TAIDEN®

Conference Management System

RS-232/UDP Protocol for HCS-4100M/50 & HCS-8300 Main Unit

V 1.8

Important Instructions

Compatibility: HCS-4100M/50 &HCS-8300 main unit with firmware V2.01.01.02 or higher

Revision records:

Revision date	Version	Remark
2013-04-17	1.0	Add UDP protocol
2013-08-06	1.1	Add nameplate and SI protocol (at least Main Unit Version:2.00.01.04)
2013-11-14	1.2	1. Add protocol: setup CU as VIP or delegate by central control system; 2. Add protocol: report voting name list to central control system; 3. Add protocol: report real-time sign-in data (applicable to main unit version V2.00.02.01 or higher);
2014-01-25	1.3	Modify SI language list：add Brunei and change Burmese to Myanmar (applicable to main unit version V2.00.02.03 or higher)
2014-3-14	1.4	Modified SI language list: added Singapore, Add an example for Control procedure of Voting with Real-time voting list
2014-11-11	1.5	1. Append comments for status of main unit. 2. Adjust commands orders in section 3.5 to indicate control procedure for Apply mode.
2015-2-10	1.6	1.Add protocol: master/slave mode setting and inquire; 2.Add protocol: Microphone Gain setting and inquire.
2015-3-11	1.7	1.Add protocol: system parameters setting and inquire; 2.Add protocol: retractable microphone status setting and inquire. (applicable to main unit version V2.01.01.01 or higher)
2015-4-23	1.8	1.Add protocol: CU information inquire and report; 2.Add protocol: Alarm control (applicable to main unit version V2.01.01.02 or higher)

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Contents

Chapter1 Communication parameter

1.1 RS-232

Baud Rate: 9600bps
Start bit: 1
Data bit: 8
Stop bit: 1
Parity bit: None

1.2 UDP

Port: 8300

1.3 Abbreviation

Abbr.	Define
Main Unit	HCS-4100/HCS-8300 Congress Main unit
CU	Congress Unit
Mic	Microphone of Congress Unit
SI	Simultaneous interpretation

Chapter2 Command format

All the Data referred here are HEX.

All commands (except power control command) has the following layout:

Header (2 Bytes)	Length (1 Byte)	Command_Code (1 Byte)	Parameters (0 .. N Byte(s))	Endcode (1 Byte)
0xeae8				0xed

Table 2.1.1

Header: 2 Bytes

All data start with 0xeae8, high byte 0xea comes first, low byte 0xe8 comes after.

Length: 1 Byte

Number of bytes from Command_Code to Endcode (including Command_Code and **Endcode**).

Command_Code: 1 Byte

Control command or type, details of which can be found below.

Parameters: 0..N Byte(s)

Parameters of command. Parameter can be null.

Endcode: 1 Byte

All commands exclude power control commands end with 0xed.

Chapter3 Introduction to control commands

3.1 Start control

Central Control System --> Main Unit

Header	Length	Command_code	Parameters	Endcode
0xeae8	0x02	0x01	NONE	0xed

Table 3.1.1

Note:

- When main unit works in master mode receives the start control command, it will report its current status, including:

  a status of main unit (including Operation Mode, Maximum Number of Active Microphones, Line-in1 Volume, Speaker Volume, Treble and Bass, etc);

  b current Speaking List;

  c current Request List;

  d current camera-focused microphone;

  e other status of main unit.

- When main unit works in slave mode receives the start control command, it will report:

  f current work mode status;

- After starting the control, main unit works in master starts to accept the other commands and send reports initiatively when any of the above status(a,b,c,d,e) is changed: Main unit works in slave mode won't respond to any commands excluding the start control command, work mode setting or work mode inquire command.

Format of report data from main unit:

3.1.1 Status of main unit

Main Unit --> Central Control System

Header	Length	Command_code	Parameters (6 Bytes)	Endcode
0xeae8	0x08	0x21	Status of main unit	0xed

Status of main unit					
Operation mode (1 Byte)	Maximum number of active microphones (1 Byte)	Line-in1 volume (1 Byte)	CU built-in Speaker volume (1 Byte)	Bass (1 Byte)	Treble (1 Byte)

Table 3.1.1-1

Operation mode (1 Byte)	0x00	Open		Line-In1 volume (1 Byte)	See **Table 3.1.1-3**
	0x01	Override			
	0x02	Voice			
	0x03	Apply		CU built-in Speaker volume (1 Byte)	See **Table 3.1.1-3**
	0x04	PTT			
Maximum number of active Mic's (1 Byte)	0x01	1		Bass(1 Byte)	See **Table 3.1.1-3**
	0x02	2			
	0x03	3			
	0x04	4		Treble(1 Byte)	See **Table 3.1.1-3**

Table 3.1.1-2

Value								Volume		
Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0	Line-in1,Line-in2 CU built-in Speaker	Master	Bass Treble
0x00								0dB	0dB	-15dB
...								...	...	...
0x0f								-15dB	-15dB	0dB
...								...	...	...
0x1E								-30dB	-30dB	15dB
Bit7=1								Mute		

Table 3.1.1-3

Note:

- Set bit7 to 0 can resume volume prior to mute.

3.1.2 Current speaking list:

Main Unit --> Central Control System

Microphone ID is of 2 bytes, high byte comes first, when the number of active microphones is less than 6, 0x0000 is used as substitute to make up the difference.

If there is any HCS-8300MI with mixer mode on, its ID equals HCS-8300 MI ID plus 8300. For example, HCS-8300MI with ID 3 is working on mixer mode, its ID equals 0x8303.

Header	Length	Command_code	Parameters (13 Bytes)		Endcode
0xeae8	0x0f	0x41	Number of active microphones (1 Byte)	ID of active microphones (6*2 Bytes)	0xed

Table 3.1.2

3.1.3 Current request list:

Main Unit --> Central Control System

Microphone ID is of 2 bytes, high byte comes first, when the number of requesting microphones is less than 6, 0x0000 is used as substitute to make up the difference.

Header	Length	Command_code	Parameters (13 - 201 Bytes)		Endcode
0xeae8	Length (1 Byte)	0x31	Number of requesting microphones (1 Byte)	ID of requesting microphones (X*2 Bytes)	0xed

ID of requesting microphones (X*2 Bytes)				
ID of first requesting microphones		ID of second requesting microphones		.....
High byte	Low byte	High byte	Low byte	.....

Table 3.1.3

Note:

- X: the number of requesting microphones; Length: length of data;
- The quantity limitation of requesting microphones is 100;
- When the number of requesting microphones is more than 6 but less than 100, Main Unit reports all the Microphones' ID in the list (6<X≦100, 0x0f<Length≦0xcb);
- When the number of requesting Microphones is 6 or less than 6, Main Unit reports 6 IDs, in case the actual number is less than 6, 0x0000 is used to make up the difference.

3.1.4 Current camera-focused microphone

Main Unit --> Central Control System

Microphone ID is of 2 bytes, high byte comes first.

