Press any key to enter the menu
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Booting CentOS (2.6.18-274.3.1.el5) in 0 seconds...
FREE-STAR*
5.7.1, Based on CentOS

This document is for those users that wish to dedicate a PC for FREE STAR* use. **The supplied ISO wipes out any existing data on the hard drive and installs CENTOS 5.7.**

The process described in this Quick Install Guide sets up one RF module – either one GMSK modem OR one sound card module. Additional modules can be added later – please refer to the FREE STAR* Admin Manual for details. For the GMSK modem option, the script assumes that the default PID address of the GMSK modem is set to 0x300.

Pre-Requisite…

Per the ICOM G2 design, you must have a unique repeater callsign, which must be pre-registered with the ircddb network (www.ircddb.net). The ircddb team will email you a password, which is required in order to complete the FREE STAR* installation.

Getting Started…

Download the ISO from the VA3UV website (www.va3uv.com/iso.htm). Please check the MD5 checksum using a program such as 'winmd5free' (www.winmd5.com). The MD5 checksum should be:

40e5413f40cc53b108b34a761257fecf

Using your favourite CD or DVD burning software, copy the ISO to a blank CD or DVD. Once burned to disk, insert the disk into the CD / DVD drive of your target PC and boot (note that the BIOS on the target PC needs to be set so that it will boot off the CD [or DVD]).

Boot the PC, in a few moments you will see a warning stating that CENTOS is about to be installed and all data on the hard drive will be lost, press <Enter> to accept.

CENTOS installation will now commence.

Once the base CENTOS install has been completed, a message prompting you to remove the install media will appear, remove the CD or DVD and press <Enter>. The system will now reboot.

Following the reboot, the installation scripts will commence. You will be asked whether you want to set a static IP address – this is highly advisable. However, one can answer 'N' to this question and let the system request a dynamic IP address. A static IP address can then be set later (post-install) – please refer to Appendix A for the procedure and the required changes to the various config files.

The free-star-setup script will start the process of downloading the various FREE STAR* software packages and the dependencies required. During the course of the installation, you will be prompted for things like your gateway (repeater) callsign, ircddb password, your static IP address, your personal callsign, repeater band (A, B, or C), full duplex or half duplex and the interface type (i.e., GMSK modem or sound card). Answer these questions as promoted.

At some point, you will see a message asking whether some files should be overwritten (e.g., license, etc.) – press 'A' for All.

The install script will continue, with a final congratulations message followed by a system reboot.

If you selected to install the pcrepeater (sound card) software, refer to the FREE STAR* Repeater Owners' Admin Manual for information on how to setup the sound card. We strongly recommend the use of an external USB fob: (http://www.dealextreme.com/p/c-media-cm108-virtual-7-1-surround-usb-2-0-external-sound-card-with-hardware-volume-control-and-mute-21812)

Post Installation Tasks:

Forward the following ports on your router / firewall:

TCP 222 (used for SSH as described earlier)
UDP 20001
UDP 30001
UDP 40000

Ensure that g2_ircddb is running…

Issue the following command:

```
service g2_ircddb status
```

If g2_ircddb status returns stopped, then do the following:

```
cd /root/g2_ircddb
make clean
make
./g2_ircddb.doit
service g2_ircddb start
```

Next set the system clock to your timezone:

Find your timezone file in /usr/share/zoneinfo and copy to /etc/localtime

Example:

```
cp /usr/share/zoneinfo/EST5EDT /etc/localtime
```

stop ntpd with:

service ntpd stop *(do not worry if you get a FAILED message)*
ntpdate pool.ntp.org

Check with the date command. Then restart ntpd with: service ntpd start

Now watch it for a while with: ntpq -p

Then set the hardware clock as follows:

hwclock --systohc

Make sure that ntpd is set to start automatically:

chkconfig --add ntpd
chkconfig ntpd on

Monitor the log files to ensure that everything is working:

tail –f /var/log/g2_ircddb.log (for g2_ircddb)

tail –f /var/log/g2_link.log (for g2_link)

tail –f /var/log/rptr.log (for rptr) or for example: DStarRepeater_VE3RSD-B-2011-09-30.log (for pcrepeater).

It can take g2_ircddb a few seconds before it connects to the ircddb servers.

Please refer to the FREE STAR* Repeater Owners' Admin Manual for further information on configuring g2_ircddb for DPRS support and reporting to the ircddb mapping page.

That's it – welcome to the FREE STAR* project.

Please drop me a note (Ramesh@va3uv.com) so that I can add you to my mailing list for system updates, notices, etc.

APPENDIX A

Setting / Changing the Static IP Address

We strongly recommend setting a static IP address (edit the file 'ifcfg-eth0' found in /etc/sysconfig/network-scripts).

An example ifcfg-eth0 file is shown below:

# Intel Corporation 82573E Gigabit Ethernet Controller (Copper)
DEVICE=eth0
BOOTPROTO=none
BROADCAST=192.168.1.255 ← The 1st 3 octets are the same as the static IP and the 4th is 255
HWADDR=00:10:C6:BB:0E:6C ← MAC address of your NIC Adapter (it will be different!)
IPADDR=192.168.1.20 ← Set your static IP address here (192.168.1.20 in this example)
NETMASK=255.255.255.0
NETWORK=192.168.1.0 ← Note the first 3 octets are the same as your IP, and the 4th is 0
ONBOOT=yes
GATEWAY=192.168.1.1 ← This is your router address
TYPE=Ethernet

Next, edit the file /etc/resolv.conf and be sure that a nameserver is specified – example below:

nameserver 192.168.1.1 ← This is the address of your router
nameserver 8.8.8.8 ← This is the address of the Google public DNS

Save / Quit

Now type in service network restart to restart the network service and apply the above changes.

Confirm that your static IP address has been set by typing in:

ifconfig eth0

Test your connectivity with a ping test:

ping www.yahoo.com

<Ctrl> C to stop!

The static IP address should now be changed in the following files:

File	Variable Name
/root/rptr/rptr.cfg (for GMSK Modems)	G2_INTERNAL_IP
/root/.D-Star\ Repeater (for sound card installs)	gatewayAddress
/root/g2_ircddb/g2_ircddb.cfg	G2_INTERNAL_IP

Restart the rptr (or dstarrepeaterd) and g2_ircddb services (service <name> restart)