



APPLICATION NOTE 3087

Downloading a Program to Flash Using the MAX7651 EV Kit Serial Downloader

Abstract: This is the 3rd part of a 3-part application example and supplements the MAX7651EVKIT User's Guide. It gives a step-by-step procedure for transferring compiled program HEX code to the MAX7651EVKIT target board using the serial downloader and HyperTerminal.

Also See:

- [Performing ADC Conversions Using the MAX7651](#)
- [Configuring Keil \$\mu\$ Vision IDE for the MAX7651 EV Kit](#)

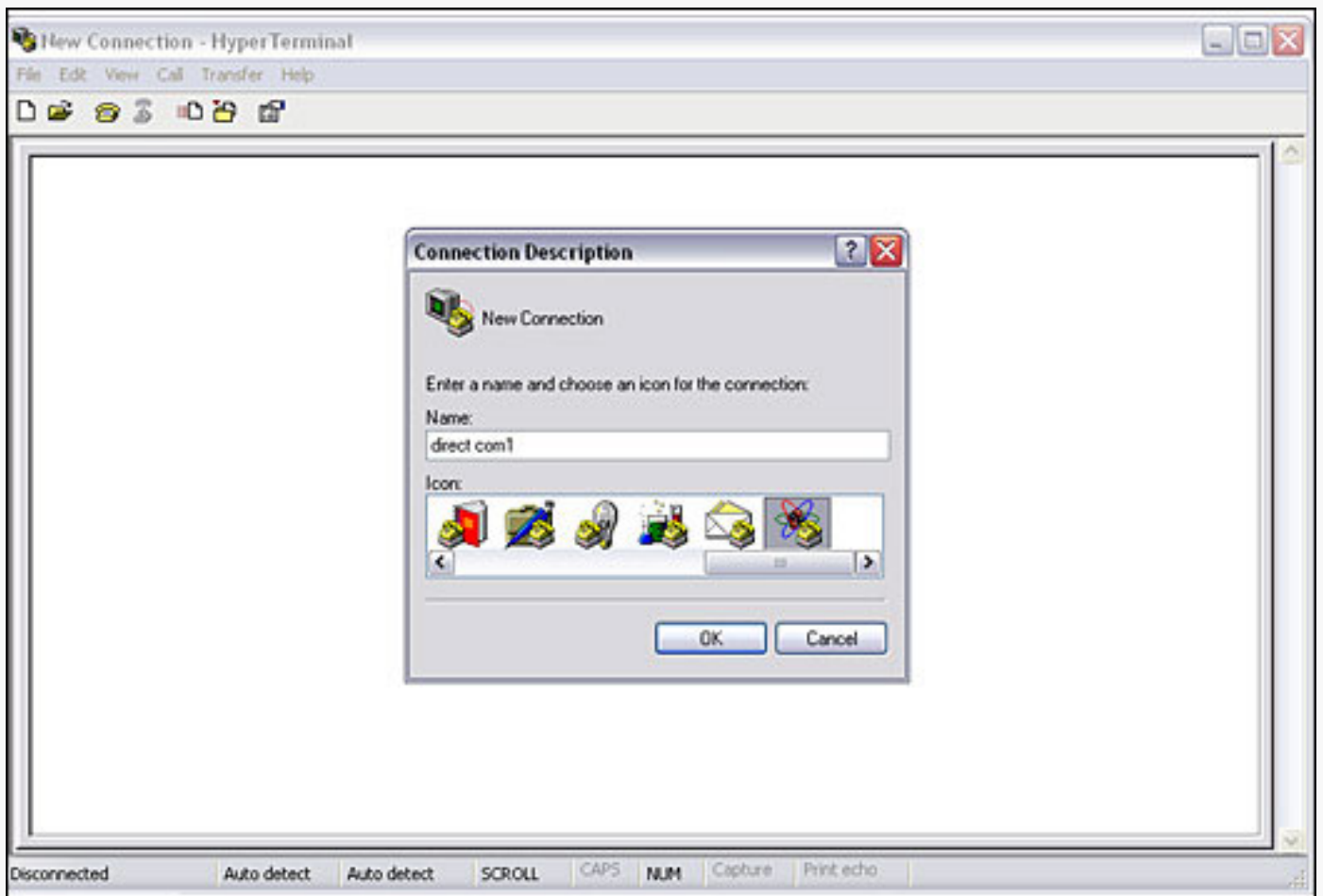
The MAX7651EVKIT can execute programs using 16Kb of internal Flash memory or external ROMs located in the ZIF (U2) socket or the PLCC (U6) socket. Programming the internal flash is accomplished using the serial downloader program loaded into the PLCC socket with a standard "dumb" terminal program. This example uses HyperTerminal included in Windows® 95/98/2000/XP. Other terminal programs that allow direct communication with the serial RS232 port can also be used.

