



AUTOINSTALLER

Issue Date: 11 Oct 2012

Documen

*Making***Wireless**

“Texas Instruments™” and “TI™” are trademarks of Texas Instruments

The TI logo is a trademark of Texas Instruments

OMAP™ is a trademark of Texas Instruments

OMAP-Vox™ is a trademark of Texas Instruments

Innovator™ is a trademark of Texas Instruments

Code Composer Studio™ is a trademark of Texas Instruments

DSP/BIOS™ is a trademark of Texas Instruments

eXpressDSP™ is a trademark of Texas Instruments

TMS320™ is a trademark of Texas Instruments

TMS320C28x™ is a trademark of Texas Instruments

TMS320C6000™ is a trademark of Texas Instruments

TMS320C5000™ is a trademark of Texas Instruments

TMS320C2000™ is a trademark of Texas Instruments

All other trademarks are the property of the respective owner.

Copyright © 2007 Texas Instruments Incorporated. All rights reserved.

Information in this document is subject to change without notice. Texas Instruments may have pending patent applications, trademarks, copyrights, or other intellectual property rights covering matter in this document. The furnishing of this document is given for usage with Texas Instruments products only and does not give you any license to the intellectual property that might be contained within this document. Texas Instruments makes no implied or expressed warranties in this document and is not responsible for the products based from this document.

Revision History

REV	DATE	AUTHOR	NOTES
1.0	11 September 2012	Percy Tierney	AutoInstaller version 4
1.1	16 September 2012	Percy Tierney	AutoInstaller v 5
1.2	24 September 2012	Percy Tierney	AutoInstaller v 6
1.3	11 October 2012	Percy Tierney	AutoInstaller v 7

Revision History	iii
1 Introduction:	vi
1.1 The AutoInstaller	Error! Bookmark not defined.

1 Introduction:

The AutoInstaller

The AutoInstaller is a utility for easy setup of Windows 8 on a TI WoA device (called a “Tablet” in this document).

Changes for the latest AutoInstaller

NOTE: There are **important** changes to the Firmware update step.

The AutoInstaller now allows users to set individual Tablet names, Product Keys and other setup options in a file that is retained across multiple installs.

The BOOTME label is no longer used by the Microsoft OS. Instead, users must use the Volume Down/Up button to request a boot from USB / EBL.

The HALs are now added to the WinRE (Windows Recovery Enviroment) for testing/selfhost.

Operating System is the 5 October release

We are providing a beta product key to install this OS.

That product key is in the Setup-USB image in \Overlays\extras\MySettings.txt.

Internal Version Changes

STM Fusion firmware is updated to version 13 during the “Run Me First” phase.

A utility is run to set the SDIO bus speed via registry for WiFi.

The 14 Sep OP3 (Microsoft Windows updates for OP3) are available, but not automatically installed on ZeroDay builds.

“Run Me First” now does a system shut down at the end (to enable all firmware/system changes).

Getting started with the AutoInstaller

You will need 2 x 4 GB USB drives, the AutoInstaller and the latest TI drivers you wish to install.

Format the USB drives as FAT32 and label one as “Firmware” and one as “Setup”.

Change: The Windows OS no longer uses a USB drive label of BOOTME to allow automatic booting.

The AutoInstallers can be run directly from the Tablet’s USB port.

If you run into problems during installation, some of the workarounds require that you have a keyboard and the Setup USB drive attached to a hub which is attached to the Tablet.

Which AutoInstaller to use

The AutoInstaller comes in 3 versions.

Partner	AutoInstaller_Partner_5-OctZeroDay	For TI partners with access to the Microsoft Connect site.
RTM	AutoInstaller_Internal_RTM9200	For internal WHCK test runs (the RTM build is Microsoft PRS signed).
ZeroDay	AutoInstaller_Internal_ZeroDay9200	For internal development and self-hosting.

The “Partner” installs Windows 8 “ZeroDay” build with TI release firmware and drivers (no 3rd party drivers). TI will provide a Product Key for the OS installation.

“RTM” installs Windows 8 RTM and includes 3rd party drivers plus a Windows Product Key. The RTM is largely only of interest for WHCK testing, which requires a PRS (Product Release Signed, or full signed) Microsoft OS.

