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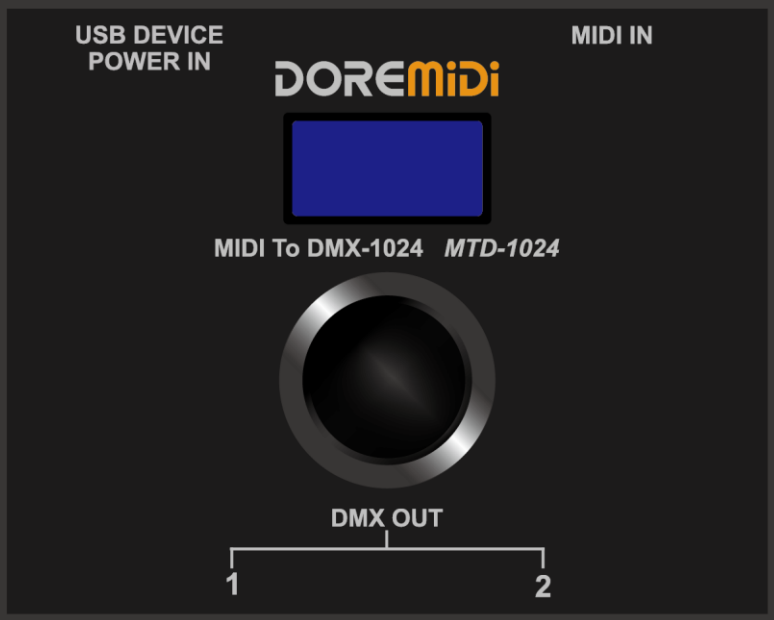
MIDI To DMX BOX
(MTD-1024)

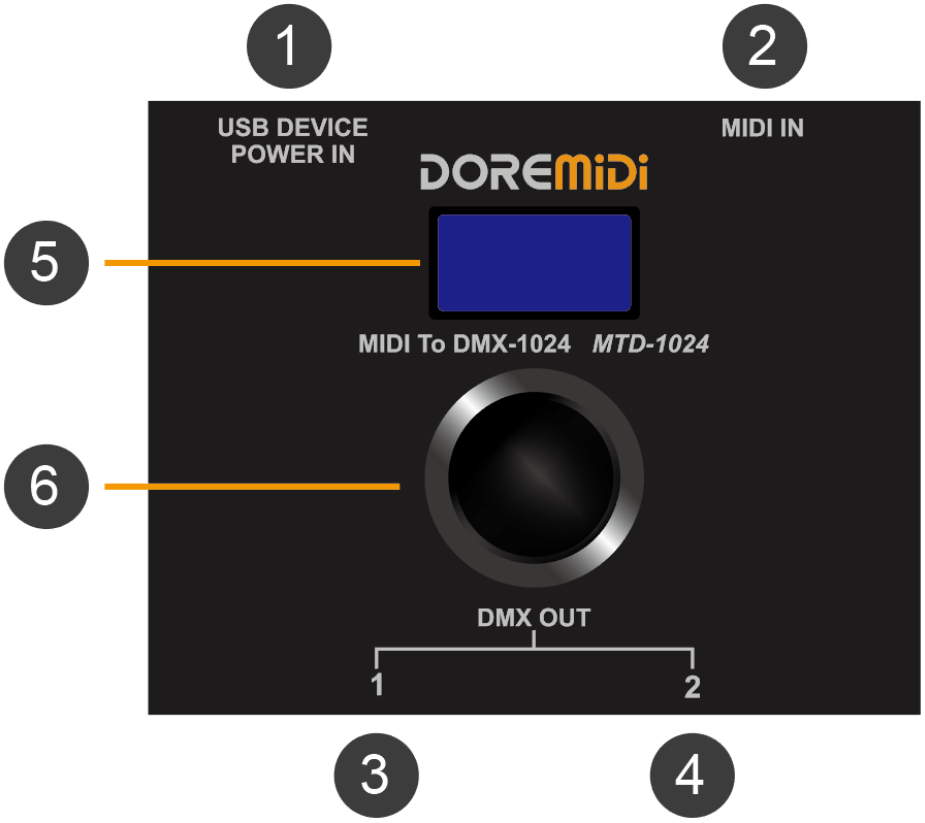


Instruction

1. Introduction

MIDI to DMX controller (MTD-1024) can convert MIDI messages to DMX messages. Supports MIDI Note/CC/After Touch MIDI messages, can map the value of MIDI messages to DMX channels, and can configure up to 1024 DMX channels. MTD-1024 can be used for MIDI performance, DMX lighting control scene.

