

Make USB - Partition Portable SSD 500 GB

- [SAMSUNG Portable SSD T5 500 GB](#) with [UEFI/MBR Partitioning](#)

- 1st partition 20 GB FAT32 Set Active used for Boot Manager and Grub4dos Boot files

- 2nd partition NTFS used for VHD + PE 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 used as Boot Drive and 2nd partition NTFS used as System Drive

- Instead of step 3 and 4 using UEFI_MULTI will Set Active the USB FAT32 Boot Drive

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

Downloads: [UEFI_MULTI](#) and [WinNTSetup](#) and Windows 10 x64 ISO from [TechBench](#) Or using [Windows-ISO-Downloader](#) Tool

More Info: [UEFI_MULTI topic](#) and Forums [MSFN](#) and [Reboot.pro](#) and [VHD_WIMBOOT](#) and [BOOTICE](#) 1.3.3.2 and [System Info](#)

- Use [UEFI_MULTI](#) to Add **WIM** file to make Portable SSD booting from RAMDISK - filename = **Win10XPE.wim** - See below

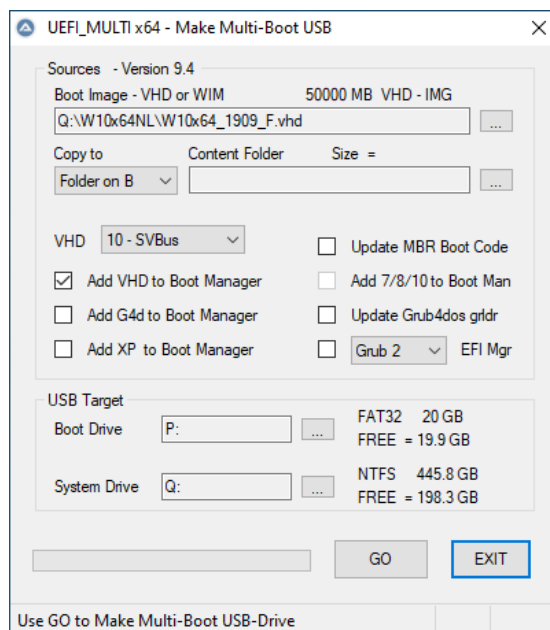
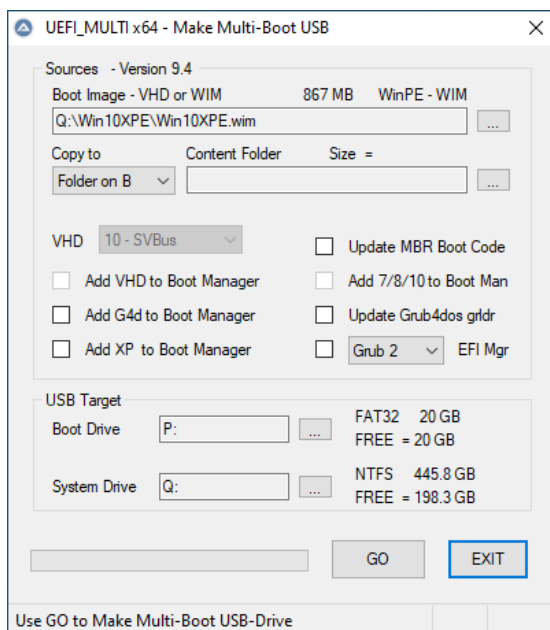
- Use [UEFI_MULTI](#) to Add **VHD** file to make Portable SSD booting with FILEDISK - filename = **W10x64_1909_F.vhd**

- Add **ISO** x64 file to NTFS System Drive used by **WinNTSetup** for Installing Win10x64 in VHD or partition of SSD hard disk

- Boot from USB - after beep use **F8** menu - Select **Win10XPE-WIM** or **W10x64_1909_F.vhd** in Boot Manager Menu

- Use **WinNTSetup** x64 and **ISO** file for **Installation** of Windows 10 x64 in **VHD** or partition of internal SSD hard disk - See below

