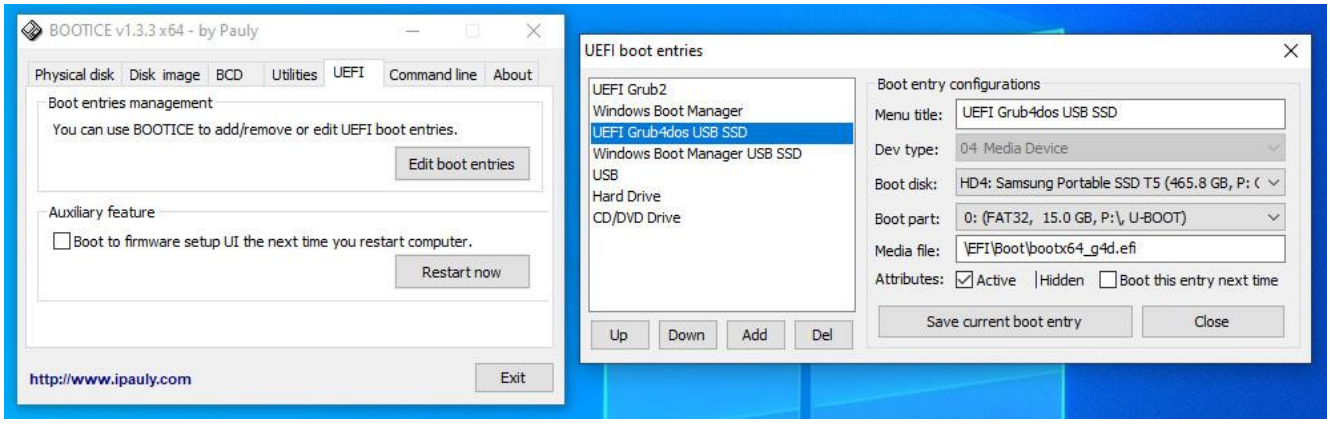
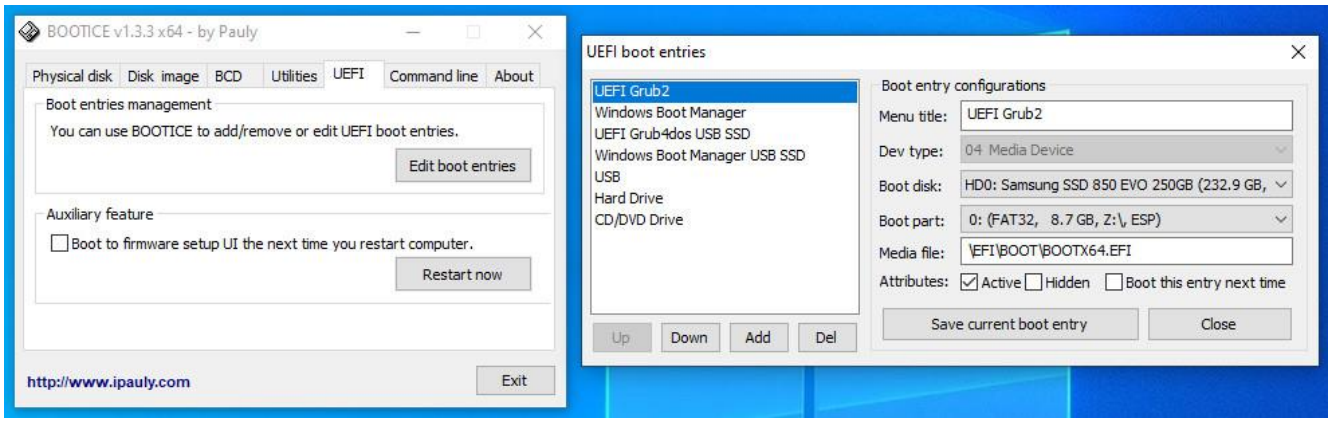
How to Boot Mini 10x64 VHD with UEFI Grub2 and with UEFI Grub4dos from RAMDISK using signed SVBus driver

January 26, 2021

1. WinNTSetup - Fresh Install in 25 GB Fixed VHD located on internal SSD / Harddisk using Win10x64 ISO from TechBench - use page 3
- Select Boot drive (usually EFI drive Z:) and VHD is mounted as Drive Y: - Unattended Install - for Local Account - select to Add Drivers folder
2. VHD_WIMBOOT - Capture WimBoot LZX and Apply in Compact LZX mode in Fixed VHD 10 GB - Offline Windows
3. Mount VHD with doubble-click and use Win_Reduce_Trusted on Offline Windows - Reduce in 1 minute - Mini 10x64 VHD UsedSize = 1.79 GB
- Capture WimBoot LZX WIM = 1.19 GB and Apply Compact LZX in 3.9 GB Fixed VHD with MBR 2 Partitions (Active 100 MB FAT32 + rest NTFS)
4. Boot with 3.9 GB VHD as FILEDISK using Windows Boot Manager menu
- Always use the supplied Firewall App Blocker and Enable WhiteList to Allow Internet Browser only
- This is the easiest way to block unwanted internet traffic including Windows Update and prevents the growth of Used Size inside VHD
5. Install signed SVBus driver in running Windows of 3.9 GB VHD - later needed for UEFI booting from RAMDISK
- Install SVBus EVRootCA Registry Fix in runnung Windows - use SVBus-signed_2 folder
- Install SVBus Driver as Admin - use R-mouse on instx64.exe in SVBus-signed_2 folder
- Reboot VHD first as FILEDISK from Windows Boot Manager to make Install of SVBus driver effective
- Reboot with your normal Win 10x64 operating System
6. USB_FORMAT - make portable USB SSD with MBR and 2 partitions (FAT32 + NTFS) booting with Windows Boot Manager menu
7. Copy 3.9 GB VHD to NTFS drive of USB prepared with USB_FORMAT
8. UEFI_MULTI plus UEFI_MULTI-addon-glim-agFM - Use R-mouse 7-zip menu to Extract here to Add Super UEFI Secure Grub2
- Select FAT32 Boot Drive and NTFS System Drive of SAMSUNG Portable SSD T5 500 GB
- Select Super UEFI Secure Grub2 as Boot Manager and Select the Mini 10x64 3.9 GB VHD copied to NTFS System Drive of USB
- use GO to Add VHD for booting with UEFI Grub2 and UEFI Grub4dos and Windows Boot Manager (MBR Boot and UEFI) and MBR Grub4dos
9. BOOTICE - UEFI Edit boot entries to Add Super UEFI Secure Grub2 entry Or UEFI Grub4dos entry (needs to disable UEFI Secure)
10. Boot from USB - after beep use **F8** or other HotKey Boot Menu - Select UEFI Secure Grub2 entry Or UEFI Grub4dos entry
- Select to Boot Mini 10x64 VHD 3.9 GB from RAMDISK in UEFI mode using SVBus driver - Or chainload other menu's

UEFI Grub2 and UEFI Grub4dos and signed SVBus driver are integrated in VHD_WIMBOOT and USB_FORMAT and UEFI_MULTI



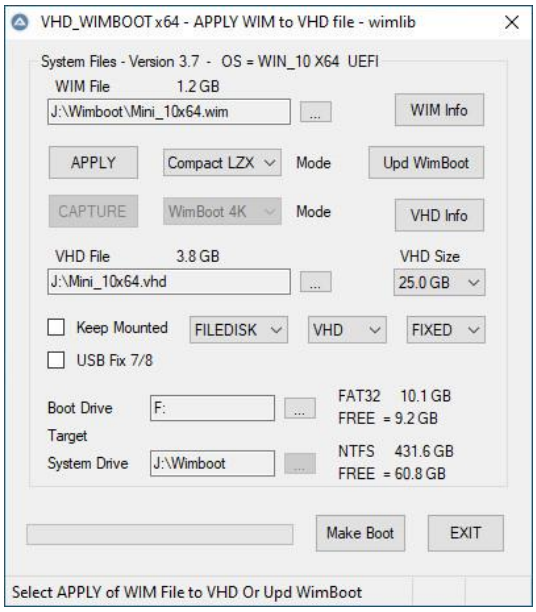


How to Boot VHD + WIM from USB Portable SSD as FILEDISK and with Grub4dos from RAMDISK using SVBus driver

Download: VHD_WIMBOOT and WinNTSetup and USB_FORMAT and wimb GitHub - Info: VHD_WIMBOOT and Win10XPE and UEFI_MULTI

0. USB_FORMAT Tool - Option: Make Bootable USB Drive with MBR and 2 Partitions - active FAT32 Boot Drive + NTFS System Drive
1. WinNTSetup do Fresh Install Compact 4K mode of Win10x64 in 25 GB VHD located on Internal System Drive C: - use page 3 of this Manual
2. Boot with Win10XPE Or other Win10x64 and Switch off Defender - Start VHD_WIMBOOT - select System Drive and the 25 GB VHD file
3. VHD_WIMBOOT - **Capture** with WimBoot mode and Copy the Captured WIM File to **Wimboot** folder on NTFS System Drive of Portable SSD
4. VHD_WIMBOOT - FILEDISK - **Apply** WIM with Compact LZX mode in Fixed VHD 25 GB located on NTFS System Drive of USB SSD
5. VHD_WIMBOOT - RAMDISK - **Apply** WIM with WimBoot mode in Expandable VHD 3.9 GB located on NTFS System Drive of USB SSD
6. Internet Off (disconnect LAN cable) - Boot in MBR BIOS mode via F8 menu from USB - Boot Manager Menu with 3.9 GB VHD as FILEDISK
7. Install of SVBus driver - use R-mouse menu to Run as admin file **instx64.exe** of SVBus bin folder - Driver for booting from RAMDISK
8. Reboot in MBR BIOS mode from USB and select in Grub4dos Menu your 3.9 GB VHD on USB for booting from RAMDISK
9. Reboot in UEFI Or MBR BIOS mode from USB and select in Boot Manager Menu 25 GB VHD on USB for booting as FILEDISK
10. Always use Firewall App Blocker and **Enable WhiteList** with Allow Internet Browser and Netsh Commands – Allow Local Subnet (Printer)
    This is the easiest way to block unwanted internet traffic including Windows Update and prevents the growth of Used Size inside VHD
11. Option - Boot with 10XPE Or other Win10x64 - use Win_Reduce_Trusted in 30 seconds to Reduce Offline Windows e.g. use Mounted VHD
12. VHD_WIMBOOT - Capture WimBoot LZX mode and Apply Compact LZX mode in 3.9 GB VHD to boot Mini10x64 as FILEDISK or as RAMDISK

