



WONDERMEDIA

SmartStream User's Guide

*Demo Platform by WM8440 and WM8510
RDK*

Aug 15, 2011
Revision 1.02.2

WonderMedia Technologies Inc.
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Revision History

Version	Date	Initial	Note
V1.02.1	Aug. 11, 2011	WTL	Initial release
V1.02.2	Aug. 15, 2011	WTL	Correct some wordings.

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Table of Contents

Revision History	i
Table of Contents	ii
Preface	1
Terms in this Document.....	1
1 PC2TV Application	2
1.1 Hardware & Software Support	2
1.1.1 Hardware Recommendation.....	2
1.1.2 Supported OS	2
1.1.3 Supported USB Devices on SmartStream Device	2
1.2 Network Connection	3
1.2.1 Supported Network Types	3
1.2.2 Waiting for Connection on SmartStream Device	5
1.2.3 Network Connection Types	6
1.2.3.1 Ethernet Connection	6
1.2.3.2 Wi-Fi Direct Mode Connection	6
1.2.3.3 Access Point Mode Connection	7
1.2.3.4 Station / Client Mode Connection.....	7
1.2.4 Network Stability	8
1.3 Installation of PC2TV Utility	9
1.3.1 Standard Installation.....	9
1.3.2 Benchmarking Your PC	11
1.3.2.1 PC2TV Benchmark Tool	11
1.3.2.2 Star Level in PC2TV Benchmark Tool.....	12
1.4 Usage of PC2TV Utility	13
1.4.1 Basic Usage of PC2TV Utility.....	13
1.4.2 Extend Screen Playing.....	15
1.4.3 Advanced "Play" Management of PC2TV Utility	16
1.4.3.1 Device Selections.....	17
1.4.3.2 "Optimum Mode" Settings	18
1.4.3.3 Advanced Audio and Video Settings	20
1.5 Un-installation of PC2TV Utility.....	21
2 DLNA-DMR Application.....	22
2.1 Hardware & Software Support	22
2.1.1 Hardware Recommendation.....	22
2.1.2 Supported DMC / DMS.....	22
2.1.3 Supported USB Devices on SmartStream Device	22
2.2 Usage of DLNA in Windows 7	23
2.2.1 Turn-on Media Streaming.....	23
2.2.2 Stream A File to DMR	24
2.3 DMR Control on SmartStream Device	25
3 Device Configuration	26
3.1 Go to "Device Configuration".....	26
3.2 Device Setting	27
3.2.1 Device Name Change	27
3.2.2 Firmware Upgrade	27
3.3 Overscan Setting.....	28
3.4 Network Settings	29

3.4.1 Access Point Mode Setting.....	29
3.4.2 Station / Client Mode Setting.....	31
3.5 Change the Friendly Name of DMR.....	32
4 Firmware Upgrade	33
4.1 Upgrade the PC2TV Utility	33
4.2 Upgrade the SmartStream Device.....	33
4.2.1 Upgrade Firmware of SmartStream device by Network	33
4.2.2 Upgrade Firmware of SmartStream device by USB.....	35
4.2.3 Upgrade Firmware of PC2TV-only device by USB	37
5 Troubleshooting and Known Issues	39
5.1 Troubleshooting of PC2TV	39
5.1.1 Run as Administrator in Windows 7 / Vista	39
5.1.2 Network Discovery and Firewall Checking	40
5.1.2.1 Turn on Network Discovery and File Sharing.....	40
5.1.2.2 Unblock PC2TV Application from Windows Firewall	41
5.1.2.3 Enable SSDP and UPnP from Windows Firewall	42
5.1.3 Audio Playback Issue.....	44
5.1.3.1 "Play" Mode Issue	44
5.1.3.2 After "Stop" Issue	45
5.1.4 Display Overscan Issue.....	46
5.1.5 Movie and Video Playback Issue in Windows XP.....	47
5.1.6 Poor Display Fluency of PC2TV Application.....	48
5.1.6.1 Switch Desktop Themes of Windows 7 / Vista.....	48
5.1.6.2 Check the "Optimum Mode" setting	48
5.1.6.3 Check PC's Desktop Resolution.....	49
5.1.6.4 Check CPU Usage.....	50
5.1.6.5 Check Wi-Fi Link Speed.....	51
5.1.6.6 Change the Wi-Fi Channel	52
5.1.6.7 Change the connection to Ethernet	52
5.2 Troubleshooting of DLNA-DMR.....	53
5.2.1 No "Play To" Selection in Windows 7	53
5.2.2 Blank Screen after "Play To"	53
5.2.3 Poor Display Fluency of DMR	53
5.2.4 Audio is Always Mute.....	53
5.3 Common Solutions to Many Issues.....	54
5.4 Known Issues and Limitations	55
5.4.1 PC2TV Limitations.....	55
5.4.2 DLNA-DMR Limitations	55
5.4.3 General Limitations	55
6 Appendix	56
6.1 Network Initialization Process	56
6.2 Display Resolutions	57
6.2.1 Maximum Resolution Support and Conditions.....	57
6.2.2 Principals of Resolution Implementation	57
6.2.3 Resolution Implementation Table	58
6.3 Media Players Compatibility of PC2TV Application.....	59
6.4 DLNA Support Formats (PC2TV PRO version only)	60
6.4.1 Supported Picture Formats.....	60
6.4.2 Supported Audio Formats.....	60
6.4.3 Supported Video Formats.....	61

Preface

- The purpose of this document is mainly to introduce how to use WonderMedia's SmartStream device completely through various SmartStream applications.

Terms in this Document

- **SmartStream applications:** There are several applications included:
 - ◆ **PC2TV application:** To project your PC's screen to the TV, and then control your PC's applications at the side of TV, including audio and video playback, office working, web surfing, and even playing tiny games.
 - ◆ **DLNA-DMR applications:** To receive streaming contents from DLNA-DMC/DMS device and then play it on the TV / monitor.
- **SmartStream device:** It indicates the WM8440-based hardware system for PC, smart phone, and tablet-PC to connect to run SmartStream applications. Its latest firmware version is v1.02.2.
 - ◆ **PC2TV-only device:** It indicates the WM8510-based lite version of SmartStream device, which can only support PC2TV application. Its latest firmware version is v3.17.0.
- **PC2TV utility:** The program on your PC to operate PC2TV application. The latest version is v4.6.0.
- **PC2TV Benchmark Tool:** The program to evaluate your PC capability for PC2TV application.
- **"Play" PC2TV application:** To Click "Play" key from PC2TV utility to project the PC's desktop to the TV or monitor.

1 PC2TV Application

1.1 Hardware & Software Support

- SmartStream device is designed to be a receiver for PC2TV application, and you can run PC2TV utility on your PC to project the screen to your TV through this device.
- In order to run PC2TV application smoothly, please refer to the following hardware recommendation.
- The performance of PC2TV application might be affected by PC capability, network bandwidth, desktop resolution, and "Optimum Mode", please also refer to [Section 1.3.2.2](#), [Section 1.4.3.2](#), and [Section 5.1.6](#).

1.1.1 Hardware Recommendation

■ Desktop/Workstation PC

- ◆ CPU: Intel Core 2 Duo 2.0G or better
- ◆ Chipset: Intel 965 series chipset or better
- ◆ Memory: DDR2-800, 2GB or better
- ◆ Graphic Card: NVIDIA GeForce 8400GS / ATI Radeon X300 or better
- ◆ Network: 802.11 g/n Wi-Fi and/or 100/1000 Mbps Ethernet

■ Notebook/Laptop PC

- ◆ CPU: Intel Core 2 Duo 2.0G or better
- ◆ Chipset: Intel 965 series chipset or better
- ◆ Memory: DDR2-800, 2GB or better
- ◆ Graphic: Chipset integrated (Intel X3100 Graphic) or NVIDIA GeForce Go 8200M / ATI Radeon Mobility X300 standalong graphic chip or better
- ◆ Network: 802.11 g/n Wi-Fi and/or 100/1000 Mbps Ethernet

1.1.2 Supported OS

- Windows 7, x86 and x64 (Recommendation)
- Windows Vista (Service Pack 1 or later), x86 and x64
- Windows XP (Service Pack 3 or later)

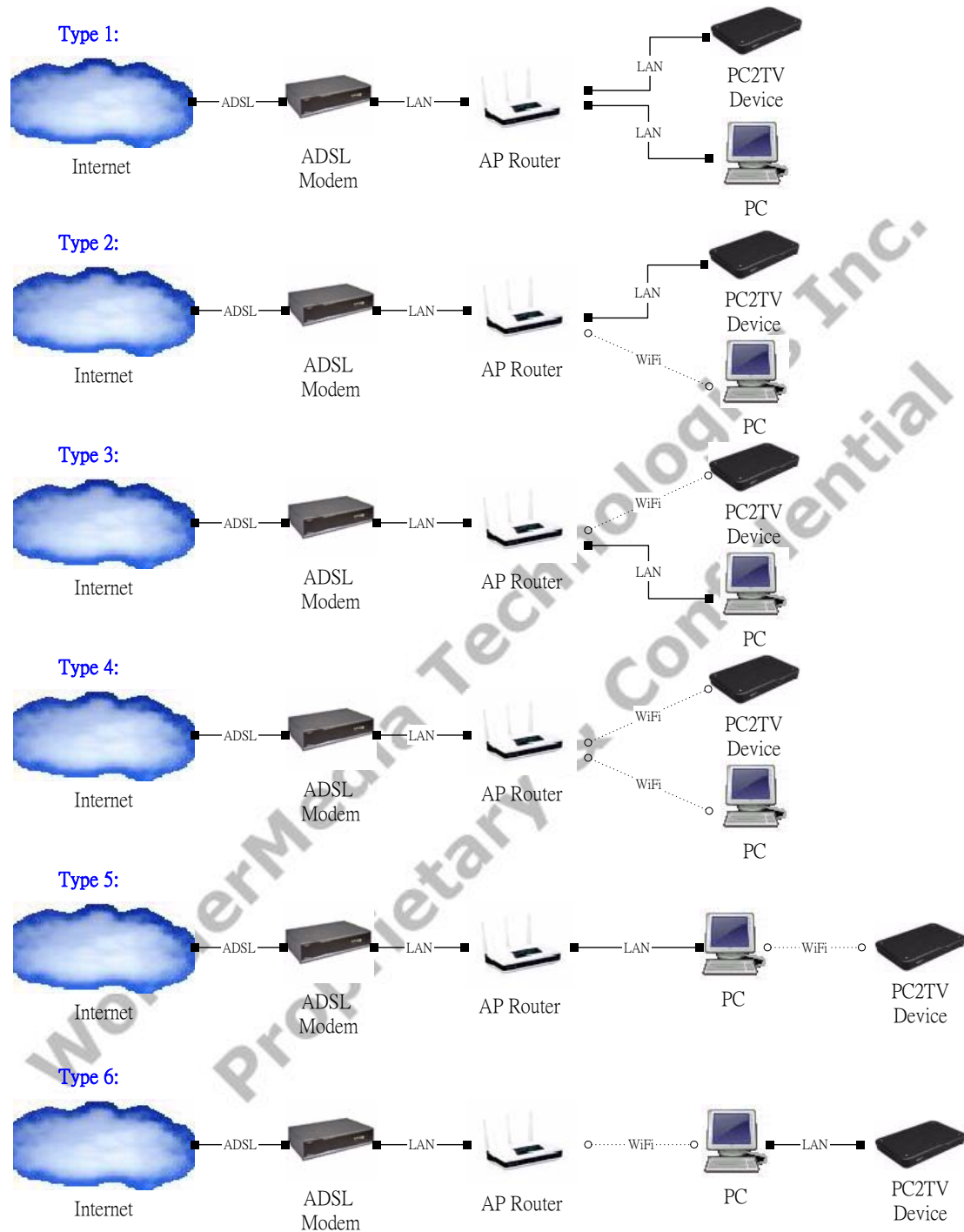
1.1.3 Supported USB Devices on SmartStream Device

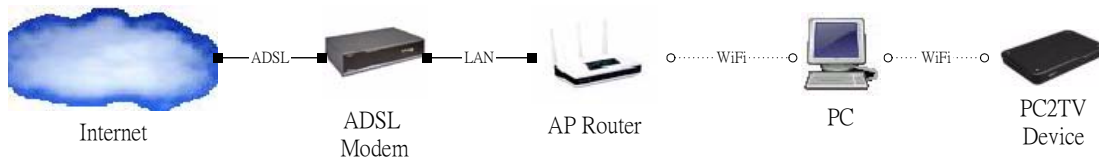
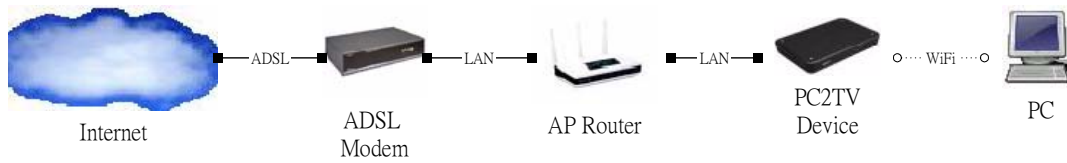
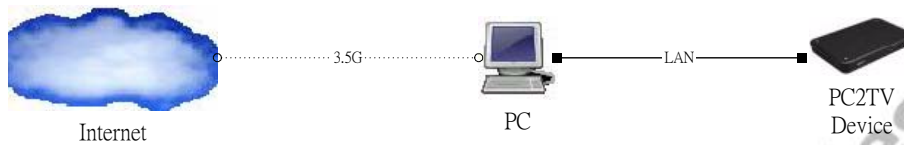
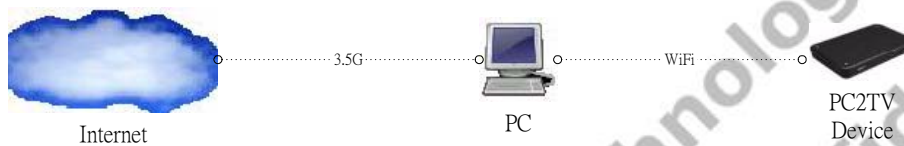
- USB HID: Mouse / Keyboard.
- USB Flash disk for firmware upgrade.

1.2 Network Connection

1.2.1 Supported Network Types

■ The following network types are supported by Wondermedia's PC2TV application.



Type 7 (Conditional):**Type 8:****Type 9:****Type 10:**

- Type 7 could be supported by two methods:
 - A. Wi-Fi Direct driver in your PC.¹
 - B. Two Wi-Fi devices in your PC.

¹ It is required that your PC's Wi-Fi device has specific driver to support Wi-Fi Direct, please refer to [Section 1.2.3.2](#).

1.2.2 Waiting for Connection on SmartStream Device

- You have to power on the SmartStream device, wait for a while, and the waiting screen would be shown on your TV / Monitor.
- If you want to connect SmartStream device by Ethernet, it is suggested to connect Ethernet cable before powered it on. Please also refer to [Section 1.2.3.1](#) and [Section 6.1](#).



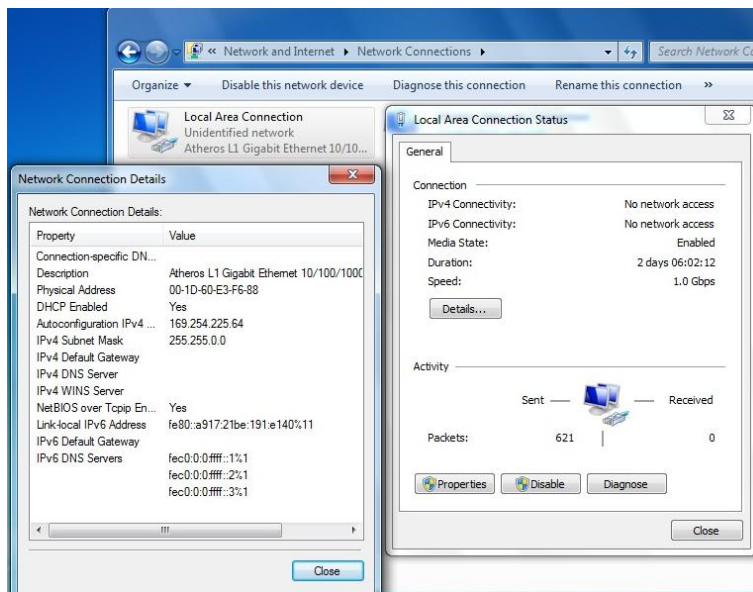
- The screen of SmartStream device should stay at the standard waiting screen as the picture.
- The device information, Wi-Fi configuration, IP address, and firmware version are shown here.
- For the connection of Wi-Fi Direct mode, the waiting screen would only show pin code on the TV / Monitor, please refer to [Section 1.2.3.2](#).

1.2.3 Network Connection Types

- Before running PC2TV application with your PC, the network should be connected by Ethernet or Wi-Fi.
- SmartStream device supports three modes of Wi-Fi connections to link PC and it:
 - A. Wi-Fi Direct mode ([Section 1.2.3.2](#))
 - B. Access Point (AP) mode ([Section 1.2.3.3](#))
 - C. Station / Client (STA) mode ([Section 1.2.3.4](#))

1.2.3.1 Ethernet Connection

- Please refer to [Section 1.2.1](#), the Network Type 1 & 2 & 6 & 9 should be connected by Ethernet.
- After the SmartStream device is ready as [Section 1.2.2](#), please confirm the Ethernet cable is connected well on your PC, the device, and/or the AP Router.



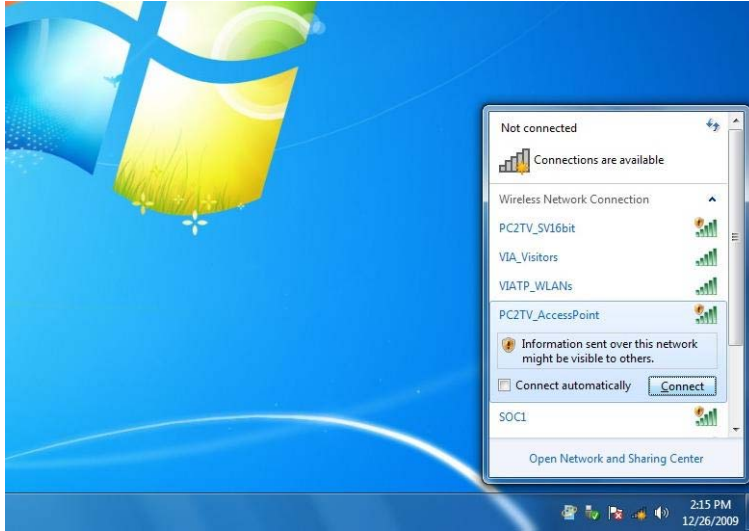
- The Ethernet connection should be ready on your PC; the IPv4 address should have gotten 192.168.x.x or 169.254.x.x, Please refer to [Section 6.1](#).
- Sometimes, the network might spend a long time to finish the connection. Please refer to [Section 1.2.4](#).

