Morpheans.com / Sharpikeebo

UPDATE: 10/04/2023

HOW TO SET SHARPIKEEBO TO TALK TO THE RAK3172 RADIO MODULE

The RAK3172 is talking to the RASPBERRY PI ZERO via AT Commands. We made the Sharpikeebo capable of using UART1 to talk to the RAK module. TX is GPIO14, RX is GPIO15

To configure the RPI ZERO

Enable UART communications

sudo cp /boot/cmdline.txt /boot/cmdline.txt.old

The original file (fresh installation of Raspberry Pi OS) contains ON A SINGLE LINE:

console=serial0,115200 console=tty1 root=PARTUUID=75afe894-02 rootfstype=ext4 elevator=deadline fsck.repair=yes rootwait quiet splash plymouth.ignore-serial-consoles

Open it with nano (on the Raspberry Pi)

sudo nano /boot/cmdline.txt

Delete this text: console=serial0,115200

And Reboot

sudo reboot

Once rebooted start a

sudo raspi-config

- 1. Go to INTERFACE OPTIONS then SERIAL PORT
- 2. Select NO on serial login
- 3. Select YES on ACTIVATE on SERIAL PORT HARDWARE TO BE ENABLE

Then reboot.

sudo reboot

Disable Bluetooth

You need to add a line to the /boot/config.txt file to apply this overlay:

Open the file with nano

sudo nano /boot/config.txt

And at the very bottom of the file, add:

dtoverlay=disable-bt

Save the file and reboot Raspberry Pi OS for the modification to take effect.

sudo reboot

Disable system service

disable-bt that we just used disables the Bluetooth device and makes PL011 (UART0) the primary UART. You also need to disable the system service that initializes the modem so that it doesn't connect to the UART, using the command:

sudo systemctl disable hciuart

Enable the physical UART

In /boot/config.txt if it's not already done automatically, change the line

enable_uart=0

to

enable_uart=1

To take all this into account, reboot your Raspberry Pi

sudo reboot

Install a test terminal software such as minicom

sudo apt install minicom

Start minicom with this command line

minicom -D /dev/ttyAMA0

Set it to the appropriate communication parameters with: CTRL-A P

Set:

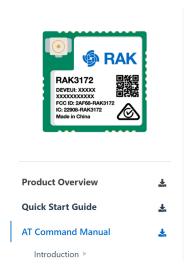
- 115200 bauds
- 8 bits of data

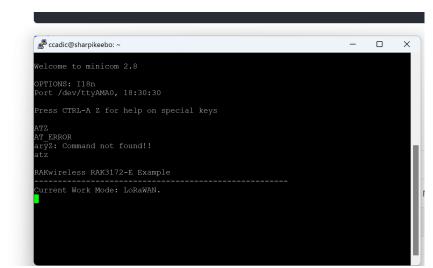
- Parity : No parity
- 1 stop bit

and save

Put minicom in ECHO MODE: CTRL-A E

And type ATZ. You should get an answer from the RAK CHIP





Your done