The “ZeroDay” installs Windows 8 “ZeroDay” build and includes 3rd party drivers plus a Windows Product Key. The ZeroDay is Microsoft’s Daily Build from [\\winrtmbldso1\TIDailyBuildsSOC\Win8_GDR_SOC_TI](#) branch. These are the latest OS drops from Microsoft, recommended for internal use (development and Self-Host).

Setting up the AutoInstaller

Download the AutoInstaller package to your local drive and extract the contents. There is an “AutoInstaller_contents.txt” file that lists the contents.

The Firmware folder contains the Firmware-USB updater and the Setup-USB folder contains the Setup itself.

XCOPY the Firmware contents onto your Firmware USB drive (created in the “Getting started” step).

XCOPY the Setup contents onto your Setup USB drive.

The Firmware copy takes under a minute, the Setup copy takes several minutes.

Make any modifications to the Firmware and Setup USB drives, and leave the AutoInstaller package on your local system as the Master for your installation copies.

CHANGE : Customizing your setup

You can now customize your setup through the “MySettings.txt” file.

This file is located at Setup-USB in “\Overlay\extras\MySettings”.

There are 4 customizations that apply to setup.

PKID empty
NAME DevPC
DEBUG no
WINRE yes

The **PKID** field is where you need to enter your 25 digit RTM Product Key, which is available on Connect at <https://connect.microsoft.com/site1094/ProductKeys>.

NAME sets both the Tablet DNS (network) and USB woaTarget name (if you enable the debugger).

DEBUG enables USB debugging at setup. Setting to NO allows for faster boot time (no waiting for the debugger timeout).

WINRE selects whether to setup the Windows Recovery environment at start. Setting to NO allows for faster install time.

Re-using your Customizations

When you start the AutoInstaller, it will check for, and use, a customization file

“C:\extras\MySettings.txt”.

If that file is not present, it will check for and use a customization file on the Setup-USB drive at “\Overlay\extras\MySettings.txt”.

Setup will not proceed without a customization file.

If the file is found on the Tablet (at “C:\extras\MySettings.txt”), then it is copied to the Setup-USB drive at “\Overlay\extras\MySettings.txt”.

The installation will copy anything in \Overlays to the Tablet, so your settings will be preserved by copying back to “C:\extras\MySettings.txt” where they will be available for the next installation.

Starting the Installation

The installation will remove all data from your tablet. Back up any data you wish to save before starting.

Important – the Firmware update process has CHANGED

The latest firmware requires that the tablets have the latest iNAND software installed.

There is a utility included that will tell you if you are ready to update your firmware.

