1.30	1.20	653m	600m	156	41.6	38.2	20.8	19.1
77	1.35	1.24	676m	621m	157	43.0	39.5	21.5	19.7
78	1.39	1.28	700m	643m	158	44.5	40.9	22.2	20.4
79	1.44	1.32	723m	664m	159	46.0	42.3	23.0	21.1

A Fader Table of -∞ to 0 dB

Value	Data	Value	Data	Value	Data	Value	Data	Value	Data	Value	Data	Value	Data	Value	Data
0	-Inf dB	64	-87.50dB	128	-69.00dB	192	-56.20dB	256	-46.70dB	320	-40.30dB	384	-33.90dB	448	-28.75dB
1	-138.00dB	65	-87.00dB	129	-68.80dB	193	-56.00dB	257	-46.60dB	321	-40.20dB	385	-33.80dB	449	-28.70dB
2	-136.00dB	66	-86.50dB	130	-68.60dB	194	-55.80dB	258	-46.50dB	322	-40.10dB	386	-33.70dB	450	-28.65dB
3	-134.00dB	67	-86.00dB	131	-68.40dB	195	-55.60dB	259	-46.40dB	323	-40.00dB	387	-33.60dB	451	-28.60dB
4	-133.00dB	68	-85.50dB	132	-68.20dB	196	-55.40dB	260	-46.30dB	324	-39.90dB	388	-33.50dB	452	-28.55dB
5	-132.00dB	69	-85.00dB	133	-68.00dB	197	-55.20dB	261	-46.20dB	325	-39.80dB	389	-33.40dB	453	-28.50dB
6	-131.00dB	70	-84.50dB	134	-67.80dB	198	-55.00dB	262	-46.10dB	326	-39.70dB	390	-33.30dB	454	-28.45dB
7	-130.00dB	71	-84.00dB	135	-67.60dB	199	-54.80dB	263	-46.00dB	327	-39.60dB	391	-33.20dB	455	-28.40dB
8	-129.00dB	72	-83.50dB	136	-67.40dB	200	-54.60dB	264	-45.90dB	328	-39.50dB	392	-33.10dB	456	-28.35dB
9	-128.00dB	73	-83.00dB	137	-67.20dB	201	-54.40dB	265	-45.80dB	329	-39.40dB	393	-33.00dB	457	-28.30dB
10	-127.00dB	74	-82.50dB	138	-67.00dB	202	-54.20dB	266	-45.70dB	330	-39.30dB	394	-32.90dB	458	-28.25dB
11	-126.00dB	75	-82.00dB	139	-66.80dB	203	-54.00dB	267	-45.60dB	331	-39.20dB	395	-32.80dB	459	-28.20dB
12	-125.00dB	76	-81.50dB	140	-66.60dB	204	-53.80dB	268	-45.50dB	332	-39.10dB	396	-32.70dB	460	-28.15dB
13	-124.00dB	77	-81.00dB	141	-66.40dB	205	-53.60dB	269	-45.40dB	333	-39.00dB	397	-32.60dB	461	-28.10dB
14	-123.00dB	78	-80.50dB	142	-66.20dB	206	-53.40dB	270	-45.30dB	334	-38.90dB	398	-32.50dB	462	-28.05dB
15	-122.00dB	79	-80.00dB	143	-66.00dB	207	-53.20dB	271	-45.20dB	335	-38.80dB	399	-32.40dB	463	-28.00dB
16	-121.00dB	80	-79.50dB	144	-65.80dB	208	-53.00dB	272	-45.10dB	336	-38.70dB	400	-32.30dB	464	-27.95dB
17	-120.00dB	81	-79.00dB	145	-65.60dB	209	-52.80dB	273	-45.00dB	337	-38.60dB	401	-32.20dB	465	-27.90dB
18	-119.00dB	82	-78.50dB	146	-65.40dB	210	-52.60dB	274	-44.90dB	338	-38.50dB	402	-32.10dB	466	-27.85dB
19	-118.00dB	83	-78.00dB	147	-65.20dB	211	-52.40dB	275	-44.80dB	339	-38.40dB	403	-32.00dB	467	-27.80dB
20	-117.00dB	84	-77.80dB	148	-65.00dB	212	-52.20dB	276	-44.70dB	340	-38.30dB	404	-31.90dB	468	-27.75dB
21	-116.00dB	85	-77.60dB	149	-64.80dB	213	-52.00dB	277	-44.60dB	341	-38.20dB	405	-31.80dB	469	-27.70dB
22	-115.00dB	86	-77.40dB	150	-64.60dB	214	-51.80dB	278	-44.50dB	342	-38.10dB	406	-31.70dB	470	-27.65dB
23	-114.00dB	87	-77.20dB	151	-64.40dB	215	-51.60dB	279	-44.40dB	343	-38.00dB	407	-31.60dB	471	-27.60dB
24	-113.00dB	88	-77.00dB	152	-64.20dB	216	-51.40dB	280	-44.30dB	344	-37.90dB	408	-31.50dB	472	-27.55dB
25	-112.00dB	89	-76.80dB	153	-64.00dB	217	-51.20dB	281	-44.20dB	345	-37.80dB	409	-31.40dB	473	-27.50dB
26	-111.00dB	90	-76.60dB	154	-63.80dB	218	-51.00dB	282	-44.10dB	346	-37.70dB	410	-31.30dB	474	-27.45dB
27	-110.00dB	91	-76.40dB	155	-63.60dB	219	-50.80dB	283	-44.00dB	347	-37.60dB	411	-31.20dB	475	-27.40dB
28	-109.00dB	92	-76.20dB	156	-63.40dB	220	-50.60dB	284	-43.90dB	348	-37.50dB	412	-31.10dB	476	-27.35dB
