



VXL1-16P

Remote Control Protocol Specifications

Version 2.0.0

This specification document applies to VXL1-16P V2.0.0 and later.

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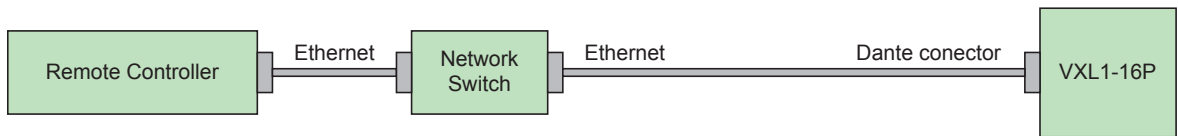
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0. Revision History

Version	Date	Section	Description
V1.0.0	Sep. 11, 2019	-	Initial version
V1.2.0	Mar. 9, 2022	-	Addition of the commands regarding IP address settings.
V2.0.0	Jan. 26, 2023	-	Addition of the commands regarding UNIT ID settings.

1. Setup

1.1. Connection Procedure



1.2. Configuring the Remote Controller

VXL1-16P can be controlled from an external controller through the Ethernet (Dante) connector. The configuration on the remote controller side for each type of connection is shown below.

Ethernet (NETWORK connector) control

IP Address: Specify the IP address of the VXL1-16P
IP Port No.: 49280

1.3. Device Configuration

The setting required on the main unit is the IP address (UNIT ID) setting.
Up to four remote controller devices can connect simultaneously to one VXL1-16P device.

2. Command List

2.1. Commands from a device sent to a remote controller

No.	Notification details		Reply from device	Remarks
1-1	Device status	Device run mode notification	NOTIFY devstatus runmode...	
1-2	change notification	Device error status notification	NOTIFY devstatus error...	
1-3	Parameter change notification	Parameter change notification raw value	NOTIFY set...	
		Parameter change notification normalized value	NOTIFY setn...	
1-4	Meter information notification	Meter information notification	NOTIFY mtr...	
1-5	Event processing change notification	Device identify notification	NOTIFY set AMP:Identified...	
1-6		Alert notification	NOTIFY event AMP:Alert...	
1-7		IP address assignment (DHCP/Auto IP or Static IP) change notification	NOTIFY event VXL:SetIpSettingPcMode	
1-8		IP address change notification after the next boot	NOTIFY event VXL:SetNextBootIpAddress	
1-9		Subnet Mask change notification after the next boot	NOTIFY event VXL:SetNextBootSubnetAddress	
1-10		Default Gateway change notification after the next boot	NOTIFY event VXL:SetNextBootDefaultGateway	
1-11		Default Gateway notification	NOTIFY event VXL:SetDefaultGateway	
1-12		UNIT ID change notification after the next boot	NOTIFY event VXL:SetNextBootUnitID	

2.2. Commands for controlling a device

No.	Notification details		Reply from device	Remarks
2-1	Device status query	Device run mode query	devstatus runmode	
2-2		Device error status query	devstatus error	
2-3	VXL1-16P external control protocol run mode setting	Result and change notification character encoding setting	scpmode encoding...	
2-4		Value notification mode setting	scpmode valuetype...	
2-5		Normalization resolution setting	scpmode resolution...	
2-6		Keep alive activation setting	scpmode keepalive...	
2-7	Parameter query	Raw value parameter query	get...	
2-8		Normalized value parameter query	getn...	
2-9	Parameter setting	Raw value parameter setting	set...	
2-10		Normalized value parameter setting (*)	setn...	
2-11	Meter control	Transmission request	mtrstart...	
2-12		Stop request	mtrstop...	

* When value is set "1023" (default:1000), control resolution becomes same as "Raw value" command.
See "6.1. Fader parameter" for the "Normalised value" vs "Raw value" when the value is set "1023"

2.3. Extended commands

No.	Notification details		Reply from device	Remarks
3-1	Product information query request	VXL1-16P external control protocol version query	devinfo protocolver...	
3-2		Parameter set version query	devinfo paramsetver...	
3-3		Firmware version query	devinfo version...	
3-4		Product name query	devinfo productname...	
3-5		Serial number query	devinfo serialno...	
3-6		Device ID query	devinfo deviceid...	
3-7		Product manufacture name query	devinfo manufacturer...	
3-8		Device name query	event AMP:IdentifyDev...	
3-9		DIP switch 6 (IP SETTING) status query	event VXL:GetIpSetting	
3-10		IP address assignment (DHCP/Auto IP or Static IP) setting when the DIP switch 6 (IP SETTING) is set to "PC"	event VXL:SetIpSettingPcMode	
3-11		IP address assignment (DHCP/Auto IP or Static IP) query when the DIP switch 6 (IP SETTING) is set to "PC"	event VXL:GetIpSettingPcMode	
3-12		IP address setting (Static IP address setting) after the next boot when the DIP switch 6 (IP SETTING) is "PC"	event VXL:SetNextBootIpAddress	
3-13		IP address query after the next boot	event VXL:GetNextBootIpAddress	
3-14		Subnet Mask setting after the next boot when the DIP switch 6 (IP SETTING) is "PC"	event VXL:SetNextBootSubnetAddress	
3-15		Subnet Mask query after the next boot	event VXL:GetNextBootSubnetAddress	
3-16		Default Gateway setting after the next boot when the DIP switch 6 (IP SETTING) is "PC"	event VXL:SetNextBootDefaultGateway	
3-17		Default Gateway query after the next boot	event VXL:GetNextBootDefaultGateway	
3-18		Default Gateway query	event VXL:GetDefaultGateway	
3-19		DIP switches 1-4 (UNIT ID) status query	event VXL:GetUnitIDMode	
3-20		UNIT ID setting after the next boot when the DIP switches 1-4 (UNIT ID) are "RESERVED"	event VXL:SetNextBootUnitID	
3-21		UNIT ID query after the next boot	event VXL:GetNextBootUnitID	

3. Command Specifications

3.1. Basic Command Specifications

Below is the syntax of commands exchanged between a device and remote controller.

<command name> <option 1> <option 2> . . . <option n> <new line>

- Each command must end with LF (0x0A).
- LF (0x0A) code can be sent as heart-beat command.
- Character type letter(s) in command line must be bracketed by double quotations.

When double quotation itself needs to be included in command line, use "escape character" as shown below.

Backslash works as an escape character to express following one character for double quotation and backslash.

Syntax	Meaning	Description
\\	\	backslash
\"	"	double quotation

- At least one space is necessary between a command name and an option and between options.
- Commands must be expressed using ASCII characters. Other characters are not allowed.
- Option strings that express parameter values are shown below.

Value	Displayed string	Raw value	Normalized value
-Infinity	"-INFINITY"	-13801	0
-18dB	"-18.00"	-1800	453
-6.5dB	"-6.50"	-650	677
0dB	"0.00"	0	804
10dB	"10.00"	1000	1000
2kHz	"2.00k"	2000000	667
400Hz	"400"	400000	435
Pan L 63	"L63"	-63	0
Pan Center	"C"	0	500
Pan R 63	"R63"	+63	1000
ON	"ON"	0	500
		1	1000
OFF	"OFF"	0	0
		1	1000
INVERTED	"INVERTED"	1	1000
NORMAL	"NORMAL"	0	0

* For other parameters, see section 6, "Parameter Value Details," provided later.

* Normalized value is a converted value when minimum value of the parameter is as 0 and maximum value of the parameter is as 1000¹.
Example: -inf as minimum mapped 0, 10dB as maximum mapped 1000, 0dB mapped 804 for level parameter.

* 1: This value is set by 2-8) Normalization resolution setting, default resolution is 1000.

3.2. Commands a Device Sends to a Remote Controller

3.2.1. Device status change notification

1-1) Device run mode notification

Command	Option 1	Option 2	Description
NOTIFY devstatus	runmode	"normal"	Normal run mode
NOTIFY devstatus	runmode	"update"	Update mode

Example: Notification: NOTIFY devstatus runmode "normal"
 Meaning: The run mode was changed to normal mode.

1-2) Device error status notification

Command	Option 1	Option 2	Description
NOTIFY devstatus	error	"fault"	Alert fault information
		"error"	Alert error information
		"warning"	Alert warning information

Details: "fault" = Alert (fault) is occurring.
 "error" = Alert (Error) is occurring.
 "warning" = Alert (Warning) is occurring.

Example: Notification: NOTIFY devstatus error "fault"
 Meaning: Alert (fault) occurred

3.2.2. Parameter change notification

1-3) Parameter change notification raw value

Parameter change notification normalized value

Command	Option 1	Option 2	Option 3	Option 4	Option 5	Description
NOTIFY set	AccessID	X	Y	"(value)"	"(string)"	Parameter change raw value
NOTIFY setn	AccessID	X	Y	"(value)"	"(string)"	Parameter change normalized value

Details: AccessID = See section 7, "Parameter List."
 X = See section 7, "Parameter List."
 Y = See section 7, "Parameter List."
 "(value)" = See section 3.1, "Basic Command Specifications," or section 7, "Parameter List."
 "(string)" = See section 3.1, "Basic Command Specifications," or section 7, "Parameter List."

Example: Notification: NOTIFY set VXL:Ch/InputVolume/Level 0 0 -7760 "-77.60"
 Meaning: DCA Fader 1ch level was changed to "-77.60."

3.2.3. Meter information notification

1-4) Meter information notification

Command	Option 1	Option 2	Option 3	Description
NOTIFY mtr	Meter ID	level	(meter)	Level meter value
		gr		gr meter value

Details: MeterID = See section 8, "Meters."
 (meter) = See section 5, "Meter Values."

Example: Notification: NOTIFY mtr AMP:DigitalIn/Level level 71 71
 * The meter value is expressed using a 2-digit hexadecimal.
 Meaning: Digital input levels for ch1 to 2 Level are sent.

3.2.4. Event processing change notification

1-5) Device Identify notification

Command	Option 1	Option 2	Description
NOTIFY set	AMP:Identified 0 0 0	"Normal state"	Current device identify status notification

Example: Notification: NOTIFY set AMP:Identified 0 0 0 "Normal state"
Meaning: Notify that the Identify LED is blinking

1-6) Alert notification

Command	Option 1	Option 2	Description
NOTIFY event	AMP:Alert	"xx:yyyyyyyyy, zzzzzz"	xx: Alert number (Hex) yyyyyyyyy: Alert message zzzzzz: warning/error/fault

Example: Notification: NOTIFY event AMP:Alert "01:SYSTEM ERROR,fault"
Meaning: Fault type 01 SYSTEM ERROR alert occurs

1-7) IP address assignment (DHCP/Auto IP or Static IP) change notification

Command	Option 1	Option 2	Description
NOTIFY event	VXL:SetIpSettingPcMode	"x"	x: 0 (DHCP/Auto IP) / 1 (Static IP)

Example: Notification: NOTIFY event VXL:SetIpSettingPcMode "0"
Meaning: IP address settings was changed to DHCP/Auto IP

1-8) IP address change notification after the next boot

Command	Option 1	Option 2	Description
NOTIFY event	VXL:SetNextBootIpAddress	"xxx.xxx.xxx.xxx"	xxx.xxx.xxx.xxx: IP address

Example: Notification: NOTIFY event VXL:SetNextBootIpAddress "192.168.0.1"
Meaning: IP address after the next boot was changed to 192.168.0.1

1-9) Subnet Mask change notification after the next boot

Command	Option 1	Option 2	Description
NOTIFY event	VXL:SetNextBootSubnetAddress	"xxx.xxx.xxx.xxx"	xxx.xxx.xxx.xxx: Subnet Mask

Example: Notification: NOTIFY event VXL:SetNextBootSubnetAddress "255.255.255.0"
Meaning: Subnet Mask after the next boot was changed to 255.255.255.0

1-10) Default Gateway change notification after the next boot

Command	Option 1	Option 2	Description
NOTIFY event	VXL:SetNextBootDefaultGateway	"xxx.xxx.xxx.xxx"	xxx.xxx.xxx.xxx: Default Gateway

Example: Notification: NOTIFY event VXL:SetNextBootDefaultGateway "192.168.0.1"
Meaning: Default Gateway after the next boot was changed to 192.168.0.1

1-11) Default Gateway notification

Command	Option 1	Option 2	Description
NOTIFY event	VXL:SetDefaultGateway	"xxx.xxx.xxx.xxx"	xxx.xxx.xxx.xxx: Default Gateway

Example: Notification: NOTIFY event VXL:SetDefaultGateway "192.168.0.1"
Meaning: Default Gateway is 192.168.0.1

1-12) UNIT ID change notification after the next boot

Command	Option 1	Option 2	Description
NOTIFY event	VXL:SetNextBootUnitID	"xxx"	xxx: UNIT ID

Example: Notification: NOTIFY event VXL:SetNextBootUnitID "078"
* The UNIT ID is expressed using a 3-digit hexadecimal 000-07F (000-127)
Meaning: UNIT ID after the next boot was changed to 120

3.3. Commands for controlling a device

3.3.1. Device status query

2-1) Device run mode query

Command	Option 1	Description
devstatus	runmode	Queries the run mode

Response

Response string	Description
OK devstatus runmode "normal"	Normal run mode
OK devstatus runmode "update"	Update mode

Example: Command: devstatus runmode
 Response: OK devstatus runmode "normal"
 Meaning: Query the run mode.
 The device is currently in normal run mode.

Note: After device responds with -OK devstatus runmode "normal"-, device starts to send commands.

