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## Serial Download of \_APP.S19 File Using MTTY

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### Introduction

Network communication with your NetBurner device requires a functioning network enabled application to be running on the device. The three most likely conditions related to application programming that can cause network communications to fail are:

1. If you download a bad application that is crashes the system, which can be common during software development.
2. Downloading an application that does not enable the network stack.
3. Removing power while updating flash memory with a new application.

When a NetBurner device is powered-on or reset, the Boot Monitor will verify the application checksum, decompresses it to SDRAM, verifies the checksum, then jump to the application code and begin execution. At that point your application has 100% control over the hardware.

If you lose network communication for any of these reasons the recovery method is to download a working network application using the debug serial port (default is uart0) and a serial terminal such as the NetBurner MTTY. The boot monitor is a very small program and does not have network capability. The application file must be of the type \_APP.s19. As a quick verification test you can download the pre-compiled factory application located in the \nburn\\original directory, where <platform> is the model number of your NetBurner device.

# Procedure

## 1. Identify the device boot port and proper serial cable.

The Boot Monitor serial port on your NetBurner device is UART0 by default. Connect either a serial or USB (if available) cable from the NetBurner device to your PC. If you are using a NetBurner development board, the DB9 connector pinout is usually configured so a null-modem adapter is not required, so you can use a straight-through serial cable.

- Mod5234, Mod5270, Mod5272, Mod5282: Use the straight-through cable or USB cable and connect to UART0 on the development kit development board DB9.
- SB70LC, SB70, SB72: Use the straight-through serial cable and connect to UART0 on the development kit adapter board DB9.
- SB72EX: Use the null-modem cable supplied with your development kit. The default serial port is Port0.
- CB34EX: Use the null-modem cable supplied with your development kit. The default serial port is the DB9 port (Port 1).
- NBPK70EX: Use the straight-through cable and connect to DB9 console port on the front of the device.
- CFV2-66: use the DB9 labeled J2 and a straight-through cable.
- CFV2-40: use the DB9 labeled J4 and a straight-through cable.

## 2. Run MTTY on a PC.

Run the Multi-Threaded TTY serial terminal program on your Windows PC and select the serial communications port. The default serial settings of the boot monitor are: 115,200 baud, 8 data bits, no parity, and 1 stop bit. Click on the “Connect” button in MTTY to enable serial communications.

## 3. Enter the NetBurner Boot Monitor

- Cycle power (i.e. remove and reapply power) to your NetBurner device. If using a USB connection you may need to use the reset button instead, but a power cycle is the most reliable method. You will see a "Waiting 2sec to start 'A' to abort" message in the MTTY window.
- Type an uppercase ‘A’ before the time expires to enter the Boot Monitor. You will see the NetBurner prompt (i.e. NB>) in the MTTY window.
- Type the command “FLA” (FLA stands for Flash Application) and then press the Enter key on your keyboard.

- Send the factory application to your NetBurner device. If you have a development kit it is located in the \nburn\\original directory, where <platform> is your NetBurner model number. You can use any known good application; the factory original is just a good point of reference.

Begin the download in MTTY by selecting the Transfer --> Send option from the Transfer menu, or by pressing the F5 key on your keyboard.

- A Send File window will appear. Navigate to the location of your known good \_APP.s19 file and click on Open or Select button. As your download progresses, "\*\*\*\*" characters will appear in the MTTY window, and the progress bar on the lower left hand side of the window will move towards the right.
- The Boot Monitor will automatically reprogram the application area of the flash and restart your NetBurner device after your download is completed.