

美格信
U 983/U 982/U 910/U 980
蓝牙指令集
MegaSig
U 983/U 982/U 910/U 980
Bluetooth CMD

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串口通讯参数

串口通讯参数	
波特率	921600 （U980/U982 默认该采样率、U910/U983 则默认 115200）
数据位	8
奇偶性	None
停止位	1.0
流控制	None
终止符号	\n

串口指令（注：下表中‘\s’代表空格，Hex 为 20，‘\r\n’代表回车换行，Hex 为 0D0A）

名称	发送	反馈	备注
读取固件属性	>SYS_INFO_GET=?\r\n	>SYS_INFO_GET=MegaSig U980 FirmwareV1.3.16	内容包括型号和固件版本
通过蓝牙地址码连接被测物	>CONN=28371317B0E4\r\n	Waiting Connect Waiting Connect DEVICE=1C52166B436E NAME=QCY-QY19 APTX A2DP	连接成功后，默认打开 A2DP，打通 Speaker 的通路
打开 A2DP	>OPEN A2DP\r\n	OK PAIREDA2DP	自动关闭 HFP，打通 Speaker 的通路
打开 HFP	>OPEN HFP\r\n	OK PAIREDHFP mSBC 48k or CVSD 48k	1) 自动关闭 A2DP，打通麦克风的通路； 2) mSBC 代表产品支持宽带； 3) CVSD 代表产品仅支持窄带
断开连接 Disconnect	>DISC\r\n	OK SYS_START IDLE	需断开已有蓝牙连接，才能进行下一次连接
重置连接板 Reset	>RST\r\n	OK SYS_START IDLE	
搜索蓝牙地址 Search	>SEARCH=5\r\n	DEVICE=1C52166B436E RSSI=-76 NAME=QCY-QY19 CLASS=240414	搜索到周围的蓝牙地址为“1C52166B436E”、RSSI 强度值、耳机名称、耳机 COD 类型
停止搜索	>SEARCH STOP\r\n	OK	一旦开启搜索，需发送停止搜索指令
查询当前状态	>STATUS\r\n	IDLE Or PAIREDA2DP Or PAIREDHFP	

名称	发送	反馈	备注
开始读取 RSSI	>START RSSI UPLOAD\r\n	RSSI=-73	返回 RSSI 值
停止读取 RSSI	>STOP RSSI UPLOAD\r\n	OK	
设置默认音量（后两位是音量大小，最大为 15）	>A2DP_DEFAULT_VOL=15\r\n	OK	设置默认音量后，需要发送 Reset 指令，或者对设备进行断电重启
设置搜索时的 COD	>COD_SET=000400\r\n	OK	改变 COD 的值，将对蓝牙设备搜索范围进行限定，还包括设备本身的 COD 的值，不建议修改
获取已设的 COD	>COD_GET=?\r\n	>COD_GET=000400	
自动搜索并连接	>NO_MAC_CON\r\n	Waiting Connect Waiting Connect DEVICE=1C52166B436E NAME=QCY-QY19 APTX A2DP	不需要通过地址码进行连接，当同时开启的耳机数量较多时，容易误连，建议使用屏蔽箱
通过蓝牙地址码连接被测物，并开始 SPP 协议连接	>SPP_CONN=00025B00A5 A5\r\n 地址码要大写	Waiting Connect Waiting Connect DEVICE=00025B00A5A5 NAME=CSR8675 >SPP_CONNECT	
查询当前 dongle 记忆保存的 SPP 端口号	>SPP_CH_GET=?\r\n	>SPP_CH_GET=2\r\n	代表当前 Remote Channel 为 2，以该端口号发起 SPP 连接

