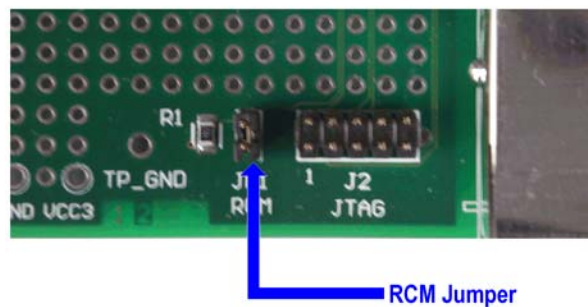


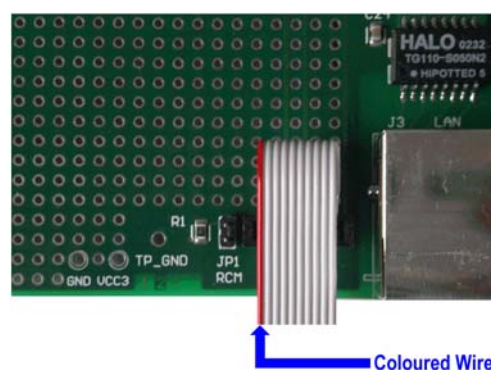
## How to use the PNP/1110 JTAG Flash Programmer

With the PNP/1110 JTAG Flash Programmer <sup>1</sup> you can program a new boot loader to the PNP/1110 over the Intel StrongARM SA-1110 JTAG interface. You don't need any additional special hardware parts or JTAG interface boards for your PC. The PNP/1110 JTAG Flash Programmer is driven by a standard PC printer port (LPT port). It is necessary to run a Linux operating system on this PC. The JTAG Flash Programmer firmware is pre-build for Linux.

- **1. Step:** Download a copy of the JTAG Flash Programmer firmware archive file `jflash-pnp1110.tgz` from [www.dilnetpc.com](http://www.dilnetpc.com) (i.e. enter the URL [www.dilnetpc.com/jflash-pnp1110.tgz](http://www.dilnetpc.com/jflash-pnp1110.tgz) to your browser).
- **2. Step:** Make sure that the power for the PNP/1110 is off. Then remove the RCM (Remote Console Mode) jumper from your PNP/1110. This jumper is located on the DNP/EVA4 Evaluation Board (Jumper JP1). The following picture shows a DNP/EVA4 without this jumper.

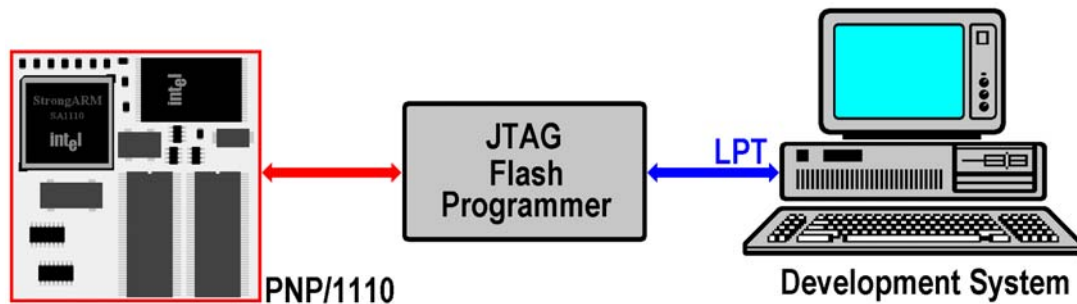


- **3. Step:** Connect the JTAG Programmer Ribbon Cable to the DNP/EVA4 Evaluation Board JTAG connector J2. The following picture shows the direction of the coloured wire (pin 1).



- **4. Step:** Connect the other side of the PNP/1110 JTAG Flash Programmer with your first PC printer port. Power up the PNP/1110. This port use the I/O base address 0x378. Check your PC BIOS for details. This I/O base address is a fix part of the JTAG Flash Programmer firmware.

<sup>1</sup> **Please note:** The PNP/1110 JTAG Flash Programmer is not compatible to the DNP/1110 JTAG Flash Programmer. The interface cable and the software driver is different.



- **5. Step:** Extract the executable firmware file `jflash-pnp1110` from the JTAG Flash Programmer firmware archive to a directory of your Linux-based development system. Put your new boot loader image file (i.e. the file `bootloader` from the JTAG Flash Programmer firmware archive) also to the same directory.
- **6. Step:** Power up the DIL/NetPC PNP/1110. Then run the executable firmware file on your development system. The command line parameter for this program is the name of the boot loader image file.

```
./jflash-pnp1110 bootloader
```

- **7. Step:** Remove the power from the PNP/1110. Remove the JTAG Programmer Ribbon Cable from the DNP/EVA4 Evaluation Board JTAG connector J2. Put the RCM jumper to the right position. Power up the PNP/1110 again and check the function of the new boot loader.