



## AMI Software Utility User Guide

### Aptio 5.x AMIBGT User Guide

Document Revision 1.03

June 28, 2018



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## Document Information

### Purpose

This document provides information to use the AMIBGT to update the system BIOS.

### Audience

Generic BIOS Engineers, OEM Engineers, and Aptio Customers.

### Change History

Date	Revision	Description
2013-11-11	1.00	Initial draft
2016-11-28	1.01	Added /CAPSULE and /RECOVERY commands.
2017-04-27	1.02	Added answer for Windows digitally signed driver.
2018-06-21	1.03	Added /OEM option.

## Introduction

### Overview

**A**MIBGT (AMI BIOS Guard Firmware Update Tool) is a package of utilities used to update the system BIOS under various operating systems. AMIBGT only works for APTIO with BIOS GUARD support.

### AMIBGT Features

This list of features is supported from command line, command prompt, EFI Shell, or Linux shell.

Flash ROM image

Command line operating

### Requirements

#### Supported Operating System

AMIBGT is supported by the following operating systems:

- Microsoft® Windows® 7
- Microsoft® Windows® 8
- Microsoft® Windows® 8.1
- Microsoft® Windows® 10
- EFI Shell
- Linux

## Firmware Requirements

- Compatible with Aptio V.
- For supporting BIOS Guard Flash, the following eModules are required:
  - Intel Bios Guard Technology (5.008\_IntelBiosGuard\_003)
  - RomImage (5.008\_RomImage\_001)
  - Flash – Source(5.004\_Flash\_06)

## Getting Started

### Installation

To run, extract all of the files from the folder with the name corresponding to the desired operating system.

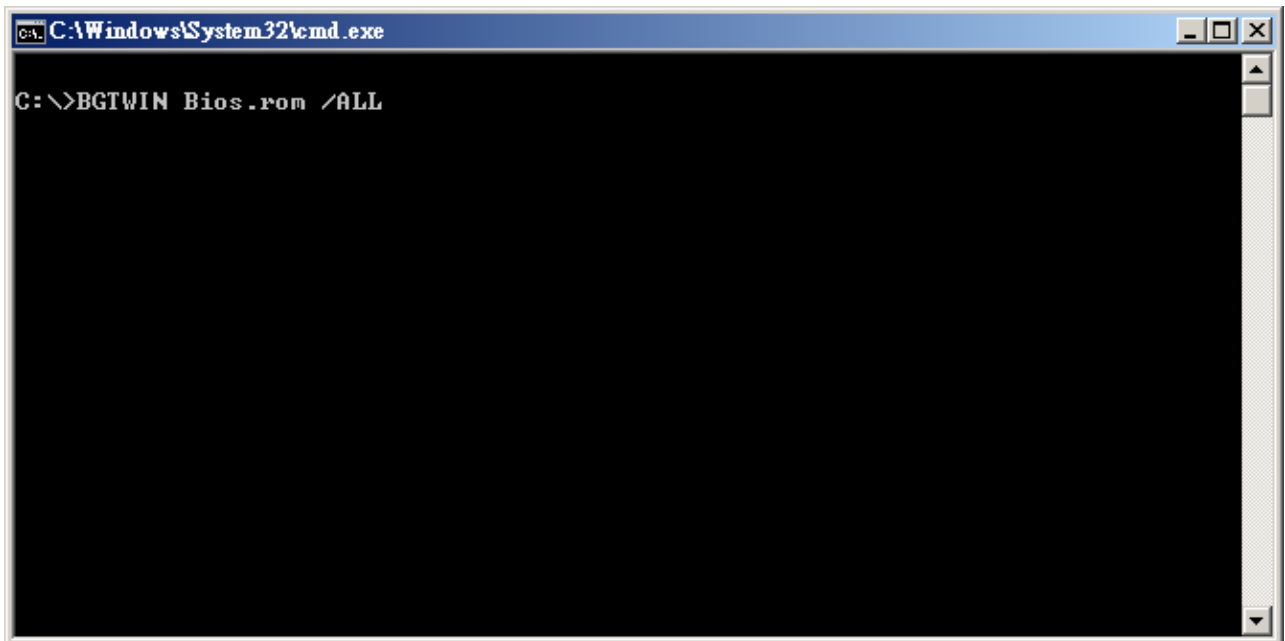
## AMIBGT Operation

### Overview

This chapter explains the operation of AMIBGT.

The AMIBGT operation mode includes all of the AMIBGT features such as programming all regions with a BIOS ROM file and programming Main BIOS with a BIOS ROM file.

An example of BGTWIN programming all regions with a BIOS ROM file command screen is shown below:



```
C:\Windows\System32\cmd.exe  
C:\>BGTWIN Bios.rom /ALL
```

## Features and Functions

### Overview

The AMIBGT offers the following features:

- Program all regions with a BIOS ROM file
- Program Main BIOS with a BIOS ROM file

These features are explained in more detail in this chapter.

### Program all regions with a BIOS ROM file

The following command programs all regions with a BIOS ROM file:

***BGTEFI <Input BIOS ROM File Name> /ALL***

Where BIOS ROM File Name, the mandatory field is used to specify path/filename of the BIOS ROM file with extension.

### Program Main BIOS with a BIOS ROM file

The following command programs Main BIOS with a BIOS ROM file:

***BGTEFI <Input BIOS ROM File Name> /P***

Where BIOS ROM File Name, the mandatory field is used to specify path/filename of the BIOS ROM file with extension.

## Options

***BGTEFI <BIOS ROM File Name> [Option 1] [Option 2]***

**Or**

***BGTEFI <BIOS ROM File Name> <Command>***

### **BIOS ROM File Name**

The mandatory field is used to specify path/filename of the BIOS ROM file with extension.