When starting remote control, be sure to send "devstatus runmode" to the device.

When the device responds as [OK devstatus runmode ""normal""], the device is ready to receive commands.

2-2) Device error status query

Command	Option 1	Description
devstatus	error	Queries the error status

Response

Response string	Description
OK devstatus error "none"	No alerts
OK devstatus error "fault"	fault alert
OK devstatus error "error"	error alert
OK devstatus error "warning"	warning alert

Details: "fault" = Alert (fault) is occurring.
 "error" = Alert (Error) is occurring.
 "warning" = Alert (Warning) is occurring.

Example: Command: devstatus error
 Response: OK devstatus error "fault"
 Meaning: Query the alert status.
 Alert(Fault) is occurring.

3.3.2. External control protocol run mode setting

2-3) Result and change notification character encoding setting

Command	Option 1	Option 2	Description
scpmode	encoding	ascii	ASCII encoding mode (default setting)
		utf8	UTF-8 encoding mode

Response

Response string	Description
OK scpmode encoding ascii	ASCII encoding mode change complete
OK scpmode encoding utf8	UTF-8 encoding mode change complete

Example: Command: scpmode encoding utf8
 Response: OK scpmode encoding utf8
 Meaning: Change the result and change notification encoding code to UTF-8.
 The encoding mode was changed to UTF-8.

2-4) Value notification mode setting

Command	Option 1	Option 2	Description
scpmode	valuetype	raw	Raw value mode (default setting)
		normalized	Normalized value mode

Response

Response string	Description
OK scpmode valuetype raw	Raw value mode change complete
OK scpmode valuetype normalized	Normalized value mode change complete

Example: Command: scpmode valuetype normalized
 Response: OK scpmode valuetype normalized
 Meaning: Change parameter change notifications to normalized value mode.
 Parameter change notifications were changed to normalized value mode.

2-5) Normalization resolution setting

Command	Option 1	Option 2	Description
scpmode	resolution	(res)	Resolution for normalized value notifications (default setting = 1000)

Details: (res) = Resolution for normalized values

Response

Response string	Description
OK scpmode resolution xxxx	The resolution for normalized value notifications

Details: xxxx = Specified resolution * Specified resolution should be more than 100.

Example: Command: scpmode resolution 128
 Response: OK scpmode resolution 128
 Meaning: Set the resolution of normalized values for setn commands to 128.
 The resolution of normalized values for setn commands was set to 128.

2-6) Keepalive activation setting

Command	Option 1	Option 2	Description
scpmode	keepalive	(interval)	Maximum interval for a client to send some kind of message, including heart beats (default setting = disabled)

Details: (interval) = Timeout value (msec) * Timeout value should be more than 1000.
 * The actual timeout value will be increased by 1 second.

Response

Response string	Description
OK scpmode keepalive xxxx	Keepalive activated notification

Details: xxxx = The specified timeout value (msec)

Example: Command: scpmode keepalive 2000
 Response: OK scpmode keepalive 2000
 Meaning: Set the timeout value to 2000 msec (2 seconds).
 The timeout value was set to 2000 msec (2 seconds).

Note: When unexpected disconnection happens, remote controller can't finish communication with closing process. In such case, device has to keep status "connected" and remote controller can't establish new connection after that. In order to prevent the situation above, device watches keepalive command if connection with remote controller is still alive. If device doesn't receive keepalive command within timeout value which is set by this command, device terminates connection by itself. After the Keepalive activation command has been activated, the Remote controller must send any command or LF(0x0A) code as a heart beat to the device within the timeout value.

3.3.3. Parameter query**2-7) Raw value parameter query**

Command	Option 1	Option 2	Option 3	Description
get	AccessID	X	Y	Raw value parameter query request

Details: AccessID = See section 7, "Parameter List."
 X = See section 7, "Parameter List."
 Y = See section 7, "Parameter List."

Response

Response string	Description
OK get AccessID 0 0 (value)	Raw value parameter query response

Details: AccessID= See section 7, "Parameter List."
 X = See section 7, "Parameter List."
 Y = See section 7, "Parameter List."

(value) = See section 3.1, "Basic Command Specifications," or section 7, "Parameter List."

Example: Command: get VXL:Ch/InputVolume/Level 0 0
 Response: OK get VXL:Ch/InputVolume/Level 0 0 -775
 Meaning: Query the 1ch level of the Input Volume Conference with raw values.
 The 1ch level of the Input Volume Conference is -77.60.

2-8) Normalized value parameter query

Command	Option 1	Option 2	Option 3	Description
getn	AccessID	X	Y	Normalized value parameter query request

Details: AccessID = See section 7, "Parameter List."
 X = See section 7, "Parameter List."
 Y = See section 7, "Parameter List."

Response

Response string	Description
OK getn AccessID X Y (value)	Normalized value parameter query response

Details: AccessID = See section 7, "Parameter List."
 X = See section 7, "Parameter List."
 Y = See section 7, "Parameter List."
 (value) = See section 3.1, "Basic Command Specifications," or section 7, "Parameter List."

Example: Command: getn VXL:Ch/InputVolume/Level 0 0
 Response: OK getn VXL:Ch/InputVolume/Level 0 0 408
 Meaning: Query the 1ch level of the Input Volume Conference with raw values.
 The 1ch level of the Input Volume Conference is -31.50.
 (When the normalized value resolution is 0-1023, 408 means -31.50.)

3.3.4. Parameter setting**2-9) Raw value parameter setting**

Command	Option 1	Option 2	Option 3	Option 4	Description
set	AccessID	X	Y	(value)	Raw value parameter setting

Details: AccessID = See section 7, "Parameter List."
 X = See section 7, "Parameter List."
 Y = See section 7, "Parameter List."
 (value) = See section 3.1, "Basic Command Specifications," or section 7, "Parameter List."

Response

Response string	Description
OK set AccessID X Y (value) "(string)"	Raw value parameter setting response
OKm set AccessID X Y (value) "(string)"	

* If the requested parameter value is outside the range, the value is adjusted within the range and set.
 If this occurs, the result notification will be OKm instead of OK.

Details: AccessID = See section 7, "Parameter List."
 X = See section 7, "Parameter List."
 Y = See section 7, "Parameter List."
 (value) = See section 3.1, "Basic Command Specifications," or section 7, "Parameter List."
 "(string)" = See section 3.1, "Basic Command Specifications," or section 7, "Parameter List."

Example: Command: set VXL:Ch/InputVolume/Level 0 0 -775
 Response: OK set VXL:Ch/InputVolume/Level 0 0 -775 "-7.75"
 Meaning: Set the 1ch level of the Input Volume Conference to -7.75 using raw values.
 Input Volume Conference Ch level is set to "-7.75"

2-10) Normalized value parameter setting

Command	Option 1	Option 2	Option 3	Option 4	Description
setn	AccessID	X	Y	(value)	Normalized value parameter setting

Details: AccessID = See section 7, "Parameter List."
 X = See section 7, "Parameter List."
 Y = See section 7, "Parameter List."
 (value) = See section 3.1, "Basic Command Specifications," or section 7, "Parameter List."
 * When value is set "1023" (default:1000), control resolution becomes same as "Raw value"
 command.
 See "6.1 Fader parameter " for the "Normalised value" vs "Raw value"

Response

Response string	Description
OK setn AccessId X Y (value) "(string)"	Normalized value parameter setting response
OKm setn AccessId X Y (value) "(string)"	

* If the requested parameter value is outside the range, the value is adjusted within the range and set.
 If this occurs, the result notification will be OKm instead of OK.

Details: AccessID = See section 7, "Parameter List."
 X = See section 7, "Parameter List."
 Y = See section 7, "Parameter List."

 (value) = See section 3.1, "Basic Command Specifications," or section 7, "Parameter List."
 "(string)" = See section 3.1, "Basic Command Specifications," or section 7, "Parameter List."

Example: Command: setn VXL:Ch/InputVolume/Level 0 0 408
 Response: OK setn VXL:Ch/InputVolume/Level 408 "-31.50"
 Meaning: Set the 1ch level of the Input Volume Conference to a normalized value of 408.
 The 1ch level of the Input Volume Conference was set to "-31.50".

3.3.5. Meter control**2-11) Transmission request**

Command	Option 1	Option 2	Description
mtrstart	MeterId	(interval)	Requests that the specified meter data be transmitted

Details: MeterId = See section 8, "Meter List."
 (interval) = Minimum transmission interval (msec)

Response

Response string	Description
OK mtrstart MeterId	Meter data transmission setting complete

Details: MeterId = See section 8, "Meter List."

Example: Command: mtrstart AMP:DigitalIn/Level 1000
 Notification: OK mtrstart AMP:DigitalIn/Level
 NOTIFY mtr AMP:DigitalIn/Level 71 68
 NOTIFY mtr AMP:DigitalIn/Level 71 68
 * The meter value is expressed using a 2-digit hexadecimal.
 Meaning: Send the meter data of ch1 to 2 Digital Input Levels at 1000 msec intervals.
 A request for the ch1 to 2 Digital Input Levels was received, so the data will be transmitted.

2-12) Stop request

Command	Option 1	Description
mtrstop	MeterId	Requests that the specified meter data be stopped.

Details: MeterId = See section 8, "Meter List."

Response

Response string	Description
OK mtrstop MeterId	Meter data stop setting complete

Details: MeterId = See section 8, "Meter List."

Example: Command: mtrstop AMP:DigitalIn/Level
 Response: OK mtrstop AMP:DigitalIn/Level
 Meaning: Stop the meter data of ch1 to 2 output levels.
 The request to stop the meter data of ch1 to 2 output levels was received.

3.4. Extended commands**3.4.1. Product information query request****3-1) VXL1-16P external control protocol version query**

Command	Option 1	Description
devinfo	protocolver	Queries the MTX external control protocol version

Response

Response string	Description
OK devinfo protocolver "xxxx"	VXL1-16P external control protocol version

Details: xxxx = Version

Example: Command: devinfo protocolver
 Notification: OK devinfo protocolver "1.0.0"
 Meaning: Query the protocol version.
 Protocol version = V1.0.0

3-2) Parameter set version query

Command	Option 1	Description
devinfo	paramsetver	Queries the parameter set version

Response

Response string	Description
OK devinfo paramsetver "xxxx"	Parameter set version

Details: xxxx = Version

Example: Command: devinfo paramsetver
 Notification: OK devinfo paramsetver "AMP:1.0.0 VXL:1.0.0"
 Meaning: Query the parameter set version.
 Parameter set version ="AMP:1.0.0 VXL:1.0.0"

3-3) Firmware version query

Command	Option 1	Description
devinfo	version	Queries the firmware version

Response

Response string	Description
OK devinfo version "xxxx"	Firmware version

Details: xxxx = Version

Example: Command: devinfo version
 Notification: OK devinfo version "1.0.0"
 Meaning: Query the firmware version.
 Firmware version = V1.00

3-4) Product name query

Command	Option 1	Description
devinfo	productname	Queries the product name

Response

Response string	Description
OK devinfo productname "xxxx"	Product name

Details: xxxx = Product name

Example: Command: devinfo productname
 Notification: OK devinfo productname "VXL1-16P"
 Meaning: Query the product name.
 Product name = "VXL1-16P"

3-5) Serial number query

Command	Option 1	Description
devinfo	serialno	Queries the serial number

Response

Response string	Description
OK devinfo serialno "xxxx"	Serial number

Details: xxxx = Serial number

Example: Command: devinfo serialno
 Notification: OK devinfo serialno "ZA37640CHNET101001"
 Meaning: Query the serial number.
 Serial number = "ZA37640CHNET101001"

3-6) Device ID query

Command	Option 1	Description
devinfo	deviceid	Queries the device ID

Response

Response string	Description
OK devinfo deviceid "xxxx"	Device ID

Details: xxxx = Device ID
 * 3-digit hexadecimal

Example: Command: devinfo deviceid
 Notification: OK devinfo deviceid "001"
 Meaning: Query the device ID.
 Device ID = "001"

Note: The device ID corresponds to the UNIT ID.

