

Patch-Instructions for Dragon12-Board

Loading the HCS12-Serial-Monitor

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1 Introduction

The Dragon12-Board comes with a monitor program installed which supports the DBug-12 protocol via a RS 232 serial interface. Unfortunately this protocol is not supported by the CodeWarrior development environment which uses the more efficient and elaborated HCS12 Serial Monitor protocol from Freescale.

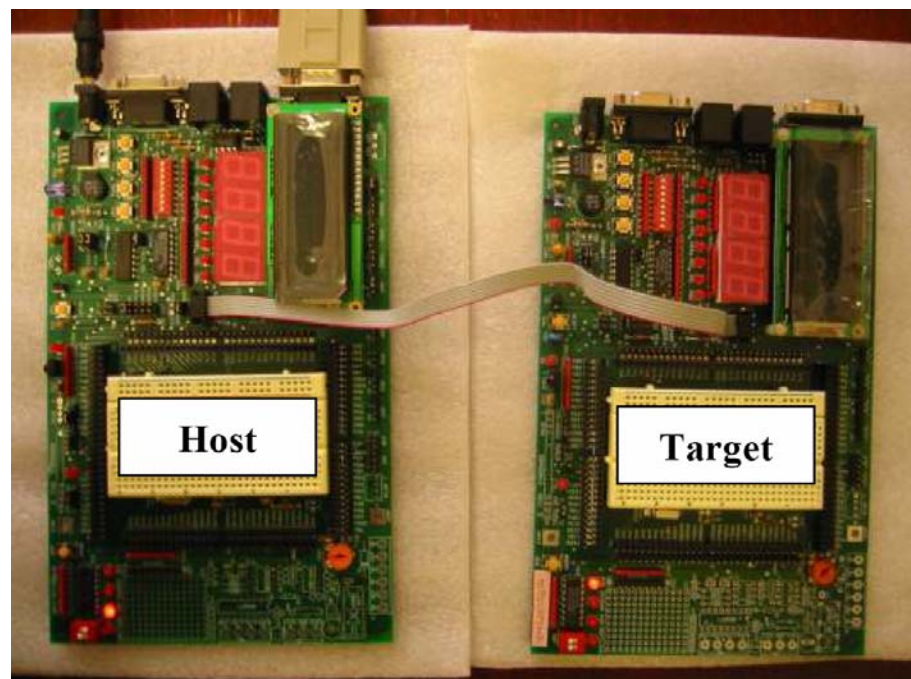
This note describes how to patch a Dragon12 board to run the HCS12 Serial Monitor instead of the standard DBug-12 monitor, and thus support debugging from the Metrowerks Codewarrior environment.

Beside the board that you want to patch you need access to an **original** Dragon12 board (unpatched) and you have to have a BDM cable (straight through cable).

2 Procedure

Connect Boards

Place the boards next to each other as shown in the figure below.



The board named „Host“ has to be the original, unpatched Dragon12 board. This board has to be connected to a power supply and via an RS232 cable to a computer.

The board named „Target“ is connected to its BDM in port via a straight through BDM cable (sometimes delivered with the Dragon12 board) with the BDM out port of the host. If the power supply for the Host is strong enough, the target does not require an additional power supply. If one is connected, this doesn't hurt either.

Set Board Switches

Turn power on, i.e. plugin the power supply for the boards. Set the DIP switch SW7 in the lower right corner of the Host board such that the POD LED lights up.

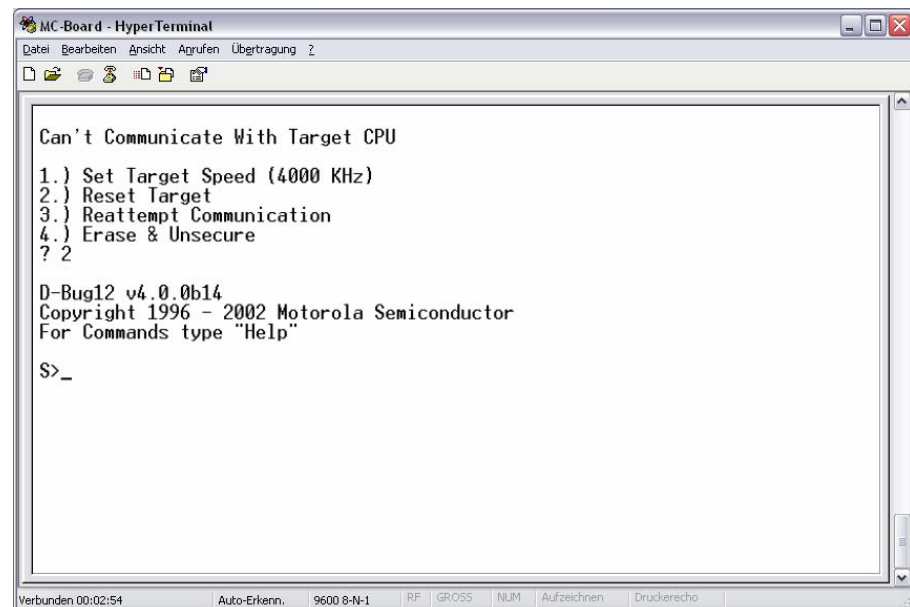
Start Hyperterminal Program on PC

Start a Hyperterminal (or any other terminal software) session on the PC connected to the Host board. Set connection parameters to 9600 bps, 8 Bit, no parity, 1 stop bit, no flow control.