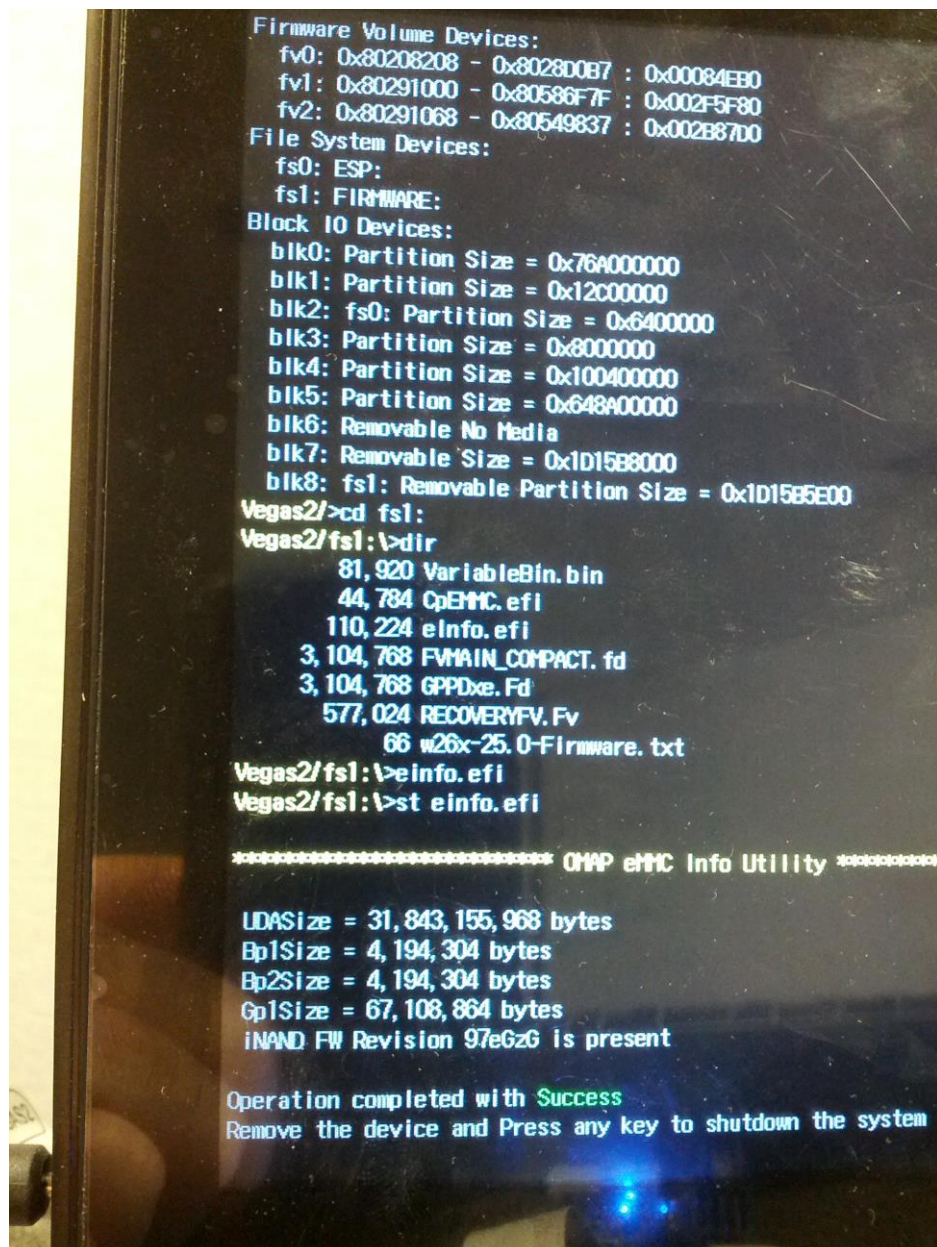
Insert the Firmware USB into the Tablet and start (or restart).

You will need to hold the Tablet Volume UP button until the Firmware USB starts booting.

This is part of the Windows RT “SecureBoot” features, which require the user to physically confirm their desire to boot from USB.

At the UEFI prompt, type the following.

```
cd fs1:  
start eINFO.efi
```

If you see the result of “Success” (as in the graphic above), then you are ready to update your firmware.

If you do NOT see “Success”, please contact your TI representative and send us a screen shot of what the eINFO.efi message shows.

Do NOT attempt to update your firmware if you do NOT see “Success” from the eINFO.efi.

You can press Volume up/down or Windows key on the Tablet or any key on the attached keyboard to complete the firmware upgrade.

This powers off the Tablet.

Start the tablet a second time with the Firmware-USB drive attached, and again press the Volume UP button.

At the UEFI prompt, type the following.

```
cd fs1:
start CpEMMC.efi
```

This will install the Firmware updates on your tablet.

You will be prompted to “Press any key” when the process completes.

If you do NOT see “Success”, please contact your TI representative and send us a screen shot of what the CpEMMC.efi message shows.

Replace the Firmware USB drive with the Setup USB drive and start the Tablet.

IMPORTANT – You will need to hold the Tablet Volume down button until the Firmware USB starts booting.

This is part of the Windows RT “SecureBoot” features, which require the user to physically confirm their desire to boot from USB.

Setup contains a WinPE (self-contained minimal Windows with simple UI) and will start to boot within a few minutes.

You should see a pale blue background with a dark blue command prompt window in which Setup will start automatically.

When Setup starts, it disables booting from the Setup USB drive, so there is no need to remove it.

The default Setup takes about 20 minutes and the Standard Setup takes about 50.