29	-108.00dB	93	-76.00dB	157	-63.20dB	221	-50.40dB	285	-43.80dB	349	-37.40dB	413	-31.00dB	477	-27.30dB
30	-107.00dB	94	-75.80dB	158	-63.00dB	222	-50.20dB	286	-43.70dB	350	-37.30dB	414	-30.90dB	478	-27.25dB
31	-106.00dB	95	-75.60dB	159	-62.80dB	223	-50.00dB	287	-43.60dB	351	-37.20dB	415	-30.80dB	479	-27.20dB
32	-105.00dB	96	-75.40dB	160	-62.60dB	224	-49.90dB	288	-43.50dB	352	-37.10dB	416	-30.70dB	480	-27.15dB
33	-104.00dB	97	-75.20dB	161	-62.40dB	225	-49.80dB	289	-43.40dB	353	-37.00dB	417	-30.60dB	481	-27.10dB
34	-103.00dB	98	-75.00dB	162	-62.20dB	226	-49.70dB	290	-43.30dB	354	-36.90dB	418	-30.50dB	482	-27.05dB
35	-102.00dB	99	-74.80dB	163	-62.00dB	227	-49.60dB	291	-43.20dB	355	-36.80dB	419	-30.40dB	483	-27.00dB
36	-101.50dB	100	-74.60dB	164	-61.80dB	228	-49.50dB	292	-43.10dB	356	-36.70dB	420	-30.30dB	484	-26.95dB
37	-101.00dB	101	-74.40dB	165	-61.60dB	229	-49.40dB	293	-43.00dB	357	-36.60dB	421	-30.20dB	485	-26.90dB
38	-100.50dB	102	-74.20dB	166	-61.40dB	230	-49.30dB	294	-42.90dB	358	-36.50dB	422	-30.10dB	486	-26.85dB
39	-100.00dB	103	-74.00dB	167	-61.20dB	231	-49.20dB	295	-42.80dB	359	-36.40dB	423	-30.00dB	487	-26.80dB
40	-99.50dB	104	-73.80dB	168	-61.00dB	232	-49.10dB	296	-42.70dB	360	-36.30dB	424	-29.95dB	488	-26.75dB
41	-99.00dB	105	-73.60dB	169	-60.80dB	233	-49.00dB	297	-42.60dB	361	-36.20dB	425	-29.90dB	489	-26.70dB
42	-98.50dB	106	-73.40dB	170	-60.60dB	234	-48.90dB	298	-42.50dB	362	-36.10dB	426	-29.85dB	490	-26.65dB
43	-98.00dB	107	-73.20dB	171	-60.40dB	235	-48.80dB	299	-42.40dB	363	-36.00dB	427	-29.80dB	491	-26.60dB
44	-97.50dB	108	-73.00dB	172	-60.20dB	236	-48.70dB	300	-42.30dB	364	-35.90dB	428	-29.75dB	492	-26.55dB
45	-97.00dB	109	-72.80dB	173	-60.00dB	237	-48.60dB	301	-42.20dB	365	-35.80dB	429	-29.70dB	493	-26.50dB
46	-96.50dB	110	-72.60dB	174	-59.80dB	238	-48.50dB	302	-42.10dB	366	-35.70dB	430	-29.65dB	494	-26.45dB
47	-96.00dB	111	-72.40dB	175	-59.60dB	239	-48.40dB	303	-42.00dB	367	-35.60dB	431	-29.60dB	495	-26.40dB
48	-95.50dB	112	-72.20dB	176	-59.40dB	240	-48.30dB	304	-41.90dB	368	-35.50dB	432	-29.55dB	496	-26.35dB
49	-95.00dB	113	-72.00dB	177	-59.20dB	241	-48.20dB	305	-41.80dB	369	-35.40dB	433	-29.50dB	497	-26.30dB
50	-94.50dB	114	-71.80dB	178	-59.00dB	242	-48.10dB	306	-41.70dB	370	-35.30dB	434	-29.45dB	498	-26.25dB
51	-94.00dB	115	-71.60dB	179	-58.80dB	243	-48.00dB	307	-41.60dB	371	-35.20dB	435	-29.40dB	499	-26.20dB
52	-93.50dB	116	-71.40dB	180	-58.60dB	244	-47.90dB	308	-41.50dB	372	-35.10dB	436	-29.35dB	500	-26.15dB
53	-93.00dB	117	-71.20dB	181	-58.40dB	245	-47.80dB	309	-41.40dB	373	-35.00dB	437	-29.30dB	501	-26.10dB
54	-92.50dB	118	-71.00dB	182	-58.20dB	246	-47.70dB	310	-41.30dB	374	-34.90dB	438	-29.25dB	502	-26.05dB
55	-92.00dB	119	-70.80dB	183	-58.00dB	247	-47.60dB	311	-41.20dB	375	-34.80dB	439	-29.20dB	503	-26.00dB
56	-91.50dB	120	-70.60dB	184	-57.80dB	248	-47.50dB	312	-41.10dB	376	-34.70dB	440	-29.15dB	504	-25.95dB
57	-91.00dB	121	-70.40dB	185	-57.60dB	249	-47.40dB	313	-41.00dB	377	-34.60dB	441	-29.10dB	505	-25.90dB
58	-90.50dB	122	-70.20dB	186	-57.40dB	250	-47.30dB	314	-40.90dB	378	-34.50dB	442	-29.05dB	506	-25.85dB
59	-90.00dB	123	-70.00dB	187	-57.20dB	251	-47.20dB	315	-40.80dB	379	-34.40dB	443	-29.00dB	507	-25.80dB
60	-89.50dB	124	-69.80dB	188	-57.00dB	252	-47.10dB	316	-40.70dB	380	-34.30dB	444	-28.95dB	508	-25.75dB
