AT-09 COMMANDS LIST

INTRODUCTION:

List of AT-09 CTFZ54182 ZS-040 clone Bluetooth AT Commands that actually work and observations made:

Command description	Host Transmit AT Command (String in ASCII)	Response (String in ASCII)
Request operating status of the device	AT\r\n	If device is working and operating correctly, it will respond back with the following string: OK\r\n
Request to get the Name of the Bluetooth device	AT+NAME\r\n	• The device will respond back with the following: o +NAME=<device current name>/r/n
Set a Name for the Bluetooth device	AT+NAME<whatever name you want to give>\r\n E.g., AT+NAMECenyCNC1\r\n *<u>NOTE:</u> Max characters/name length is 12.*	• If the device was able to set the requested name successfully, it will respond back with: o +NAME=<whatever name you requested>\r\n o OK\r\n E.g., o +NAME=CenyCNC1\r\n o OK\r\n
Set a Role on the device	• To set the device to Slave mode (peripheral): o AT+ROLE0\r\n • To set the device to master mode (Central): o AT+ROLE1\r\n	If device was set to Slave mode (peripheral), it will respond with: E.g., o +ROLE=0/r/n If the device has set to master mode (Central), it will respond with: E.g.,

		o +ROLE=1\r\n
Get the role of a device	AT+ROLE\r\n	The device will respond back with the following: o +ROLE=<current device role>\r\n • For example, if device is master mode: o +ROLE=1\r\n • For example, if device is peripheral mode: o +ROLE=0\r\n
Set a new pin code	AT+PIN<whatever pin code you want to set>\r\n For example: AT+PIN123456\r\n	If the device has set the requested pin code, then it will respond with: o +PIN=<whatever pin code you requested to set>\r\n o OK/r/n E.g., o +PIN=123456\r\n o OK\r\n
Get current pin code	AT+PIN\r\n	The device will respond back with the following: o +PIN=<current device pin code> \r\n • For example, if device is master mode: o +PIN=123456\r\n
Set module bond mode (i.e., enable or disable pin code request for bonding process)	• To disable requesting Pin Code for bonding: o AT+TYPE0\r\n • To enable requesting Pin Code for bonding: o AT+TYPE1\r\n	• After request for disabling Pin Code for bonding, if setting request was successful, then the device will respond with: o +TYPE=0\r\n o OK\r\n • After request for enabling Pin Code for bonding, if setting request was successful, then the device will respond with: o +TYPE=1\r\n o OK/r/n
Request getting currently set bond mode (i.e., request if pin code request for bonding process is set)	AT+TYPE\r\n	• If requesting Pin Code for bonding is currently disabled, then the device will respond back with the following: o +TYPE=0\r\n • If requesting Pin Code for bonding is currently enabled, then the device will respond back with the following: o +TYPE=1\r\n

Requesting device to reset (this is used to apply any requested settings change on the device)	AT+RESET\r\n	• If the device processes the resets command successfully, then it will respond back with the following: o OK/r/n
Setting a desired Baud Rate with the Bluetooth device's UART	AT+BAUD<identifier for the desired baud rate> Where: • 0 = Didn't tested, but probably invalid too. • 1 = Invalid • 2 = Invalid • 3 = 4800 baud rate • 4 = 9600 baud rate Where identified 4 (i.e., 9600 baud rate) is the default factory value. However, an external source I found claimed that the following values are also valid in this device: • 5 = 19'200 baud rate • 6 = 38'400 baud rate • 7 = 57'600 baud rate • 8 = 115'200 baud rate	

<u>IMPORTANT-NOTE:</u> Supposedly, from someone that bought this device in Amazon USA, that person mentioned in his review that these other AT Commands also work:

** AT+INQ*

** AT+CONN*

** AT+HELP*

** AT+LADDR*

** AT+DEFAULT (+NAME=BT05, +PIN=123456, +BAUD=4, +POWE=3, +SLEEP:OFF, +ROLE=0)*

** AT+POWE*

** AT+SLEEP*

** AT+UUID*

** AT+CHAR*

** AT+VERSION*

Where the following do not work at all and will always return error:

- AT+ADDR

- AT+RENEW

- AT+STATE

- AT+PWRM

- AT+PARI

- AT+STOP

- AT+SHOW

- AT+IMME

- AT+START

Because of the previous note and in consideration of the default configuration settings of the AT-09 BLE Device, the UART configuration settings with which this device can work with are the following:

- Parity mode = No Parity only.
- Data bits = 8 only.
- Stop-bit = 1 only.
- Baud rate = 4800, 9600, 19200, 38400, 57600 and 115200 only.

<u>NOTE:</u> If you don't send anything on the device for some time (this time is unknown for me yet), then the device will sort of enter into a sleep mode and, whenever you send a new command to it, you might need to send the command 2 times to the device.

Initialization commands to configure the BLE device as a peripheral:

1. AT+RENEW (Only if genuine HM-10)
2. AT+NAMECenyCNC1\r\n
3. AT+ROLE0\r\n
4. AT+PIN123456\r\n
5. AT+TYPE1\r\n
6. AT+RESET\r\n

After that, the BLE Device starts advertising itself to other BLE Devices. However, once it starts advertising itself, then bond it with an external Bluetooth device.

Then, whatever ASCII code you send over the UART from the MCU/MPU with which you connected that UART to, then the external device will receive that data.

NOTE: The data that can be sent from the MCU/MPU to the external device connected to the Bluetooth module has no limits.

Conversely, whatever ASCII code you send from the external device to the Bluetooth device, then the MCU/MPU will receive via the UART with which it is connected to that Bluetooth device.

NOTE: The data that can be received is 18 ASCII character codes at the most at a time. Therefore, if you wish to send more data from the external device to our MCU/MPU, you will have to send them in parts of 18 ASCII character codes max per part.

IMPORTANT-NOTE: The "EN" pin of the HM-10 clone device does not work.

HOW TO DISCONNECT THE AT-09 MODULE FROM A BONDED PROCESS AND MAKE IT RECOGNIZE AT COMMANDS AGAIN:

The only way I was able to force the AT-09 CTFZ54182 ZS-040 clone Bluetooth to disconnect from a bonded process and to also, at the same time, to recognize AT Commands again, was to disconnect the VCC cable to de-energize the BLE device and to then reconnect that VCC cable.