

pictures

position of plastic clips to unclip after removing screws

[innobox-v80-case-clips-20210522_192312.jpg](#)

top of board

[innobox-v80-top-20210522_192339.jpg](#)

bottom of board

[innobox-v80-back-20210522_192256.jpg](#)

software version

Hardware version: 1.0

Active image: 2

Firmware image 1: 1.0.839

Firmware image 2: 1.1.966

Checksum of image 1: 34e4b3948d00a869d961283510a7eb08

Checksum of image 2: a6e08754c908c237d1539cb143611697

Firmware bootloader: 1.9

CRC of bootloader: a6e08754c908c237d1539cb143611697

serial

4 pins, pin 1 marked with triangle

1: TX

2: RX

3: GND

4: 3V3 (?)

serial output

(partial)

```
BGA IC
```

```
Xtal:1
```

```
DDR3 init.
```

```
DRAMC init done.
```

```
Calculate size.
```

```
DRAM size=128MB
```

```
Set new TRFC.
```

```
7512DRAMC V1.2.2 (0)
```

EN751221 at Fri Apr 16 11:48:25 CST 2021 version 1.9 free bootbase

Memory size 128MB

Set SPI Clock to 50 Mhz

spi_nand_probe: mfr_id=0xc8, dev_id=0x21

Using Flash ECC.

Detected SPI NAND Flash : _SPI_NAND_DEVICE_ID_F50L1G, Flash Size=0x8000000

bmt pool size: 81

BMT & BBT Init Success

>>>> [get_env_info] hw_id:InnboxV80_PW2

>>>> [set_gpio_define] g_hw_id:InnboxV80_PW2

Reset button GPIO is: 0

Press any key in 3 secs to enter boot command mode.

.....

Invalid Power GPIO, just return and don't turn on Power LED

NAND FLASH

>>>> CTC: boot_flag_addr: 53e0fff; flag: 1 version_addr:53e1000 version:1.9<FF><FF><FF><FF>

==> boot flag = 1

Decompress to 80002000 free_mem_ptr=80E00000 free_mem_ptr_end=807B0000

from slave

Uncompressing [LZMA] ... done.

Initializing cgroup subsys cpuset

Initializing cgroup subsys cpu

Initializing cgroup subsys cpuacct

Linux version 3.18.21 (iskratel@2d7d74f016e9) (gcc version 4.6.3 (Buildroot 2015.08.1)) #3 SMP F

ISPRAM0: PA=00770000,Size=00010000,enabled

Config7: 0x80080500

memsize:120MB

EcoNet EN751221 SOC prom init

bootconsole [early0] enabled

CPU0 revision is: 00019558 (MIPS 34Kc)

Determined physical RAM map:

memory: 077fe000 @ 00002000 (usable)

Wasting 64 bytes for tracking 2 unused pages

Zone ranges:

Normal [mem 0x00002000-0x077fffff]

Movable zone start for each node

Early memory node ranges

node 0: [mem 0x00002000-0x077fffff]

Initmem setup node 0 [mem 0x00002000-0x077fffff]

Detected 1 available secondary CPU(s)

Primary instruction cache 64kB, VIPT, 4-way, linesize 32 bytes.

Primary data cache 32kB, 4-way, VIPT, cache aliases, linesize 32 bytes

PERCPU: Embedded 9 pages/cpu @810f3000 s5664 r8192 d23008 u36864

Built 1 zonelists in Zone order, mobility grouping on. Total pages: 30478

Kernel command line: es=1

PID hash table entries: 512 (order: -1, 2048 bytes)

Dentry cache hash table entries: 16384 (order: 4, 65536 bytes)

Inode-cache hash table entries: 8192 (order: 3, 32768 bytes)

Writing ErrCtl register=0002e01a

Readback ErrCtl register=0002e01a

nmi base is 81124200

Memory: 110280K/122872K available (7640K kernel code, 1290K rwddata, 1624K rodata, 304K init, 551K

SLUB: HWalgn=32, Order=0-3, MinObjects=0, CPUs=2, Nodes=1

Hierarchical RCU implementation.

NR_IRQS:64

tc3162_time_init: Init bus timeout and watchdog

```

plat_set_irq_affinity: cpu 0
plat_set_irq_affinity: cpu 0 vpe_id 0
plat_set_irq_affinity: irq_vpe0 1 irq_vpel 0, irq = 10
plat_set_irq_affinity: irq num 10
plat_set_irq_affinity: cpu 0
plat_set_irq_affinity: cpu 0 vpe_id 0
plat_set_irq_affinity: irq_vpe0 1 irq_vpel 0, irq = 33
plat_set_irq_affinity: irq num 33
CPU frequency 900.00 MHz
plat_time_init: Entered, mips_timer_ack ptr is [80006dd4]
  Using 200.000 MHz high precision timer.
r4k_clockevent_init: setup_irq OK, irq is [31]
console [ttyS0] enabled
console [ttyS0] enabled
bootconsole [early0] disabled
bootconsole [early0] disabled
Calibrating delay loop... 597.60 BogoMIPS (lpj=2988032)
pid_max: default: 32768 minimum: 301

```

boot loader

```
bldr> ?
```

```

?                Print out help messages.
help             Print out help messages.
go              Booting the linux kernel.
decomp          Decompress kernel image to ram.
memrl <addr>    Read a word from addr.
memwl <addr> <value> Write a word to addr.
dump <addr> <len> Dump memory content.
jump <addr>    Jump to addr.
flash <dst> <src> <len> <oob> Write to flash from src to dst(oob: write nand oob if 1).
imginfo        Show images info.
spinand_rwtst  Flash Test
bdstore <flash dst> <bin src> Do backdoor config store
bdshow        Show backdoor config
bdswitch[1|0] Enable or disable backdoor function
ddrcalswitch[1|0] Enable or disable ddr calibration function
drambistswitch[0|1|2] disable or enable, and quick or normal test
xmdm <addr> <len> Xmodem receive to addr.
miir <phyaddr> <reg> Read ethernet phy reg.
miiw <phyaddr> <reg> <value> Write ethernet phy reg.
cpufreq <freq num> / <m> <n> Set CPU Freq <156~450>(freq has to be multiple of 6)
ipaddr <ip addr> Change modem's IP.
httpd         Start Web Server
mtd
bldr> bdshow
back door config is not support NAND Flash

```