3-7) Product manufacture name query

Command	Option 1	Description
devinfo	manufacturer	Product manufacture name query

Response

Response string	Description
OK devinfo manufacturer "xxxx"	Product manufacture name

Details: xxxx = Product manufacture name

Example: Command: devinfo manufacturer
 Notification: OK devinfo manufacturer "Yamaha Corporation"
 Meaning: Query the manufacturer name.
 Manufacturer name = "Yamaha Corporation"

3.4.2. Event processing request**3-8) Device confirmation**

Command	Option 1	Option 2	Description
event	AMP:IdentifyDev	duration	Device confirmation

Details: duration = "xxx" flashing duration (s) 1 to 255, "off" specified to stop Identify

Response

Response string	Description
OK event AMP:IdentifyDev "xxx"	Device confirmation complete

Example: Command: event AMP:IdentifyDev "duration=5"
 Notification: OK event AMP:IdentifyDev "duration=5"
 Meaning: Blink the VXL1-16P LED for 5 seconds.
 Start executing blinking process

3-9) DIP switch 6 (IP SETTING) status query

Command	Option 1	Option 2	Description
event	VXL:GetIpSetting	""	DIP switch 6 (IP SETTING) status query

Response

Response string	Description
OK event VXL:GetIpSetting "x"	DIP switch 6 (IP SETTING) status

Details: x = 0 (UNIT ID) / 1 (PC)

Example: Command: event VXL:GetIpSetting ""
 Notification: OK event VXL:GetIpSetting "1"
 Meaning: Query the DIP switch 6 (IP SETTING) status
 DIP switch 6 (IP SETTING) status ="PC"

3-10) IP address assignment (DHCP/Auto IP or Static IP) setting when the DIP switch 6 (IP SETTING) is set to "PC"

Command	Option 1	Option 2	Description
event	VXL:SetIpSettingPcMode	"x"	IP address assignment (DHCP/Auto IP or Static IP) setting

Details: x = 0 (DHCP/Auto IP) / 1 (Static IP)

Response

Response string	Description
OK event VXL:SetIpSettingPcMode "x"	IP address assignment (DHCP/Auto IP or Static IP) setting completed

Example: Command: event VXL:SetIpSettingPcMode "1"
 Notification: OK event VXL:SetIpSettingPcMode "1"
 Meaning: Set the IP address assignment to Static IP
 The IP address assignment is set to StaticIP

3-11) IP address assignment (DHCP/Auto IP or Static IP) query when the DIP switch 6 (IP SETTING) is set to "PC"

Command	Option 1	Option 2	Description
event	VXL:GetIpSettingPcMode	""	IP address assignment (DHCP/Auto IP or Static IP) query

Response

Response string	Description
OK event VXL:GetIpSettingPcMode "x"	IP address assignment (DHCP/Auto IP or Static IP)

Details: x = 0 (DHCP/Auto IP) / 1 (Static IP)

Example: Command: event VXL:GetIpSettingPcMode ""
 Notification: OK event VXL:GetIpSettingPcMode "1"
 Meaning: Query the IP address assignment
 IP address assignment ="StaticIP"

3-12) IP address setting (Static IP address setting) after the next boot when the DIP switch 6 (IP SETTING) is "PC"

Command	Option 1	Option 2	Description
event	VXL:SetNextBootIpAddress	"xxx.xxx.xxx.xxx"	IP address setting (Static IP address setting) after the next boot

Details: xxx.xxx.xxx.xxx = Device IP Address

Response

Response string	Description
OK event VXL:SetNextBootIpAddress "xxx.xxx.xxx.xxx"	IP address setting (Static IP address setting) after the next boot completed

Example: Command: event VXL:SetNextBootIpAddress "192.168.0.1"
 Notification: OK event VXL:SetNextBootIpAddress "192.168.0.1"
 Meaning: Set the IP address after the next boot to 192.168.0.1
 The IP address after the next boot is set to 192.168.0.1

3-13) IP address query after the next boot

Command	Option 1	Option 2	Description
event	VXL:GetNextBootIpAddress	""	IP address query after the next boot

Response

Response string	Description
OK event VXL:GetNextBootIpAddress "xxx.xxx.xxx.xxx"	IP address after the next boot

Details: xxx.xxx.xxx.xxx = Device IP Address

Example: Command: event VXL:GetNextBootIpAddress ""
 Notification: OK event VXL:GetNextBootIpAddress "192.168.0.1"
 Meaning: Query the IP address after the next boot
 IP address after the next boot ="192.168.0.1"

3-14) Subnet Mask setting after the next boot when the DIP switch 6 (IP SETTING) is "PC"

Command	Option 1	Option 2	Description
event	VXL:SetNextBootSubnetAddress	"xxx.xxx.xxx.xxx"	Subnet Mask setting after the next boot

Details: xxx.xxx.xxx.xxx = Subnet Mask

Response

Response string	Description
OK event VXL:SetNextBootSubnetAddress "xxx.xxx.xxx.xxx"	Subnet Mask setting after the next boot completed

Example: Command: event VXL:SetNextBootSubnetAddress "255.255.255.0"
 Notification: OK event VXL:SetNextBootSubnetAddress "255.255.255.0"
 Meaning: Set the Subnet Mask after the next boot to 255.255.255.0
 The Subnet Mask after the next boot is set to 255.255.255.0

3-15) Subnet Mask query after the next boot

Command	Option 1	Option 2	Description
event	VXL:GetNextBootSubnetAddress	""	Subnet Mask query after the next boot

Response

Response string	Description
OK event VXL:GetNextBootSubnetAddress "xxx.xxx.xxx.xxx"	Subnet Mask after the next boot

Details: xxx.xxx.xxx.xxx = Subnet Mask

Example: Command: VXL:GetNextBootSubnetAddress ""
 Notification: OK event VXL:GetNextBootSubnetAddress "255.255.255.0"
 Meaning: Query the Subnet Mask after the next boot
 Subnet Mask after the next boot ="255.255.255.0"

3-16) Default Gateway setting after the next boot when the DIP switch 6 (IP SETTING) is "PC"

Command	Option 1	Option 2	Description
event	VXL:SetNextBootDefaultGateway	"xxx.xxx.xxx.xxx"	Default Gateway setting after the next boot

Details: xxx.xxx.xxx.xxx = Default Gateway

Response

Response string	Description
OK event VXL:SetNextBootDefaultGateway "xxx.xxx.xxx.xxx"	Default Gateway setting after the next boot completed

Example: Command: event VXL:SetNextBootDefaultGateway "192.168.0.1"
 Notification: OK event VXL:SetNextBootDefaultGateway "192.168.0.1"
 Meaning: Set the Default Gateway after the next boot to 192.168.0.1
 The Default Gateway after the next boot is set to 192.168.0.1

3-17) Default Gateway query after the next boot

Command	Option 1	Option 2	Description
event	VXL:GetNextBootDefaultGateway	""	Default Gateway query after the next boot

Response

Response string	Description
OK event VXL:GetNextBootDefaultGateway "xxx.xxx.xxx.xxx"	Default Gateway after the next boot

Details: xxx.xxx.xxx.xxx = Default Gateway

Example: Command: VXL:GetNextBootDefaultGateway ""
 Notification: OK event VXL:GetNextBootDefaultGateway "192.168.0.1"
 Meaning: Query the Default Gateway after the next boot
 Default Gateway after the next boot ="192.168.0.1"

3-18) Default Gateway query

Command	Option 1	Option 2	Description
event	VXL:GetDefaultGateway	""	Default Gateway query

Response

Response string	Description
OK event VXL:GetDefaultGateway "xxx.xxx.xxx.xxx"	Default Gateway

Details: xxx.xxx.xxx.xxx = Default Gateway

Example: Command: VXL:GetDefaultGateway ""
 Notification: OK event VXL:GetDefaultGateway "192.168.0.1"
 Meaning: Query the Default Gateway
 Default Gateway ="192.168.0.1"

3-19) DIP switches 1-4 (UNIT ID) status query

Command	Option 1	Option 2	Description
event	VXL:GetUnitIDMode	""	DIP switches 1-4 (UNIT ID) status query

Response

Response string	Description
OK event VXL:GetUnitIDMode "x"	DIP switches 1-4 (UNIT ID) status

Details: x = 0 (DIP SW) / 1 (RESERVED)

Example: Command: event VXL:GetUnitIDMode ""
 Notification: OK event VXL:GetUnitIDMode "1"
 Meaning: Query the DIP switches 1-4 (UNIT ID) status
 DIP switches 1-4 (UNIT ID) status ="RESERVED"

3-20) UNIT ID setting after the next boot when the DIP switches 1-4 (UNIT ID) are "RESERVED"

Command	Option 1	Option 2	Description
event	VXL:SetNextBootUnitID	"xxx"	UNIT ID setting after the next boot

Details: xxx = UNIT ID
 * The UNIT ID is expressed using a 3-digit hexadecimal 000-07F (000-127).

Response

Response string	Description
OK event VXL:SetNextBootUnitID "xxx"	UNIT ID setting after the next boot completed

Example: Command: event VXL:SetNextBootUnitID "078"
 Notification: OK event VXL:SetNextBootUnitID "078"
 Meaning: Set the UNIT ID after the next boot to 120
 The UNIT ID after the next boot is set to 120

3-21) UNIT ID query after the next boot

Command	Option 1	Option 2	Description
event	VXL:GetNextBootUnitID	""	UNIT ID query after the next boot

Response

Response string	Description
OK event VXL:GetNextBootUnitID "xxx"	UNIT ID after the next boot

Details: xxx = UNIT ID
 * The UNIT ID is expressed using a 3-digit hexadecimal 000-07F (000-127).

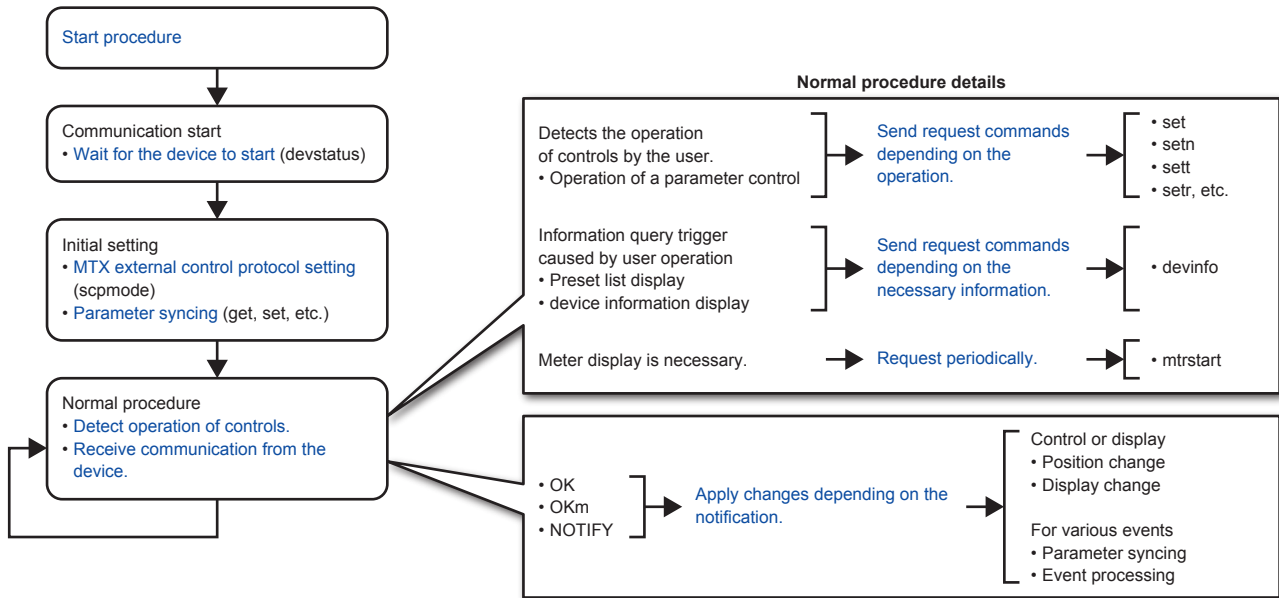
Example: Command: VXL:GetNextBootUnitID ""
 Notification: OK event VXL:GetNextBootUnitID "078"
 Meaning: Query the UNIT ID after the next boot
 UNIT ID after the next boot ="120"

4. Command Sequence

Below are examples of how to process remote control.

When viewed from the controller, the following major phases exist in order to perform remote control.

In the normal processing state, remote control is realized by combining various commands according to the specifications of the controller.



The controller designer needs to design and implement the blue items in the above figure.

The detailed sequences of various procedures are provided below.

4.1. Communication start sequence

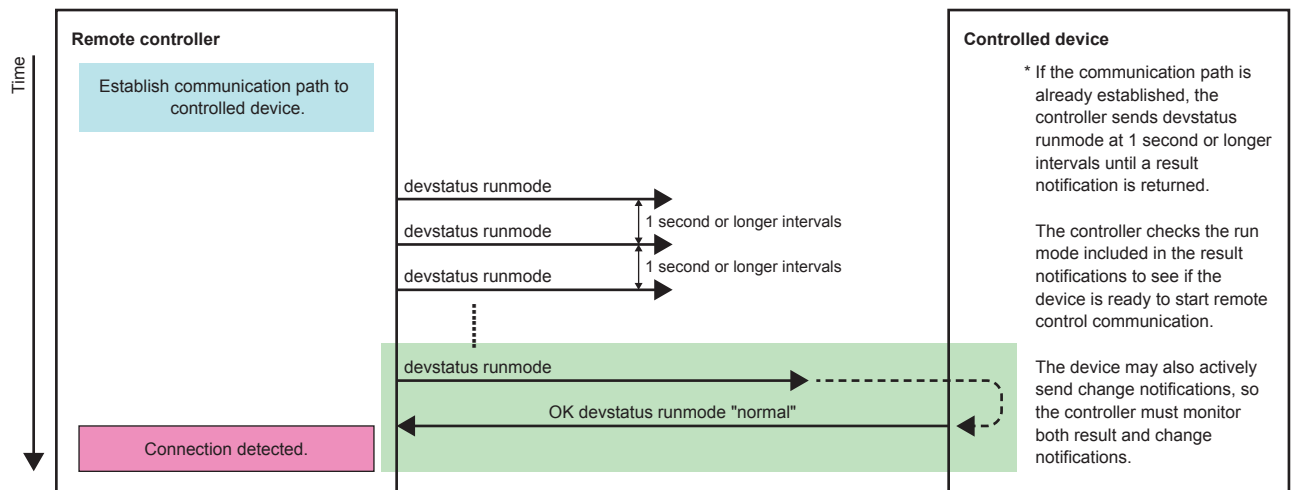
The amount of time for the controller and the controlled device to start is different.

Remote control is an act of controlling the controlled device from the controller, so the controller must wait for the controlled device to become ready.

The controller needs to wait using the sequence below.