1.2.3.2 Wi-Fi Direct Mode Connection

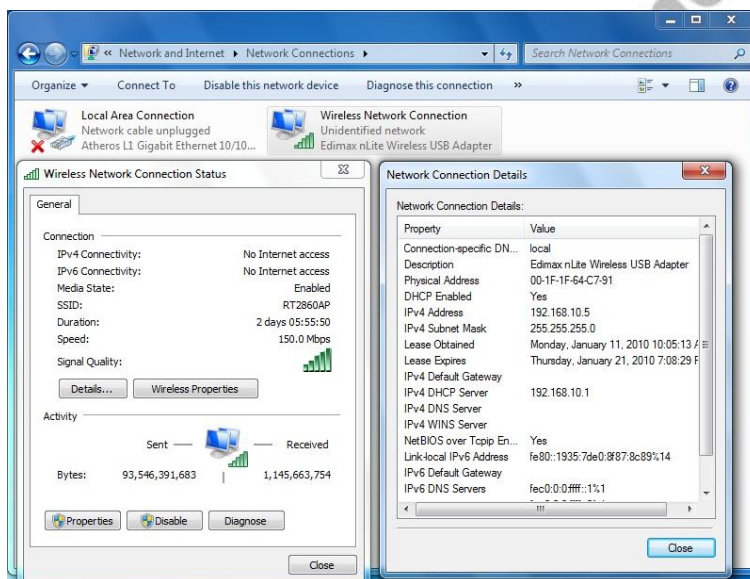
- Please refer to [Section 1.2.1](#), the Network Type 7(with one Wi-Fi device) should be connected by Wi-Fi Direct Mode.
- Your PC's Wi-Fi device should have specific driver and utility to support Wi-Fi Direct, please follow its connecting procedures to connect you SmartStream device by it.
- If the SmartStream device is configured for Wi-Fi Direct connection, it could not be connected or re-configured to other Wi-Fi connection modes.

1.2.3.3 Access Point Mode Connection

- Please refer to [Section 1.2.1](#), the Network Type 5 & 7(with two Wi-Fi devices) & 8 & 10 should be connected by Wi-Fi AP mode.
- After the SmartStream device is ready as [Section 1.2.2](#), please connect your PC's Wi-Fi to the "device SSID" of the SmartStream device.



- The "device SSID" shows on the waiting screen as [Section 1.2.2](#).
- The sample of "device SSID" in the left picture is "PC2TV_AccessPoint".
- The WEP/WPA/WPA2 key may be required, based on your PC2TV network setting.



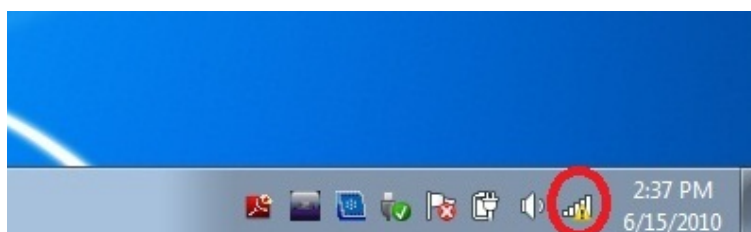
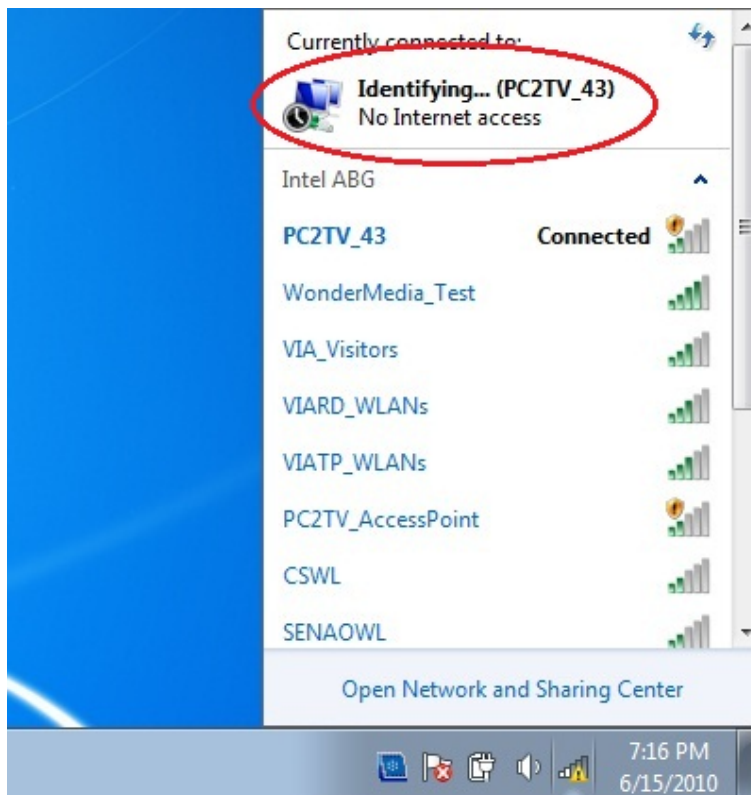
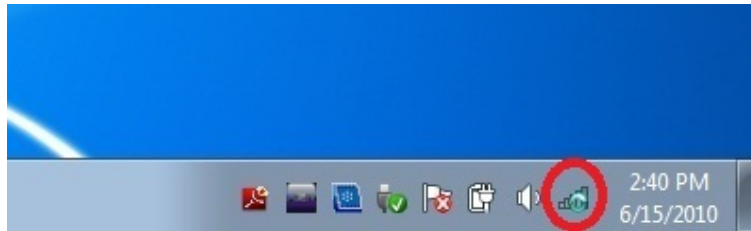
- After the Wi-Fi is connected, please check its readiness on your PC; the IPv4 address should have gotten 192.168.x.x or 169.254.x.x. Please refer to [Section 6.1](#).
- Sometimes, the network might spend a long time to finish the connection. Please refer to [Section 1.2.4](#)

1.2.3.4 Station / Client Mode Connection

- Please refer to [Section 1.2.1](#), the Network Type 3 & 4 & 7(with Wi-Fi Direct driver) should be connected by Wi-Fi STA mode.
- Before configuring the SmartStream device to Wi-Fi STA mode, you have to connect it by Ethernet or AP mode first, please refer to [Section 1.2.3.1](#) or [Section 1.2.3.3](#).
- After connected the SmartStream device, please go to "Device Configuration" page to set the network in STA mode. Please refer to [Section 3.1](#) and [Section 3.4.2](#).
- After connected the SmartStream device in STA mode, please connect your PC's Wi-Fi device to the same Access Point as set one.

1.2.4 Network Stability

- Sometimes, the network might spend a long time to finish the connection because of the Windows behaviors.
- Before the readiness of the network, you are not able to run PC2TV application or set its network configuration.
- Especially in Windows 7 / Vista, it would spend more time to detect the possibility of Internet connection when a new network is connected at the first time. Moreover, in the same phenomenon, you might experience a sudden disconnection² and reconnection again in a short time.



- The Network icon in System Tray as the left picture presents that the network is not ready yet.

- At this moment, you can check the readiness by click the "Network" icon at the System Tray.
- If the connected network device still shows "Identifying", you are not able to run PC2TV application yet.

- In Windows 7 / Vista, the yellow exclamation mark is normal to express that it is without Internet ability, and it would not affect PC2TV application anymore.

² it might cause "Stop" after PC2TV application has been "Play".

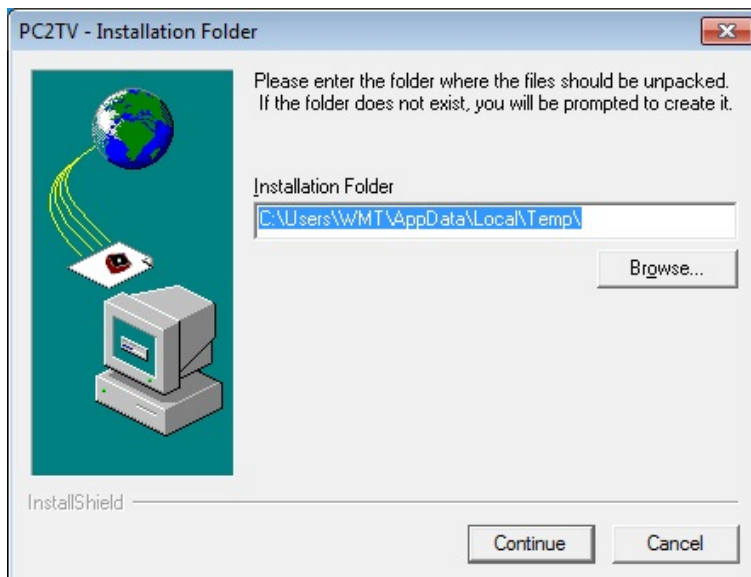
1.3 Installation of PC2TV Utility

1.3.1 Standard Installation

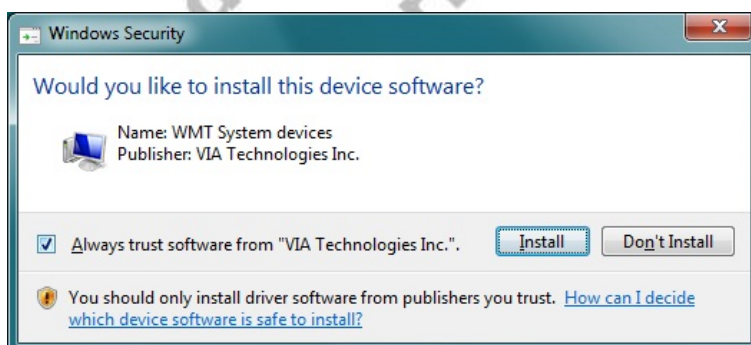
- In order to install the PC2TV utility more stably, please close all of other programs before installation.



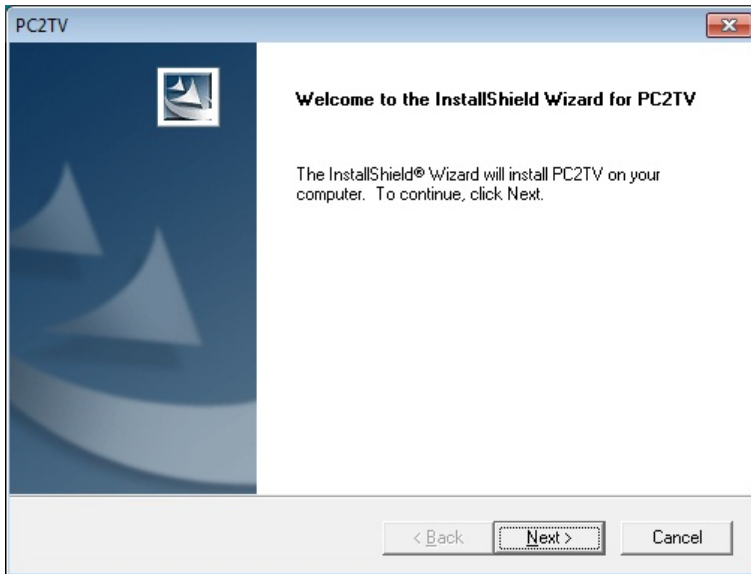
- Double click the icon of PC2TV utility.



- Please choose a folder to unpack files for installation.
- Then click "Continue" to unpack them.



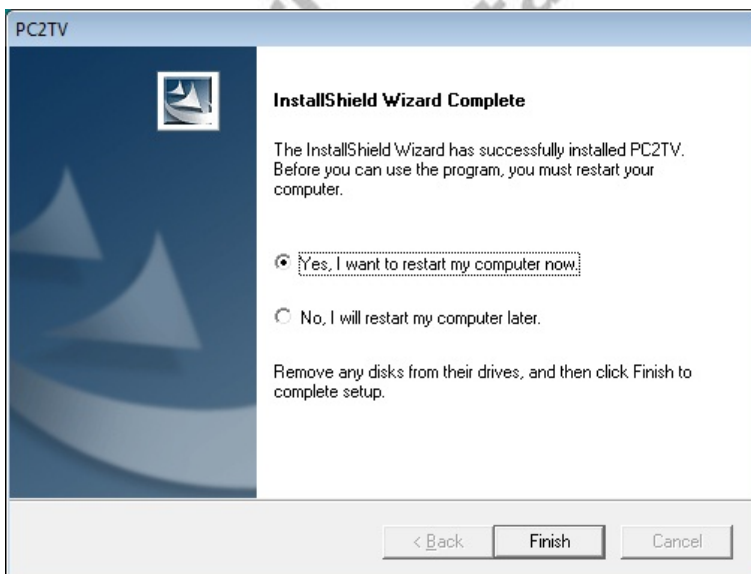
- Click "Install" for the following several notifications to install drivers, or tick Always trust software from "VIA Technologies Inc.".



- Click "Next" to install the PC2TV utility.



- After drivers and utility installed, the PC2TV benchmark tool would be prompted to evaluate your PC.
- Please refer to [Section 1.3.2](#) to get more information.



- After the benchmarking is done, please choose "Yes" and then click "Finish" to restart your PC.

1.3.2 Benchmarking Your PC

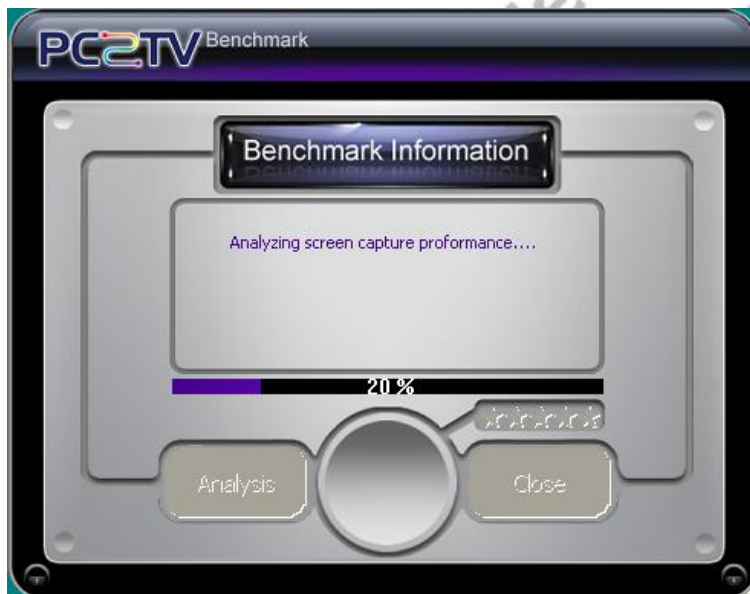
- The PC2TV Benchmark tool is a useful program to evaluate your PC capability to run the PC2TV application.

1.3.2.1 PC2TV Benchmark Tool

- You can see the PC2TV benchmark tool when installation or manually start-up it from PC2TV folder under "All Programs".



- After starting-up it, you can see the left dialog window. Please click "Analysis".



- The evaluating process will run around 10 seconds.



- After evaluated, it will show the capability of your PC for PC2TV application.
- Click "Close" to close the PC2TV benchmark tool.

1.3.2.2 Star Level in PC2TV Benchmark Tool

- The following star level is to evaluate your PC, and then give you some suggestions to run PC2TV application.

Stars	Level	Explanation
1 star	Lowest	The capability of CPU and Graphic are poor to support PC2TV application.
2 stars	Low	Acceptable for picture/music playback and web surf, but suggested to downgrade the desktop resolution to support video playback.
3 stars	Fair	Fair for picture/music playback and web surf; sometimes lag for video playback.
4 stars	Good	Smooth to support web surf and video playback.
5 stars	Excellent	Great capability to support PC2TV application.

- The star level might be different, once you change the PC's desktop resolution or desktop theme setting in Windows 7/ Vista, please refer to [Section 1.4.3.2](#) and [Section 5.1.6.1](#).

1.4 Usage of PC2TV Utility

- In order to run the PC2TV application more stably and compatibly, please close all of other programs before starting-up it.

1.4.1 Basic Usage of PC2TV Utility

- The following steps are for basic usage.



- Double click the PC2TV icon from your desktop.



- If the left dialog window is prompted, please tick both of "Private networks" and "Public networks".
- Then click "Allow access" to agree that PC2TV application could be unblocked from Windows Firewall.



- The PC2TV "Control Key" would be prompted, and start to search the SmartStream device.³

³ Sometimes, the network might spend a long time to finish the connection, and even experience a sudden disconnection and reconnection again in a short time. Therefore, it would extend the waiting time before "Play" PC2TV application. Please refer to [Section 1.2.4](#).





- If getting SmartStream device, click "Play" to run the PC2TV application.⁴




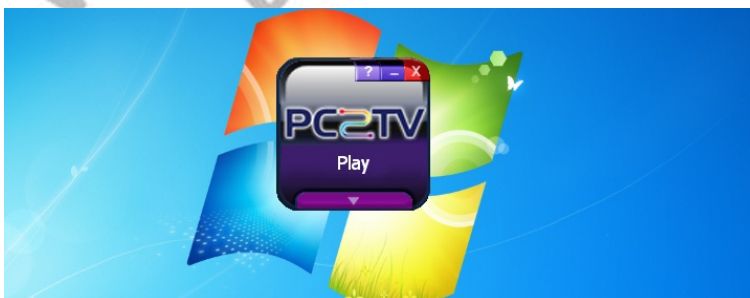
- Click "Stop" to stop the PC2TV application.⁵



- Click  to see the information of this utility.
- Click  to exit the window.



- Click  to minimize the "Control Key" to Taskbar and System Tray.



- Click  to exit the PC2TV utility.⁶

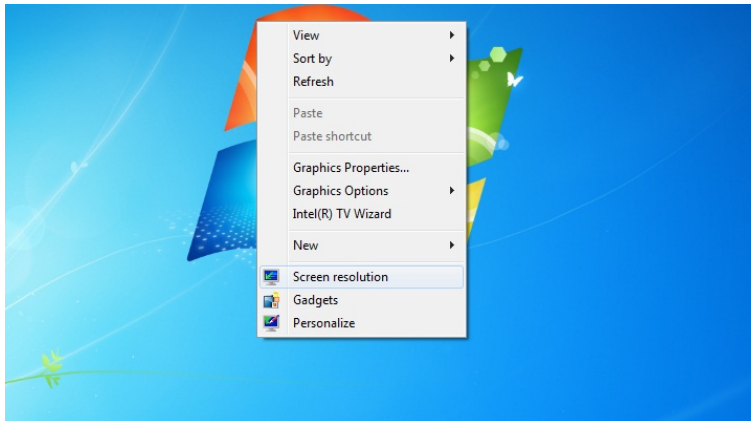
⁴ After clicking "Play", the PC's desktop resolution might be changed, please refer to [Section 6.2](#).

⁵ After clicking "Stop", the PC's desktop resolution might be changed back to the original one, if it has changed ever.