61	-89.00dB	125	-69.60dB	189	-56.80dB	253	-47.00dB	317	-40.60dB	381	-34.20dB	445	-28.90dB	509	-25.70dB
62	-88.50dB	126	-69.40dB	190	-56.60dB	254	-46.90dB	318	-40.50dB	382	-34.10dB	446	-28.85dB	510	-25.65dB
63	-88.00dB	127	-69.20dB	191	-56.40dB	255	-46.80dB	319	-40.40dB	383	-34.00dB	447	-28.80dB	511	-25.60dB

Value	Data	Value	Data	Value	Data	Value	Data	Value	Data	Value	Data	Value	Data	Value	Data
512	-25.55dB	576	-22.35dB	640	-19.15dB	704	-15.95dB	768	-12.75dB	832	-9.55dB	896	-6.35dB	960	-3.15dB
513	-25.50dB	577	-22.30dB	641	-19.10dB	705	-15.90dB	769	-12.70dB	833	-9.50dB	897	-6.30dB	961	-3.10dB
514	-25.45dB	578	-22.25dB	642	-19.05dB	706	-15.85dB	770	-12.65dB	834	-9.45dB	898	-6.25dB	962	-3.05dB
515	-25.40dB	579	-22.20dB	643	-19.00dB	707	-15.80dB	771	-12.60dB	835	-9.40dB	899	-6.20dB	963	-3.00dB
516	-25.35dB	580	-22.15dB	644	-18.95dB	708	-15.75dB	772	-12.55dB	836	-9.35dB	900	-6.15dB	964	-2.95dB
517	-25.30dB	581	-22.10dB	645	-18.90dB	709	-15.70dB	773	-12.50dB	837	-9.30dB	901	-6.10dB	965	-2.90dB
518	-25.25dB	582	-22.05dB	646	-18.85dB	710	-15.65dB	774	-12.45dB	838	-9.25dB	902	-6.05dB	966	-2.85dB
519	-25.20dB	583	-22.00dB	647	-18.80dB	711	-15.60dB	775	-12.40dB	839	-9.20dB	903	-6.00dB	967	-2.80dB
520	-25.15dB	584	-21.95dB	648	-18.75dB	712	-15.55dB	776	-12.35dB	840	-9.15dB	904	-5.95dB	968	-2.75dB
521	-25.10dB	585	-21.90dB	649	-18.70dB	713	-15.50dB	777	-12.30dB	841	-9.10dB	905	-5.90dB	969	-2.70dB
522	-25.05dB	586	-21.85dB	650	-18.65dB	714	-15.45dB	778	-12.25dB	842	-9.05dB	906	-5.85dB	970	-2.65dB
523	-25.00dB	587	-21.80dB	651	-18.60dB	715	-15.40dB	779	-12.20dB	843	-9.00dB	907	-5.80dB	971	-2.60dB
524	-24.95dB	588	-21.75dB	652	-18.55dB	716	-15.35dB	780	-12.15dB	844	-8.95dB	908	-5.75dB	972	-2.55dB
525	-24.90dB	589	-21.70dB	653	-18.50dB	717	-15.30dB	781	-12.10dB	845	-8.90dB	909	-5.70dB	973	-2.50dB
526	-24.85dB	590	-21.65dB	654	-18.45dB	718	-15.25dB	782	-12.05dB	846	-8.85dB	910	-5.65dB	974	-2.45dB
527	-24.80dB	591	-21.60dB	655	-18.40dB	719	-15.20dB	783	-12.00dB	847	-8.80dB	911	-5.60dB	975	-2.40dB
528	-24.75dB	592	-21.55dB	656	-18.35dB	720	-15.15dB	784	-11.95dB	848	-8.75dB	912	-5.55dB	976	-2.35dB
529	-24.70dB	593	-21.50dB	657	-18.30dB	721	-15.10dB	785	-11.90dB	849	-8.70dB	913	-5.50dB	977	-2.30dB
530	-24.65dB	594	-21.45dB	658	-18.25dB	722	-15.05dB	786	-11.85dB	850	-8.65dB	914	-5.45dB	978	-2.25dB
531	-24.60dB	595	-21.40dB	659	-18.20dB	723	-15.00dB	787	-11.80dB	851	-8.60dB	915	-5.40dB	979	-2.20dB
532	-24.55dB	596	-21.35dB	660	-18.15dB	724	-14.95dB	788	-11.75dB	852	-8.55dB	916	-5.35dB	980	-2.15dB
533	-24.50dB	597	-21.30dB	661	-18.10dB	725	-14.90dB	789	-11.70dB	853	-8.50dB	917	-5.30dB	981	-2.10dB
534	-24.45dB	598	-21.25dB	662	-18.05dB	726	-14.85dB	790	-11.65dB	854	-8.45dB	918	-5.25dB	982	-2.05dB
535	-24.40dB	599	-21.20dB	663	-18.00dB	727	-14.80dB	791	-11.60dB	855	-8.40dB	919	-5.20dB	983	-2.00dB
536	-24.35dB	600	-21.15dB	664	-17.95dB	728	-14.75dB	792	-11.55dB	856	-8.35dB	920	-5.15dB	984	-1.95dB
537	-24.30dB	601	-21.10dB	665	-17.90dB	729	-14.70dB	793	-11.50dB	857	-8.30dB	921	-5.10dB	985	-1.90dB
538	-24.25dB	602	-21.05dB	666	-17.85dB	730	-14.65dB	794	-11.45dB	858	-8.25dB	922	-5.05dB	986	-1.85dB
539	-24.20dB	603	-21.00dB	667	-17.80dB	731	-14.60dB	795	-11.40dB	859	-8.20dB	923	-5.00dB	987	-1.80dB
540	-24.15dB	604	-20.95dB	668	-17.75dB	732	-14.55dB	796	-11.35dB	860	-8.15dB	924	-4.95dB	988	-1.75dB