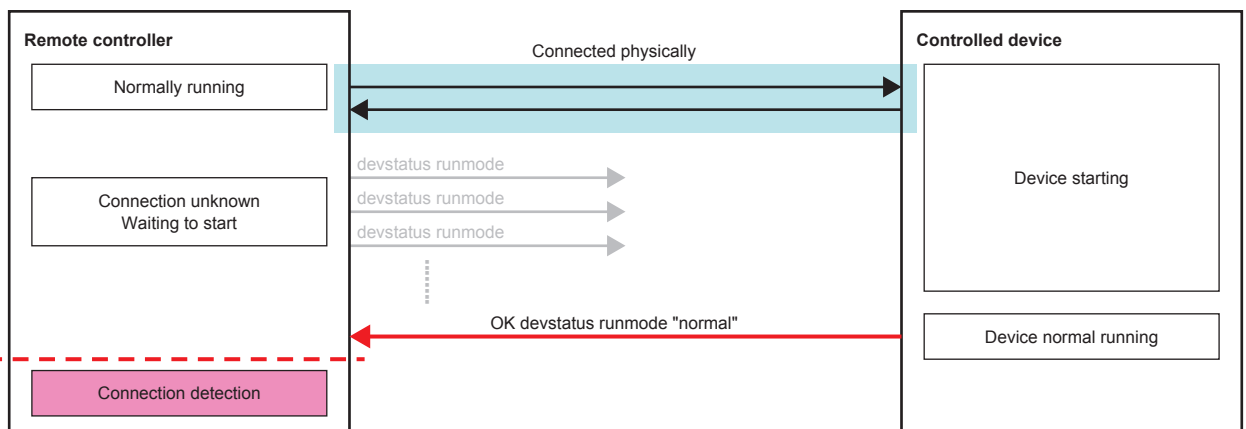
- If an Ethernet connection is required, the remote controller needs to establish a logical session. (This is not necessary for a connection that only needs to be connected physically, as in RS-232C.)
- After the session is established, the controller sends devstatus commands at 1 second or longer intervals.
- If "OK devstatus runmode" is returned, the controller should check the information.
- If the controller determines that the controlled device is in normal running mode, the controller can start sending command strings to change parameter value and preset etc. If the controlled device is not in normal running mode, the controller continues trying.

Note: In order to establish remote control communication, the external controller must send [devstatus runmode] command to the device and await response. When the device responds as [OK devstatus runmode "normal"], the device is ready to receive commands.

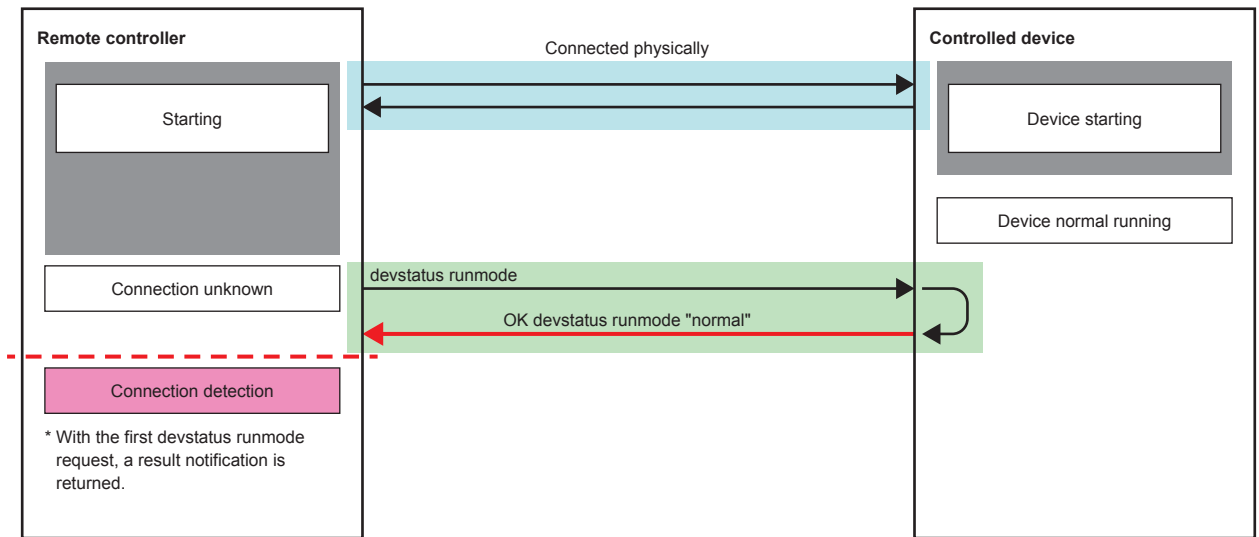


The reason for using such a sequence is provided below.

Example when the controller starts earlier than the controlled device



Example when the controlled device starts earlier than the controller



Controller can recognize that Controlled device is ready to receive commands when there is response for "devstatus runmode" command.

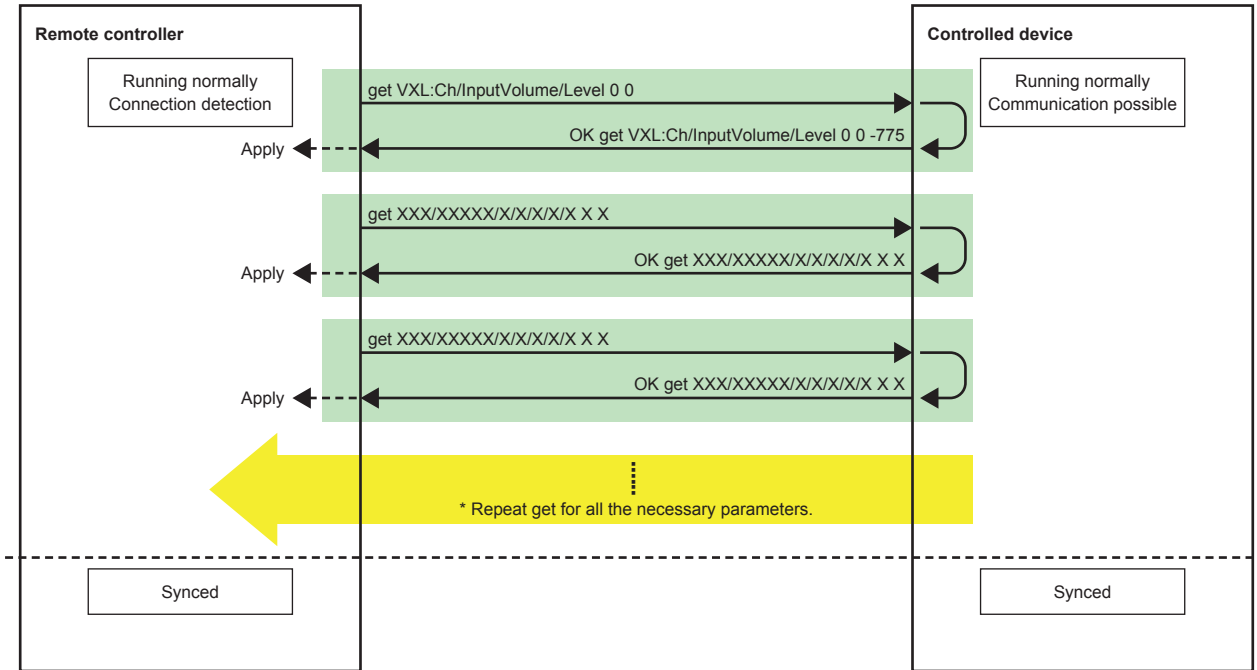
In case of Ethernet connection, Ethernet logical session (e.g. port open) should be established before sending "devstatus runmode".

4.2. Parameter sync sequence

Immediately after communication starts, the controller does not know anything about the most recent status of the controlled device. Therefore, the controller must query all parameters that it plans to handle.

This also applies for when preset recall is executed, because the controller does not know how the device has changed.

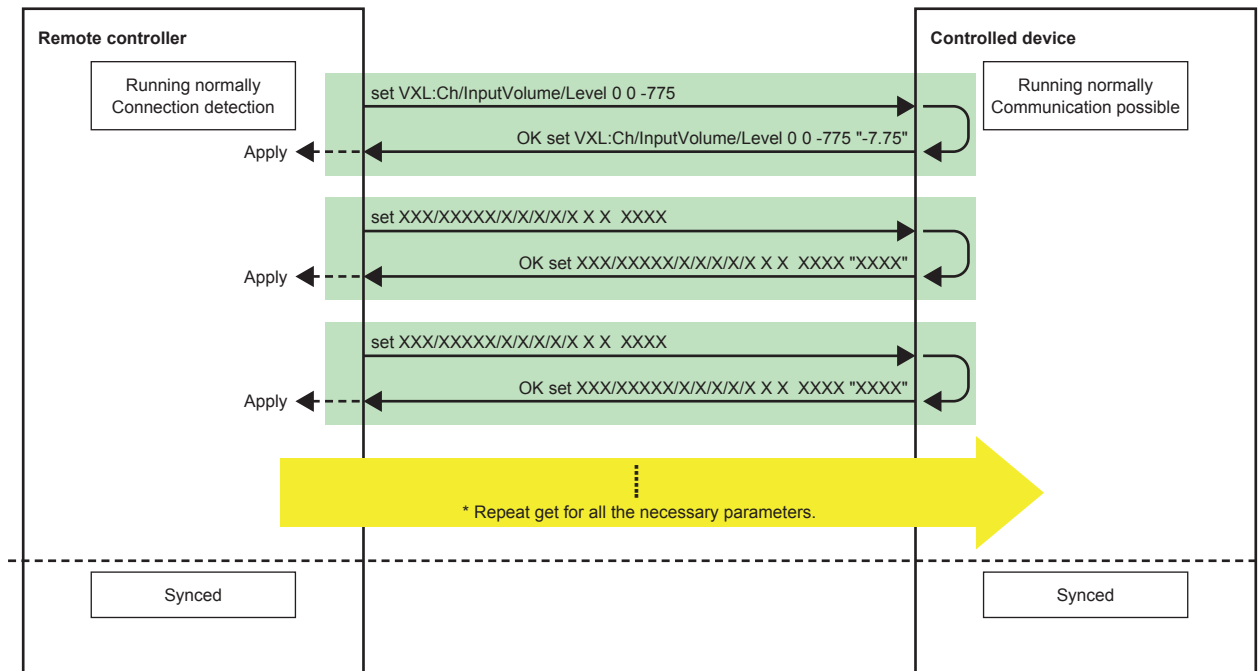
Querying the most recent status of the controlled device or when a snapshot recall occurs



Executing this sequence synchronizes the status with the controlled device.

However, if the controller receives a change notification from the controlled device during this query sequence, the controller needs to query again.

Applying the most recent status of the controller to the device



Even when the latest state on the controller side is reflected, depending on the situation, the value may be rounded on the operation target device side.

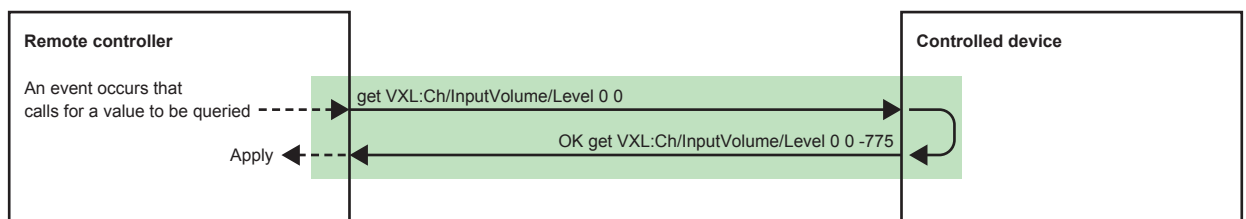
Therefore, the result notification is reflected again on the controller side as necessary.

4.3. Parameter query sequence at any given time

LEDs and displays on the GUI

Indications are updated on the basis of the result notifications returned after the processing of the set commands.

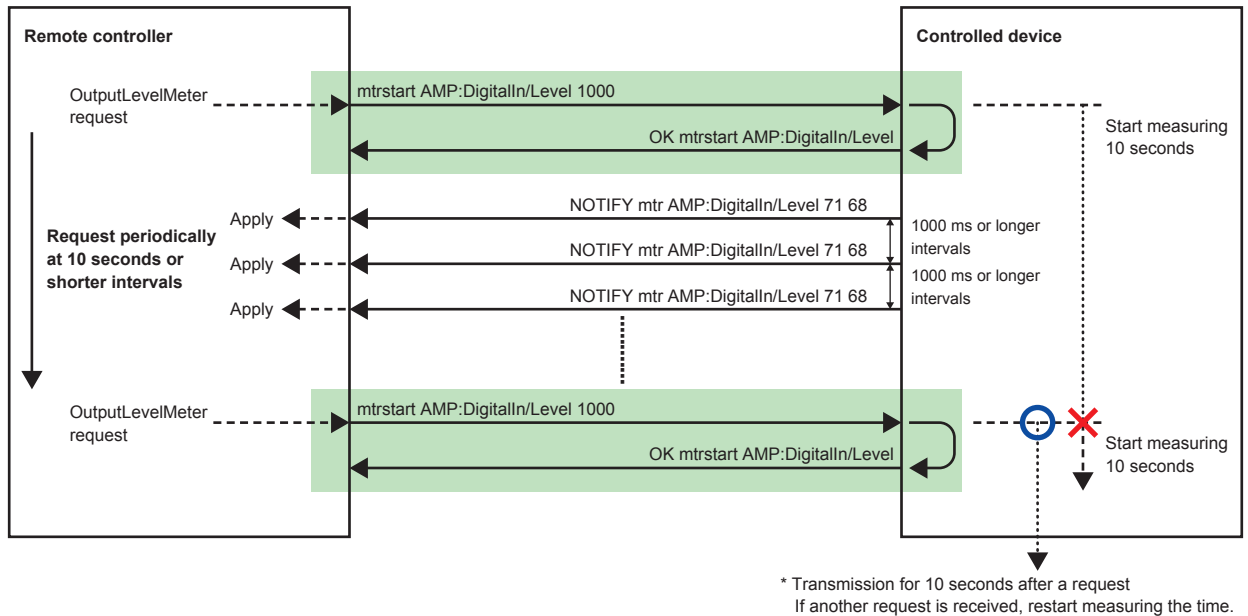
Alternatively, send an explicit get request and apply the result to the indications, as shown below.