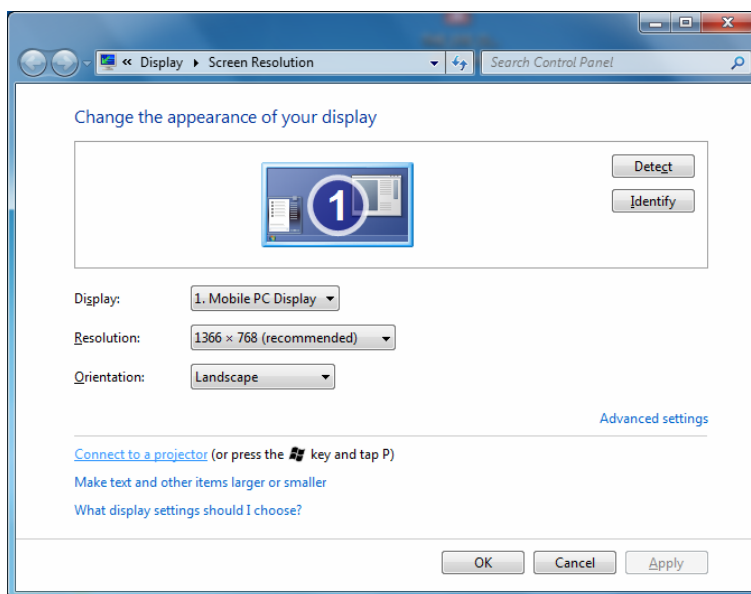
⁶ After exiting the utility. the PC's desktop resolution might be changed back to the original one, if it has changed ever.


1.4.2 Extend Screen Playing (Windows 7 only)

- No matter you are running the PC2TV application or not, you can “Play” the PC2TV application to the extend screen in Windows 7.



- Click right key of your mouse on the desktop, and then select “Screen resolution”.



- Select “Connect to a projector” (or just press the “” key and tap “P”) to open Windows Presentation mode.



- Select “Extend” and then press “Enter” to run PC2TV application to extend screen.⁷



- Select “Computer only” or “Duplicate” to go back to run it in primary screen.⁸

- If you are not able to see the 2nd display after selecting “Connect to a projector” or not able to “Play” extend screen after selecting “Extend”, please refer to [Section 1.4.3.3](#).

- However, due to PC's manufacturing settings, there are a few PCs that are only able to “Play” extend screen with a monitor connected to its physical 2nd monitor output connector.


⁷ After selecting “Extend”, the PC's desktop resolution might be changed, please refer to [Section 6.2](#).

⁸ After selecting back to primary screen, the PC's desktop resolution might be changed, please refer to [Section 6.2](#).


1.4.3 Advanced "Play" Management of PC2TV Utility

- There are several adjustable configurations for advanced usage to "Play" PC2TV application.



- Click  to open the advanced menu.



- If all configurations have been done, click  to close the advanced menu.


1.4.3.1 Device Selections

- You can see all of the connected SmartStream devices in the device list.



- Double click the "device name" to select/change the target device, if possible.
- In the left picture, the sample of selected "device name" is "SmartStream".



- You can also double click  to go to "Device Configuration" page. Please refer to [Section 3](#).

1.4.3.2 "Optimum Mode" Settings

- In order to provide the optimized performance between normal PC applications⁹ and video/movies playback, there are three settings for different using scenarios.



- The bar of "Optimum Mode" is set at "PC" mode in default for normal PC applications.



- If you want to see PC video/movies, please set the bar of "Optimum Mode" to "Middle" mode.
- After drawing it, please click "Play" or "Apply" to apply it.



- If the performance of video/movie is still not acceptable in "Middle" Mode, you can set it to "Movie" mode.
- After drawing it, please click "Play" or "Apply" to apply it.

⁹ Normal PC applications include audio/music playback, office working, web surfing, storage access, printing, and playing tiny games, except video/movie playback.

- At "Movie" mode, it would spend more PC resources. The following table shows the reference platforms to support the appropriate media content type and maximum PC's desktop resolution at "Movie" Mode.

CPU & Graphic	RAM	Network ¹⁰ (Min. Bandwidth)	OS & Desktop Theme ¹¹	Video/Movie Content	Max. Desktop Resolution
2 nd Generation Intel Core i3 / i5 / i7 series (SandyBridge) with CPU integrated graphic	2GB	802.11n Wi-Fi or 10/100M Ethernet (100 Mbps)	Windows 7 with "Aero Themes"	Mpeg4/H.264, 1080P	1,920 x 1,080 ¹²
Intel Core i3 / i5 / i7 2.0G per core with standalone graphic chip	2GB	802.11n Wi-Fi or 10/100M Ethernet (100 Mbps)	Windows 7 with "Aero Themes"	Mpeg4/H.264, 1080P	1,440 x 900(wide) 1,280 x 1,024
Intel Core 2 Duo 2.4G with standalone graphic chip	2GB	802.11n Wi-Fi or 10/100M Ethernet (90 Mbps)	Windows 7 with "Aero Themes" or Windows XP	Mpeg4/H.264, 720P	1,280 x 800 1,280 x 720
Intel Core 2 Duo 2.0G with chipset integrated graphic	1GB	802.11b/g Wi-Fi or 10/100M Ethernet (36 Mbps)	Windows 7 with "Basic and High Contrast Themes" or Windows XP	DVD/Mpeg2, 480P	1,024 x 768

- The performance of video/movies might get worse than "PC" and/or "Middle" mode, if your PC capability is worse than above requirements.
- Network bandwidth is another key factor to affect the PC2TV application. If it is under the above requirement, the display fluency might be poor. If this is the case, it is recommended to lower PC's desktop resolution or switch "Optimum Mode" to "PC" or "Middle" mode. Please refer to [Section 5.1.6.3](#) and [Section 5.1.6.5](#).
- About the PC capability and supported desktop resolution, please also refer to [Section 1.1.1](#), [Section 1.3.2.2](#), and [Section 6.2](#).

¹⁰ About network, please also refer to [Section 5.1.6.5](#).

¹¹ About desktop theme, please also refer to [Section 5.1.6.1](#).

¹² There are some other conditions to support 1,920 x 1,080 resolution, please also refer to [Section 6.2](#).

1.4.3.3 Advanced Audio and Video Settings

- There are two configurations of audio and video to change using scenarios of PC2TV application.



- The PC audio is disabled in default after "Play" PC2TV application.
- If you want to listen to the audio/music from both of PC and TV sides, please tick "Keep PC Audio".¹³
- After ticking it, please click "Play" or "Apply" to apply it.

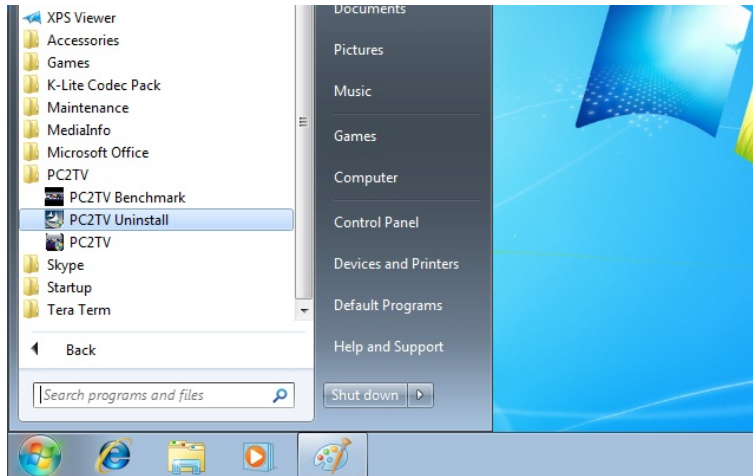


- The "Virtual Extend" is enabled in default to provide more stable graphic handling for PC2TV application.
- If you got abnormal primary and/or extend display after "Play" PC2TV application, please untick it.
- After unticking it, please click "Play" or "Apply" to apply it.

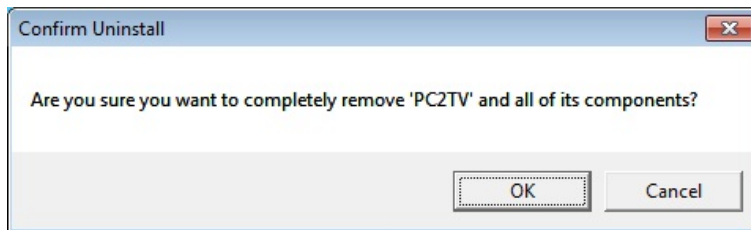
¹³ However, if the "Optimum Mode" was set at "Middle" or "Movie" mode with ticked "Keep PC Audio", the audio would be asynchronous between PC and TV sides.

1.5 Un-installation of PC2TV Utility

- If you want to upgrade the PC2TV utility, you have to uninstall the previous version first.

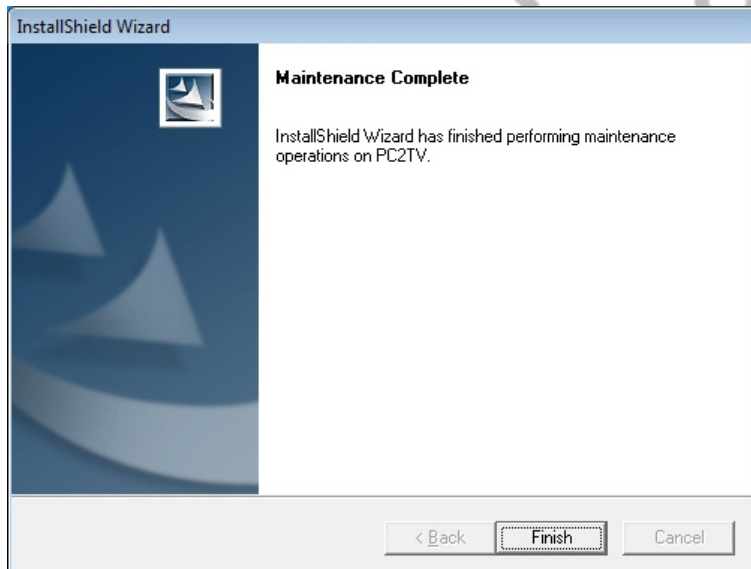


- Click the "PC2TV Uninstall" icon from "All Programs".



- Click "Yes" to remove all of PC2TV components.

- If the PC2TV application is still playing, it will be ended automatically.



- Click "OK" to finish the un-installation.

- Restart your Windows after the un-installation is finished.

2 DLNA-DMR Application

2.1 Hardware & Software Support

- The Digital Living Network Alliance (DLNA) is a non-profit collaborative trade organization comprising more than 250 member companies who have stated the common goal of using standards-based technology to make it easier for consumers to use, share and enjoy their digital photos, music and videos. About DLNA, please refer to its web site: <http://www.dlna.org/home>
- SmartStream device is designed to be a DLNA-DMR (digital media renderer), and you are able stream contents from PC (Windows 7 based), Mac, smart phone, and Tablet-PC to your TV through this device. Please refer to [Section 6.4](#).

2.1.1 Hardware Recommendation

■ PC

- ◆ CPU: 1.6 Ghz or better
- ◆ Memory: 1.0 GB or better
- ◆ Network: 802.11g/n Wi-Fi and/or 100/1000 Mbps Ethernet

■ Smart phone

- ◆ CPU: 800 Mhz or better
- ◆ Memory: 256 MB or better
- ◆ Network: 802.11g/n Wi-Fi or better

■ Tablet-PC

- ◆ CPU: 600 Mhz or better
- ◆ Memory: 256 MB or better
- ◆ Network: 802.11g/n Wi-Fi or better

2.1.2 Supported DMC / DMS

- Windows Media Player 12 on Windows 7 (for PC)
- Twonky Suite on Windows, Mac OS, Android (for PC / Mac / smart phone / tablet-PC)
- WonderMedia DMC APP on Android (for smart phone / tablet-PC)

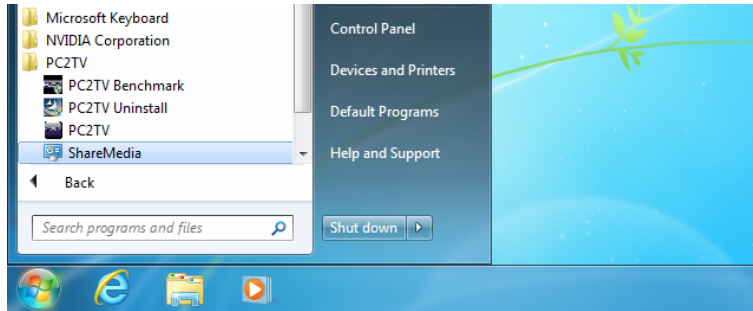
2.1.3 Supported USB Devices on SmartStream Device

- USB Mouse
- USB Flash disk for firmware upgrade

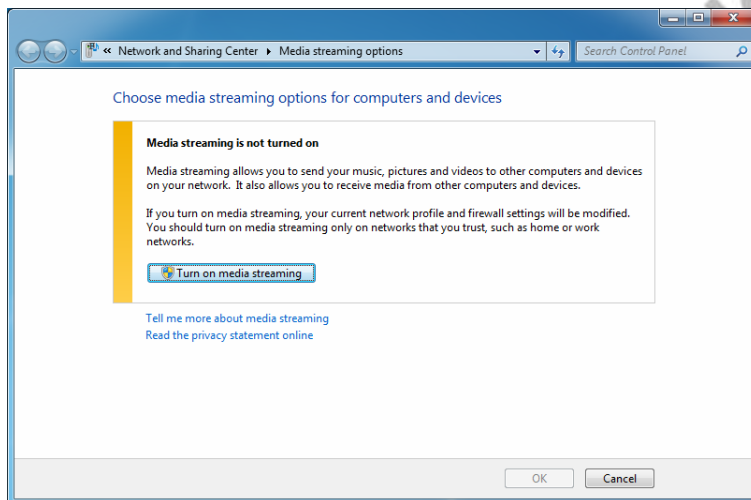
2.2 Usage of DLNA in Windows 7

2.2.1 Turn-on Media Streaming

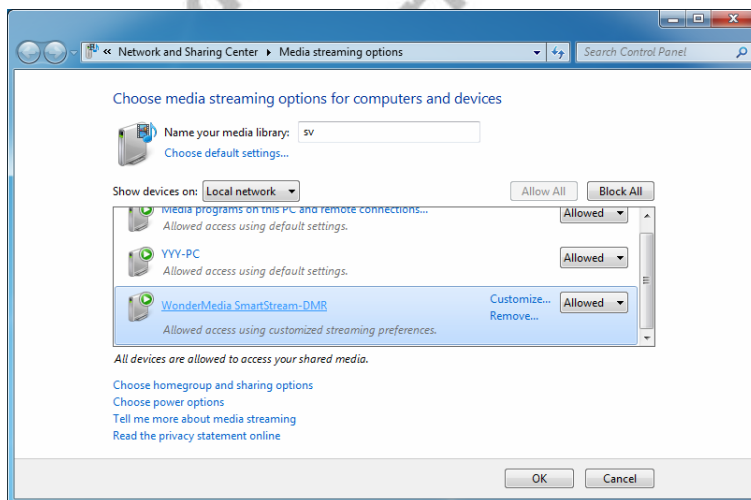
- Before streaming a file to the DMR of SmartStream device by Windows 7, you have to connect the device with your PC and then turn on the media streaming first. You can also refer to [Section 1.2.1](#).
- Every time the device is disconnected with the PC, you have to run this section again before streaming a file to the DMR by Windows 7.



- Click the "ShareMedia" icon under "PC2TV" from "All Programs".



- Click "Turn on media streaming" to agree media streaming from your PC.

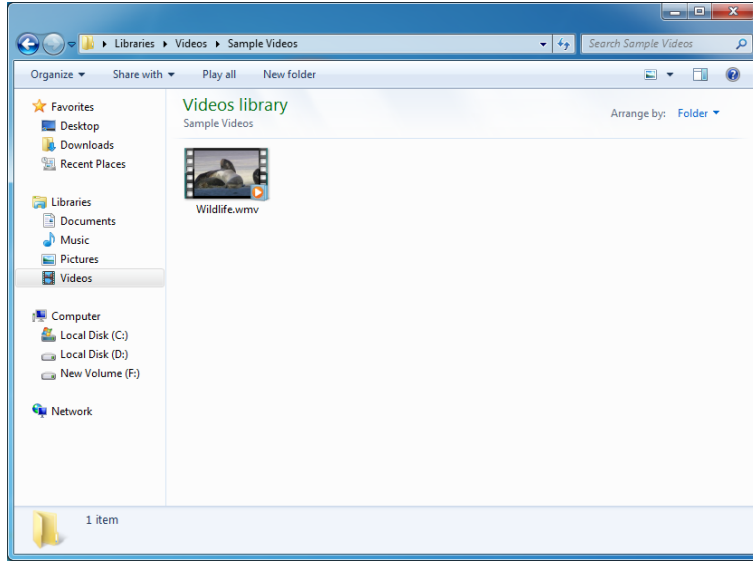


- Please confirm the DMR device(s) is "allowed" and then click "OK".
- In the left picture, the "Friendly Name" of DMR is "WonderMedia SmartStream-DMR".¹⁴

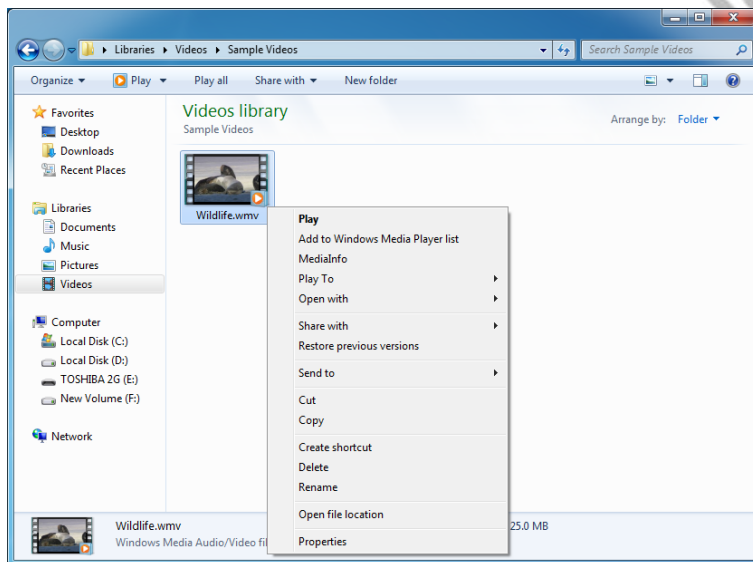
¹⁴ If you want to change the "Friendly Name", please refer to [Section 3.5](#).

2.2.2 Stream A File to DMR

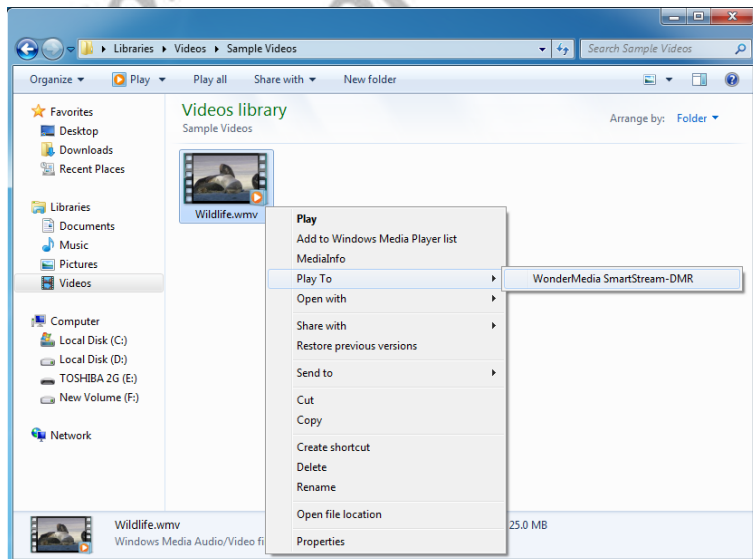
- After turned on the media streaming as [Section 2.2.1](#), Please follow the following steps to stream a file to DMR.