2. Appearance



❶ USB DEVICE: Product power supply port, power supply voltage 5VDC, current 1A, with USB MIDI function, it can also be connected to computers/mobile phones and other terminals to receive MIDI messages.

❷ MIDI IN: MIDI DIN input port, use a five-pin MIDI cable to connect an instrument with MIDI OUT.

❸ DMX OUT1: DMX output port, connect the device with DMX IN port through 3Pin XLR cable.

❹ DMX OUT2: DMX output port, connect the device with DMX IN port through 3Pin XLR cable.

❺ Display Screen: OLED display screen, showing the working status of MTD-1024.

❻ Knob: Knob with button function, through rotation and click, configure the working of MTD-1024.

3. Product Parameters

Name	Description
Model	MTD-1024
Size (L x W x H)	88*79*52mm
Weight	180g
Supply Voltage	5VDC
Supply Current	
USB MIDI Compatibility	Standard USB MIDI device, compliant with USB class, plug and play.
MIDI IN Compatibility	Built-in high-speed optical isolator, compatible with all MIDI five-pin output interfaces.
DMX Channel	Support 1024 channel configuration, each DMX output port has 512 channels. DMX OUT1: 1~512 DMX OUT2: 513~1024.

4. Steps for usage

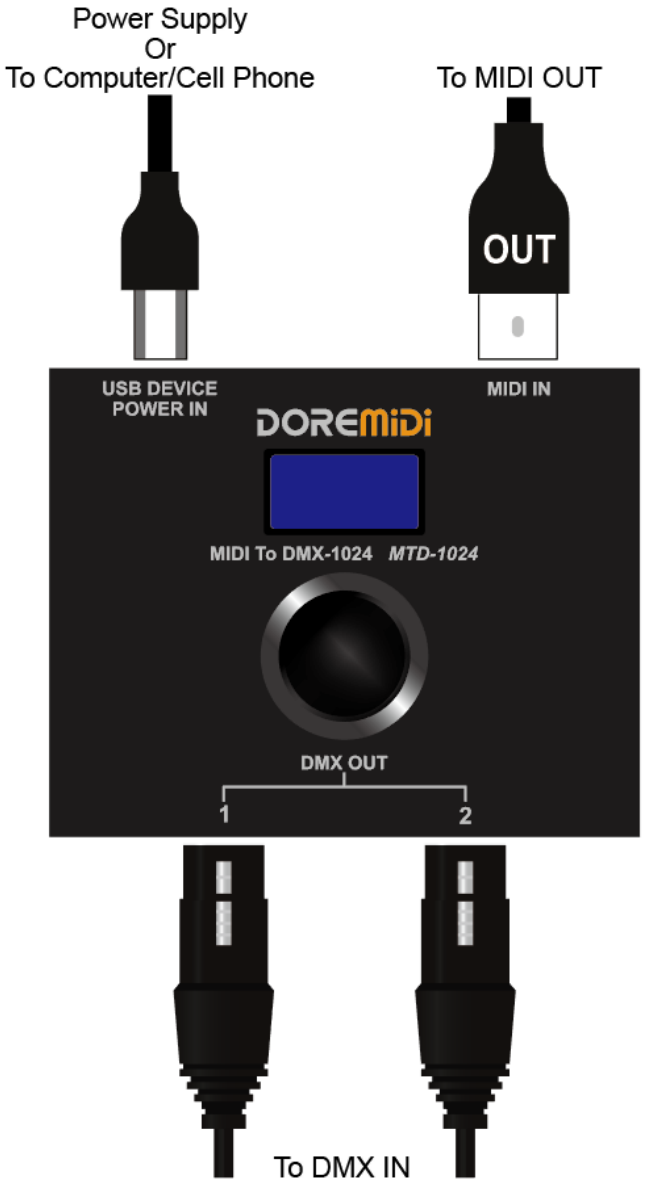
4.1. Power supply

- Supply power to the product through the USB port, support 5VDC/1A power supply input.

4.2. Connect

- Connect MIDI five-pin instrument: Connect the MIDI IN of the product to the MIDI OUT of the instrument through a MIDI five-pin cable.
- Connect to computer/mobile phone: If playing MIDI messages via software, it can be connected to a computer/mobile phone via USB.

  (Note: The mobile phone needs to have OTG function, and different mobile phone interfaces need to be connected through an OTG converter.)
- Connect DMX device: Connect DMX OUT1 and DMX OUT2 to the input port of DMX devices through 3Pin XLR cable.