One example of using this sequence would be for refreshing the UI after boot-up or after changing tabs.

4.4. Meter data request/query sequence

The controller requests meter data by specifying the meter data address and the minimum transmission interval. The meter transmission stops after 10 seconds. To continue receiving data, make another request before the 10 seconds pass.



4.5. Sequence when parameters are changed by another controller

If the controller sends a parameter set request, a change notification is returned immediately. However, if parameters change internally in the controlled device (this includes changes in parameters that occur as a result of a controller operation on another parameter) or due to a request from another controller, a parameter change notification is received, as shown below.

The controller receiving a parameter change notification updates its own status if necessary.



The way in which parameter change notifications are sent varies depending on the value notification mode specified in the MTX external control protocol mode.

If you want to handle a value with a given range, such as in a MIDI controller,

- Set the value notification mode to normalized value notification mode, and specify the required resolution.
- Use `setn/getn` to perform processing from the controller.
- Apply changes to the controller according to `NOTIFY setn`.

Conversely, for a highly functional PC application where you want to use all the internal parameters,

- Set the MTX external control protocol mode to raw value mode.
- Use `set/get` to perform processing from the controller.
- Apply changes to the controller according to `NOTIFY set`.
- Use `setn/getn` for certain parameters when necessary.

5. Meter Value

5.1. Level Meter, Hold Meter, GR Meter

5.1.1.

Value	Data	Value	Data	Value	Data	Value	Data
00	-126dBfs or less	20	-94dBfs	40	-62dBfs	60	-30dBfs
01	-125dBfs	21	-93dBfs	41	-61dBfs	61	-29dBfs
02	-124dBfs	22	-92dBfs	42	-60dBfs	62	-28dBfs
03	-123dBfs	23	-91dBfs	43	-59dBfs	63	-27dBfs
04	-122dBfs	24	-90dBfs	44	-58dBfs	66	-26dBfs
05	-121dBfs	25	-89dBfs	45	-57dBfs	65	-25dBfs
06	-120dBfs	26	-88dBfs	46	-56dBfs	66	-24dBfs
07	-119dBfs	27	-87dBfs	47	-55dBfs	67	-23dBfs
08	-118dBfs	28	-86dBfs	48	-54dBfs	68	-22dBfs
09	-117dBfs	29	-85dBfs	49	-53dBfs	69	-21dBfs
0A	-116dBfs	2A	-84dBfs	4A	-52dBfs	6A	-20dBfs
0B	-115dBfs	2B	-83dBfs	4B	-51dBfs	6B	-19dBfs
0C	-114dBfs	2C	-82dBfs	4C	-50dBfs	6C	-18dBfs
0D	-113dBfs	2D	-81dBfs	4D	-49dBfs	6D	-17dBfs
0E	-112dBfs	2E	-80dBfs	4E	-48dBfs	6E	-16dBfs
0F	-111dBfs	2F	-79dBfs	4F	-47dBfs	6F	-15dBfs
10	-110dBfs	30	-78dBfs	50	-46dBfs	70	-14dBfs
11	-109dBfs	31	-77dBfs	51	-45dBfs	71	-13dBfs
12	-108dBfs	32	-76dBfs	52	-44dBfs	72	-12dBfs
13	-107dBfs	33	-75dBfs	55	-43dBfs	77	-11dBfs
14	-106dBfs	34	-74dBfs	54	-42dBfs	74	-10dBfs
15	-105dBfs	35	-73dBfs	55	-41dBfs	77	-9dBfs
16	-104dBfs	36	-72dBfs	56	-40dBfs	76	-8dBfs
17	-103dBfs	37	-71dBfs	57	-39dBfs	77	-7dBfs
18	-102dBfs	38	-70dBfs	58	-38dBfs	78	-6dBfs
19	-101dBfs	39	-69dBfs	59	-37dBfs	79	-5dBfs
1A	-100dBfs	3A	-68dBfs	5A	-36dBfs	7A	-4dBfs
1B	-99dBfs	3B	-67dBfs	5B	-35dBfs	7B	-3dBfs
1C	-98dBfs	3C	-66dBfs	5C	-34dBfs	7C	-2dBfs
1D	-97dBfs	3D	-65dBfs	5D	-33dBfs	7D	-1dBfs
1E	-96dBfs	3E	-64dBfs	5E	-32dBfs	7E	0dBfs
1F	-95dBfs	3F	-63dBfs	5F	-31dBfs	7F	OVER

NOTE: A device may not be able to send all the values depending on how precise the device processes values internally.

6.2. DRC

6.2.1. Ratio

value	Display	value	Display	value	Display	value	Display
10	1.0:1	58	5.8:1	106	10.6:1	154	15.4:1
11	1.1:1	59	5.9:1	107	10.7:1	155	15.5:1
12	1.2:1	60	6.0:1	108	10.8:1	156	15.6:1
13	1.3:1	61	6.1:1	109	10.9:1	157	15.7:1
14	1.4:1	62	6.2:1	110	11.0:1	158	15.8:1
15	1.5:1	63	6.3:1	111	11.1:1	159	15.9:1
16	1.6:1	64	6.4:1	112	11.2:1	160	16.0:1
17	1.7:1	65	6.5:1	113	11.3:1	161	16.1:1
18	1.8:1	66	6.6:1	114	11.4:1	162	16.2:1
19	1.9:1	67	6.7:1	115	11.5:1	163	16.3:1
20	2.0:1	68	6.8:1	116	11.6:1	164	16.4:1
21	2.1:1	69	6.9:1	117	11.7:1	165	16.5:1
22	2.2:1	70	7.0:1	118	11.8:1	166	16.6:1
23	2.3:1	71	7.1:1	119	11.9:1	167	16.7:1
24	2.4:1	72	7.2:1	120	12.0:1	168	16.8:1
25	2.5:1	73	7.3:1	121	12.1:1	169	16.9:1
26	2.6:1	74	7.4:1	122	12.2:1	170	17.0:1
27	2.7:1	75	7.5:1	123	12.3:1	171	17.1:1
28	2.8:1	76	7.6:1	124	12.4:1	172	17.2:1
29	2.9:1	77	7.7:1	125	12.5:1	173	17.3:1
30	3.0:1	78	7.8:1	126	12.6:1	174	17.4:1
31	3.1:1	79	7.9:1	127	12.7:1	175	17.5:1
32	3.2:1	80	8.0:1	128	12.8:1	176	17.6:1
33	3.3:1	81	8.1:1	129	12.9:1	177	17.7:1
34	3.4:1	82	8.2:1	130	13.0:1	178	17.8:1
35	3.5:1	83	8.3:1	131	13.1:1	179	17.9:1
36	3.6:1	84	8.4:1	132	13.2:1	180	18.0:1
37	3.7:1	85	8.5:1	133	13.3:1	181	18.1:1
38	3.8:1	86	8.6:1	134	13.4:1	182	18.2:1
39	3.9:1	87	8.7:1	135	13.5:1	183	18.3:1
40	4.0:1	88	8.8:1	136	13.6:1	184	18.4:1
41	4.1:1	89	8.9:1	137	13.7:1	185	18.5:1
42	4.2:1	90	9.0:1	138	13.8:1	186	18.6:1
43	4.3:1	91	9.1:1	139	13.9:1	187	18.7:1
44	4.4:1	92	9.2:1	140	14.0:1	188	18.8:1
45	4.5:1	93	9.3:1	141	14.1:1	189	18.9:1
46	4.6:1	94	9.4:1	142	14.2:1	190	19.0:1
47	4.7:1	95	9.5:1	143	14.3:1	191	19.1:1
48	4.8:1	96	9.6:1	144	14.4:1	192	19.2:1
49	4.9:1	97	9.7:1	145	14.5:1	193	19.3:1
50	5.0:1	98	9.8:1	146	14.6:1	194	19.4:1
51	5.1:1	99	9.9:1	147	14.7:1	195	19.5:1
52	5.2:1	100	10.0:1	148	14.8:1	196	19.6:1
53	5.3:1	101	10.1:1	149	14.9:1	197	19.7:1
54	5.4:1	102	10.2:1	150	15.0:1	198	19.8:1
55	5.5:1	103	10.3:1	151	15.1:1	199	19.9:1
56	5.6:1	104	10.4:1	152	15.2:1	200	20.0:1
57	5.7:1	105	10.5:1	153	15.3:1	201~	∞:1

6.2.2. Release

value	Display	value	Display	value	Display	value	Display
3	3msec	189	189msec	1230	1.23sec	7680	7.68sec
7	7msec	196	196msec	1280	1.28sec	8110	8.11sec
10	10msec	203	203msec	1340	1.34sec	8540	8.54sec
13	13msec	209	209msec	1390	1.39sec	8970	8.97sec
17	17msec	219	219msec	1440	1.44sec	9390	9.39sec
22	22msec	229	229msec	1500	1.50sec	9820	9.82sec
25	25msec	243	243msec	1550	1.55sec	10200	10.2sec
28	28msec	256	256msec	1600	1.60sec	10700	10.7sec
32	32msec	269	269msec	1660	1.66sec	11100	11.1sec
35	35msec	283	283msec	1740	1.74sec	11500	11.5sec
38	38msec	296	296msec	1820	1.82sec	12000	12.0sec
42	42msec	309	309msec	1920	1.92sec	12400	12.4sec
45	45msec	323	323msec	2030	2.03sec	12800	12.8sec
48	48msec	336	336msec	2140	2.14sec	13200	13.2sec
52	52msec	349	349msec	2240	2.24sec	13900	13.9sec
55	55msec	363	363msec	2350	2.35sec	14500	14.5sec
59	59msec	376	376msec	2460	2.46sec	15400	15.4sec
63	63msec	390	390msec	2560	2.56sec	16200	16.2sec
66	66msec	403	403msec	2670	2.67sec	17100	17.1sec
69	69msec	416	416msec	2780	2.78sec	17900	17.9sec
73	73msec	436	436msec	2890	2.89sec	18800	18.8sec
76	76msec	456	456msec	2990	2.99sec	19600	19.6sec
79	79msec	483	483msec	3100	3.10sec	20500	20.5sec
83	83msec	509	509msec	3210	3.21sec	21400	21.4sec
86	86msec	536	536msec	3310	3.31sec	22200	22.2sec
89	89msec	563	563msec	3470	3.47sec	23100	23.1sec
93	93msec	589	589msec	3630	3.63sec	23900	23.9sec
96	96msec	616	616msec	3840	3.84sec	24800	24.8sec
99	99msec	643	643msec	4060	4.06sec	25600	25.6sec
103	103msec	670	670msec	4270	4.27sec	26500	26.5sec
106	106msec	696	696msec	4480	4.48sec	27700	27.7sec
111	111msec	723	723msec	4700	4.70sec	29000	29.0sec
116	116msec	750	750msec	4910	4.91sec	30700	30.7sec
123	123msec	777	777msec	5130	5.13sec	32400	32.4sec
129	129msec	803	803msec	5340	5.34sec	34100	34.1sec
136	136msec	830	830msec	5550	5.55sec	35900	35.9sec
143	143msec	870	870msec	5770	5.77sec	37600	37.6sec
149	149msec	909	909msec	5980	5.98sec	39300	39.3sec
156	156msec	963	963msec	6200	6.20sec	41000	41.0sec
163	163msec	1020	1.02sec	6410	6.41sec	42700	42.7sec
169	169msec	1070	1.07sec	6620	6.62sec		
176	176msec	1120	1.12sec	6940	6.94sec		
183	183msec	1180	1.18sec	7260	7.26sec		