### **Commands**

The mandatory field is used to select an operation mode.

- /BIOSALL      Program all BIOS block
- /MEALL        Program all ME region
- /ALL           Program all (BIOS+ME)
- /CAPSULE      Override BIOS Guard Flash policy to Capsule. (\*1)
- /RECOVERY    Override BIOS Guard Flash policy to Recovery. (\*2)

### **Options**

The optional field used to supply more information for flashing BIOS ROM. Following lists the supported optional parameters and format (\*3):

- /DESC          Program Descriptor region
- /GBE          Program GBE region
- /ME           Program ME region
- /N             Program NVRAM
- /OA           Program OA region
- /DATA         Program DATA region
- /P             Program Main BIOS
- /B             Program Boot Block
- /OEM          Program OEM region (Only support in CPASULE mode. /CAPSULE /OEM)

\* 1: Linux OS does not support.

\* 2: BGT only sends the recovery file name to BIOS. The action of flashing is handled by BIOS recovery module. The input file must be in root path and only supports 8+3 format.

\* 3: This option list demonstrates the default setting. The list is determined by the design of the BIOS ROM in use. The option items, the item order and the item description can be customized during the BIOS implementation.

## Rules:

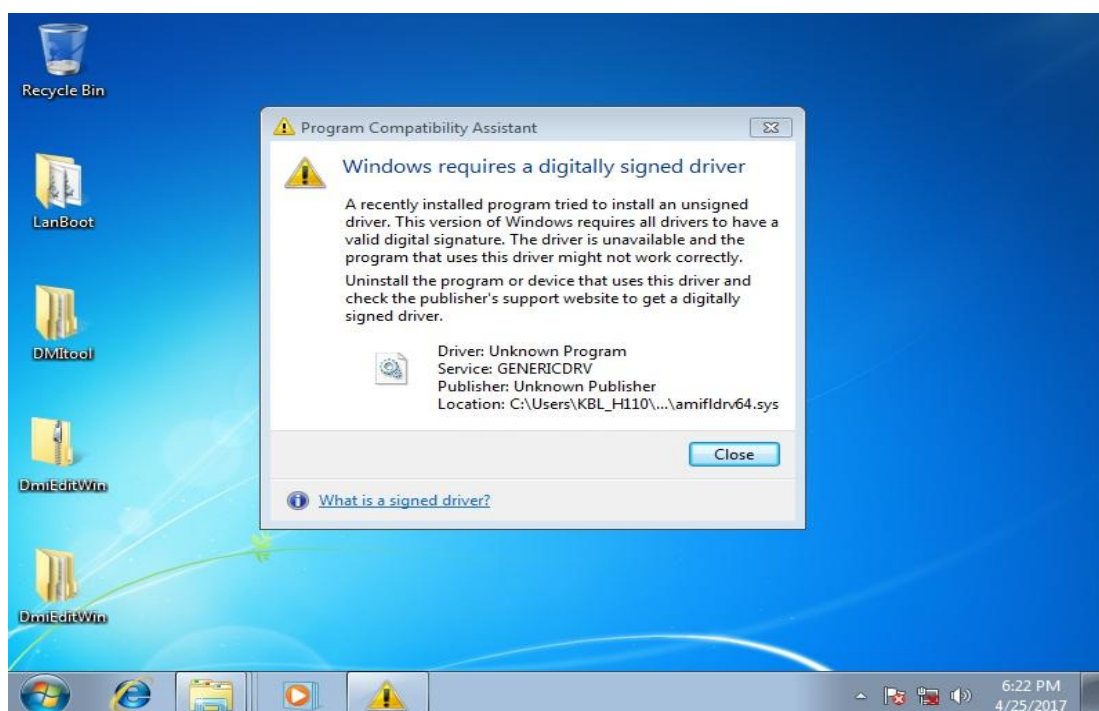
- Any parameter enclosed by < > is a mandatory field.
- Any parameter enclosed by [ ] is an optional field.
- <Commands> cannot co-exist with any [Options].

## Error Code Definition

CODE	Definition
0x0001	BIOS Guard module detected an incompatibility with the installed CPU
0x0002	BIOS Guard Directory check failed
0x0003	A pre-execution check of the PPDT failed
0x0004	An inconsistency was found in the update package
0x0005	Unknown operator or name, or invalid syntax found in script
0x0006	An unimplemented flash object was referenced
0x0007	A JMP, JE, JNE, JG, JGE, JL, or JLE operator has a target that is not within the script buffer (between BEGIN and END inclusive)
0x0008	BGUPC inconsistency found
0x0009	SVN is lower than required by the BGPDT
0x000A	An EC related opcode found in a script when the PPDT indicates there is no EC in the system
0x000B	An implementation specific memory or IO configuration check failed
0x000C	An implementation specific general configuration check failed
0x000D	An EC related opcode was found in the script, but the EC hardware was not ready or is behaving in an unexpected way
0x000E	An attempt to modify B0 contents occurred in an unsigned script
0x8001	Buffer or flash operation exceeded object bounds
0x8002	An unsigned script attempted to write or erase a block of flash that overlaps with the SFAM
0x8003	An integer overflow occurred
0x8004	Total number of script opcodes retired exceeds either platform limit, or global limit
0x8005	An internal consistency check failed within the BIOS Guard module
0xFFFF	CPU detected an error and did not execute the BIOS Guard module

## FAQ

### Windows requires a digitally signed driver



*This issue is resolved by a security fix provided by MS. [KB3033929](#) resolves this issue. The certificate used to sign the driver is higher security and older versions of Win7 don't support it.*