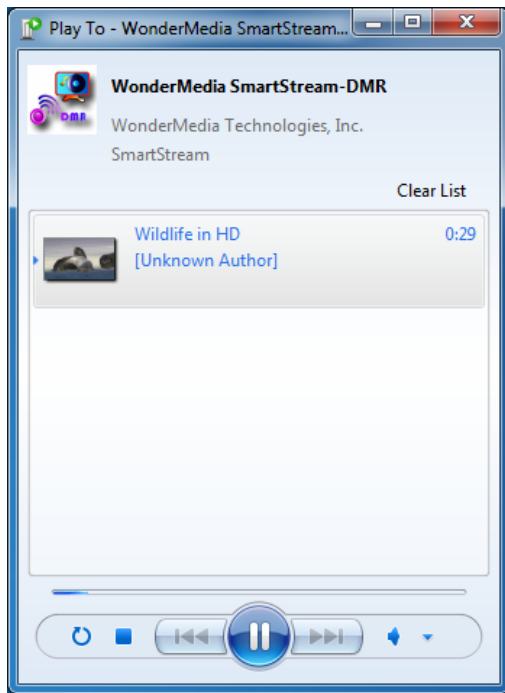
- Open your folder with targeted media file(s).



- Select the targeted file, and then click the right key of mouse on it.



- Move the cursor onto "Play to", and then the list of DMR device(s) would be prompted by the side of "Play To".
- Select a DMR device and then click it.



- The DMC (Digital Media Controller) would be prompted on the desktop of Windows 7 for user to control, and the targeted file would start to be playback on the TV / Monitor through SmartStream device for a while.¹⁵



- After end of the playback, the SmartStream device would be back to the waiting screen.¹⁶

2.3 DMR Control on SmartStream Device

- If you connect a USB mouse to the USB connector on SmartStream device, you are able to control the streaming content easily by following operations:
 - ◆ Pause and Continue: double click the left key of mouse.
 - ◆ Stop or Next (if possible): double click the right key of mouse.
 - ◆ Skip forward: roll forward the scroll wheel of mouse.
 - ◆ Skip backward: roll backward the scroll wheel of mouse.

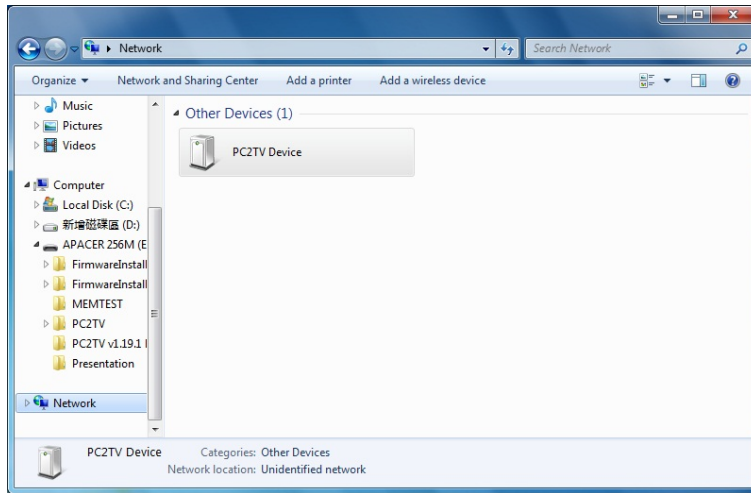
¹⁵ If the other SmartStream application is running, it would be ended and the device would be switched to DLNA-DMR mode directly, after the "Play To" started. The reverse is also true.

¹⁶ The end of DMR might back to PC2TV application instead of waiting screen, once it was started when PC2TV application was running,

3 Device Configuration

3.1 Go to "Device Configuration"

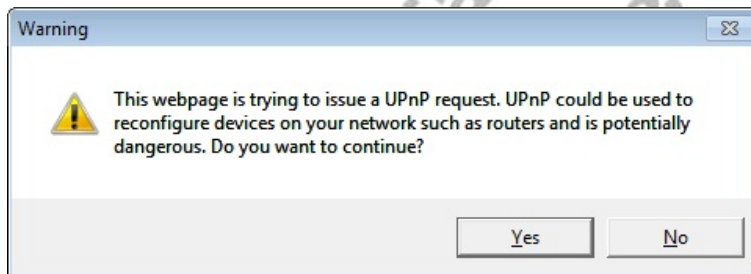
- Before going to the "Device Configuration" of SmartStream device, the network should be well connected by Ethernet or Wi-Fi. Please refer to [Section 1.2.3](#).



- Select "Network" from "Windows Explorer", and then double click the "device name" from "Other Devices".

- The sample of "device name" in the left picture is "PC2TV Device".

- If you are not able to see any "device name" in "Network", please refer to [Section 5.1.2.1](#).



- If the warning page prompted, please click "Yes".

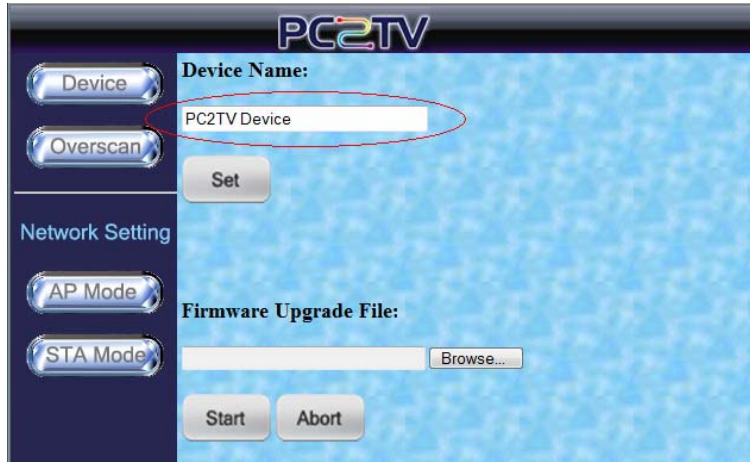


- The "Device Setting" page would be showed as default page in "Device Configuration".

3.2 Device Setting

- This page is for device name change and firmware upgrade of SmartStream device.

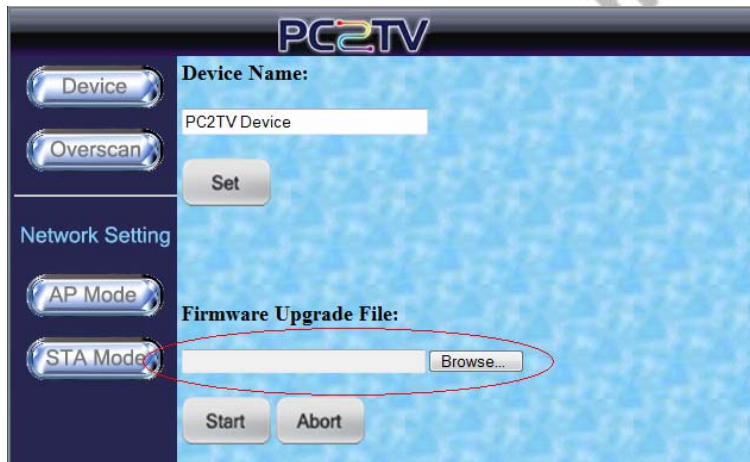
3.2.1 Device Name Change



- You can change the SmartStream's device name in this page.
- After changing the "Device Name", please click "Set".

3.2.2 Firmware Upgrade

- PC2TV-only device would not show this method for firmware upgrade.



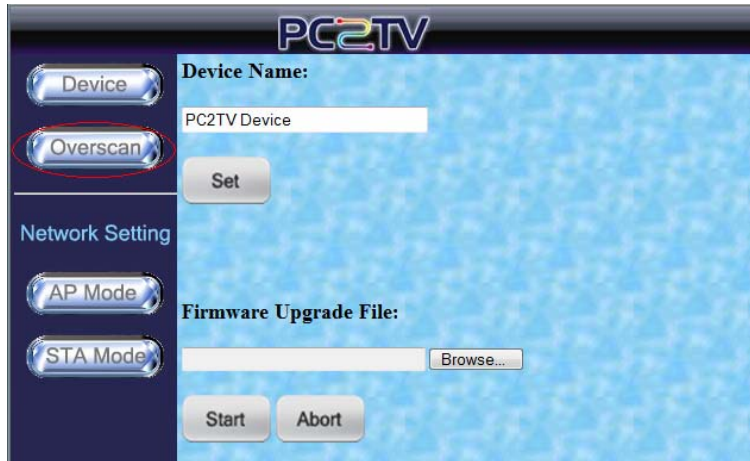
- Please browse your PC to get an upgrade file (.tgz) for firmware upgrade of SmartStream device.



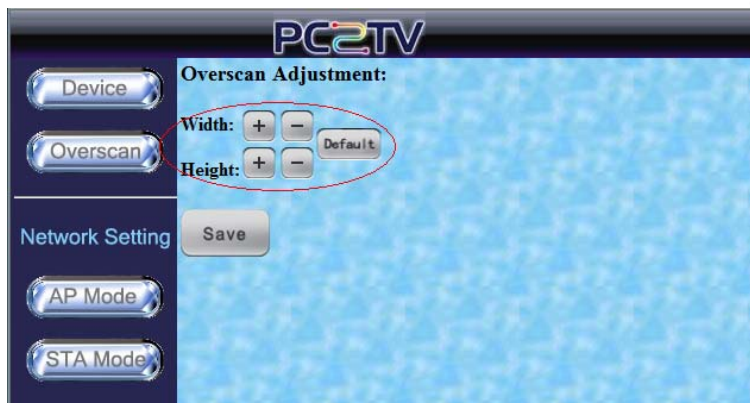
- After confirmed the file, please click "Start" to send the file to SmartStream device, and then the upgrading procedure will start automatically.
- Before finished the sending process, you can click "Abort" to break it off.

3.3 Overscan Setting

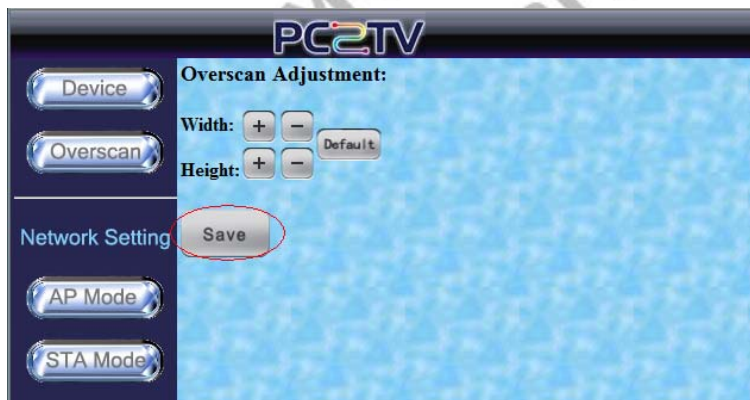
- If the border of PC's desktop is hidden on your TV, you can try to adjust "Overscan Setting" in this page. Please also refer to [Section 5.1.4](#).



- Click "Overscan" button to go to "Overscan Setting" page.



- You can click "+" or "-" of Width or Height to modify the hidden border.
- If you want to back to default setting, please click "Default".



- After the adjustment, please Click "Save" to save it.
- If the adjustment is not saved, it will keep the previous setting after rebooting your SmartStream device.

3.4 Network Settings

- “Network Setting” is for you to adjust the various network configurations.

3.4.1 Access Point Mode Setting

- SmartStream device is also set as a Wi-Fi Access Point in default.

PC2TV

Device Name: PC2TV Device

Set

Network Setting

AP Mode

STA Mode

Firmware Upgrade File:

Browse...

Start Abort

- Click “AP Mode” button to go to “Access Point Mode Setting” page.

PC2TV

Enable AccessPoint Mode

Obtain an IP automatically : enable disable auto

IP Address : 192 . 168 . 10 . 1

Netmask : 255 . 255 . 255 . 0

Gateway : 0 . 0 . 0 . 0

DNS : 0 . 0 . 0 . 0

DHCP Server : enable disable

DHCP IP start : 192 . 168 . 10 . 2

DHCP IP end : 192 . 168 . 10 . 255

Wireless ON/OFF : on off

SSID : PC2TV_PRO_EVB_34

SSID broadcast : enable disable

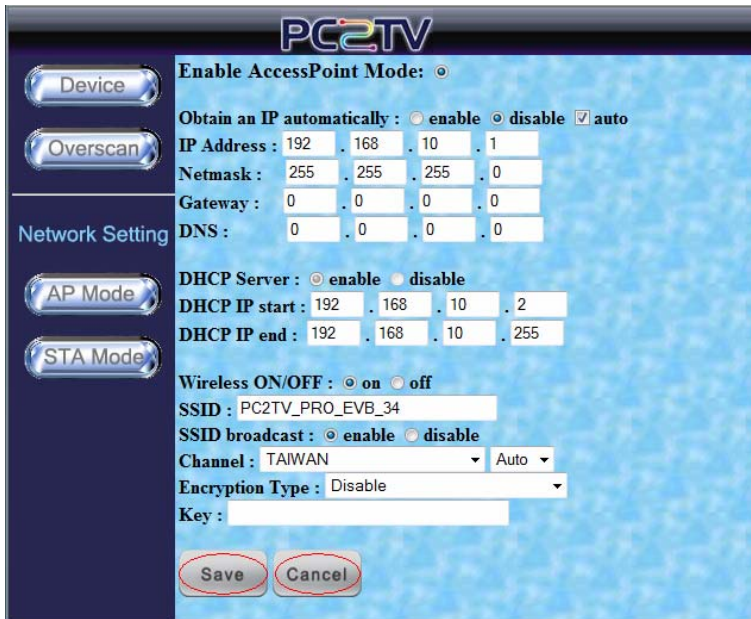
Channel : TAIWAN Auto

Encryption Type : Disable

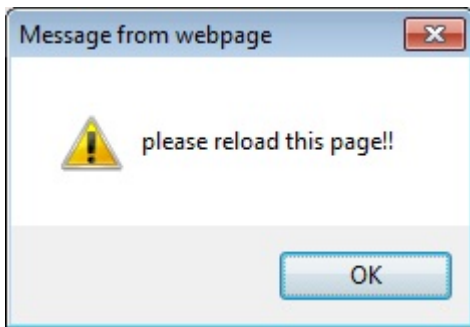
Key :

Save Cancel

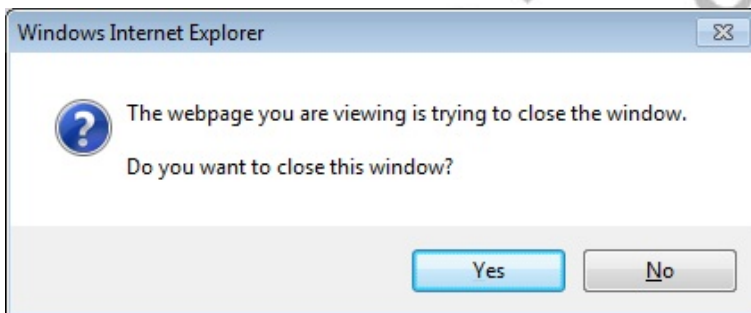
- Please click “Enable AccessPoint Mode” to set it as an Access Point.
- You can change the IP types, DHCP status, and Wi-Fi configurations here. Please also refer to [Section 6.1](#).
- If you are not familiar with these settings, any changes might cause the device could not be connected anymore.
- If this is the case, you can try to reboot it with Ethernet cable to modify the settings again. Please refer to [Section 1.2.3.1](#) and [Section 6.1](#).



- After changed the settings, please click “Save”.
- If you do not want to make changes, please click “Cancel”.



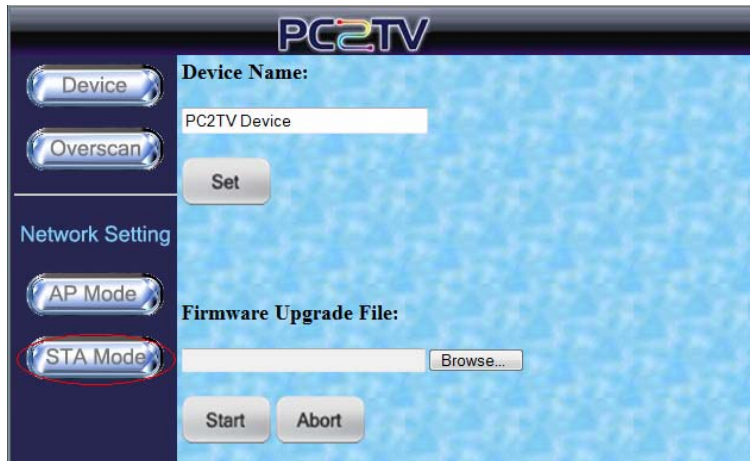
- Once you “Save” the new settings, please click “OK” to reload this page.



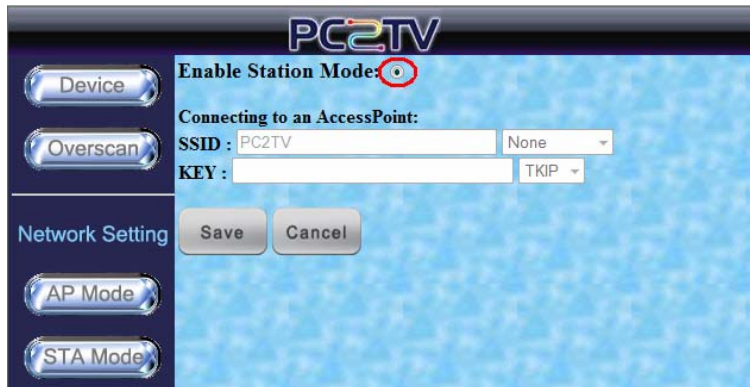
- If the warning page prompted, please click “Yes” to close the setting window, meanwhile, the SmartStream device would go into reloading stage.

3.4.2 Station / Client Mode Setting

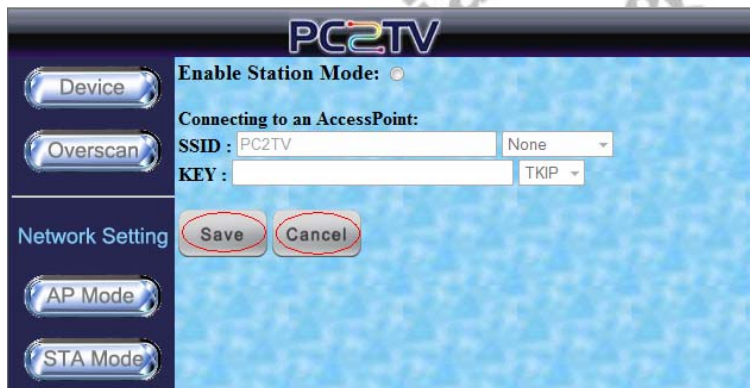
- SmartStream device could be set as a Wi-Fi station to connect to another Access Point.