Header	Length	Command_code	Parameters (2 Bytes)	Endcode
0xeae8	0x04	0x43	ID of camera-focused microphone	0xed

Table 3.1.4

3.1.5 Other status of main unit

Main Unit --> Central Control System

Report other status of main unit, including master volume, Line-in2 volume, etc.

Header	Length	Command_code	Parameters (6 Bytes)	Endcode
0xeae8	0x08	0x22	Other status of main unit	0xed

Other status of main unit		
Master volume (1 Byte)	Line-in2 volume (1 Byte)	Reserved (4 Bytes)

Table 3.1.5

For details, please refer to **Table 3.1.1-3**.

3.1.6 Report work mode of main unit

Main Unit --> Central Control System

Main unit works in slave mode will report its work mode after received the start control command.

Header	Length	Command_code	Parameters (3 Bytes)	Endcode
0xeae8	0x05	0xc2	Work mode of main unit	0xed

Table 3.1.6-1

Work mode of main unit(3 Bytes)		
Work mode(1 Byte)	Hot Swap(1 Byte)	Reserved(1 Byte)
0x00:Master 0x01:Slave	0x00:Disable 0x01:Enable	0x00

Table 3.1.6-2

3.2 End control

Central Control System --> Main Unit

Header	Length	Command_code	Parameters	Endcode
0xeae8	0x02	0x02	NONE	0xed

Table 3.2.1

3.3 Setup main unit

3.3.1 Setup operation mode

Central Control System --> Main Unit

Header	Length	Command_code	Parameters (1 Byte)	Endcode
0xeae8	0x03	0x11	Operation Mode	0xed

Table 3.3.1-1

Operation Mode:

Parameters	0x00	0x01	0x02	0x03	0x04
Operation Mode	OPEN	OVERRIDE	VOICE	APPLY	PTT

Table 3.3.1-2

3.3.2 Setup maximum number of active microphones

Central Control System --> Main Unit

Header	Length	Command_code	Parameters (1 Byte)	Endcode
0xeae8	0x03	0x12	Maximum number of active microphones	0xed

Table 3.3.2-1

Maximum number of active microphones:

Parameters	0x01	0x02	0x03	0x04
Maximum number of active microphones	1	2	3	4

Table 3.3.2-2

3.3.3 Setup line-in1 volume

Central Control System --> Main Unit

Header	Length	Command_code	Parameters (1 Byte)	Endcode
0xeae8	0x03	0x13	Line-in1 volume	0xed

Table 3.3.3

Note:

- Line-in1 volume ranges from 0 ~30;
- 0 (0x00) stands for 0 dB, 30 (0x1e) stands for -30 dB, 0x80: Mute.

3.3.4 Setup speaker volume

Central Control System -- > Main Unit

Header	Length	Command_code	Parameters (1 Byte)	Endcode
0xeae8	0x03	0x14	Speaker volume	0xed

Table 3.3.4

Note:

- Speaker volume ranges from 0 ~30;
- 0 (0x00) stands for 0 dB, 30 (0x1e) stands for -30 dB, 0x80: Mute.

3.3.5 Setup bass

Central Control System -- > Main Unit

Header	Length	Command_code	Parameters (1 Byte)	Endcode
0xeae8	0x03	0x15	Bass volume	0xed

Table 3.3.5

Note:

- Bass volume ranges from 0 ~30;
- 0 (0x00) stands for maximum attenuation, 30 (0x1e) stands for maximum enhancement, 15 (0x0f) stands for neither attenuation nor enhancement.

3.3.6 Setup treble

Central Control System -- > Main Unit

Header	Length	Command_code	Parameters (1 Byte)	Endcode
0xeae8	0x03	0x16	Treble volume	0xed

Table 3.3.6

Note:

- Treble volume ranges from 0 ~30;
- 0 (0x00) stands for maximum attenuation, 30 (0x1e) stands for maximum enhancement, 15 (0x0f) stands for neither attenuation nor enhancement.

3.3.7 Setup line-In2 volume

Central Control System -- > Main Unit

Header	Length	Command_code	Parameters (1 Byte)	Endcode
0xeae8	0x03	0x17	Line-in2 volume	0xed

Table 3.3.7

Note:

- Line-In2 volume ranges from 0 ~30;
- 0 (0x00) stands for 0 dB, 30 (0x1e) stands for -30 dB, 0x80: Mute.

3.3.8 Setup master volume

Central Control System -- > Main Unit

Header	Length	Command_code	Parameters (1 Byte)	Endcode
0xeae8	0x03	0x18	Master volume	0xed

Table 3.3.8

Note:

- Master volume ranges from 0 ~30;
- 0 (0x00) stands for 0 dB, 30 (0x1e) stands for -30 dB.

3.3.9 System parameters setting

Central Control System -- > Main Unit

Header	Length	Command_code	Parameters (2 Bytes)	Endcode
0xeae8	0x04	0x19	System parameters List	0xed

Table 3.3.9-1

System parameters List(2 Bytes)			
System parameters number(1 Byte)		参数取值（1 字节）	
Parameter	Define	Value	Define
0x01	Fiber port setting	0x00	Close
		0x01	Open
0x02	Extension port setting	0x00	Close
		0x01	Open
0x03	System sampling rate setting	0x00	32K
		0x01	48K
0x04	Touch-key beep setting	0x00	Close
		0x01	Open
0x05	Single microphone output	0x00	Close
		0x01	Open
0x06	Distribute floor to unused SI CH	0x00	Yes
		0x01	No
0x07	Green LED Ring of Mic.	0x00	Close
		0x01	Open
0x08	Blink LED Ring of 1st request Mic.	0x00	Keep on green LED ring
		0x01	Blink green LED ring
Other Value	Resevered		

Table 3.3.9-2

3.3.10 Command execution status

Report command execution status.

Main Unit --> Central Control System

Header	Length	Command	Parameter(1 Byte)	Endcode
0xeae8	0x03	0x4e	bstatus	0xed

Parameter	Value	Define
bstatus (1 Byte)	0x00	Executed successful
	0x01	Control conflicting, connected to PC
	0x02	Setup VIP failed
	0x03	Otherwise Failed

Table 3.3.10

3.4 Inquire main unit status

3.4.1 Inquire main unit status:

Inquire about Operation Mode, Maximum Number of Active Microphones, Line-in1 Volume, Speaker Volume, Treble and Bass, etc.

Central Control System --> Main Unit

Header	Length	Command_code	Parameters	Endcode
0xeae8	0x02	0x21	NONE	0xed

Table 3.4.1-1

Response:

Main Unit --> Central Control System

Header	Length	Command_code	Parameters (6 Bytes)	Endcode
0xeae8	0x08	0x21	Status of main unit	0xed

Table 3.4.1-2

3.4.2 Inquire other status:

Inquire about Line-in2 Volume, Master Volume, etc.