名称	发送	反馈	备注
SPP 连接之前设置 SPP Remote Channel	>SPP_CH_SET=4\r\n or >SPP_CH_SET=88\r\n	OK	1) 设置 dongle 的 SPP 通道，范围为 0-99；设置后自动记忆保存，下次使用同一个 Channel 号可不用重复设置； 2) 固件 V1.3.14 以上版本支持该指令； 3) 固件 V1.3.25 以上版本可设置端口号为-1，用 >SPP_CH_GET=?\r\n 查询指令，会返回>SPP_CH_GET=999\r\n，代表使用耳机定义的端口，即耳机 Rfcomm Server 属性定义的端口号
通过 SPP 向被测物发送信息	>SPP_SEND=发送数据		如使用 U980/U982 连接 SPP，可不需加“>SPP_SEND=”直接发送数据透传
获取被测物通过 SPP 发送的信息		>SPP_RECV=上报数据	接收的过程是被动的，需要实时监测串口内的数据；如使用 U980/U982，其回复内容为透传无“>SPP_RECV=”
自定义设置 SPP UUID	>SPP_CH_SET=-5, CH,UUID	OK 或者 指令格式有误，串口回复 ERROR 信息；	1) CH 需为两位数，-1 代表跟随耳机通道，05 代表连接 5 号通道； 2) UUID 需为 32 位数，譬如可设置为标准的 0000110100001000800000 805F9B34FB； 3) 设置后不记忆保存，DISC 后恢复默认，即需每次 SPP 连接前设置； 4) dongle 新版本支持自定义 16 个字节的 UUID 和 SPP 通道设置（U 982 48 版本以上，U 980 61 版本以上） 5) 举例： 发>SPP_CH_SET=-5,-1, 0000110100001000800000 805F9B34FB 代表设置标准 UUID 且 SPP 通道跟着耳机

名称	发送	反馈	备注
SPP 断开连接	>SPP_CLOSE	SppDisconnectCfm, spp_disconnect_success	单独断开 spp, dongle 不会重启, 蓝牙也不会断开
连接后设置 Speaker 音量	>SET_VOL=10\r\n	OK	音量需为两位数字 00-15
获取 U983 运行模式	>MODE_GET=?\r\n	>MODE_GET=SPDIF Or >MODE_GET=USB	代表 SPDIF 接口模式, 可外接 Optical or Coaxial 信号 Or 运行 USB 声卡模式, 用于 PC WDM 或者 ASIO4All 驱动调用
设置 U983 运行模式	>MODE_SET=1\r\n Or >MODE_SET=2\r\n	OK USB_MODE or OK SPDIF_MODE	代表已设置为 USB 声卡模式 Or 代表已切换为 SPDIF 模式
获取已连接的蓝牙产品名称和地址	>GET_CONN_INFO\r\n	DEVICE=1C52166B436E NAME=QCY-QY19	蓝牙连接成功后, 该指令才有效
获取连接编码	>GET A2DP\r\n	APT X A2DP	蓝牙连接成功后, 该指令才有效
重置 A2DP 音频, 获取 A2DP 编码采样率	>A2DP_AUDIO_RESET\r\n	SUSPEND_OK RESUME_OK SAMPLE_RATE=48000	蓝牙连接成功后, 该指令才有效
获取 Link Key	>GET_CUR_LINK_KEY\r\n	LINK_KEY=567023c1a4b958373dfd291b9371b861	1) 蓝牙连接成功后, 该指令才有效; 2) U980-V1.3.36/U982-V1.2.17 以上版本支持该指令
发送 HFP AT 指令	>AT_CMD=Command (例如, Command 为 "AT+NTC=?")	举例, 产品可如下回复: AT+NTC=1,180	1) 蓝牙连接成功后, 该指令才有效; 2) U980-V1.3.36/U982-V1.2.18 以上版本支持该指令
设置音频流的打开或者关闭	>AUDIO_SET=0\r\n	AUDIO_SUSPEND	0:断开所有音频流 1:打开所有音频流 2:断开A2DP音频流 3:打开A2DP音频流 4:重启A2DP音频流 5:断开HFP音频流 6:打开HFP音频流 7:重启HFP音频流 8:模拟手机按下暂停键