Note: This procedure has been tested for the MAX7651EVKIT. It has not been tested for the MAX7652, which is a 3V version of the MAX7651. Some modifications may be necessary. Please see MAX7651EVKIT user guide for more information.

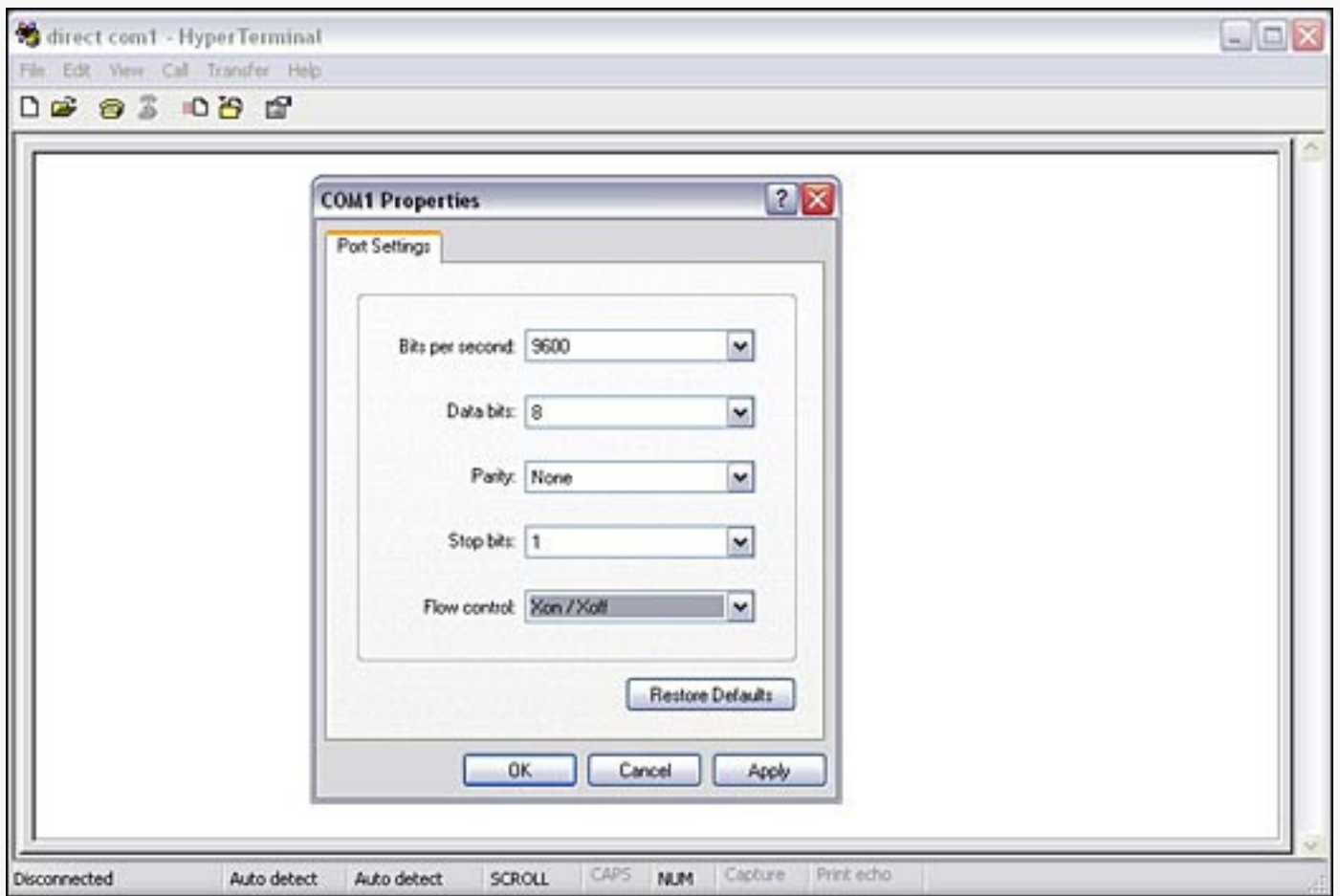
Before getting started, make sure the power switch at the top of the EVKIT is set to the off position. Connect the EVKIT with the supplied RS232 cable to the DEBUG port (J7) to an unused COM port in a PC. Connect the 5V power cable to the MAX7651EVKIT.

