

BROADCOM

MULTIDOWNLOADER README



Broadcom Corporation
5300 California Avenue
Irvine, California, USA 92677
Phone: 949-926-5000
Fax: 949-926-5203



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Irvine, California, USA 92677
Phone: 949-926-5000
Fax: 949-926-5203
www.broadcom.com

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BCM MULTIDOWNLOADER README

Revision History

Revision	Date	Change Description
V1.7	06/16/13	Initial release
V1.8	09/17/13	Add fastboot comment

Table of Contents

Introduction 1

Installation/Preparation..... 1

 Driver Installation..... 2

 VC Redistributable Setup 3

Package File List..... 4

Configuration..... 5

How to download..... 8

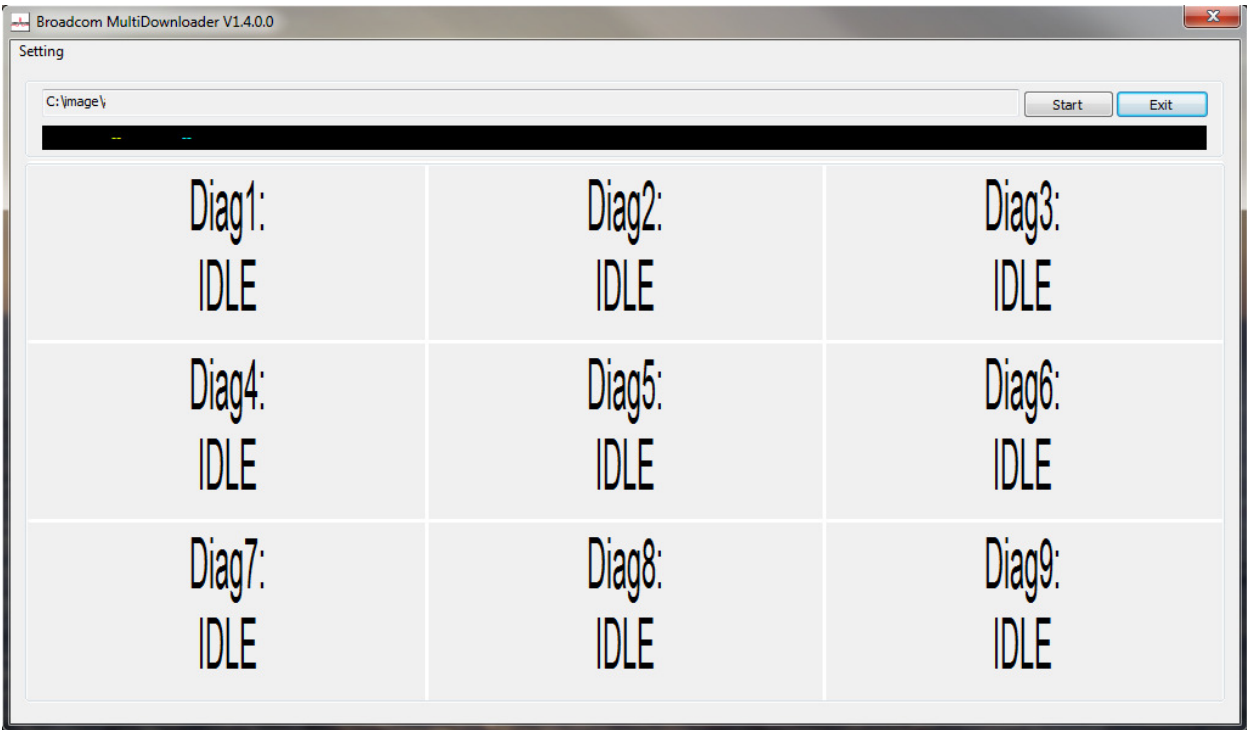
Other settings..... 8

ERROR CODE 9

Introduction

Broadcom MultiDownloader is a flash burn tool for production line.

Figure 1: Broadcom MultiDownloader Main GUI



Installation/Preparation

Before start, please follow below step to do preparation.

Driver Installation

1. Please install BRCM_WinUSB_Driver_v1.05 or newer. MultiDownloader still support Broadcom USB to Serial driver, but we don't recommend it.
2. Connect phone and PC with a USB cable (USB 2.0 recommended).
3. Driver installation will auto finish under Windows7. You can select "next" to continue install under WindowsXP as shown in figure 2.

