



POWER AMPLIFIER

PC Series

Remote Control Protocol Specifications

Version 1.0.2 rev3

This specification document applies to V1.0.2 and later.

Applicable products

PC412-D
PC406-D
PC412-DI
PC406-DI

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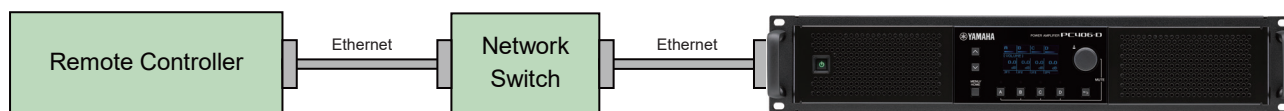
0. Revision History

Version	Date	Section	Description
V1.0.2	—	—	Initial version
V1.0.2-rev2	Mar. 25, 2020	—	Error correction: The address for overmute is changed from “A - Dch” to no channel (fixed at o).
V1.0.2-rev3	Aug. 20, 2025	1.	Added connection and configuration procedures.

1. Setup

1.1. Connection Procedure

Connection when using the NETWORK connector to perform remote control using this protocol



1.2. Configuring the Remote Controller

The PC series can be controlled from an external controller through the Ethernet (NETWORK) connector.

IP Address: Specify the IP address of the device to be controlled.

IP Port No.: 49280

The PC series can be controlled from an external controller through the NETWORK Port connection.

Up to four remote controller devices can connect simultaneously to one PC series power amplifier.

2. Device Control

[Usage Example]

To get device run mode	devstatus runmode ↓ OK devstatus runmode "normal"
Notification on Device run mode change	NOTIFY devstatus runmode "update"
To change keepalive setting	scpmode keepalive 10000 ↓ OK scpmode keepalive 10000
To get product name	devinfo productname ↓ OK devinfo productname "PC406-DI"

No.	Case	Command	Option #1	Option #2	response
1	Device status	Device run mode query	devstatus	runmode	"normal" "emergency" "booting" "update" "diagnostics"
2		Device run mode notification	NOTIFY devstatus	runmode	"normal" "emergency" "booting" "update" "diagnostics"
3		Device error status query	devstatus	error	"none" "warning" "error" "fault"
4		Device error status notification	NOTIFY devstatus	error	"none" "warning" "error" "fault"
5	Device run mode	Device run mode change	devmode	"normal" "update"	
6	Remote control run mode	"Result and change notification character encoding setting"	scpmode	encoding	"ascii" "utf8"
7		Value notification mode setting	scpmode	valuetype	"raw" "normalized"
8		Normalization resolution setting	scpmode	resolution	<resolution> ≥100
9		Keepalive activation setting	scpmode	keepalive	<Time interval[msec] ≥ 1000
10	Device Information	Remote control protocol version query	devinfo	protocolver	"1.1.0"
11		Parameter set version query	devinfo	paramsetver	"AMP:1.1.0,SPP:1.0.0,PC D:1.0.0,R2D:1.0.0"
12		Firmware version query	devinfo	version	ex) "1.0.2"
13		Product name query	devinfo	productname	"PC412-D" "PC406-D" "PC412-DI" "PC406-DI"
14		Device manufacturer information query	devinfo	manufacturer	"Yamaha Corporation"
15		Device category query	devinfo	category	"amplifier"
16		Device ID query	devinfo	deviceid	"01" - "FE"
17		Device name(device label) query	devinfo	devicename	ex) "FOH MAIN L"
18		Serial number query	devinfo	serialno	ex) "302HX401023X"
19	Device control	Device identify request	identify	<duration> 0 - 60	
20		Reboot request	reboot	<delay> 0 - 60	

3. Parameter Control

[Usage Example]

To change device parameter value	set AMP:Ch/Volume 2 0 -4000 ↓ OK set AMP:Ch/Volume 2 0 -4000 "-40.00dB"
To get device parameter value	get AMP:Ch/Volume 2 0 ↓ OK AMP:Ch/Volume 2 0 -4000
Notification on parameter value change	NOTIFY set AMP:Ch/Volume 2 0 -4000 "-40.00dB"