名称	发送	反馈	备注
只打开耳机的 SCO 音频传输，不通知其进入通话模式	>NO MAKE CALL	OK	U980-V1.3.45 和 U982-V1.2.29版本之后支持 (需在切换hfp指令之前发送)
模拟手机来电	>MAKE CALL\r\n	OK	
模拟手机接听	>ANSWER CALL\r\n	OK	
模拟手机挂断	>CANCEL CALL\r\n	OK	
获取发射功率	>TX_GET=?\r\n	>TX_GET=4\r\n	4代表4dBm
设置发射功率	>TX_SET=X\r\n	OK\r\n	其中X代表一位数字，范围0-7 0代表-20dBm 1代表-16dBm 2代表-12dBm 3代表-8dBm 4代表-4dBm 5代表0dBm 6代表4dBm 7代表8dBm
获取已使用或关闭的连接协议	>PROFILE_GET=X\r\n	A2DP ENABLED/DISABLED Or HFP ENABLED/DISABLED Or AVRCP ENABLED/DISABLED	X 可为 0-2，分别代表 A2DP/HFP/AVRCP 协议的状态
启用或者关闭需连接的协议	>PROFILE_SET=X&S\r\n	DISABLE/ENABLE A2DP Or DISABLE/ENABLE HFP Or DISABLE/ENABLE AVRCP	X 可为 0-2，分别代表 A2DP/HFP/AVRCP 协议；S 可为 0 或者 1，分别代表关闭或者启用
发送 AVRCP 命令	>AVRCP_CMD_SET=DATA	AVRCP_SUCCESS	1) 发送 AVRCP PASSTHROUGH 指令给产品； 2) DATA 需为十六进制命令，且不能多于 12 个字节； 3) U980-V1.3.35/U982-V1.2.16 以上版本支持该指令

名称	发送	反馈	备注
获取更新的电量值	>BATT\r\n	BAT=7 (表示 80%电量) Or POWER=68 (表示 68%电量)	1) 获取更新的电量值; 2) 正常情况, 电量在第一次连接成功后上报; 3) U980-V1.3.39/U982-V1.2.21 以上版本支持该指令
修改串口波特率	>BAUD_RATE_SET=X\r\n	OK	1) X 为 3 代表设置为 921600, X 为 0 则代表 115200; 2) 在当前正常通讯的波特率下发送该指令, 返回 OK; 3) 设置后必须插拔 USB 重新上电或者发送>RST\r\n, 才能生效; 4) U980/982 才支持修改
设置 HFP 窄带模式	>mSBC_ENABLED=0\r\n	OK	1) 每一次连接蓝牙之前需发送这条指令; 2) 断开蓝牙连接后该指令失效, 默认宽带优先, 除非产品不支持
获取蓝牙编码和连接优先级	>GET_CODEC_INFO=1	>GET_APTX_ENBALE=1	与>SET_CODEC_INFO设置一样

名称	发送	反馈	备注
设置蓝牙编码连接优先级	>SET_CODEC_INFO=1&1	APTX_ENBALE=1 OK	0:SBC 1:APTX 2:APTX LL 3:APTX HD 后缀分别是0（关闭）和1（开启） 例如 >SET_CODEC_INFO=3&1 就代表打开APTX HD编码 4:SBC 5:APTX 6:APTX LL 7:APTX HD 后缀则是对应采样率， 例如 >SET_CODEC_INFO=7&2 ，2是16进制数，对应二进制为0010，48k对应最后一个数字0，代表不启用。 8:SBC 的声道设置（原理同上） 当设置成 >SET_CODEC_INFO=14&F\r\n Joint Stereo: 1 Stereo:1 Dual Channel:1 Mono:1 9:音质先后顺序 >SET_CODEC_INFO=9&4 &3&2&1\r\n SBC\APTX\APTXLL\APTXHD is 4\3\2\1

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Serial Communication Parameters

