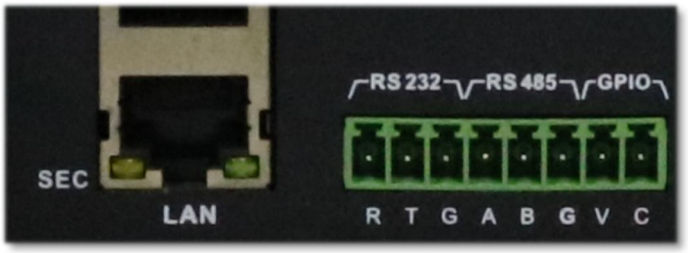
Central control codes

(support NPA23A-NPA43A series)



2023.2.10

RS232/485 connecting configuration

Baud rate:

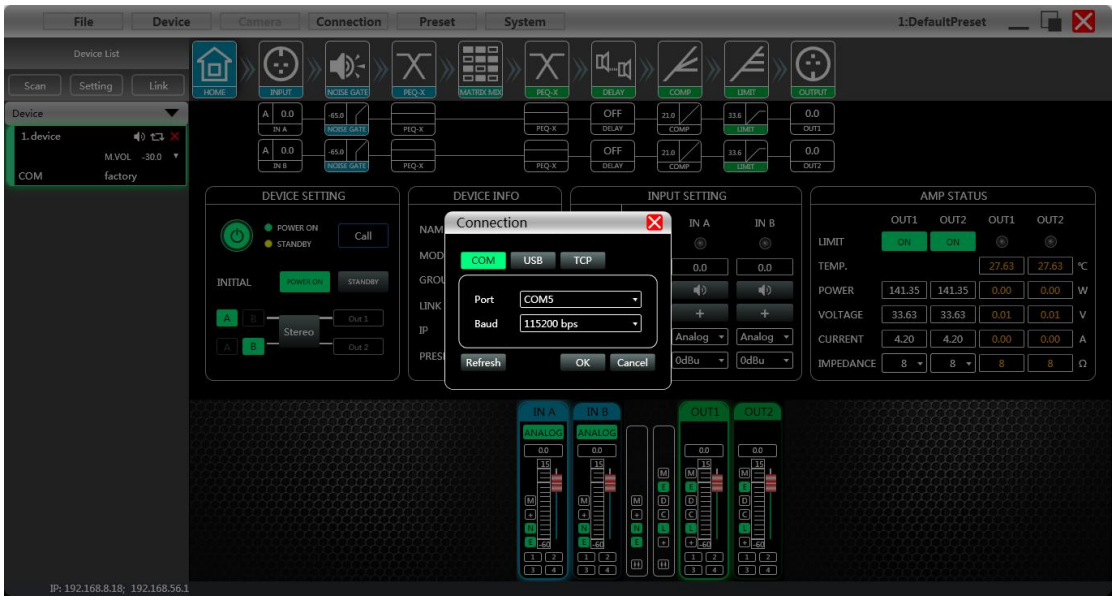
- 115200 bit/s for RS485
- 2400/4800/9600/19200/38400/57600/115200 bit/s for RS232

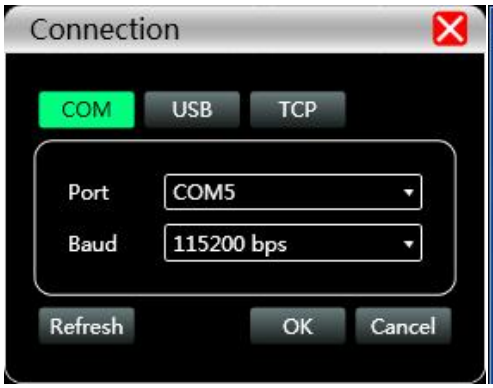
Parity bits: NONE

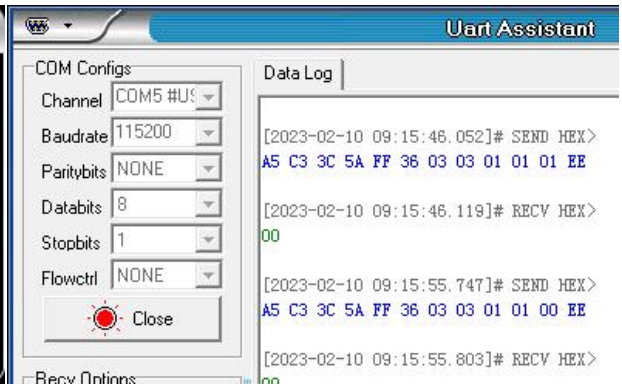
Data bits: 8

Stop bits: 1

Control sending interval: >200ms (when setting for Presets function >3s)