- **Switch off Defender** - In WinNTSetup use R-mouse menu - Local Windows Installations and **Capture Wim** to make Backup WIM file

**How to make Win10XPE WIM file for booting from RAMDISK**

Download: [Win10XPE Builder](#) - More Info: [Win10XPE](#) and [Quick Guide](#)

Download Win10_1909_English_x64.iso 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

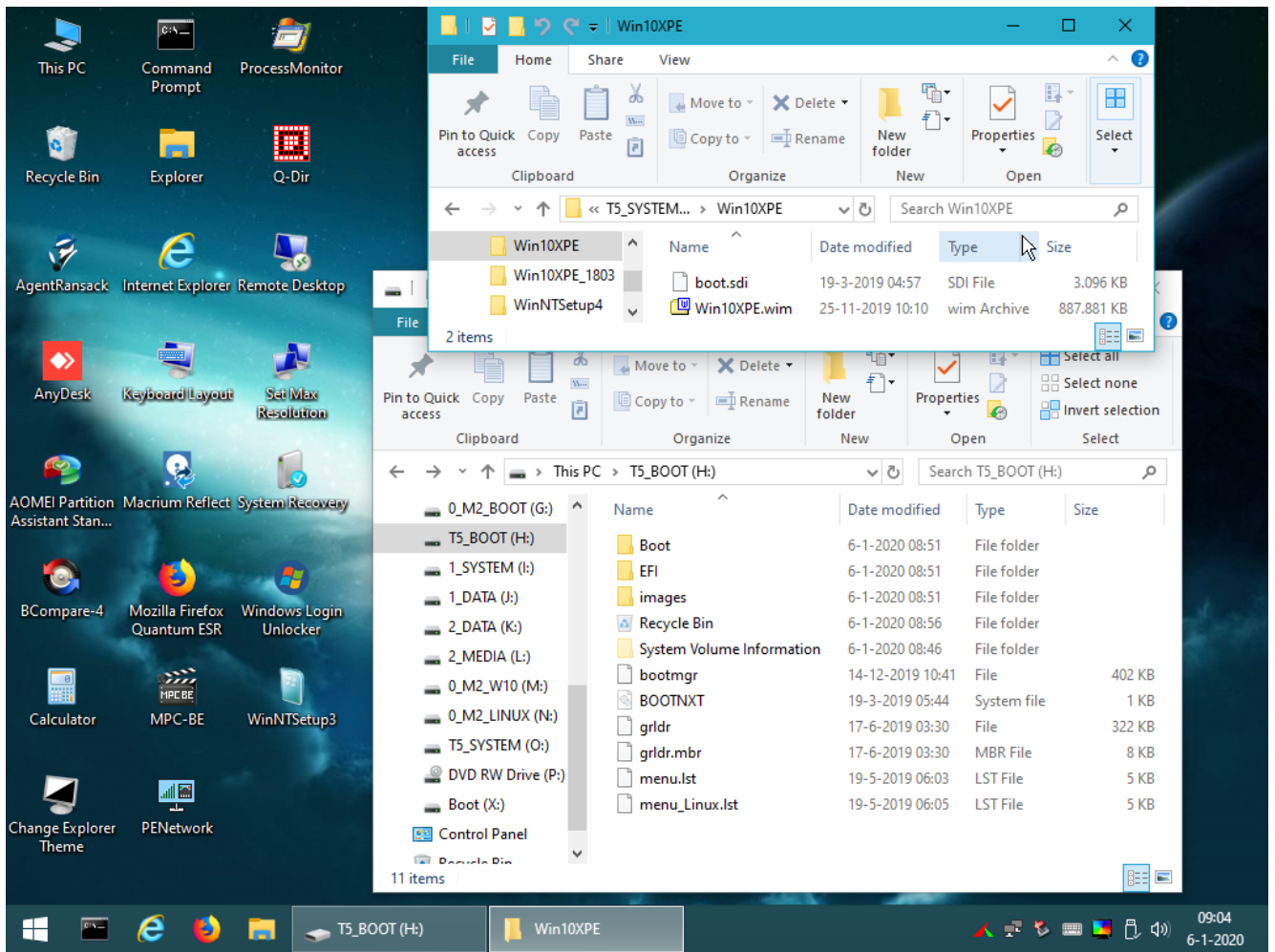
In WinBuilder > Apps > System Tools DeSelect XPE Startup (when Selected build fails)