No.	Case			Command			Address	Sub Address				Parameter						
	Target Parameters			set get Notify	setn getn Notify	gett		x		y		min	max	default	scaling	unit	R/W	remarks
1	Dante Input	Alignment	Trim	✓	✓	✓	PCD:InputPort/Dante/Trim	0 - 15: 0: Dante Input 1 1: Dante Input 2 : 15: Dante Input 16	0		-60	60	0	x10	dB	R/W	-60: -6.0dB -59: -5.9dB : 60: +6.0dB	
2			Delay Time	✓	✓	✓	PCD:InputPort/Dante/Delay		0		0	12000	0	x1000	ms	R/W	0: 0.000ms 1: 0.001ms : 12000: 12.00ms	
3	Analog Input	Alignment	Trim	✓	✓	✓	PCD:InputPort/Analog/Trim	0 - 3: 0: Analog Input 1 1: Analog Input 2 2: Analog Input 3 3: Analog Input 4	0		-60	60	0	x10	dB	R/W	-60: -6.0dB -59: -5.9dB : 60: +6.0dB	
4			Delay Time	✓	✓	✓	PCD:InputPort/Analog/Delay		0		0	12000	0	x1000	ms	R/W	0: 0.000ms 1: 0.001ms : 12000: 12.00ms	
5	Input		On	✓	✓	✓	PCD:Input/On	0 - 19: 0: Dante Input 1 1: Dante Input 2 : 15: Dante Input 16 16: Analog Input 1 : 19: Analog Input 4	0		0	1	1	index		R/W	0:OFF 1:ON	
6			Level	✓	✓	✓	PCD:Input/Level		0		-13801	1000	0	x100	dB	R/W	-13801: -INF -9000: -90.0dB ... 0: 0.0dB ... 1000: +10.0dB	
7			Polarity	✓	✓	✓	PCD:Input/Polarity		0		0	1	0	index		R/W	0: Normal 1: Inverted	
8	Matrix	Mixer	On	✓	✓	✓	PCD:MatrixMixer/Send/On	0 - 19: 0: Dante Input 1 1: Dante Input 2 : 15: Dante Input 16 16: Analog Input 1 : 19: Analog Input 4	0 - 7: 0: Output 1(A) 1: Output 2(B) 2: Output 3(C) 3: Output 4(D) 4: Output 5(Dante Out1) : 7: Output 8 (Dante Out4)	0	1	*1	index		R/W	0:OFF 1:ON		
9				Level	✓	✓	✓			PCD:MatrixMixer/Send/Level	-13801		1000	0	x100	dB	R/W	-13801: -INF -9000: -90.0dB ... 0: 0.0dB ... 1000: +10.0dB
10		Output	On	✓	✓	✓	PCD:MatrixMixer/Out/On		0 - 7: 0: Output 1(A) 1: Output 2(B) 2: Output 3(C) 3: Output 4(D) 4: Output 5(Dante Out1) : 7: Output 8(Dante Out4)	0		0	1	1	index		R/W	0:OFF 1:ON
11				Level	✓	✓	✓			PCD:MatrixMixer/Out/Level	-13801		1000	0	x100	dB	R/W	-13801: -INF -9000: -90.0dB ... 0: 0.0dB ... 1000: +10.0dB
12	Router		Routing	✓	✓	✓	PCD:Router	0 - 3: 0: A 1: B 2: C 3: D	0		0	3	*2	index		R/W	0:ch1 1:ch2 2:ch3 3:ch4	
13	Device Mute			✓	✓	✓	AMP:OverMute	0	0		0	1	0	index		R/W	0:OFF 1:ON	
14	Volume			✓	✓	✓	AMP:Ch/Volume	0 - 3: 0: A 1: B 2: C 3: D	0		-9900	0	-9900	x100	dB	R/W	-9900: -99.0dB : 0: 0dB	
15	Mute			✓	✓	✓	AMP:Ch/Mute		0		0	1	0	index		R/W	0:OFF 1:ON	
16	User EQ	On	✓	✓	✓	AMP:Ch/EQ/On	0 - 3: 0: A 1: B 2: C 3: D	0		0	1	1	index		R/W	0:OFF 1:ON		
17		Bypass	✓	✓	✓	AMP:Ch/EQ/Bypass		0 - 15: 0: Band1 : 15: Band16	0	1	0	index		R/W	0:OFF 1:ON			
18		Freq.	✓	✓	✓	AMP:Ch/EQ/Freq			20000	20000000	*3	x1000	Hz	R/W	1/24oct			
19		Gain	✓	✓	✓	AMP:Ch/EQ/Gain			-180	180	0	x10	dB	R/W	-180: -18.0dB : 0: 0dB : 180: +18.0dB			
20		Q	✓	✓	✓	AMP:Ch/EQ/Q			0	112	34	index		R/W	Refer to the "EQ-Q" table.			
21		Type	✓	✓	✓	AMP:Ch/EQ/Type		0	6	0	index		R/W	Refer to the "EQ Type" table.				
22	User Delay	On	✓	✓	✓	AMP:Ch/Delay/On	0 - 3: 0: A 1: B 2: C 3: D	0		0	1	1	index		R/W	0:OFF 1:ON		
23		Time	✓	✓	✓	AMP:Ch/Delay/Time		0		0	1000000	0	x1000	ms	R/W	0: 0.00ms : 1000000: 1000.00ms		