6.2.3. Hold

value	Display	value	Display	value	Display	value	Display
2	0.02msec	201	2.01msec	2020	20.2msec	21100	211msec
4	0.04msec	210	2.10msec	2090	20.9msec	22200	222msec
7	0.07msec	219	2.19msec	2160	21.6msec	23300	233msec
9	0.09msec	228	2.28msec	2260	22.6msec	24500	245msec
11	0.11msec	236	2.36msec	2360	23.6msec	25600	256msec
14	0.14msec	245	2.45msec	2500	25.0msec	26700	267msec
16	0.16msec	254	2.54msec	2640	26.4msec	27800	278msec
18	0.18msec	262	2.62msec	2780	27.8msec	38900	289msec
21	0.21msec	271	2.71msec	2920	29.2msec	30000	300msec
23	0.23msec	284	2.84msec	3060	30.6msec	31100	311msec
25	0.25msec	297	2.97msec	3200	32.0msec	32300	323msec
27	0.27msec	314	3.14msec	3340	33.4msec	33400	334msec
29	0.29msec	332	3.32msec	3480	34.8msec	34500	345msec
31	0.31msec	349	3.49msec	3620	36.2msec	36100	361msec
34	0.34msec	366	3.66msec	3750	37.5msec	37800	378msec
36	0.36msec	384	3.84msec	3890	38.9msec	40000	400msec
39	0.39msec	401	4.01msec	4030	40.3msec	42200	422msec
41	0.41msec	419	4.19msec	4170	41.7msec	44500	445msec
43	0.43msec	436	4.36msec	4310	43.1msec	46700	467msec
45	0.45msec	453	4.53msec	4520	45.2msec	48900	489msec
47	0.47msec	471	4.71msec	4720	47.2msec	51100	511msec
49	0.49msec	488	4.88msec	5000	50.0msec	53400	534msec
52	0.52msec	506	5.06msec	5280	52.8msec	55600	556msec
54	0.54msec	523	5.23msec	5560	55.6msec	57800	578msec
56	0.56msec	540	5.40msec	5840	58.4msec	60100	601msec
58	0.58msec	566	5.66msec	6120	61.2msec	62300	623msec
60	0.60msec	592	5.92msec	6390	63.9msec	64500	645msec
62	0.62msec	627	6.27msec	6670	66.7msec	66700	667msec
65	0.65msec	661	6.61msec	6950	69.5msec	69000	690msec
67	0.67msec	696	6.96msec	7230	72.3msec	72300	723msec
69	0.69msec	731	7.31msec	7510	75.1msec	75600	756msec
72	0.72msec	766	7.66msec	7790	77.9msec	80000	800msec
75	0.75msec	801	8.01msec	8070	80.7msec	84500	845msec
80	0.80msec	836	8.36msec	8340	83.4msec	88900	889msec
84	0.84msec	870	8.70msec	8620	86.2msec	93400	934msec
88	0.88msec	905	9.05msec	9030	90.3msec	97800	978msec
93	0.93msec	940	9.40msec	9450	94.5msec	102000	1.02sec
97	0.97msec	975	9.75msec	10000	100msec	107000	1.07sec
102	1.02msec	1010	10.1msec	10600	106msec	111000	1.11sec
106	1.06msec	1040	10.4msec	11100	111msec	116000	1.16sec
110	1.10msec	1080	10.8msec	11700	117msec	120000	1.20sec
115	1.15msec	1130	11.3msec	12200	122msec	125000	1.25sec
119	1.19msec	1180	11.8msec	12800	128msec	129000	1.29sec
123	1.23msec	1250	12.5msec	13300	133msec	133000	1.33sec
128	1.28msec	1320	13.2msec	13900	139msec	138000	1.38sec
132	1.32msec	1390	13.9msec	14500	145msec	145000	1.45sec
136	1.36msec	1460	14.6msec	15000	150msec	151000	1.51sec
143	1.43msec	1530	15.3msec	15600	156msec	160000	1.60sec
149	1.49msec	1600	16.0msec	16100	161msec	169000	1.69sec
158	1.58msec	1670	16.7msec	16700	167msec	178000	1.78sec
167	1.67msec	1740	17.4msec	17200	172msec	187000	1.87sec
175	1.75msec	1810	18.1msec	18100	181msec	196000	1.96sec
184	1.84msec	1880	18.8msec	18900	189msec		
193	1.93msec	1950	19.5msec	20000	200msec		

6.3. InputVolume

6.3.1. Level

In the case of using setn with SCP resolution of 1024

value	Display	value	Display	value	Display	value	Display	value	Display	value	Display
-32768	-∞	-8850	-88.50	-6980	-69.80	-5760	-57.60	-4760	-47.60	-4140	-41.40
-13800	-138.00	-8800	-88.00	-6960	-69.60	-5740	-57.40	-4750	-47.50	-4130	-41.30
-13600	-136.00	-8750	-87.50	-6940	-69.40	-5720	-57.20	-4740	-47.40	-4120	-41.20
-13400	-134.00	-8700	-87.00	-6920	-69.20	-5700	-57.00	-4730	-47.30	-4110	-41.10
-13300	-133.00	-8650	-86.50	-6900	-69.00	-5680	-56.80	-4720	-47.20	-4100	-41.00
-13200	-132.00	-8600	-86.00	-6880	-68.80	-5660	-56.60	-4710	-47.10	-4090	-40.90
-13100	-131.00	-8550	-85.50	-6860	-68.60	-5640	-56.40	-4700	-47.00	-4080	-40.80
-13000	-130.00	-8500	-85.00	-6840	-68.40	-5620	-56.20	-4690	-46.90	-4070	-40.70
-12900	-129.00	-8450	-84.50	-6820	-68.20	-5600	-56.00	-4680	-46.80	-4060	-40.60
-12800	-128.00	-8400	-84.00	-6800	-68.00	-5580	-55.80	-4670	-46.70	-4050	-40.50
-12700	-127.00	-8350	-83.50	-6780	-67.80	-5560	-55.60	-4660	-46.60	-4040	-40.40
-12600	-126.00	-8300	-83.00	-6760	-67.60	-5540	-55.40	-4650	-46.50	-4030	-40.30
-12500	-125.00	-8250	-82.50	-6740	-67.40	-5520	-55.20	-4640	-46.40	-4020	-40.20
-12400	-124.00	-8200	-82.00	-6720	-67.20	-5500	-55.00	-4630	-46.30	-4010	-40.10
-12300	-123.00	-8150	-81.50	-6700	-67.00	-5480	-54.80	-4620	-46.20	-4000	-40.00
-12200	-122.00	-8100	-81.00	-6680	-66.80	-5460	-54.60	-4610	-46.10	-3990	-39.90
-12100	-121.00	-8050	-80.50	-6660	-66.60	-5440	-54.40	-4600	-46.00	-3980	-39.80
-12000	-120.00	-8000	-80.00	-6640	-66.40	-5420	-54.20	-4590	-45.90	-3970	-39.70
-11900	-119.00	-7950	-79.50	-6620	-66.20	-5400	-54.00	-4580	-45.80	-3960	-39.60
-11800	-118.00	-7900	-79.00	-6600	-66.00	-5380	-53.80	-4570	-45.70	-3950	-39.50
-11700	-117.00	-7850	-78.50	-6580	-65.80	-5360	-53.60	-4560	-45.60	-3940	-39.40
-11600	-116.00	-7800	-78.00	-6560	-65.60	-5340	-53.40	-4550	-45.50	-3930	-39.30
-11500	-115.00	-7780	-77.80	-6540	-65.40	-5320	-53.20	-4540	-45.40	-3920	-39.20
-11400	-114.00	-7760	-77.60	-6520	-65.20	-5300	-53.00	-4530	-45.30	-3910	-39.10
-11300	-113.00	-7740	-77.40	-6500	-65.00	-5280	-52.80	-4520	-45.20	-3900	-39.00
-11200	-112.00	-7720	-77.20	-6480	-64.80	-5260	-52.60	-4510	-45.10	-3890	-38.90
-11100	-111.00	-7700	-77.00	-6460	-64.60	-5240	-52.40	-4500	-45.00	-3880	-38.80
-11000	-110.00	-7680	-76.80	-6440	-64.40	-5220	-52.20	-4490	-44.90	-3870	-38.70
-10900	-109.00	-7660	-76.60	-6420	-64.20	-5200	-52.00	-4480	-44.80	-3860	-38.60
-10800	-108.00	-7640	-76.40	-6400	-64.00	-5180	-51.80	-4470	-44.70	-3850	-38.50
-10700	-107.00	-7620	-76.20	-6380	-63.80	-5160	-51.60	-4460	-44.60	-3840	-38.40
-10600	-106.00	-7600	-76.00	-6360	-63.60	-5140	-51.40	-4450	-44.50	-3830	-38.30
-10500	-105.00	-7580	-75.80	-6340	-63.40	-5120	-51.20	-4440	-44.40	-3820	-38.20
-10400	-104.00	-7560	-75.60	-6320	-63.20	-5100	-51.00	-4430	-44.30	-3810	-38.10
-10300	-103.00	-7540	-75.40	-6300	-63.00	-5080	-50.80	-4420	-44.20	-3800	-38.00
-10200	-102.00	-7520	-75.20	-6280	-62.80	-5060	-50.60	-4410	-44.10	-3790	-37.90
-10150	-101.50	-7500	-75.00	-6260	-62.60	-5040	-50.40	-4400	-44.00	-3780	-37.80
-10100	-101.00	-7480	-74.80	-6240	-62.40	-5020	-50.20	-4390	-43.90	-3770	-37.70
-10050	-100.50	-7460	-74.60	-6220	-62.20	-5000	-50.00	-4380	-43.80	-3760	-37.60
-10000	-100.00	-7440	-74.40	-6200	-62.00	-4990	-49.90	-4370	-43.70	-3750	-37.50
-9950	-99.50	-7420	-74.20	-6180	-61.80	-4980	-49.80	-4360	-43.60	-3740	-37.40
-9900	-99.00	-7400	-74.00	-6180	-61.80	-4970	-49.70	-4350	-43.50	-3730	-37.30
-9850	-98.50	-7380	-73.80	-6160	-61.60	-4960	-49.60	-4340	-43.40	-3720	-37.20
-9800	-98.00	-7360	-73.60	-6140	-61.40	-4950	-49.50	-4330	-43.30	-3710	-37.10
-9750	-97.50	-7340	-73.40	-6120	-61.20	-4940	-49.40	-4320	-43.20	-3700	-37.00
-9700	-97.00	-7320	-73.20	-6100	-61.00	-4930	-49.30	-4310	-43.10	-3690	-36.90
-9650	-96.50	-7300	-73.00	-6080	-60.80	-4920	-49.20	-4300	-43.00	-3680	-36.80
-9600	-96.00	-7280	-72.80	-6060	-60.60	-4910	-49.10	-4290	-42.90	-3670	-36.70
-9550	-95.50	-7260	-72.60	-6040	-60.40	-4900	-49.00	-4280	-42.80	-3660	-36.60
-9500	-95.00	-7240	-72.40	-6020	-60.20	-4890	-48.90	-4270	-42.70	-3650	-36.50
-9450	-94.50	-7220	-72.20	-6000	-60.00	-4880	-48.80	-4260	-42.60	-3640	-36.40
-9400	-94.00	-7200	-72.00	-5980	-59.80	-4870	-48.70	-4250	-42.50	-3630	-36.30
-9350	-93.50	-7180	-71.80	-5960	-59.60	-4860	-48.60	-4240	-42.40	-3620	-36.20
-9300	-93.00	-7160	-71.60	-5940	-59.40	-4850	-48.50	-4230	-42.30	-3610	-36.10
-9250	-92.50	-7140	-71.40	-5920	-59.20	-4840	-48.40	-4220	-42.20	-3600	-36.00
-9200	-92.00	-7120	-71.20	-5900	-59.00	-4830	-48.30	-4210	-42.10	-3590	-35.90
-9150	-91.50	-7100	-71.00	-5880	-58.80	-4820	-48.20	-4200	-42.00	-3580	-35.80
-9100	-91.00	-7080	-70.80	-5860	-58.60	-4810	-48.10	-4190	-41.90	-3570	-35.70
-9050	-90.50	-7060	-70.60	-5840	-58.40	-4800	-48.00	-4180	-41.80	-3560	-35.60
-9000	-90.00	-7040	-70.40	-5820	-58.20	-4790	-47.90	-4170	-41.70	-3550	-35.50
-8950	-89.50	-7020	-70.20	-5800	-58.00	-4780	-47.80	-4160	-41.60	-3540	-35.40
-8900	-89.00	-7000	-70.00	-5780	-57.80	-4770	-47.70	-4150	-41.50	-3530	-35.30