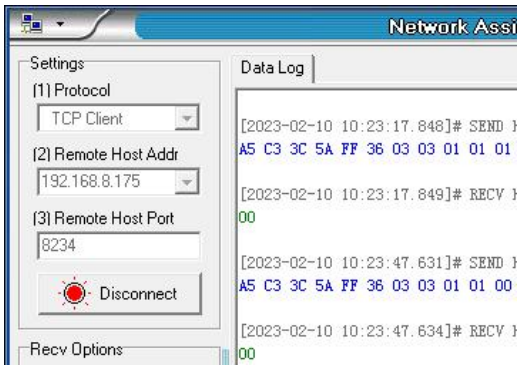






TCP/IP connecting configuration

Transport protocol: TCP client
IP address: refer to IP address information in LCD display, or check it in Mconsole
Network port: 8234
Control sending interval: >200ms (when setting for Presets function >3s)



Regulation of control codes

Send instruction to device

0xA5 0xC3 0x3C 0x5A 0xFF 0x36 0x0? 0x?? 0x?? ... 0x?? 0xEE

feedback code from device:

- 0x00: sending successful
- 0x01: sending failed

Read status of device

0xA5 0xC3 0x3C 0x5A 0xFF 0x63 0x00 0x?? 0x?? ... 0x?? 0xEE

feedback code from device:

- same code as above: sending successful
- 0x01: sending failed

0xA5 0xC3 0x3C 0x5A: start of communication
0xFF: device ID
0x0?: functions code
0x??: data length (byte-sized) from 0x?? ... 0x??
0x?? ... 0x??: data range
0xEE: end of communication

Notice: **hexadecimal** data for sample, using without the prefix "0x", such as:
A5 C3 3C 5A FF 36 00 ?? ... ?? EE

Functions code:

02	Preset	09	Matrix mixing
03	Mute	0A	Camera
04	Volume	0B	Mute in all channels
05	+/- Gain in steps	0C	Volume in all channels
06	Line/Mic input source	0D	Switch of analog/Dante input
07	Phantom 48V	0E	Gains level in each channel
08	AFC	0F	Gains level in all channels

Decimal and hexadecimal digit table

D:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
H:	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
D:	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
H:	10	11	12	13	14	15	16	17	18	19	1A	1B	1C	1D	1E

Scene (presets) (0x02)

Scene (presets) recalling

Recall preset 1 (default of ex)	A5 C3 3C 5A FF 36 02 01 01 EE
Recall preset 2	A5 C3 3C 5A FF 36 02 01 02 EE
Recall preset ...	...
Recall preset 30	A5 C3 3C 5A FF 36 02 01 1E EE

Scene (presets) reading

Read current preset	A5 C3 3C 5A FF 63 02 00 EE

Receiving code description:

A5 C3 3C 5A FF 63 02 01 03 EE means current preset No.3

Mute (0x03)

Mute setting

All output mute	A5 C3 3C 5A FF 36 03 03 02 00 01 EE
All output mute (cancel)	A5 C3 3C 5A FF 36 03 03 02 00 00 EE

Input 1 mute	A5 C3 3C 5A FF 36 03 03 01 01 01 EE
Input 2 mute	A5 C3 3C 5A FF 36 03 03 01 02 01 EE
Input 3 mute	A5 C3 3C 5A FF 36 03 03 01 03 01 EE
Input 4 mute	A5 C3 3C 5A FF 36 03 03 01 04 01 EE

Input 1 mute cancel	A5 C3 3C 5A FF 36 03 03 01 01 00 EE
Input 2 mute cancel	A5 C3 3C 5A FF 36 03 03 01 02 00 EE
Input 3 mute cancel	A5 C3 3C 5A FF 36 03 03 01 03 00 EE
Input 4 mute cancel	A5 C3 3C 5A FF 36 03 03 01 04 00 EE