3. Parameter Control

No.	Case			Command			Address	Sub Address		Parameter							
	Target Parameters			set get Notify	setn getn Notify	gett		x		y	min	max	default	scaling	unit	R/W	remarks
24	SP Processor	HPF	Type	✓	✓	✓	SPP:Xover/HPF/Type	0 - 3 0: A 1: B 2: C 3: D	0	0	19	17	index		R/W	Refer to the "HPF/LPF Type" table.	
25			Freq.	✓	✓	✓	SPP:Xover/HPF/Freq			20000	20000000	20000	x1000	Hz	R/W	1/24oct	
26			Gc	✓	✓	✓	SPP:Xover/HPF/Gc			-6	6	-3	x1	dB	R/W	-6: -6dB : 6: +6dB	
27		LPF	Type	✓	✓	✓	SPP:Xover/LPF/Type			0	19	0	index		R/W	Refer to the "HPF/LPF Type" table.	
28			Freq.	✓	✓	✓	SPP:Xover/LPF/Freq			20000	20000000	20000000	x1000	Hz	R/W	1/24oct	
29			Gc	✓	✓	✓	SPP:Xover/LPF/Gc			-6	6	-3	x1	dB	R/W	-6: -6dB : 6: +6dB	
30			Polarity	✓	✓	✓	SPP:Xover/Polarity	0 - 15 0: Band1 : 15: Band16		0	1	0	index		R/W	0: Normal 1: Inverted	
31		Delay	On	✓	✓	✓	SPP:Delay/On			0	1	1	index		R/W	0: OFF 1: ON	
32			Time	✓	✓	✓	SPP:Delay/Time			0	200000	0	x1000	ms	R/W	0: 0.00ms : 200000: 200.00ms	
33		EQ	On	✓	✓	✓	SPP:EQ/On			0	1	1	index		R/W	0: OFF 1: ON	
34			Bypass	✓	✓	✓	SPP:EQ/Bypass			0	1	0	index		R/W	0: OFF 1: ON	
35			Freq	✓	✓	✓	SPP:EQ/Freq			20000	20000000	*1	x1000	Hz	R/W	1/24oct	
36			Gain	✓	✓	✓	SPP:EQ/Gain			-180	180	0	x10	dB	R/W	-180: -18.0dB : 0: 0dB : 180: +18.0dB	
37			Q	✓	✓	✓	SPP:EQ/Q			0	112	34	index		R/W	Refer to the "EQ-Q" table.	
38			Type	✓	✓	✓	SPP:EQ/Type			0	9	0	index		R/W	Refer to the "EQ Type (SP Processor)" table.	
39		Output	Level	✓	✓	✓	SPP:Output/Level			-13801	1000	0	x100	dB	R/W	-13801: -INF -9000: -90.0dB ... 0: 0.0dB ... 1000: +10.0dB	
40			Peak Limiter	On	✓	✓	✓			SPP:PeakLimiter/On	0	1	1	index		R/W	0: OFF 1: ON
41		Threshold		✓	✓	✓	SPP:PeakLimiter/ThreshW			10	5000	5000	x1	W	R/W	10: 10W : 5000: 5000W	
42		Attack		✓	✓	✓	SPP:PeakLimiter/Attack			0	1200	250	x10	ms	R/W	0: 0.0ms : 1200: 120.0ms	
43		Release		✓	✓	✓	SPP:PeakLimiter/Release			0	60000	400	x1	ms	R/W	0: 0ms : 60000: 60000ms	
44		RMS Limiter	On	✓	✓	✓	SPP:RMSLimiter/On			0	1	1	index		R/W	0: OFF 1: ON	
45			Threshold	✓	✓	✓	SPP:RMSLimiter/ThreshW			10	5000	5000	x1	W	R/W	10: 10W : 5000: 5000W	
46			Attack	✓	✓	✓	SPP:RMSLimiter/Attack			0	300	10	x10	s	R/W	0: 0.0s : 300: 30.0s	
47			Release	✓	✓	✓	SPP:RMSLimiter/Release			0	600	20	x10	s	R/W	0: 0.0s : 600: 60.0s	
50			Preset Name	✓	✓	✓	SPP:PresetName			24 Characters				string		R	
51			Impedance	✓	✓	✓	SPP:Impedance			40	360	80	x10	ohm	R/W	40: 4.0 (ohm) : 360: 36.0 (ohm)	
52	Amp Settings	Bridge	✓	✓	✓	AMP:Ch/Bridge	0,2	0: A/B 2: C/D	0	1	0	index		R/W	0: OFF 1: ON		
53		Mode	✓	✓	✓	PCD:AmpCh/Impedance/Mode	0 - 3 0: A 1: B 2: C 3: D		0	2	0	index		R/W	0: Lo-Z 1: 70V 2: 100V		
54		HPF(Hi-Z)	✓	✓	✓	PCD:AmpCh/Impedance/HPF			0	1	1	index		R/W	0: 40Hz 1: 80Hz		
55		channels Sleep	✓	✓	✓	PCD:AmpCh/Sleep			0	1	0	index		R/W	0: OFF 1: ON		
56		Sensitivity/ Gain	✓	✓	✓	PCD:Amp/InputSens			0	3	0	index		R/W	0: +4dBu 1: +14dBu 2: 26dB 3: 32dB		
57	Channels Name			✓	✓	✓	AMP:Ch/Name	0 - 3 0: A 1: B 2: C 3: D	0	24 Characters			string		R		