541	-24.10dB	605	-20.90dB	669	-17.70dB	733	-14.50dB	797	-11.30dB	861	-8.10dB	925	-4.90dB	989	-1.70dB
542	-24.05dB	606	-20.85dB	670	-17.65dB	734	-14.45dB	798	-11.25dB	862	-8.05dB	926	-4.85dB	990	-1.65dB
543	-24.00dB	607	-20.80dB	671	-17.60dB	735	-14.40dB	799	-11.20dB	863	-8.00dB	927	-4.80dB	991	-1.60dB
544	-23.95dB	608	-20.75dB	672	-17.55dB	736	-14.35dB	800	-11.15dB	864	-7.95dB	928	-4.75dB	992	-1.55dB
545	-23.90dB	609	-20.70dB	673	-17.50dB	737	-14.30dB	801	-11.10dB	865	-7.90dB	929	-4.70dB	993	-1.50dB
546	-23.85dB	610	-20.65dB	674	-17.45dB	738	-14.25dB	802	-11.05dB	866	-7.85dB	930	-4.65dB	994	-1.45dB
547	-23.80dB	611	-20.60dB	675	-17.40dB	739	-14.20dB	803	-11.00dB	867	-7.80dB	931	-4.60dB	995	-1.40dB
548	-23.75dB	612	-20.55dB	676	-17.35dB	740	-14.15dB	804	-10.95dB	868	-7.75dB	932	-4.55dB	996	-1.35dB
549	-23.70dB	613	-20.50dB	677	-17.30dB	741	-14.10dB	805	-10.90dB	869	-7.70dB	933	-4.50dB	997	-1.30dB
550	-23.65dB	614	-20.45dB	678	-17.25dB	742	-14.05dB	806	-10.85dB	870	-7.65dB	934	-4.45dB	998	-1.25dB
551	-23.60dB	615	-20.40dB	679	-17.20dB	743	-14.00dB	807	-10.80dB	871	-7.60dB	935	-4.40dB	999	-1.20dB
552	-23.55dB	616	-20.35dB	680	-17.15dB	744	-13.95dB	808	-10.75dB	872	-7.55dB	936	-4.35dB	1000	-1.15dB
553	-23.50dB	617	-20.30dB	681	-17.10dB	745	-13.90dB	809	-10.70dB	873	-7.50dB	937	-4.30dB	1001	-1.10dB
554	-23.45dB	618	-20.25dB	682	-17.05dB	746	-13.85dB	810	-10.65dB	874	-7.45dB	938	-4.25dB	1002	-1.05dB
555	-23.40dB	619	-20.20dB	683	-17.00dB	747	-13.80dB	811	-10.60dB	875	-7.40dB	939	-4.20dB	1003	-1.00dB
556	-23.35dB	620	-20.15dB	684	-16.95dB	748	-13.75dB	812	-10.55dB	876	-7.35dB	940	-4.15dB	1004	-0.95dB
557	-23.30dB	621	-20.10dB	685	-16.90dB	749	-13.70dB	813	-10.50dB	877	-7.30dB	941	-4.10dB	1005	-0.90dB
558	-23.25dB	622	-20.05dB	686	-16.85dB	750	-13.65dB	814	-10.45dB	878	-7.25dB	942	-4.05dB	1006	-0.85dB
559	-23.20dB	623	-20.00dB	687	-16.80dB	751	-13.60dB	815	-10.40dB	879	-7.20dB	943	-4.00dB	1007	-0.80dB
560	-23.15dB	624	-19.95dB	688	-16.75dB	752	-13.55dB	816	-10.35dB	880	-7.15dB	944	-3.95dB	1008	-0.75dB
561	-23.10dB	625	-19.90dB	689	-16.70dB	753	-13.50dB	817	-10.30dB	881	-7.10dB	945	-3.90dB	1009	-0.70dB
562	-23.05dB	626	-19.85dB	690	-16.65dB	754	-13.45dB	818	-10.25dB	882	-7.05dB	946	-3.85dB	1010	-0.65dB
563	-23.00dB	627	-19.80dB	691	-16.60dB	755	-13.40dB	819	-10.20dB	883	-7.00dB	947	-3.80dB	1011	-0.60dB
564	-22.95dB	628	-19.75dB	692	-16.55dB	756	-13.35dB	820	-10.15dB	884	-6.95dB	948	-3.75dB	1012	-0.55dB
565	-22.90dB	629	-19.70dB	693	-16.50dB	757	-13.30dB	821	-10.10dB	885	-6.90dB	949	-3.70dB	1013	-0.50dB
566	-22.85dB	630	-19.65dB	694	-16.45dB	758	-13.25dB	822	-10.05dB	886	-6.85dB	950	-3.65dB	1014	-0.45dB
567	-22.80dB	631	-19.60dB	695	-16.40dB	759	-13.20dB	823	-10.00dB	887	-6.80dB	951	-3.60dB	1015	-0.40dB
568	-22.75dB	632	-19.55dB	696	-16.35dB	760	-13.15dB	824	-9.95dB	888	-6.75dB	952	-3.55dB	1016	-0.35dB
569	-22.70dB	633	-19.50dB	697	-16.30dB	761	-13.10dB	825	-9.90dB	889	-6.70dB	953	-3.50dB	1017	-0.30dB
570	-22.65dB	634	-19.45dB	698	-16.25dB	762	-13.05dB	826	-9.85dB	890	-6.65dB	954	-3.45dB	1018	-0.25dB
571	-22.60dB	635	-19.40dB	699	-16.20dB	763	-13.00dB	827	-9.80dB	891	-6.60dB	955	-3.40dB	1019	-0.20dB
572	-22.55dB	636	-19.35dB	700	-16.15dB	764	-12.95dB	828	-9.75dB	892	-6.55dB	956	-3.35dB	1020	-0.15dB