Output 1 mute	A5 C3 3C 5A FF 36 03 03 02 01 01 EE
Output 2 mute	A5 C3 3C 5A FF 36 03 03 02 02 01 EE
Output 3 mute	A5 C3 3C 5A FF 36 03 03 02 03 01 EE
Output 4 mute	A5 C3 3C 5A FF 36 03 03 02 04 01 EE

Output 1 mute cancel	A5 C3 3C 5A FF 36 03 03 02 01 00 EE
Output 2 mute cancel	A5 C3 3C 5A FF 36 03 03 02 02 00 EE
Output 3 mute cancel	A5 C3 3C 5A FF 36 03 03 02 03 00 EE
Output 4 mute cancel	A5 C3 3C 5A FF 36 03 03 02 04 00 EE

Status of mute reading

Read Input 1 mute status	A5 C3 3C 5A FF 63 03 02 01 01 EE
Read Input 2 mute status	A5 C3 3C 5A FF 63 03 02 01 02 EE
Read Input 3 mute status	A5 C3 3C 5A FF 63 03 02 01 03 EE
Read Input 4 mute status	A5 C3 3C 5A FF 63 03 02 01 04 EE

Read Output 1 mute status	A5 C3 3C 5A FF 63 03 02 02 01 EE
Read Output 2 mute status	A5 C3 3C 5A FF 63 03 02 02 02 EE
Read Output 3 mute status	A5 C3 3C 5A FF 63 03 02 02 03 EE
Read Output 4 mute status	A5 C3 3C 5A FF 63 03 02 02 04 EE

Receiving code description:

A5 C3 3C 5A FF 63 03 03 02 04 **00** EE means Output 4 mute cancel

A5 C3 3C 5A FF 63 03 03 02 04 **01** EE means Output 4 mute

Volume (0x04)

Channel volume setting

Input 1 volume set in -60.0dB	A5 C3 3C 5A FF 36 04 04 01 01 **A8 FD** EE
Input 2 volume set in -60.0dB	A5 C3 3C 5A FF 36 04 04 01 02 A8 FD EE
Input 3 volume set in -60.0dB	A5 C3 3C 5A FF 36 04 04 01 03 A8 FD EE
Input 4 volume set in -60.0dB	A5 C3 3C 5A FF 36 04 04 01 04 A8 FD EE
Output 1 volume set in 12.0dB	A5 C3 3C 5A FF 36 04 04 02 01 **78 00** EE
Output 2 volume set in 12.0dB	A5 C3 3C 5A FF 36 04 04 02 02 78 00 EE
Output 3 volume set in 12.0dB	A5 C3 3C 5A FF 36 04 04 02 03 78 00 EE
Output 4 volume set in 12.0dB	A5 C3 3C 5A FF 36 04 04 02 04 78 00 EE

Remark: 0.1dB in step when calculate

Example 1: if set it -60.0dB, -60.0/0.1=-600

Using excel to calculate low bit: =RIGHT(DEC2HEX(-600,2),2), final value **A8**

Using excel to calculate high bit: ==MID(DEC2HEX(-600,4),LEN(DEC2HEX(600,4))-3,2), final value **FD**

Channel volume value reading

Read Input 1 volume	A5 C3 3C 5A FF 63 04 02 01 01 EE
Read Input 2 volume	A5 C3 3C 5A FF 63 04 02 01 02 EE
Read Input 3 volume	A5 C3 3C 5A FF 63 04 02 01 03 EE
Read Input 4 volume	A5 C3 3C 5A FF 63 04 02 01 04 EE

Read Output 1 volume	A5 C3 3C 5A FF 63 04 02 02 01 EE
Read Output 2 volume	A5 C3 3C 5A FF 63 04 02 02 02 EE
Read Output 3 volume	A5 C3 3C 5A FF 63 04 02 02 03 EE

Read Output 4 volume	A5 C3 3C 5A FF 63 04 02 02 04 EE

Receiving code description:

A5 C3 3C 5A FF 63 04 04 02 04 **EC FF** EE means Output 4 volume is -2.0dB

+/-Gain in step (0x05)