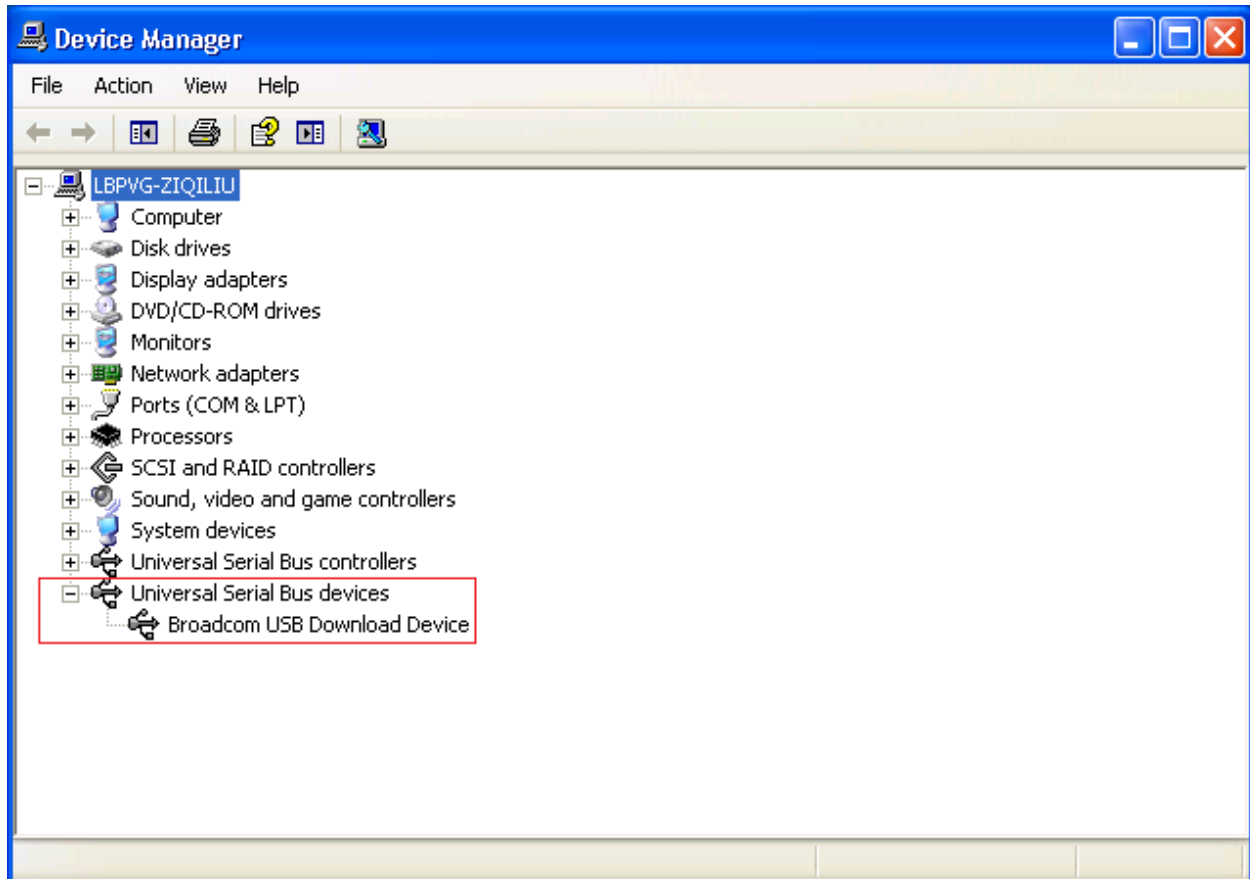
Figure 2: WinUSB driver installation



BCM MULTIDOWNLOADER README

4. If you find “Broadcom USB Download Device” in device manager as shown in figure 3, that means success.

Figure 3: Broadcom USB Download Device



VC Redistributable Setup

Run “vcredist_x86.exe” to install VC Redistributable.