573	-22.50dB	637	-19.30dB	701	-16.10dB	765	-12.90dB	829	-9.70dB	893	-6.50dB	957	-3.30dB	1021	-0.10dB
574	-22.45dB	638	-19.25dB	702	-16.05dB	766	-12.85dB	830	-9.65dB	894	-6.45dB	958	-3.25dB	1022	-0.05dB
575	-22.40dB	639	-19.20dB	703	-16.00dB	767	-12.80dB	831	-9.60dB	895	-6.40dB	959	-3.20dB	1023	0.00dB

A fader table of -∞ to 10dB

Value	Data	Value	Data	Value	Data	Value	Data	Value	Data	Value	Data	Value	Data	Value	Data
0	-Inf dB	64	-71.80dB	128	-59.00dB	192	-46.20dB	256	-36.70dB	320	-30.30dB	384	-23.90dB	448	-18.75dB
1	-138.00dB	65	-71.60dB	129	-58.80dB	193	-46.00dB	257	-36.60dB	321	-30.20dB	385	-23.80dB	449	-18.70dB
2	-135.00dB	66	-71.40dB	130	-58.60dB	194	-45.80dB	258	-36.50dB	322	-30.10dB	386	-23.70dB	450	-18.65dB
3	-132.00dB	67	-71.20dB	131	-58.40dB	195	-45.60dB	259	-36.40dB	323	-30.00dB	387	-23.60dB	451	-18.60dB
4	-129.00dB	68	-71.00dB	132	-58.20dB	196	-45.40dB	260	-36.30dB	324	-29.90dB	388	-23.50dB	452	-18.55dB
5	-126.00dB	69	-70.80dB	133	-58.00dB	197	-45.20dB	261	-36.20dB	325	-29.80dB	389	-23.40dB	453	-18.50dB
6	-123.00dB	70	-70.60dB	134	-57.80dB	198	-45.00dB	262	-36.10dB	326	-29.70dB	390	-23.30dB	454	-18.45dB
7	-120.00dB	71	-70.40dB	135	-57.60dB	199	-44.80dB	263	-36.00dB	327	-29.60dB	391	-23.20dB	455	-18.40dB
8	-117.00dB	72	-70.20dB	136	-57.40dB	200	-44.60dB	264	-35.90dB	328	-29.50dB	392	-23.10dB	456	-18.35dB
9	-114.00dB	73	-70.00dB	137	-57.20dB	201	-44.40dB	265	-35.80dB	329	-29.40dB	393	-23.00dB	457	-18.30dB
10	-111.00dB	74	-69.80dB	138	-57.00dB	202	-44.20dB	266	-35.70dB	330	-29.30dB	394	-22.90dB	458	-18.25dB
11	-108.00dB	75	-69.60dB	139	-56.80dB	203	-44.00dB	267	-35.60dB	331	-29.20dB	395	-22.80dB	459	-18.20dB
12	-105.00dB	76	-69.40dB	140	-56.60dB	204	-43.80dB	268	-35.50dB	332	-29.10dB	396	-22.70dB	460	-18.15dB
13	-102.00dB	77	-69.20dB	141	-56.40dB	205	-43.60dB	269	-35.40dB	333	-29.00dB	397	-22.60dB	461	-18.10dB
14	-99.00dB	78	-69.00dB	142	-56.20dB	206	-43.40dB	270	-35.30dB	334	-28.90dB	398	-22.50dB	462	-18.05dB
15	-96.00dB	79	-68.80dB	143	-56.00dB	207	-43.20dB	271	-35.20dB	335	-28.80dB	399	-22.40dB	463	-18.00dB
16	-95.00dB	80	-68.60dB	144	-55.80dB	208	-43.00dB	272	-35.10dB	336	-28.70dB	400	-22.30dB	464	-17.95dB
17	-94.00dB	81	-68.40dB	145	-55.60dB	209	-42.80dB	273	-35.00dB	337	-28.60dB	401	-22.20dB	465	-17.90dB
18	-93.00dB	82	-68.20dB	146	-55.40dB	210	-42.60dB	274	-34.90dB	338	-28.50dB	402	-22.10dB	466	-17.85dB
19	-92.00dB	83	-68.00dB	147	-55.20dB	211	-42.40dB	275	-34.80dB	339	-28.40dB	403	-22.00dB	467	-17.80dB
20	-91.00dB	84	-67.80dB	148	-55.00dB	212	-42.20dB	276	-34.70dB	340	-28.30dB	404	-21.90dB	468	-17.75dB
21	-90.00dB	85	-67.60dB	149	-54.80dB	213	-42.00dB	277	-34.60dB	341	-28.20dB	405	-21.80dB	469	-17.70dB
22	-89.00dB	86	-67.40dB	150	-54.60dB	214	-41.80dB	278	-34.50dB	342	-28.10dB	406	-21.70dB	470	-17.65dB
23	-88.00dB	87	-67.20dB	151	-54.40dB	215	-41.60dB	279	-34.40dB	343	-28.00dB	407	-21.60dB	471	-17.60dB
24	-87.00dB	88	-67.00dB	152	-54.20dB	216	-41.40dB	280	-34.30dB	344	-27.90dB	408	-21.50dB	472	-17.55dB
25	-86.00dB	89	-66.80dB	153	-54.00dB	217	-41.20dB	281	-34.20dB	345	-27.80dB	409	-21.40dB	473	-17.50dB
26	-85.00dB	90	-66.60dB	154	-53.80dB	218	-41.00dB	282	-34.10dB	346	-27.70dB	410	-21.30dB	474	-17.45dB
27	-84.00dB	91	-66.40dB	155	-53.60dB	219	-40.80dB	283	-34.00dB	347	-27.60dB	411	-21.20dB	475	-17.40dB
