Note on connecting WDTV to a Windows 10 PC 1 February 2025

Introduction

This note is the result of many attempts to connect the Western Digital WDTV to a Windows based network for watching DVDs that have been transferred to external hard disks in the VOB format.

It may be argued that today the VLC software used on a mini-computer instead of the WDTV, or alternatively on an Apple-TV, constitutes a viable alternative, without the hassles of connecting a WDTV. However, the WDTV has an immediate advantage in the direct access with a dedicated remote control, whether physical or as an app on a smart telephone.

WDTV offers direct USB access for an external storage media, such as hard disks, but with larger collections of movies, the WDTV data management system does not seem adequate. The following is therefore based on using a dedicated PC, to which one or more external hard disks have been connected, using USB hubs where necessary. Best results seem to be achieved relying on the USB-3 standard, for the PC, the external hard-disks and the hubs.

It should be noted that several of the below settings may be reset by Windows in connection with an update of the operating system. In case of recurring problems with connecting WDTV, it will therefore be useful to re-examine the settings one by one to see if they have been reset.

The following advice has been developed specifically for Windows 10. However, recent experiments with Windows 11 seems to indicate that most of the below advice continues to apply, but some elements of menu access have changed in Windows 11.

One important change is that the adjustments to reduce stuttering or lack of sound no longer seem to apply. Instead, it seems that issue at stake is the use of the DVD menu in WDTV, as explained below.

Recent developments

Most recently, the ability of WDTV to reach shared drives on a local computer suddenly stopped. Information from Microsoft made available on the Internet suggested that this was due to a recent increase in security provisions for the use of SMB connections.

Advice included a suggestion to edit Group Policies, using the Gpedit function, to disable two signing requirements, which may otherwise prevent older SMB devices, such as WDTV from connecting. The settings are found under Computer Configuration, Windows Settings, Security Settings, Local Policies, Security Options, Microsoft Network Client, covering respectively Digitally Sign Communications (Always) and Send Unencrypted Password to Third Party SMB Servers.

However, it turned out that these settings had already been disabled. Another suggestion was to disable a new setting in Control Panel, Turn Windows Features On or Off, SMB 1.0, where the setting concerned is Automatic Removal. However, also disabling this setting appeared to have no effect.

Apparently unrelated, it was at the same time found that Instagram suffered slow downloads when connected by WiFi. Recommendations on the Internet included disabling Internet IPV6. On the Linksys Velop 6E router that was not possible, but IPV6 could be altered from automatic to Passthrough.

Following this change, Instagram resumed fast downloads, and the fact that IPV6 is active on the network adaptor settings of the network computers does not appear to have importance. At the same time, WDTV could once more connect, but it is not entirely clear whether this was related to the IPV6 setting.

SMB

The first issue to address on the PC is that the WDTV relies on the Samba (SMB) protocol for network communication, but by default this protocol is switched off in the recent versions of Windows 10.

To enable SMB under Windows 10, open 'Settings' in the Start menu of the PC and select 'Apps' and further select 'Programs and Features' (which may also be reached through the Config menu). Select 'Turn Windows features on or off', turn on 'SMB 1.0/CIFS File Sharing Support' and make sure that the 2 or 3 sub-functions are also turned on. See above the comment on the turn-off sub-function introduced with Windows 11.

File sharing

WDTV relies on file sharing using Windows shares. An alternative is Media streaming, but when using this method the DVD menus will not work. Additionally, Mac and Linux shares may be used, but this is not covered by the present note.

To permit file sharing, open the 'Settings' menu on the PC, select 'Network & Internet' and further select 'Ethernet' (or WiFi, as appropriate, although using WiFi may present video transfer rate problems), so as to select 'Change advanced sharing options'. In the group 'Private', check that 'Network discovery' is turned on (also the sub-function 'Automatic setup of networks') and that 'File and printer sharing' is turned on.

Likewise, in the group 'All Networks' check that 'Turn off password-protected sharing' is selected (although Windows may still require a password for WDTV access). Because of the possible request for a password, go to the 'Accounts' menu select 'Family & other users' and add a new user ('Other users'), as a local user with administrator rights, with a simple name and password. One option would be 'wdtv' for both username and password. At first login on WDTV, check the box for remembering access details.

On the PC, in 'File Explorer' (on the toolbar at the bottom of the screen), select the directory to be shared, right-click and select 'Properties' and select 'Sharing'. In order to be able to see the size of shared directories, it is recommended that also drives are shared, which requires use of 'Advanced Sharing' and selecting 'Permissions'.

Add the new user (in the example 'wdtv') and grant full rights (both read and write rights, as WDTV uses write to set bookmarks for how far a movie has been watched). Repeat for all drives and directories to be shared.

Rights may be granted to the category 'Everybody', but it is suggested that this category should only have read rights, which will suffice for viewing files in other media. In this manner, deleting and saving files requires use of the 'wdtv' username and password.