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

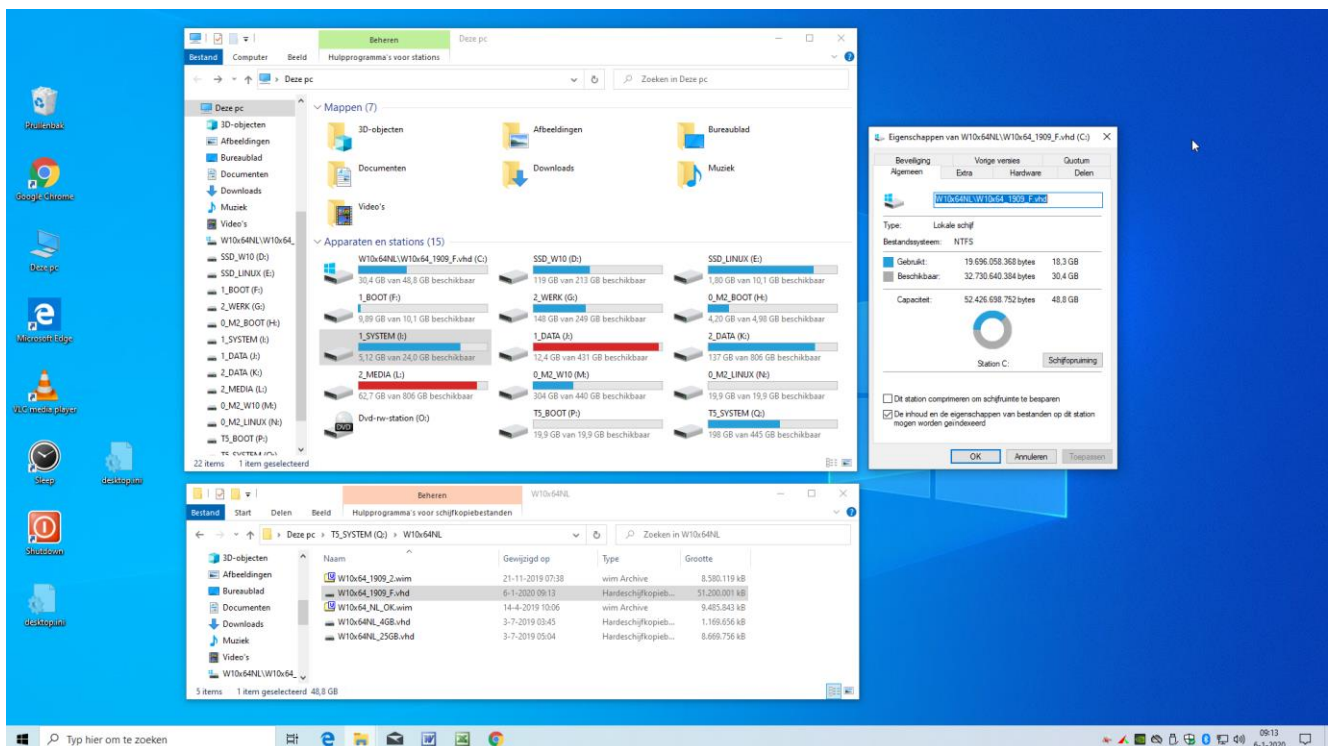
Use Win10XPE\ISO\sources\boot.wim as your Boot Image file and use Win10XPE\ISO\Boot\boot.sdi for booting WIM file from RAMDISK

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

After booting from USB with Win10XPE.wim file located on Portable SSD in folder Win10XPE on USB NTFS System Drive