3. Parameter Control

No.	Case		Command			Address	Sub Address		Parameter						
	Target Parameters		set get Notify	setn getn Notify	gett		x	y	min	max	default	scaling	unit	R/W	remarks
58	Auto Sleep	On	✓	✓	✓	PCD:AmPCh/ AutoSleep/On	0 - 3 0: A 1: B 2: C 3: D	0	0	1	0	index		R/W	0: OFF 1: ON
59		Threshold	✓	✓	✓	PCD:AmPCh/ AutoSleep/Thresh			-990	-400	-990	x10	dBFS	R/W	-990: -99.0dBFS : -400: -40.0dBFS
60		Time Interval	✓	✓	✓	PCD:AmPCh/ AutoSleep/Time			0	5	1	index		R/W	Refer to the "Detection Time" table.
62	Input Redundancy	Mode	✓	✓	✓	PCD:InRedundancy/ Mode	0 - 3 0: A 1: B 2: C 3: D	0	0	1	0	index		R/W	0: BACKUP 1: OVERRIDE
63		Auto Return	✓	✓	✓	PCD:InRedundancy/ AutoReturn			0	1	0	index		R/W	0: OFF 1: ON
64		Second Source	ON	✓	✓	PCD:InRedundancy/ Second/On			0	1	0	index		R/W	0: OFF 1: ON
65			Override Threshold	✓	✓	PCD:InRedundancy/ Second/OvrThresh			-800	0	0	x10	dBFS	R/W	-800: -80.0dBFS : 0: 0.0dBFS
66			Override Return Delay	✓	✓	PCD:InRedundancy/ Second/OvrARDelay			0	60	10	x1	sec	R/W	0: 0sec : 60: 60sec
67		Third Source	ON	✓	✓	PCD:InRedundancy/ Third/On			0	1	0	index		R/W	0: OFF 1: ON
68			Override Threshold	✓	✓	PCD:InRedundancy/ Third/OvrThresh			-800	0	0	x10	dBFS	R/W	-800: -80.0dBFS : 0: 0.0dBFS
69			Override Return Delay	✓	✓	PCD:InRedundancy/ Third/OvrARDelay			0	60	10	x1	sec	R/W	0: 0s : 60: 60s
70		Redundancy Status	✓	✓	✓	PCD:InRedundancy/ Status			0	2	0	index		R	0: NORMAL 1: SECOND STATE 2: THIRD STATE
71	Load Monitoring	On	✓	✓	✓	PCD:AmPCh/ LoadMon/On	0 - 3 0: A 1: B 2: C 3: D	0	0	1	0	index		R/W	0: OFF 1: ON
72		OSC ON	✓	✓	✓	PCD:AmPCh/ LoadMon/Osc/On			0	1	0	index		R/W	0: OFF 1: ON
73		OSC Level	✓	✓	✓	PCD:AmPCh/ LoadMon/Osc/Level			0	10	0.0	index	Vrms	R/W	Refer to the "OSC Level" table.
74		Detect Freq	✓	✓	✓	PCD:AmPCh/ LoadMon/Freq			237	250	248	index	Hz	R/W	237: 14.5kHz : 248: 20.0kHz : 250: 21.2kHz
75		High Threshold	✓	✓	✓	PCD:AmPCh/ LoadMon/HighThresh			0	500	500	x10	ohm	R/W	0: 0.0 (ohm) : 500: 50.0 (ohm)
76		Low Threshold	✓	✓	✓	PCD:AmPCh/ LoadMon/LowThresh			0	500	0	x10	ohm	R/W	0: 0.0 (ohm) : 500: 50.0 (ohm)
77		Impedance Error(High)	✓	✓	✓	PCD:AmPCh/ LoadMon/ HighImpedance			0	1	0	index		R	0: Normal 1: Error
78		Impedance Error(Low)	✓	✓	✓	PCD:AmPCh/ LoadMon/ LowImpedance			0	1	0	index		R	0: Normal 1: Error
79		Measured Impedance	✓	✓	✓	PCD:AmPCh/ LoadMon/Impedance			0	1001	0	index (x10)	ohm	R	0: - 1: 0.1 (ohm) 1000: 100.0 (ohm) 1001: >100.0 (ohm)
80	Power Supply	Standby	✓	✓	✓	AMP:Power	0	0	0	1	0	index		R/W	0: Standby 1: On
81		Power On Setting	Default	✓	✓	PCD:PS/ PwOnDefault			0	1	1	index		R/W	0: Always Standby 1: Keep Previous State
82			Delay	✓	✓	PCD:PS/PwOnDelay			0	120	0	x1	sec	R/W	0: 0s : 120: 120s
83		Mains	Voltage	✓	✓	PCD:Mains/Voltage			0	600	0	x1	V	R	0: 0V : 600: 600V
84			Current	✓	✓	PCD:Mains/Current			0	255	0	x1	A	R	0: 0A : 255: 255A

