



Quick Note 048

Load Firmware and Configuration onto a
TransPort WR router using a USB flash
device.

Digi Technical Support
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1 INTRODUCTION

1.1 Introduction

Digi TransPort routers equipped with a USB port (WR21/41/44) offer the possibility to be flashed with an image (.all file) of a router that contains the firmware and configuration. This image is created from a working device using FlashWriter

The following document will guide through the process of creating an image and preparing a USB flash drive to flash a router.

Please note: If site specific settings are required, please check [QN49](#).

1.2 Assumptions

This guide has been written for use by technically competent personnel with a good understanding of the communications technologies used in the product and of the requirements for their specific application. It also assumes a basic ability to access and navigate a Digi TransPort router.

This application note applies only to:

Model: DIGI TransPort WR21/WR31/WR41/44

Firmware versions: 5246 and later

Configuration: This document assumes that the devices are set to their factory default configurations. Most configuration commands are shown only if they differ from the factory default.

Please note: This application note has been specifically rewritten for firmware release 5246 and later and will not work on earlier versions of firmware. Please contact tech.support@digicom.com if you require assistance in upgrading the firmware of the Digi TransPort router.

1.3 Corrections

Requests for corrections or amendments to this application note are welcome and should be addressed to: tech.support@digicom.com

Requests for new application notes can be sent to the same address.

2 VERSION

Version Number	Status
1.0	Published
1.1	Branding + updated user interface

3 CREATING IMAGE FILE USING FLASHWRITER

3.1 Install FlashWriter

Download and install FlashWriter. The installation file can be found on Digi Support Web site or by directly clicking the following link: <http://ftp1.digi.com/support/firmware/FlashWriter.msi>

3.2 Prepare router and create an image file

3.2.1 Prepare router configuration

Prepare a Digi TransPort WR 21/41/44 Router with the configuration and firmware needed. The configuration will be identical on the device that will be flashed.

Warning for devices running firmware 5.2.9x and older: If “Enable password encryption” is used under Configuration – Security > System it is necessary to uncheck this option, delete pwds.dat and re-create the password on the device before proceeding.

Configuration - Security > System

System

Enable password encryption

Note. If you enable password encryption, you will not be able to copy encrypted passwords to other devices.

Please Note: This process will only allow a similar router to be flashed (same model, same cellular module) and should not be used on different hardware units.

Once the configuration of the unit is done, the following needs to be applied to prevent the unit from flashing “in a loop” if the USB key is left in:

Configuration – Security > System

Configuration - Security > System

System

Enable password encryption

Note. If you enable password encryption, you will not be able to copy encrypted passwords to other devices.

USB Security

Disable the following USB devices

All Devices

Mass Storage Devices

Serial Devices

Hub Devices

Allow autoexec.bat files to run from Mass Storage Devices

Uncheck “Allow autoexec.bat files to run from the Mass Storage Devices”. This will prevent the unit from running autoexec.bat from the USB flash drive after a reboot. If further flashing of this unit is required, this option will need to be turned back on.

Administration – Save Configuration

Administration - Save configuration

Save current configuration to Config ▼

Save

Save all configuration. This includes the following

- Save the current configuration to config 0
- Save the current firewall
- Save all sregisters on all ports to profile 0
- Save all PAD parameters on all PADs to profile 0

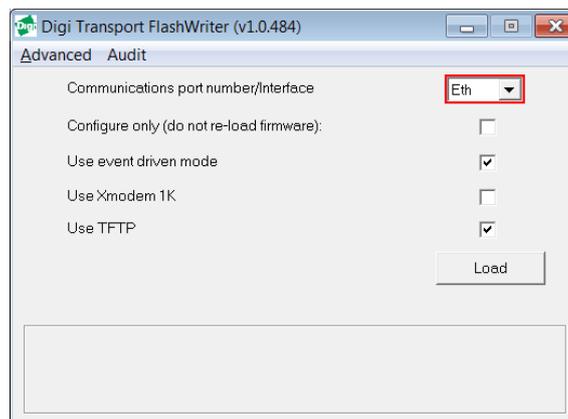
Save All

Click **Save**

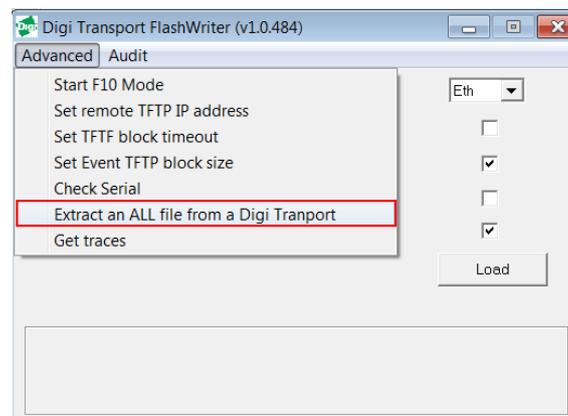
3.2.2 Create image file with FlashWriter

Make sure the router and the computer are connected on a switch.

