YAMAHA

POWER AMPLIFIER
PC Series
Remote Control Protocol Specifications

Version 1.0.2 rev1

This specification document applies to V1.0.2 and later.

Applicable products

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

1. 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,PCD: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		

2. 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			0		-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 - 3	0: A 1: B 2: C 3: D	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 "Q" table
21			Type	✓	✓	✓	AMP:Ch/EQ/Type					0	6	0	index		R/W	* refer "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	1000000	0	x1000	ms	R/W	0: 0.00ms : 1000000: 1000.00ms

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 "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 "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	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 - 15	0: Band1 : 15: Band16	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 "Q" table
38			Type	✓	✓	✓	SPP:EQ/Type					0	9	0	index		R/W	* refer "EQ Type(SPP)"
39		Output	Level	✓	✓	✓	SPP:Output/Level			0		-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		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	
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 "Detect Time" table

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
62	Input Redundancy	Mode	✓	✓	✓	PCD:InRedundancy/Mode	0		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 - 3	0: A 1: B 2: C 3: D	0		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 "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

3. 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 "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 "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 "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 "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 "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 "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 "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 "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 "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
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 "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 "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 "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 "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 "Meter" table

4. AMP Preset Control

[Usage Example]

Request of current preset number	**sscurrent_ex <Category>** ↓ *OK sscurrent_ex <Category> <Index>*
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)
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

5. Others

[Usage Example]

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

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 Massage	**NOTIFY event**	AMP:Alert	"<x><y>:<xxxxxx>" "[SOLVED] <x><y>:<xxxxxx>"	<x>:W(warning)/E(error)/F(fault) <y>:Alert Number <xxxxxx>:Alert Message			

6. 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 Butrwrth
4	12dB/Oct Bessel
5	12dB/Oct Linkwitz
6	18dB/Oct AdjustGc
7	18dB/Oct Butrwrth
8	18dB/Oct Bessel
9	24dB/Oct AdjustGc
10	24dB/Oct Butrwrth
11	24dB/Oct Bessel
12	24dB/Oct Linkwitz
13	32dB/Oct AdjustGc
14	32dB/Oct Butrwrth
15	32dB/Oct Bessel
16	48dB/Oct AdjustGc
17	48dB/Oct Butrwrth
18	48dB/Oct Bessel
19	48dB/Oct Linkwitz

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

Load Monitoring 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

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