Package File List

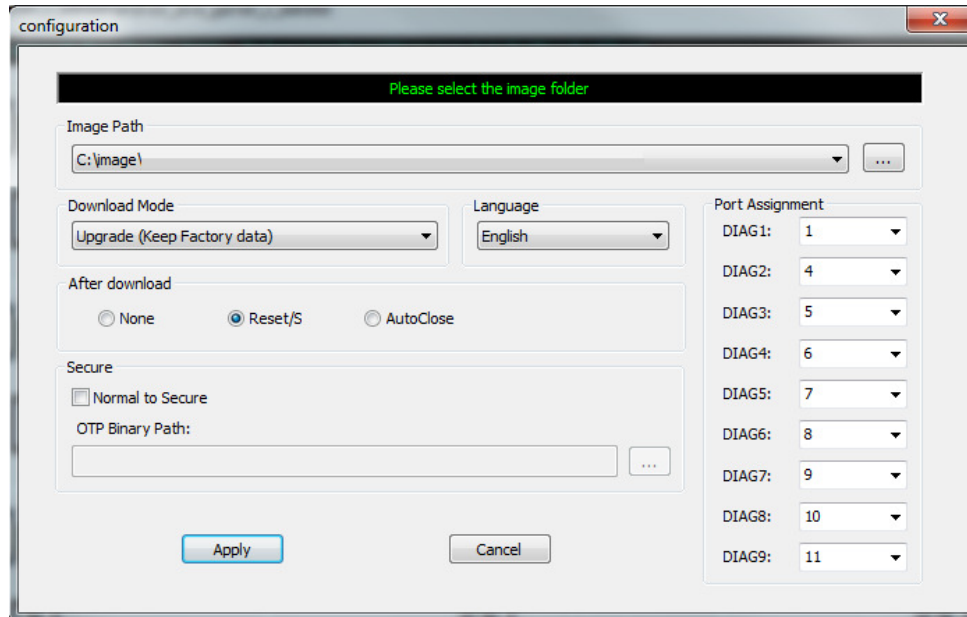
Table 1: Example Table Using the Caption Style

Name	Description	Comment
Ing	Language Folder	Don't delete
profile	Download Profile	Don't delete
System patch	Registry Patch	Need install under WindowsXP/Windows7
BRCM_MultiDownloader_ReadMe_V1.7	Readme	
CommonUtility.dll	Utility Library	
FlashLoaderLib.dll	Flash Library	
PortLibrary.dll	Device Library	
PortSettings.ini	Configuration File	
ReleaseNotes.txt	Release Notes	
simg2img.exe	Image Tool	
SimpleLogger.dll	Log library	
winusb.dll	WinUSB library	
XmlLite.dll	XML Library	
vcredist_x86.exe	VC++ 2008 Redistributable	
MultiDownloader.exe	Main App	

Configuration

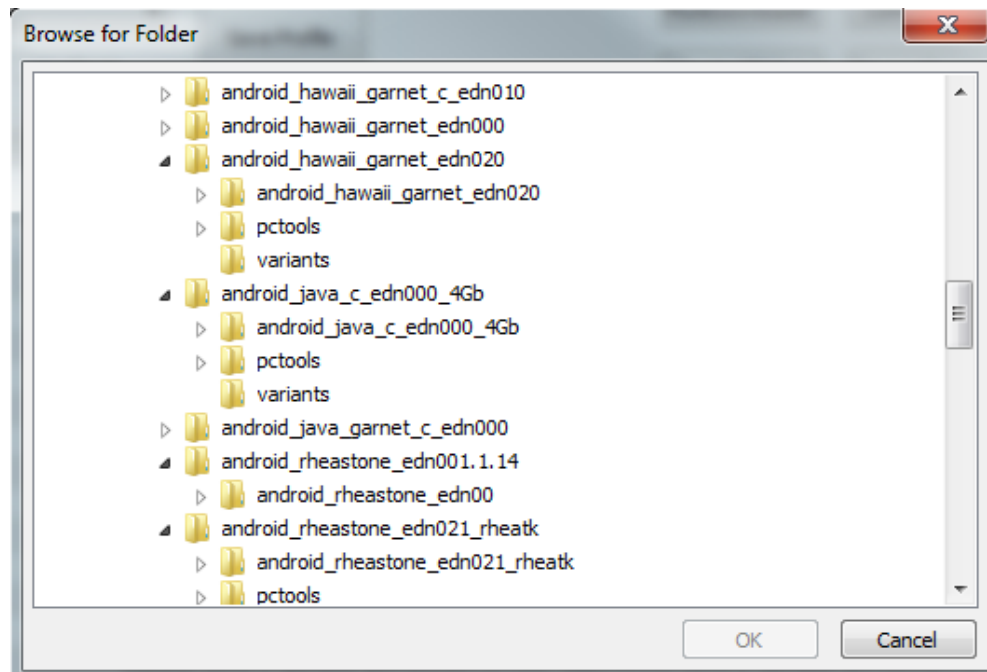
- Select “Setting->Configuration” to enter setting dialog.

Figure 4: Setting GUI



- Image Path:
 1. Click “...” button. Select your image folder.