- Click "STA Mode" button to go to "Station / Client Mode Setting" page.



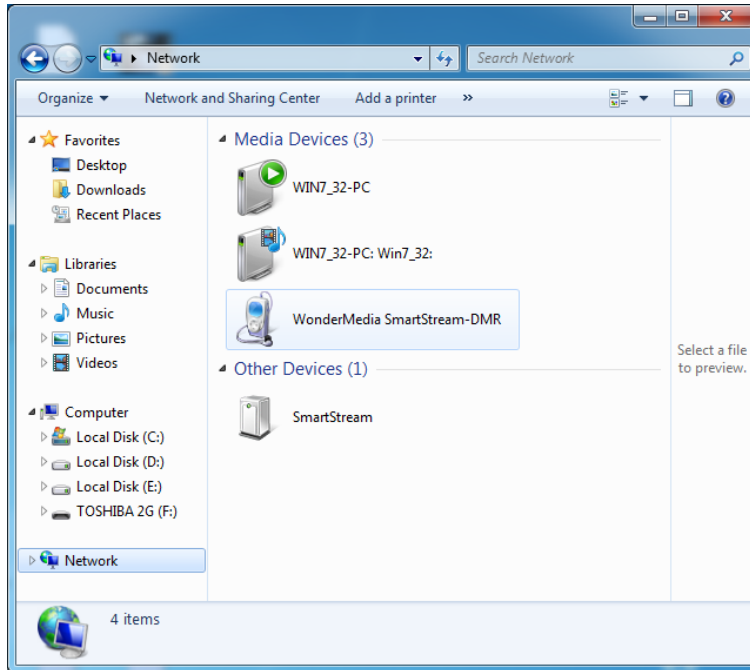
- Please click "Enable Station Mode" to set it as a Wi-Fi station.
- Then you have to fill in the SSID, encryption type and KEY of your target Access Point.



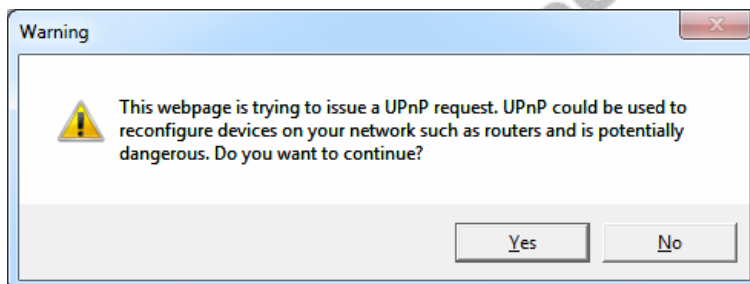
- After done it, please click "Save", and then the device would reboot and connect to the targeted Access Point automatically.
- If you get troubles with auto-connecting, please reboot it with Ethernet cable to modify the settings again. Please refer to [Section 1.2.3.1](#) and [Section 6.1](#).
- If you do not want to make changes, please click "Cancel".

3.5 Change the Friendly Name of DMR

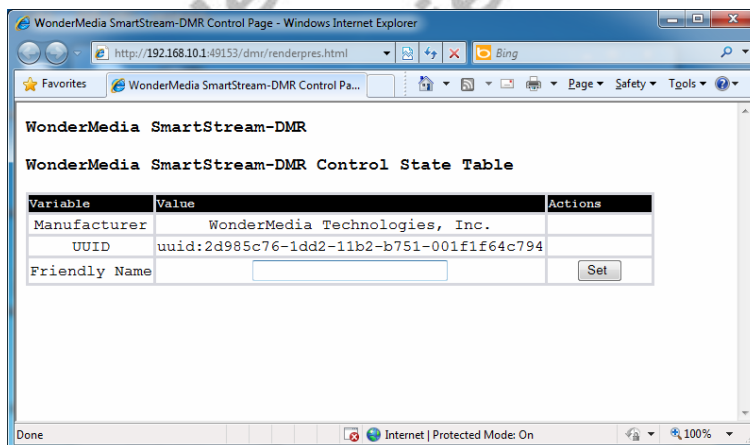
- Before changing the "Friendly Name" of DMR, the network should be well connected by Ethernet or Wi-Fi. Please refer to [Section 1.2.3](#).



- Select "Network" from "Windows Explorer", and then double click the "Friendly Name" form "Media Devices".
- The sample of "Friendly Name" in the left picture is "WonderMedia SmartStream-DMR".
- If you are not able to see any "Friendly Name" in "Network", please refer to [Section 5.1.2.1](#).



- If the warning page prompted, please click "Yes".



- You can change the "Friendly Name" of DMR in this page.
- After changing the "Device Name", please click "Set".

4 Firmware Upgrade

4.1 Upgrade the PC2TV Utility

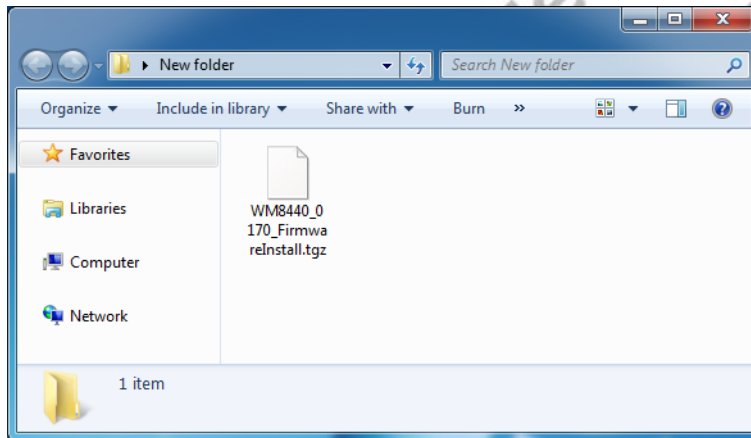
- If you are going to upgrade your PC2TV utility in Windows, please uninstall the previous one and then install the new one. Please refer to [Section 1.5](#) and [Section 1.3.1](#).

4.2 Upgrade the SmartStream Device

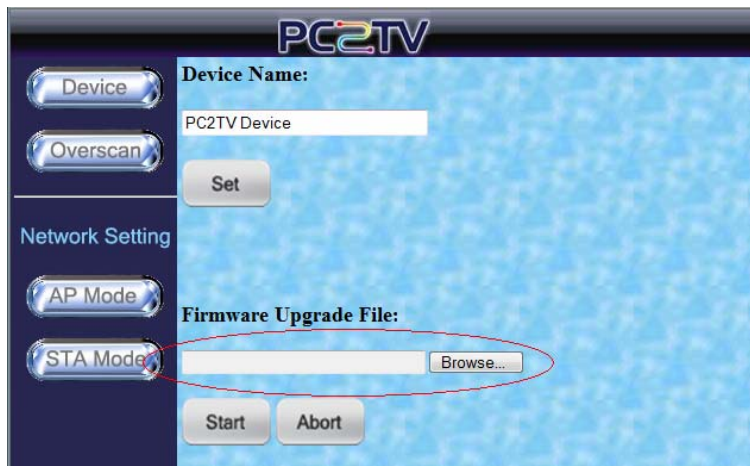
- The firmware upgrade for SmartStream device and PC2TV-only device is different. There are two ways for SmartStream device, but only one way for PC2TV-only device:
 - A. For SmartStream device: by Network ([Section 4.2.1](#)) and by USB ([Section 4.2.2](#))
 - B. For PC2TV-only device: by USB ([Section 4.2.3](#))

4.2.1 Upgrade Firmware of SmartStream device by Network

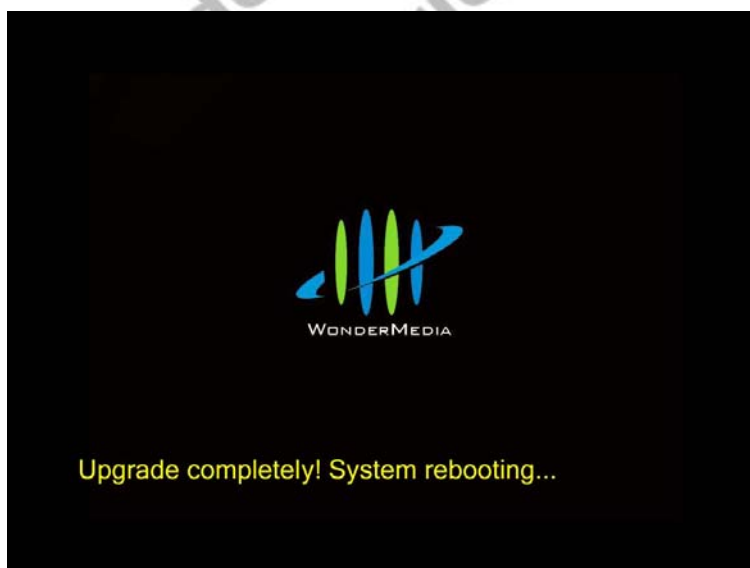
- Before upgrade the firmware, please prepare the suitable firmware package and one USB flash disk.



- Prepare the firmware upgrade file in your PC, and then connect you PC to the SmartStream device. Please refer to [Section 1.2](#).
- The sample of firmware upgrade file in the left picture is ["WM8440_0170_FirmwareInstall.tgz"](#).

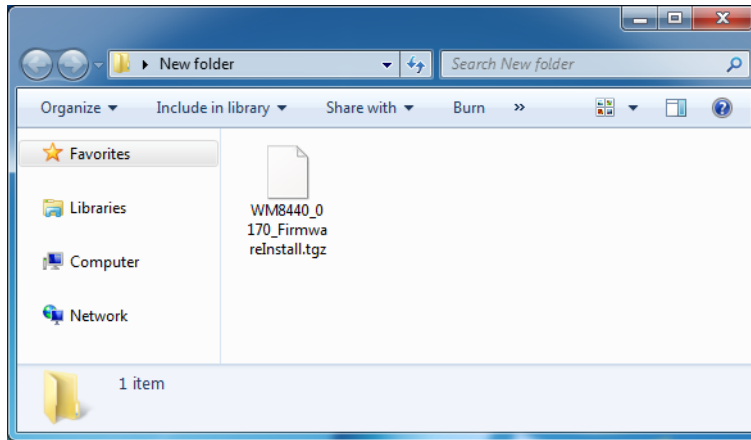


- Go to the “Device Configuration” page. Please refer to [Section 3.1](#).
- Select the upgrade file to upgrade SmartStream device. Please refer to [Section 3.2.2](#).
- After finished to send the upgrade file, the firmware upgrade procedure will start.
- The firmware upgrade status would be shown on the screen of TV / Monitor.
- The upgrade procedures will run step by step automatically.
- During the upgrading, please avoid to power off the device, or else you may damage the device.
- After the firmware upgrade is finished, the device would reboot automatically.

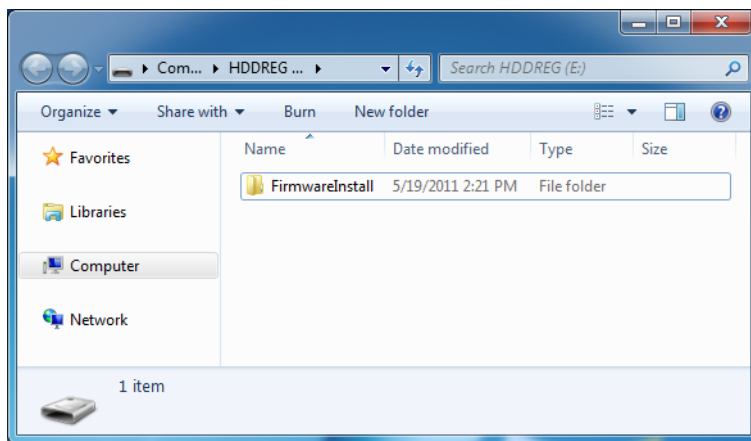


4.2.2 Upgrade Firmware of SmartStream device by USB

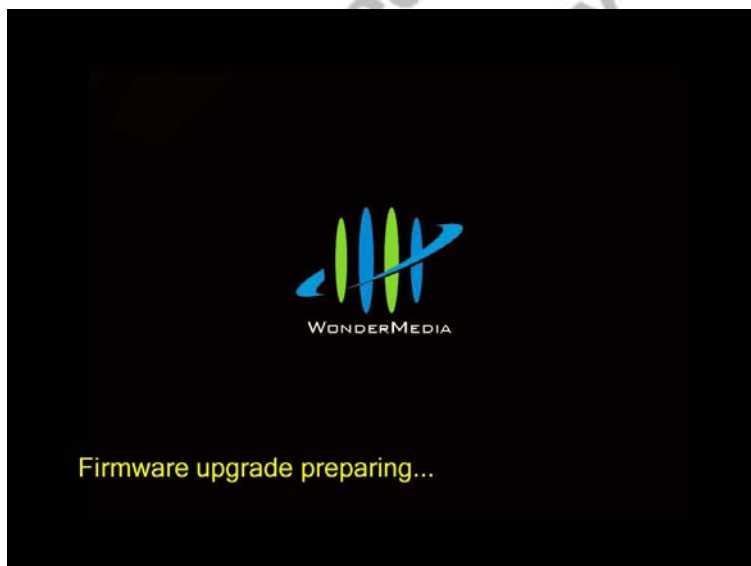
- Before upgrading the firmware, please prepare the firmware upgrade file and one USB flash disk.



- Extract the firmware upgrade file to get the "FirmwareInstall" folder.
- The sample of firmware upgrade file in the left picture is "["WM8440_0170_FirmwareInstall.tgz"](#)".



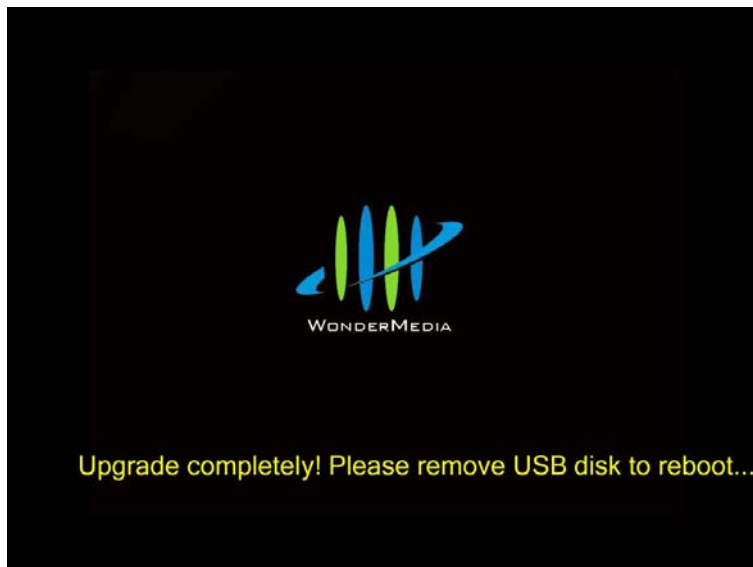
- Copy the entire "FirmwareInstall" folder to the root folder of the USB flash disk.



- Plug the USB flash disk into one of USB ports of SmartStream device, and then power on the device.
- The upgrade procedures will run step by step automatically.



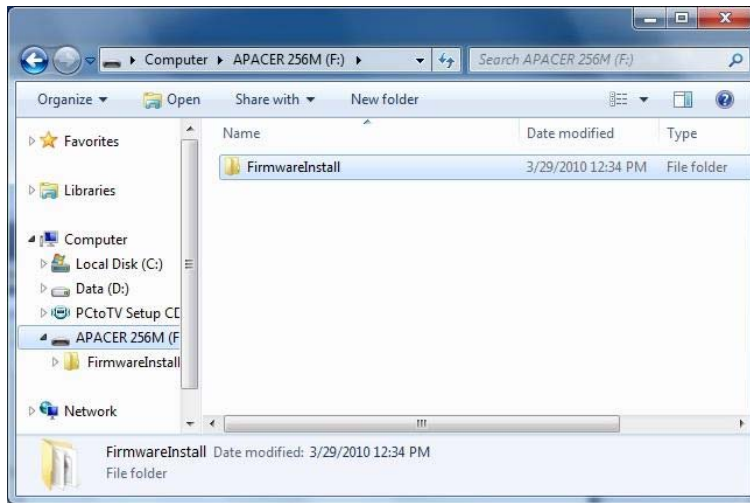
- During the upgrading, please avoid to power off the device or remove the USB flash disk, or else you may damage the device.



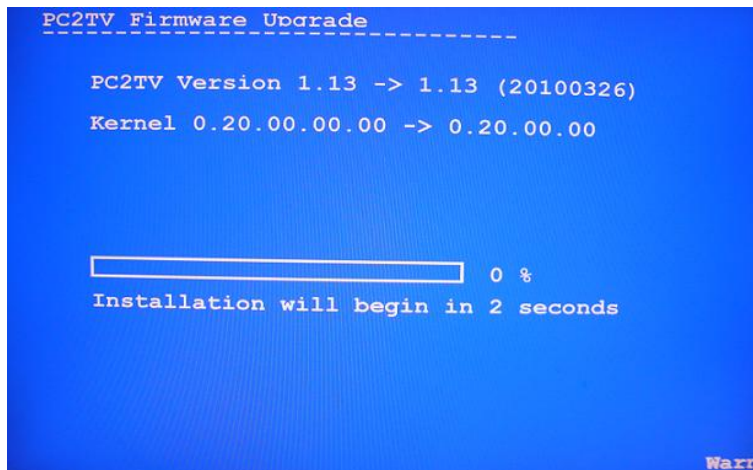
- After the firmware upgrade is finished, please remove the USB flash disk, and then the device would reboot automatically.

4.2.3 Upgrade Firmware of PC2TV-only device by USB

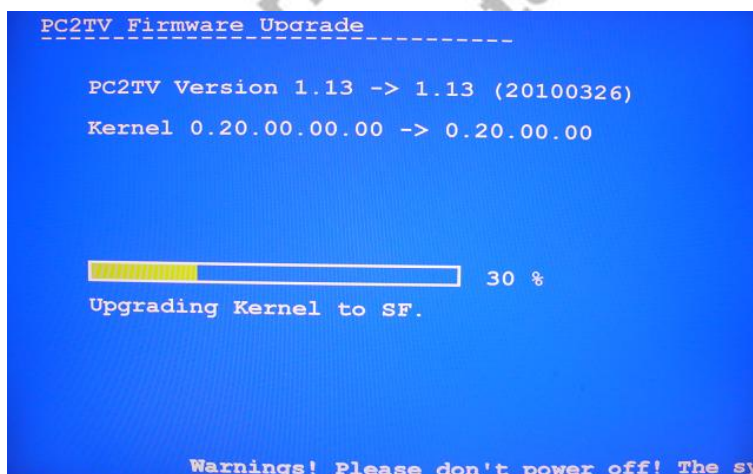
- Before upgrading the firmware of PC2TV-only device, please prepare the suitable firmware package and one USB flash disk.