The Button **WIM Info** will give useful info about your WIM file - wimboot compatible WIM File contains only Index 1
The Button **Upd WimBOOT** can be used after copy of VHD + WIM set to other NTFS drive to make the WimBoot set bootable again
The Button **Make Boot** and **Apply** will make the boot entries on Target Boot Drive - FAT32 partition of USB Portable SSD as described below
- VHD boot entry in Boot Manager Menu for booting VHD as **FILEDISK** - in BIOS mode and in UEFI mode
- VHD boot entry in **Grub4dos** Menu for booting VHD from **RAMDISK** - in BIOS mode only - Make Boot needs installed SVBus driver
- Booting from USB with Portable SSD needs after BIOS beep to press F8 Or F11 to arrive at BIOS Boot Menu and then select your boot device
After Install of SVBus driver then UEFI booting requires in Boot Manager Menu to press F8 where you can allow unsigned drivers
When file **grldr.mbr** is Not found at Boot Drive, then **Make Boot** and **APPLY** will make Grub4dos entry in Boot Manager Menu on Boot Drive
WimBoot LZX Compression can be used in CAPTURE to make WIM files of smaller size - **Switch Defender Off** for Faster Capture
An **Expandable** VHD will load much faster into RAMDISK, since only the space occupied by files of 600 MB needs to be loaded
It Expands then to the maximum **VHD Size** of 3.9 GB and gives the RAMDISK of that size a lot of FREE Space



In VHD_WIMBOOT the First Selection is the **System Drive**.
System Drive is NTFS partition for VHD + WIM Operating System files.
VHD **Capture** WimBoot will make WIM file in Wimboot folder on System Drive.
WIM **Apply** WimBoot Mode will use WIM file to Install Windows on VHD file.
Boot Drive is FAT32 partition for Boot Manager and Grub4dos Boot files.
On Internal Harddisk the System Drive is Drive C: and the Boot drive is Hidden.
Run VHD_WIMBOOT_x64 so that Hidden Boot partition is mounted as drive Z:
On USB Portable SSD the Boot and System Drive are made as described below.
Win10XPE environment is advised for faster Capture of WIM file from VHD.
UEFI_MULTI is used to Add Win10XPE as Boot Option to your Internal SSD Or USB.
wimlib is used for Capture and Apply of wimboot compatible WIM files.
VHD Capture involves replacing Windows\System32\WimBootCompress.ini
in Captured WIM file by the WimBootCompress.ini file supplied in makebt folder.
[PrepopulateList] is used to Apply as real files in VHD instead of as WOF pointers.
Entries **\Boot\BCD** and **\bootmgr** in the [PrepopulateList] section are
needed to allow Grub4dos booting VHD from RAMDISK and so to avoid Error 13.

Extra Options: **APPLY** WIM File in Normal or WimBoot Mode or Compact Mode with XPRESS4K 8K 16K or LZX Compression
Extra Options: **CAPTURE** WIM File in Normal Or WimBoot Mode with XPRESS4K or LZX Compression - See wimlib

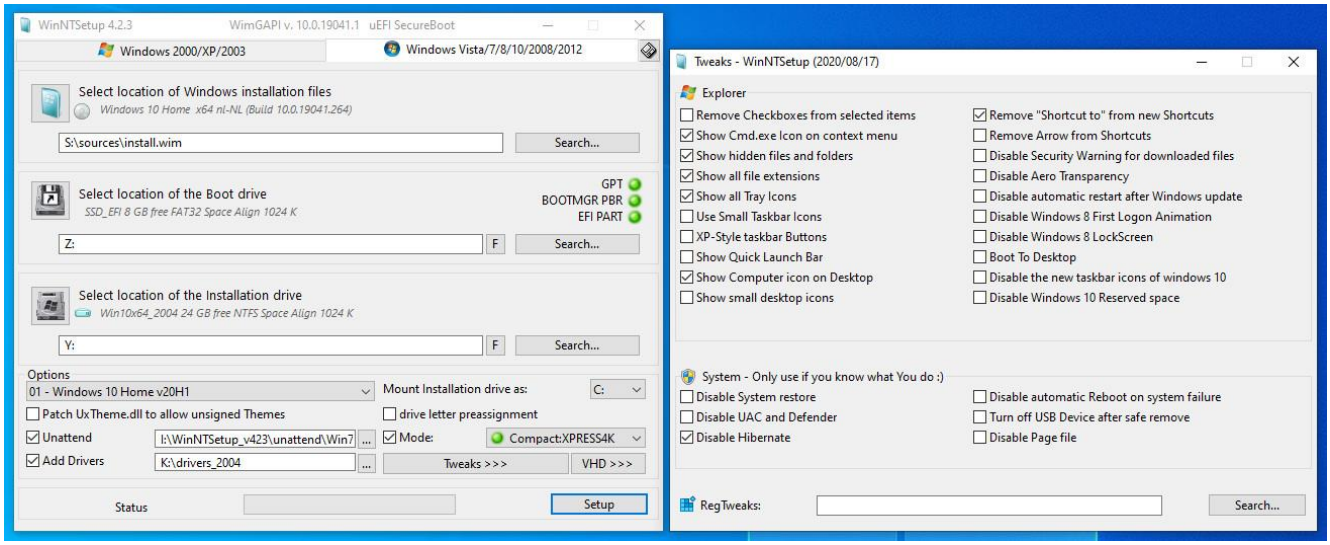
USB Format Tool - Make Bootable USB Drive with MBR and 2 Partitions - active FAT32 Boot Drive + NTFS System Drive
- Use USB_FORMAT with SAMSUNG Portable SSD T5 500 GB Or USB-Stick gives UEFI/MBR Partitioning with active FAT32 + NTFS Partition
- 1st partition 20 GB FAT32 Set Active used for Boot Manager and Grub4dos Boot files and 2nd partition NTFS used for VHD + WIM System files
BIOS mode booting requires Active partition with BOOTMGR bootsector
UEFI mode booting requires FAT32 partition with x64 file efi\boot\bootx64.efi Or x86 file efi\boot\bootia32.efi

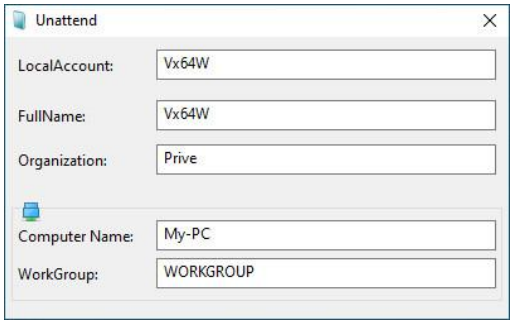
Step 1 is use WinNTSetup to do Fresh Install of Win10x64 in VHD located on Internal System Drive C:

Download Win10_20xx_English_x64.iso Or Win10 x64 Setup ISO in your language from TechBench Or using Windows-ISO-Downloader Tool
Download WinNTSetup and run WinNTSetup_x64.exe for the first time to collect some Tools - BOOTICE v1.3.3.2 is included already

Create W10x64_F.vhd using WinNTSetup x64 for Install of Win10 x64 in 25 GB Fixed VHD

1. Disconnect Internet LAN Ethernet cable - Start up with Windows 10 x64 Or 10XPE and Start WinNTSetup x64
2. In WinNTSetup x64 - location Windows Installation file sources\install.wim - use R-mouse to select Win10x64 ISO file from TechBench
3. Select Boot drive (usually EFI drive Z:) and Select VHD to Create 25 GB VHD located on internal SSD harddisk - VHD is mounted as Drive Y:
4. Choose Win10 **Edition** - Select desired **Tweaks** - Disable Hibernate - use Compact:XPRESS4K **Mode** to reduce the Used Size of Windows
5. Select Unattended Install - for Local Account Select unattend\Win7-10-Select.xml and fill in the form - Option: select to Add Drivers folder
6. Select **Setup** and select **Legacy** Boot Menu Style and OK to Install Win10x64 in VHD - choose OK and not Reboot
7. BOOTICEx64.exe from Upper Right Icon - BCD of current system file Z:\efi\microsoft\boot - Professional mode - BootMenuPolicy = Legacy
8. Option needed for RAMDISK SVBus driver - In BootIce Use R-mouse to create New element - AllowPrereleaseSignatures - Yes
9. Reboot and install Win10x64 in VHD with Offline Local Account - Connect to LAN or WLAN for Install of missing Drivers and Activation
10. use Firewall App Blocker and **Enable WhiteList** with Allow Internet Browser to block Windows Update and prevent the growth of Used Size
11. Install 7-zip - VLC player and Office and registry_backup_portable and Reboot
12. Open Admin Command Window and use **wmic UserAccount where Name='Vx64W' set PasswordExpires=False** - More Info
13. If not done with Tweaks - set **Hibernate Off** - in admin command window type: **powercfg -h off**
14. After Install 7-zip using file 7z1900-x64.exe - In 7-zip File Manager menu Tools > Options - select file associations, such as zip 7z rar wim
15. Firewall App Blocker - File > Netsh Commands - Allow Local Subnet - Connect Printer and after auto Installation Set as Default Printer
16. Disable LAN Network Adapter and Disable Connect Automatically WiFi for protection and Reboot computer
17. Start > Windows System > Configuration > System > Advanced system > Settings > Startup
    Select as **Standardsystem** your normal Windows 10 and **Reboot** computer





Downloads: WinNTSetup and Windows 10 x64 ISO from TechBench and Firewall App Blocker and Option: WinSxS_Reduce_Trusted
Downloads: from wimb GitHub - USB_FORMAT - UEFI_MULTI - System_Info - VHD_WIMBOOT - WOF_Compress - MBR_Backup
More Info: VHD_WIMBOOT and UEFI_MULTI Win10XPE - WIMBOOT Topic - RAMBOOT Topic - Compact install - WinSxS_Reduce_Trusted
More Info: WinCmd and bcdedit and bcdboot and bootsect and DiskPart en DISM and Win10_Install.pdf and VHDX and Native Boot

