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LinBPQ Installation on a Raspberry Pi

This document would not have happened without the amazing work of Red, PE1RRR. His website is a wealth of information and he is generous in sharing the work he has done to improve the installations of various amateur radio projects. You can find a lot of his documentation here <https://eindhoven.space/radio-experiments/packet-radio/>



Create a directory for the linbpq_rtg installation to be installed, then change directory to it.

e.g. From your home directory,

```
mkdir radio
```

```
cd /home/g0vgs/radio/
```

Then download from the GitHub repository

```
git clone https://github.com/pe1rrr/linbpq_rtg
```

You now need to install some required libraries. If you are running a 64bit version of Raspbian, you will need the following..

```
sudo apt install libpcap0.8-dev:armhf libasound2-dev:armhf libz3-4:armhf zlib1g:armhf libminiupnpc17:armhf screen
```

Cd into the linbpq_rtg dir

```
cd linbpq_rtg
```

Now run 3 update scripts

```
./update-linbpq
```

```
./update-qtsm
```



00027

./update-qtterm

If you are not sure of the full path to where the linbpq_rtg directory is, type

echo \$PWD

You will need this path in the next step

Open the file 'runbpq' in your favourite editor. The default editor on the raspberry pi is nano

nano runbpq

Change the path statement at the top of the file to the path you checked above.

Save the file

Now edit the bpq32.cfg file

nano bpq32.cfg

Now look for every instance of 'YOURCALL' (Without the quotes) and change it to the callsign you wish to use on your BPQ node. There are quite a few of these. In nano you can search with Control-W to help you until it is not found any more. Leave the SSID's intact (like -1, -7 etc)

You also need to set a node alias. This will show up in your node and is 6 characters and needs to be unique to you. It could be 3 callsign letters followed by NOD for example. Change the default XXXXXX to this

Set your locator. Mine is IO84NB for example.

Now search for 'myusername' (without the quotes). This is in the section for the telnet port. Change myusername to your callsign and my password for a password you want to use.

Save the file

Now you should be able to start BPQ for the first time.

./runbpq

You may see a couple of errors but don't worry about it for now. This is a very complex file and I will provide a simpler one.

Now it is running, open a browser on another machine and type

http://the=ip=address-of-the-pi:8080

You should now get a webpage with a table of options, including a login option that needs the username and password you set in the last step.

Congratulations, you have configured BPQ.

You can kill BPQ with Control-C and you will see it counting down.

Setting BPQ to start at boot.

To do this, you need to create a 'service' file. You can create it in the directory where you are as we will move it into place once complete.

nano linbpq.service

Then copy the following into the newly created file..

```
[Unit]
Description=LinBPQ
After=network.target

[Service]
Type=forking
WorkingDirectory=/home/g0vgs/radio/linbpq_rtg
```

```
Restart=always
RestartSec=90
StartLimitInterval=400
StartLimitBurst=3
User=pi
Group=pi
ExecStart=/usr/bin/screen -S linbpq -d -m /home/g0vgs/radio/linbpq_rtg/runbpq
SyslogIdentifier=LinBPQ
```

```
[Install]
WantedBy=multi-user.target
```

You need to alter a couple of things. Change the path shown for the WorkingDirectory to wherever your linbpq_rtg directory is. Alter the User and Group lines to show your actual user. Finally, change the path in the ExecStart line to point at your runbpq executable. Note the difference in the two path statements. The Working Directory is the path to the directory and the ExecStart is the path to the actual executable.

Now move the file to where it needs to go and enable it,

```
sudo mv ./linbpq.service /etc/systemd/system/
```

```
sudo systemctl enable linbpq.service
```

You should see..

Created symlink /etc/systemd/system/multi-user.target.wants/linbpq.service → /etc/systemd/system/linbpq.service.

LinBPQ should now start when the pi is booted and you can start, stop or restart with one of the following commands

```
sudo systemctl stop/start/restart linbpq
```

You can also check the status with

```
sudo systemctl status linbpq
```

BPQ32 Example Configuration File

This file is a sample configuration that includes KISS, AXIP and Telnet ports. It also has options for when FBB and WWConvers are installed on the same computer. Be sure to read carefully and configure properly for your installation.

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