4.3. Configure MIDI to DMX

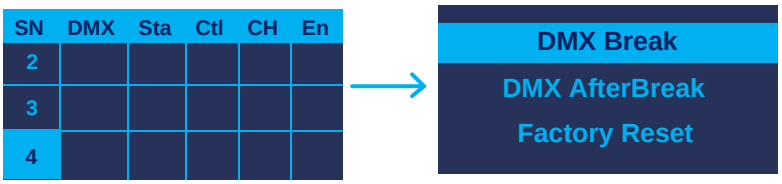
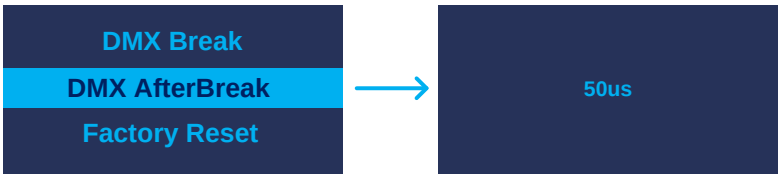
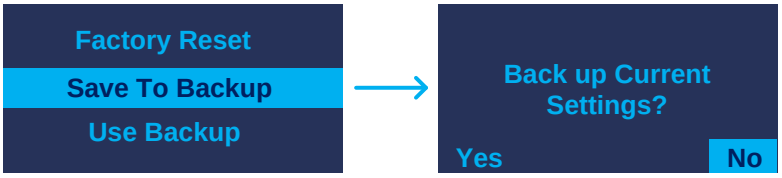
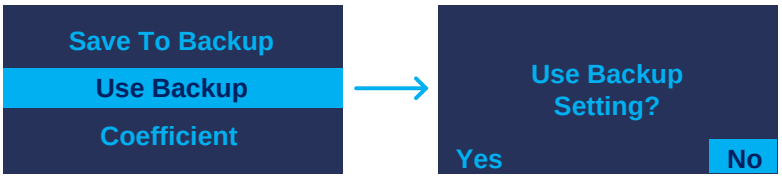
- Click the knob to select SN / DMX / Sta / Ctl / CH / En / Fix / Fad / Tog, and rotate the knob to set parameters. After setting, the received MIDI message value 0~127 will output the corresponding DMX channel value 0~255, that is, DMX value = MIDI value x 2.01 (the coefficient defaults to 2.01 and can be changed). As shown in the table:

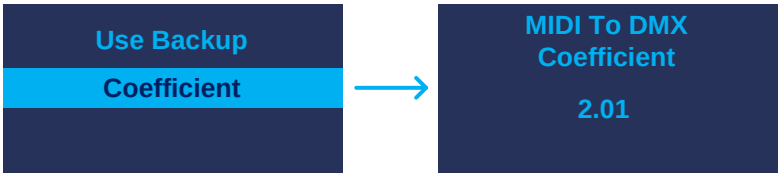
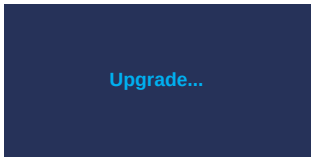
SN	DMX	Sta	Ctl	CH	En	Fix	Fad	Tog
1	2	Note	0	All	0	0	0	0
2								
3								

Display	Name	Description
SN	**Serial Number**	Display and configure the parameters of the current serial number. Parameter range: 1~1024
DMX	**DMX Channel**	Configure the DMX channel. Parameter range: 1~1024. DMX OUT1: 1~512 DMX OUT2: 513~1024.(The output is DMX channel 1~512)
Sta	**MIDI Status**	Configure the MIDI status byte. Parameter range: Note/AT/CC. Note: MIDI Notes, DMX channel value = MIDI note velocity value x2.01. CC: MIDI Continuous Controller, DMX channel value = MIDI controller value x 2.01. AT: MIDI After Touch, DMX channel value = MIDI AfterTouch value x2.01.
Ctl	**MIDI Controller/Note Number**	Configure MIDI controller/note numbers. Parameter range: 0~127. When Sta = Note/AT, Ctl is the note number. When Sta = CC, Ctl is the controller number.
CH	**MIDI Channel**	Configure MIDI channels for MIDI messages. Parameter range: All, 1~16, default All. All: Means to respond to messages on all MIDI channels.
En	**Enable switch**	Configure to enable the parameters of this serial number (**SN**). 1: enable. 0: disable enable.
Fix	**Fixed DMX Value**	Set the fixed output DMX value. When a MIDI message is received, DMX outputs a fixed value. Parameter range: 0~255; 0: Turn off fixed conversion. 1~255: Output DMX value;
Fad	**DMX Fade out**	After the fade-out function is turned on, when the DMX channel output is turned off, the DMX value gradually decreases to 0. Parameter range: 0~50 0: Turn off gradient. 1~50: Set the fade-out speed. The larger the value, the faster the fade-out.
Tog	**DMX Toggle**	After turning on the toggle function, the DMX output will be turned on when the MIDI value is received for the first time, and the DMX output will be turned off when the MIDI value is received for the second time. 1: enable. 0: Disable enable.