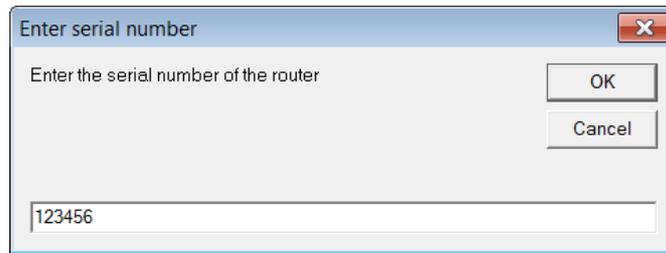
Open FlashWriter and select “**ETH**” as the Communications port number/interface



Click on **Advanced** and select “**Extract an ALL file from a Digi Transport**”

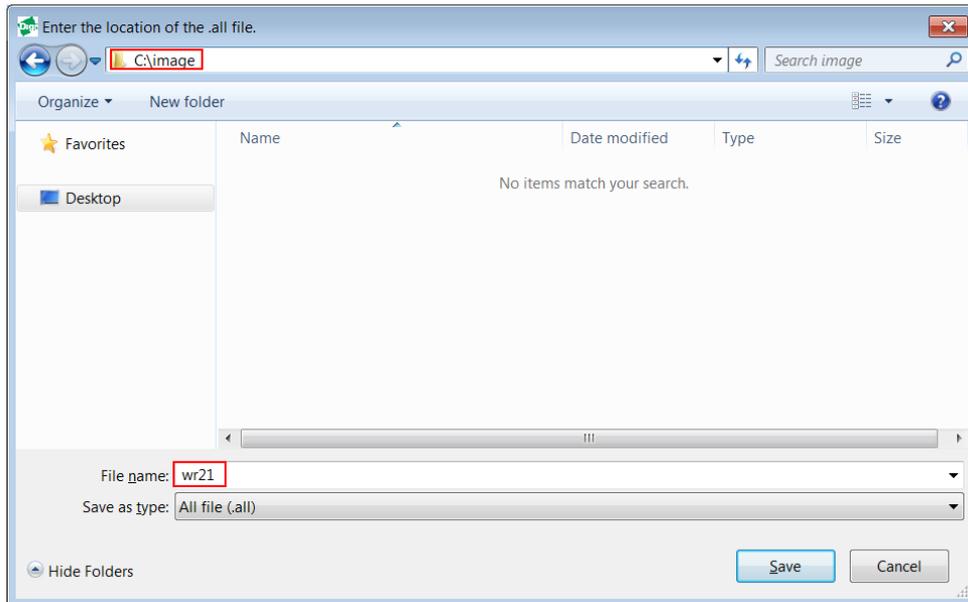


Enter the serial number of the router and click **OK**

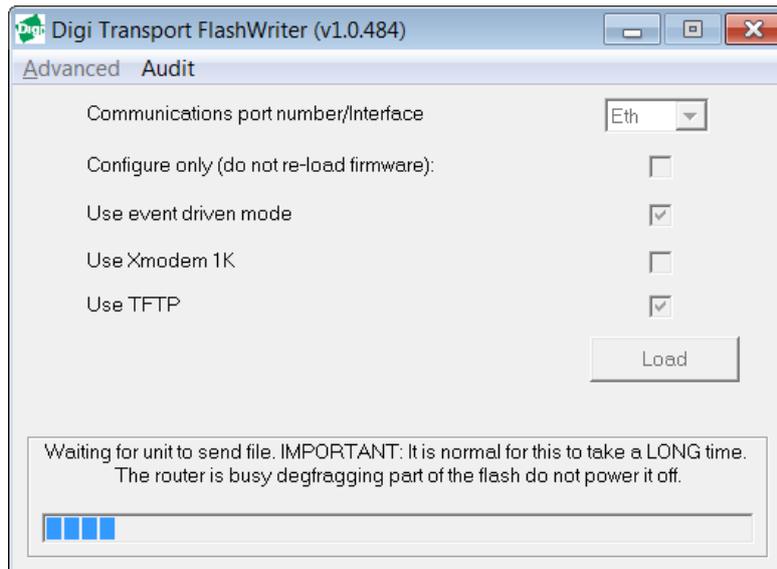


Chose a location where to save the all file and chose a file name.

