Xbox One Internal HDD Replacement Wiki

Xbox One Partition Layout

- HDD has a GPT partition table & contains 5 partitions
  - Items without sizes have no sizes listed as they will depend on the system

Normal Layout

- **Partition 1** *(Temp Content)* **41GB**
  - *$sosrst.xvd* (50,596KB)
  - *appswapfile.xvd* (2,109,584KB)
  - *ConnectedStorage-retail* (9,548,892KB)
  - *GDVRIndex.xvd* (103,628KB)
  - *ScreenShots.xvd* (1,061,020KB)
  - *temp00* (2,097,164KB)
  - *temp01* (2,097,164KB)
  - *temp02* (2,097,164KB)
- **Partition 2** *(User Content)*:
  - PLS *(folder)*
  - SharedStorage *(folder)*
- **Partition 3** *(System Support)* **40GB**:
  - Controllers *(folder)*
  - *cache0.cfg*
  - *cms.xvd*
  - *DataCollectionUploader_0*
  - *LastConsole*
  - *user.xvd*
  - *WER.xvd*
- **Partition 4** *(System Update)* **12GB**:
  - A *(folder)*
    - *SettingsTemplate.xvd* (37,144KB)
    - *sosinit.xvd* (11,964KB)
    - *sostmpl.xvd* (63,516KB)
    - *systemaux.xvd* (494,876KB)
    - *SystemTools.xvd* (466,44KB)
  - B *(folder)*
    - *host.xvd* (49,364KB)
    - *SettingsTemplate.xvd* (120,784KB)
    - *sosinit.xvd* (11,964KB)
    - *sostmpl.xvd* (63,516KB)
    - *system.xvd* (1,667,660KB)
    - *systemaux.xvd* (820,596KB)
    - *systemmisc.xvd* (748,192KB)
    - *systemtools.xvd* (38,484KB)
  - *updater.xvd* (63,644KB)
- **Partition 5** *(System Update 2)* **7GB**:
  - *no data, empty*

Rebuilding OS using OSUDT downloads from Xbox Support site

- If utilizing a drive *larger* than 500GB, format the drive with the proper layout for a 500GB drive
  - This is necessary for the OS rebuild to occur and will be addressed below
  - If your Xbox One came with a HDD larger than 500GB, partition the larger drive with the same size partitions as whatever size shipped with the unit
- Partition 4 *(System Update)* is the partition that will rebuild the OS on a bare HDD

Prerequisites

- Download **OSUDT1** & **OSUDT2**
  - support.xbox.com/en-US/xbox-one/console/offline-system-update-diagnostic-tool
- Download **ReadMe.md**, **gptutil.py**, & **xboxonehdd.py** from Juvenal1's GitHub
  - github.com/Juvenal1/xboxonehdd
- PC/VM running Linux, such as *Ubuntu* or *PartedMagic*, both of which can be run from a liveCD
- Complete steps 1 – 4 from **ReadMe.md**, then proceed to the steps below

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➢ Steps

1. Copy the following to **Partition 4**
   - **Folder A** should contain all **OSUDT1** files, ***except*** *system.xvd & updater.xvd*
     - host.xvd
     - SettingsTemplate.xvd
     - sosinit.xvd
     - sostmpl.xvd
     - systemaux.xvd
     - SystemTools.xvd
   - **Folder B** should contain *all* **OSUDT1** files, ***except*** *updater.xvd*
     - host.xvd
     - SettingsTemplate.xvd
     - sosinit.xvd
     - sostmpl.xvd
     - system.vxd
     - systemaux.xvd
     - SystemTools.xvd
   - updater.xvd (root of partition)
2. Unmount HDD mount points, run the ***xboxonehdd.py*** python script, & connect HDD to Xbox One
3. Xbox will boot, begin to update, and fail about 25% of the way through
4. Shut down the Xbox One properly via a single touch *(do not hold the power button)*
   - *Failure to do this prevents one from doing what's next*
5. Replace ***OSUDT1*** files in **Folder B** with files from **OSUDT 2** *(copy and paste)*
6. Reconnect drive to the Xbox One and boot up... It should continue the update and finish successfully.
   - *Folder B* is the actual update folder, with *Folder A* containing files from the previous update.