28	-83.00dB	92	-66.20dB	156	-53.40dB	220	-40.60dB	284	-33.90dB	348	-27.50dB	412	-21.10dB	476	-17.35dB
29	-82.00dB	93	-66.00dB	157	-53.20dB	221	-40.40dB	285	-33.80dB	349	-27.40dB	413	-21.00dB	477	-17.30dB
30	-81.00dB	94	-65.80dB	158	-53.00dB	222	-40.20dB	286	-33.70dB	350	-27.30dB	414	-20.90dB	478	-17.25dB
31	-80.00dB	95	-65.60dB	159	-52.80dB	223	-40.00dB	287	-33.60dB	351	-27.20dB	415	-20.80dB	479	-17.20dB
32	-79.00dB	96	-65.40dB	160	-52.60dB	224	-39.90dB	288	-33.50dB	352	-27.10dB	416	-20.70dB	480	-17.15dB
33	-78.00dB	97	-65.20dB	161	-52.40dB	225	-39.80dB	289	-33.40dB	353	-27.00dB	417	-20.60dB	481	-17.10dB
34	-77.80dB	98	-65.00dB	162	-52.20dB	226	-39.70dB	290	-33.30dB	354	-26.90dB	418	-20.50dB	482	-17.05dB
35	-77.60dB	99	-64.80dB	163	-52.00dB	227	-39.60dB	291	-33.20dB	355	-26.80dB	419	-20.40dB	483	-17.00dB
36	-77.40dB	100	-64.60dB	164	-51.80dB	228	-39.50dB	292	-33.10dB	356	-26.70dB	420	-20.30dB	484	-16.95dB
37	-77.20dB	101	-64.40dB	165	-51.60dB	229	-39.40dB	293	-33.00dB	357	-26.60dB	421	-20.20dB	485	-16.90dB
38	-77.00dB	102	-64.20dB	166	-51.40dB	230	-39.30dB	294	-32.90dB	358	-26.50dB	422	-20.10dB	486	-16.85dB
39	-76.80dB	103	-64.00dB	167	-51.20dB	231	-39.20dB	295	-32.80dB	359	-26.40dB	423	-20.00dB	487	-16.80dB
40	-76.60dB	104	-63.80dB	168	-51.00dB	232	-39.10dB	296	-32.70dB	360	-26.30dB	424	-19.95dB	488	-16.75dB
41	-76.40dB	105	-63.60dB	169	-50.80dB	233	-39.00dB	297	-32.60dB	361	-26.20dB	425	-19.90dB	489	-16.70dB
42	-76.20dB	106	-63.40dB	170	-50.60dB	234	-38.90dB	298	-32.50dB	362	-26.10dB	426	-19.85dB	490	-16.65dB
43	-76.00dB	107	-63.20dB	171	-50.40dB	235	-38.80dB	299	-32.40dB	363	-26.00dB	427	-19.80dB	491	-16.60dB
44	-75.80dB	108	-63.00dB	172	-50.20dB	236	-38.70dB	300	-32.30dB	364	-25.90dB	428	-19.75dB	492	-16.55dB
45	-75.60dB	109	-62.80dB	173	-50.00dB	237	-38.60dB	301	-32.20dB	365	-25.80dB	429	-19.70dB	493	-16.50dB
46	-75.40dB	110	-62.60dB	174	-49.80dB	238	-38.50dB	302	-32.10dB	366	-25.70dB	430	-19.65dB	494	-16.45dB
47	-75.20dB	111	-62.40dB	175	-49.60dB	239	-38.40dB	303	-32.00dB	367	-25.60dB	431	-19.60dB	495	-16.40dB
48	-75.00dB	112	-62.20dB	176	-49.40dB	240	-38.30dB	304	-31.90dB	368	-25.50dB	432	-19.55dB	496	-16.35dB
49	-74.80dB	113	-62.00dB	177	-49.20dB	241	-38.20dB	305	-31.80dB	369	-25.40dB	433	-19.50dB	497	-16.30dB
50	-74.60dB	114	-61.80dB	178	-49.00dB	242	-38.10dB	306	-31.70dB	370	-25.30dB	434	-19.45dB	498	-16.25dB
51	-74.40dB	115	-61.60dB	179	-48.80dB	243	-38.00dB	307	-31.60dB	371	-25.20dB	435	-19.40dB	499	-16.20dB
52	-74.20dB	116	-61.40dB	180	-48.60dB	244	-37.90dB	308	-31.50dB	372	-25.10dB	436	-19.35dB	500	-16.15dB
53	-74.00dB	117	-61.20dB	181	-48.40dB	245	-37.80dB	309	-31.40dB	373	-25.00dB	437	-19.30dB	501	-16.10dB
54	-73.80dB	118	-61.00dB	182	-48.20dB	246	-37.70dB	310	-31.30dB	374	-24.90dB	438	-19.25dB	502	-16.05dB
55	-73.60dB	119	-60.80dB	183	-48.00dB	247	-37.60dB	311	-31.20dB	375	-24.80dB	439	-19.20dB	503	-16.00dB
56	-73.40dB	120	-60.60dB	184	-47.80dB	248	-37.50dB	312	-31.10dB	376	-24.70dB	440	-19.15dB	504	-15.95dB
57	-73.20dB	121	-60.40dB	185	-47.60dB	249	-37.40dB	313	-31.00dB	377	-24.60dB	441	-19.10dB	505	-15.90dB
58	-73.00dB	122	-60.20dB	186	-47.40dB	250	-37.30dB	314	-30.90dB	378	-24.50dB	442	-19.05dB	506	-15.85dB
59	-72.80dB	123	-60.00dB	187	-47.20dB	251	-37.20dB	315	-30.80dB	379	-24.40dB	443	-19.00dB	507	-15.80dB