After booting from USB with W10x64_1909_F.vhd file located on Portable SSD in folder W10x64NL on USB NTFS System Drive



How to use WinNTSetup x64 and ISO file for Installation of Windows 10 x64 in VHD or partition of SSD harddisk

0. Get Ready to have Microsoft Account, Win10 key + Computer name and Backup your User Data

In Windows 10 x64 use [produkey-x64](#) and Save All keys and Backup Data with [SyncBack](#) Free and Save [System Info](#)

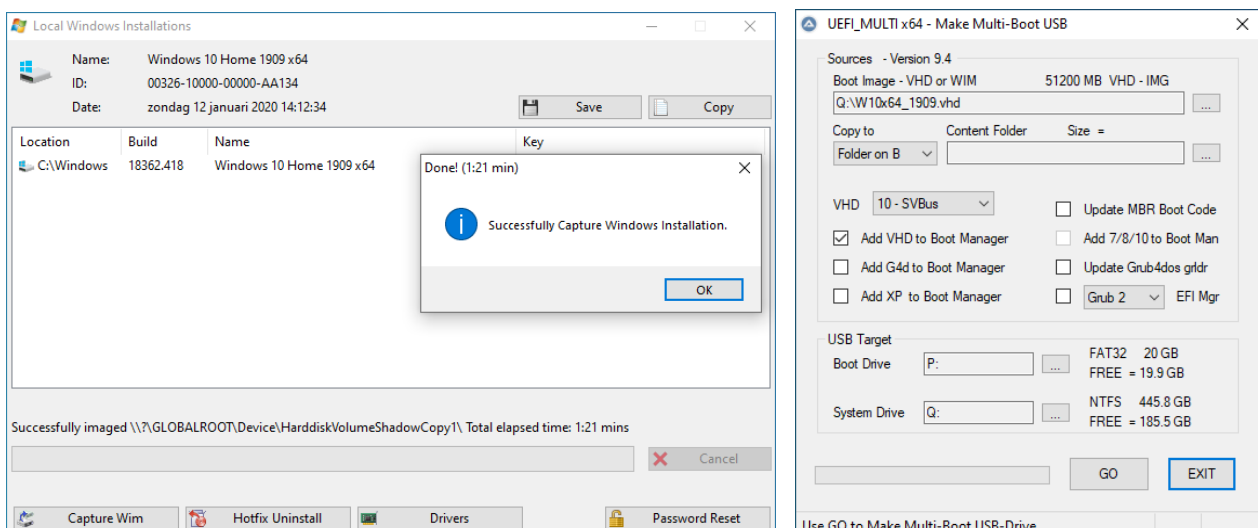
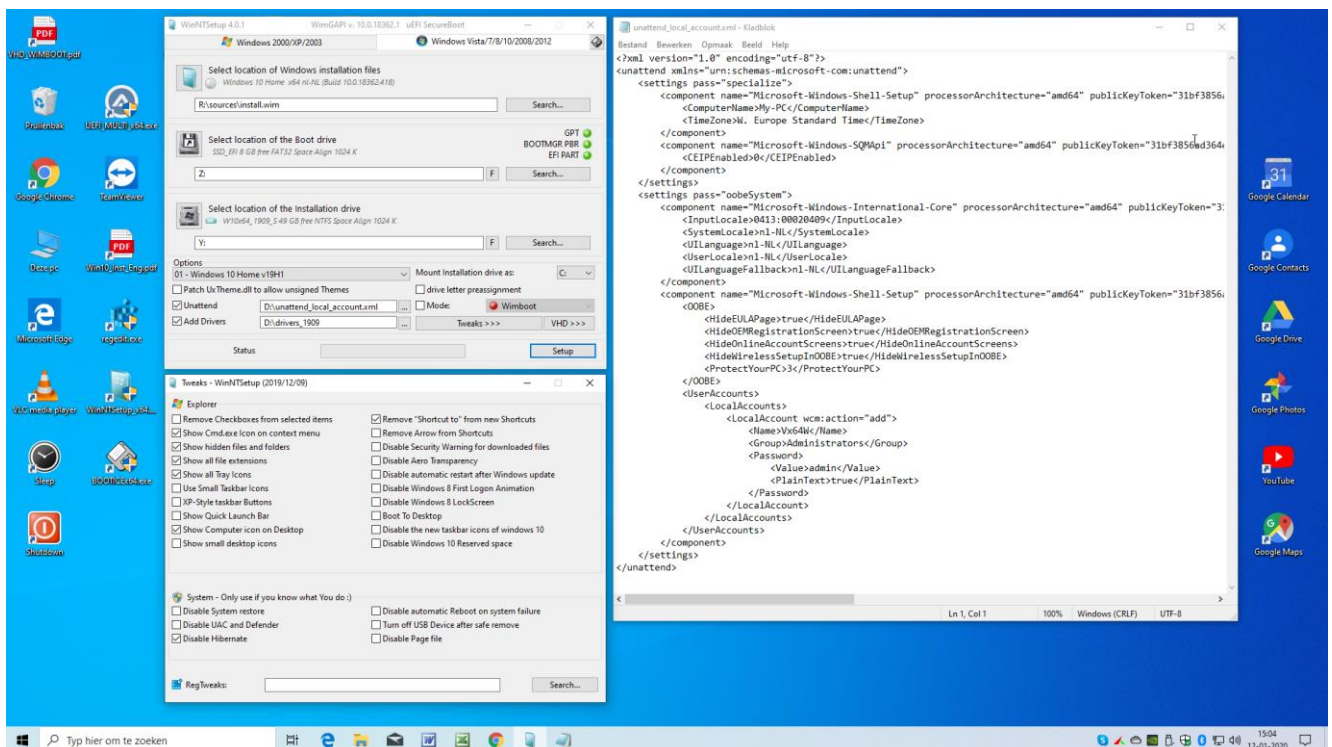
1. Boot from USB - after beep use **F8** menu - Select **Win10XPE-WIM** or Win10x64 **VHD** in Boot Manager Menu
2. In [WinNTSetup](#) x64 - location Windows Installation file sources\install.wim - use R-mouse to select Win10x64 ISO file from [TechBench](#)
3. Select Boot drive (usually EFI drive Z:) and Select VHD to Create 50 GB VHD located on internal SSD harddisk - VHD is mounted as Drive Y:
4. Choose Win10 **Edition** - Home or Professional and Select desired **Tweaks** - in case of Install on SSD partition use **F** to Format with NTFS
5. Option for Unattended Install and to Add Drivers - use unattend_local_account.xml for Local Account
6. Select **Setup** and select **Legacy** Boot Menu Style and OK to Install Win10x64 in VHD or partition of internal SSD harddisk and Reboot
7. [Optionally](#) - Open Admin Command Window and use **wmic UserAccount where Name='Vx64W' set PasswordExpires=False**
8. Install missing Drivers and Update Win10x64 - Install [7-zip](#) - [VLC player](#) and Office and [registry backup portable](#) and Reboot
9. **Switch off Defender** - In WinNTSetup use R-mouse menu - Local Windows Installations and **Capture WIM** to make Backup WIM file