Input all channels gain +1.0dB	A5 C3 3C 5A FF 36 05 04 01 00 00 0A EE
Input all channels gain -1.0dB	A5 C3 3C 5A FF 36 05 04 01 00 01 0A EE

Output all channels gain +1.0dB	A5 C3 3C 5A FF 36 05 04 02 00 00 0A EE
Output all channels gain -1.0dB	A5 C3 3C 5A FF 36 05 04 02 00 01 0A EE

Input 1 gain +1.0dB	A5 C3 3C 5A FF 36 05 04 01 01 00 0A EE
Input 2 gain +1.0dB	A5 C3 3C 5A FF 36 05 04 01 02 00 0A EE
Input 3 gain +1.0dB	A5 C3 3C 5A FF 36 05 04 01 03 00 0A EE
Input 4 gain +1.0dB	A5 C3 3C 5A FF 36 05 04 01 04 00 0A EE

Input 1 gain -1.0dB	A5 C3 3C 5A FF 36 05 04 01 01 01 0A EE
Input 2 gain -1.0dB	A5 C3 3C 5A FF 36 05 04 01 02 01 0A EE
Input 3 gain -1.0dB	A5 C3 3C 5A FF 36 05 04 01 03 01 0A EE
Input 4 gain -1.0dB	A5 C3 3C 5A FF 36 05 04 01 04 01 0A EE

Output 1 gain +1.0dB	A5 C3 3C 5A FF 36 05 04 02 01 00 0A EE
Output 2 gain +1.0dB	A5 C3 3C 5A FF 36 05 04 02 02 00 0A EE
Output 3 gain +1.0dB	A5 C3 3C 5A FF 36 05 04 02 03 00 0A EE
Output 4 gain +1.0dB	A5 C3 3C 5A FF 36 05 04 02 04 00 0A EE

Output 1 gain -1.0dB	A5 C3 3C 5A FF 36 05 04 02 01 01 0A EE
Output 2 gain -1.0dB	A5 C3 3C 5A FF 36 05 04 02 02 01 0A EE
Output 3 gain -1.0dB	A5 C3 3C 5A FF 36 05 04 02 03 01 0A EE
Output 4 gain -1.0dB	A5 C3 3C 5A FF 36 05 04 02 04 01 0A EE

Remark: 0.1dB in step when calculate

Example: if +/-1.0dB, 1.0/0.1=10

Using excel to calculate low bit: =DEC2HEX(10,2),2), final value **0A**

Input sensitive set (0x06)

Input sensitivity setting

Input 1 sensitive set in 12dBu	A5 C3 3C 5A FF 36 06 03 01 00 00 EE
Input 1 sensitive set in 6dBu	A5 C3 3C 5A FF 36 06 03 01 00 01 EE
Input 1 sensitive set in 0dBu	A5 C3 3C 5A FF 36 06 03 01 00 02 EE

Input 2 sensitive set in 12dBu	A5 C3 3C 5A FF 36 06 03 02 00 00 EE
Input 2 sensitive set in 6dBu	A5 C3 3C 5A FF 36 06 03 02 00 01 EE
Input 2 sensitive set in 0dBu	A5 C3 3C 5A FF 36 06 03 02 00 02 EE

Input 3 sensitive set in 12dBu	A5 C3 3C 5A FF 36 06 03 03 00 00 EE
Input 3 sensitive set in 6dBu	A5 C3 3C 5A FF 36 06 03 03 00 01 EE
Input 3 sensitive set in 0dBu	A5 C3 3C 5A FF 36 06 03 03 00 02 EE

Input 4 sensitive set in 12dBu	A5 C3 3C 5A FF 36 06 03 04 00 00 EE
Input 4 sensitive set in 6dBu	A5 C3 3C 5A FF 36 06 03 04 00 01 EE
Input 4 sensitive set in 0dBu	A5 C3 3C 5A FF 36 06 03 04 00 02 EE

Matrix mixing (0x09)