60	-72.60dB	124	-59.80dB	188	-47.00dB	252	-37.10dB	316	-30.70dB	380	-24.30dB	444	-18.95dB	508	-15.75dB
61	-72.40dB	125	-59.60dB	189	-46.80dB	253	-37.00dB	317	-30.60dB	381	-24.20dB	445	-18.90dB	509	-15.70dB
62	-72.20dB	126	-59.40dB	190	-46.60dB	254	-36.90dB	318	-30.50dB	382	-24.10dB	446	-18.85dB	510	-15.65dB
63	-72.00dB	127	-59.20dB	191	-46.40dB	255	-36.80dB	319	-30.40dB	383	-24.00dB	447	-18.80dB	511	-15.60dB

Value	Data	Value	Data	Value	Data	Value	Data	Value	Data	Value	Data	Value	Data	Value	Data
512	-15.55dB	576	-12.35dB	640	-9.15dB	704	-5.95dB	768	-2.75dB	832	0.45dB	896	3.65dB	960	6.85dB
513	-15.50dB	577	-12.30dB	641	-9.10dB	705	-5.90dB	769	-2.70dB	833	0.50dB	897	3.70dB	961	6.90dB
514	-15.45dB	578	-12.25dB	642	-9.05dB	706	-5.85dB	770	-2.65dB	834	0.55dB	898	3.75dB	962	6.95dB
515	-15.40dB	579	-12.20dB	643	-9.00dB	707	-5.80dB	771	-2.60dB	835	0.60dB	899	3.80dB	963	7.00dB
516	-15.35dB	580	-12.15dB	644	-8.95dB	708	-5.75dB	772	-2.55dB	836	0.65dB	900	3.85dB	964	7.05dB
517	-15.30dB	581	-12.10dB	645	-8.90dB	709	-5.70dB	773	-2.50dB	837	0.70dB	901	3.90dB	965	7.10dB
518	-15.25dB	582	-12.05dB	646	-8.85dB	710	-5.65dB	774	-2.45dB	838	0.75dB	902	3.95dB	966	7.15dB
519	-15.20dB	583	-12.00dB	647	-8.80dB	711	-5.60dB	775	-2.40dB	839	0.80dB	903	4.00dB	967	7.20dB
520	-15.15dB	584	-11.95dB	648	-8.75dB	712	-5.55dB	776	-2.35dB	840	0.85dB	904	4.05dB	968	7.25dB
521	-15.10dB	585	-11.90dB	649	-8.70dB	713	-5.50dB	777	-2.30dB	841	0.90dB	905	4.10dB	969	7.30dB
522	-15.05dB	586	-11.85dB	650	-8.65dB	714	-5.45dB	778	-2.25dB	842	0.95dB	906	4.15dB	970	7.35dB
523	-15.00dB	587	-11.80dB	651	-8.60dB	715	-5.40dB	779	-2.20dB	843	1.00dB	907	4.20dB	971	7.40dB
524	-14.95dB	588	-11.75dB	652	-8.55dB	716	-5.35dB	780	-2.15dB	844	1.05dB	908	4.25dB	972	7.45dB
525	-14.90dB	589	-11.70dB	653	-8.50dB	717	-5.30dB	781	-2.10dB	845	1.10dB	909	4.30dB	973	7.50dB
526	-14.85dB	590	-11.65dB	654	-8.45dB	718	-5.25dB	782	-2.05dB	846	1.15dB	910	4.35dB	974	7.55dB
527	-14.80dB	591	-11.60dB	655	-8.40dB	719	-5.20dB	783	-2.00dB	847	1.20dB	911	4.40dB	975	7.60dB
528	-14.75dB	592	-11.55dB	656	-8.35dB	720	-5.15dB	784	-1.95dB	848	1.25dB	912	4.45dB	976	7.65dB
529	-14.70dB	593	-11.50dB	657	-8.30dB	721	-5.10dB	785	-1.90dB	849	1.30dB	913	4.50dB	977	7.70dB
530	-14.65dB	594	-11.45dB	658	-8.25dB	722	-5.05dB	786	-1.85dB	850	1.35dB	914	4.55dB	978	7.75dB
531	-14.60dB	595	-11.40dB	659	-8.20dB	723	-5.00dB	787	-1.80dB	851	1.40dB	915	4.60dB	979	7.80dB
532	-14.55dB	596	-11.35dB	660	-8.15dB	724	-4.95dB	788	-1.75dB	852	1.45dB	916	4.65dB	980	7.85dB
533	-14.50dB	597	-11.30dB	661	-8.10dB	725	-4.90dB	789	-1.70dB	853	1.50dB	917	4.70dB	981	7.90dB
534	-14.45dB	598	-11.25dB	662	-8.05dB	726	-4.85dB	790	-1.65dB	854	1.55dB	918	4.75dB	982	7.95dB
535	-14.40dB	599	-11.20dB	663	-8.00dB	727	-4.80dB	791	-1.60dB	855	1.60dB	919	4.80dB	983	8.00dB
536	-14.35dB	600	-11.15dB	664	-7.95dB	728	-4.75dB	792	-1.55dB	856	1.65dB	920	4.85dB	984	8.05dB
537	-14.30dB	601	-11.10dB	665	-7.90dB	729	-4.70dB	793	-1.50dB	857	1.70dB	921	4.90dB	985	8.10dB
538	-14.25dB	602	-11.05dB	666	-7.85dB	730	-4.65dB	794	-1.45dB	858	1.75dB	922	4.95dB	986	8.15dB
539	-14.20dB	603	-11.00dB	667	-7.80dB	731	-4.60dB	795	-1.40dB	859	1.80dB	923	5.00dB	987	8.20dB
540	-14.15dB	604	-10.95dB	668	-7.75dB	732	-4.55dB	796	-1.35dB	860	1.85dB	924	5.05dB	988	8.25dB