Central Control System --> Main Unit

Header	Length	Command_code	Parameters	Endcode
0xeae8	0x02	0x22	NONE	0xed

Table 3.4.2-1

Response:

Main Unit --> Central Control System

Header	Length	Command_code	Parameters (6 Bytes)	Endcode
0xeae8	0x08	0x22	Other status of main unit	0xed

Table 3.4.2-2

3.4.3 Inquire system parameters

Inquire system paratemters

Central Control System --> Main Unit

Header	Length	Command_code	Parameters(1 Byte)	Endcode
0xeae8	0x03	0x23	0x00 (Reserved)	0xed

Table 3.4.3

3.4.4 Report system parameters

Main Unit--> Central Control System

Header	Length	Command_code	Parameters(8 Bytes)	Endcode
0xeae8	0x0A	0x23	System Parameters	0xed

System Parameters							
System parameter 8	System parameter 7	System parameter 6	System parameter 5	System parameter 4	System parameter 3	System parameter 2	System parameter 1

Table 3.4.4-1

Parameter			Value	Define
System parameter 8(1 Byte)			0x00	reserved
System parameter 7(1 Byte)			0x00	
System parameter 6(1 Byte)			0x00	
System parameter 5(1 Byte)			0x00	
System parameter 4(1 Byte)			0x00	
System parameter 3(1 Byte)			0x00	
System parameter 2(1 Byte)			0x00	
System parameter 1 (1 Byte)	Bit7	Blink LED Ring of 1st request Mic.	0	keep on green LED ring
			1	blink green LED ring
	Bit6	LED Ring of Mic.Setting	0	disable green LED ring
			1	enable green LED ring
	Bit5	Distribute floor to unused SI CH	0	yes
			1	no
	Bit4	Single microphone output	0	close
			1	open
	Bit3	Touch-key beep setting	0	beep off
			1	beep on
	Bit2	System sampling rate setting	0	32K
			1	48K
	Bit1	Extension port setting	0	close
			1	open
	Bit0	Fiber port setting	0	close
			1	open

Table 3.4.4-2

3.5 Request list control

3.5.1 Setup request control mode

Set up request control mode, to determine either Chairman or CCS has the control right for approving or reject delegate's request. Main unit will send 3.3 10 (Command execution status) to central control system.

Central Control System --> Main Unit

Header	Length	Command_code	Parameter(1 Byte)	Endcode
0xeae8	0x03	0x38	APPLYCTRL	0xed

APPLYCTRL (1 Byte)	0x00	Chairman unit control
	0x01	Central control system control

Table 3.5.1

Note:

- Valid only when main unit is in APPLY mode.

3.5.2 Query request control mode

Query request control mode: request can be controlled by central control system or chairman unit;

Central Control System --> Main Unit

Header	Length	Command_code	Parameter	Endcode
0xeae8	0x02	0x36	NONE	0xed

Table 3.5.2

3.5.3 Report request control mode

Report request control mode. Chairman unit controlling is set as default setting when power on every time.

Main Unit --> Central Control System

Header	Length	Command_code	Parameter(1 Byte)	Endcode
0xeae8	0x03	0x37	APPLYCTRL	0xed

APPLYCTRL (1 Byte)	0x00	Chairman unit control
	0x01	Central control system control

Table 3.5.3

3.5.4 Setup maximum number of requesting microphones

Central Control System --> Main Unit

Header	Length	Command_code	Parameters (1 Byte)	Endcode
0xeae8	0x03	0x31	Maximum number of requesting microphones	0xed

Table 3.5.4

Note:

- Default length of the request list is 6, range can be from 1 ~ 100. For example: set maximum number of requesting microphones to 12, the parameter should be set to 0x0c.

3.5.5 Inquire maximum number of requesting microphones

Central Control System --> Main Unit

Header	Length	Command_code	Parameters	Endcode
0xeae8	0x02	0x32	NONE	0xed

Table 3.5.5-1

Response:

Main Unit --> Central Control System

Header	Length	Command_code	Parameters (1 Byte)	Endcode
0xeae8	0x03	0x32	Maximum number of requesting microphones	0xed

Table 3.5.5-2

3.5.6 Enable a microphone to request-to-speak

Central Control System --> Main Unit

Mic ID is of two bytes, high byte comes first.

Header	Length	Command_code	Parameters (2 Bytes)	Endcode
0xeae8	0x04	0x33	Microphone ID	0xed

Table 3.5.6

3.5.7 Delete a microphone from the request list:

Equal to turn off a microphone.

3.5.8 Approve one microphone in the request list to speak:

Equal to turn on a microphone.

3.5.9 Refuse all requests:

Central Control System --> Main Unit

Header	Length	Command_code	Parameters	Endcode
0xeae8	0x02	0x35	NONE	0xed

Table 3.5.8

Note:

- Besides, when the state of the Request List is changed, Main unit will report the state initiatively, the format is as below.

Response:

Main Unit --> Central Control System

Header	Length	Command_code	Parameters (13 - 201Bytes)		Endcode
0xeae8	Length (1 Byte)	0x31	Number of requesting microphones (1 Byte)	ID of requesting microphones (X*2 Bytes)	0xed

Table 3.5.9

Please see "3.1 3. Current request list" for details.

3.6 Microphone control

3.6.1 Turn on a microphone

Central Control System --> Main Unit

Mic ID is of two bytes, high byte comes first.

Header	Length	Command_code	Parameters (2 Bytes)	Endcode
0xeae8	0x04	0x41	Microphone ID	0xed

Table 3.6.1

3.6.2 Turn off a microphone

Central Control System --> Main Unit

Mic ID is of two bytes, high byte comes first.

Header	Length	Command_code	Parameters (2 Bytes)	Endcode
0xeae8	0x04	0x42	Microphone ID	0xed

Table 3.6.2

3.6.3 Turn off all microphones

Central Control System --> Main Unit

Header	Length	Command_code	Parameters	Endcode
0xeae8	0x02	0x43	NONE	0xed

Table 3.6.3

3.6.4 Query CU degree

Valid only when main unit is not connected to PC.

Central Control System --> Main Unit

Header	Length	Command_code	Parameter (1 Byte)	Endcode
0xeae8	0x03	0x44	Query CU degree	0xed

Parameter	Value	Define
Query CU degree (1 Byte)	0x03	VIP

Table 3.6.4

3.6.5 Report VIP list

When central control system query CU degree to main unit and main unit is not connected to PC, main unit will response with this command. At most 32 VIP units can be reported.

Main Unit --> Central Control System

Header	Length	Command_code	Parameters (1+N*2 Bytes)	Endcode
0xeae8	Length	0x45	VIP list	0xed

VIP list (1+N*2 Bytes)					
VIP quantity (1 Byte)	VIP ID 1(2 Bytes)		.....	VIP ID N(2 Bytes)	
	High byte	Low byte	.....	High byte	Low byte

Table 3.6.5

3.6.6 Setup CU degree

Central control system can use this command to setup CU degree when main unit is not connected to PC. Main unit will setup CU degree and response with 3.3 10 (Command execution status).