TROUBLE-SHOOTING TIPS

Try this step if the Tablet does not boot to the Setup USB drive OR you get a Windows screen with a “sad face” and the message that something went wrong.

You can boot directly into the EBL (Embedded Boot Loader) to start the Setup USB drive.

Start (or restart) the system and press the Volume **UP** button to boot into EBL.

Enter this command to get a list of the attached devices will be displayed, one of which should be labeled BOOTME, the Setup USB drive (typically FS1).

DEVICE

Enter these commands to go to the boot loader on the USB Setup drive.

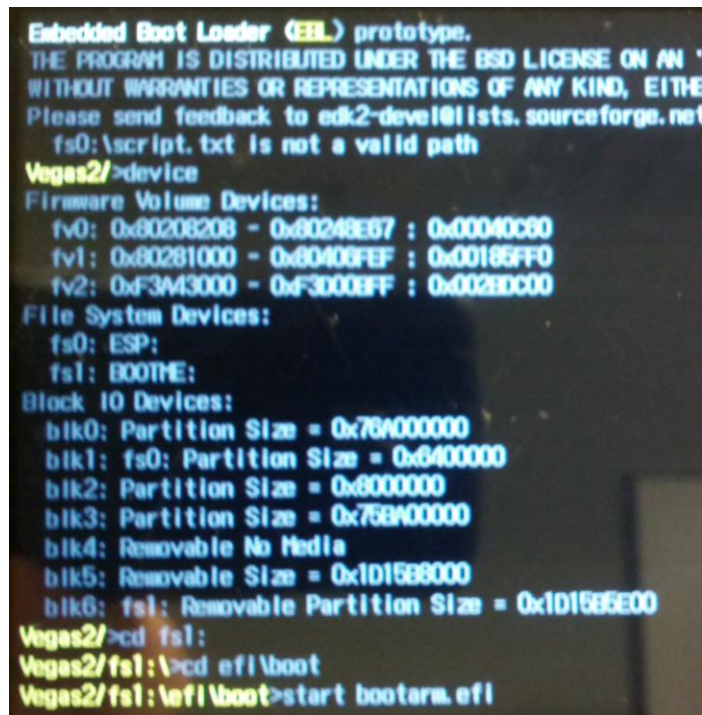
CD FS1:

CD \EFI\BOOT

Manually start the Setup USB with this final command.

START BOOTARM.EFI

After about 2 minutes of complete inactivity, the spinning dots will appear, followed by the USB Setup screen.



```
Embedded Boot Loader (EBL) prototype.  
THE PROGRAM IS DISTRIBUTED UNDER THE BSD LICENSE ON AN 'AS-IS'  
WITHOUT WARRANTIES OR REPRESENTATIONS OF ANY KIND, EITHER  
Please send feedback to edk2-devel@lists.sourceforge.net  
fs0:\script.txt is not a valid path  
Vegas2/>>device  
Firmware Volume Devices:  
  fv0: 0x80208208 - 0x80248E67 : 0x00040c60  
  fv1: 0x80281000 - 0x80406FEF : 0x00185FF0  
  fv2: 0xF3M3000 - 0xF3000BFF : 0x002EDC00  
File System Devices:  
  fs0: ESP:  
  fs1: BOOTHE:  
Block IO Devices:  
  blk0: Partition Size = 0x76400000  
  blk1: fs0: Partition Size = 0x6400000  
  blk2: Partition Size = 0x8000000  
  blk3: Partition Size = 0x76400000  
  blk4: Removable No Media  
  blk5: Removable Size = 0x1D15B8000  
  blk6: fs1: Removable Partition Size = 0x1D15B6E00  
Vegas2/>>cd fs1:  
Vegas2/fs1:\>cd efi\boot  
Vegas2/fs1:\efi\boot>start bootarm.efi
```

First boot Troubleshooting – “Your PC needs to restart”

If you see the system halt on first boot with the following message, there is something wrong with the HALs.

```
Your PC needs to restart.  
Please hold down the power button.  
Error Code: 0x0000005C  
Parameters:  
0x00000110  
0x05250631  
0x00000014  
0xC0000001
```

The current ZeroDay and RTM OS's both have HALs from Microsoft, and should not show this error. But when we update our Windows' OS, it is possible that this could occur – please let us know if this happens.