Sharing may already include other entities, some of which may be marked as unknown. To clear this, select the tab 'Security', placed next to 'Sharing' in 'Properties', and select 'Advanced', where the ownership of the directory or hard disk may be changed to the main user of the PC. After this, sharing may be limited to the owner and 'wdtv', as well as possibly 'Everybody'. Other pre-existing sharing rights may then safely be deleted.

Network access

In the search box on the PC toolbar, enter 'Services' and open the app. Check that 'Function Discovery Provider' is set to 'Automatic (Delayed start) and 'Function Discovery Resources' is set to 'Automatic', which will subsequently display as 'Automatic (Triggered start).

Likewise in the search box on the toolbar, enter 'Regedit' and open the app. Select 'Hkey Local Machine', 'System', 'CurrentControlSet', 'Services', 'LanmanServer' and 'Parameters'. Check if there is a parameter entitled 'IRPStackSize', if that is not the case, then create it (right click, select 'new') as a 'Dword (32-Bit)'. The normal value is 20 (decimal, not hexadecimal), but may need to be increased to allow for discovery of external hard disks attached to a computer. It cannot be above 50, but 40 appears to work (by default displayed as 28 hexadecimal), whereas it has been reported that some values in the 30s give problems.

MasterBrowser

Still within 'Services' select 'Browser' (which may only be present after having activated SMB, which requires a reboot) and 'Parameters', check if there are parameters entitled 'IsMasterBrowser' and 'MaintainServerList' and otherwise create them by right clicking and selecting 'New', followed by 'String Value'. This relates to a function called 'MasterBrowser', which is not something that the user can specify, but which is the outcome of an election held amongst computers, routers and other units on the local network.

WDTV relies on the MasterBrowser, so the objective is to avoid an election conflict. Many modern routers will assume the role of MasterBrowser, which works fine with WDTV, and in such case the PC with the VOB files should be told not to stand for election. This is done by entering 'False' in the parameter 'IsMasterBrowser' and 'No' in the parameter 'MaintainServerList'.

If the router is not the MasterBrowser, then the PC with the VOB files should insist on being elected ('True' and 'Yes' in the two parameters above), but the outcome is not guaranteed. To check who the MasterBrowser is, a piece of freeware is available on the internet under the name 'Lanscan'. Please note that the current version 2.01 appeared not to work correctly, whereas the preceding version 1.68 worked fine with Windows 10, whereas with Windows 11 .

Some routers insist on being part of a workgroup entitled 'Workgroup', without any option to change the name. The PC and WDTV should then be members of the same workgroup when the router is the MasterBrowser. On the PC, in 'Settings' or 'Control panel', select 'System', and then on the right side select 'System info'. On the systems overview that opens, select 'Change settings' to change the workgroup name if necessary. On WDTV do this in 'Settings' under 'Network'.

It should be noted that some routers, such as the current Linksys Velop 6e, does not serve as MasterBrowser, while other routers, such as the older Linksys E2000 will claim do act as

MasterBrowser, but will not be linked to any workgroup. That also applies when such older browsers are used as WiFi access points, with routing disabled.

The claim by the Linksys E2000 to be the MasterBrowser appears to overshadow any claim by the PC with the VOB files, and proposed solutions, such as creating a separate workgroup with a new name for the PC and the WDTV, appear not to work. Instead, inserting a further router with MasterBrowser capacity as a WiFi access point in the network, such as the Linksys EA6900, appears to solve the problem.

Hard disks may not be visible

Windows 10 seems to cause an additional problem, whereby workgroup computers are not visible in the network neighbourhood. This may be circumvented by including the following task to be run at start-up of the PC that is host for the VOB files, which will then announce itself to the network.

In the search box on the PC toolbar, enter 'Task Scheduler' and add a new task, for which the name could be 'FDResPub', and the description could be 'Restart the FDResPub service'. It should be set to 'Run whether user is logged on or not - Do not store password' and configured for 'Windows 10'.

The trigger should be 'At Startup' and the action should be 'Start a program', for which the script should be 'cmd' with the arguments '/c net stop FDResPub && net start FDResPub', and with the specification 'Start in' left empty.

Finally, the conditions should be set as 'Start only if the following network connection is available - Any connection', while 'Settings' should be left at default values.

Firewall

It seems that some firewalls have a negative impact on Wdtv, such as Eset. One possibility is to turn off such firewalls, and their associated functions, so as to rely on the built-in Windows 10 firewall instead. However, sometimes that does not resolve the issue, and sometime the issue disappears again after the next following Windows update.

Stuttering

In some environments, WDTV develops a stutter, following which the sound may disappear, and the video continue. It seems that the main issue is the use of the DVD menu on WDTV, and it has been explained that DVD producers include malicious code in the menu of some DVD to upset copying.

For DVD videos that suffer this problem, the DVD menu may be disabled. This can be done either in the WDTV settings, under Video, or in playback by choosing the WDTV menu format with the yellow button and selecting the format where a preview window is included.