Central Control System --> Main Unit

Header	Length	Command_code	Parameters (3 Bytes)	Endcode
0xeae8	0x05	0x46	CU degree	0xed

CU degree (3 Bytes)		
ID (2 Bytes)		Degree (1 Byte)
High byte	Low byte	

Parameter	Value	Define
Degree (1 byte)	0x01	Delegate
	0x03	VIP

Table 3.6.6

3.6.7 Inquire Mic. Gain

Central Control System --> Main Unit

Inquire microphone gain of CU.

Header	Length	Command_code	Parameters (4 Bytes)	Endcode
0xeae8	0x06	0x47	CU Mic. Gain	0xed

CU Mic. Gain(4 Bytes)		
CU ID(2 Bytes)		Reserved(2 Bytes)
High byte	Low byte	0x0000

Table 3.6.7

3.6.8 Report Mic. Gain

When central control system query Mic. Gain to main unit, main unit will response with this command.

Main Unit --> Central Control System

Header	Length	Command_code	Parameters (4 Bytes)	Endcode
0xeae8	0x06	0x47	CU Mic. Gain	0xed

CU Mic. Gain(4 Bytes)			
CU ID(2 Bytes)		Mic. Gain(1 Byte)	Reserved(1 Byte)
High byte	Low byte		0x00

Table 3.6.8-1

Parameter	Value	Define
CU ID(2 Bytes)	1 4095	CU ID is of 2 bytes, high byte comes first.
Mic. Gain (1 Byte)	0x01	-15 dB
	0x02	-14 dB
	.....	.....
	0x10	0 dB
	.....	.....
	0x1F	+15 dB
	Remark: Bit7 is mute switch, bit 7=1 represents mute; Bit6 ... Bit0:Mic. Gain Example: 0x9E: Mic. Gain is mute,and was +15 dB prior to mute.	

Table 3.6.8-2

3.6.9 Setup Mic. Gain

Central Control System --> Main Unit

Setup Mic. Gain for some Mic., or for opened Mics, or for all Mics.

Header	Length	Command_code	Parameters (4 Bytes)	Endcode
0xeae8	0x06	0x48	CU Mic. Gain	0xed

CU Mic. Gain(4 Bytes)			
CU ID(2 Bytes)		Mic. Gain(1 Byte)	Adjust Method(1 Byte)
High byte	Low byte		

Table 3.6.9-1

Parameter		Value	Define
CU ID (2 Bytes)		1 4095	CU ID is of 2 bytes, high byte comes first.
		0xFFFE	CUs whose microphones are turn on
		0xFFFF	All CUs (for specify gain value excluding mute setup, invalid for step adjust)
Mic. Gain (1 Byte)	Specify value	0x01	-15 dB
		0x02	-14 dB
		.....	.....
		0x10	0 dB
		.....	.....
		0x1F	+15 dB
		0x80	Mute
		Remark: Bit7 is mute switch, bit 7=1mute and bit 7=0 represents cancel mute. Bit6 ... Bit0: Mic. Gain	
	Step adjust	0x00	Decrease 1dB
		0x01	Increase 1dB
Adjust Method (1 Byte)		Bit7~Bit1: 0	Reserved
		Bit0:1	Step adjust
		Bit0:0	Specify value

Table 3.6.9-2

Example:

Step1. Send "ea e8 06 48 00 01 80 00 ed" to set CU#1 Mic. Gain mute;

Step2. Send "ea e8 06 47 00 01 00 00 ed" to inquire CU#1 Mic. Gain;

Step3. Get feedback data from main unit," ea e8 06 47 00 01 82 00 ed", this means CU#1 Mic. Gain is mute now and was -14 dB prior to mute.

Step4. Set the most significant bit to 0 can cancel mute and resume the value prior.

Note:

- CU ID is of two bytes, high byte comes first and low byte later.
- Step adjust is only valid for single or all CU whose mics are turned on.
- Mute Mic. Gain is only valid for single CU.

3.6.10 Inquire retractable microphone list

Central Control System --> Main Unit

Inquire retractable microphone list.

Header	Length	Command_code	Parameters (3 Bytes)	Endcode
0xeae8	0x05	0x49	Inquire retractable microphone	0xed

Inquire retractable microphone (3 Bytes)		
CU ID (2 Bytes)		Reserved (1 Byte)
High Byte	Low Byte	0x00

Table 3.6.10

Note:

- CU ID is of two bytes, high byte comes first and low byte later;
- CU ID=0xFFFF, inquire status of all retractable microphones.

3.6.11 Report retractable microphone list

Main Unit --> Central Control System

When main unit receives "inquire retractable microphone list", it will report status of retractable microphone, including CU ID, retract status. Batched message packages will be sent if quantity of retractable microphones is larger than 30 while one package contains at most 30 retractable microphones' information. Length=N*3+5. (N= quantity of retractable microphones in current message package)

Header	Length	Command_code	Parameters (N*3+3 Bytes)	Endcode
0xeae8	N*3+5	0x49	Retractable microphone List	0xed

Retractable microphone List(N*3+3 Bytes)					
Total quantity of retractable microphones (2 Bytes)		Quantity of retractable microphones in current message package (1 Byte)	Retractable microphone 1 status (3 Bytes)	.....	Retractable microphone N status (3 Bytes)
High Byte	Low Byte				

Table 3.6.11-1

Retractable microphone N status				
Retractable microphone ID (2 Bytes)		0x0001 .... 0x0fff		Range [1,4095]
Details (1 Byte)	Reserved status	Bit7 ... Bit4	0000	Reserved
	Retract status	Bit3 ... Bit0	0000	Reserved
			0001	Raised
			0010	Retracted
			0011	abnormal
			0100	Reserved
			...	Reserved
			1111	Reserved

Table 3.6.11-2

3.6.12 Setup status for retractable microphone

Central Control System --> Main Unit

Set retract status for retractable microphone.

Header	Length	Command_code	Parameters (N*3+3 Bytes)	Endcode
0xeae8	0x05	0x4A	Setup retractable microphone	0xed

Setup retractable microphone (3 Bytes)		
Retractable microphone ID(2 Bytes)		Retractable microphone status (1 Byte)
High Byte	Low Byte	

Table 3.6.12-1

Retractable microphone ID(2 Bytes)	0x0001 .... 0x0fff: Setup single CU with retractable microphone.(Maximum ID is 4095)	
	0xFFFF: Setup All CUs with retractable microphone	
Retract Status(1 Byte)	0x01	Raise microphone
	0X02	Retract microphone

Table 3.6.12-2

3.6.13 Report retractable microphone status

Main Unit --> Central Control System

When main unit receives "Setup status for retractable microphone", it will feed back data as following table after action:

Header	Length	Command_code	Parameters (3 Bytes)	Endcode
0xeae8	05	0x4A	Retractable microphone status	0xed

Retractable microphone status		
Retractable microphone ID(2 Bytes)		Retract status (1 Byte)
High Byte	Low Byte	

Table 3.6.13-1

Retractable microphone status				
Retractable microphone ID (2 Bytes)		0x0001 .... 0x0fff		Range [1,4095]
Details (1 Byte)	Reserved status	Bit7 ... Bit4	0000	Reserved
	Retract status	Bit3 ... Bit0	0000	Reserved
			0001	Raised
			0010	Retracted
			0011	abnormal
			0100	Reserved
			...	Reserved
			1111	Reserved

Table 3.6.13-2

3.6.14 Inquire CU information

Central Control System --> Main Unit

Inquire all CUs' information of the system including total quantity of CUs, all IDs and details, etc..After received this command, main unit will respond with "Report CU Information".