Note: ①A new serial number will only be added after the existing serial number has been configured. ②Select a serial number, press and hold the knob for 2 seconds, and the configuration content of the serial number will be cleared.

- Other operations

Name	Description
System Settings	Rotate the knob to the last serial number, press and hold the knob for 2 seconds to enter the **DMX Break/DMX After Break/Factory Reset** system setting. 
DMX Break Time	Turn the knob, click **DMX Break**, enter the DMX Break time setting, turn the knob to set the DMX Break time, click the knob to save. Parameter range: 100~1000us, default 100us. 
DMX After Break Time	Turn the knob, click **DMX After Break**, enter DMX After Break time setting, turn the knob to set DMX Break time, click the knob to save. Parameter range: 50~510us, default 100us. 
Save To Backup	Rotate the knob and click Save To Backup to back up the current MIDI to DMX configuration to prevent accidental touch. 
Use Backup	Turn the knob and click Use Backup to use the backed-up MIDI to DMX configuration. 
Coefficient	Rotate the knob and click Coefficient to set the MIDI to DMX conversion coefficient, that is, DMX value = MIDI value x Coefficient. Parameter range: 2/2.01/3/4/5, default 2.01.

	
Factory Reset	Turn the knob, click Factory Reset, enter the factory reset interface, turn the knob to select Yes/No, click the knob. 
Enter Firmware Upgrade	Press and hold the knob, then power on the product, the product will enter the upgrade mode. **(Note: Please pay attention to the official website notification, if there is a firmware update.)** 

Note: In order to be compatible with more DMX receivers, MTD-1024 can set the DMX Break time, so that some slower DMX receivers can also be used normally. If you find that your DMX receiver receives wrong DMX signal, or does not receive DMX signal, please try to adjust DMX Break time and After Break time.

- **For example:**

If you want to control the DMX channel 1 with C4, MTD-1024 configuration is as follows:

SN	DMX	Sta	Ctl	CH	En
1	1	Note	60	All	1
2					
3					

Note: DMX devices often require multiple DMX channels to control, please refer to the instruction manual configuration of the DMX device.

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Note Name & MIDI Note Number Table

Note Name										A0	A#1/Bb1	B0
MIDI Note Number										21	22	23
Note Name	C1	C#1/Db1	D1	D#1/Eb1	E1	F1	F#1/Gb1	G1	G#1/Ab1	A1	A#1/Bb1	B1
MIDI Note Number	24	25	26	27	28	29	30	31	32	33	34	35
Note Name	C2	C#2/Db2	D2	D#2/Eb2	E2	F2	F#2/Gb2	G2	G#2/Ab2	A2	A#2/Bb2	B2
MIDI Note Number	36	37	38	39	40	41	42	43	44	45	46	47
Note Name	C3	C#3/Db3	D3	D#3/Eb3	E3	F3	F#3/Gb3	G3	G#3/Ab3	A1	A#3/Bb3	B3
MIDI Note Number	48	49	50	51	52	53	54	55	56	57	58	59
Note Name	C4	C#4/Db4	D4	D#4/Eb4	E4	F4	F#4/Gb4	G4	G#4/Ab4	A4	A#4/Bb4	B4
MIDI Note Number	60	61	62	63	64	65	66	67	68	69	70	71
Note Name	C5	C#5/Db5	D5	D#5/Eb5	E5	F5	F#5/Gb5	G5	G#5/Ab5	A1	A#5/Bb5	B5
MIDI Note Number	72	73	74	75	76	77	78	79	80	81	82	83
Note Name	C6	C#6/Db6	D6	D#6/Eb6	E6	F6	F#6/Gb6	G6	G#6/Ab6	A6	A#6/Bb6	B6
MIDI Note Number	84	85	86	87	88	89	90	91	92	93	94	95
Note Name	C7	C#7/Db7	D7	D#7/Eb7	E7	F7	F#7/Gb7	G7	G#7/Ab7	A7	A#7/Bb7	B7
MIDI Note Number	96	97	98	99	100	101	102	103	104	105	106	107
Note Name	C8											
MIDI Note Number	108											

Note: Due to different habits, some users will fall by one octave (that is, C4 = 48), please determine the MIDI notes according to your actual use.