value	Display	value	Display	value	Display	value	Display	value	Display	value	Display
-3520	-35.20	-2930	-29.30	-2600	-26.00	-2270	-22.70	-1940	-19.40	-1610	-16.10
-3510	-35.10	-2925	-29.25	-2595	-25.95	-2265	-22.65	-1935	-19.35	-1605	-16.05
-3500	-35.00	-2920	-29.20	-2590	-25.90	-2260	-22.60	-1930	-19.30	-1600	-16.00
-3490	-34.90	-2915	-29.15	-2585	-25.85	-2255	-22.55	-1925	-19.25	-1595	-15.95
-3480	-34.80	-2910	-29.10	-2580	-25.80	-2250	-22.50	-1920	-19.20	-1590	-15.90
-3470	-34.70	-2905	-29.05	-2575	-25.75	-2245	-22.45	-1915	-19.15	-1585	-15.85
-3460	-34.60	-2900	-29.00	-2570	-25.70	-2240	-22.40	-1910	-19.10	-1580	-15.80
-3450	-34.50	-2895	-28.95	-2565	-25.65	-2235	-22.35	-1905	-19.05	-1575	-15.75
-3440	-34.40	-2890	-28.90	-2560	-25.60	-2230	-22.30	-1900	-19.00	-1570	-15.70
-3430	-34.30	-2885	-28.85	-2555	-25.55	-2225	-22.25	-1895	-18.95	-1565	-15.65
-3420	-34.20	-2880	-28.80	-2550	-25.50	-2220	-22.20	-1890	-18.90	-1560	-15.60
-3410	-34.10	-2875	-28.75	-2545	-25.45	-2215	-22.15	-1885	-18.85	-1555	-15.55
-3400	-34.00	-2870	-28.70	-2540	-25.40	-2210	-22.10	-1880	-18.80	-1550	-15.50
-3390	-33.90	-2865	-28.65	-2535	-25.35	-2205	-22.05	-1875	-18.75	-1545	-15.45
-3380	-33.80	-2860	-28.60	-2530	-25.30	-2200	-22.00	-1870	-18.70	-1540	-15.40
-3370	-33.70	-2855	-28.55	-2525	-25.25	-2195	-21.95	-1865	-18.65	-1535	-15.35
-3360	-33.60	-2850	-28.50	-2520	-25.20	-2190	-21.90	-1860	-18.60	-1530	-15.30
-3350	-33.50	-2845	-28.45	-2515	-25.15	-2185	-21.85	-1855	-18.55	-1525	-15.25
-3340	-33.40	-2840	-28.40	-2510	-25.10	-2180	-21.80	-1850	-18.50	-1520	-15.20
-3330	-33.30	-2835	-28.35	-2505	-25.05	-2175	-21.75	-1845	-18.45	-1515	-15.15
-3320	-33.20	-2830	-28.30	-2500	-25.00	-2170	-21.70	-1840	-18.40	-1510	-15.10
-3310	-33.10	-2825	-28.25	-2495	-24.95	-2165	-21.65	-1835	-18.35	-1505	-15.05
-3300	-33.00	-2820	-28.20	-2490	-24.90	-2160	-21.60	-1830	-18.30	-1500	-15.00
-3290	-32.90	-2815	-28.15	-2485	-24.85	-2155	-21.55	-1825	-18.25	-1495	-14.95
-3280	-32.80	-2810	-28.10	-2480	-24.80	-2150	-21.50	-1820	-18.20	-1490	-14.90
-3270	-32.70	-2805	-28.05	-2475	-24.75	-2145	-21.45	-1815	-18.15	-1485	-14.85
-3260	-32.60	-2800	-28.00	-2470	-24.70	-2140	-21.40	-1810	-18.10	-1480	-14.80
-3250	-32.50	-2795	-27.95	-2465	-24.65	-2135	-21.35	-1805	-18.05	-1475	-14.75
-3240	-32.40	-2790	-27.90	-2460	-24.60	-2130	-21.30	-1800	-18.00	-1470	-14.70
-3230	-32.30	-2785	-27.85	-2455	-24.55	-2125	-21.25	-1795	-17.95	-1465	-14.65
-3220	-32.20	-2780	-27.80	-2450	-24.50	-2120	-21.20	-1790	-17.90	-1460	-14.60
-3210	-32.10	-2775	-27.75	-2445	-24.45	-2115	-21.15	-1785	-17.85	-1455	-14.55
-3200	-32.00	-2770	-27.70	-2440	-24.40	-2110	-21.10	-1780	-17.80	-1450	-14.50
-3190	-31.90	-2765	-27.65	-2435	-24.35	-2105	-21.05	-1775	-17.75	-1445	-14.45
-3180	-31.80	-2760	-27.60	-2430	-24.30	-2100	-21.00	-1770	-17.70	-1440	-14.40
-3170	-31.70	-2755	-27.55	-2425	-24.25	-2095	-20.95	-1765	-17.65	-1435	-14.35
-3160	-31.60	-2750	-27.50	-2420	-24.20	-2090	-20.90	-1760	-17.60	-1430	-14.30
-3150	-31.50	-2745	-27.45	-2415	-24.15	-2085	-20.85	-1755	-17.55	-1425	-14.25
-3140	-31.40	-2740	-27.40	-2410	-24.10	-2080	-20.80	-1750	-17.50	-1420	-14.20
-3130	-31.30	-2735	-27.35	-2405	-24.05	-2075	-20.75	-1745	-17.45	-1415	-14.15
-3120	-31.20	-2730	-27.30	-2400	-24.00	-2070	-20.70	-1740	-17.40	-1410	-14.10
-3110	-31.10	-2725	-27.25	-2395	-23.95	-2065	-20.65	-1735	-17.35	-1405	-14.05
-3100	-31.00	-2720	-27.20	-2390	-23.90	-2060	-20.60	-1730	-17.30	-1400	-14.00
-3090	-30.90	-2715	-27.15	-2385	-23.85	-2055	-20.55	-1725	-17.25	-1395	-13.95
-3080	-30.80	-2710	-27.10	-2380	-23.80	-2050	-20.50	-1720	-17.20	-1390	-13.90
-3070	-30.70	-2705	-27.05	-2375	-23.75	-2045	-20.45	-1715	-17.15	-1385	-13.85
-3060	-30.60	-2700	-27.00	-2370	-23.70	-2040	-20.40	-1710	-17.10	-1380	-13.80
-3050	-30.50	-2695	-26.95	-2365	-23.65	-2035	-20.35	-1705	-17.05	-1375	-13.75
-3040	-30.40	-2690	-26.90	-2360	-23.60	-2030	-20.30	-1700	-17.00	-1370	-13.70
-3030	-30.30	-2685	-26.85	-2355	-23.55	-2025	-20.25	-1695	-16.95	-1365	-13.65
-3020	-30.20	-2680	-26.80	-2350	-23.50	-2020	-20.20	-1690	-16.90	-1360	-13.60
-3010	-30.10	-2675	-26.75	-2345	-23.45	-2015	-20.15	-1685	-16.85	-1355	-13.55
-3000	-30.00	-2670	-26.70	-2340	-23.40	-2010	-20.10	-1680	-16.80	-1350	-13.50
-2995	-29.95	-2665	-26.65	-2335	-23.35	-2005	-20.05	-1675	-16.75	-1345	-13.45
-2990	-29.90	-2660	-26.60	-2330	-23.30	-2000	-20.00	-1670	-16.70	-1340	-13.40
-2985	-29.85	-2655	-26.55	-2325	-23.25	-1995	-19.95	-1665	-16.65	-1335	-13.35
-2980	-29.80	-2650	-26.50	-2320	-23.20	-1990	-19.90	-1660	-16.60	-1330	-13.30
-2975	-29.75	-2645	-26.45	-2315	-23.15	-1985	-19.85	-1655	-16.55	-1325	-13.25
-2970	-29.70	-2640	-26.40	-2310	-23.10	-1980	-19.80	-1650	-16.50	-1320	-13.20
-2965	-29.65	-2635	-26.35	-2305	-23.05	-1975	-19.75	-1645	-16.45	-1315	-13.15
-2960	-29.60	-2630	-26.30	-2300	-23.00	-1970	-19.70	-1640	-16.40	-1310	-13.10
-2955	-29.55	-2625	-26.25	-2295	-22.95	-1965	-19.65	-1635	-16.35	-1305	-13.05
-2950	-29.50	-2620	-26.20	-2290	-22.90	-1960	-19.60	-1630	-16.30	-1300	-13.00
-2945	-29.45	-2615	-26.15	-2285	-22.85	-1955	-19.55	-1625	-16.25	-1295	-12.95
-2940	-29.40	-2610	-26.10	-2280	-22.80	-1950	-19.50	-1620	-16.20	-1290	-12.90
-2935	-29.35	-2605	-26.05	-2275	-22.75	-1945	-19.45	-1615	-16.15	-1285	-12.85

value	Display	value	Display	value	Display	value	Display	value	Display	value	Display
-1280	-12.80	-1065	-10.65	-850	-8.50	-635	-6.35	-420	-4.20	-205	-2.05
-1275	-12.75	-1060	-10.60	-845	-8.45	-630	-6.30	-415	-4.15	-200	-2.00
-1270	-12.70	-1055	-10.55	-840	-8.40	-625	-6.25	-410	-4.10	-195	-1.95
-1265	-12.65	-1050	-10.50	-835	-8.35	-620	-6.20	-405	-4.05	-190	-1.90
-1260	-12.60	-1045	-10.45	-830	-8.30	-615	-6.15	-400	-4.00	-185	-1.85
-1255	-12.55	-1040	-10.40	-825	-8.25	-610	-6.10	-395	-3.95	-180	-1.80
-1250	-12.50	-1035	-10.35	-820	-8.20	-605	-6.05	-390	-3.90	-175	-1.75
-1245	-12.45	-1030	-10.30	-815	-8.15	-600	-6.00	-385	-3.85	-170	-1.70
-1240	-12.40	-1025	-10.25	-810	-8.10	-595	-5.95	-380	-3.80	-165	-1.65
-1235	-12.35	-1020	-10.20	-805	-8.05	-590	-5.90	-375	-3.75	-160	-1.60
-1230	-12.30	-1015	-10.15	-800	-8.00	-585	-5.85	-370	-3.70	-155	-1.55
-1225	-12.25	-1010	-10.10	-795	-7.95	-580	-5.80	-365	-3.65	-150	-1.50
-1220	-12.20	-1005	-10.05	-790	-7.90	-575	-5.75	-360	-3.60	-145	-1.45
-1215	-12.15	-1000	-10.00	-785	-7.85	-570	-5.70	-355	-3.55	-140	-1.40
-1210	-12.10	-995	-9.95	-780	-7.80	-565	-5.65	-350	-3.50	-135	-1.35
-1205	-12.05	-990	-9.90	-775	-7.75	-560	-5.60	-345	-3.45	-130	-1.30
-1200	-12.00	-985	-9.85	-770	-7.70	-555	-5.55	-340	-3.40	-125	-1.25
-1195	-11.95	-980	-9.80	-765	-7.65	-550	-5.50	-335	-3.35	-120	-1.20
-1190	-11.90	-975	-9.75	-760	-7.60	-545	-5.45	-330	-3.30	-115	-1.15
-1185	-11.85	-970	-9.70	-755	-7.55	-540	-5.40	-325	-3.25	-110	-1.10
-1180	-11.80	-965	-9.65	-750	-7.50	-535	-5.35	-320	-3.20	-105	-1.05
-1175	-11.75	-960	-9.60	-745	-7.45	-530	-5.30	-315	-3.15	-100	-1.00
-1170	-11.70	-955	-9.55	-740	-7.40	-525	-5.25	-310	-3.10	-95	-0.95
-1165	-11.65	-950	-9.50	-735	-7.35	-520	-5.20	-305	-3.05	-90	-0.90
-1160	-11.60	-945	-9.45	-730	-7.30	-515	-5.15	-300	-3.00	-85	-0.85
-1155	-11.55	-940	-9.40	-725	-7.25	-510	-5.10	-295	-2.95	-80	-0.80
-1150	-11.50	-935	-9.35	-720	-7.20	-505	-5.05	-290	-2.90	-75	-0.75
-1145	-11.45	-930	-9.30	-715	-7.15	-500	-5.00	-285	-2.85	-70	-0.70
-1140	-11.40	-925	-9.25	-710	-7.10	-495	-4.95	-280	-2.80	-65	-0.65
-1135	-11.35	-920	-9.20	-705	-7.05	-490	-4.90	-275	-2.75	-60	-0.60
-1130	-11.30	-915	-9.15	-700	-7.00	-485	-4.85	-270	-2.70	-55	-0.55
-1125	-11.25	-910	-9.10	-695	-6.95	-480	-4.80	-265	-2.65	-50	-0.50
-1120	-11.20	-905	-9.05	-690	-6.90	-475	-4.75	-260	-2.60	-45	-0.45
-1115	-11.15	-900	-9.00	-685	-6.85	-470	-4.70	-255	-2.55	-40	-0.40
-1110	-11.10	-895	-8.95	-680	-6.80	-465	-4.65	-250	-2.50	-35	-0.35
-1105	-11.05	-890	-8.90	-675	-6.75	-460	-4.60	-245	-2.45	-30	-0.30
-1100	-11.00	-885	-8.85	-670	-6.70	-455	-4.55	-240	-2.40	-25	-0.25
-1095	-10.95	-880	-8.80	-665	-6.65	-450	-4.50	-235	-2.35	-20	-0.20
-1090	-10.90	-875	-8.75	-660	-6.60	-445	-4.45	-230	-2.30	-15	-0.15
-1085	-10.85	-870	-8.70	-655	-6.55	-440	-4.40	-225	-2.25	-10	-0.10
-1080	-10.80	-865	-8.65	-650	-6.50	-435	-4.35	-220	-2.20	-5	-0.05
-1075	-10.75	-860	-8.60	-645	-6.45	-430	-4.30	-215	-2.15	0	0.00
-1070	-10.70	-855	-8.55	-640	-6.40	-425	-4.25	-210	-2.10		

6.4. Ducker

6.4.1. Release

Same as DRC Release
See "6.2.2.Release"

6.4.2. Hold

Same as DRC Hold
See "6.2.3.Hold"

6.5. MasterVolume

6.5.1. Level

Same as InputVolume Level
See "6.3.1.Level"

