

```
devel@mypi3-16:~/testbuilds/catzip-tst/catzip/sw/board $ make
Building dependency file(s)
zip-gcc -O3 -I../zlib -I../rtl/catzip -I. -c -Wa,-nocis -fno-builtin cputest.c -o obj-zip/cputest.o
zip-gcc -O3 -I../zlib -I../rtl/catzip -I. -T boardram.ld -fno-builtin -Wl,-Map=obj-zip/cputest.map
obj-zip/cputest.o -o cputest
```

```
devel@mypi3-16:~/testbuilds/catzip-tst/catzip/sw/board $ zip-objdump -d cputest > cputest-
disasm.txt
```

```
devel@mypi3-16:~/testbuilds/catzip-tst/catzip/sw/host $ ./arm-zipload -v ../board/cputest
Halting the CPU
```

Memory regions:

Block RAM: 01400000 - 01402000

SDRAM : 02000000 - 03000000

Loading: ../board/cputest

Section 0: 02000000 - 02003e94

Writing to MEM: 02000000-02003e94

Clearing the CPUs registers

Setting PC to 02000000

The CPU should be fully loaded, you may now
start it (from reset/reboot) with:

> wbrege cpu 0x0f

CPU Status is: 0000060f

2003d7c:	4e 6f 74 20	LDI	\$-1084384,R9
2003d80:	73 75 70 70	MOV.GE	\$-3984+uR5,uCC
2003d84:	6f 72 74 65	ILL	6f727465
2003d88:	64 0d 0a 00	CMP.Z	\$2560+R4,R12
2003d8c:	53 75 70 70	MOV.GE	\$-3984+uR5,uR10
2003d90:	6f 72 74 65	ILL	6f727465
2003d94:	64 0d 0a 00	CMP.Z	\$2560+R4,R12
2003d98:	4e 6f 20 4d	LDI	\$-1105843,R9
2003d9c:	75 6c 74 69	SH.NZ	CC,\$-2967(R1)
2003da0:	70 6c 79 20	AND.NZ	\$-1760+R1,CC
2003da4:	49 6d 70 6c	LSR.NZ	\$-3988+R5,R9

```
devel@mypi3-16:~/testbuilds/catzip-tst/catzip/sw/host $ ./arm-wbrege 0x2003d7c
02003d7c ( ) : [Not.] 4e6f7420
devel@mypi3-16:~/testbuilds/catzip-tst/catzip/sw/host $ ./arm-wbrege 0x2003d80
02003d80 ( ) : [supp] 73757070
devel@mypi3-16:~/testbuilds/catzip-tst/catzip/sw/host $ ./arm-wbrege 0x2003d84
02003d84 ( ) : [orte] 6f727465
devel@mypi3-16:~/testbuilds/catzip-tst/catzip/sw/host $ ./arm-wbrege 0x2003d88
02003d88 ( ) : [d...] 640d0a00
devel@mypi3-16:~/testbuilds/catzip-tst/catzip/sw/host $ ./arm-wbrege 0x2003d90
02003d90 ( ) : [orte] 6f727465
devel@mypi3-16:~/testbuilds/catzip-tst/catzip/sw/host $ ./arm-wbrege 0x2003d94
02003d94 ( ) : [d...] 640d0a00
devel@mypi3-16:~/testbuilds/catzip-tst/catzip/sw/host $ ./arm-wbrege 0x2003d98
02003d98 ( ) : [No.M] 4e6f204d
```

```
devel@mypi3-16:~/testbuilds/catzip-tst/catzip/sw/host $ ./arm-wbregs 0x2003d9c
02003d9c (    ) : [ulti] 756c7469
devel@mypi3-16:~/testbuilds/catzip-tst/catzip/sw/host $ ./arm-wbregs 0x2003da0
02003da0 (    ) : [ply.] 706c7920
devel@mypi3-16:~/testbuilds/catzip-tst/catzip/sw/host $ ./arm-wbregs 0x2003da4
02003da4 (    ) : [Impl] 496d706c
```

Adding break at line 1111 in

```
void txstr(const char *str) {
    const char *ptr = str;
    zip_break();
    while(*ptr)
        txchr(*ptr++);
}
```

[devel@mypi3-16:~/testbuilds/catzip-tst/catzip/sw/board/cputest.c](#)

```
devel@mypi3-16:~/testbuilds/catzip-tst/catzip/sw/board $ make
```