- Save the entire firmware files under "FirmwareInstall" folder in the root folder of the USB flash disk.



- Plug the USB flash disk into one of USB ports of PC2TV-only device, and then power on the device.
- Wait for a while, the firmware upgrade information will show on the screen.



- The firmware upgrade process will start automatically.
- During the upgrade, please avoid to power off the device or remove the USB flash disk, or else you may damage the device.

```

PC2TV Firmware Upgrade
-----
PC2TV Version 1.13 -> 1.13 (20100326)
Kernel 0.20.00.00.00 -> 0.20.00.00

██████████████████████ 100 %
Complete! Please remove the device.

Power off! The system will auto reboot for you. Please wa

```

- After the firmware upgrade is finished, please remove the USB flash disk, and then the device would reboot automatically.

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5 Troubleshooting and Known Issues

5.1 Troubleshooting of PC2TV

5.1.1 Run as Administrator in Windows 7 / Vista

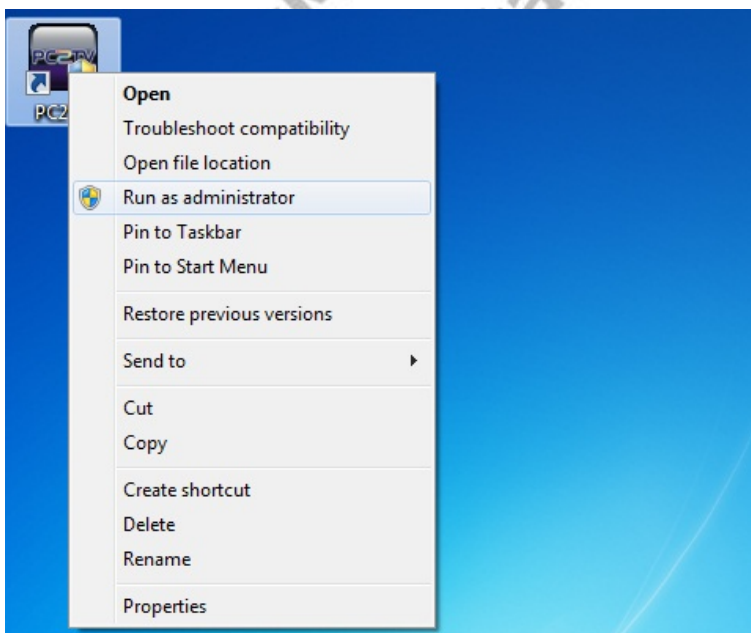
- If the network is connected well, but the PC2TV utility cannot find any SmartStream devices in Windows 7 / Vista, please restart-up it as administrator.



- Click  to exit the PC2TV utility.



- Click the right key of mouse on the icon of PC2TV utility.

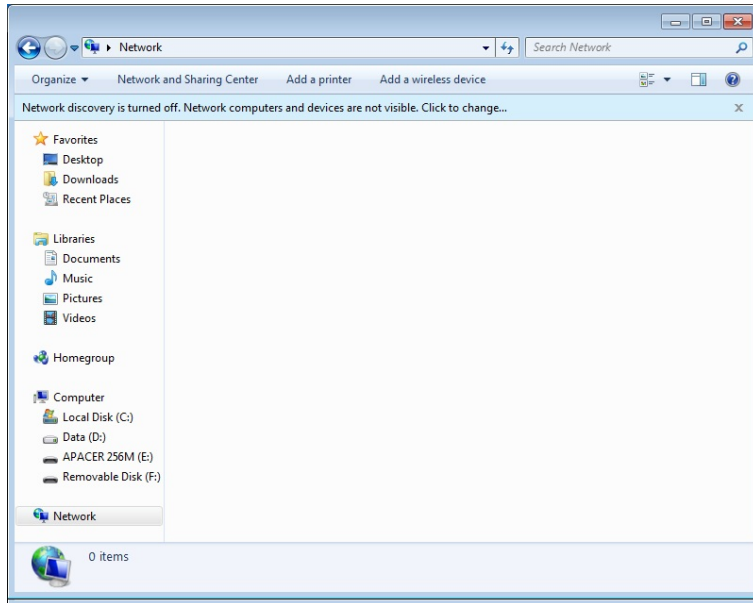


- Select "Run as administrator" to start-up the PC2TV utility again.

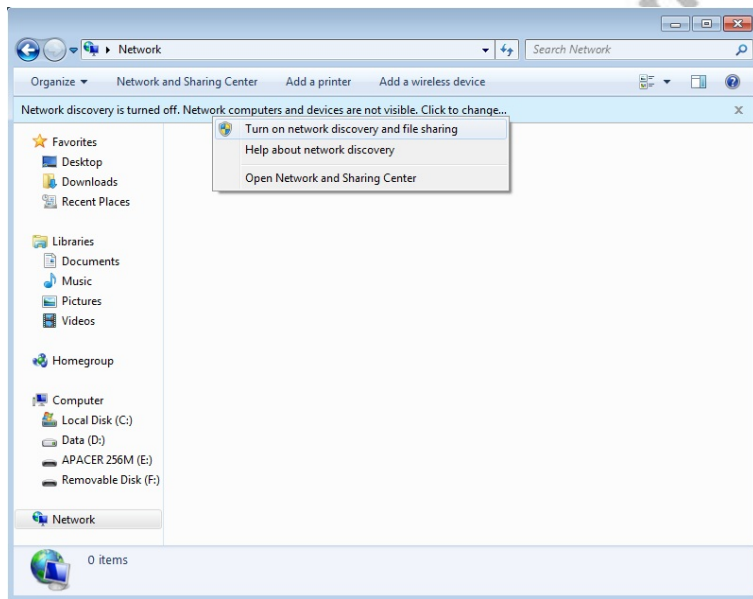
5.1.2 Network Discovery and Firewall Checking

- If the network is connected well, but the PC2TV utility cannot find any SmartStream devices, please try to check the status of each following parts and get solutions.

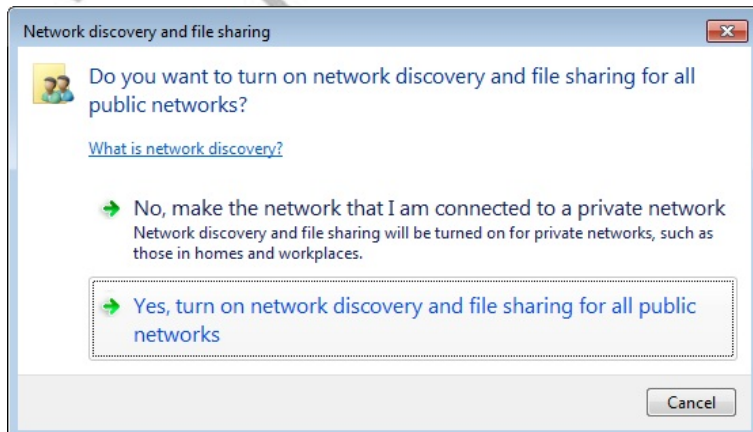
5.1.2.1 Turn on Network Discovery and File Sharing



- Select "Network" from "Windows Explorer".
- If you see the warning bar shows "Network discovery is turned off" as the left picture, please click it.



- Select "Turn on network discovery and file sharing".

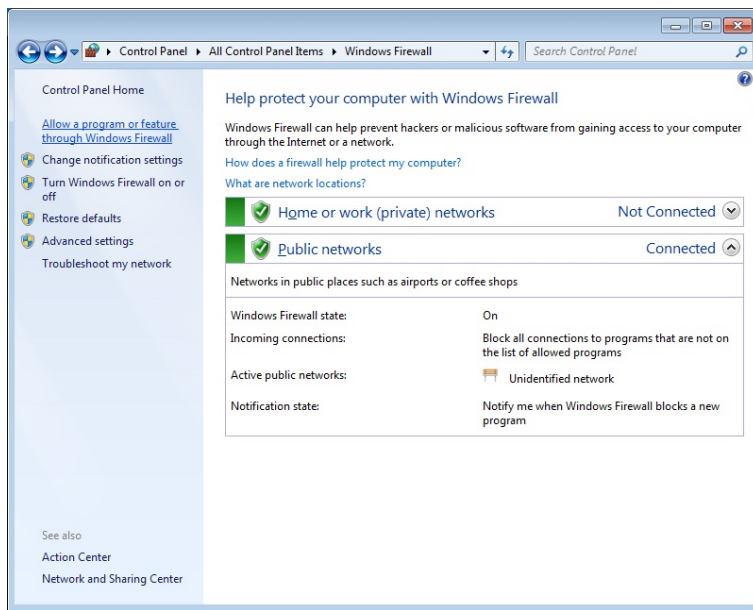


- Click "Yes" to turn on network discovery and file sharing.

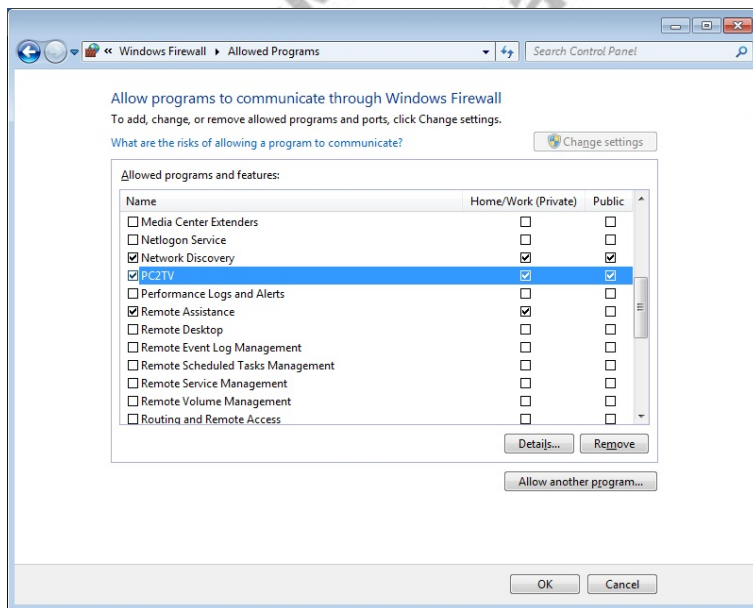
5.1.2.2 Unblock PC2TV Application from Windows Firewall



- Open the "Windows Firewall" from "Control Panel".



- Click "Allow a program or feature through Windows Firewall" from the left panel.

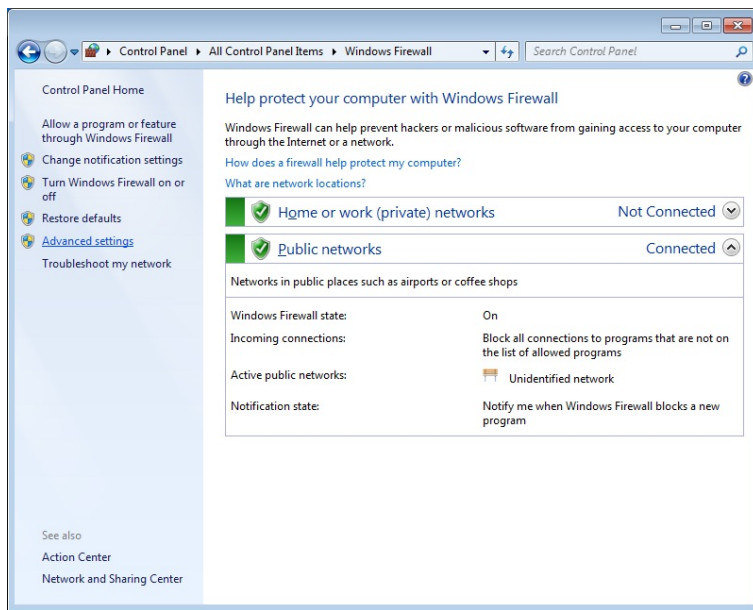


- Check "PC2TV" is ticked in both of "Private" and "Public" to unblock PC2TV application from Windows Firewall.
- If not, add or tick it.

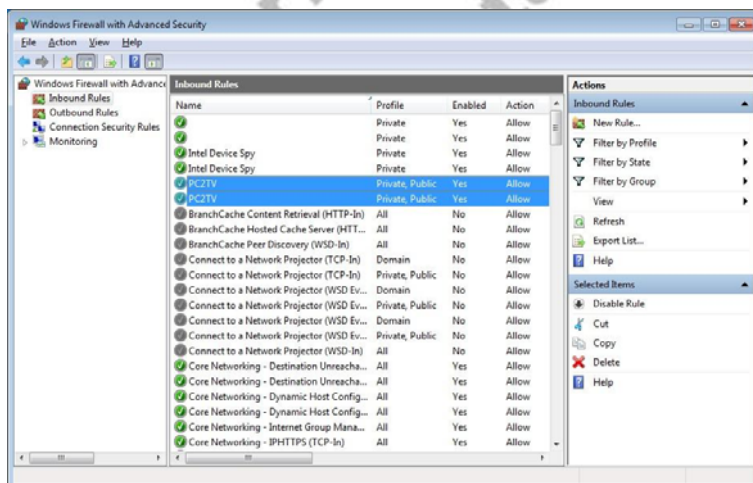
5.1.2.3 Enable SSDP and UPnP from Windows Firewall



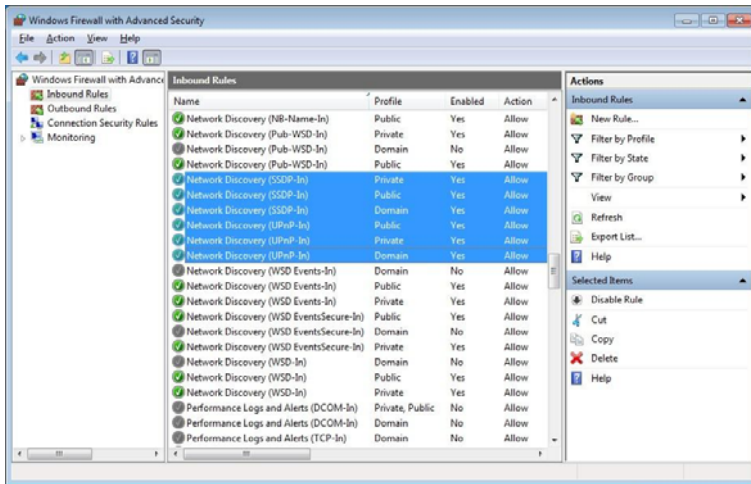
- Open the “Windows Firewall” from “Control Panel”.



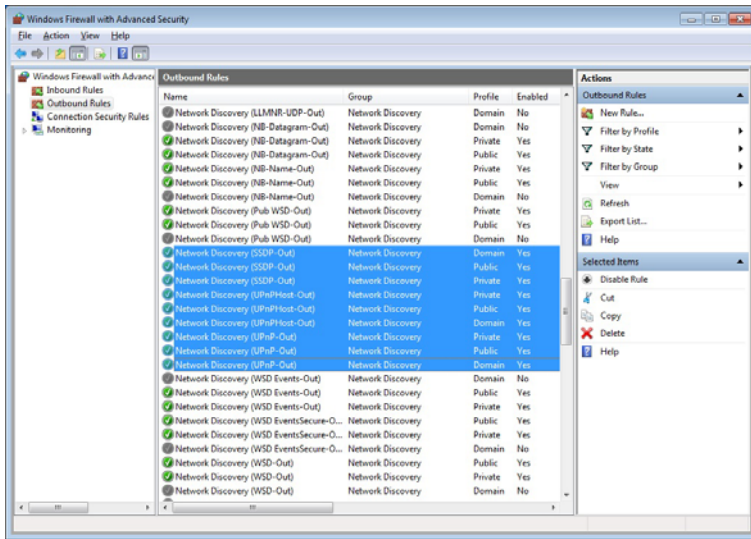
- Click “Advanced Settings” from the left panel.



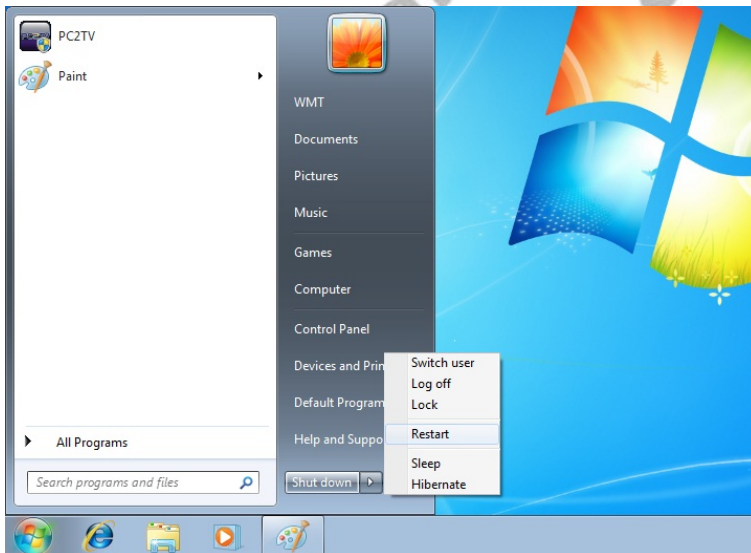
- Select “Inbound Rules” from the left window.
- Click “PC2TV” is enabled in “Private” and “Public” profiles.
- If not, enable them.



- Then check “Network Discovery (SSDP-In) and (UPnP-In)” are all enabled in “Private”, “Public”, and “Domain” Profile.
- If not, enable all of them.



- Select “Outbound Rules” from the left window.
- Check “Network Discovery (SSDP-out), (UPnPHost-out), (UPnP-Out)” are all enabled in “Private”, “Public”, and “Domain” Profile.
- If not, enable all of them.



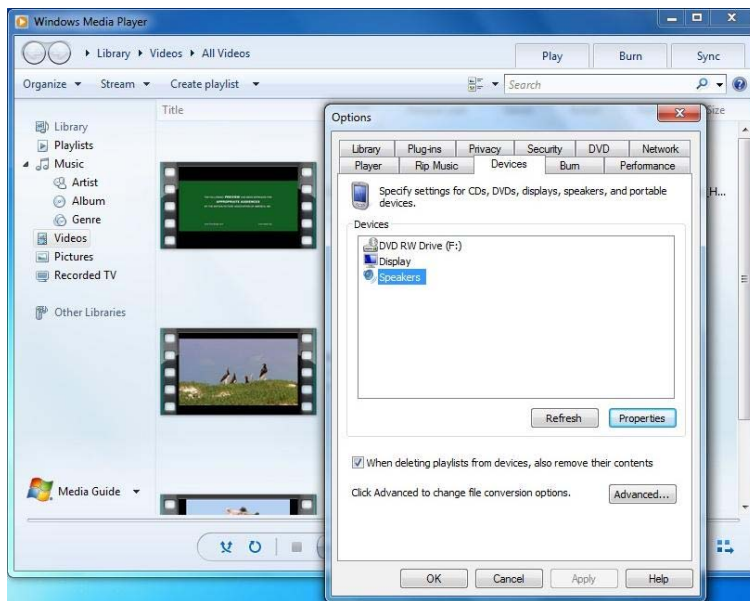
- After enabled/checked all of above items, you might need to “Restart” your Windows and then run PC2TV utility again.

