MDX 0408

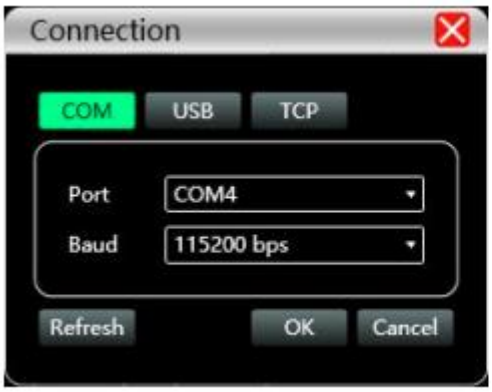
Central Control Codes User Manual

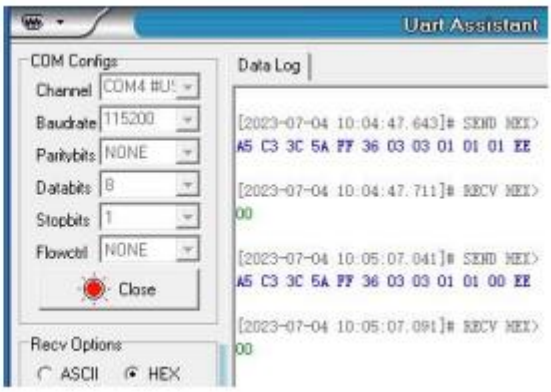
User Manual – Version 1.0

Central control codes user manual:

RS232:

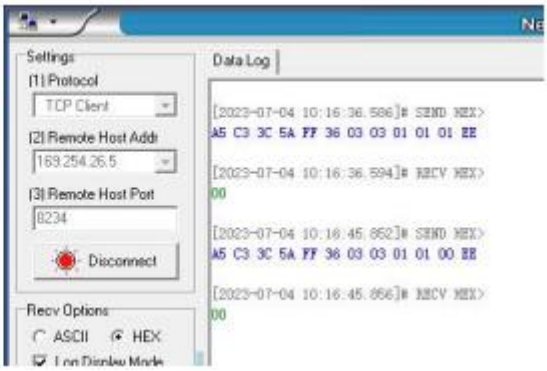
Baudrate:115200 Bit/s
Parity bits: None
Data bits: 8
Stop bits: 1
Control sending Interval >200ms (presets load/save function >3s)





TCP/IP connecting configuration :

Transport protocol: TCP client
IP address: refer to IP address information in LCD display, or check it in Software
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 code
0xFF: device ID
0x0?: functions code
0x??: data length (byte-sized) of 0x?? ... 0x??
0x?? ... 0x??: data (such as input/output, channel No., on/off, etc.)
0xEE: end code

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

Functions code:

02	Scene (presets)	09	Matrix mixing
03	Mute	0D	Switch of analog/Dante/USB audio input
04	Volume and channels gain		
05	+/-Gain in step		
06	Line/Mic level with sensitivity		
07	Phantom +48V		
08	AFC feedback control setting		

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 ...	A5 C3 3C 5A FF 36 02 01 .. EE
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

Feedback code description:

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

Mute (0x03)

Mute setting

All input channels mute	A5 C3 3C 5A FF 36 03 03 01 00 01 EE
All input channels cancel mute	A5 C3 3C 5A FF 36 03 03 01 00 00 EE
All output channels mute	A5 C3 3C 5A FF 36 03 03 02 00 01 EE
All output channels cancel mute	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 .. mute	A5 C3 3C 5A FF 36 03 03 01 .. 01 EE
Input 16 mute	A5 C3 3C 5A FF 36 03 03 01 16 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 .. mute cancel	A5 C3 3C 5A FF 36 03 03 01 .. 00 EE
Input 16 mute cancel	A5 C3 3C 5A FF 36 03 03 01 16 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 .. mute	A5 C3 3C 5A FF 36 03 03 02 .. 01 EE
Output 16 mute	A5 C3 3C 5A FF 36 03 03 02 16 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 .. mute cancel	A5 C3 3C 5A FF 36 03 03 02 .. 00 EE

Output 16 mute cancel	A5 C3 3C 5A FF 36 03 03 02 16 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 .. mute status	A5 C3 3C 5A FF 63 03 02 01 .. EE
Read Input 16 mute status	A5 C3 3C 5A FF 63 03 02 01 16 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 .. mute status	A5 C3 3C 5A FF 63 03 02 02 .. EE
Read Output 16 mute status	A5 C3 3C 5A FF 63 03 02 02 16 EE