First Boot Troubleshooting – no spinning dots

The system may wait at the TI-Insyde bootup firmware logo for longer than 3 minutes with no spinning dots display.

During the first boot to the OS, there is sometimes a timing problem with some physical combinations of USB devices prior to the OS completing installation.

Unplugging the USB cable and restarting the system will allow installation to complete, after which you can reinsert the USB cable.

Error messagebox “Windows could not parse or process the unattend answer file”

If you see an error that “Windows could not parse or process the unattend answer file ...”, that means that your Windows Product Key is invalid.

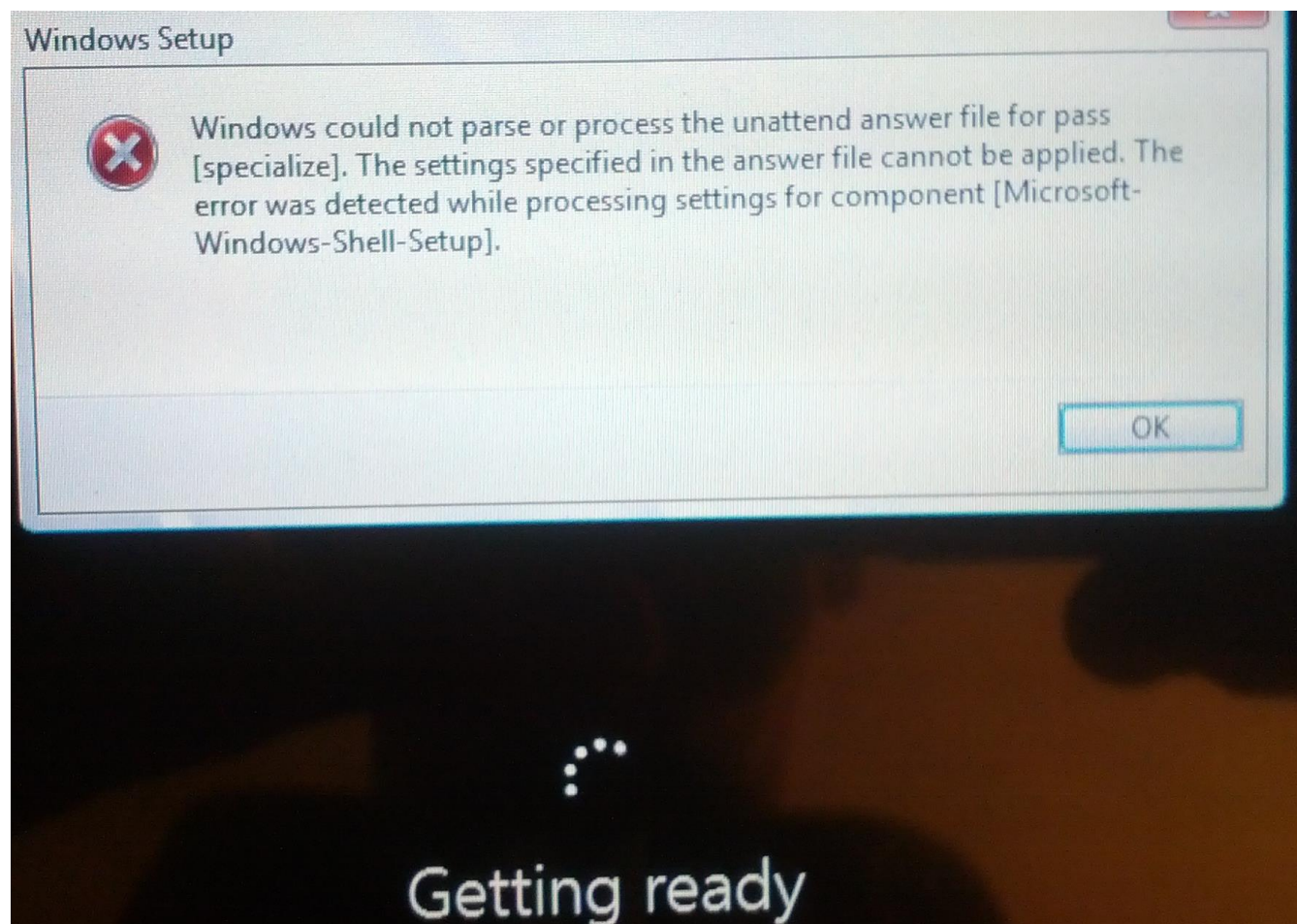
The product key is handed over to the Installer in the Setup USB drive \Callinstallwoa.cmd script.