*1: D1+A1 to ch1, D2+A2 to ch2, D3+A3 to ch3, D4+A4 to ch4

*2: ch1 to chA, ch2 to chB, ch3 to chC, ch4 to chD

*3: 25Hz,40Hz,63Hz,100Hz,160Hz,250Hz,400Hz,630Hz,1.0kHz,1.6kHz,2.5kHz,4.0kHz,6.3kHz,10.0kHz,16.0kHz,20.0kHz

4. Meter Control

[Usage Example]

To start meter data transmission	mtrstart AMP:AnalogIn/Level 50 ↓ OK mtrstart AMP:AnalogIn/Level
To stop meter data transmission	mtrstop AMP:AnalogIn/Level ↓ OK mtrstop AMP:AnalogIn/Level
Meter data periodically sent from device	NOTIFY mtr AMP:DigitalIn/Level 00 23 14 3f 54 22 ...

No.	Case			Command	Address	Parameter						
	Target Meter		Action			Option #1	Option #2	min	max	Unit	remarks	
1	Input Port	Dante	Start	mtrstart	AMP:DigitalIn/Level	Transmission Interval	-	40	10000	ms		
2			Stop	mtrstop	↑	-	-	-	-	-		
3			Notification	NOTIFY mtr	↑	"level"	dBFS level. (16 channels)	0	127	index	Refer to the "Meter" table.	
4		Analog	Start	mtrstart	AMP:AnalogIn/Level	Transmission Interval	-	40	10000	ms		
5			Stop	mtrstop	↑	-	-	-	-	-		
6			Notification	NOTIFY mtr	↑	"level"	dBFS level. (4 channels)	0	127	index	Refer to the "Meter" table.	
7	Input		Start	mtrstart	PCD:Meter/Input/ PostFader	Transmission Interval	-	40	10000	ms		
8			Stop	mtrstop	↑	-	-	-	-	-		
9			Notification	NOTIFY mtr	↑	"level"	dBFS level. (20 channels)	0	127	index	Refer to the "Meter" table.	
10	Matrix	Mixer	Start	mtrstart	PCD:Meter/MatrixOut/ PreFader	Transmission Interval	-	40	10000	ms		
11			Stop	mtrstop	↑	-	-	-	-	-		
12			Notification	NOTIFY mtr	↑	"level"	dBFS level. (8 channels)	0	127	index	Refer to the "Meter" table.	
13		Output	Start	mtrstart	PCD:Meter/MatrixOut/ PostFader	Transmission Interval	-	40	10000	ms		
14			Stop	mtrstop	↑	-	-	-	-	-		
15			Notification	NOTIFY mtr	↑	"level"	dBFS level. (8 channels)	0	127	index	Refer to the "Meter" table.	
16	Volume	Pre	Start	mtrstart	PCD:Meter/Volume/ PreFader	Transmission Interval	-	40	10000	ms		
17			Stop	mtrstop	↑	-	-	-	-	-		
18			Notification	NOTIFY mtr	↑	"level"	dBFS level. (4 channels)	0	127	index	Refer to the "Meter" table.	
19		Post	Start	mtrstart	PCD:Meter/Volume/ PostFader	Transmission Interval	-	40	10000	ms		
20			Stop	mtrstop	↑	-	-	-	-	-		
21			Notification	NOTIFY mtr	↑	"level"	dBFS level. (4 channels)	0	127	index	Refer to the "Meter" table.	
22	SP Processor	Peak Limiter	GR	Start	mtrstart	PCD:Meter/PeakLimit/GR	Transmission Interval	-	40	10000	ms	
23				Stop	mtrstop	↑	-	-	-	-	-	
24				Notification	NOTIFY mtr	↑	"gr"	dBFS level. (4 channels)	0	127	index	Refer to the "Meter" table.
25			Status	Start	mtrstart	PCD:Meter/PeakLimit/ Status	Transmission Interval	-	40	10000	ms	
26				Stop	mtrstop	↑	-	-	-	-	-	
27				Notification	NOTIFY mtr	↑	"raw"	Status (4 channels)	0	1		0: Inactive 1: Active
28		RMS Limiter	GR	Start	mtrstart	PCD:Meter/RMSLimit/GR	Transmission Interval	-	40	10000	ms	
29				Stop	mtrstop	↑	-	-	-	-	-	
30				Notification	NOTIFY mtr	↑	"gr"	dBFS level. (4 channels)	0	127	index	Refer to the "Meter" table.
31			Status	Start	mtrstart	PCD:Meter/RMSLimit/ Status	Transmission Interval	-	40	10000	ms	
32				Stop	mtrstop	↑	-	-	-	-	-	
33				Notification	NOTIFY mtr	↑	"raw"	Status (4 channels)	0	1		0: Inactive 1: Active
34			Status	Start	mtrstart	AMP:Ch/SPLimit	Transmission Interval	-	40	10000	ms	
35				Stop	mtrstop	↑	-	-	-	-	-	
36				Notification	NOTIFY mtr	↑	"raw"	Status (4 channels)	0	1		0: Inactive 1: Active