Note: HyperTerminal may have conflicts with software that uses the serial port such as a PDA HotSync® manager. Disable the HotSync Manager before proceeding.

1. Select the serial downloader by switching S4 to the EXT ROM position and S5 to the PLCC ROM position. This will load the serial downloader program in ROM when the EVKIT powers up.
2. Start HyperTerminal in windows. It is normally located in the Start Menu/Programs/Accessories/Communication/Hyperterminal



3. Select COM port
4. Select the following Serial Port parameters



5. Turn on the power switch of the EVKIT. You should see the welcome screen.

The image shows a HyperTerminal window titled "direct1 - HyperTerminal". The window contains the following text:

```
Bootloader Version 1.0
Copyright (c) 1999-2001 Keil Software, Inc.
All rights reserved.

Enter command: help

HELP:
HELP  -- This HELP Text
INFO  -- Information About This Loader
COMM  -- Communication Details

ERASE -- Erase ALL FLASH Memory
TEST  -- Tests ALL FLASH Memory
LOAD  -- Starts HEX File Loader
DUMP  -- Dumps ALL FLASH Memory Contents

Enter command:
```

At the bottom of the window, there is a status bar with the following information: "Connected 0:00:28", "Auto detect", "9600 8-N-1", "SCROLL", "CAPS", "NUM", "Capture", and "Print echo".

6. Type "ERASE" to clear the contents of the internal flash.
7. Type "LOAD" to begin the download process.
8. Using HyperTerminal, go to the Transfer Menu and select Send Text File. Locate and select HEX file to begin downloading code.

```
direct1 - HyperTerminal
File Edit View Call Transfer Help
:100B1F00756C6C2900D2011208003001F8C20178FF
:100B2F004430D50108F60208A62D50434958120843
:100B3F00002403B405004001E4900B389312082CF5
:0D0B4F00743A12082CD20375440402098B7D
:100C7800BB010689828A83E0225002E722BBFE027A
:090C8800E32289828A83E49322AD
:100C9100BB010CE58229F582E5833AF583E0225018
:100CA10006E92582F8E622BBFE06E92582F8E22262
:0D0CB100E58229F582E5833AF583E493227C
:100CBE00BB010689828A83F0225002F722BBFE0115
:020CCE00F3220F
:100CD000FAE6FB0808E6F925F0F618E6CA3AF62225
:100CE000D083D082F8E4937012740193700DA3A3A3
:100CF00093F8740193F5828883E4737402936860B7
:060D0000EFA3A3A380DFB6
:100D7500EFB40A07740D120D80740A309811A89902
:100D8500B8130CC2983098FDA899C298B811F630DE
:070D950099FDC299F59922B6
:00000001FF
HEX file downloaded successfully.
Enter command: _
Connected 0:05:56 Auto detect 9600 8-N-1 SCROLL CAPS NUM Capture Print echo
```

9. Turn off the power to the EVKIT. (S8)
10. Switch S4 to the INT Flash position.
11. Turn on power and the program will execute.

HotSync is a registered trademark of PalmSource Inc.
Windows is a registered trademark of Microsoft Corp.

Application note 3087: www.maxim-ic.com/an3087

More Information

For technical support: www.maxim-ic.com/support

For samples: www.maxim-ic.com/samples

Other questions and comments: www.maxim-ic.com/contact

Automatic Updates

Would you like to be automatically notified when new application notes are published in your areas of interest?
[Sign up for EE-Mail™.](#)

Related Parts

MAX7651: [QuickView](#) -- [Full \(PDF\) Data Sheet](#)

MAX7652: [QuickView](#) -- [Full \(PDF\) Data Sheet](#)