Header	Length	Command_code	Parameters (3 Bytes)	Endcode
0xeae8	0x05	0x4B	Inquire CU Information	0xed

Inquire CU Information (3 Bytes)	
0x000000	Reserved

Table 3.6.14

3.6.15 Report CU Information

Main Unit --> Central Control System

When main unit receives "Inquire CU Information"command, it will report all CUs' information including total quantity, CU IDs and their details, etc.. Batched message packages will be sent if total quantity of CUs is larger than 30 while one package contains at most 30 CUs' information. Length=N*3+5. (N= quantity of CUs in current message package)

Header	Length	Command_code	Parameters (N*3+3 Bytes)	Endcode
0xeae8	N*3+5	0x4B	CU Information	0xed

CU Information (N*3+3 Bytes)							
Total quantity of CUs (2 Bytes)		Quantity of CUs in current message package (1 Byte)	CU1 Details (3 Bytes)		.....	CUN Details (3 Bytes)	
High Byte	Low Byte		CU1 ID	CU1 Details		CUN ID	CUN Details

Table 3.6.15-1

CU Details(3 Bytes)		
CU ID (2 Bytes)	0x0001 .... 0x0fff	Range [1,4095]
Details(1 Byte)	0x00: Reserved	

Table 3.6.15-2

3.7 Auto-video tracking control

3.7.1 Activate auto-video tracking

Central Control System --> Main Unit

Header	Length	Command_code	Parameters	Endcode
0xeae8	0x02	0x51	NONE	0xed

Table 3.7.1

3.7.2 Deactivate auto-video tracking

Central Control System --> Main Unit

Header	Length	Command_code	Parameters	Endcode
0xeae8	0x02	0x52	NONE	0xed

Table 3.7.2

3.8 Voting control

3.8.1 Start voting management

Activate Voting Management,before start voting.

Central Control System --> Main Unit

Header	Length	Command_code	Parameters	Endcode
0xeae8	0x02	0x81	NONE	0xed

Table 3.8.1

3.8.2 End voting management

Central Control System --> Main Unit

Header	Length	Command_code	Parameters	Endcode
0xeae8	0x02	0x82	NONE	0xed

Table 3.8.2

3.8.3 Enable report real-time list

Central Control System --> Main Unit

Header	Length	Command_code	Parameters (6 Bytes)	Endcode
0xeae8	0x08	0x8b	Real-time voting list	0xed

Real-time voting list(6 Bytes)		
Report real-time sign-in data (1 Byte)	Report Real-time voting name list (1 Byte)	Reserved (4 Bytes)

Parameter	Value	Define
Report real-time sign-in data (1 Byte)	0x00	Report **3.8.6 (Number of sign-in)** when sign-in ended
	0x01	Report **3.8.11(Sign-in name list)** during Sign-in and report **3.8.6 (Number of sign-in)** when sign-in ended to Central Control System
Report Real-time voting name list (1 Byte)	0x00	Disable to report real-time voting name list
	0x01	Enable to report real-time voting name list
Reserved (4 Bytes)	0x00000000	

Table 3.8.3

Note:

- To get real-time sign-in report or real-time voting name list report, central control system shall send this command before start sign-in or start voting.
- Real-time sign-in or real-time voting name list report will be disabled when main unit powers on every time.
- Real-time sign-in report will be disabled when "End Sign-in" received.
- Real-time voting name list report will be disabled when "End Voting" received.

3.8.4 Start sign-in

Central Control System --> Main Unit

Header	Length	Command_code	Parameters	Endcode
0xeae8	0x05	0x83	Reserved (3 Bytes)	0xed

Parameter	Value	Define
Reserved (3 Bytes)	0x000000	Default Setting

Table 3.8.4

3.8.5 End sign-in

Central Control System --> Main Unit

Header	Length	Command_code	Parameters	Endcode
0xeae8	0x02	0x84	NONE	0xed

Table 3.8.5

3.8.6 Number of sign-in

Main Unit --> Central Control System

Header	Length	Command_code	Parameters(2 Bytes)	Endcode
0xeae8	0x04	0x85	Number of sign-in	0xed

Table 3.8.6

3.8.7 Start voting

When receiving this command, main unit will response with **3.8.12 (Voting Command execution status).**

Central Control System --> Main Unit

Header	Length	Command_code	Parameters (8 Bytes)	Endcode
0xeae8	0x0a	0x86	Voting parameters	0xed

Voting parameters					
Vote mode	Reserved (0x00)	Open/Secret	Reserved (0x00)	Key-press valid	Reserved (0x000000)
1 Byte	1 Byte	1 Byte	1 Byte	1 Byte	3 Bytes

Table 3.8.7-1

Description of voting parameters:

Vote mode	0x00	Yes/No/Abstain	Open/Secret	0x00	Open
	0x01	5 options		0x01	Secret
	0x02	Response(++/+/0/-/--)	Reserved	0x00	
	0x03	2 options			
	0x04	3 options			
	0x05	4 options	Key-press valid	0x00	Last key-press valid
	0x06	For/Against		0x01	First key-press valid
	0x07	Yes/No/Abstain/NPPV			

Table 3.8.7-2

3.8.8 End voting

Central Control System --> Main Unit

Header	Length	Command_code	Parameters	Endcode
0xeae8	0x02	0x87	NONE	0xed

Table 3.8.8

3.8.9 Voting results

Data sent to the Central Control System once vote ended in for display when "Report Real-time voting name list" is disabled in **3.8.3 Enable report real-time list**.

Main Unit --> Central Control System

Header	Length	Command_code	Parameters (14 Bytes)	Endcode
0xeae8	0x10	0x88	Voting/Sign-in parameters	0xed

Voting/Sign-in parameters						
Number of delegates signed-in	Number of delegates pressed button 1	Number of delegates pressed button 2	Number of delegates pressed button 3	Number of delegates pressed button 4	Number of delegates pressed button 5	Number of delegates not voted
2 Bytes	2 Bytes	2 Bytes	2 Bytes	2 Bytes	2 Bytes	2 Bytes

Table 3.8.9

3.8.10 Voting name list

Data sent to the Central Control System during voting for display when "Report Real-time voting name list" is enabled in **3.8.3 Enable report real-time list**.

Main Unit --> Central Control System

Header	Length	Command_code	Parameters (1+N*3 Bytes)	Endcode
0xeae8	Length	0x89	Voting name list	0xed

Voting name list (1+N*3 Bytes)							
Quantity of name list (1 Byte)	CU 1 ID(2 Bytes)		CU 1 voting (1Byte)	....	CU N ID (2 Bytes)		CU N voting (1 Byte)
	High byte	Low byte	CU 1 voting	...	High byte	Low byte	CU N voting

Parameter	Value	Define
CU N voting (1 Byte)	0x01	Select 1/--
	0x02	Select 2/-/Yes/For
	0x03	Select 3/0/No/Against
	0x04	Select 4/+/Abstain
	0x05	Select 5/++/NPPV

Table 3.8.10

Note:

- Batched message packages will be sent if quantity of voting units is larger than 30 while one package contains at most 30 units' voting information. Length=N*3+3.