VHD_WIMBOOT - Apply and Capture of WIM Files for OS in VHD - Background Info and Details

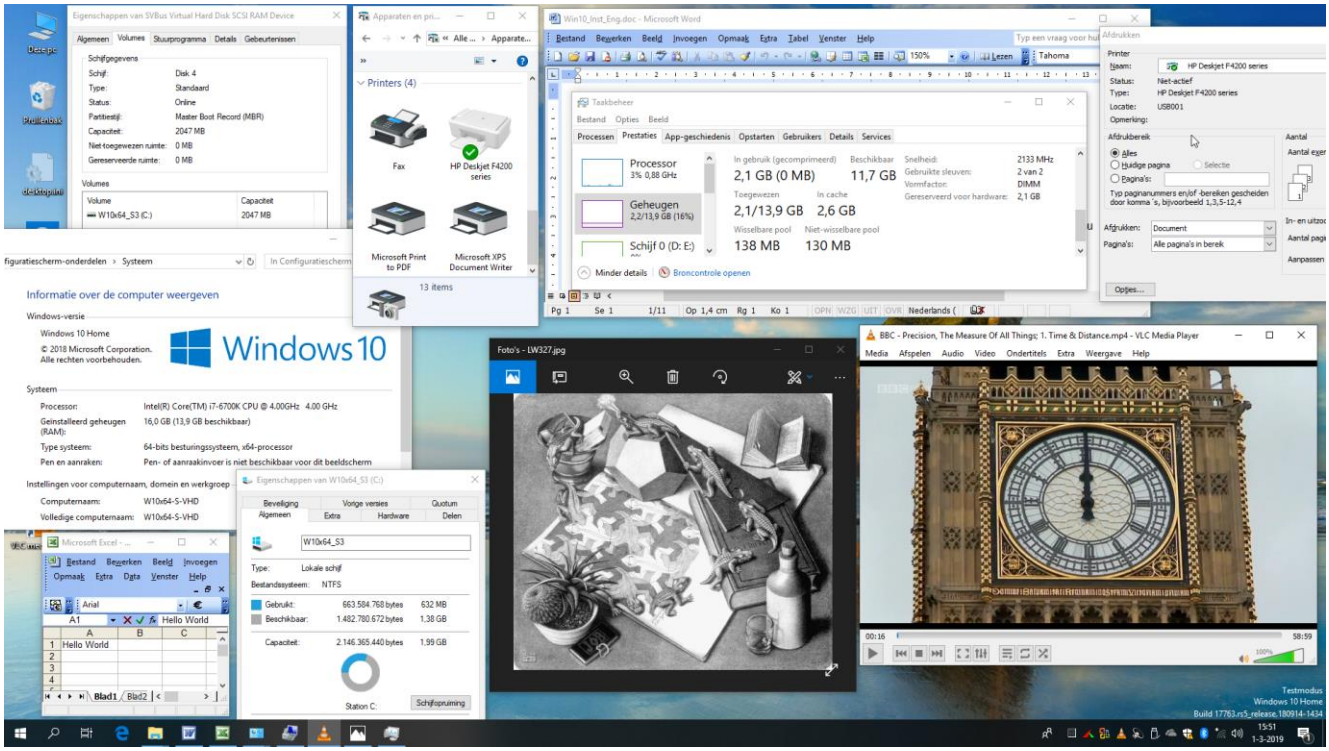
APPLY of WIM File in wimboot mode to VHD gives Operating System with only variable and boot essential files total about 1 GB in VHD.
The VHD contains also pointers to the non variable files in the WIM archive, so that it seems that the complete OS is present in the VHD.
The VHD content can be generated in 2 minutes from the WIM archive of about 9 GB, so that a backup of the system is always available.
The VHD + WIM set can be copied to any drive so that we have a portable Operating System (needs to use supplied WimBootCompress.ini).
The WIM file cannot be changed by viruses or other malware so that the system is reliable and if needed it is easy to generate new VHD.
The VHD can boot as 25 GB FILEDISK from Portable SSD to allow changes, but also booting always Fresh from 3.9 GB RAMDISK is possible.
Grub4dos booting from RAMDISK requires VHD file, since VHDX files are Not compatible with Grub4dos.

WIMBOOT and Compact needs wof.sys driver of Win 10 Or for 7/8 the wofadk.sys driver as installed by WinNTSetup mode Compact:NONE
Boot Manager files of Windows 7 cannot be used for booting VHD as WIMBOOT and VHDX files cannot be used in Windows PE Or 7 OS.
WinNTSetup 4.0 Menu > Local Windows Installations allows to Capture WIM of a running Windows System using WIMLIB Engine.
WimBootCompress.ini file cannot be modified in this case, which is needed for APPLY as Portable OS Or for Grub4dos booting from RAMDISK.
Microsoft WimGAPI tool cannot be used as Engine, since it will make mistakes in uncompressing drivers needed for Portable Operating System.
VHD WIMBOOT has support for Office and Printer and any program can be installed, which is all not possible in case of WinPE
In case of VHD WIMBOOT on each machine it takes extra boottime and space to adjust the drivers for that machine
The VHD WIMBOOT solution is Portable, but not as flexible as Win10XPE, where boottime is not dependant on machine hardware
File **makebt\WimBootCompress-W10X.ini** gives minimal used space for VHD, but Portable OS requires the supplied WimBootCompress.ini
In WimBoot Capture file WimBootCompress.ini is copied to System32 and in Normal Mode WimBootCompress-Normal.ini is used but Not copied

Add 50 GB Fixed VHD as personalised UEFI VHD WIMBOOT Operating System to your Internal SSD

- In Windows 10 x64 Or 10XPE run VHD_WIMBOOT_x64 so that Hidden EFI partition is in VHD_WIMBOOT Selectable as Boot drive Z:
- Or use R-mouse to open **admin cmd** window and mount the EFI partition using **mountvol Z: /s**
- You can use R-mouse menu to **run as administrator** Explorer-x64.exe of Explorer++ for file management on EFI partition
- Use VHD_WIMBOOT to **APPLY** Captured WIM File to New Created VHD Fixed Size 50 GB on NTFS System Drive of Internal SSD
- In case of UEFI VHD WIMBOOT it is better that SVBus driver is NOT installed, since otherwise F8 menu is needed to allow unsigned drivers
- Boot 50 GB VHD as Filedisk from UEFI Boot Manager Menu and Switch to Microsoft Account for personalisation
- Make Links for Documents, Downloads and Pictures to folders elsewhere on Harddisk partition

Final Result - Windows 10 x64 in VHD booting from RAMDISK by using Grub4dos menu and SVBus driver



How to make Win10XPE WIM file for booting from RAMDISK

Download: Win10XPE Builder Or Win10XPE at GitHub and Unpack with 7-Zip x64 - More Info: Win10XPE and Quick Guide

Download Win10_1909_English_x64.iso or newer from TechBench Or using Windows-ISO-Downloader Tool

Mount ISO with double-click and Copy the Content of the ISO to Folder **Win10_1909_English_x64** on your Harddisk

In WinBuilder > Build Core > Select **Run ALL Programs From RAM** to get WIM file with all Programs integrated

In WinBuilder > Apps > System Tools DeSelect XPE Startup (when Selected build fails)

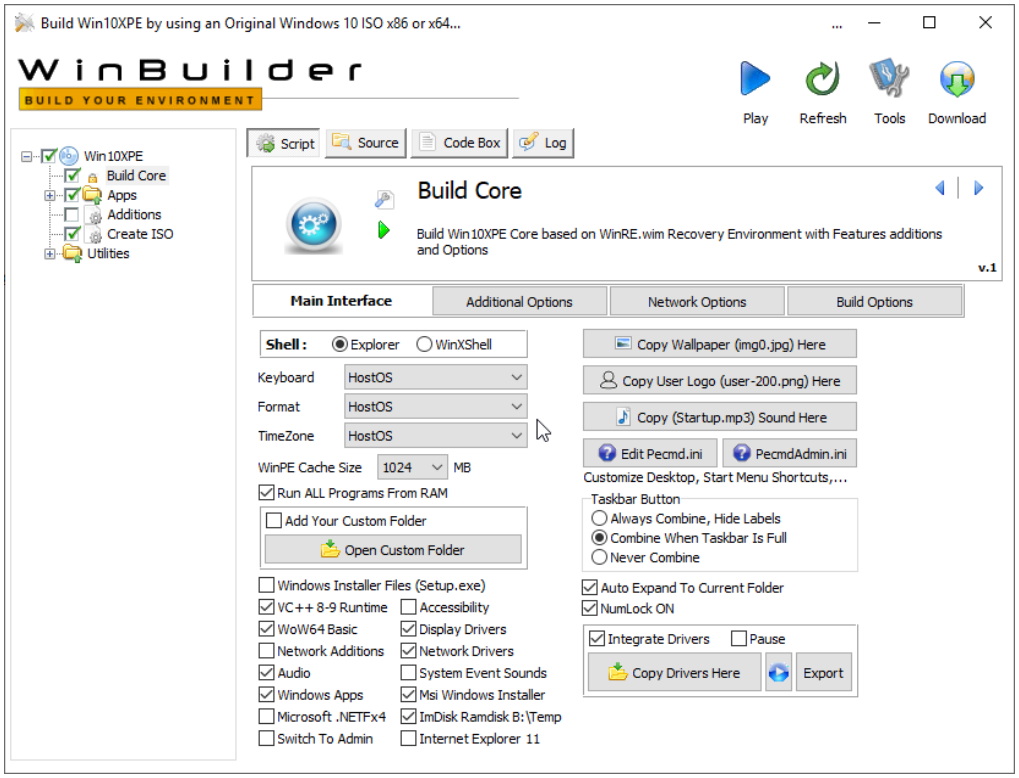
In WinBuilder Select the Folder Win10_1909_English_x64 on your Harddisk and Start building with **Play** button