Serial communication parameters	
Baud Rate	21600 (U980/U982 default to this sampling rate, U910/U983 default to 115200)
Data Bits	8
Parity	None
Stop Bits	1.0
Flow Control	None
Termination Char	\n

Serial Port Commands

(Note: In the table below, '\s' represents a space, with Hex code 20, and '\r\n' represents a carriage return and line feed, with Hex code 0D0A)

Item	Send	Receive	Note
Read firmware properties	>SYS_INFO_GET=?\r\n	>SYS_INFO_GET=MegaSig U980 Firmware V1.3.16	The content includes model and firmware version
Connect to the device under test via Bluetooth address code	>CONN=28371317B0E4\r\n	Waiting Connect Waiting Connect DEVICE=1C52166B436E NAME=QCY-QY19 APTX A2DP	After successful connection, A2DP is turned on by default, establishing a connection to the Speaker
Open A2DP	>OPEN A2DP\r\n	OK PAIREDA2DP	Automatically disable HFP and establish a connection to the Speaker
Open HFP	>OPEN HFP\r\n	OK PAIREDHFP mSBC 48k or CVSD 48k	1) Automatically disable A2DP and enable the microphone path; 2) mSBC stands for products that support broadband; 3) CVSD represents products that only support narrowband
Disconnect	>DISC\r\n	OK SYS_START IDLE	Disconnect the current Bluetooth connection before establishing a new one.
Reset connection board	>RST\r\n	OK SYS_START IDLE	
Search Bluetooth address	>SEARCH=5\r\n	DEVICE=1C52166B436E RSSI=-76 NAME=QCY-QY19 CLASS=240414	Found nearby Bluetooth device with address "1C52166B436E", RSSI strength value, headphone name, headphone COD type

Item	Send	Receive	Note
Stop search	>SEARCH STOP\r\n	OK	Once the search is initiated, a stop search command must be sent.
Check current status	>STATUS\r\n	IDLE Or PAIREDA2DP Or PAIREDHFP	
Start upload RSSI	>START RSSI UPLOAD\r\n	RSSI=-73	Return RSSI value
Stop upload RSSI	>STOP RSSI UPLOAD\r\n	OK	
Set Set default volume (last two digits represent the volume level, the maximum value of 15).	>A2DP_DEFAULT_VOLUME=15\r\n	OK	After setting the default volume, you need to send a Reset command, or power off and restart the device
Set the COD during search	>COD_SET=000400\r\n	OK	Changing the COD value will limit the search range of Bluetooth devices, and it also includes the COD value of the device itself, which is not recommended to be modified
Retrieve the set COD	>COD_GET=?\r\n	>COD_GET=000400	
Automatically search and connect	>NO_MAC_CONNECT\r\n	Waiting Connect Waiting Connect DEVICE=1C52166B436E NAME= QCY-QY19 APT X A2DP	Connection via address code is not recommended. When multiple headphones are powered on simultaneously, it may easily lead to accidental connections. It is advisable to use a shielded enclosure.
Connect to the device under test via Bluetooth address code and initiate a SPP protocol connection	>SPP_CONN=00025B00A5A5\r\n The address code must be in uppercase letters.	Waiting Connect Waiting Connect DEVICE=00025B00A5A5 NAME=CSR8675 >SPP_CONNECT	
Query the SPP port number currently stored in the dongle's memory	>SPP_CH_GET=?\r\n	>SPP_CH_GET=2\r\n	Represents that the current Remote Channel is 2, Initiate an SPP connection using this port number

Item	Send	Receive	Note
Settings before SPP connection SPP Remote Channel	>SPP_CH_SET=4\r\n or >SPP_CH_SET=88\r\n	OK	1) Set the SPP channel of the dongle within the range of 0-99; the settings will be automatically saved and remembered, so you don't need to set it again for the same Channel number next time; 2) Versions of firmware above V1.3.14 support this command; 3) For firmware versions V1.3.25 and above, the port number can be set to -1. Using the >SPP_CH_GET=?\r\n query command will return >SPP_CH_GET=99\r\n, indicating the use of the port defined by the headset, which is the port number defined in the Rfcomm Server attribute of the headset
Send information to the test object through SPP	>SPP_SEND= Send data		If U980/U982 is used to connect to SPP, there is no need to add ">SPP_SEND=" to directly send data passthrough
Get the information sent by the test object through SPP		>SPP_RECV= Report data	The receiving process is passive, requiring real-time monitoring of data within the serial port; if using U980/U982, the reply content is transparent transmission without ">SPP_RECV="