After [Next Install of Win10x64](#) with Captured WIM file then often first booting via F8 in **Safe Mode** is required and then Reboot normal

10. Boot from USB - Copy VHD to USB NTFS drive and use [UEFI MULTI](#) to Add VHD to Boot Manager menu for booting from USB with VHD
11. Boot normal - Optionally - on separate Data partition Create 5x empty folder for Documents, Pictures, Downloads, Music and Videos

In My Computer use R-mouse on icon > Properties > tab Location > Move ... Select the Created folder to **change the User Data location**

12. In case of your normal Windows 10 booting from internal SSD then **Switch to Microsoft Account** via Config > Accounts and Reboot



How to Inject Win10 VHD System to Fix Computer

In case of computer troubles it is often desired to have a quick fix available without disturbing existing configuration.

We can decide to Inject from USB in 10 minutes a 50 GB VHD with New Windows 10 x64 System for local account.

Windows 10 in VHD has the advantage that the VHD can be copied to any location.

Windows 10 is Universal and will adjust automatically the drivers needed for the hardware in use.

- Prepare Portable SSD Bootable from USB with PE WIM and VHD file as described in this document [Win10_Install PDF](#)
- Disconnect Internet LAN Ethernet cable
- Boot from USB - after beep use F8 menu - Select in Boot Manager Menu Win10XPE WIM file located on Portable SSD
- Copy 50 GB VHD with New System for local account and located on USB Portable SSD to your internal SSD Drive C:
- [UEFI MULTI](#) is used to Add VHD in Boot Manager Menu for booting from internal SSD
- [BOOTICE](#) use tab BCD and Z:\efi\microsoft\boot\BCD Or Z:\Boot\BCD in Prof Mode to Set as Default the Added VHD
- For existing System Drive C: use Malware Removal Tool like [McAfee Stinger](#)
- Restore Registry use [Registry Backup Portable](#) - Copy folders from RegBackup\MY-PC\datetime\C to Drive C:
- Reboot from internal SSD by selecting in Boot Manager menu the Injected VHD with New Windows 10 x64 System
- On Data partition Create 5x empty folder for Documents, Pictures, Downloads, Music and Videos
My Computer - R-mouse on icon > Properties > tab Location > Move ... Select folder to change the User Data location
- Switch to your Microsoft Account via Config > Accounts and Reboot
- Restore Backup of User Data earlier created with [SyncBack Free](#) on external USB and kept safely offline
- Connect Internet LAN Ethernet cable

Alternatively you can use:

How to Fix Booting of Windows 10 using bcdboot

Use [bcdboot](#) to Fix on the hidden FAT32 drive the EFI\Microsoft\Boot\BCD entry Or Boot\BCD entry

- Boot from USB - after beep use F8 menu - In Win10XPE use R-mouse menu to **Open Admin Command Window**
- Use [bcdboot](#) to Fix the hidden FAT32 drive mounted by [WinNTSetup](#) x64 as Drive Z:
bcdboot C:\Windows /s Z: /f ALL

How to Re-Install Windows 10

If you want to Re-Install Windows 10 x64 while completely disturbing existing configuration then

- Boot with Win10XPE from USB - after beep use F8 menu - In Win10XPE then
- Backup to external USB drive your User Data from C:\Users\YourName
- In [WinNTSetup](#) x64 use as Windows Installation file your **Capture Wim** file Or use Win10x64 ISO file from [TechBench](#)
- Select as Installation drive your Attached VHD mounted as Drive Y: Or your internal SSD drive C: and Use NTFS Format
- Select **Setup** and **Legacy** Boot Menu Style and OK to Install Win10x64 in VHD or partition of internal SSD and Reboot

How to Backup your Computer

A. System Backup

- Switch off Defender - [WinNTSetup](#) - R-mouse menu - Local Windows Inst. - Capture Wim to make Backup WIM file - Time = 5 min
The Captured WIM file of your System can be used for fast Re-Install of Win10 including all Programs and Settings
- [Registry Backup Portable](#) can make a Backup in folder C:\RegBackup of the Windows Registry useful for System Restore - Time = 5 sec
- [MBR Backup](#) can make Backup of Partition Table and Bootsectors of all Local Harddisks Fixed + Removable - Time = 10 sec
Use TinyHexer to study and Restore Bootsectors - Hopefully Never Needed

B. Data Backup

- [SyncBack Free](#) - Make Backup of User Data on external USB and kept safely Offline - Time = initially few hours - update in 10 min
- [Backup using File History](#) - available in Windows 10 - [More Info](#) - Time = initially few hours - autoupdate running in the background
- [Backup your Data in OneDrive](#) in the Cloud - Backup kept safely on Remote Location - Time = initially few hours - autoupdate