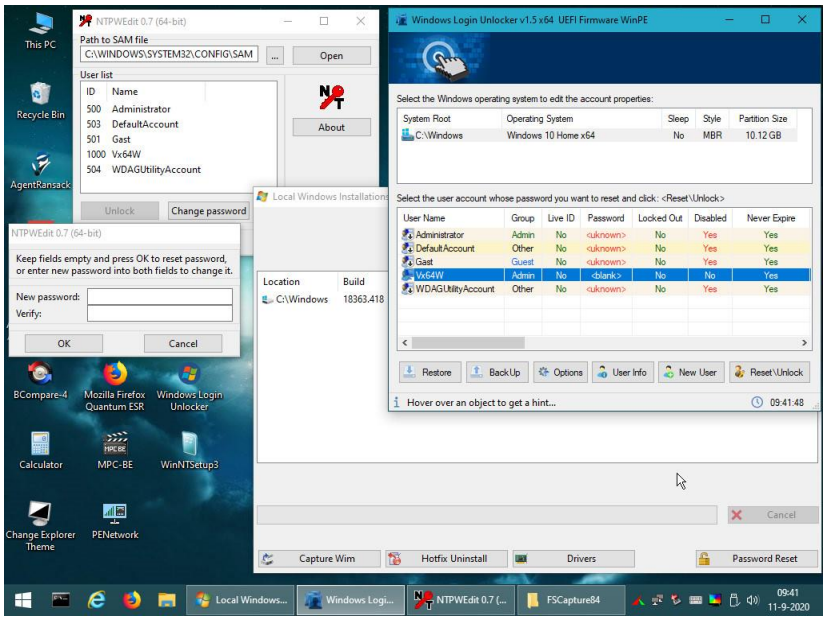
Use Win10XPE\ISO\sources\boot.wim as your Boot Image file and use Win10XPE\ISO\Boot\boot.sdi for booting WIM file from RAMDISK

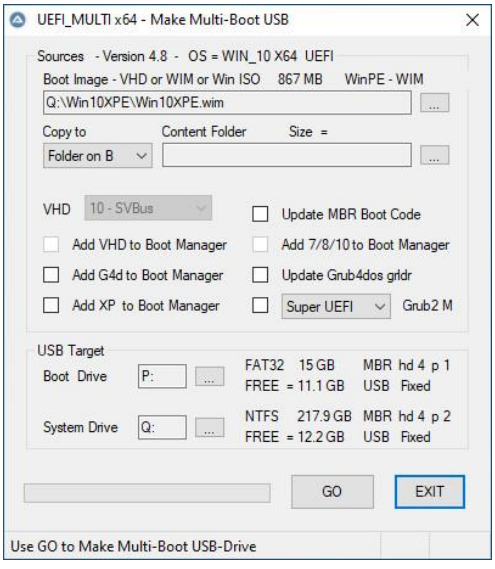
First copy both files to folder Win10XPE located on NTFS System Drive of Portable SSD and then use UEFI_MULTI to make Boot Manager entry

More Info: Win10_Install.pdf Manual in Forums MSFN and Reboot.pro and UEFI_MULTI

Downloads: from wimb GitHub - USB_FORMAT - UEFI_MULTI - System_Info - VHD_WIMBOOT - WOF_Compress - MBR_Backup



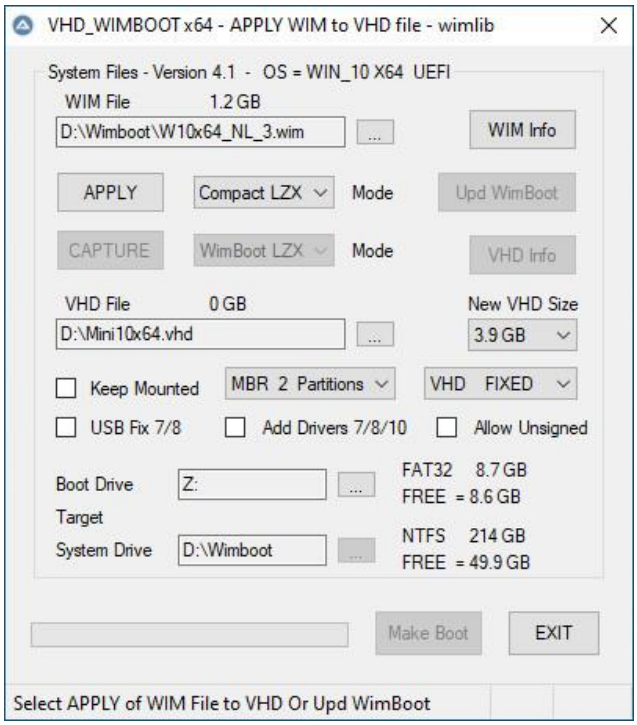


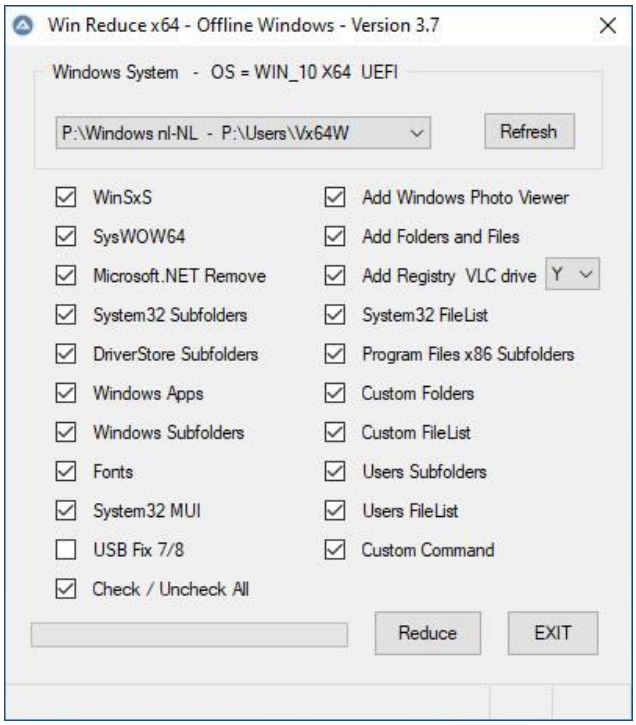


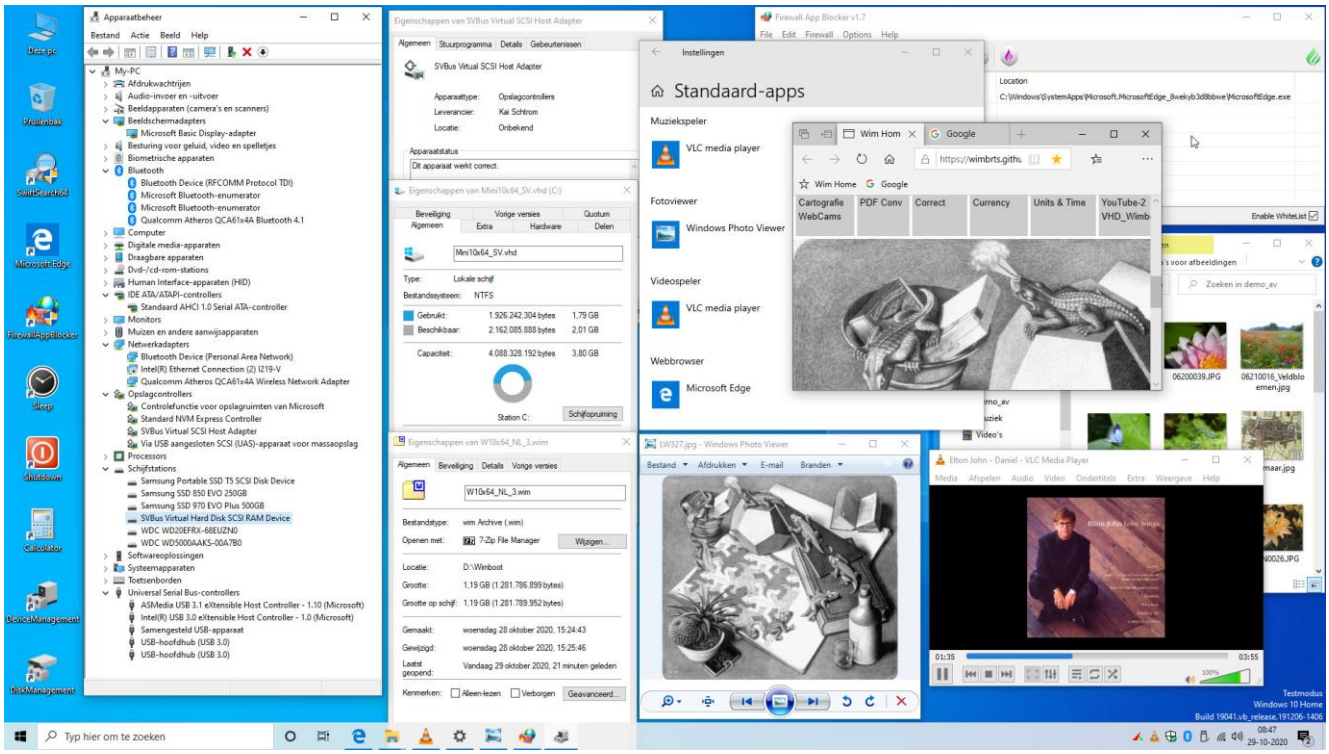
How to make Compact and Mini 7/8/10 VHD

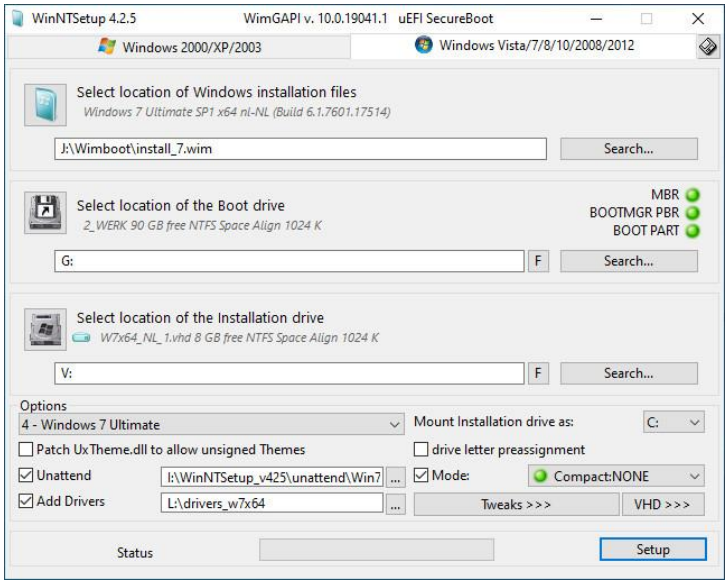
1. WinNTSetup - Fresh Install in 25 GB VHD using Win10x64 ISO from TechBench
2. VHD_WIMBOOT - Capture WimBoot LZX and Apply in Compact LZX mode in VHD
3. Mount VHD with doubble-click and use Win_Reduce_Trusted on Offline Windows
- Reduce in 1 minute gives Mini 10x64 VHD UsedSize = 1.79 GB
- Capture WimBoot LZX WIM = 1.19 GB and Apply Compact LZX in 3.9 GB VHD
4. Boot with 3.9 GB VHD - Always use the supplied Firewall App Blocker and Enable WhiteList to Allow Internet Browser only
- This is the easiest way to block unwanted internet traffic including Windows Update and prevents the growth of Used Size inside VHD