Feedback 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 and channels gain (0x04)

Device volume setting

Device main volume set in -60.0dB	A5 C3 3C 5A FF 36 04 04 00 01 A8 FD EE
Device main volume set in -20.0dB	A5 C3 3C 5A FF 36 04 04 00 01 9C FF EE
Device main volume set in ... dB	A5 C3 3C 5A FF 36 04 04 00 01 XX XX EE

Channels gain setting

Input 1 gain set in -60.0dB	A5 C3 3C 5A FF 36 04 04 01 01 A8 FD EE
Input 2 gain set in -60.0dB	A5 C3 3C 5A FF 36 04 04 01 02 A8 FD EE
Input .. gain set in -60.0dB	A5 C3 3C 5A FF 36 04 04 01 .. A8 FD EE
Input 16 gain set in -60.0dB	A5 C3 3C 5A FF 36 04 04 01 16 A8 FD EE

Output 1 gain set in 12.0dB	A5 C3 3C 5A FF 36 04 04 02 01 78 00 EE
Output 2 gain set in 12.0dB	A5 C3 3C 5A FF 36 04 04 02 02 78 00 EE
Output .. gain set in 12.0dB	A5 C3 3C 5A FF 36 04 04 02 .. 78 00 EE
Output 16 gain set in 12.0dB	A5 C3 3C 5A FF 36 04 04 02 16 78 00 EE

Remark: 0.1dB in step when calculate

Example 1: if set volume in -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 device main volume	A5 C3 3C 5A FF 63 04 02 00 00 EE

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 .. volume	A5 C3 3C 5A FF 63 04 02 01 .. EE
Read Input 16 volume	A5 C3 3C 5A FF 63 04 02 01 16 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 .. volume	A5 C3 3C 5A FF 63 04 02 02 .. EE
Read Output 16 volume	A5 C3 3C 5A FF 63 04 02 02 16 EE

Feedback code description:

A5 C3 3C 5A FF 63 04 04 00 00 **AC FE** EE means device main volume is -34.0dB

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 .. gain +1.0dB	A5 C3 3C 5A FF 36 05 04 01 .. 00 0A EE
Input 16 gain +1.0dB	A5 C3 3C 5A FF 36 05 04 01 16 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 .. gain -1.0dB	A5 C3 3C 5A FF 36 05 04 01 .. 01 0A EE
Input 16 gain -1.0dB	A5 C3 3C 5A FF 36 05 04 01 16 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 .. gain +1.0dB	A5 C3 3C 5A FF 36 05 04 02 .. 00 0A EE
Output 16 gain +1.0dB	A5 C3 3C 5A FF 36 05 04 02 16 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 .. gain -1.0dB	A5 C3 3C 5A FF 36 05 04 02 .. 01 0A EE

Output 16 gain -1.0dB	A5 C3 3C 5A FF 36 05 04 02 16 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**

Line/Mic level with sensitivity (0x06)

Mic level with sensitivity setting

Input 1 mic input with sensitivity in 5dB	A5 C3 3C 5A FF 36 06 03 01 00 01 EE
Input 1 mic input with sensitivity in10dB	A5 C3 3C 5A FF 36 06 03 01 00 02 EE
Input 1 mic input with sensitivity in 15dB	A5 C3 3C 5A FF 36 06 03 01 00 03 EE
Input 1 mic input with sensitivity in 20dB	A5 C3 3C 5A FF 36 06 03 01 00 04 EE
Input 1 mic input with sensitivity in 25dB	A5 C3 3C 5A FF 36 06 03 01 00 05 EE
Input 1 mic input with sensitivity in 30dB	A5 C3 3C 5A FF 36 06 03 01 00 06 EE
Input 1 mic input with sensitivity in 35dB	A5 C3 3C 5A FF 36 06 03 01 00 07 EE

Remark:

Sensitivity from 1 to 7 level: 5/10/15/20/25/30/35 dB

Input 1 line input	A5 C3 3C 5A FF 36 06 03 01 01 00 EE
Input 2 line input	A5 C3 3C 5A FF 36 06 03 02 01 00 EE
Input ... line input	A5 C3 3C 5A FF 36 06 03 ... 01 00 EE
Input 16 line input	A5 C3 3C 5A FF 36 06 03 16 01 00 EE