If you are installing a drive *larger* than 500GB

1. Format with the proper layout of a 500GB drive *(or whatever size drive the system shipped with)*
2. Once the OS rebuild finalizes successfully, and you're at the Xbox Home Screen, shut down the Xbox completely via the menu *(it needs to be cleanly shut down, not put into standby)*.
3. Copy all files from each partition into 4 separate folders (1 for each partition) on a separate HDD
4. Reformat the Xbox One internal drive & partition it via Juvenal1's script
5. Copy all files back to their respective partitions
6. Once reconnected to the Xbox One, it should boot and display the correct size for free space.
   - *If you receive an error after reinstalling the HDD, you need to rerun the xboxonehdd script, use dd, or use HxD to flip the HDD's first sector bits.*

Recommendations

➢ I strongly encourage making a WIM backup of **Partitions 1**, **3**, & **4** via Windows once all user content has been synced *(this will prevent you having to go through this again should you replace/upgrade the HDD)*.
   - I recommend *after* as I'm not sure what, if anything, is added to partitions 1, 3, & 4 during the sync

➢ I noticed the hex bits in the first sector weren't flipped when I went to make my WIMs, which allowed Windows to auto recognize the HDD. *If Windows doesn't recognize the HDD*, you simply need to flip the 1st sector bits from 99CC to 55AA (see link below), however this may only apply to external USB HDDs
   - withinrafael.com/taking-a-peek-at-xbox-one-formatted-disks-in-windows

- You can also flip the bits using a *nix OS (where */dev/sdc* is the disk)
  - echo -en '\x55\xAA' | dd conv=notrunc of=/dev/sdc bs=1 seek=510 2>/dev/null 1>&2
    - *Flipping the bits back to 99CC*
  - echo -en '\x99\xCC' | dd conv=notrunc of=/dev/sdc bs=1 seek=510 2>/dev/null 1>&2

WIM Commands

- **Z:** is the image save location
- **D:**, **E:**, & **F:** are the respective drive letters for Xbox One partitions 1, 3, & 4

- **Temp Content** *(D:\)*
  - DISM /Capture-Image /ImageFile:**Z:\TempContent.wim** /CaptureDir:**D:** /name:**"Xbox One Partition 1"** /description:**"Temp Content"** /compress:**max** /CheckIntegrity /Verify

- **System Support** (*E:*)
  - DISM /Capture-Image /ImageFile:**Z:\SystemSupport.wim** /CaptureDir:**D:** /name:**"Xbox One Partition 3"** /description:**"System Support"** /compress:**max** /CheckIntegrity /Verify

- **System Update** (*F:*)
  - DISM /Capture-Image /ImageFile:**Z:\SystemUpdate.wim** /CaptureDir:**D:** /name:**"Xbox One Partition 4"** /description:**"System Update"** /compress:**max** /CheckIntegrity /Verify

- ***Apply WIM***
  - DISM /Apply-Image /ImageFile:**Z:\TempContent.wim** /Index:**1** /ApplyDir:**D:** /CheckIntegrity /Verify

- While one could make a WIM backup of the User Content partition, I don't recommend it if you have broadband internet, as xvd storage is efficient, and you'll have a resulting WIM image almost the exact same size as the used space on the partition.
  - Everything contained on the User Content partition is downloaded once you sync your Xbox Live account by signing in.

WIM Sizes

- **TempContent.wim**
  - 416,895 KB
- **SystemSupport.wim**
  - 1,125,075 KB
- **SystemUpdate.wim**
  - 4,175,222 KB

WIM Verification

- **Verify WIM File**
  - DISM /Get-WimInfo /WimFile:**"Z:\TempContent.wim"**

- **Verify WIM File Index***(es)*
  - DISM /Get-WimInfo /WimFile:**"Z:\TempContent.wim"** /Index:**1**