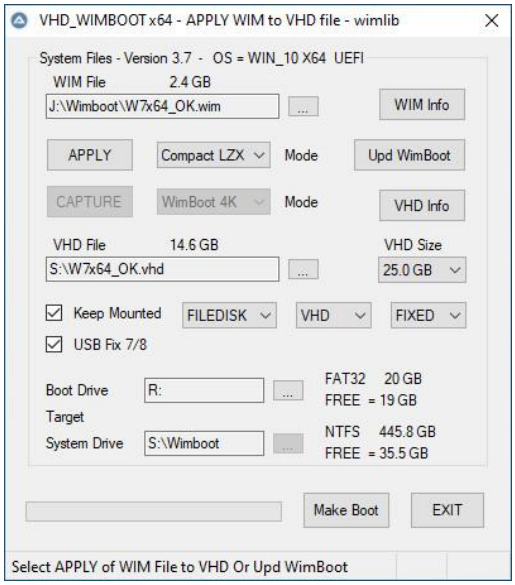
Win 7/8 requires to install wofadk.sys driver as done by WinNTSetup using mode Compact:NONE - Win7 use Enable native USB Boot
Boot - USB Fix 7/8 in makebt\registry_tweaks gives USB Controller Service setting Start=0 and BootFlags=4 and Group=Boot Bus Extender
WinNTSetup - Add missing Windows 7 USB Controller Services in Tools\Win7USBBoot.ini

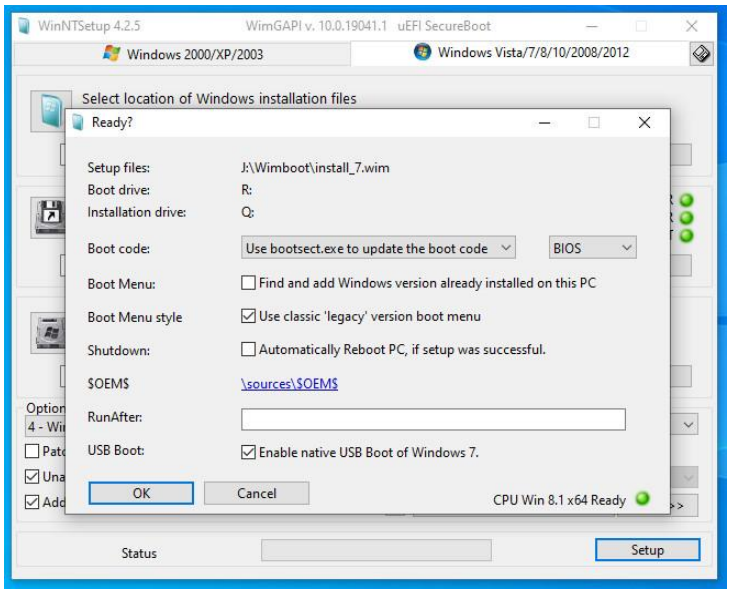


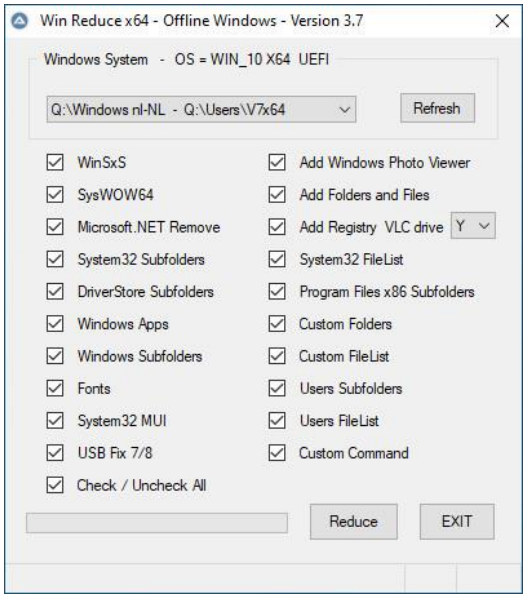


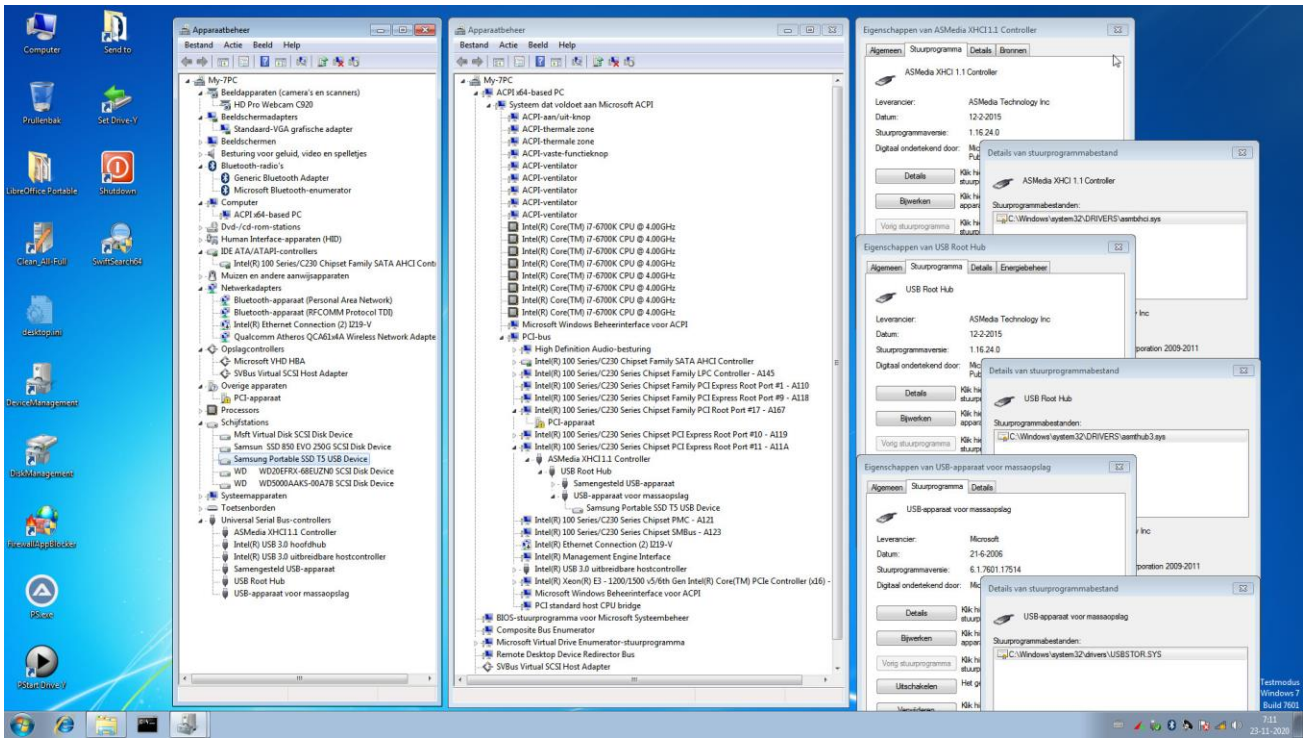



WinNTSetup 4.2.5
WimGAPI v. 10.0.19041.1
uEFI SecureBoot
Windows 2000/XP/2003
Windows Vista/7/8/10/2008/2012
Select location of Windows installation files
Windows 7 Ultimate SP1 x64 nl-NL (Build 6.1.7601.17514)
J:\Wimboot\install_7.wim
Search...
Select location of the Boot drive
2_WERK 90 GB free NTFS Space Align 1024 K
MBR
BOOTMGR PBR
BOOT PART
G:
F
Search...
Select location of the Installation drive
W7x64_NL_1.vhd 8 GB free NTFS Space Align 1024 K
V:
F
Search...
Options
4 - Windows 7 Ultimate
Mount Installation drive as:
C:
Patch UxTheme.dll to allow unsigned Themes
drive letter preassignment
Unattend
I:\WinNTSetup_v425\unattend\Win7
Mode:
Compact:NONE
Add Drivers
L:\drivers_w7x64
Tweaks >>>
VHD >>>
Status
Setup


VHD_WIMBOOT x64 - APPLY WIM to VHD file - wimlib
System Files - Version 3.7 - OS = WIN_10 X64 UEFI
WIM File 2.4 GB
J:\Wimboot\W7x64_OK.wim
WIM Info
APPLY
Compact LZX
Mode
Upd WimBoot
CAPTURE
WimBoot 4K
Mode
VHD Info
VHD File 14.6 GB
VHD Size
S:\W7x64_OK.vhd
25.0 GB
Keep Mounted
FILEDISK
VHD
FIXED
USB Fix 7/8
Boot Drive
R:
FAT32 20 GB
FREE = 19 GB
Target
System Drive
S:\Wimboot
NTFS 445.8 GB
FREE = 35.5 GB
Make Boot
EXIT
Select APPLY of WIM File to VHD Or Upd WimBoot


