Using the APRS Appliance at 9600 Baud

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The basic steps to reconfigure to 9600 baud

1. Set the radio to 9600 baud instead of 1200 baud: this is radio specific

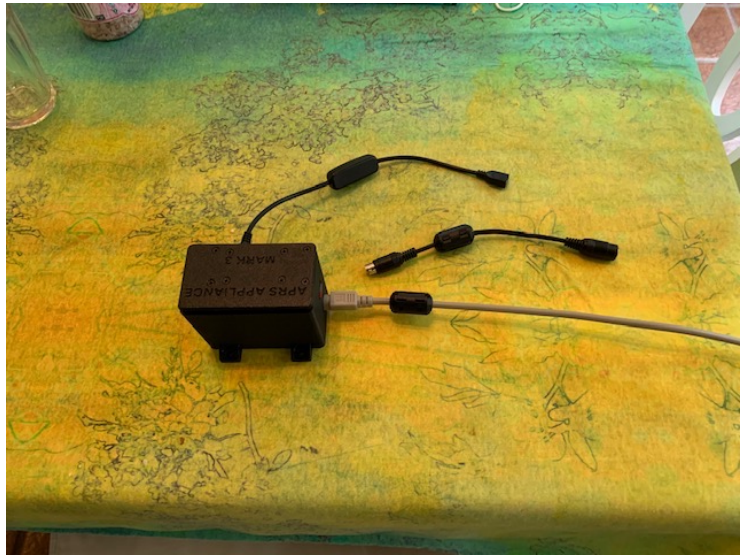
2. Reconfigure the cable so that the 9600 baud receive signal is used by the radio interface card

3. Set the Raspberry PI systems for 9600 baud
   - Adjust the volume to increase the speaker output to 58
   - Add the –X 64 argument to the Dire Wolf startup commend (usually in dw-start.sh)
   - Adjust direwolf.conf for MODEM 9600 and ARATE 96000