Input - output channels matrix setting

Set matrix Input 1- Output 1 √	A5 C3 3C 5A FF 36 09 03 01 01 01 EE
Set matrix Input 1- Output 2 √	A5 C3 3C 5A FF 36 09 03 01 02 01 EE
Set matrix Input 1- Output 3 √	A5 C3 3C 5A FF 36 09 03 01 03 01 EE
Set matrix Input 1- Output 4 √	A5 C3 3C 5A FF 36 09 03 01 04 01 EE

Set matrix Input 2- Output 1 √	A5 C3 3C 5A FF 36 09 03 02 01 01 EE
Set matrix Input 2- Output 2 √	A5 C3 3C 5A FF 36 09 03 02 02 01 EE
Set matrix Input 2- Output 3 √	A5 C3 3C 5A FF 36 09 03 02 03 01 EE
Set matrix Input 2- Output 4 √	A5 C3 3C 5A FF 36 09 03 02 04 01 EE

Set matrix Input 3- Output 1 √	A5 C3 3C 5A FF 36 09 03 03 01 01 EE
Set matrix Input 3- Output 2 √	A5 C3 3C 5A FF 36 09 03 03 02 01 EE
Set matrix Input 3- Output 3 √	A5 C3 3C 5A FF 36 09 03 03 03 01 EE
Set matrix Input 3- Output 4 √	A5 C3 3C 5A FF 36 09 03 03 04 01 EE

Set matrix Input 4- Output 1 √	A5 C3 3C 5A FF 36 09 03 04 01 01 EE
Set matrix Input 4- Output 2 √	A5 C3 3C 5A FF 36 09 03 04 02 01 EE

Set matrix Input 4- Output 3 √	A5 C3 3C 5A FF 36 09 03 04 03 01 EE
Set matrix Input 4- Output 4 √	A5 C3 3C 5A FF 36 09 03 04 04 01 EE

Set matrix Input 1- Output 1 ×	A5 C3 3C 5A FF 36 09 03 01 01 00 EE
Set matrix Input 1- Output 2 ×	A5 C3 3C 5A FF 36 09 03 01 02 00 EE
Set matrix Input 1- Output 3 ×	A5 C3 3C 5A FF 36 09 03 01 03 00 EE
Set matrix Input 1- Output 4 ×	A5 C3 3C 5A FF 36 09 03 01 04 00 EE

Set matrix Input 2- Output 1 ×	A5 C3 3C 5A FF 36 09 03 02 01 00 EE
Set matrix Input 2- Output 2 ×	A5 C3 3C 5A FF 36 09 03 02 02 00 EE
Set matrix Input 2- Output 3 ×	A5 C3 3C 5A FF 36 09 03 02 03 00 EE
Set matrix Input 2- Output 4 ×	A5 C3 3C 5A FF 36 09 03 02 04 00 EE

Set matrix Input 3- Output 1 ×	A5 C3 3C 5A FF 36 09 03 03 01 00 EE
Set matrix Input 3- Output 2 ×	A5 C3 3C 5A FF 36 09 03 03 02 00 EE
Set matrix Input 3- Output 3 ×	A5 C3 3C 5A FF 36 09 03 03 03 00 EE
Set matrix Input 3- Output 4 ×	A5 C3 3C 5A FF 36 09 03 03 04 00 EE

Set matrix Input 4- Output 1 ×	A5 C3 3C 5A FF 36 09 03 04 01 00 EE
Set matrix Input 4- Output 2 ×	A5 C3 3C 5A FF 36 09 03 04 02 00 EE
Set matrix Input 4- Output 3 ×	A5 C3 3C 5A FF 36 09 03 04 03 00 EE
Set matrix Input 4- Output 4 ×	A5 C3 3C 5A FF 36 09 03 04 04 00 EE

Status of Input - output channels matrix reading

Input 1- Output 1	A5 C3 3C 5A FF 63 09 02 01 01 EE
Input 1- Output 2	A5 C3 3C 5A FF 63 09 02 01 02 EE
Input 1- Output 3	A5 C3 3C 5A FF 63 09 02 01 03 EE
Input 1- Output 4	A5 C3 3C 5A FF 63 09 02 01 04 EE

Input 2- Output 1	A5 C3 3C 5A FF 63 09 02 02 01 EE
Input 2- Output 2	A5 C3 3C 5A FF 63 09 02 02 02 EE
Input 2- Output 3	A5 C3 3C 5A FF 63 09 02 02 03 EE
Input 2- Output 4	A5 C3 3C 5A FF 63 09 02 02 04 EE