MIDI value & DMX value Table

- MIDI to DMX coefficient: Coefficient = 2.01 (can be changed to other values).
- The formula of MIDI value corresponding to DMX value is: MIDI value*2.01 = DMX value (ignore the data after the decimal point).
- When the MIDI value range is 0~99, the DMX value is exactly twice the MIDI value 0~198.
- When the MIDI value ranges from 100 to 127, the DMX value is twice the MIDI value+1 of 201 to 255.

(Note: The MIDI value is MIDI note velocity value/MIDI CC controller value/MIDI aftertouch value, which is determined by the configured Sta parameter.)

MIDI Value	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
DMX Value	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38
MIDI Value	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
DMX Value	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78
MIDI Value	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59
DMX Value	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110	112	114	116	118
MIDI Value	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
DMX Value	120	122	124	126	128	130	132	134	136	138	140	142	144	146	148	150	152	154	156	158
MIDI Value	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
DMX Value	160	162	164	166	168	170	172	174	176	178	180	182	184	186	188	190	192	194	196	198
MIDI Value	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119
DMX Value	201	203	205	207	209	211	213	215	217	219	221	223	225	227	229	231	233	235	237	239
MIDI Value	120	121	122	123	124	125	126	127												
DMX Value	241	243	245	247	249	251	253	255												

4.4. Upload/download configuration parameters

Users can configure MIDI to DMX parameters according to different application scenarios. And save the configured parameters as a file for quick configuration next time.

- **Preparation**

  Operating environment: Windows7 or above system.

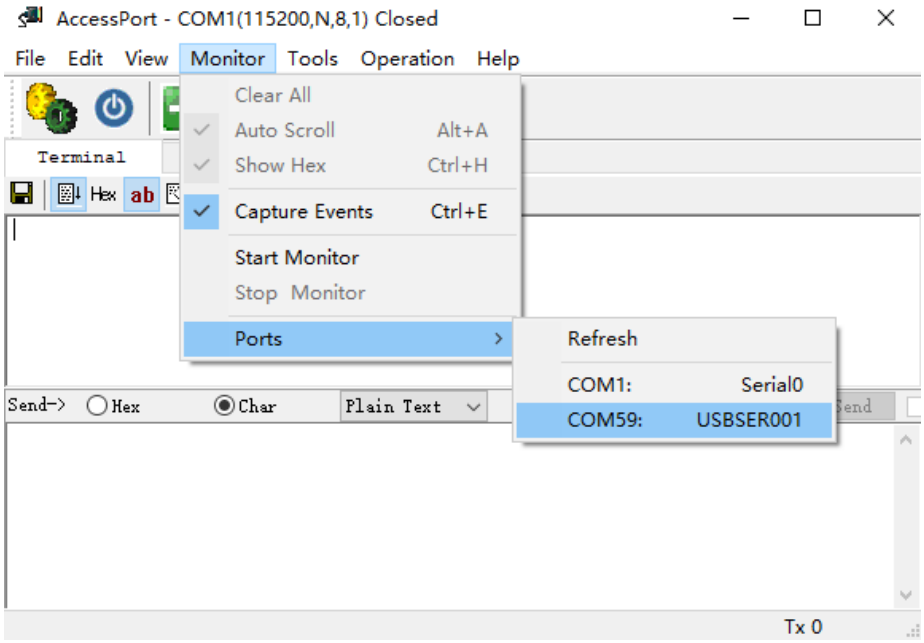
  Software: Download the "AccessPort.exe" software. (Download from www.doremidi.cn)

  Connection: Connect the USB Device port of MTD-1024 to the computer.

