GSM/GPRS/GNSS HAT

Introduction

GSM/GPRS/GNSS HAT, Compatible with Raspberry Pi 2B/3B/Zeo/Zero W

Source Code File:GSM-GPRS-GNSS-HAT-Code.7z

GSM-GPRS-GNSS-HAT-Code.7z (file size: 1.75 MB, MIME type: application/x-7z-compressed)

Power Key Script

GSM_PWRKEY.rar (file size: 222 B, MIME type: application/x-rar)

File:GSM GPRS GNSS HAT 3D Drawing.zip

GSM_GPRS_GNSS_HAT_3D_Drawing.zip (file size: 306 KB, MIME type: application/zip)

SIM868 PPP Dail-up Networking

SIM868 module features GPRS function (2G Network), so we could use SIM868 module to dial-up networking using PPP.

As we know, SIM868 module features GPRS function, however, it is controlled with AT instructions, and AT instruction is not convenient in Raspberry Pi. If the function could be operated just like operate WIFI it will be much better. In this case, we describe how to use PPP to dial-up networking.

- Fistly, we need to install PPP server

```
sudo apt-get install ppp
```

- Switch to root permission

```
sudo su
```

- Enter the directory /etc/ppp/peers, copy the file provider and name it gprs

```
cd /etc/ppp/peers
cp provider gprs
```

- Open file gprs and edit it

```
sudo nano gprs
```

```
# example configuration for a dialup connection authenticated with PAP or CHAP
#
# This is the default configuration used by pon(1) and poff(1).
# See the manual page pppd(8) for information on all the options.

# MUST CHANGE: replace myusername@realm with the PPP login name given to
# your by your provider.
# There should be a matching entry with the password in /etc/ppp/pap-secrets
# and/or /etc/ppp/chap-secrets.
user "myusername@realm"

# MUST CHANGE: replace ******** with the phone number of your provider.
# The /etc/chatscripts/pap chat script may be modified to change the
# modem initialization string.
connect "/usr/sbin/chat -v -f /etc/chatscripts/gprs"

# Serial device to which the modem is connected.
/dev/ttyUSB0

# Speed of the serial line.
115200

nocrtscts

debug

nodetach
ipcp-accept-local
ipcp-accept-remote
# Assumes that your IP address is allocated dynamically by the ISP.
noipdefault
# Try to get the name server addresses from the ISP.
usepeerdns
# Use this connection as the default route.
defaultroute

# Makes pppd "dial again" when the connection is lost.
persist

# Do not ask the remote to authenticate.
noauth
```

SIM7000/SIM7600: /dev/ttyUSB2
or /dev/ttyS0

- Exeute the command as below to run it in the background

```
pppd call gprs &
```

```
root@raspberrypi:/home/pi# pppd call gprs &
[1] 954
root@raspberrypi:/home/pi# Script /usr/sbin/chat -v -f /etc/chatscripts/gprs fir
ished (pid 960), status = 0x0
Serial connection established.
using channel 1
Using interface ppp0
Connect: ppp0 <--> /dev/ttyUSB0
rcvd [LCP ConfReq id=0x1 <asyncmap 0xa0000> <auth pap> <pcomp> <accomp>]
sent [LCP ConfReq id=0x1 <asyncmap 0x0> <magic 0x4ac5b303> <pcomp> <accomp>]
sent [LCP ConfAck id=0x1 <asyncmap 0xa0000> <auth pap> <pcomp> <accomp>]
rcvd [LCP ConfNak id=0x1 <asyncmap 0xa0000>]
sent [LCP ConfReq id=0x2 <asyncmap 0xa0000> <magic 0x4ac5b303> <pcomp> <accomp>]
rcvd [LCP ConfAck id=0x2 <asyncmap 0xa0000> <magic 0x4ac5b303> <pcomp> <accomp>]
sent [LCP EchoReq id=0x0 magic=0x4ac5b303]
sent [PAP AuthReq id=0x1 user="myusername@realm" password=<hidden>]
rcvd [LCP EchoRep id=0x0 magic=0x0]
rcvd [PAP AuthAck id=0x1 ""]
PAP authentication succeeded
sent [CCP ConfReq id=0x1 <deflate 15> <deflate(old#) 15> <bsd v1 15>]
sent [IPCP ConfReq id=0x1 <compress VJ 0f 01> <addr 0.0.0.0> <ms-dns1 0.0.0.0> <
ms-dns2 0.0.0.0>]
rcvd [IPCP ConfReq id=0x1 <addr 192.168.254.254>]
sent [IPCP ConfAck id=0x1 <addr 192.168.254.254>]
rcvd [LCP ProtRej id=0x0 80 fd 01 01 00 0f 1a 04 78 00 18 04 78 00 15 03 2f]
Protocol-Reject for 'Compression Control Protocol' (0x80fd) received
rcvd [IPCP ConfRej id=0x1 <compress VJ 0f 01>]
sent [IPCP ConfReq id=0x2 <addr 0.0.0.0> <ms-dns1 0.0.0.0> <ms-dns2 0.0.0.0>]
rcvd [IPCP ConfNak id=0x2 <addr 10.207.168.214> <ms-dns1 221.179.38.7> <ms-dns2
120.196.165.7>]
sent [IPCP ConfReq id=0x3 <addr 10.207.168.214> <ms-dns1 221.179.38.7> <ms-dns2
120.196.165.7>]
rcvd [IPCP ConfAck id=0x3 <addr 10.207.168.214> <ms-dns1 221.179.38.7> <ms-dns2
120.196.165.7>]
not replacing default route to eth0 [192.168.6.1]
local  IP address 10.207.168.214
remote IP address 192.168.254.254
primary   DNS address 221.179.38.7
secondary DNS address 120.196.165.7
Script /etc/ppp/ip-up started (pid 968)
Script /etc/ppp/ip-up finished (pid 968), status = 0x0
```

- Close the network

```
ifconfig eth0 down
ifconfig wlan0 down
route add -net 0.0.0.0 ppp0
```

- Then execute command ifconfig you can find the ppp0

- Finally, just try to ping one web site like google or baidu.com. If you can ping the web site successfully, it means that the setting is correct and it can network now.

File:SIM868 GNSS AGPS Application.pdf

SIM868_GNSS_AGPS_Application.pdf (0 × 0 pixels, file size: 616 KB, MIME type: application/pdf)

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