

BTM110, BTM160 and BTM180 are same features module. BTM110 and BTM180 have same dimension, but BTM180 built in a Meander Line PCB antenna. BTM110 and BTM160 without built in antenna, but BTM160 is mini size dimension.

For different f/w, the last code will be different; ex. BTM-112 is with SPP f/w.

Are the UART_RTS and UART_CTS implemented in firmware? They do not seem to work. I filled the buffer of the connected party and CTS was still 0, meaning I should keep sending characters

RTS/CTS are used for hardware flow control.

PIO(4) was implemented for button input.

By pressing the Reset button, you can:

1. Disconnect and reconnect a wireless connection (after a short press).
2. Restore the factory settings (after over three seconds' press).

BTM-112

We use AT command to control this device via UART.

Q: I can only find some abstract datasheet not mentioning anything about SPI or the PIO-ports.

A: The SPI interface is used only for firmware downloading. It can't be used as a communication interface.

Baud rate reset:

Please just hold PIO4 to high for 3 seconds, and then the baud rate will be restored default setting (19200bps).

By the way, I can't make sure if the AT commands can be accepted when the baud rate is over to 460.8Kbps.

The module support RFCOMM,SDP protocols, and with SPP functionality.

If you would like to implement special functionality on host microcontroller by RFCOMM,OBEX,SDP protocols commands, then you should choose HCI module rather than BTM-112.

BTM-112 's commands are described in datasheet, it's without OBEX feature.

BTM-182

Are there application notes or more detailed descriptions of the pins? ans: in datasheet.

Is there a description of the firmware? Which pins are used by the firmware – and in which way? ans: described in datasheet and at command set.

Does the firmware support DSR, DTR, CD and RI lines? ans: current version is no support, but could be customized.

Is the SPI used by the firmware? ans: yes. Can I use it for setup? ans: no

BTM-220 BTM-222 command question

Q: I can not get the command "ATF?" working.

A: Please Disable AUTO CONNECTING-----ATO1, then ATF will available

Q: I am interested in higher data rates than indicated by "ATL" command L8 (921.6Kbps), i.e., data rates supported by UART. Is it possible and how to receive these data rates for Bluetooth connection?

A: As soon as you configure a higher data rate (more 921.6K), then the AT command will be unacceptable once more. You can use lower baud rate to complete the necessary configuration then switch to higher data rate for Bluetooth connection. If you can accept the scenario, then we can

provide a special version for your test.

Q: Does USB connection requires any firmware or it is enough to connect any USB host?

A: USB connection is just used by firmware update, it can't be used for application.

Q: We have bought a BTM-222 Bluetooth module, and we are evaluating it. Unfortunately, we have configured it with a speed of 230400bps (ATL6). The BTM-222 has saved this parameter.

Now, the PC can't communicate with the module anymore, the PC can handle max. 115200bps.

Even after a power off-on, the module stays @ 230400bps and we can't send any command to it.

1.) Is there any solution to boot the module with the factory settings (19200bps), when no command can be sent to it?

A.: You can pull PIO(4) to high for 3 seconds, that can restore default baudrate(19200bps)

2.) We would like to use the PCM audio functions. Is there a special command?

A: BTM222 don't support audio functions, the PCM audio functions need be customized. The

BTM-222 is based on BTM-220 hardware which has PCM interface to connect to external codec.

However, the BTM-222 firmware is dedicated for SPP profile (data communication). It doesn't have control on PCM interface. That is, PCM never works under BTM-222's firmware.

3.) Are the GPIO accessible by the user, or are they only for the status LEDs?

A: The GPIO accessible by the user need be customized.

4.) Is the SPI port accessible, and how, which rate?

A. SPI only are used for test purpose, we can't open it for user.

Q: "We have a question with regarding to the BTM-222 bluetooth module. When sending the AT command to the BTM-222, what is the minimum delay period in between each of the character command? We have been trying to send a whole string of AT command to the BTM-222, but it couldn't respond to the AT command, seems like there is a minimum delay needs in between each of the AT character command"

A: Every AT command should follow a "CR" character, and the first character will be ignored once the device enter sleep mode.

One solution was to send a "CR" character before AT command to wake up the device. When the device is master role and disable auto connecting, it will enter sleep mode after one minute no character input.

The predetermined minimum delay period is 30~50ms

Q: I put wrong command ? ATZ2 and it completely lost communication (unknown usart mode /speed parameters etc). Is there hardware "reset or restore to defaults" in case of such problems and errors, or what should i do.

I need simple way to reset these modules to known values, when it acts like this.

A: In order to process that issue such as customer mentioned in the mail, We define a key behavior on PIO4 of our module. When the key was pressed for 3 seconds, the device will restore the factory COM port settings (such as UART baud rate, parity, stop bit, data bit, flow control), and this key is high active.

ATZx command is used to restore the settings and reboot. As I know, we just have the definition of ATZ0 and ATZ1 so far.