5.1.3 Audio Playback Issue

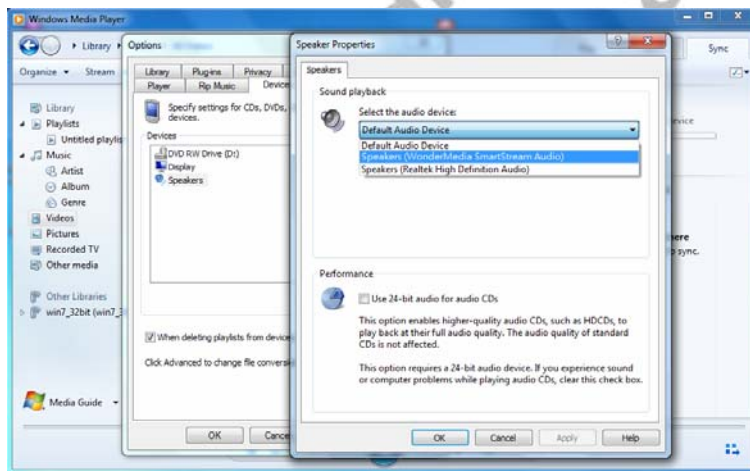
- This section is to check and troubleshoot the audio device when “Play” PC2TV application or after “Stop” PC2TV application.

5.1.3.1 “Play” Mode Issue

- If the audio does not work well after “Play” PC2TV application, please check the audio devices on your media player.
- For example: [Windows Media Player 12](#)



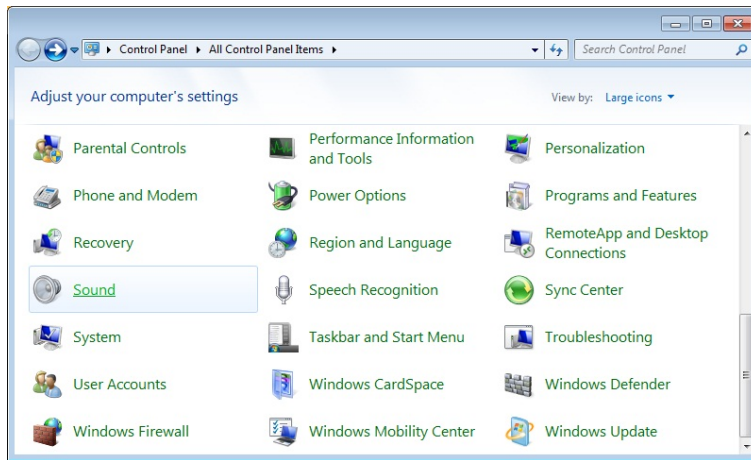
- Select the audio device setting from Windows Media Player.



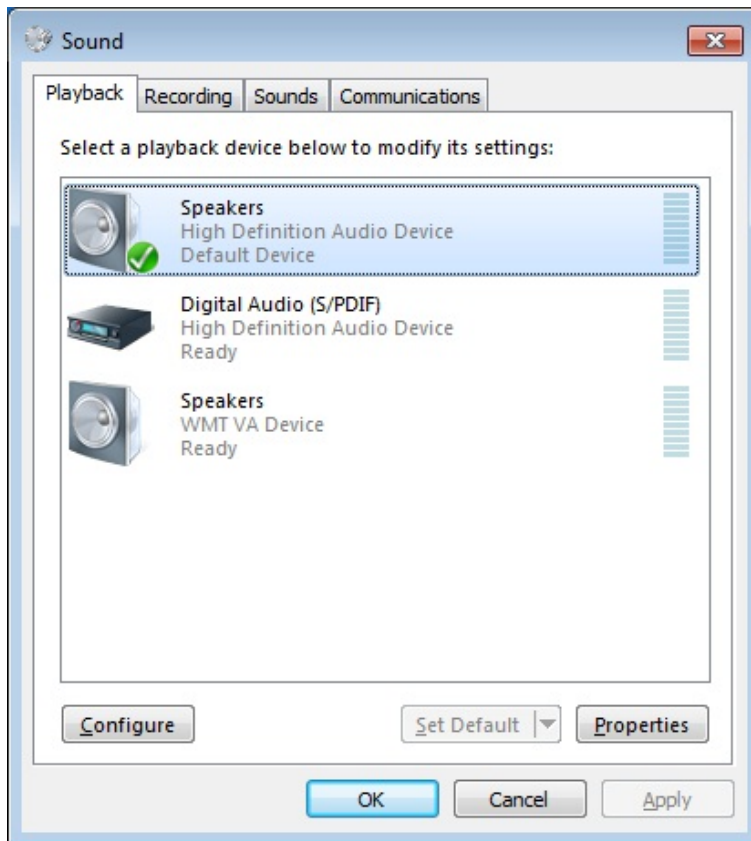
- The “Speakers” should be set as “Default Audio Device” or “WonderMedia SmartStream Audio”.
- If not, select it and then click “OK” or “Apply” to save the setting.
- Then close your media player and restart-up it again.

5.1.3.2 After "Stop" Issue

- If the audio does not work well after "Stop" PC2TV application, please check the audio devices on your PC.



- Open the "Sound" from "Control Panel".



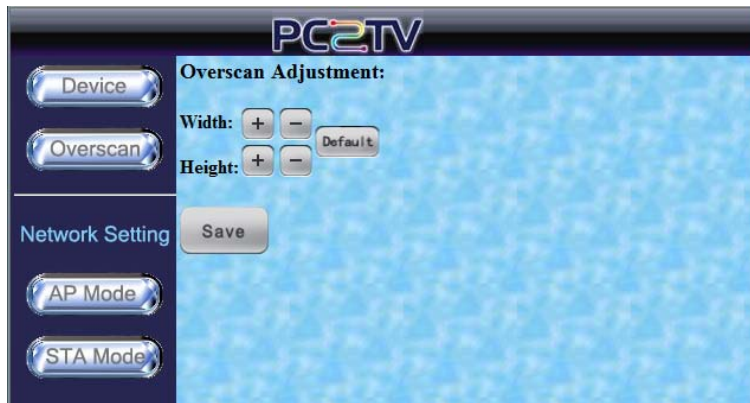
- The "Default Device" in the "Playback" tab should be set at your PC's hardware audio speakers.
- In the left picture, the PC's hardware audio speakers is "High Definition Audio Device".
- If not, select it and then click "OK" or "Apply" to save the setting.
- Then close your media player and restart-up it again.

5.1.4 Display Overscan Issue

- If the border of PC's desktop is hidden on your TV, you can try to adjust it.



- The border of PC's desktop is hidden as the left picture.



- Go to the "Device Configuration" page. Please refer to [Section 3.1](#).
- You can click "+" or "-" of Width or Height to modify the hidden border. Please refer to [Section 3.3](#).¹⁷

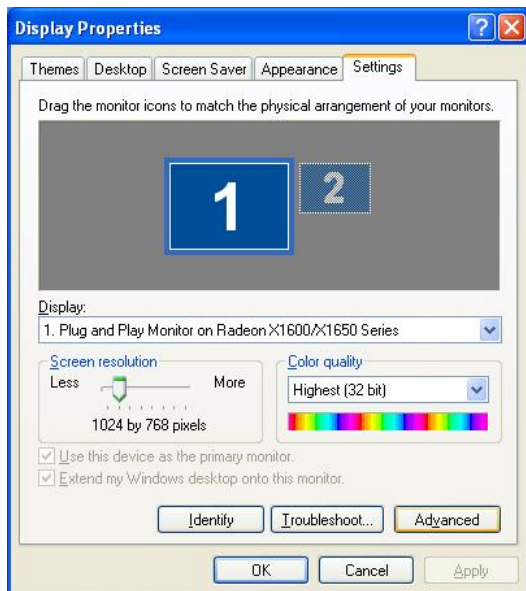
¹⁷ In order to provide the stable performance for movie/video playback, the overscan adjustment function is disabled when the display resolution is at 1080P. Please refer to [Section 6.2](#).

5.1.5 Movie and Video Playback Issue in Windows XP

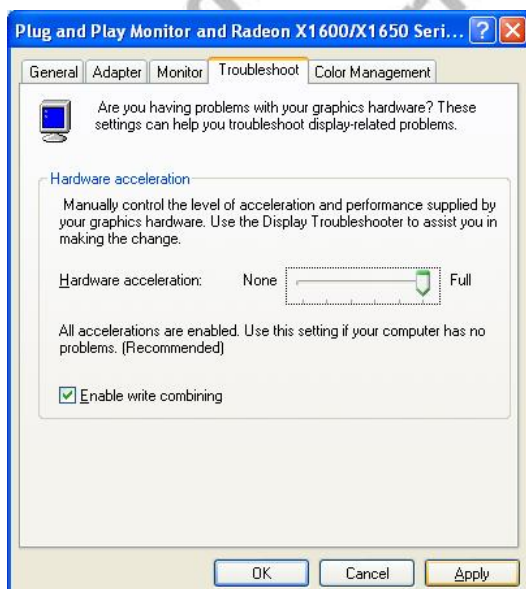
- If you play a movie through PC2TV application, but only hear its audio without video displaying in your media player in Windows XP, please see the following steps to solve it.



- Click right key of your mouse on the desktop, and then select "Properties".



- Select "Settings" tab and then click "Advanced".

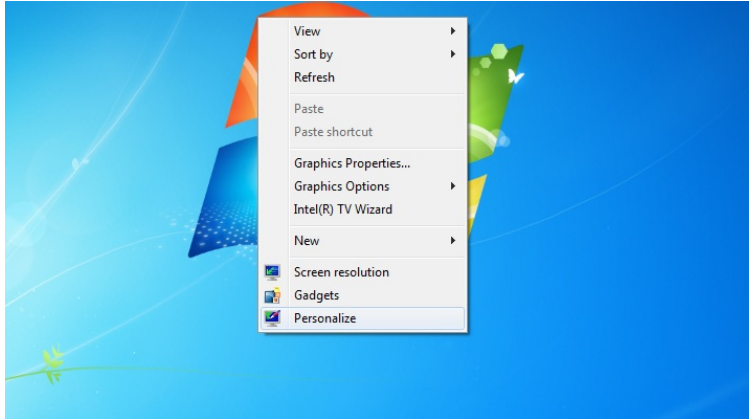


- Select "Troubleshoot" tab and then move the Hardware acceleration to "Full".
- Click "OK" or "Apply" to save the setting.
- Then close your media player and restart-up it again.

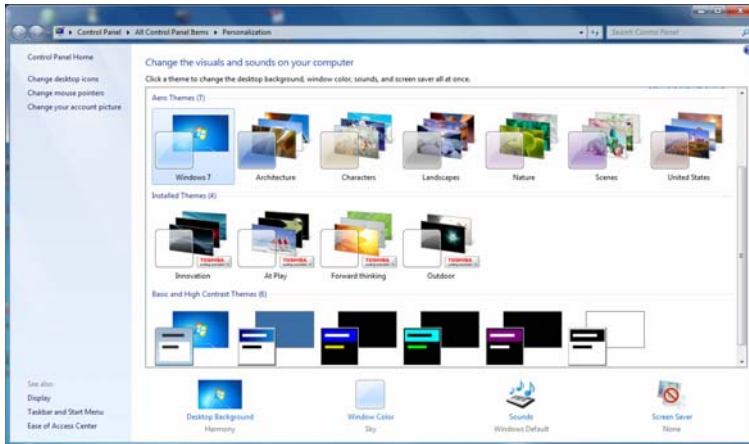
5.1.6 Poor Display Fluency of PC2TV Application

- If you get bad or poor fluency in playing a video or movie through PC2TV application, please try to check the status of each following parts and get improved solutions.

5.1.6.1 Switch Desktop Themes of Windows 7 / Vista



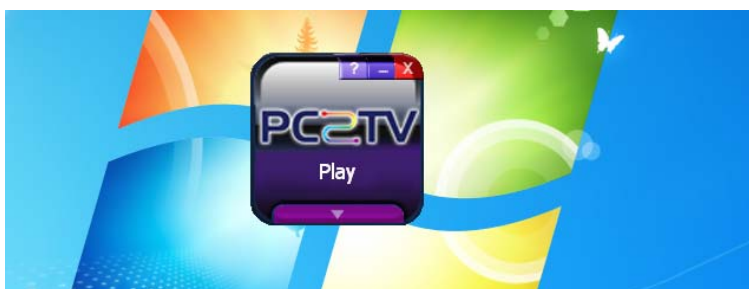
- Click right key of your mouse on the desktop, and then select "Personalize".




- Switch the theme between "Basic and High Contrast Themes" and "Aero Themes".
- Close the window.

- The "Aero themes" should be for better PC capability, and the "Basic and High Contrast Themes" should be for poorer PC capability. Please refer to [Section 1.4.3.2](#), and [Section 5.4.1](#).

5.1.6.2 Check the "Optimum Mode" setting

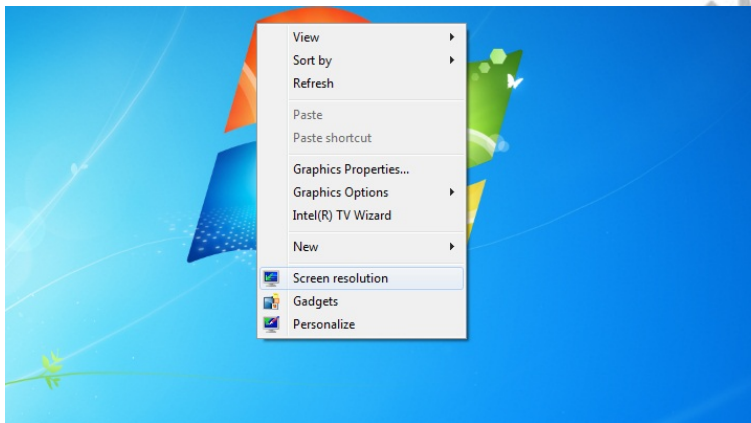


- Click  to open the advanced menu.

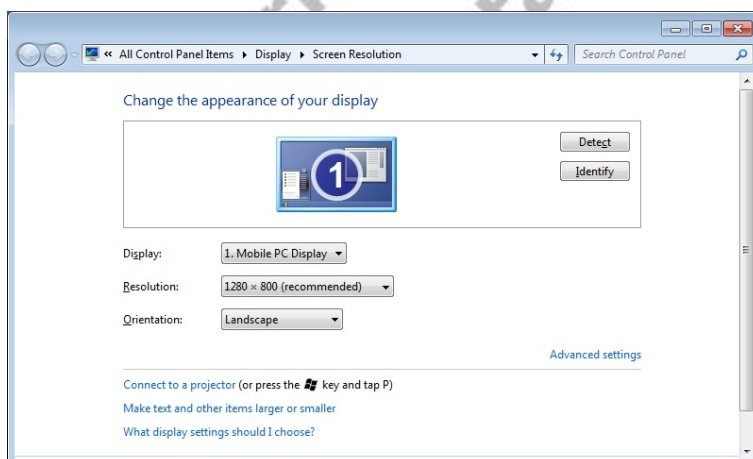


- Please refer to [Section 1.4.3.2](#) to check the setting of “Optimum Mode”.
- If the “Optimum Mode” is set at an inappropriate mode, please modify it.

5.1.6.3 Check PC's Desktop Resolution

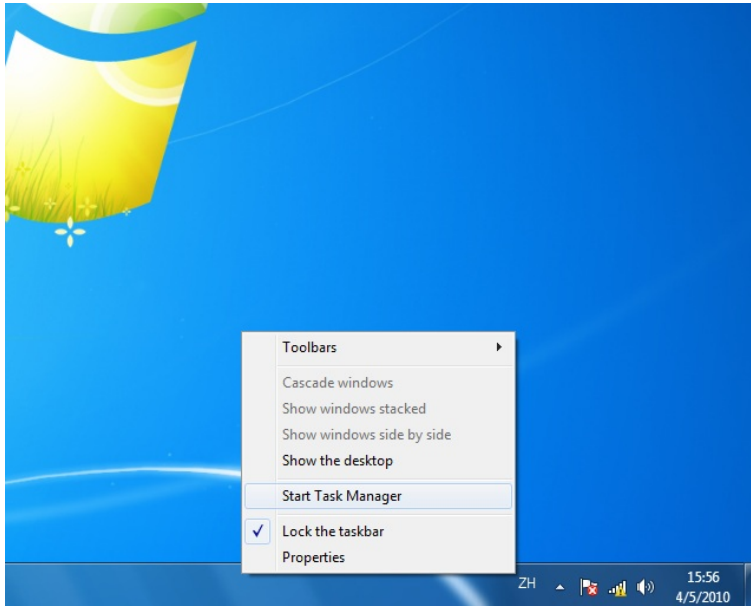


- Click right key of your mouse on the desktop, and then select “Screen resolution”.

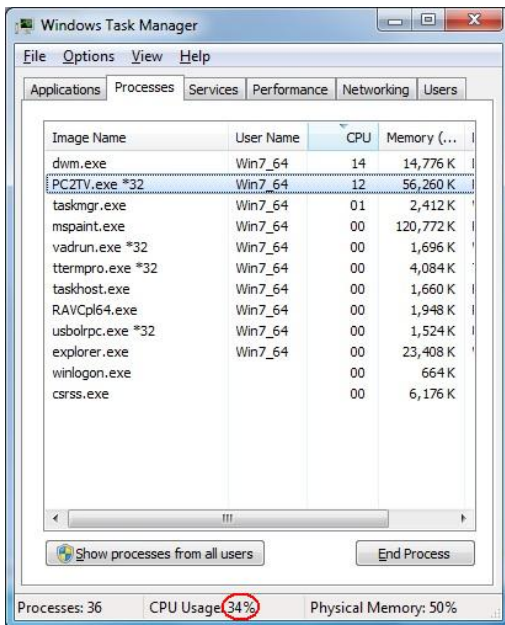


- Please refer to [Section 1.4.3.2](#) and [Section 6.2](#).
- If the “Resolution” setting is over the maximum supported one of your PC capability, please change the resolution to an appropriate one.

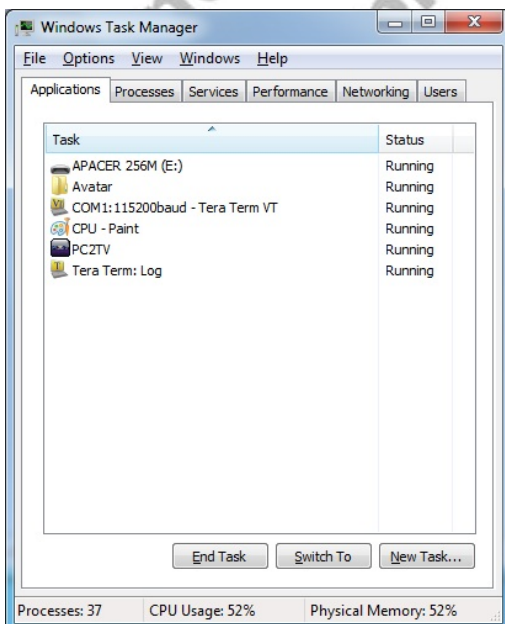
5.1.6.4 Check CPU Usage



- Click the right key of your mouse on the taskbar, and then select "Start Task Manager".