6.6. InputEQ

6.6.1. Frequency

value	Display	value	Display	value	Display	value	Display	value	Display
20000	20.0	81752	81.8	334965	335	1372461	1.37k	5623413	5.60k
20535	20.5	84140	85.0	344747	345	1412538	1.40k	5787620	5.79k
21135	21.2	86596	86.6	354813	355	1453784	1.45k	5956622	6.00k
21752	21.8	89125	90.0	365174	365	1496236	1.50k	6130558	6.13k
22387	22.4	91728	91.7	375837	375	1539927	1.54k	6309573	6.30k
23041	23.0	94406	95.0	386812	387	1584893	1.60k	6493817	6.49k
23714	23.6	97163	97.2	398107	400	1631173	1.63k	6683439	6.70k
24406	24.4	100000	100	409732	410	1678804	1.70k	6878599	6.88k
25119	25.0	102920	103	421697	425	1727826	1.73k	7079458	7.10k
25852	25.9	105925	106	434010	434	1778279	1.80k	7286182	7.29k
26607	26.5	109018	109	446684	450	1830206	1.83k	7498942	7.50k
27384	27.4	112202	112	459727	460	1883649	1.90k	7717915	7.72k
28184	28.0	115478	115	473151	475	1938653	1.94k	7943282	8.00k
29007	29.0	118850	118	486968	487	1995262	2.00k	8175231	8.18k
29854	30.0	122321	122	501187	500	2053525	2.05k	8413952	8.50k
30726	30.7	125893	125	515822	516	2113489	2.12k	8659644	8.66k
31623	31.5	129569	130	530884	530	2175204	2.18k	8912510	9.00k
32546	32.5	133352	132	546387	546	2238721	2.24k	9172760	9.17k
33497	33.5	137246	137	562341	560	2304093	2.30k	9440608	9.50k
34475	34.5	141254	140	578762	579	2371374	2.36k	9716280	9.72k
35481	35.5	145378	145	595662	600	2440619	2.44k	10000000	10.0k
36517	36.5	149624	150	613056	613	2511887	2.50k	10292006	10.3k
37584	37.5	153993	154	630957	630	2585235	2.59k	10592538	10.6k
38681	38.7	158489	160	649382	649	2660725	2.65k	10901846	10.9k
39811	40.0	163117	163	668344	670	2738420	2.74k	11220186	11.2k
40973	41.0	167880	170	687860	688	2818383	2.80k	11547820	11.5k
42170	42.5	172783	173	707946	710	2900681	2.90k	11885022	11.8k
43401	43.4	177828	180	728618	729	2985383	3.00k	12232072	12.2k
44668	45.0	183021	183	749894	750	3072557	3.07k	12589254	12.5k
45973	46.0	188365	190	771792	772	3162278	3.15k	12956868	13.0k
47315	47.5	193865	194	794328	800	3254618	3.25k	13335214	13.2k
48697	48.7	199526	200	817523	818	3349654	3.35k	13724610	13.7k
50119	50.0	205353	205	841395	850	3447466	3.45k	14125376	14.0k
51582	51.6	211349	212	865964	866	3548134	3.55k	14537844	14.5k
53088	53.0	217520	218	891251	900	3651741	3.65k	14962356	15.0k
54639	54.6	223872	224	917276	917	3758374	3.75k	15399266	15.4k
56234	56.0	230409	230	944061	950	3868121	3.87k	15848932	16.0k
57876	57.9	237137	236	971628	972	3981072	4.00k	16311730	16.3k
59566	60.0	244062	244	1000000	1.00k	4097321	4.10k	16788042	17.0k
61306	61.3	251189	250	1029201	1.03k	4216965	4.25k	17278260	17.3k
63096	63.0	258524	259	1059254	1.06k	4340103	4.34k	17782794	18.0k
64938	64.9	266073	265	1090185	1.09k	4466836	4.50k	18302060	18.3k
66834	67.0	273842	274	1122018	1.12k	4597270	4.60k	18836490	19.0k
68786	68.8	281838	280	1154782	1.15k	4731513	4.75k	19386526	19.4k
70795	71.0	290068	290	1188502	1.18k	4869676	4.87k	19952624	20.0k
72862	72.9	298538	300	1223207	1.22k	5011873	5.00k		
74989	75.0	307256	307	1258925	1.25k	5158222	5.16k		
77179	77.2	316228	315	1295687	1.30k	5308844	5.30k		
79433	80.0	325462	325	1333522	1.32k	5463866	5.46k		

6.6.2. Q

value	Display	value	Display	value	Display	value	Display
100	0.1	530	0.53	2800	2.8	15000	15.0
105	0.105	560	0.56	3000	3.0	16000	16.0
110	0.11	600	0.6	3200	3.2	17000	17.0
120	0.12	630	0.63	3300	3.3	18000	18.0
125	0.125	670	0.67	3500	3.5	19000	19.0
130	0.13	700	0.7	3800	3.8	20000	20.0
140	0.14	750	0.75	4000	4.0	21000	21.0
150	0.15	800	0.8	4200	4.2	22000	22.0
160	0.16	850	0.85	4500	4.5	24000	24.0
170	0.17	900	0.9	4700	4.7	25000	25.0
180	0.18	950	0.95	5000	5.0	27000	27.0
190	0.19	1000	1.0	5300	5.3	28000	28.0
200	0.2	1050	1.05	5600	5.6	30000	30.0
210	0.21	1100	1.1	6000	6.0	32000	32.0
220	0.22	1200	1.2	6300	6.3	34000	34.0
240	0.24	1250	1.25	6700	6.7	35000	35.0
250	0.25	1300	1.3	7000	7.0	38000	38.0
270	0.27	1400	1.4	7500	7.5	40000	40.0
280	0.28	1500	1.5	8000	8	42000	42.0
300	0.3	1600	1.6	8400	8.4	45000	45.0
320	0.32	1700	1.7	9000	9.0	47000	47.0
330	0.33	1800	1.8	9500	9.5	50000	50.0
350	0.35	1900	1.9	10000	10.0	53000	53.0
380	0.38	2000	2.0	10500	10.5	56000	56.0
400	0.4	2100	2.1	11000	11.0	60000	60.0
420	0.42	2200	2.2	12000	12.0	63000	63.0
450	0.45	2400	2.4	12500	12.5		
470	0.47	2500	2.5	13000	13.0		
500	0.5	2700	2.7	14000	14.0		

6.7. Mixer**6.7.1. Level**

Same as Input Volume Level
See "6.3.1.Level"

6.8. RoomEQ**6.8.1. Frequency**

Same as Input EQ Frequency
See "6.6.1. Frequency"

6.8.2. Q

Same as Input EQ Q
See "6.6.2. Q"

7. Parameter List

7.1. VXL1-16P

Parameter Access ID			Parameter Name			MIN	MAX	unit	Remarks
	X	Y							
VXL:Ch/InputGain/Sensitivity	0 - 1 0: Conference 1: Music	0	Gain	InputGain	Gain	-20.0(*)	20.0(*)	dB	* -2000 - 2000 dB x 100 ex -12.5dB x 100 = -1250
VXL:Ch/Enhancer/On	0 - 1 0: Conference 1: Music	0	Enhancer	Enhancer	On	OFF	ON	-	0: OFF 1: ON
VXL:Compressor/On	0	0	Comp	DRC	On	OFF	ON	-	0: OFF 1: ON
VXL:Compressor/Threshold					Threshold	-54	0	dB	
VXL:Compressor/Ratio					Ratio	1.0:1(*)	∞:1(*)	-	* 10 - 201 (See"6.2.1.Ratio" in Section 6)
VXL:Compressor/Attack					Attack	0	120	ms	
VXL:Compressor/Release					Release	3m(*)	42.7(*)	s	* 3-42700 (See"6.2.2.Release" in Section 6)
VXL:Compressor/Hold					Hold	0.02m(*)	1.96(*)	s	* 2-196000 (See"6.2.3.Hold" in Section 6) ms x 100 ex 20.2ms x 100 = 2020
VXL:Compressor/Gain					OutGain	0.00(*)	18.00(*)	dB	* dB x 100 ex 6.5dB x 100 = 650
VXL:Ch/InputVolume/On	0 - 1 0:Conference 1: Music	0	Level	InputVolume	On	OFF	ON	-	0: OFF 1: ON
VXL:Ch/InputVolume/Level					Level	-∞(*)	0.0(*)	dB	* -32768,13800 - 0 (See"6.3.1.Level" in Section 6) dB x 100 ex -24.5dB x 100 = -2450
VXL:Ducker/On	0	0	DUCKER With Noise Gate	Ducker	On	OFF	ON	-	0: OFF 1: ON
VXL:Ducker/Threshold					Threshold	-54	0	dB	
VXL:Ducker/Range					Range	-70	0	dB	
VXL:Ducker/Attack					Attack	0	240	ms	
VXL:Ducker/Release					Release	3m(*)	42.7(*)	s	* 3-42700 (See"6.2.2.Release" in Section 6)
VXL:Ducker/Hold					Hold	0.02m(*)	1.96(*)	s	* 2-196000 (See"6.2.3.Hold" in Section 6) ms x 100 ex 20.2ms x 100 = 2020
VXL:Ducker/NoiseGateOn					NoiseGateOn	OFF	ON	-	0: OFF 1: ON
VXL:Ch/PEQ/On	0 - 1 0: Conference 1: Music	0	PEQ 3band	InputEQAllOn	Ch1AllOn	OFF	ON	-	0: OFF 1: ON
VXL:Ch/PEQ/Band/Bypass	0 - 1 0: Conference 1: Music	0 - 2 0: Band A 1: Band B 2: Band C		InputPEQ	On	Bypass ON	Bypass OFF	-	0:Off(Bypass OFF) 1:On(Bypass ON)
VXL:Ch/PEQ/Band/Frequency					Frequency	20.000(*)	20.000k(*)	Hz	* 20000 - 20000000 (See"6.6.1 Frequency" in Section 6)
VXL:Ch/PEQ/Band/Gain					Gain	-18.0(*)	6.0(*)	dB	* dB x 10 ex -6.5dB x 10 = -65
VXL:Ch/PEQ/Band/Q					Q	0.1(*)	63.0(*)	-	*100-63000 (See"6.6.2 Q" in Section 6) Q x 1000 ex 0.53 x 1000 = 530
VXL:Ch/PEQ/Band/Type					Type	PEQ(*)	LPF(*)	-	* 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
-					_BypassResult	OFF	ON	-	0: OFF 1: ON
VXL:Mix/Fader/On	0 - 2 0: Conference 1: Music 2: OSC	0	Matrix MIXER	Mixer	On	OFF	ON	-	0: OFF 1: ON
VXL:Mix/Fader/Level					Level	-∞(*)	0.0(*)	dB	* -32768 - 0 (See"6.3.1 Level" in Section 6)

Parameter Access ID			Parameter Name		MIN	MAX	unit	Remarks	
	X	Y							
VXL:RoomEQ/On	0	0	Room EQ 10Band	RoomEQAllOn	AllOn	OFF	ON	-	0: OFF 1: ON
VXL:RoomEQ/BandL/Bypass	0	0 - 3 0: Band A 1: Band B : 3: Band D		RoomEQL	On	Bypass ON	Bypass OFF	-	0:Off(Bypass OFF) 1:On(Bypass ON)
VXL:RoomEQ/BandL/Frequency					Frequency	20.000(*)	20.000k(*)	Hz	* 20000 - 20000000 (See"6.6.1 Frequency" in Section 6)
VXL:RoomEQ/BandL/Gain					Gain	-18.0(*)	6.0(*)	dB	* dB x 10 ex -6.5dB x 10 = -65
VXL:RoomEQ/BandL/Q					Q	0.1(*)	63.0(*)	-	* 100-63000 (See"6.6.2 Q" in Section 6) Q x 1000 ex 0.53 x 1000 = 530
VXL:RoomEQ/BandL/Type					Type	PEQ(*)	LPF(*)	-	* 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
-				_BypassResult	OFF	ON	-	0: OFF 1: ON	
VXL:RoomEQ/Band/Bypass	0	0 - 5 0: Band E 1: Band F : 5: Band J	RoomEQ	On	Bypass ON	Bypass OFF	-	0:Off(Bypass OFF) 1:On(Bypass ON)	
VXL:RoomEQ/Band/Frequency				Frequency	100.000(*)	20.000k(*)	Hz	* 100000 - 20000000 (See"6.6.1 Frequency" in Section 6)	
VXL:RoomEQ/Band/Gain				Gain	-18.0(*)	6.0(*)	dB	* dB x 10 ex -6.5dB x 10 = -65	
VXL:RoomEQ/Band/Q				Q	0.1(*)	63.0(*)	-	* 100-63000 (See"6.6.2 Q" in Section 6) Q x 1000 ex 0.53 x 1000 = 530	
VXL:RoomEQ/Band/Type				Type	PEQ(*)	LPF(*)	-	* 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	
AMP:Ch/Delay/On	0	0	Delay	Delay	On	OFF	ON	-	0: OFF 1: ON
AMP:Ch/Delay/Time				DelayTime	0.000(*)	100.000(*)	ms	* ms x 1000 ex: 24ms x1000 =24000	
VXL:Oscillator/On	0	0	PinkNoise Generator	OSC	On	OFF	ON	-	0: OFF 1: ON
VXL:Oscillator/Level					Level	-∞(*)	0.0(*)	dB	* -32768 - 0 (See"6.3.1.Level" in Section 6)
AMP:Ch/Mute	0	0	Master Vol.	MainVolume	On	Mute	Unmute	-	0:Off(Unmute) 1:On(Mute)
AMP:Ch/Volume					Level	-∞(*)	0.0(*)	dB	* -32768,13800 - 0 (See"6.3.1.Level" in Section 6) dB x 100 ex -24.5dB x 100 = -2450

8. Meter List

8.1. VXL1-16P

Meter Id	Meter Name	Type (*)	Remarks
AMP:DigitalIn/Level	Digital Input Level	level	
VXL:Compressor/OutputLevel	Compressor Output Level	level	Ch2 is invalid
VXL:Compressor/GR	Compressor GR	gr	Ch2 is invalid
VXL:Ducker/OutputLevel	Ducker Output Level	level	Ch2 is invalid
VXL:Ducker/GR	Ducker GR	gr	Ch2 is invalid
AMP:Ch/OutputVoltage	Amplifier Output Voltage Level	level	Ch2 is invalid