3.8.11 Sign-in name list

Data sent to the Central Control System during voting for display when Report real-time sign-in data is enabled in **3.8.3 Enable report real-time list**.

Main Unit --> Central Control System

Header	Length	Command_code	Parameters (1+N*3 Bytes)	Endcode
0xeae8	Length	0x8a	Sign-in name list	0xed

Sign-in name list (1+N*3 Bytes)						
Quantity of name list (1 Byte)	CU 1 ID (2 Bytes)		CU 1 sign-in status (1 Byte)	.....	CU N ID (2 Bytes)		CU N sign-in status (1 Byte)
	High byte	Low byte		.....	High byte	Low byte	

Parameter	Value	Define
Sign-in status (1 Byte)	0x00	Not sign-in
	0x01	Sign-in

Table 3.8.11

Note:

- Batched message packages will be sent if quantity of Sign-in units is larger than 30 while one package contains at most 30 units' Sign-in information. Length=N*3+3.

3.8.12 Voting Command execution status

Main Unit --> Central Control System

Header	Length	Command_code	Parameters (1 Byte)	Endcode
0xeae8	0x03	0x8c	Bstatus	0xed

Table 3.8.12

Note:

- Bstatus: 0x00 Command execute successful.
- Bstatus: 0x01 Command conflict, execute failure (for example: Central Control System and PC both connect Main Unit).

【Example】: Control procedure of voting of 2 proposals with Real-time voting list

Step1. Start control, send "ea e8 02 01 ed".

Step2. Start voting management, send "ea e8 02 81 ed".

Step3. Enable report real-time voting list, send "ea e8 08 8b 01 01 00 00 00 00 ed".

Step4. Start sign in, send "ea e8 05 83 00 00 00 ed".

1) Main unit will return Voting Command execution status: "ea e8 03 8c 00 ed" ;

2) When any CU pressed sign-in key, main unit will report to central control system as follow:

"ea e8 0f 8a 04 00 02 01 00 03 01 00 05 01 00 04 01 ed ":

"04" means in this command report total 4 CUs' data,

"00 02 01" means No.2 CU signed in,

"00 03 01" means No.3 CU signed in,

…

Step5. Stop sign in, send "ea e8 02 84 ed".

1) Main unit will report number of sign-in as follow:

"ea e8 04 85 00 04 ed", means totally 4CUs signed in.

Step6. Proposal 1: Start voting, send "ea e8 0a 86 00 00 00 00 00 00 00 00 ed".

1) Main unit will return Voting Command execution status: "ea e8 03 8c 00 ed ";

2) When any CU pressed voting key, main unit will report to central control system as follow:

"ea e8 0f 89 04 00 03 03 00 02 03 00 04 03 00 05 03 ed" :

"04" means in this command report total 4 CUs' voting data;

"00 03 03" means CU No.3 chose "NO";

"00 02 03" means CU No.2 chose "NO";

...

In the voting progress, whenever someone pressed a valid voting key, main unit will report data similar above in real-time.

Step7. Stop voting, send "ea e8 02 87 ed".

Step8. Proposal 2: Repeat Step3, 6 and 7.

Step9. When all proposals finished, send "ea e8 02 82 ed" to end voting management.

3.9 Power control of the main unit

3.9.1 Power off the main unit:

Central Control System --> Main Unit

Command			
0xe6	0x01	0xa1	0x88

Table 3.9.1

3.9.2 Power on the main unit:

Central Control System --> Main Unit

Command			
0xe6	0x01	0xa3	0x8a

Table 3.9.2

3.9.3 Inquiry the power status of the main unit:

Central Control System --> Main Unit

Command			
0xe6	0x01	0xa2	0x89

Table 3.9.3

Response:

Main Unit --> Central Control System

Power off	0xe6	0x01	0x02	0xe9
Power on	0xe6	0x01	0x01	0xe8

Table 3.9.4

Note:

- These commands in Section 3.9 are not available under UDP control.

3.10 Simultaneous interpretation control

3.10.1 Enable SI control:

Central Control System --> Main Unit

Central control system should enable SI control before SI control, inquire booth status, or setup, etc.

Header	Length	Command_code	Parameters	Endcode
0xeae8	0x02	0xa1	NONE	0xed

Table 3.10.1

Note:

- When receiving this command, main unit will reply with "Report all booths status.
- If SI control enabled, main unit will send "Report all booths status" when booth output changes.

3.10.2 Disable SI control:

Central Control System --> Main Unit

Header	Length	Command_code	Parameters	Endcode
0xeae8	0x02	0xa2	NONE	0xed

Table 3.10.2

3.10.3 Inquire booth status:

Central Control System --> Main Unit

Header	Length	Command_code	Parameters(1 byte)	Endcode
0xeae8	0x03	0xa3	Booth №	0xed
			0x01...0x3f: Booth № 0xff: all booths	

Table 3.10.3

Note:

- If parameter is 0x01~0x3f, main unit will reply with"**Report one booth status**";
- If parameter is 0xff, main unit will reply with "**Report all booths status**".

3.10.4 Report all booths status:

Main Unit --> Central Control System

When receives "Inquire booth status" command or booth status changes, main unit will reply with "Report all booths status". Length = Booth quantity * 2 + 3 bytes.

Header	Length	Command_code	Parameters (Booth quantity * 2 + 1 bytes)	Endcode
0xeae8	Booth quantity * 2 + 3 bytes	0xa4	Booth status	0xed

Booth status (Booth quantity * 2 + 1 bytes)							
Booth quantity	Booth 1		Booth 2		.....	Booth 63	
(1 byte)	Output channel	Output language	Output channel	Output language	.....	Output channel	Output language
	(1 byte)	(1 byte)	(1 byte)	(1 byte)		(1 byte)	(1 byte)

Booth quantity (1 byte)	0x00	Stands for no booth
	0x01...0x3f	Booth quantity (up to 63)
Output channel (1 byte)	0x00... 0x3f	0x00 stands for no output
Output language (1 byte)	0x00... 0x5f	0x00 stands for no output Refer to Language table below

Table 3.10.4

3.10.5 Turn off one booth:

Central Control System --> Main Unit

Turn off the interpreter units in one booth.

Header	Length	Command_code	Parameters(1 byte)	Endcode
0xeae8	0x03	0xa5	Booth № (0x01...0x3f)	0xed

Table 3.10.5

3.10.6 Turn on/off low-cut of one interpreter unit:

Central Control System --> Main Unit

If an interpreter unit in one booth is activated, this command can be used to turn on/off low-cut of this microphone.