If the device pairs with another bluetooth device then enter the connection mode, it will exit from command mode to data mode.

Q: Is it possible to deactivate the escape sequence?

A: Please disable the escape sequence "+++" by command "atx0"

Q: To use auto connection mode?

A: 1. master and slave, the pin code should be the same.
2. master side configure atd=XXX, which "xxx" means remote slave address
3. slave side configure atd=XXX, which "xxx" means remote master address
4. master side configure ato0, then they will automatically connect .

Q: can you give me some more details to the current consumption in the Hold, Sniff, Park and Deep sleep mode? Mean and peak current consumption would be nice.
How can I get into one of the low power modes.
Can you tell me how long is the boot time?

A: Mean current consumption :
No connection : 1.8---2mA,
Connected but no data transfer : 5--6mA, transmitting/receiving data:25--28mA.
Inquiring/paging scan:60--63mA.

Regarding Hold, Sniff, Park , please refer to Bluetooth specification.
It's only implement Sniff mode in BTM-222 boot time : no more than 2 seconds

According to our typical test condition, the latency is 18ms. If you can close ATX on your application, that will be faster.
Send "ATX0" command could close ATX.

BTM-160

We usually provide standard firmware for each model.
BTM-160 support HCI (Host Control Interface). It's not a profile. Customer should have their own firmware.

BTM-162 support SPP

For the SPP option: The link is point to point piconet.
ATN command can reprogram the name.

BTM-330

BTM330 only can be configured the GPIOs, it can not be programmed.
And the GPIOs status can't be sent over BT on this module.
BTM-330 是個 HCI module, 可以當 USB or UART dongle.
BTM-340 (BTM-330 cost down version) 也是 HCI module, 只能當 USB dongle 使用. 請看 updated datasheet.

Q BTM-112 problems for SPP connection

1. Echo characters are sent back to host after 25ms. Is is normal?
2. How can I switch to data mode from command mode? 'ATO0' and 'ATO' commands are followed by 'ERROR' response.

Answer:

1. 25ms is the normal latency time for BTM-112 to response the echo back.
2. ATO is the command dedicated to master device. And it can be asserted only when the BT

connection is built up.

- A SPP connection needs one MASTER device to pair with the other SLAVE device.
- You can switch the BT device between MASTER or SLAVE roles by ATR command.
- The SPP connection can be built up by MASTER device, who initiate the search command:

ATF?

When SPP slave devices are found and listed at the window of HyperTerminal, then give ATA# to specify which slave device you want to connect. (# means 1 or 2 or 3.....)

-- After SPP connection is built up, you can now use ATO command at MASTER device to switch between command mode and data mode.

A: 1. It's normal

2. Switch command("ATO") is only available when it was online connection.

EDR mode, RF power and programmable in/out lines are not field programmable. These items are programmed at factory only and, of course, they are set according to customer's requirements. It is done by changing the program code of the module which is based on a CSR's software development platform.

Q: In this documents I can't find the baudrate for data transfer with uart.
HCI application, the default baud rate is 38400 bauds

Q: Is there any state diagram how to initialize the BTM-330?

HCI_UART.pdf

A:

BTM-730/BTM-740

1. How are the ports currently programmed.--> It depends on the application firmware. Attached file is an example of I/O ports functions.
2. How can the ports be reprogrammed.-->We don't support field programmable I/O ports but customized the firmware as per customer requirements.

Regarding the demo board:

1. [About the Demo board, is it modified firmware when you shipped?](#)
If we didn't close the deal of NRE; the demo board will be loaded with our standard firmware. It's BTM-730 RX-HIC rev1.4.
2. [Please give me a documentation for control module by SPI interface.](#)
The SPI interface is only used for firmware upgrading. and it is control by CSR application software for PC.
3. [Did you said not support UART yet?](#)
The UART must be with new customized firmware.
4. [They would like to know exactly date when you can prepare documentation its include HFP command. This question is to be related before gave you question, "Do you have another details data sheet?", then you replied us "The function of the module is mainly determined by its firmware. therefore, detailed functions can be provided after the firmware is done."](#)
4. The customer can upgrade the firmware through Demo board along with CSR's application software from PC.
5. [Could you please let them know how they can update firmware in case of finding a bug during development.](#)
5. Please refer the command list of HFP.

BTM-110

1. What is the purpose of the programmable I/O pins and how can they be programmed? [Rachel] We don't support field programmable I/O ports but customized the firmware as per customer requirements.

2. If the device is connected as guest via USB, are there any drivers for Windows? [Rachel] If you need USB+ driver; that will be a dongle. BTM-110 with HCI; it could be a dongle. We use Toshiba driver for Windows.

To send a 6ms high pulse on PIO4 can disconnect from one slave and then switch to connect with other slave

Q: Can the BTM-182 support a piconet and a scatternet ?

A: BTM-182 can play as master and slave, but not simultaneously.