Item	Send	Receive	Note
Custom Settings SPP UUID	>SPP_CH_SET=-5, CH,UUID	OK Or The instruction format is incorrect, and the serial port replies with an ERROR message;	1) CH should be a two-digit number, where -1 indicates to follow the headphone channel, and 05 indicates to connect to channel 5; 2) The UUID should be 32 bits long, and can be set to a standard value such as 0000110100001000800000805F9B34FB; 3) The settings are not saved after being set, and the default settings are restored after DISC, meaning that settings need to be made before each SPP connection; 4) The new version of the dongle supports customization of a 16-byte UUID and SPP channel settings (for versions U 982 48 and above, and U 980 61 and above) 5) Example: Send >SPP_CH_SET=-5,-1, 0000110100001000800000805F9B34FB represents the standard UUID for table settings, and the SPP channel is associated with the headset
SPP disconnect	>SPP_CLOSE	SppDisconnectCfm, spp_disconnect_success	Disconnecting spp alone will not cause the dongle to restart, nor will it disconnect Bluetooth
Set the volume of the Speaker after connection	>SET_VOL=10\r\n	OK	The volume should be a two-digit number between 00 and 15
Get the operation mode of U983	>MODE_GET=?\r\n	>MODE_GET=SPDIF Or >MODE_GET=USB	It represents the SPDIF interface mode, which can be connected to an external Optical or Coaxial signal, or run in USB sound card mode for PC WDM or ASIO4All driver calls

Item	Send	Receive	Note
Set U983 operating mode	>MODE_SET=1\r\n Or >MODE_SET=2\r\n	OK USB_MODE or OK SPDIF MODE	representative has been set to USB sound card mode Or has switched to SPDIF mode
Get the name and address of the connected Bluetooth product	>GET_CONN_INFO\r\n	DEVICE=1C52166B436E NAME=QCY-QY19	This command becomes effective only after a successful Bluetooth connection
Get connection code	>GET A2DP\r\n	APT X A2DP	This command becomes effective only after a successful Bluetooth connection
Reset A2DP audio and obtain A2DP encoded sampling rate	>A2DP_AUDIO_RESE T\r\n	SUSPEND_OK RESUME_OK SAMPLE_RATE=48000	This command becomes effective only after a successful Bluetooth connection
Get Link Key	>GET_CUR_LINK_KEY\r\n	LINK_KEY=567023c1a 4b958373dfd291b9371b861	1)This command becomes effective only after a successful Bluetooth connection 2)Versions U980-V1.3.36 and U982-V1.2.17 and above support this command
Send HFP AT command	>AT_CMD=Command (For example, Command is “AT+NTC=?”)	For example, the product can respond as follows: AT+NTC=1,180	1)This command becomes effective only after a successful Bluetooth connection 2)Versions U980-V1.3.36 and U982-V1.2.18 and above support this command