If the DVD menu is disabled in settings, then it is not the main folder that is to be played, but the subfolder entitled Video. Likewise, if the menu format is changed, browsing must reach that Video folder, after which it will be possible to move the cursor to the preview window and click on it.

The downside is that chapters no longer can be chosen and that the resume function no longer works. However, in playback, once the fast forward or backward button is engaged, the chapter button may be used to move in segments of ten minutes.

Additionally, when using either method to play without the DVD menu, the main movie is automatically started, and access may be had to the zoom function, which is not available with the DVD menu. That is useful in case of DVD where the 16:9 image has been placed within a 4:3 box, which DVD players normally handle automatically, but which the WDTV leaves as a reduced size image on screen.

For any problems that are not linked to the DVD menu, the following may still be relevant. However, recent experiences with Windows 11 seem to indicate that the below measures, such as limiting network speed and selecting fixed video resolution, now seem to increase the problem, rather than solving it.

The previous conclusion had been that stuttering might occur when there is an overload of traffic on the network card of the PC hosting the VOB files, for example when the PC is simultaneously sending or receiving large files. However, it apparently may also occur when the stream from the PC to the WDTV comes too fast.

Therefore, in the PC menu ‘Settings’, ‘Network & Internet’, select ‘Change adaptor options’, right-click on the Ethernet connection and select ‘Properties’. Select the function ‘Configure’, ‘Advanced’, ‘Speed and Duplex’, which presumably is set to ‘Automatic’. Select instead ‘100 Mbit/s Full Duplex’ which matches the network card of WDTV. This naturally entails that the communication by that PC becomes slower in general, which may be a problem if the PC is also to serve other functions.

Additionally, it may help to change the manner in which any external drives are handled by the PC, by opening Disk Management (by right-clicking on the Start icon, or via the Control panel, Administrative Tools, Computer Management) and right-clicking on the grey box for each drive (with the drive number), selecting ‘Properties’ and choosing ‘Policies’, where ‘Better performance’ may be chosen to provide a faster access speed. The offset is the need always to use ‘Safely remove hardware’ when removing the disc.

The problem of stuttering may be further limited by selecting a fixed video resolution in the WDTV ‘Setup’ menu under ‘Video’. Assuming a newer television with 1080p capability, it seems that selecting 1080p 50Hz and YCbCr give the best result, and it is also recommended to keep YCbCr at 8 bit, since using 12 bit may cause blackouts, although the causal connection is not certain. The settings 50Hz and YCbCr are apparently part of the MPEG4 definitions and therefore require least work by the WDTV. However, also selecting Match Framerate may have a positive effect in preventing blackouts.

Stuttering most often occurs with high transfer rate files, such as good opera productions, and often when subtitles are selected. However, the above steps should eliminate the problem. As mentioned above, other traffic on the PC with the VOB may have an impact, whereas other traffic on the network does not seem to have any impact. However, if there should be problems with other network traffic, some modern routers allow for granting priority to selected units, such as the WDTV and the PC with VOB files.

Finally, a further option is to use ISO files instead of VOB files, which some claim will alleviate stuttering.

Resume function

The resume function on WDTV, continuing a video from the point left last time, works for VOB files when playing the folder containing the video and audio subdirectories. It does not work when playing VOB files from the preview window, so as to enable zoom, which is useful for videos with a wide screen image inside a 4:3 box.

For other files, such as TS and MP4, resume does not work when playing the folder containing the files, but it does seem to work when entering into the folder and playing the individual files.

Sometimes, the resume function does not appear to work, as the video restarts by running at a higher speed without sound. In such case, restarting the video once more from resume seems to clear the problem.

As noted above, the resume function does not work when the DVD menu is turned off or by-passed.

Sound quality

It seems that the soundcard built into the WDTV has limits, so that wide spectre music, such as opera, may sound distorted, especially in the treble. A work-around is to rely only on digital output, either through the HDMI to a television with good analogue conversion abilities, or through the optical out connection to an amplifier with such conversion abilities.

Although the work-around does provide some improvement in sound, some problems appear to remain with sound distortion. That seems also to be caused by the DVD menu function mentioned above, since once the DVD menu is disengaged, the distortion seems to disappear.

On some MP4 files, sound may appear scrambled, but will correct itself if the video is restarted, sometimes only after first having started another file.

Other problems

It may be that some antivirus programmes have a negative impact on SMB access to shared hard disks, but tests have not been conclusive on this issue.

It may likewise be that using a VPN on another computer in the network has a negative impact on SMB access to shared hard disks on the PC serving the WDTV. Tests seem to indicate that this effect occurs especially if the other computer changes networks without first disengaging the VPN.

Finally, some mobile phone amplifiers operate in the 5 MHz frequency area and may therefore conflict with some routers working in the same frequency area. Likewise, some remote controls for electricity use 433 MHz frequencies, which are also used by some wireless loudspeakers and headphones.