Prerequisites:

* Linux Kernel 2.4.\*
* uClibc 0.9.19
* BusyBox 0.60.5
* Linux Mint .iso

Boot into linux mint, virtual floppy drive is inserted, open terminal and “sudo su” into a root shell

Cd into the root of the kernel source tree and execute

sed -e 's%-O2%-Os%g' -e '/^CFLAGS\_KERNEL/s%\(^.\*$\)%\1 -Os%' Makefile > \ Makefile.tmp && mv Makefile.tmp Makefile

Here we are setting size optimisation in the makefile

Execute “make menuconfig”

Choose only essential items, main areas to slim down kernel build are: “Networking options”, “Network device support”, “Parallel port support”.

“/dev file system support” MUST be checked in “file system support”, it is needed for later on

Remove mouse support as we aren’t using a GUI

Once “make menuconfig” is finished, compile the kernel with:

make dep && make bzImage && make modules

Then execute:

mkdir $HOME/rfloppy/lib/modules

and copy the NIC driver modules from the kernel into this directory. Also copy other modules that you have built.

DO NOT DELETE KERNEL SOURCE AFTER THIS

In the uClibc source tree execute:

make menuconfig

The following settings need to be applied:

Target Architecture Features and Options --->

($BDISKHOME/<dir of your linux kernel for the floppy>)

Linux kernel header location

Library Installation Options --->

(/lib) Shared library loader path

We can then run “make && make install” (install to default directory)

Now we create the root filesystem with:

cd && mkdir -p rfloppy/{dev,proc,etc/init.d,sbin,bin,lib,mnt,usr,var/log} && cat > rfloppy/etc/init.d/rcS << "EOF" && #!/bin/sh mount proc /proc -t proc EOF

NOTE: rfloppy/etc/init.d/rcS is the startup script for TinyBeast

Copy uClibc libraries to bootdisk

cp -a /usr/i386-linux-uclibc/lib/{ld-uClibc\*,libc.so.0,libuClibc-\*} \ ~/rfloppy/lib

Now we go to the root of the busybox source tree. We need to edit the config.h file to ensure /dev support and networking support. We need to uncomment the following lines:

#define BB\_FEATURE\_DEVFS

#define BB\_IFCONFIG

#define BB\_TELNET

#define BB\_TFTP

#define BB\_FEATURE\_IFCONFIG\_STATUS

then we install it with:

make CROSS=i386-uclibc-

make PREFIX=$HOME/rfloppy install

Now we create the bootdisk, store the name of the floppy drive in $DISK, set $SIZE to the size of the rfloppy folder +150k. Set chosen amount of inodes in $INODES

Now run

cd $BDISKHOME && dd if=/dev/zero of=rootfs bs=1k count=$SIZE && yes | mke2fs -m 0 -N $INODES rootfs && mkdir -p loop && mount rootfs -o loop loop && rmdir loop/lost+found && cp -a rfloppy/\* loop && chown -R 0:0 loop/\* && umount loop && dd if=rootfs bs=1k | gzip -v9 > rootfs.gz

let KERNELSIZE=`dd bs=1k of=$DISK < linux-2.4.\*/arch/i386/boot/bzImage 2>&1 | sed -n '1s%\([0-9][0-9]\*\).\*%\1%p'`+1 && rdev $DISK 0,0 && rdev -R $DISK 0 && rdev -r $DISK `expr 16384 + $KERNELSIZE` && dd if=rootfs.gz of=$DISK bs=1k seek=$KERNELSIZE