Header	Length	Command_code	Parameters(2 bytes)		Endcode
0xeae8	0x04	0xa6	Booth №	Low-cut	0xed
			0x01...0x3f	0x00: off 0x01: on	

Table 3.10.6

3.10.7 Setup gain of one interpreter unit:

Central Control System --> Main Unit

If an interpreter unit in one booth is activated, this command can be used to setup gain of this microphone.

Header	Length	Command_code	Parameters(2 bytes)		Endcode
0xeae8	0x04	0xa7	Booth №	Gain	0xed
			0x01...0x3f	0x00:...0x1e 0x00: +10 dB ... 0x1e: -20dB	

Table 3.10.7

3.10.8 Report one booth status:

Main Unit --> Central Control System

Header	Length	Command_code	Parameters(7 bytes)	Endcode
0xeae8	0x09	0xa8	Booth status	0xed

Booth №	Microphone status	Output channel	Input channel	Output language	Gain	Low-cut

Booth № (1 byte)	0x01...0x3f	Booth 1...booth 63
Microphone status (1 byte)	0x00	Off: no output
	0x01	On: output
Output channel(1 byte) (Valid when microphone is on)	0x01...0x3f	Output channel №
Input channel(1 byte) (Valid when microphone is on)	0x01...0x3f	Input channel №
Output language (1 byte) (Valid when microphone is on)	0x01... 0x5f	Refer to Language table
Gain (1 byte) (Valid when microphone is on)	0x00...0x1e	+10dB...-20dB
	0xff	Gain of this booth is unadjustable
Low-cut (1 byte) (Valid when microphone is on)	0x00	Off
	0x01	On

Table 3.10.8

3.10.9 Request help from a booth:

Main Unit --> Central Control System

Header	Length	Command_code	Parameters(1 byte)	Endcode
0xeae8	0x03	0xa9	Booth №	0xed

Table 3.10.9

When "Help" button on an interpreter unit is pressed, this command will be sent to Central Control System.

3.10.10 Request slow from a booth:

Main Unit --> Central Control System

Header	Length	Command_code	Parameters(1 byte)	Endcode
0xeae8	0x03	0xaa	Booth №	0xed

Table 3.10.10

When "Slow" button on an interpreter unit is pressed, this command will be sent. to Central Control System.

3.10.11 Turn on output of a booth:

Central Control System --> Main Unit

Turn on output of a booth. There are at most 6 interpreter units in one booth. If output of the booth changes, main unit will send "Report one booth status" to Central Control System.

Header	Length	Command_code	Parameters(3 bytes)			Endcode
0xeae8	0x05	0xab	Booth №	Interpreter unit №	Output channel	0xed

Booth № (1 byte)	0x01... 0x3f	Booth 1...booth 63
Interpreter unit № (1 byte)	0x01... 0x06	Interpreter unit 1...interpreter unit 6
Output channel (1 byte)	0x01... 0x3f	Output channel 1...output channel 63

Table 3.10.11

3.10.12 Switch output of a booth:

Central Control System --> Main Unit

Switch the output of a booth.

Header	Length	Command_code	Parameters(2 bytes)		Endcode
0xeae8	0x04	0xac	Booth №	Output channel	0xed

Booth № (1 byte)	0x01...0x3f	Booth 1...booth 63
Output channel (1 byte)	0x01... 0x3f	Output channel 1...output channel 63

Table 3.10.12

3.11 Nameplate control

3.11.1 Enable nameplate control:

Central Control System --> Main Unit

Central Control System should enable nameplate control before inquire nameplate status, or setup, etc.

Header	Length	Command_code	Parameters	Endcode
0xeae8	0x02	0xb1	NONE	0xed

Table 3.11.1

3.11.2 Disable nameplate control:

Central Control System --> Main Unit

Header	Length	Command_code	Parameters	Endcode
0xeae8	0x02	0xb2	NONE	0xed

Table 3.11.2

3.11.3 Inquire nameplate status:

Central Control System --> Main Unit

Header	Length	Command_code	Parameters	Endcode
0xeae8	0x02	0xb3	NONE	0xed

Table 3.11.3

When receives "Inquire nameplate status" command, main unit will send "Report nameplate status" to Central Control System.

3.11.4 Report nameplate status:

Main Unit --> Central Control System

When receives "Inquire nameplate status" command or nameplate status (on/off, brightness) changes, main unit will send "Report nameplate status" to Central Control System. Including nameplate ID, on/off, brightness. If there are too much nameplates, batched message packages will be sent, one package can contain at most 30 nameplates information. Length = nameplate quantity * 3 + 5 bytes.

Header	Length	Command_code	Parameters (nameplate quantity * 3 + 3 bytes)	Endcode
0xeae8	Length (1 byte)	0xb4	Nameplate information	0xed

Nameplate information (nameplate quantity * 3 + 3 bytes)					
Total nameplates (2 bytes)		Nameplate quantity in current package (1 byte)	Nameplate 1 information (3 bytes)	Nameplate 2 information (3 bytes)	.....
High byte	Low byte				

Nameplate information(3 bytes)									
Nameplate ID (2bytes)		Nameplate status (1 byte)							
High byte	Low byte	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
		A side On/Off	B side On/Off	A side brightness		B side brightness		0	0

Nameplate ID	0x0001...0x0fff (maximum 4095)	
A (B) side On/Off	0	Off
	1	On
A (B) brightness	01	Bright
	10	a little Dark
	11	Dark
Reserved (Bit1...Bit0)	0	Reserved

Table 3.11.4

3.11.5 Turn on/off nameplate:

Central Control System --> Main Unit

Header	Length	Command_code	Parameters(3 bytes)	Endcode
0xeae8	0x05	0xb5	Parameters	0xed

Parameters (3 bytes)									
Nameplate ID (2bytes)		On/Off (1 byte)							
High byte	Low byte	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
		A side on/off	B side on/off	0	0	0	0	0	0

Nameplate ID	0x0001...0x0fff (maximum 4095) 0xffff: all nameplates	
A (B) side on/off	0	Off
	1	On
Reserved (Bit5...Bit0)	0	Reserved

Table 3.11.5

One nameplate or all nameplates can be controlled. A and B side can be controlled separately.

3.11.6 Brightness setup:

Central Control System --> Main Unit

Header	Length	Command_code	Parameters(3 bytes)	Endcode
0xeae8	0x05	0xb6	Parameters	0xed

Parameters (3 bytes)									
Nameplate ID (2bytes)		Brightness (1 byte)							
High byte	Low byte	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
		A side brightness		B side brightness		0	0	0	0

Nameplate ID	0x0001...0x0fff (maximum 4095) 0xffff: all nameplates	
A (B) side brightness	01	Bright
	10	a little Dark
	11	Dark
Reserved (Bit3...Bit0)	0	Reserved

Table 3.11.6

One nameplate or all nameplates can be controlled. A and B side can be controlled separately.

3.11.7 Scroll setup:

Central Control System --> Main Unit

One nameplate or all nameplates can be controlled.

If "Stop scroll" is set, the values of "Scroll direction", "Scroll speed", and "Scroll page" can be ignored. If "Start scroll" is set, the values of "Scroll direction", "Scroll speed", "Scroll page" is applicable to both sides.