Building dependency file(s)

```
zip-gcc -O3 -I../zlib -I../rtl/catzip -I. -c -Wa,-nocis -fno-builtin cputest.c -o obj-zip/cputest.o
```

```
zip-gcc -O3 -I../zlib -I../rtl/catzip -I. -T boardram.ld -fno-builtin -Wl,-Map=obj-zip/cputest.map
```

```
obj-zip/cputest.o -o cputest
```

```
devel@mypi3-16:~/testbuilds/catzip-tst/catzip/sw/board $ zip-objdump -d cputest > cputest-
disasm.txt
```

02001120 <txstr>:

```
2001120: 68 00 00 08 SUB    $8,SP
2001124: 04 c7 40 00 SW     R0,(SP)
2001128: 2c c7 40 04 SW     R5,$4(SP)
200112c: 2b 40 40 00 MOV     R1,R5
2001130: 7f 00 00 00 BREAK   @0x02001134 // 2001134 <txstr+0x14>
2001134: 0d 84 40 00 LB      (R1),R1
```

```
devel@mypi3-16:~/testbuilds/catzip-tst/catzip/sw/host $ ./arm-wbregs 0x2001120
```

```
02001120 (    ) : [h...] 68000008
```

```
devel@mypi3-16:~/testbuilds/catzip-tst/catzip/sw/host $ ./arm-wbregs 0x2001124
```

```
02001124 (    ) : [..@.] 04c74000
```

```
devel@mypi3-16:~/testbuilds/catzip-tst/catzip/sw/host $ ./arm-wbregs 0x2001128
```

```
02001128 (    ) : [..@.] 2cc74004
```

```
devel@mypi3-16:~/testbuilds/catzip-tst/catzip/sw/host $ ./arm-wbregs 0x200112c
```

```
0200112c (    ) : [+@@@.] 2b404000
```

```
devel@mypi3-16:~/testbuilds/catzip-tst/catzip/sw/host \$ ./arm-wbregs 0x2001130
```

```
02001130 \(    \) : \[....\] 7f000000
```

```
devel@mypi3-16:~/testbuilds/catzip-tst/catzip/sw/host $ ./arm-wbregs 0x2001134
```

```
02001134 (    ) : [..@.] 0d844000
```

```
devel@mypi3-16:~/testbuilds/catzip-tst/catzip/sw/host $ ./arm-zipload -v ../board/cputest
```

Halting the CPU

Memory regions:

Block RAM: 01400000 - 01402000

SDRAM : 02000000 - 03000000

Loading: ../board/cputest

Section 0: 02000000 - 02003e98

Writing to MEM: 02000000-02003e98

Clearing the CPUs registers
Setting PC to 02000000
The CPU should be fully loaded, you may now
start it (from reset/reboot) with:
> wbrege cpu 0x0f

CPU Status is: 0000060f

Needs to be restarted after every break.

devel@mypi3-16:~/testbuilds/catzip-tst/catzip/sim/verilated \$./arm-main_tb
Listening on port 8363
Listening on port 8364
> T
CMD: Only sent 0 bytes of 3!

devel@mypi3-16:~/testbuilds/catzip-tst/catzip/sw/host \$./arm-zipload -v ../board/cputest
Halting the CPU
Memory regions:
 Block RAM: 01400000 - 01402000
 SDRAM : 02000000 - 03000000
Loading: ../board/cputest
Section 0: 02000000 - 02003e98
Writing to MEM: 02000000-02003e98
Clearing the CPUs registers
Setting PC to 02000000
The CPU should be fully loaded, you may now
start it (from reset/reboot) with:
> wbrege cpu 0x0f

CPU Status is: 0000060f
devel@mypi3-16:~/testbuilds/catzip-tst/catzip/sw/host \$./arm-zipdbg
When g is pressed.
SUCCESS

sR0 : 02002238 sR1 : 02003d7c sR2 : 02003e98 sR3 : 00000000
sR4 : 00000000 sR5 : 02003d7c sR6 : 02003e18 sR7 : 00000000
sR8 : 00000000 sR9 : 00000000 sR10: 00000000 sR11: 00000000
sR12: 00000000 sSP : 02fffb9c sCC : 00000000 sPC : 02001130

uR0 : 00000000 uR1 : 00000000 uR2 : 00000000 uR3 : 00000000
uR4 : 00000000 uR5 : 00000000 uR6 : 00000000 uR7 : 00000000
uR8 : 00000000 uR9 : 00000000 uR10: 00000000 uR11: 00000000
uR12: 00000000 uSP : 00000000 uCC : 00000020 uPC : 00000000