WinNTSetup 4.2.5
WimGAPI v. 10.0.19041.1
uEFI SecureBoot
Windows 2000/XP/2003
Windows Vista/7/8/10/2008/2012
Select location of Windows installation files
Ready?
Setup files:
J:\Wimboot\install_7.wim
Boot drive:
R:
Installation drive:
Q:
Boot code:
Use bootsect.exe to update the boot code
BIOS
Boot Menu:
Find and add Windows version already installed on this PC
Boot Menu style
Use classic 'legacy' version boot menu
Shutdown:
Automatically Reboot PC, if setup was successful.
OEM
\sources\OEM
RunAfter:
USB Boot:
Enable native USB Boot of Windows 7.
OK
Cancel
CPU Win 8.1 x64 Ready
Status
Setup


Win Reduce x64 - Offline Windows - Version 3.7
Windows System - OS = WIN_10 X64 UEFI
Q:\Windows nl-NL - Q:\Users\V7x64
Refresh
WinSxS
SysWOW64
Microsoft.NET Remove
System32 Subfolders
DriverStore Subfolders
Windows Apps
Windows Subfolders
Fonts
System32 MUI
USB Fix 7/8
Check / Uncheck All
Add Windows Photo Viewer
Add Folders and Files
Add Registry VLC drive
System32 FileList
Program Files x86 Subfolders
Custom Folders
Custom FileList
Users Subfolders
Users FileList
Custom Command
Reduce
EXIT


Computer
Send to
Prullenbak
Set Drive-Y
LibreOffice Portable
Shutdown
Clean_All-Full
SwiftSearch64
desktop.ini
DeviceManagement
DiskManagement
FirewallAppBlocker
PSexec
PStart Drive-Y
Apparaatbeheer
Eigenschappen van ASMedia XHCI 1.1 Controller
Details van stuurprogrammabestand
Eigenschappen van USB Root Hub
Eigenschappen van USB-apparaat voor massaopslag

Win_Reduce_Trusted allows to modify Offline Windows 7/8/10 in VHD - General Post Install Modifications

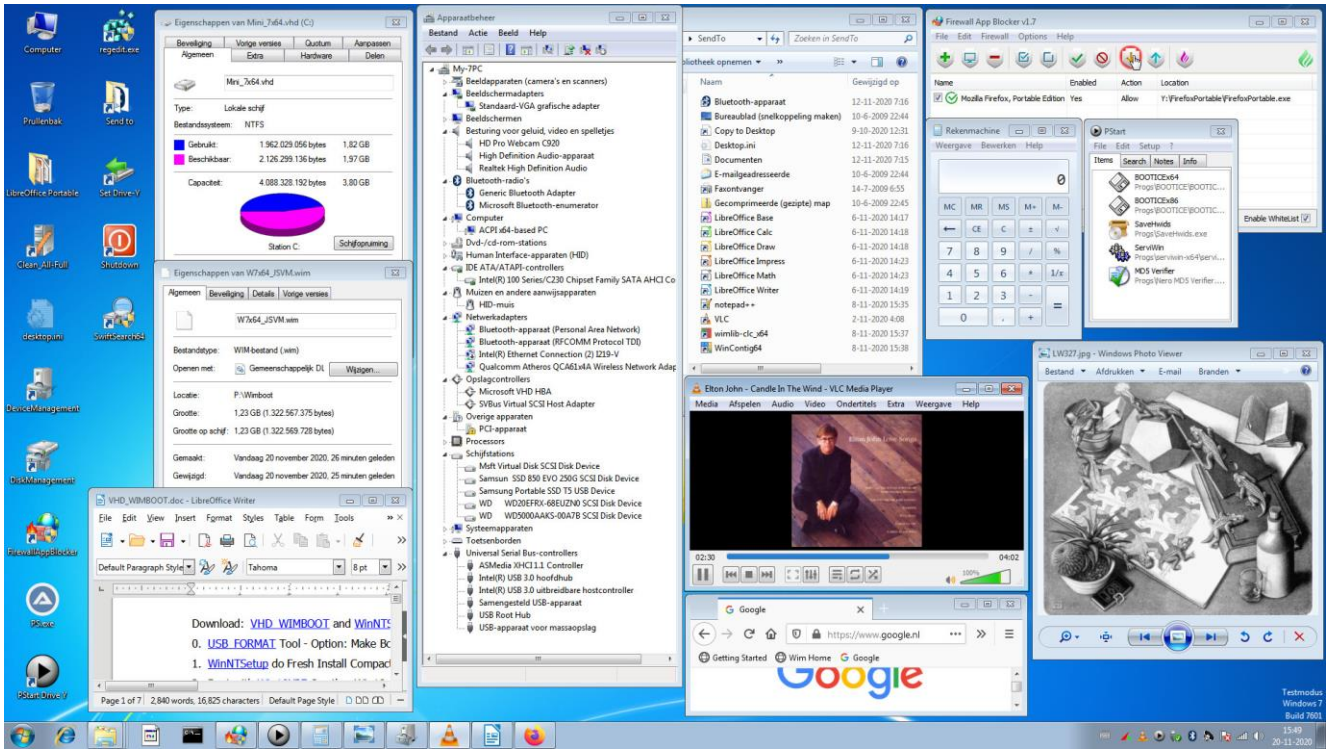
- Reduce UsedSize in VHD to about 2 GB
- make Mini 7/8/10 x64 in VHD booting as FILEDISK from USB / SSD and booting from RAMSDISK using SVBus driver
- Add Folders and Files and Registry Tweaks - e.g. Add FirewallAppBlocker and SwiftSearch
- USB Fix 7/8 for booting 7/8 VHD from USB
- run Custom Command for post install modifications

Win 7/8 requires to install wofadk.sys driver as done by WinNTSetup using mode Compact:NONE - Win7 use Enable native USB Boot

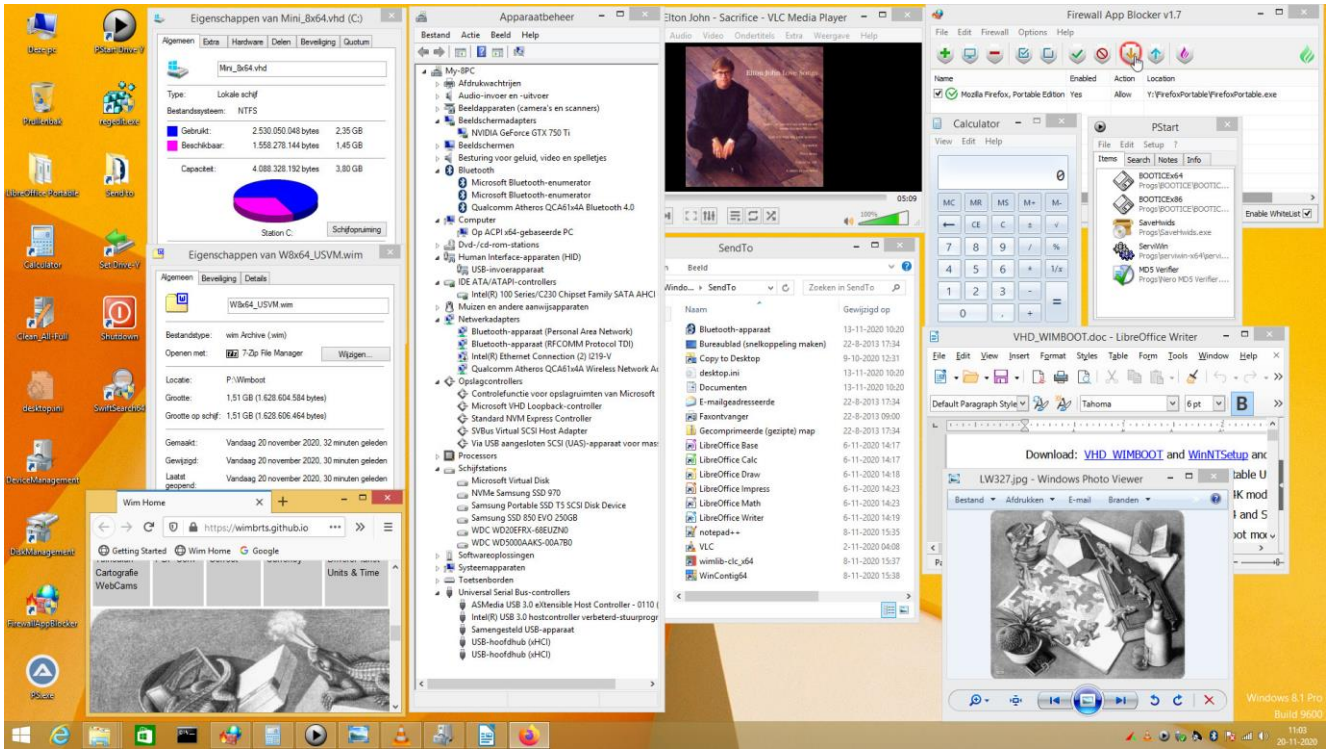
Boot - USB Fix 7/8 in makebt\registry_tweaks gives USB Controller Service setting Start=0 and BootFlags=4 and Group=Boot Bus Extender

WinNTSetup - Add missing Windows 7 USB Controller Services in Tools\Win7USBBoot.ini