Header	Length	Command_code	Parameters(3 bytes)	Endcode
0xeae8	0x05	0xb7	Parameters	0xed

Parameters (3 bytes)									
Nameplate ID (2 bytes)		Scroll (1 byte)							
High byte	Low byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
		A side scroll	B side scroll	Scroll direction	Scroll speed	Scroll pages		0	0

Nameplate ID	0x0001...0x0fff (maximum 4095) 0xffff: all nameplates	
A (B) side scroll	0	Stop scroll
	1	Start scroll
Scroll direction	1	From bottom to top
Scroll speed	0	Slow
	1	Middle
Scroll page	00	One page
	01	Two pages
	10	Three pages
Reserved (Bit 1...Bit 0)	0	Reserved

Table 3.11.7

3.11.8 Blink setup:

Central Control System --> Main Unit

One nameplate or all nameplates can be controlled. A and B side can be controlled separately. When main unit is set as APPLY operation mode, this command can control whether the nameplate connected to the microphone requesting to speak blink or not.

Header	Length	Command_code	Parameters(3 bytes)	Endcode
0xeae8	0x05	0xb8	Parameters	0xed

Parameters (3 bytes)									
Nameplate ID (2 bytes)		Blink (1 byte)							
High byte	Low byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
		A side blink	B side blink	0	0	0	0	0	0

Nameplate ID	0x0001...0x0fff (maximum 4095) 0xffff: all nameplates	
A (B) side blink	0	Stop blink
	1	Start blink
Reserved (Bit 5...Bit 0)	0	Reserved

Table 3.11.8

3.11.9 Page setup:

Central Control System --> Main Unit

There are three pages for each side of the nameplate, one of which can be set as current display page by sending this command.

Header	Length	Command_code	Parameters(3 bytes)	Endcode
0xeae8	0x05	0xb9	Parameters	0xed

Parameters (3 bytes)								
Nameplate ID (2bytes)		Page (1 byte)						
High byte	Low byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
		A side page		B side page		0	0	0	0

Nameplate ID	0x0001...0x0fff (maximum 4095) 0xffff: all nameplates	
A(B) side page	00	Page 1
	01	Page 2
	10	Page 3
Reserved(Bit 3...Bit 0)	0	Reserved

Table 3.11.9

3.12 Main unit control

3.12.1 Inquire work mode of main unit

Central Control System --> Main Unit

Inquire current work mode of main unit, master or slave. Hot swap is valid only when work mode is slave.

Header	Length	Command_code	Parameters(0 byte)	Endcode
0xeae8	0x02	0xc1	None	0xed

Table 3.12.1-1

Response:

Main Unit --> Central Control System

Header	Length	Command_code	Parameters (3 Bytes)	Endcode
0xeae8	0x05	0xc2	Work mode of main unit	0xed

Table 3.12.1-2

Work mode of main unit(3 Bytes)		
Work mode(1 Byte)	Hot Swap(1 Byte)	Reserved(1 Byte)
0x00:Master 0x01:Slave	0x00:Disable 0x01:Enable	0x00

Table 3.12.1-3

Note:

- Main unit reports its work mode when receives inquire work mode command.

3.12.2 Setup work mode of main unit

Central Control System --> Main Unit

Setup work mode of main unit, master or slave mode. Hot swap is valid only when work mode is slave.

Header	Length	Command_code	Parameters(3 Bytes)	Endcode
0xeae8	0x05	0xc3	Work mode of main unit	0xed

Table 3.12.2

Note:

- Details for Work mode of main unit parameter please refer to Table 3.12.1-3.
- Reboot the main unit after sending "Setup work mode of main unit" commands. Please refer to section 3.9 for power control protocol.

3.12.3 Alarm Control

Central Control System --> Main Unit

Set or release alarm of main unit.

Header	Length	Command_code	Parameters(2 Bytes)	Endcode
0xeae8	0x05	0xc4	Alarm Parameter	0xed

Alarm Parameter (2 Bytes)	
Alarm Mode (1 byte)	Reserved(1 byte)
0x00: set alarm 0x01:release alarm	0x00

Table 3.12.3

Appendix

Language table

Language number	Language	Abbr.	Language number	Language	Abbr.	Language number	Language	Abbr.
0	Floor	FLO	33	Balinese	BAN	66	Galician	GLG
1	Albanian	ALB	34	Bengali	BEN	67	Gujarati	GUJ
2	Arabic	ARA	35	Myanmar	MYA	68	Hawaiian	HAW
3	Bulgarian	BUL	36	Belarusian	BEL	69	Kannada	KAN
4	Catalan	CAT	37	Corsican	COS	70	Kashmiri	KAS
5	Chinese	CHI	38	Irish	GLE	71	Kazakh	KAZ
6	Czech	CZE	39	Kazakh	KAZ	72	Cambodian	KHM
7	Danish	DAN	40	Kirghiz	KIR	73	Kurdish	KUR
8	Dutch	DUT	41	Lao	LAO	74	Malayalam	MAL
9	English	ENG	42	Mongolian	MON	75	Marathi	MAR
10	Finnish	FIN	43	Nepali	NEP	76	Moldovan	MLD
11	French	FRE	44	Tajik	TGK	77	Ndebele	NDE
12	German	GER	45	Thai	THA	78	Oriya	ORI
13	Greek	GRE	46	Tibetan	TIB	79	Panjabi	PAN
14	Hebrew	HEB	47	Turkmen	TUK	80	Romansh	ROH
15	Hungarian	HUN	48	Ukrainian	UKR	81	Sanskrit	SAN
16	Indonesian	IND	49	Vietnamese	VIE	82	Sindhi	SND
17	Italian	ITA	50	Cantonese	YUE	83	Sinhalese	SIN
18	Japanese	JPN	51	Croatian	HRV	84	Sotho	SOT
19	Korean	KOR	52	Slovak	SLO	85	Swahili	SWA
20	Malay	MAY	53	Slovenian	SLV	86	Tamil	TAM
21	Norwegian	NOR	54	Estonian	EST	87	Telugu	TEL
22	Persian	PER	55	Latvian	LAV	88	Tswana	TSN
23	Polish	POL	56	Lithuanian	LIT	89	Urdu	URD
24	Portuguese	POR	57	Georgian	GEO	90	Welsh	WEL
25	Romanian	RUM	58	Icelandic	ICE	91	Bantu	BNT
26	Russian	RUS	59	Music	MUS	92	Zulu	ZUL
27	Serbian	SRP	60	Unknown	---	93	Zhuang	ZHA
28	Spanish	SPA	61	Assamese	ASM	94	Dai	DIJ
29	Swedish	SWE	62	Basque	BAQ	95	Uighur	UIG
30	Turkish	TUR	63	Dari	PRS	96	Brunei	BRN
31	Armenian	ARM	64	Dzongkha	DZO	97	Singapore	SIN
32	Azerbaijani	AZE	65	Filipino	FIL			

TAIDEN INDUSTRIAL CO., LTD.

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