No.	Case				Command	Address	Parameter					
	Target Meter		Action	Option #1			Option #2		min	max	Unit	remarks
37	Amp	Voltage	Peak	Start	mtrstart	AMP:Ch/OutputVoltage	Transmission Interval	-	40	10000	ms	
38				Stop	mtrstop	↑	-	-	-	-	-	
39				Notification	NOTIFY mtr	↑	"level"	dBFS level. (4 channels)	0	127	index	Refer to the "Meter" table.
40			RMS	Start	mtrstart	PCD:Meter/AmpCh/ VoltageRMS	Transmission Interval	-	40	10000	ms	
41				Stop	mtrstop	↑	-	-	-	-	-	
42				Notification	NOTIFY mtr	↑	"level"	dBFS level. (4 channels)	0	127	index	Refer to the "Meter" table.
43		Current	Peak	Start	mtrstart	AMP:Ch/OutputCurrent	Transmission Interval	-	40	10000	ms	
44				Stop	mtrstop	↑	-	-	-	-	-	
45				Notification	NOTIFY mtr	↑	"level"	dBFS level. (4 channels)	0	127	index	Refer to the "Meter" table.
46			RMS	Start	mtrstart	PCD:Meter/AmpCh/ CurrentRMS	Transmission Interval	-	40	10000	ms	
47				Stop	mtrstop	↑	-	-	-	-	-	
48				Notification	NOTIFY mtr	↑	"level"	dBFS level. (4 channels)	0	127	index	Refer to the "Meter" table.
49	Status		Limit	Start	mtrstart	AMP:Ch/Limit	Transmission Interval	-	40	10000	ms	
50				Stop	mtrstop	↑	-	-	-	-	-	
51				Notification	NOTIFY mtr	↑	"raw"	Status (4 channels)	0	1		0: Inactive 1: Active
52			Protect	Start	mtrstart	AMP:Ch/Protect	Transmission Interval	-	40	10000	ms	
53				Stop	mtrstop	↑	-	-	-	-	-	
54				Notification	NOTIFY mtr	↑	"raw"	Status (4 channels)	0	1		0: Inactive 1: Active
55	Output Port		Dante	Start	mtrstart	AMP:Meter/DanteOut	Transmission Interval	-	40	10000	ms	
56				Stop	mtrstop	↑	-	-	-	-	-	
57				Notification	NOTIFY mtr	↑	"level"	dBFS level. (16 channels)	0	127	index	Refer to the "Meter" table.