541	-14.10dB	605	-10.90dB	669	-7.70dB	733	-4.50dB	797	-1.30dB	861	1.90dB	925	5.10dB	989	8.30dB
542	-14.05dB	606	-10.85dB	670	-7.65dB	734	-4.45dB	798	-1.25dB	862	1.95dB	926	5.15dB	990	8.35dB
543	-14.00dB	607	-10.80dB	671	-7.60dB	735	-4.40dB	799	-1.20dB	863	2.00dB	927	5.20dB	991	8.40dB
544	-13.95dB	608	-10.75dB	672	-7.55dB	736	-4.35dB	800	-1.15dB	864	2.05dB	928	5.25dB	992	8.45dB
545	-13.90dB	609	-10.70dB	673	-7.50dB	737	-4.30dB	801	-1.10dB	865	2.10dB	929	5.30dB	993	8.50dB
546	-13.85dB	610	-10.65dB	674	-7.45dB	738	-4.25dB	802	-1.05dB	866	2.15dB	930	5.35dB	994	8.55dB
547	-13.80dB	611	-10.60dB	675	-7.40dB	739	-4.20dB	803	-1.00dB	867	2.20dB	931	5.40dB	995	8.60dB
548	-13.75dB	612	-10.55dB	676	-7.35dB	740	-4.15dB	804	-0.95dB	868	2.25dB	932	5.45dB	996	8.65dB
549	-13.70dB	613	-10.50dB	677	-7.30dB	741	-4.10dB	805	-0.90dB	869	2.30dB	933	5.50dB	997	8.70dB
550	-13.65dB	614	-10.45dB	678	-7.25dB	742	-4.05dB	806	-0.85dB	870	2.35dB	934	5.55dB	998	8.75dB
551	-13.60dB	615	-10.40dB	679	-7.20dB	743	-4.00dB	807	-0.80dB	871	2.40dB	935	5.60dB	999	8.80dB
552	-13.55dB	616	-10.35dB	680	-7.15dB	744	-3.95dB	808	-0.75dB	872	2.45dB	936	5.65dB	1000	8.85dB
553	-13.50dB	617	-10.30dB	681	-7.10dB	745	-3.90dB	809	-0.70dB	873	2.50dB	937	5.70dB	1001	8.90dB
554	-13.45dB	618	-10.25dB	682	-7.05dB	746	-3.85dB	810	-0.65dB	874	2.55dB	938	5.75dB	1002	8.95dB
555	-13.40dB	619	-10.20dB	683	-7.00dB	747	-3.80dB	811	-0.60dB	875	2.60dB	939	5.80dB	1003	9.00dB
556	-13.35dB	620	-10.15dB	684	-6.95dB	748	-3.75dB	812	-0.55dB	876	2.65dB	940	5.85dB	1004	9.05dB
557	-13.30dB	621	-10.10dB	685	-6.90dB	749	-3.70dB	813	-0.50dB	877	2.70dB	941	5.90dB	1005	9.10dB
558	-13.25dB	622	-10.05dB	686	-6.85dB	750	-3.65dB	814	-0.45dB	878	2.75dB	942	5.95dB	1006	9.15dB
559	-13.20dB	623	-10.00dB	687	-6.80dB	751	-3.60dB	815	-0.40dB	879	2.80dB	943	6.00dB	1007	9.20dB
560	-13.15dB	624	-9.95dB	688	-6.75dB	752	-3.55dB	816	-0.35dB	880	2.85dB	944	6.05dB	1008	9.25dB
561	-13.10dB	625	-9.90dB	689	-6.70dB	753	-3.50dB	817	-0.30dB	881	2.90dB	945	6.10dB	1009	9.30dB
562	-13.05dB	626	-9.85dB	690	-6.65dB	754	-3.45dB	818	-0.25dB	882	2.95dB	946	6.15dB	1010	9.35dB
563	-13.00dB	627	-9.80dB	691	-6.60dB	755	-3.40dB	819	-0.20dB	883	3.00dB	947	6.20dB	1011	9.40dB
564	-12.95dB	628	-9.75dB	692	-6.55dB	756	-3.35dB	820	-0.15dB	884	3.05dB	948	6.25dB	1012	9.45dB
565	-12.90dB	629	-9.70dB	693	-6.50dB	757	-3.30dB	821	-0.10dB	885	3.10dB	949	6.30dB	1013	9.50dB
566	-12.85dB	630	-9.65dB	694	-6.45dB	758	-3.25dB	822	-0.05dB	886	3.15dB	950	6.35dB	1014	9.55dB
567	-12.80dB	631	-9.60dB	695	-6.40dB	759	-3.20dB	823	0.00dB	887	3.20dB	951	6.40dB	1015	9.60dB
568	-12.75dB	632	-9.55dB	696	-6.35dB	760	-3.15dB	824	0.05dB	888	3.25dB	952	6.45dB	1016	9.65dB
569	-12.70dB	633	-9.50dB	697	-6.30dB	761	-3.10dB	825	0.10dB	889	3.30dB	953	6.50dB	1017	9.70dB
570	-12.65dB	634	-9.45dB	698	-6.25dB	762	-3.05dB	826	0.15dB	890	3.35dB	954	6.55dB	1018	9.75dB
571	-12.60dB	635	-9.40dB	699	-6.20dB	763	-3.00dB	827	0.20dB	891	3.40dB	955	6.60dB	1019	9.80dB
572	-12.55dB	636	-9.35dB	700	-6.15dB	764	-2.95dB	828	0.25dB	892	3.45dB	956	6.65dB	1020	9.85dB
573	-12.50dB	637	-9.30dB	701	-6.10dB	765	-2.90dB	829	0.30dB	893	3.50dB	957	6.70dB	1021	9.90dB
574	-12.45dB	638	-9.25dB	702	-6.05dB	766	-2.85dB	830	0.35dB	894	3.55dB	958	6.75dB	1022	9.95dB
575	-12.40dB	639	-9.20dB	703	-6.00dB	767	-2.80dB	831	0.40dB	895	3.60dB	959	6.80dB	1023	10.00dB