Mini 7x64 in VHD with UsedSize = 1.82 GB

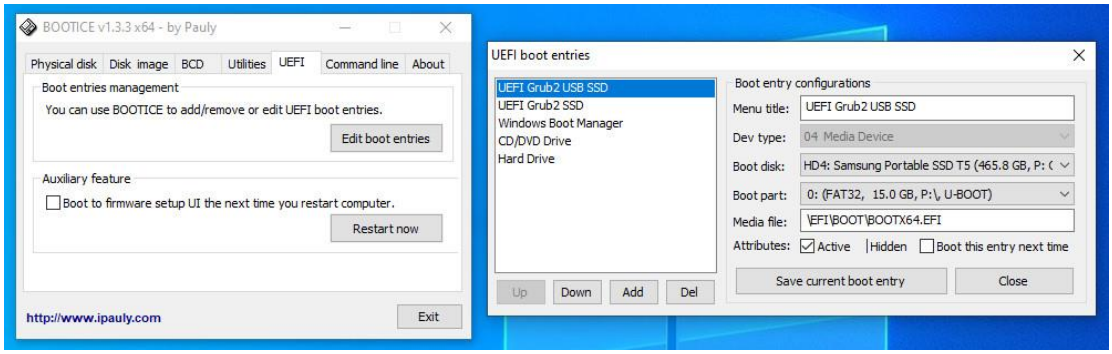


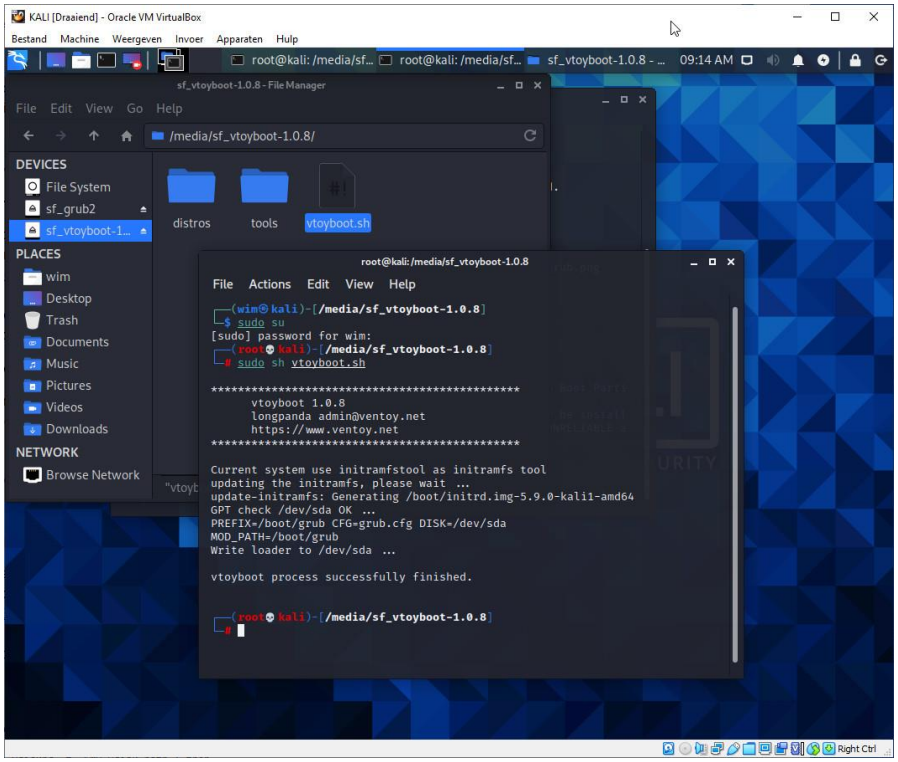
Mini 8x64 in VHD with UsedSize = 2.35 GB



How to make Linux VHD for Multi-Boot with Windows using Grub2 and vdiskchain

1. Download and Install VirtualBox - use Ventoy description for vtoyboot plugin - Download latest vtoyboot
2. Download Ubuntu Desktop ubuntu-20.04-desktop-amd64.iso and KALI Linux 64-bit Installer kali-linux-2020.4-installer-amd64.iso
3. In VirtualBox Create Fixed **KALI.vdi** 16 GB located in VirtualBox\KALI folder on SSD
4. In VirtualBox Settings > System - Select EFI checkbox and Disk Select ISO file kali-linux-2020.4-installer-amd64.iso
5. In VirtualBox Start Installation and Reboot with KALI
6. In Windows double-click on kali-linux-2020.4-installer-amd64.iso e.g. as Drive R:
7. In VirtualBox KALI on taskbar select Shared folder R:\pool\main\g\grub2 autoconnect e.g. as drive G:
8. In VirtualBox KALI File System select sf_grub2 - R-mouse on grub-pc-bin_2.04-8kali1_amd64.deb - Open Terminal here
9. In Terminal type **sudo su** and give password to be SuperUser - Next Step Install of grub-pc-bin Package not needed for Ubuntu
10. In Terminal type sudo **dpkg -i grub-pc-bin_2.04-8kali1_amd64.deb** to Install Package for booting vhd/vdi in Legacy BIOS mode
11. In VirtualBox KALI on taskbar select as Shared folder the in Windows Downloaded folder vtoyboot autoconnect e.g. as drive H:
12. In VirtualBox KALI File System select sf_vtoyboot - R-mouse on vtoyboot.sh - Open Terminal here
13. In Terminal type **sudo su** and give password to be SuperUser
14. In Terminal type **sudo sh vtoyboot.sh** to install vtoyboot - close Terminal and File System windows
15. In VirtualBox Restart KALI - Shut down KALI - Close VirtualBox
16. In Windows Copy file VirtualBox\KALI\KALI.vdi to NTFS drive of USB SSD - Rename as **KALI.vdi.vtoy**
17. Download vdiskchain is already integrated in UEFI_MAN\grub folder of USB_FORMAT - UEFI_MULTI - VHD_WIMBOOT
18. File grub\grub.cfg and menu.lst contain preconfigured menu entries for Ubuntu.vhd.vtoy and Ubuntu.vdi.vtoy and KALI.vdi.vtoy
19. BOOTICE - tab UEFI Edit boot entries to Add Super UEFI Grub2 USB entry for file \EFI\Boot\BOOTx64.EFI on USB
20. Boot from USB - after beep use **F8** or other HotKey Boot Menu - Select UEFI Grub2 USB entry and Select KALI.vdi.vtoy - /grub/vdiskchain





UEFI Secure Grub2 booting in \grub\grub.cfg
Enabled by using commands of sbpolicy.mod

fucksb -i
fucksb -n

Or use vdiskchain option as
vdiskchain vdisk=/KALI.vdi.vtoy secureboot=off

Next 3 Pages is old description based on using wimlib-clc

wimlib-clc can be used to CAPTURE Wimboot Image File from Mounted VHD

Download wimlib-clc and wimlib 64-bit - Extract wimlib to x64 folder of wimlib-clc so that Program is auto recognized

From Mounted W10x64_F.vhd file, browse to it's Windows\system32 folder and copy file WimBootCompress.ini to wimlib-clc folder.

Rename WimBootCompress.ini as WimBootCompress_BCD.ini and Edit this new ini file as follows:

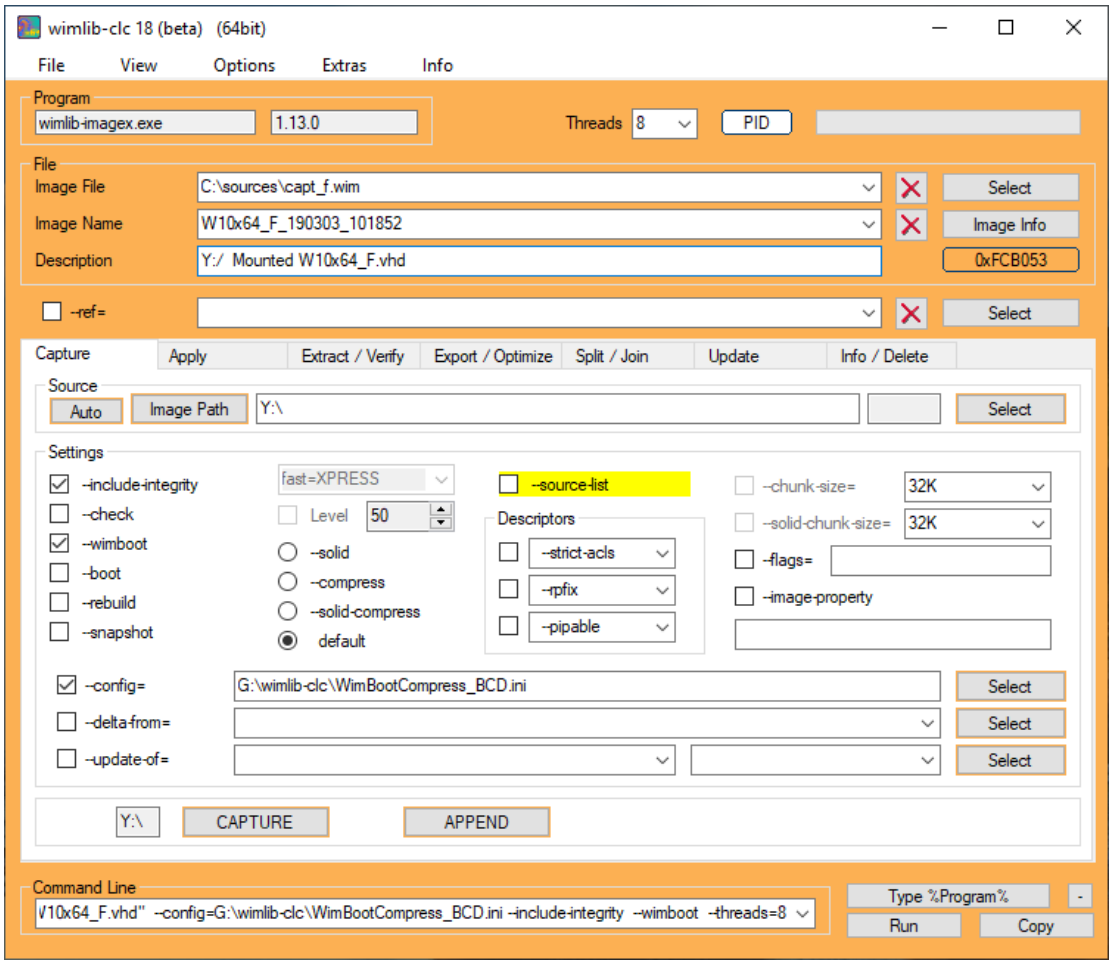
- Add entries **\Boot\BCD** and **\bootmgr** to the **[PrepopulateList]** so that these files are copied as file instead of as pointers
- Remove or disable with ; the **[PinningFolderList]** since it will give wimlib WARNING Unrecognized Section, which is safe to ignore

The modified WimBootCompress_BCD.ini file is needed to allow Grub4dos booting VHD from RAMDISK and so to avoid Error 13

In Win10 x64 OS Run **wimlib-clc** and Select Image file C:\sources\capt_f.wim using Mounted W10x64_F.vhd as Source Y:\

Select **--wimboot** and Select custom WimBootCompress_BCD.ini file Selected as **--config**