Figure 5: Image Path



BCM MULTIDOWNLOADER README

2. If an up level folder selected, tool will search all image package contained. And list all packages for your selection.
- Download Mode:
 1. Flash All Images:

Clean whole flash and download all image files. Don't keep any data.
 2. Flash All Images by fastboot:

Clean whole flash and download all image files by fastboot mode. Don't keep any data.
 3. Upgrade (Keep Factory data):

Clean partition before write it. Do not clean factory data partition.
 4. Upgrade (Keep Factory data) by fastboot:

Skip factory data partition and download other images.
 5. You can add more mode by define XML script.
 - Language:
 1. Support English and Chinese.
 2. You can add more language by define .lng file.
 - After download:
 1. None: Do nothing, finish directly.
 2. Reset:

Send reset command to phone after download finish.
 3. Autoclose:

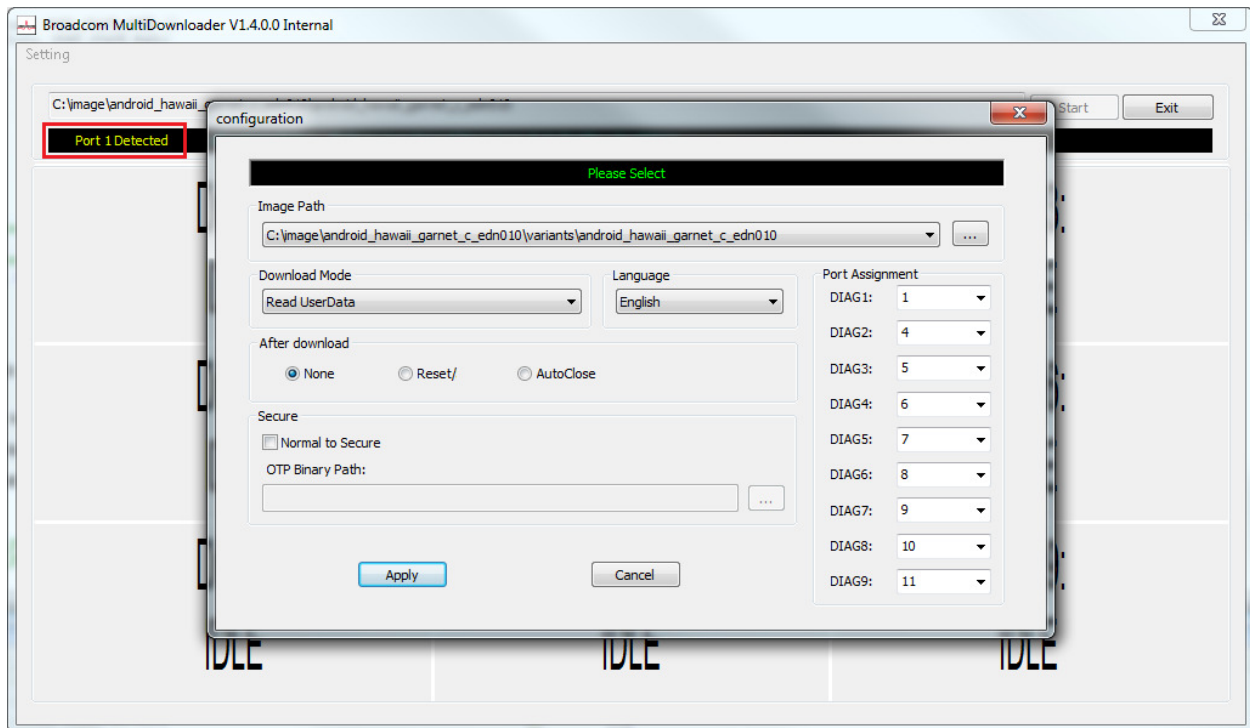
Send autoclose command to phone after download finish. Phone will power off when USB cable disconnected.
 - Secure:
 1. **ATTENTION: The change caused by secure function is irreversible. Please make sure you really need to do secure before start.**
 2. Click "Normal to Secure" to enable.

BCM MULTIDOWNLOADER README

3. Select OTP binary file.

- Port assignment:

- **Figure 6: USB port number**



1. Pay attention to message inside red box.

2. Assign this USB port number to any DIAG you want.

- When finish, click “Apply” to confirm, and “cancel” to discard.

How to download

1. Click “start” on main GUI to enable download main process.
2. Take off the phone battery, unplug the USB cable (make sure the phone is fully power off), then connect the USB cable from the phone to the PC, put back the battery.
3. A user should see that the tool detects the device and start flashing.
4. Unplug the phone once the DIAG color is green. Please don't unplug a phone if the color is still in yellow. This will cause an error.