But that key is not checked by Setup until you have booted from the Tablet.

There is a line in the “\Overlay\extras\MySettings.txt configuration where you need to enter your Product Key (at the text “empty”).

```
PKID    empty
NAME    DevPC
DEBUG   no
WINRE   yes
```

If you entered your key and still get this error, please check your Product Key entry very carefully – there is probably a typo (easy to do with a 5x5 GUID).



Manual Installation and Maintenance

The Setup USB drive can be configured to disable the automated setup, which enables a manual command prompt.

This is useful for examining the client installation offline, or repairs.

To enable manual mode, on the Setup USB drive rename the file **\TI_Setup\Automatic.txt** to **notAutomatic.txt**.

Boot from the Setup USB drive and you will see an interactive menu with several choices from the first generation of installers.

Select choice 4 for the manual prompt.

To enable automation, rename notAutomatic.txt back to Automatic.txt.

Running Setup Manually

The Manual setup menu shows 5 choices.

Choices 1 and 3 apply to an earlier, archaic Setup method.

Choice 2 will erase your eMMC drive, leaving it ready for a new Windows RT installation.

Choice 4 will drop you to a command prompt, where you can start Setup manually.

Run DISKPART and LIS VOL to find your Setup-USB drive letter.

Exit DISKPART and select the Setup-USB drive (ie, "E:").

Start \CLIENT\Setup.exe to begin Setup.

You will be prompted for your Product Key early in the process.

Firmware

You can reuse the AutoInstaller for new TI driver installs.

The firmware installation procedure changes from time to time, so it is best to read the Release notes for the Firmware_Update_Instructions.

Updating the DRIVERS on the Setup-USB drive is easier.

On the Setup USB drive, delete the old TI drivers.

```
DEL \DRIVERS\DRIVERS
```

Now xcopy the DRIVERS directory from your TI Release package to the Setup USB drive -
\DRIVERS\DRIVERS

Post-installation Internal Setup "Run Me First"

The internal AutoInstallers have a recommended post-installation script.

Locate the script C:\Run Me First" and start it (you can start with touch alone, and the script requires elevation privilege).

"Run Me First" does the following.

- Add the TI proxy (harmless if you're outside of the TI network)
- Switch the Activation required UI to the watermark (unused if you are activated)
- Set default power policy to "Always on" when A/C connected (can be reset)
- Call Internet Explorer once to enable connectivity
- Enable kernel crashdumps to the desktop
- RTM only - install the OP3 Windows Updates (recommended by Microsoft)
- Install the STM Sensor firmware v.013
- Sets a registry flag to tell SDBIO bus to ran at 24MHz for WiFi
- Shuts the system down (to enable firmware changes)

The "Run Me First" script deletes itself once done as a signal that it has been run (there is a copy in C:\extras).

Media

A small set of sample media is included and copied to “C:\Media”.

Debugger Settings

The Setup-USB drive is enabled for USB debugging with targetname “woaTarget”.

Default setting for USB debugging on the AutoInstaller_v6 is OFF.

You can change this in the “MySettings.txt” to ON.

If you enable debugging during setup, USB debugging is selected and the targetname is the same as the client name.

Example – here are the default settings for a Partner AutoInstaller.

```
PKID    empty
NAME    DevPC
DEBUG   no
WINRE   yes
```

Change the default settings to below (with a genuine GUID from Connect).

```
PKID    UUUUU-VVVVV-XXXXX-YYYYY-ZZZZZ
NAME    Lab-Device-07
DEBUG   yes
WINRE   yes
```

Debugging will be enabled and the USB targetname will be “lab-device-07”.

The USB debug targetname is not case sensitive.

Troubleshooting – if you enable kernel debugging, you need to power cycle the client for USB debugging to work.