Line/Mic input reading

Input 1	A5 C3 3C 5A FF 63 06 01 01 EE
Input 2	A5 C3 3C 5A FF 63 06 01 02 EE
Input ...	A5 C3 3C 5A FF 63 06 01 ... EE
Input 16	A5 C3 3C 5A FF 63 06 01 16 EE

Feedback code description:

A5 C3 3C 5A FF 63 06 03 **02 00 05** EE means input channel **2** in **Mic level** with **No.5 sensitivity** (25dB)

Phantom +48V (0x07)

Input in Mic level with phantom +48V setting

Input 1 in Mic level open phantom +48V	A5 C3 3C 5A FF 36 07 02 01 01 EE
Input 1 in Mic level close phantom +48V	A5 C3 3C 5A FF 36 07 02 01 00 EE
Input 2 in Mic level open phantom +48V	A5 C3 3C 5A FF 36 07 02 02 01 EE

Input 2 in Mic level close phantom +48V	A5 C3 3C 5A FF 36 07 02 02 00 EE
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Input 16 in Mic level open phantom +48V	A5 C3 3C 5A FF 36 07 02 16 01 EE
Input 16 in Mic level close phantom +48V	A5 C3 3C 5A FF 36 07 02 16 00 EE

Remark: user should effect Mic level before opening or closing 48V phantom

Input in Mic level with phantom +48V reading

Input 1	A5 C3 3C 5A FF 63 07 01 01 EE
Input 2	A5 C3 3C 5A FF 63 07 01 02 EE
Input ...	A5 C3 3C 5A FF 63 07 01 ... EE
Input 16	A5 C3 3C 5A FF 63 07 01 16 EE

Feedback code description:

A5 C3 3C 5A FF 63 07 02 05 00 EE means input channel **5** closed phantom +48V

AFC feedback control setting (0x08)

Input with AFC level setting

Input 1 with AFC level 1	A5 C3 3C 5A FF 36 08 02 01 01 EE
Input 1 with AFC level 2	A5 C3 3C 5A FF 36 08 02 01 02 EE
Input 1 close AFC function	A5 C3 3C 5A FF 36 08 02 01 00 EE
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Remark:

AFC level 1: 01; level 2: 02

AFC close: 00

Input with AFC level reading

Input 1 AFC status reading	A5 C3 3C 5A FF 63 08 01 01 EE
Input 2 AFC status reading	A5 C3 3C 5A FF 63 08 01 02 EE
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Feedback code description:

A5 C3 3C 5A FF 63 08 02 **02 01** EE means input channel **2** opened with AFC level 1

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 ..- Output .. √	A5 C3 3C 5A FF 36 09 03 .. .. 01 EE

Set matrix Input 16- Output 16 √	A5 C3 3C 5A FF 36 09 03 16 16 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 ..- Output .. ×	A5 C3 3C 5A FF 36 09 03 .. .. 00 EE
Set matrix Input 16- Output 16 ×	A5 C3 3C 5A FF 36 09 03 16 16 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 ..- Output ..	A5 C3 3C 5A FF 63 09 02 .. .. EE
Input 16- Output 16	A5 C3 3C 5A FF 63 09 02 16 16 EE

Feedback 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/USB audio input (0x0D)

Analog/Dante/USB audio 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 .. - analog	A5 C3 3C 5A FF 36 0D 02 .. 00 EE
Input 16 - analog	A5 C3 3C 5A FF 36 0D 02 16 00 EE

Input 1 - Dante	A5 C3 3C 5A FF 36 0D 02 01 04 EE
Input 2 - Dante	A5 C3 3C 5A FF 36 0D 02 02 04 EE
Input .. - Dante	A5 C3 3C 5A FF 36 0D 02 .. 04 EE
Input 16 - Dante	A5 C3 3C 5A FF 36 0D 02 16 04 EE

Input 1 - USB audio	A5 C3 3C 5A FF 36 0D 02 01 05 EE
Input 2 - USB audio	A5 C3 3C 5A FF 36 0D 02 02 05 EE

Status of analog/Dante/USB audio 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 ..	A5 C3 3C 5A FF 63 0D 01 .. EE
Input 16	A5 C3 3C 5A FF 63 0D 01 16 EE

Feedback code description:

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

A5 C3 3C 5A FF 63 0D 02 06 00 EE means Input 6 is using analog signal

A5 C3 3C 5A FF 63 0D 02 02 05 EE means Input 2 is using USB audio signal

Av. Saler nº14 Poligono. Ind. L'Alteró. Silla 46460 VALENCIA-SPAIN

Tel: +34 961216301

www.equipson.es