Other settings

- Log setting:
 1. A user can set the logging level in the PortSettings.ini file under this section:

```
[Logger]  
  
Level=2
```
 2. By default, the logging level is set to 2, which means normal.
 3. For debug, a user can set the logger to any level. The following levels are defined for severity:
 - 0 (Off):** Turn off logging.
 - 1 (Verbose):** The Verbose level logs all of the details related to a specific operation. This is the highest level of logging. If logging is set to Verbose, all other levels of logging information are displayed in the log file.
 - 2 (Info):** The Info level logs information about workflow. It generally explains how an operation occurs
 - 3 (Warning):** The Warning level logs information when an operation completes successfully but there are issues with the operation.
 - 4 (Error):** The Error level logs only error conditions.
 - 5 (Fatal):** The Fatal level logs error conditions when something critical goes wrong, most likely the application cannot continue.

ERROR CODE

Here are error codes:

```
#define BRCM_OK 0

#define ERROR_OPEN_COM_FAILED BRCM_OK + 1

#define ERROR_WRITE_COM_FAILED BRCM_OK + 2

#define ERROR_READ_COM_FAILED BRCM_OK + 3

#define ERROR_INVALID_ARGUMENT BRCM_OK + 4

#define ERROR_OPEN_FILE_FAILED BRCM_OK + 5

#define ERROR_READ_BIN_FILE_HEADER_FAILED BRCM_OK + 6

#define ERROR_EMPTY_AP_SCRIPT_FILE BRCM_OK + 7

#define ERROR_WRITE_PARTITION_TABLE_FAILED BRCM_OK + 8

#define ERROR_MEM_ALLOC_FAILED BRCM_OK + 9

#define ERROR_DOWNLOADER_INIT_FAILED BRCM_OK + 0xA

#define ERROR_CHECKSUM_FAILED BRCM_OK + 0xB

#define ERROR_USER_INTERRUPT BRCM_OK + 0xC

#define ERROR_IMAGE_TOO_LARGE BRCM_OK + 0xD

#define ERROR_PARSE_AP_XML_FAILED BRCM_OK + 0xE

#define ERROR_CLOSE_COM_FAILED BRCM_OK + 0xF

#define ERROR_OPERATE_OTP_FAILED 0x500

#define ERROR_LOAD_PRELOADER_FAILED 0x1000

#define ERROR_LOAD_SCRAMLOADER_FAILED ERROR_LOAD_PRELOADER_FAILED +
x100

#define ERROR_LOAD_DOWNLOADER_FAILED ERROR_LOAD_PRELOADER_FAILED +
0x200

#define ERROR_PRE_FLASH 0x1500

#define ERROR_VERIFY_FAILED ERROR_PRE_FLASH + 0x100

#define ERROR_VERIFY_GET_FAILED ERROR_PRE_FLASH + 0x110
```


BCM MULTIDOWNLOADER README

```
#define ERROR_FLASH_CP_IMAGE 0x2000

#define ERROR_FLASH_AP_IMAGE ERROR_FLASH_CP_IMAGE + 0x100

#define ERROR_WRITE_IMEI ERROR_FLASH_CP_IMAGE + 0x200

#define ERROR_UPDATE_BOOT_IMAGE_FAILED ERROR_FLASH_CP_IMAGE + 0x300

#define ERROR_RESET_TARGET ERROR_FLASH_CP_IMAGE + 0x400

#define ERROR_BACKUP_USERDATA ERROR_FLASH_CP_IMAGE + 0x500

#define ERROR_BACKUP_PARAM ERROR_FLASH_CP_IMAGE + 0x550

#define ERROR_RESTORE_USERDATA ERROR_FLASH_CP_IMAGE + 0x600

#define ERROR_CLEAN_PHONE ERROR_FLASH_CP_IMAGE + 0x700

#define ERROR_GET_SIZE ERROR_FLASH_CP_IMAGE + 0x810

#define ERROR_FLASH_RPMB_IMAGE 0x3000

#define ERROR_INIT_RPMBKEY ERROR_FLASH_RPMB_IMAGE + 0x100

#define ERROR_WRITE_KEYBOX ERROR_FLASH_RPMB_IMAGE + 0x200

#define ERROR_READ_KEYBOX ERROR_FLASH_RPMB_IMAGE + 0x250

#define ERROR_WRITE_CKDATA ERROR_FLASH_RPMB_IMAGE + 0x300

#define ERROR_READ_CKDATA ERROR_FLASH_RPMB_IMAGE + 0x350

#define ERROR_WRITE_DEVINFO ERROR_FLASH_RPMB_IMAGE + 0x400

#define ERROR_READ_DEVINFO ERROR_FLASH_RPMB_IMAGE + 0x450

#define ERROR_POST_ACTION 0x9000

#define ERROR_POST_AUTOCLOSE ERROR_POST_ACTION + 0x200

#define BRCM_ERROR
```