Input 3- Output 1	A5 C3 3C 5A FF 63 09 02 03 01 EE
Input 3- Output 2	A5 C3 3C 5A FF 63 09 02 03 02 EE
Input 3- Output 3	A5 C3 3C 5A FF 63 09 02 03 03 EE
Input 3- Output 4	A5 C3 3C 5A FF 63 09 02 03 04 EE

Input 4- Output 1	A5 C3 3C 5A FF 63 09 02 04 01 EE
Input 4- Output 2	A5 C3 3C 5A FF 63 09 02 04 02 EE
Input 4- Output 3	A5 C3 3C 5A FF 63 09 02 04 03 EE
Input 4- Output 4	A5 C3 3C 5A FF 63 09 02 04 04 EE

Receiving code description:

A5 C3 3C 5A FF 63 09 03 04 04 **01** EE means Input 4 - Output 4 connecting √

A5 C3 3C 5A FF 63 09 03 04 04 **00** EE means Input 4 - Output 4 disconnecting ×

Switch of analog/Dante input (0x0D)

Analog/Dante input setting

Input 1 - analog	A5 C3 3C 5A FF 36 0D 02 01 00 EE
Input 2 - analog	A5 C3 3C 5A FF 36 0D 02 02 00 EE
Input 3 - analog	A5 C3 3C 5A FF 36 0D 02 03 00 EE
Input 4 - analog	A5 C3 3C 5A FF 36 0D 02 04 00 EE

Input 1 - Dante	A5 C3 3C 5A FF 36 0D 02 01 01 EE
Input 2 - Dante	A5 C3 3C 5A FF 36 0D 02 02 01 EE
Input 3 - Dante	A5 C3 3C 5A FF 36 0D 02 03 01 EE
Input 4 - Dante	A5 C3 3C 5A FF 36 0D 02 04 01 EE

Status of analog/Dante input reading

Input 1	A5 C3 3C 5A FF 63 0D 01 01 EE
Input 2	A5 C3 3C 5A FF 63 0D 01 02 EE
Input 3	A5 C3 3C 5A FF 63 0D 01 03 EE
Input 4	A5 C3 3C 5A FF 63 0D 01 04 EE

Receiving code description:

A5 C3 3C 5A FF 63 0D 02 04 01 EE means Input 4 is using Dante signal

A5 C3 3C 5A FF 63 0D 02 04 00 EE means Input 4 is using analog signal

Gains level in each channel (0x0E)

Gains level in each channel reading

Input 1	A5 C3 3C 5A FF 63 0E 02 01 01 EE
Input 2	A5 C3 3C 5A FF 63 0E 02 01 02 EE
Input 3	A5 C3 3C 5A FF 63 0E 02 01 03 EE
Input 4	A5 C3 3C 5A FF 63 0E 02 01 04 EE

Output 1	A5 C3 3C 5A FF 63 0E 02 02 01 EE
Output 2	A5 C3 3C 5A FF 63 0E 02 02 02 EE
Output 3	A5 C3 3C 5A FF 63 0E 02 02 03 EE

Output 4	A5 C3 3C 5A FF 63 0E 02 02 04 EE

Receiving code description:

A5 C3 3C 5A FF 63 0E 04 02 04 **EC FF** EE means current gain level in Output 4 is -2.0dB

Gains level in all channels (0x0F)

Gains level in all channels reading

Input 1,2,3,4	A5 C3 3C 5A FF 63 0F 01 01 EE

Output 1,2,3,4	A5 C3 3C 5A FF 63 0F 01 02 EE

Receiving code description:

A5 C3 3C 5A FF 63 0F 05 02 89 FF 0A 00 EE means current gains level in Output 1: -11.9dB, Output 2: 1.0dB.

A5 C3 3C 5A FF 63 0F 09 02 89 FF 0A 00 89 FF 0A 00 EE means current gains level in Output 1: -11.9dB, Output 2: 1.0dB, Output 3: -11.9dB, Output 4: 1.0dB.


A
B
Mute
C
D
SELECT
ESC