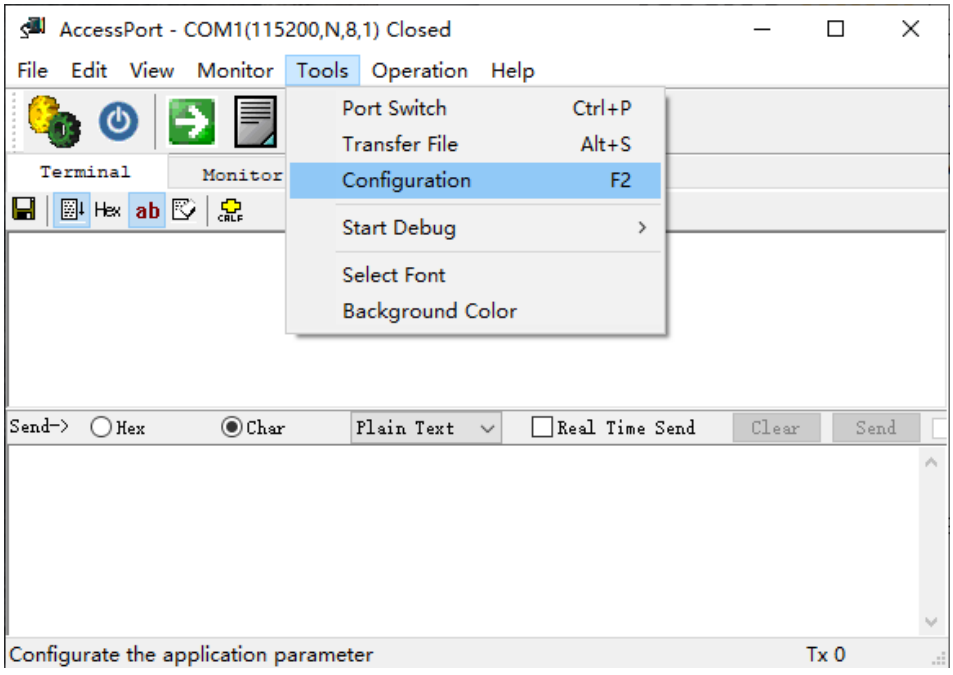
- **Configuring the COM port**

  Open the "AccessPort.exe" software, select "Monitor→Ports→COMxx", as shown in the figure:

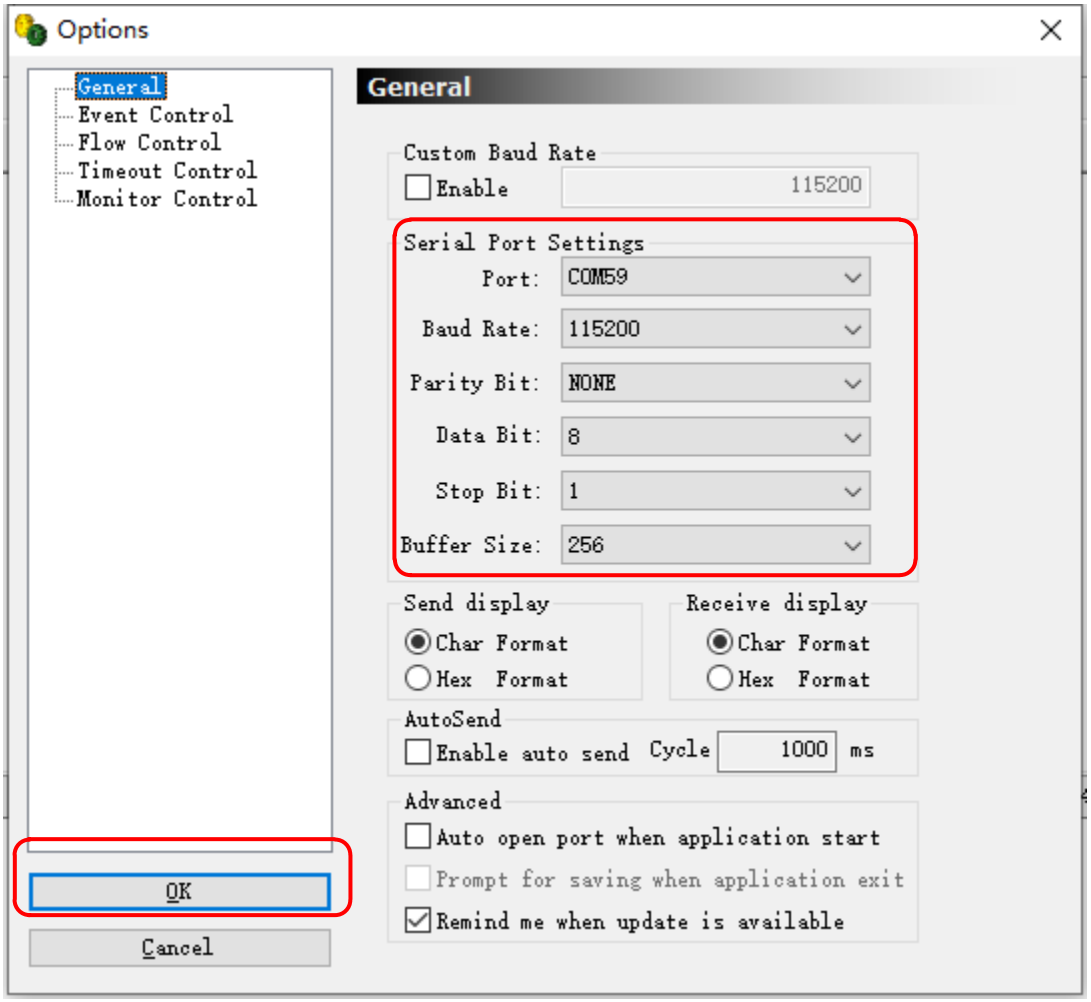
  (Note: The COM names of different computers are different, please choose according to the actual situation.)