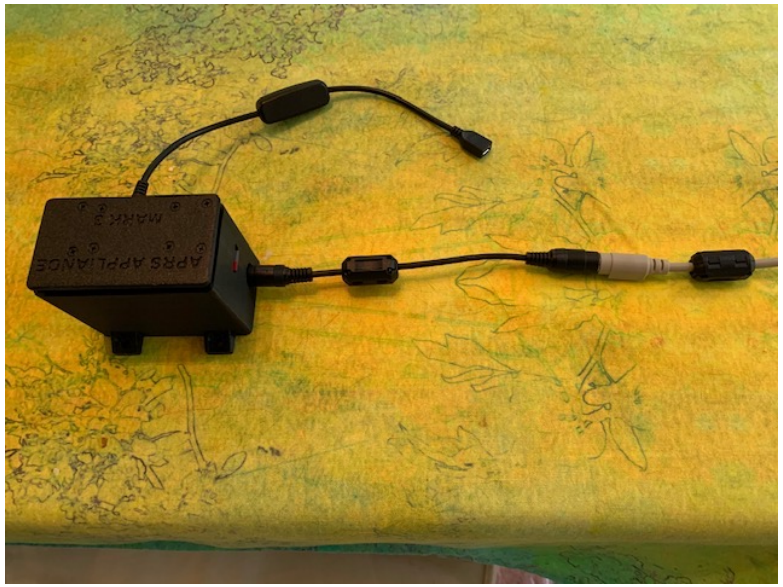
Adjusting the radio to 9600 baud packet

On the FT-817ND this is menu item 40

Set the cabling so the 9600 baud receive line feeds the radio interface board



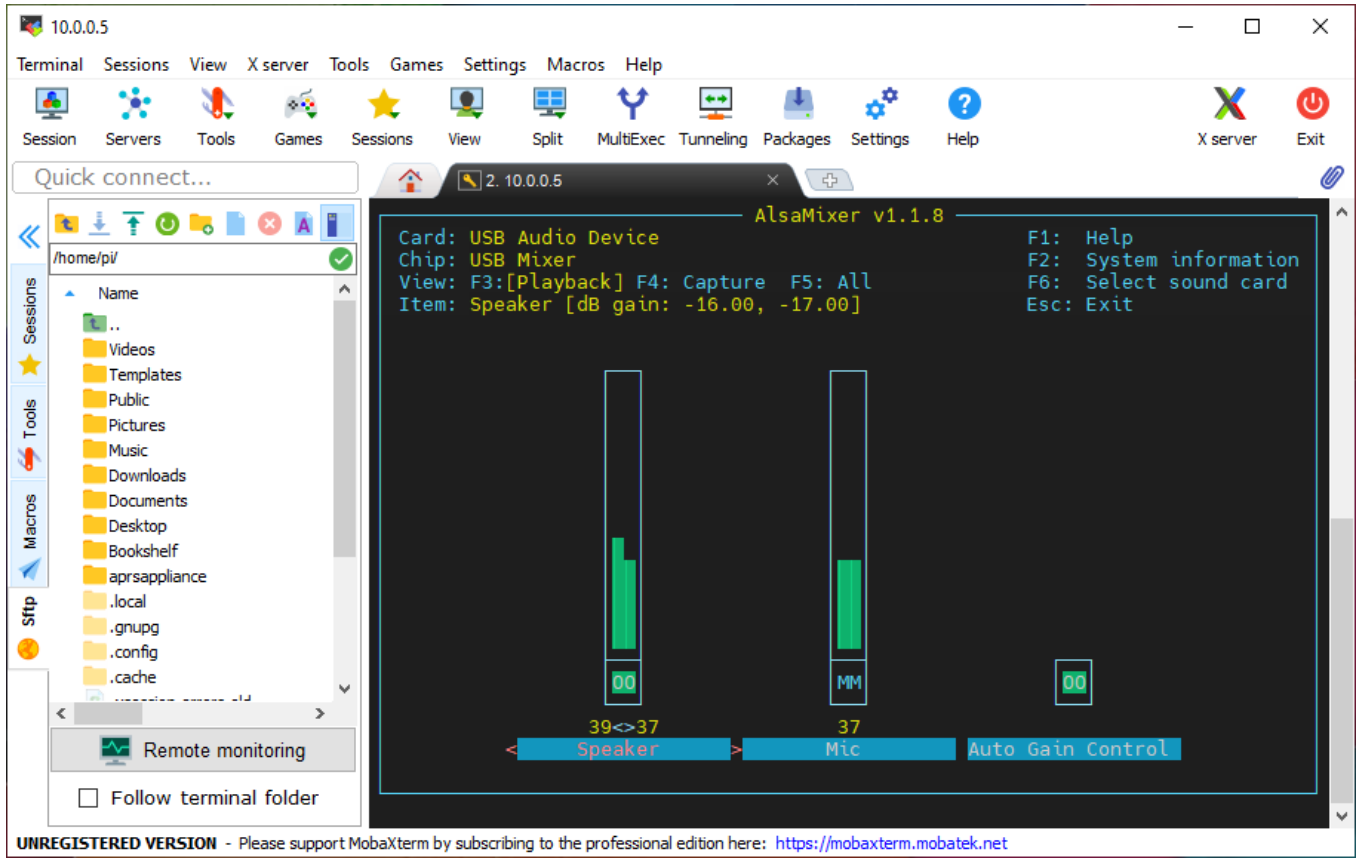
Unplug the radio 6 pin mini-din
Cable from the APRS Appliance



Plug the Mobilinkd adapter cable into the APRS Appliance
Plug the radio interface cable into the Mobilinkd adapter

For the APRS Appliance this is most easily accomplished using the Mobilinkd 1200-9600 baud adapter cable

Adjust the speaker volume from the Interface to about 58



Use alsamixer –c 1 and increase speaker volume to 58

Add the –X 64 argument to direwolf startup

```
RUNMODE=CLI

# Location of the direwolf binary.  Depends on $PATH as shown.
# change this if you want to use some other specific location.
# e.g.  DIREWOLF="/usr/local/bin/direwolf"

DIREWOLF="direwolf"


#Direwolf start up command :: Uncomment only one of the examples.
#
# 1. For normal operation as TNC, digipeater, IGate, etc.
#    Print audio statistics each 100 seconds for troubleshooting.
#    Change this command to however you wish to start Direwolf

DWCMD="$DIREWOLF -a 100 -X 64"

# 2. FX.25 Forward Error Correction (FEC) will allow your signal to
#    go farther under poor radio conditions.  Add "-X 1" to the command line.

#DWCMD="$DIREWOLF -a 100 -X 1"

#------------------------------------------------------------
#
# 3. Alternative for running with SDR receiver.
```

I typically use dw-start.sh to perform Dire Wolf startup
But you can start with the direwolf command
direwolf –t 0 –X 64

Update direwolf.conf ARATE and MODEM

```
#              (Channel 0 + 1 if in stereo)              #
#                                                        #
##########################################################

#
# Many people will simply use the default sound device.
# Some might want to use an alternative device by choosing it here.
#
# Linux ALSA is complicated.  See User Guide for discussion.
# To use something other than the default, generally use plughw
# and a card number reported by "arecord -l" command.  Example:

# ADEVICE  plughw:1,0
ADEVICE plughw:1,0
ARATE 96000

# You can also use "-" or "stdin" to pipe stdout from
# some other application such as a software defined radio.
# "stdin" is not an audio device.  Don't use this unless you
# understand what this means.  Read the User Guide.
# You can also specify "UDP:" and an optional port for input.
# Something different must be specified for output.

# ADEVICE stdin plughw:1,0
# ADEVICE UDP:7355 default
```

We need to set ARATE 96000 to stop warning message
DINAH card max sample rate is actually 48,000

```
#       2400    QPSK compatible with MFJ-2400, and probably PK232-2400 & KPC-2400
.
#       300     Low speed for HF SSB.  Default tones 1600 & 1800.
#       EAS     Emergency Alert System (EAS) Specific Area Message Encoding (SAME
).
#       9600    G3RUH style - Can't use Microphone and Speaker connections.
#       AIS     International system for tracking ships on VHF.
#                       Also uses 9600 bps so Speaker connection won't work.
#
# In most cases you can just specify the speed.  Examples:
#

#MODEM 1200
MODEM 9600

#
# Many options are available for great flexibility.
# See User Guide for details.
#


#
# Uncomment line below to enable the DTMF decoder for this channel.
#

#DTMF
```

We set modem rate to 9600 baud

Now set a test APRS device at 9600 and test

- For the D72A this is menu item 311, DATA SPEED
  - Set to 9600
  - I am having no trouble with D72A interoperating with APRS Appliance at 9600 baud.
  - I have having trouble with my D710A at 9600 baud