

本 NanoNote Info Guide

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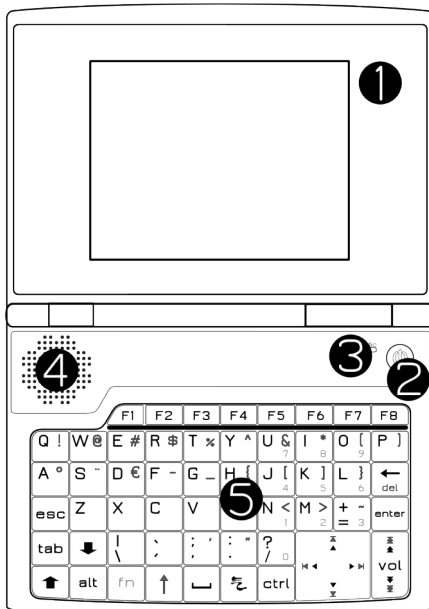
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The Ben NanoNote

Inside



1 - LCM

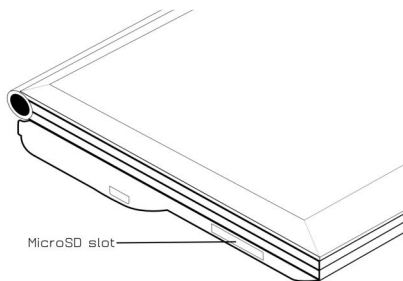
4 - Speaker

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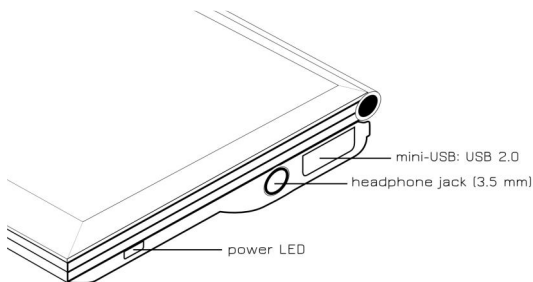
5 - Keyboard

3 - Microphone

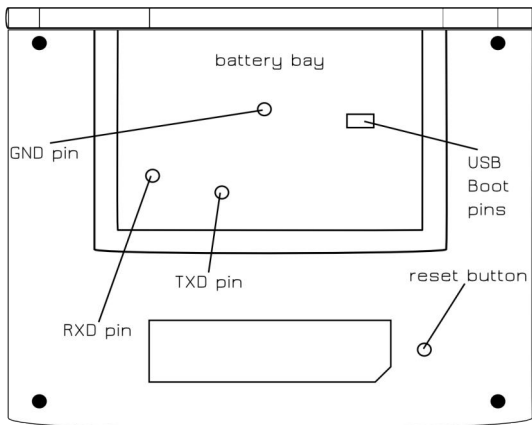
Left side



Right side



Back side



Device Specifications

- * 336 MHz XBurst Jz4720 MIPS-compatible CPU
- * display: 3.0" color TFT
- * resolution: 320 x 240, 16.7M color
- * dimension (mm): 99 x 75 x 17.5 (lid closed)
- * weight: 126 g (incl. battery)
- * DRAM: 32MB Synchronous DRAM
- * headphone jack (3.5 mm)
- * SDHC microSD
- * 850mAh Li-ion battery
- * 2GB NAND flash memory
- * mini-USB: USB 2.0 High-Speed Device
- * speaker and microphone

HowTo's

Ethernet over USB

What you need:

- A console on your Ben NanoNote
- A USB connection between your Ben and a computer

1) On the NanoNote, run (example ip address):

```
$ ifconfig usb0 192.168.3.2
```

2) On your computer, run:

```
$ ifconfig usb0 192.168.3.1
```

3) Test if you can ping the NanoNote via (on your computer):

```
$ ping 192.168.3.2
```

For SSH:

4) Set the password of your Ben's root user. On your Ben type:

```
$ passwd
```

You will be asked for the new password twice (the password may be empty).

5) Log in to your NanoNote from your host via:

```
$ ssh root@[IP OF YOUR BEN]
```

After entering your password you are logged in.

Forward internet access over USB

What you need:

- A computer with a GNU operating system connected to the internet
- A mini-USB to USB cable
- A Ben NanoNote with Networking set up as described under "Networking with your Ben NanoNote"

1) Configure NAT (on your computer, as root):

```
$ modprobe iptable_nat  
$ echo "1" > /proc/sys/net/ipv4/ip_forward  
$ iptables -t nat -A POSTROUTING -o eth0 -j  
MASQUERADE
```

2) Add your computer as the standard gateway on your Ben:

```
$ route add default gw 192.168.3.1  
$ echo "nameserver [DNS SERVER'S IP]" >>  
/etc/resolv.conf
```

USB Boot

What you need:

- A usb to mini-USB cable
- Something to shorten two pins (e.g. a piece of carbonized rubber)

1) Remove the battery

2) Connect the NanoNote to your computer with a USB cable (**NOTE:** sometimes the device will turn on by itself when connected to a power source via USB cable, if that happens just unplug and replug the USB cable until it remains off)

3) Turn the device around, shorten the two pins in the battery bay marked with "USB Boot" by pressing the piece of carbonized rubber on to the pins

4) Now while holding the pins shortened, press the power button for 2 seconds; Instead of booting up, the screen should remain black

If the device is in USB boot mode, an 'lsusb' on your computer should show a device with the ID: *601a:4740*

If the screen turns on or if lsusb doesn't show anything; please repeat steps 3 and 4

Reflash the Ben

What you need:

- The image you want to flash (kernel and rootfs; potentially also an uboot image)
- A computer with usbboot installed

1) Put the Ben into USB Boot mode (see above)

2) Open a console and type (as root user):
`$ usbboot -c "boot"`

3) IF you want to reflash uboot (**NOTE:** this should **not** be necessary) type in the console (as root user):

```
$ usbboot -c "nprog 0 [PATH TO BOATLOADER IMAGE] 0 0 -n"
```

4) To flash the kernel image type in the console (as root user):

```
$ usbboot -c "nprog 1024 [PATH TO KERNEL IMAGE] 0 0 -n"
```

5) To flash the rootfs type in the console (as root user):

```
$ usbboot -c "nprog 2048 [PATH TO ROOTFS IMAGE] 0 0 -n"
```

If all went ok, remove the cable from the NanoNote, put the battery back in and boot the device. **NOTE:** Booting the device might take longer the first time after you reflashed.

You can find further HowTos and tipps in our wiki at:
<http://wiki.qi-hardware.com>

Do's and Don'ts

(warranty and legal stuff)

Our software comes AS IS - WITHOUT ANY warranty!

Please do:

- use this device for whatever purpose you want
- share your software with as many people as possible
- feel free to build upon this hardware design
- reflash the software as often as you want
- tell us about your experience and help us to improve it
- feel free to take the device apart, but only if you are qualified
- feel safe that there is no spyware whatsoever on the device

Please don't:

- throw the battery into open fire
- expose the device to extreme temperatures
- take the battery apart
- use the device in the shower or while taking a bath
- use the device while driving
- leave small parts with unattended children
- expose the device to strong electro-magnetic fields
- use the device when handling explosives
- expect us to replace a device if you break it
- use the device below 0°C and above 40°C
- store the device below -20°C and above 55°C

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