Select "Tools→Configuration", as shown in the figure:

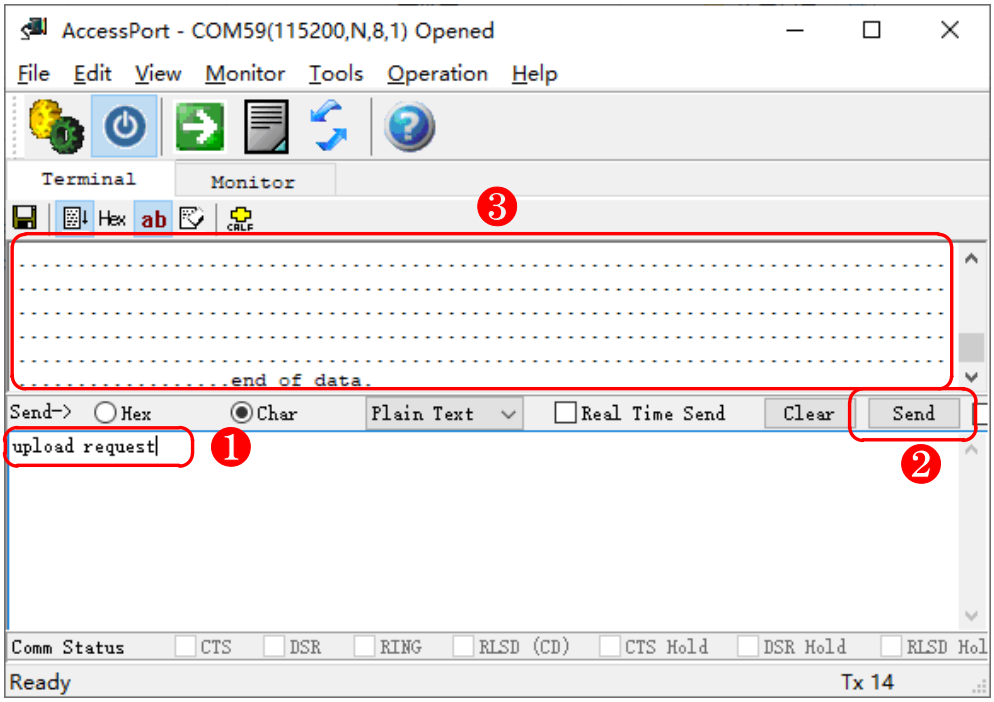


Select "General", configure COM port parameters and click "OK", as shown in the figure:

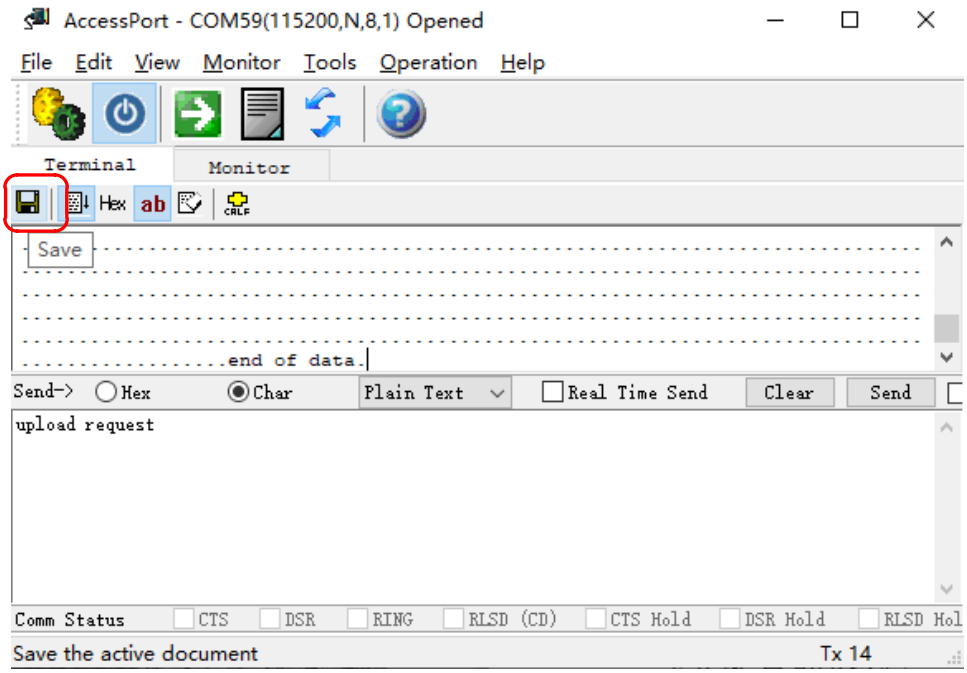


- **Upload configuration parameters**

Enter "upload request" in the software, click "Send", and you will receive "...end of data." as shown in the figure:

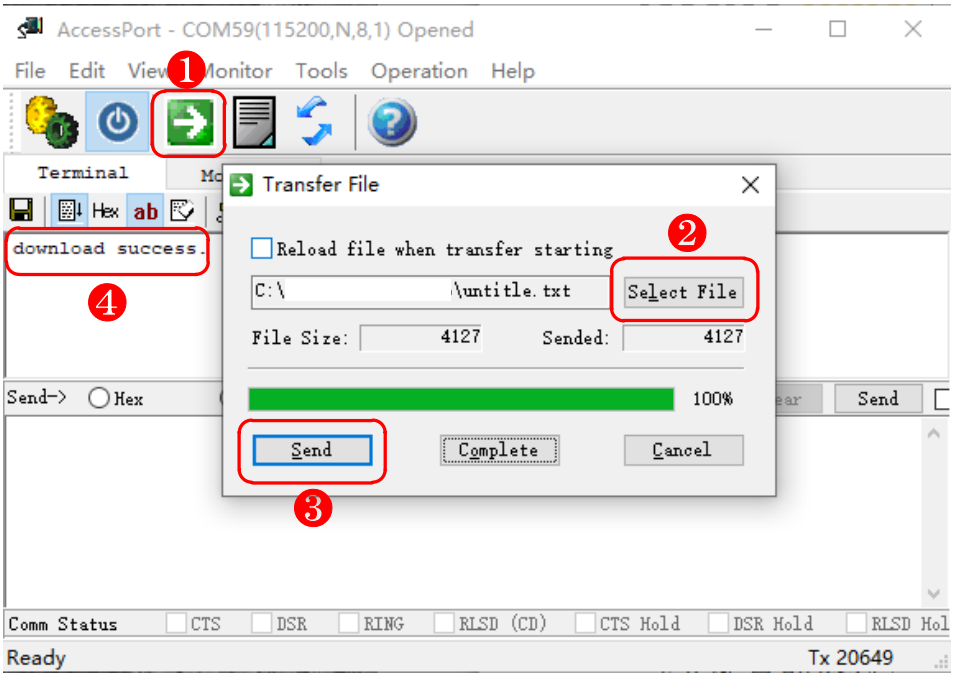


Click "Save" to save the data as a .txt file, as shown in the figure:



- **Download configuration parameters**

Select "Transfer File→Select File→Send", and receive "download success." after sending successfully, as shown in the figure:



5. Precautions

1) This product contains a circuit board.
2) Rain or immersion in water will cause the product to malfunction.
3) Do not heat, press, or damage internal components.
4) Non-professional maintenance personnel shall not disassemble the product.
5) If the product is disassembled or damaged by improper use, the warranty is not available.

6. Questions & Answers

1) Question: The USB Device port cannot connect to the phone.

   Answer: Please confirm whether the mobile phone has the OTG function first, and it has been turned on.

2) Question: The USB Device port cannot be connected to the computer.

   Answer:

- After confirming the connection, whether the screen displays "USB Connected".
- Confirm whether the computer has a MIDI driver. Generally speaking, the computer comes with a MIDI driver. If you find that the computer does not have a MIDI driver, you need to install the MIDI driver. The installation method: https://windowsreport.com/install-midi-drivers- pc/

3) Question: MIDI IN does not work properly

   Answer: Make sure the "MIDI IN" port of the product is connected to the "MIDI OUT" port of the instrument.

4) Question: "AccessPort.exe" software cannot find the COM port.

   Answer:

- Please confirm that the USB Device port of MTD-1024 has been connected to the computer, and MTD-1024 has been powered.
- Please try to connect to another USB port of the computer.
- Please select another COM port in the "AccessPort.exe" software.
- Please try to install the USB COM driver. Virtual COM Port Driver V1.5.0.zip

If it cannot be resolved, please contact customer service.

Manufacturer: Shenzhen Huashi Technology Co., Ltd.

Address: Room 910, Jiayu Building, Hongxing Community, Songgang Street, Baoan District, Shenzhen, Guangdong, China

Post Code: 518105

Customer Service Email: info@doremidi.cn