5. AMP Preset Control

[Usage Example]

Request of current preset number	sscurrent_ex <Category> ↓ OK sscurrent_ex <Category> <Index> <Status>
Notification of current preset number.	NOTIFY sscurrent_ex <Category> <Index>
Recall Preset	ssrecall_ex <Category> <Index> ↓ OK ssrecall_ex <Category> <Index>
Notify Preset recall notification	NOTIFY ssrecall_ex <Category> <Index>
Store to specified Preset	ssupdate_ex <Category> <Index> ↓ OK ssupdate_ex <Category> <Index>
Notify Preset change notification	NOTIFY ssupdate_ex <Category> <Index>
Get total Preset count	ssnum_ex <Category> ↓ OK ssnum_ex <Category> <Number>
Get Preset information	ssinfo_ex <Category> <Index> ↓ OK ssinfo_ex <Category> <Index> <NumText> <Title> <Comment> <Attrb>

No.	Case	Command	Category	Parameter				Response
				Option #1	Option #2	min	max	remarks
1	Get current Preset number	sscurrent_ex	preset	-	-	-	-	<Index> 0: Factory Preset 1 - 32: User Preset <Status> unmodified modified
2	Notify current Preset number change notification	NOTIFY sscurrent_ex	preset	<User Preset No.>	-	1	32	
3	Recall Preset	ssrecall_ex	preset	<User Preset No.>	-	1	32	
4	Notify Preset recall notification	NOTIFY ssrecall_ex	preset	<User Preset No.>	-	1	32	
5	Store to specified Preset	ssupdate_ex	preset	<User Preset No.>	-	1	32	
6	Notify Preset change notification	NOTIFY ssupdate_ex	preset	<User Preset No.>	-	1	32	
7	Get total Preset count	ssnum_ex	preset	-	-	-	-	32(Fixed value)
8	Get Preset information	ssinfo_ex	preset	<User Preset No.> 0: Factory Preset 1 - 32: User Preset	-	0	32	<Index.> 0: Factory Preset 1 - 32: User Preset <NumText> 1 - 32, A - E <Title> preset title <Comment> OFF: Unprotected ON: Protected <Attrb> user : User Preset empty: Unstored
9	Notify current Preset number change notification	NOTIFY sscurrent_ex	factory	<Factory Preset No.>	-	1	5	<Index.> 1: Factory Preset A : 5: Factory Preset E
10	Recall Factory Preset	ssrecall_ex	factory	<Factory Preset No.>	-	1	5	<Index.> 1: Factory Preset A : 5: Factory Preset E
11	Notify Factory Preset recall notification	NOTIFY ssrecall_ex	factory	<Factory Preset No.>	-	1	5	<Index.> 1: Factory Preset A : 5: Factory Preset E
12	Get total Preset count	ssnum_ex	factory	-	-	-	-	5(Fixed value)

No.	Case	Command	Category	Parameter				Response
				Option #1	Option #2	min	max	remarks
13	Get Preset information	ssinfo_ex	factory	<Factory Preset No.>	-	1	5	<Index.> 1: Factory Preset A : 5: Factory Preset E <NumText> A - E <Title> preset title <Comment> ON: Protected <Attrb> Preinst: Factory Preset

6. Others

[Usage Example]

Some other messages	event <EventID> <data1> <data2> <data3> ...
	↓ OK event <EventID> <data1> <data2> <data3> ...

No.	Case	Command	EventID	Data list				
				Option #1		Option #2	Option #3	Option #4
1	Channel Identify	event	AMP:Identify	"ch=<x>,duration=<y>"	<x>:ch <y>:flashing time(sec) 0~60			
2	Alert Message	NOTIFY event	AMP:Alert	"<x><y>:<xxxxxx>" "[SOLVED] <x><y>:<xxxxxx>"	<x>:W(warning)/E(error)/F(fault) <y>:Alert Number <xxxxxx>:Alert Message			