Item	Send	Receive	Note
Set the audio stream to be opened or closed	>AUDIO_SET=0\r\n	AUDIO_SUSPEND	0: Disconnect all audio streams 1: Open all audio streams 2: Disconnect A2DP audio stream 3: Open A2DP audio streaming 4: Restart A2DP audio stream 5: Disconnect HFP audio stream 6: Open HFP audio streaming 7: Restart HFP audio stream 8: Simulate pressing the pause button on a mobile phone
Only enable SCO audio transmission for the headphones, without notifying them to enter call mode	>NO MAKE CALL	OK	Versions U 980-V1.3.45 and U 982-V1.2.29 and above support this command (It needs to be sent before switching the HFP command)
Simulate a phone call	>MAKE CALL\r\n	OK	
Simulate answering a phone call	>ANSWER CALL\r\n	OK	
Simulate phone hang-up	>CANCEL CALL\r\n	OK	
Get the transmitting power	>TX_GET=?\r\n	>TX_GET=4\r\n	4 represents 4dBm
Set transmitting power	>TX_SET=X\r\n	OK\r\n	Where X represents a digit, ranging from 0 to 7 0 represents -20dBm 1 represents -16dBm 2 represents -12dBm 3 represents -8dBm 4 represents -4dBm 5 represents 0dBm 6 represents 4dBm 7 represents 8dBm

Item	Send	Receive	Note
Get the enabled or disabled connection protocols	>PROFILE_GET=X\r\n	A2DP ENABLED/DISABLED Or HFP ENABLED/DISABLED Or AVRCP ENABLED/DISABLED	X can be 0-2, representing the status of A2DP/HFP/AVRCP protocols respectively
Enable or disable the protocol to be connected	>PROFILE_SET=X&S\r\n	DISABLE/ENABLE A2DP Or DISABLE/ENABLE HFP Or DISABLE/ENABLE AVRCP	X can be 0-2, representing the A2DP/HFP/AVRCP protocols respectively; S can be 0 or 1, representing disabled or enabled respectively
Send AVRCP command	>AVRCP_CMD_SET=D ATA	AVRCP_SUCCESS	1) Send the AVRCP PASSTHROUGH command to the product; 2) DATA must be a hexadecimal command and cannot exceed 12 bytes; 3) Versions U980-V1.3.35 and U982-V1.2.16 and above support this command
Get updated battery level value	>BATT\r\n	BAT=7 (Indicating 80% battery level) Or POWER=68 (Indicating 68% battery level)	1) Get updated battery level value 2) Under normal circumstances, the battery level is reported after the first successful connection; 3) Versions U980-V1.3.39 and U982-V1.2.21 and above support this command

Item	Send	Receive	Note
Modify the serial port baud rate	>BAUD_RATE_SET=X\r\n	OK	1) X=3 sets the baud rate to 921600, while X=0 sets it to 115200; 2) When this command is sent at the currently active communication baud rate, "OK" will be returned. 3) After setting, the configuration will take effect only after unplugging and replugging the USB, powering it on again, or sending >RST\r\n; 4) Only U980/982 supports modification
Set HFP narrowband mode	>mSBC_ENABLED=0\r\n	OK	1) This command needs to be sent before each Bluetooth connection; 2) The command becomes invalid after the Bluetooth connection is disconnected. The default priority is wideband mode, unless the product does not support it
Get Bluetooth encoding and connection priority	>GET_CODEC_INFO=1	>GET_APTX_ENBALE=1	Same as the >SET_CODEC_INFO setting.

Item	Send	Receive	Note
Set Bluetooth encoded connection priority	>SET_CODEC_INFO=1 &1	APTX_ENBALE=1 OK	0:SBC 1:APTX 2:APTX LL 3:APTX HD suffixes of 0 (off) and 1 (on) respectively. For example, >SET_CODEC_INFO=3&1 represents enabling APTX HD encoding 4:SBC 5:APTX 6:APTX LL 7:APTX HD suffix corresponds to the sampling rate, For example , >SET_CODEC_INFO=7&2 , 2 is a hexadecimal number, corresponding to the binary number 0010. 48k corresponds to the last digit 0, indicating that it is not enabled. 8: Sound channel setting of SBC (principle as above) When set to >SET_CODEC_INFO=14&F\r\n Joint Stereo: 1 Stereo:1 Dual Channel:1 Mono:1 9: Sound quality order >SET_CODEC_INFO=9&4&3&2&1\r\n SBC\APTX\APTXLL\APTXHD is 4\3\2\1

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