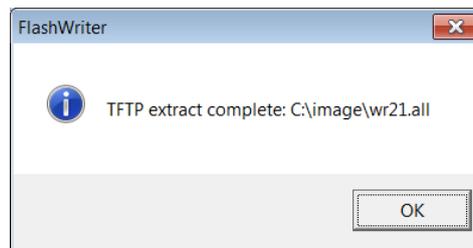
Please Note: The file name must be in the 8.3 format such as **wr21.all**



FlashWriter will now create the image. Wait for the process to finish (it can take several minutes)



An “**Extract complete**” message should appear when the process is finished.



The file is now ready.

4 CREATE USB FLASH DRIVE

4.1 Prepare USB Flash drive

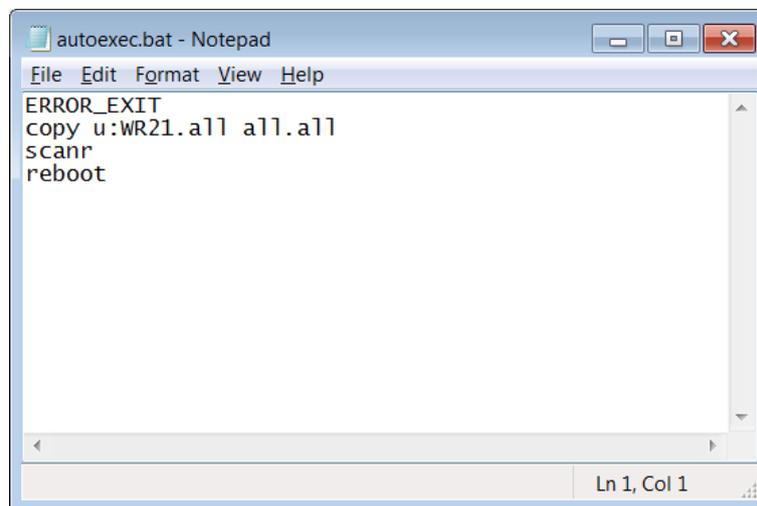
4.1.1 Create an autoexec.bat file

Prepare a text file called “**autoexec.bat**” with the following content:

```
ERROR_EXIT  
copy u:WR21.a11 all.a11  
scanr  
reboot
```

Where **WR21.a11** is the file name used when saving with FlashWriter in the previous section

It should look like this:



4.1.2 Prepare the USB Flash Drive.

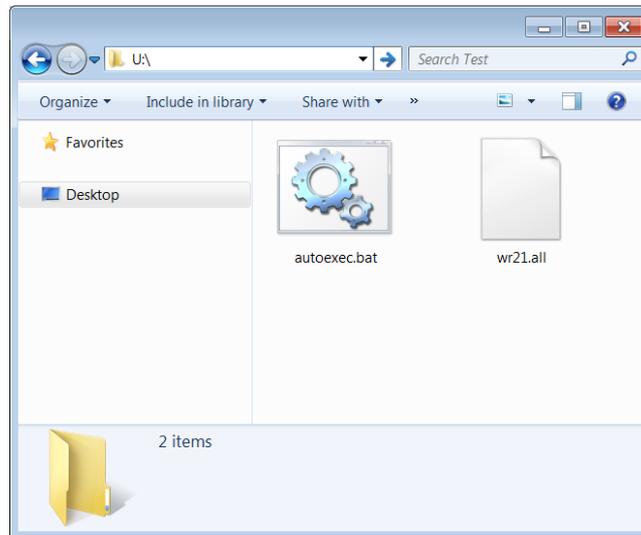
It is recommended to start with a FAT32 formatted device.

Copy the following files on the USB device:

wr21.all

autoexec.bat

The root directory of the USB device should look like this:



The USB Flash Drive is now ready for use.

5 TESTING

The complete process should take approximately 1-2 minutes.

Insert the USB Flash drive into the WR21.

The 3 signal LEDs will flash. This indicates that autoexec.bat is running



If the process was successful the router will reboot

If successful, all the LEDs will flash except the power LED which will stay solid.



The USB flash drive can now be safely removed.