7. Parameter Value Table

Meter

value	level	value	level	value	level	value	level
0x00	<-126dBFS	0x20	-94dBFS	0x40	-62dBFS	0x60	-30dBFS
0x01	-125dBFS	0x21	-93dBFS	0x41	-61dBFS	0x61	-29dBFS
0x02	-124dBFS	0x22	-92dBFS	0x42	-60dBFS	0x62	-28dBFS
0x03	-123dBFS	0x23	-91dBFS	0x43	-59dBFS	0x63	-27dBFS
0x04	-122dBFS	0x24	-90dBFS	0x44	-58dBFS	0x66	-26dBFS
0x05	-121dBFS	0x25	-89dBFS	0x45	-57dBFS	0x65	-25dBFS
0x06	-120dBFS	0x26	-88dBFS	0x46	-56dBFS	0x66	-24dBFS
0x07	-119dBFS	0x27	-87dBFS	0x47	-55dBFS	0x67	-23dBFS
0x08	-118dBFS	0x28	-86dBFS	0x48	-54dBFS	0x68	-22dBFS
0x09	-117dBFS	0x29	-85dBFS	0x49	-53dBFS	0x69	-21dBFS
0x0A	-116dBFS	0x2A	-84dBFS	0x4A	-52dBFS	0x6A	-20dBFS
0x0B	-115dBFS	0x2B	-83dBFS	0x4B	-51dBFS	0x6B	-19dBFS
0x0C	-114dBFS	0x2C	-82dBFS	0x4C	-50dBFS	0x6C	-18dBFS
0x0D	-113dBFS	0x2D	-81dBFS	0x4D	-49dBFS	0x6D	-17dBFS
0x0E	-112dBFS	0x2E	-80dBFS	0x4E	-48dBFS	0x6E	-16dBFS
0x0F	-111dBFS	0x2F	-79dBFS	0x4F	-47dBFS	0x6F	-15dBFS
0x10	-110dBFS	0x30	-78dBFS	0x50	-46dBFS	0x70	-14dBFS
0x11	-109dBFS	0x31	-77dBFS	0x51	-45dBFS	0x71	-13dBFS
0x12	-108dBFS	0x32	-76dBFS	0x52	-44dBFS	0x72	-12dBFS
0x13	-107dBFS	0x33	-75dBFS	0x55	-43dBFS	0x77	-11dBFS
0x14	-106dBFS	0x34	-74dBFS	0x54	-42dBFS	0x74	-10dBFS
0x15	-105dBFS	0x35	-73dBFS	0x55	-41dBFS	0x77	-9dBFS
0x16	-104dBFS	0x36	-72dBFS	0x56	-40dBFS	0x76	-8dBFS
0x17	-103dBFS	0x37	-71dBFS	0x57	-39dBFS	0x77	-7dBFS
0x18	-102dBFS	0x38	-70dBFS	0x58	-38dBFS	0x78	-6dBFS
0x19	-101dBFS	0x39	-69dBFS	0x59	-37dBFS	0x79	-5dBFS
0x1A	-100dBFS	0x3A	-68dBFS	0x5A	-36dBFS	0x7A	-4dBFS
0x1B	-99dBFS	0x3B	-67dBFS	0x5B	-35dBFS	0x7B	-3dBFS
0x1C	-98dBFS	0x3C	-66dBFS	0x5C	-34dBFS	0x7C	-2dBFS
0x1D	-97dBFS	0x3D	-65dBFS	0x5D	-33dBFS	0x7D	-1dBFS
0x1E	-96dBFS	0x3E	-64dBFS	0x5E	-32dBFS	0x7E	0dBFS
0x1F	-95dBFS	0x3F	-63dBFS	0x5F	-31dBFS	0x7F	OVER

EQ-Q

value	Display	value	Display	value	Display	value	Display
0	0.10	29	0.53	58	2.8	87	15.0
1	0.105	30	0.56	59	3.0	88	16.0
2	0.11	31	0.60	60	3.2	89	17.0
3	0.12	32	0.63	61	3.3	90	18.0
4	0.125	33	0.67	62	3.5	91	19.0
5	0.13	34	0.70	63	3.8	92	20.0
6	0.14	35	0.75	64	4.0	93	21.0
7	0.15	36	0.80	65	4.2	94	22.0
8	0.16	37	0.85	66	4.5	95	24.0
9	0.17	38	0.90	67	4.7	96	25.0
10	0.18	39	0.95	68	5.0	97	27.0
11	0.19	40	1.0	69	5.3	98	28.0
12	0.20	41	1.05	70	5.6	99	30.0
13	0.21	42	1.1	71	6.0	100	32.0
14	0.22	43	1.2	72	6.3	101	34.0
15	0.24	44	1.25	73	6.7	102	35.0
16	0.25	45	1.3	74	7.0	103	38.0
17	0.27	46	1.4	75	7.5	104	40.0
18	0.28	47	1.5	76	8.0	105	42.0
19	0.30	48	1.6	77	8.4	106	45.0
20	0.32	49	1.7	78	9.0	107	47.0
21	0.33	50	1.8	79	9.5	108	50.0
22	0.35	51	1.9	80	10.0	109	53.0
23	0.38	52	2.0	81	10.5	110	56.0
24	0.40	53	2.1	82	11.0	111	60.0
25	0.42	54	2.2	83	12.0	112	63.0
26	0.45	55	2.4	84	12.5		
27	0.47	56	2.5	85	13.0		
28	0.50	57	2.7	86	14.0		

HPF/LPF Type

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

EQ Type

Value	TYPE
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

EQ Type (SP Processor)

Value	TYPE
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

Detection Time

Value	Time
0	1min
1	3min
2	10min
3	30min
4	1hour
5	3hour

OSC Level

Value	Vrms
0	0.0Vrms
1	0.5Vrms
2	1.0Vrms
3	1.5Vrms
4	2.0Vrms
5	2.5Vrms
6	3.0Vrms
7	3.5Vrms
8	4.0Vrms
9	4.5Vrms
10	5.0Vrms