Select **CAPTURE** to make sources\capt_f.wim Image file from Mounted W10x64_F.vhd



Download UEFI_MULTI Tool to make USB Bootable from Boot Manager menu with VHD file in BIOS and UEFI Secure mode

UEFI_MULTI can make Grub4dos menu entry for VHD booting with SVBus driver as FILEDISK or as RAMDISK

UEFI_MULTI makes entry in Windows Boot Manager for booting VHD as FILEDISK using Microsoft vhdmp.sys driver

Make Portable SSD 250 GB - SAMSUNG Portable SSD T5 250 GB with UEFI/MBR Partitioning

- 1st partition 20 GB FAT32 Set Active for Boot Manager and Grub4dos Boot files and 2nd partition NTFS for VHD + WIM System files

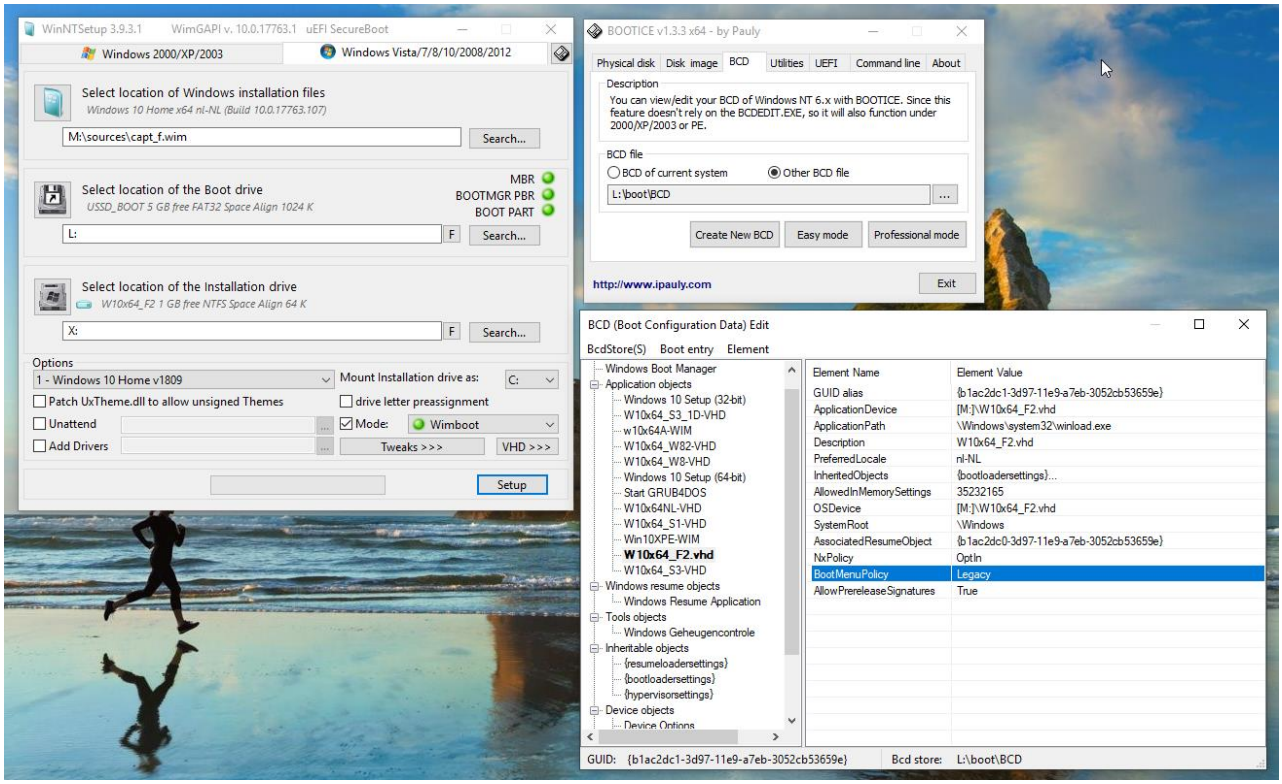
1. In **Disk Management** remove existing exFat Volume and Create new partitions
2. MBR partitioning with 1st partition 20 GB FAT32 Set Active and 2nd partition NTFS
3. In **admin command** window run **DiskPart**
4. In DiskPart type **list volume** and **select volume** *<FAT32 volume nr>* and **active** and **exit**

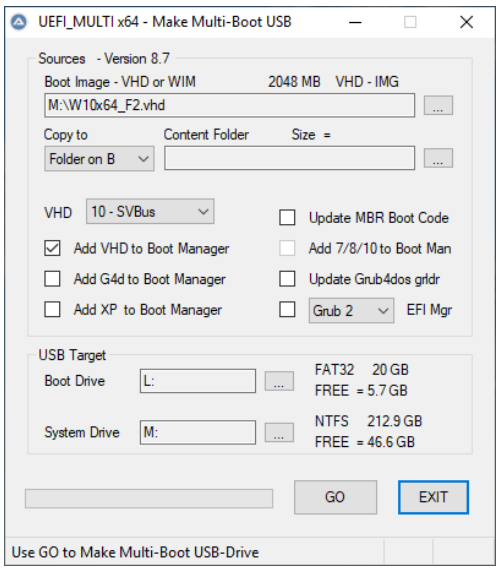
BIOS mode booting requires Active partition with BOOTMGR bootsector

UEFI mode booting requires FAT32 partition with x64 file efi\boot\bootx64.efi Or x86 file efi\boot\bootia32.efi

Use WinNTSetup to Create 2GB VHD on NTFS drive of Portable SSD and Apply Captured WIM file with Setup

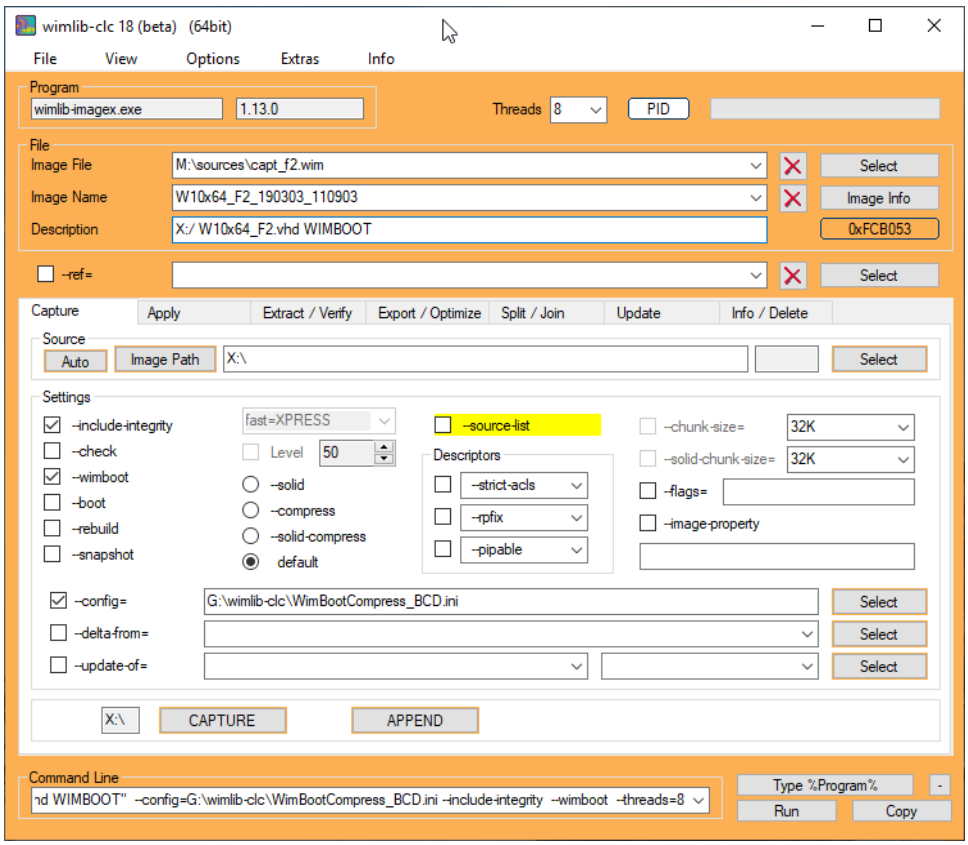
1. Copy file **capt_f.wim** to folder sources on NTFS drive of Portable SSD connected to USB
2. Start WinNTSetup x64 and use VHD Create to make 2GB file **W10x64_F2.vhd** on NTFS partition of Portable SSD
3. Select USB Boot Drive and Installation Drive (X: Mounted VHD) for Win10x64 Installation
4. Select location Windows Installation files - Select your **sources\capt_f.wim** file on USB
5. Select Mode **Wimboot** and Disable All **Tweaks** since the Capture contains them already
6. Select **Setup** and prepare VHD for installation of Win10x64 - choose OK and not Reboot
7. Run **BOOTICEx64.exe** - Choose Boot\BCD on USB Boot Drive
8. Professional mode - Choose Windows 10 (WimBoot) entry - use Description **W10x64_F2.vhd** and **BootMenuPolicy** set value **Legacy**
9. Use R-mouse to create New element - **AllowPrereleaseSignatures** - Yes - needed for SVBus driver
10. Reboot from USB with **W10x64_F2.vhd** from Boot Manager Menu
11. After booting with VHD then use R-mouse menu to Run as admin file **instx64.exe** of SVBus bin folder to install the driver
12. Reboot with Win10 x64 OS and use UEFI_MULTI to make Grub4dos menu entry for booting VHD WIMBOOT as RAMDISK
13. Reboot from USB and Select in Grub4dos menu your WIMBOOT VHD for booting from RAMDISK





After install of extra programs or after adding drivers of other machines, it will be needed to regain **FREE Size** in your VHD
CAPTURE - Format - APPLY carried out on mounted VHD results quickly in the original free space, since all file data go in the WIM file

Reboot with Win10 x64 OS and use wimlib-clc to **CAPTURE** Image file capt_f2.wim from Mounted W10x64_F2.vhd Selected as Source



After **Format** of Mounted W10x64_F2.vhd as Selected Target, then **APPLY** capt_f2.wim Image file using **--wimboot** flag