Turn power on, i.e. plugin the power supply for the boards. Set the DIP switch SW7 in the lower right corner of the Host board such that the POD LED lights up.

After you have started and properly configured the Hyperterminal session, press the reset button on the Host board.

You should see a little menu on the Hyperterminal screen.



Choose menu item 2, reset target. This will reset the target and the „S>“ prompt should appear.

Erase Target Board Flash

Erase the original Dbug-12 monitor program from the target board typing the following command in the Hyperterminal:

`fbulk`

After a short while the prompt reappears, indicating that the flash memory has been erased.

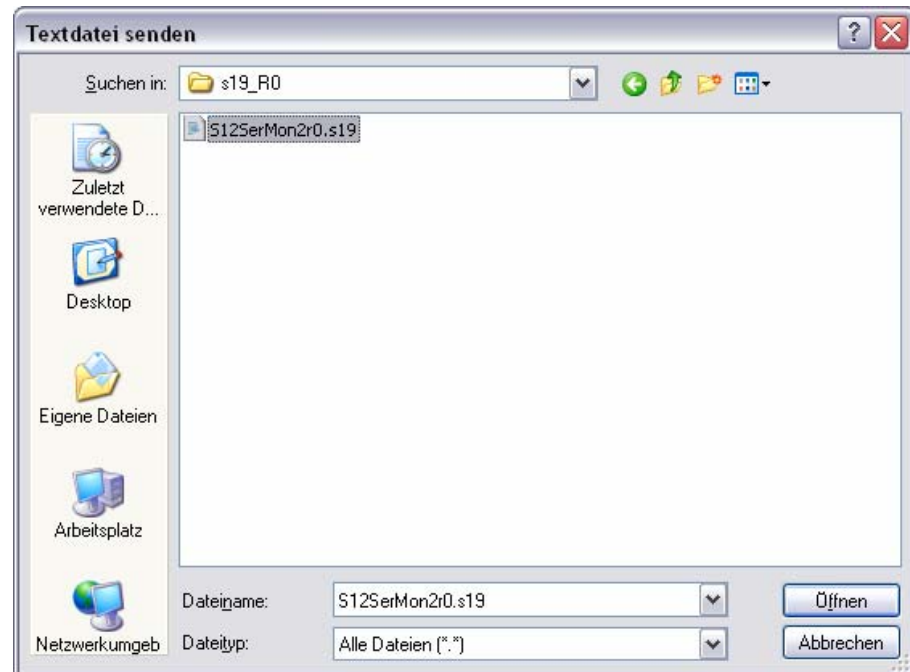
Load HCS12 Serial Monitor

Now load the HCS12 Serial Monitor to the target board by typing the following command in the Hyperterminal:

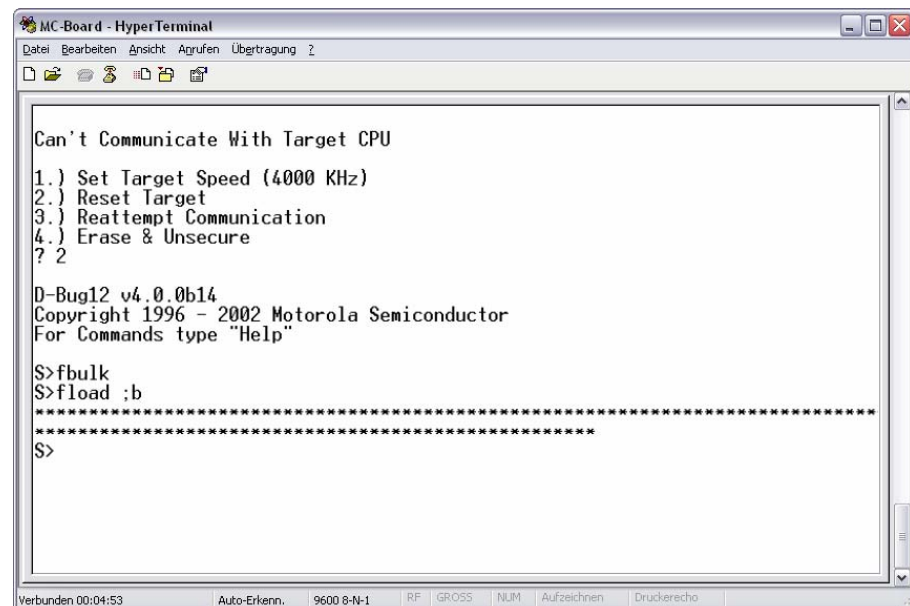
`fload ;b`

Watch for the semicolon and the space between the fload command and the semicolon.

In the Hyperterminal open menu item "send text file". Choose file S12SerMon2r0.s19 and download it to the target. You may have to set the file name filter to *.* in the file chooser to see the file.



During download, the software prints asterisks. After the download has completed the prompt S> should reappear. You can now remove the BDM cable from the target and host computer.



3 Final Test

To check if the download of the new HCS12 Serial Monitor succeeded, open the test project provided (IDE_Test). Connect the target board to the PC.

Don't forget to close the Hyperterminal, since it will block the COM port.

Check that the COM port setting in the Monitor.ini file is correct.

Make sure that the EVB LED lights up on the target board, lower right corner.
If not set SW7 appropriately. Reset the target.

Download and run the test software. The LED should display HELP.