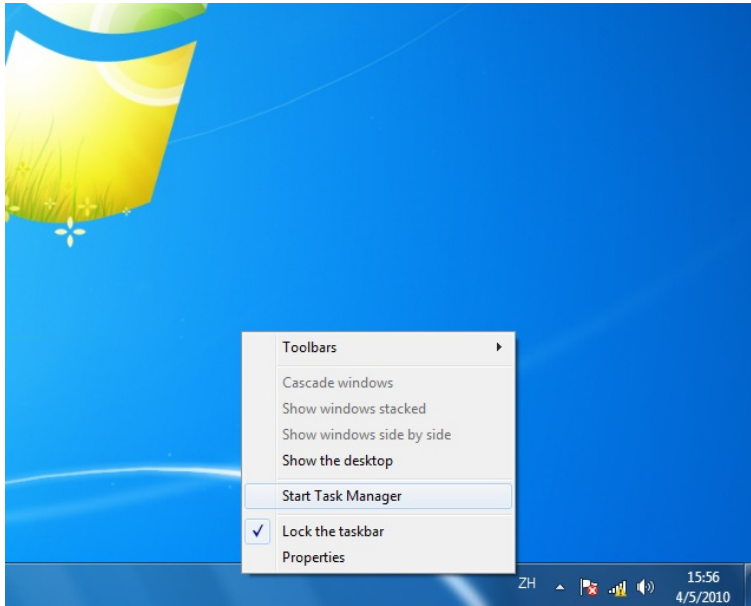


- Check the "CPU Usage" under the "Task Manager" window; it should be under **80%**.

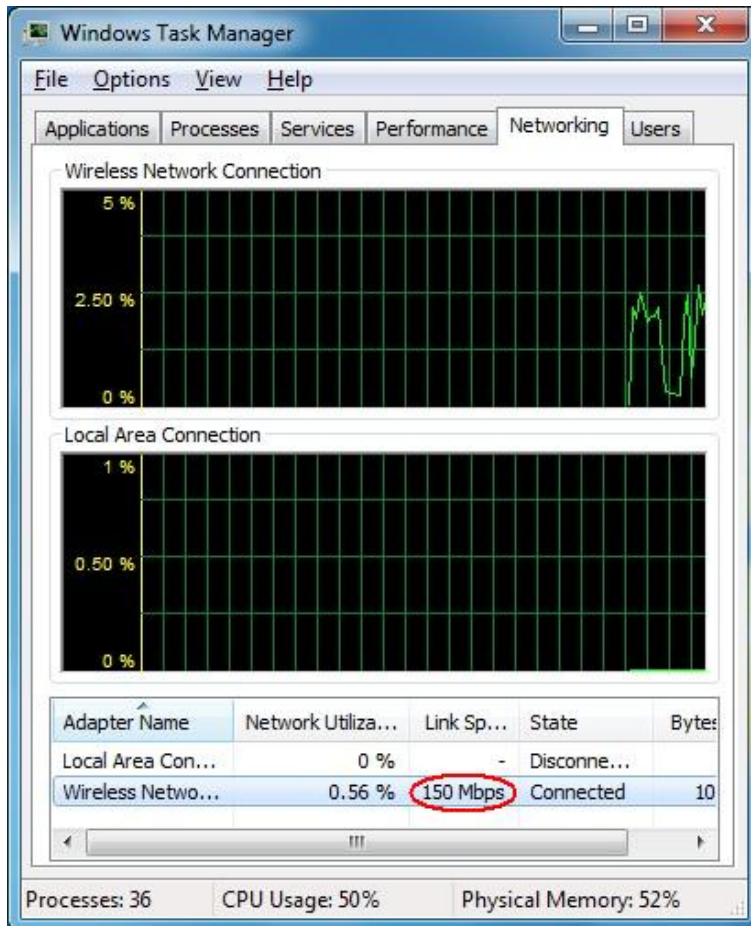


- If not, please save your documents, and close unused programs from "Applications".

5.1.6.5 Check Wi-Fi Link Speed



- This solution is only for Wi-Fi connection.
- Click the right key of your mouse on the taskbar, and then select "Start Task Manager".



- Click the "Networking" tab.
- Check the Wi-Fi link speed; it should be higher than **36 Mbps**. Please also refer to [Section 1.4.3.2](#).
- If not, try to move the SmartStream device to different positions that should be farther away from other electronic equipments, or closer to your PC. The recommended distance is less than **6 meter**.
- If the above solution is still not useful, try to disconnect the Wi-Fi connection and then connect it again.

5.1.6.6 Change the Wi-Fi Channel

- This solution is only for the connection of Wi-Fi AP Mode.
- Go to the “Device Configuration” page. Please refer to [Section 3.1](#) and [Section 3.4.1](#).
- Fix a specific channel instead of “Auto”,¹⁸
- “Save” it and then connect the Wi-Fi again.

- If the fluency is still poor after fixed a channel, please try other ones.
- If your PC's Wi-Fi could not get the “device SSID” anymore after changing the channel of SmartStream device, it means your PC's Wi-Fi could not support this channel. Please reboot the device with Ethernet cable to change the channel settings again. Please refer to [Section 1.2.3.1](#).

5.1.6.7 Change the connection to Ethernet

- If the Wi-Fi modification could not still improve the fluency, please try to connect PC and SmartStream device by Ethernet cable. Please refer to [Section 1.2.3.1](#).

¹⁸ The standard channels of Wi-Fi are 1, 6, 11, and you can also try channel 12, 13, or 14, if possible.

5.2 Troubleshooting of DLNA-DMR

5.2.1 No "Play To" Selection in Windows 7

- If you are not able to see "Play To" when clicking the right key of mouse on a targeted media file in Windows 7, please try to check the status of each following parts.
 - ◆ The format of targeted file is supported by SmartStream device. Please refer to [Section 6.4](#).
 - ◆ The "Media Streaming" of Windows 7 should be turned on. Please refer to [Section 2.2.1](#).
 - ◆ The DLNA required services and protocols might be blocked by Windows. Please refer to [Section 5.1.2.1](#) and [Section 5.1.2.3](#) to unblock it.

5.2.2 Blank Screen after "Play To"

- If you are not able to see and hear anything on the TV / Monitor after streaming a file to SmartStream device by DLNA, please try check the status of each following parts and get improved solutions.
 - ◆ The format of targeted file is supported by SmartStream device. Please refer to [Section 6.4](#).
 - ◆ It might be because of poor network bandwidth. Please refer to [Section 5.2.3](#).

5.2.3 Poor Display Fluency of DMR

- If you get bad or poor fluency in streaming a video or movie to SmartStream device by DLNA, please try check the status of each following parts and get improved solutions.
 - ◆ The video format of the file is within the support criteria of SmartStream device. Please refer to [Section 6.4.3](#).
 - ◆ The CPU utilization of you PC / smart phone / Tablet-PC should be under **80%** for video or movie streaming. Please refer to [Section 5.1.6.4](#).
 - ◆ If the connection between PC / smart phone / Tablet-PC and SmartStream device is through Wi-Fi, the bandwidth of network is recommended to over **36 Mbps** for video or movie streaming. Please refer to [Section 5.1.6.5](#), [Section 5.1.6.6](#), [Section 5.1.6.7](#).

5.2.4 Audio is Always Mute

- If you always get mute audio in streaming an audio, video, or movie to SmartStream device by DLNA, please check whether the audio format of the file is within the support criteria of SmartStream device or not. Please refer to [Section 6.4.2](#).

5.3 Common Solutions to Many Issues

- If the other troubleshooting sections have not helped, there may be some common solutions for trying.
 - ◆ Please wait enough time for fully booted of Microsoft Windows before starting-up PC2TV or DLNA (Windows DMC) utility.
 - ◆ Please wait enough time for the readiness of network before "Play" PC2TV application or "Play To" DLNA-DMR application. Please refer to [Section 1.2.4](#).
 - ◆ Close PC2TV or DLNA utility, restart-up the utility, and then run the application again.
 - ◆ Close PC2TV or DLNA utility, disconnect the network, reconnect your network, restart-up the utility, and then run the application again.
 - ◆ Close PC2TV or DLNA utility, disconnect the network, close all of other programs and services on your PC, reconnect your network, restart-up the utility, and then run the application again.
 - ◆ Shut down the SmartStream device, reboot the device, reconnect your network, restart-up PC2TV or DLNA utility, and then run the application again.
 - ◆ Shut down your PC, reboot the PC, reconnect your network, restart-up PC2TV or DLNA utility, and then run the application again.
 - ◆ Uninstall PC2TV utility, restart your Windows, install PC2TV utility, restart your Windows, restart-up PC2TV utility, and then "Play" PC2TV application again.

5.4 Known Issues and Limitations

- This section lists known issues and limitations of PC2TV and DLNA-DMR applications, including some workarounds for trying.

5.4.1 PC2TV Limitations

- In "Basic and High Contrast Themes" of Windows 7 / Vista, there are several limitations with PC2TV application as follows. Therefore, it is recommended to change the theme to "Aero themes". Please refer to [Section 5.1.6.1](#).
 - ◆ When playing a movie/video by Windows Media Center or Windows Media Player through PC2TV application, it may show a middle horizontal line on the TV / Monitor.
 - ◆ PC2TV application could not support full screen of Windows Media Center.
 - ◆ When you press Ctrl + Alt + Delete while PC2TV application is playing, it would freeze the TV / Monitor's screen.
 - ◆ When setting password in Windows screen saver, it could not be supported by PC2TV application.
- It is not achievable to play DVD movies by Windows Media Player in Windows XP through PC2TV application; it is recommended to use another media player, ex. Media Player Classic - Home Cinema. Please refer to [Section 6.3](#).

5.4.2 DLNA-DMR Limitations

- It might be not achievable to "Play to" a media file to DMR device, when your PC already connects to Internet by another network connection (Ethernet or Wi-Fi). Please disconnect the link of Internet and then "Play to" again.
- Some types of video or movie files are not suitable for streaming. If this is the case, the audio might be always mute in streaming.

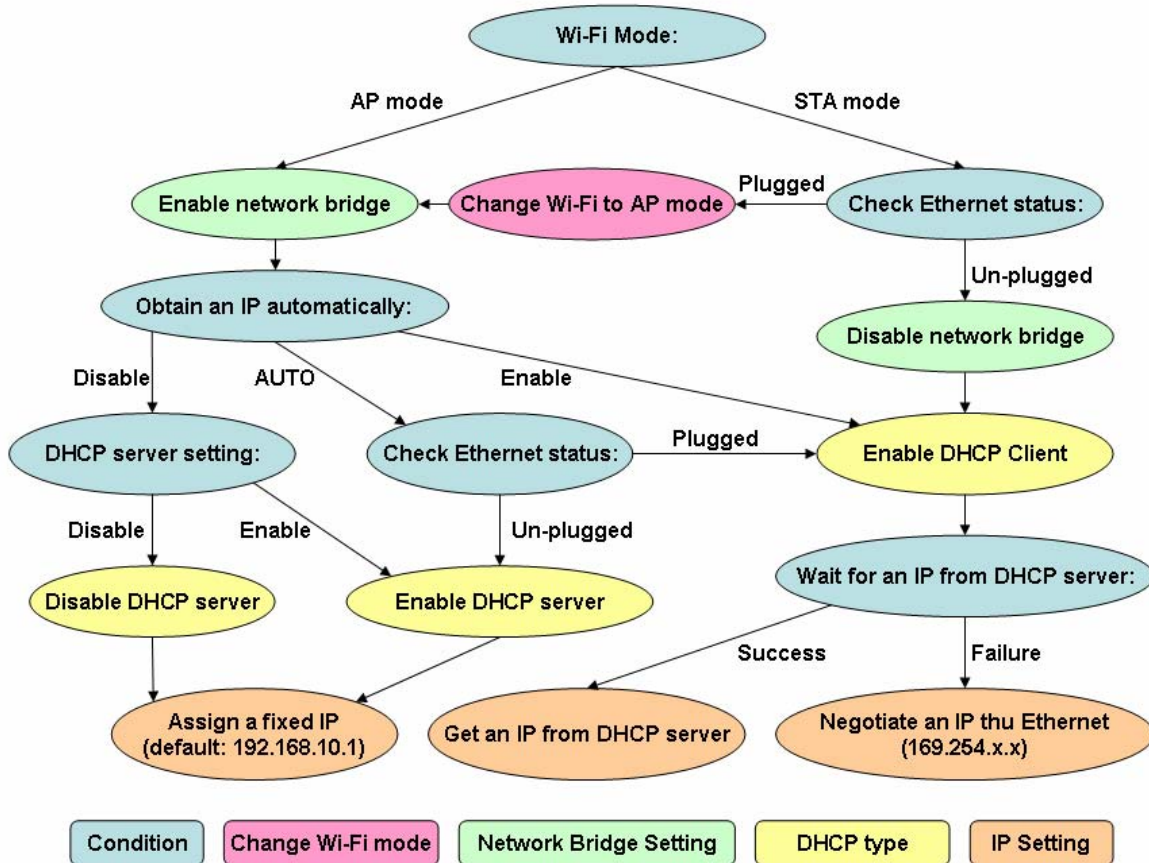
5.4.3 General Limitations

- No matter for PC2TV or DLNA-DMR application, once the Wi-Fi bandwidth is not always stable enough, the video playback might lag suddenly or even continually.
- It should be avoided to change any kinds of network configurations when PC2TV or DLNA-DMR application is playing, otherwise it may cause momentary disconnection or end the connection directly.

6 Appendix

6.1 Network Initialization Process

- In order to meet different network and connection requirements, the network initialization process of SmartStream device is as follows:



6.2 Display Resolutions

6.2.1 Maximum Resolution Support and Conditions

- The SmartStream device is able to support 1,920 x 1,080 (HDTV: 1080P) for PC2TV application, but the following conditions are all required:
 1. The PC is powered by 2nd Generation Intel Core i3 / i5 / i7 series CPU (Intel's codename: SandyBridge).
 2. The operation system should be Windows 7 or above.
 3. The PC's graphic driver(s) should be updated to the latest one(s).
 4. The working graphic on PC should be Intel's graphic; AMD/ATI or Nvidia graphic is not able to support it.
- Lack of either of above conditions, SmartStream device could only support the display resolution up to 1,440 x 900 (widescreen) and 1,280 x 1,024 (4:3 screen).
- PC2TV-only device could only support up to 1,440 x 900 and 1,280 x 1,024.
- DLNA-DMR application would always support the maximum resolution of TV / Monitor (under 1080P.)

6.2.2 Principals of PC2TV Resolution Implementation

- After "Play" PC2TV application, the TV / monitor would follow the three principals to implement the display resolution. By the way, the "Extension Screen" follows the same principals, please refer to [Section 1.4.3.1](#).
 1. The resolution of PC's desktop should be implemented on your TV / Monitor, once it is within your TV / monitor's EDID (Extended Display Identification Data) information. Please refer to your TV / monitor's user manual to check its resolution support table. If not, please see "Auto-720P".
 2. "Auto-720P" means the PC's desktop resolution is higher than 1,280 x 720 (HDTV: 720P), but TV / monitor's EDID does not support it and only supports 1,280 x 720, then 1,280 x 720 would be implemented as the display resolution on both sides of PC and TV / monitor. If not, please see "Auto-XGA"
 3. "Auto-XGA" means the PC's desktop resolution is higher than 1,024 x 768 (XGA), but TV / monitor's EDID supports neither PC's desktop resolution nor 1,280 x 720, then 1,024 x 768 would be implemented as the display resolution on the TV / monitor.
- For HDMI output, the supported resolutions of PC2TV application are only 1,920 x 1,080, 1,280 x 720, 1,024 x 768, and 800 x 600. If the PC's resolution is not set at one of them, the 1,280 x 720 or 1,024 x 768 would be implemented automatically as the display resolution on the TV / monitor, after "Play" PC2TV application.

6.2.3 PC2TV Resolution Implementation Table

- The following two tables show the implemented display resolution of your TV / monitor after "Play" PC2TV application.
- If your PC's desktop resolution is not set as one of the first column (Resolution Setting of PC's Desktop) in the tables, PC2TV application might work abnormally.
- The implemented display resolutions would not guarantee the performance of PC2TV application. Please refer to [Section 1.3.2.2](#) and [Section 1.4.3.2](#) to consider the balance between your PC capability and display resolution.

PC2TV Support Resolution Table (1)						
\	TV / Monitor	TV / Monitor Highest Support Resolution (EDID Support)				Remark
PC	\	1,024 x 768	1,280 x 800	1,280 x 1,024	1,366 x 768	
Resolution Setting of PC's Desktop	800 x 600	800 x 600	800 x 600	800 x 600	800 x 600	
	1,024 x 768	1,024 x 768	1,024 x 768	1,024 x 768	1,024 x 768	
	1,280 x 720	Auto-XGA	1,280 x 720	1,280 x 720	1,280 x 720	
	1,280 x 768	Auto-XGA	1,280 x 768	1,280 x 768	1,280 x 768	
	1,280 x 800	Auto-XGA	1,280 x 800	1,280 x 800	Auto-720P or Auto-XGA	
	1,280 x 1,024	Auto-XGA	Auto-720P or Auto-XGA	1,280 x 1,024	Auto-720P or Auto-XGA	
	1,366 x 768	Auto-XGA	Auto-720P or Auto-XGA	Auto-720P or Auto-XGA	1,366 x 768	
	1,440 x 900	Auto-XGA	Auto-720P or Auto-XGA	Auto-720P or Auto-XGA	Auto-720P or Auto-XGA	
	1,600 x 1,200	Auto-XGA	Auto-720P or Auto-XGA	Auto-720P or Auto-XGA	Auto-720P or Auto-XGA	
	1,680 x 1,050	Auto-XGA	Auto-720P or Auto-XGA	Auto-720P or Auto-XGA	Auto-720P or Auto-XGA	
	1,920 x 1,080	Auto-XGA	Auto-720P or Auto-XGA	Auto-720P or Auto-XGA	Auto-720P or Auto-XGA	

PC2TV Support Resolution Table (2)						
\	TV / Monitor	TV / Monitor Highest Support Resolution (EDID Support)				Remark
PC	\	1,440 x 900	1,600 x 1,200	1,680 x 1,050	1,920 x 1,080	
Resolution Setting of PC's Desktop	800 x 600	800 x 600	800 x 600	800 x 600	800 x 600	
	1,024 x 768	1,024 x 768	1,024 x 768	1,024 x 768	1,024 x 768	
	1,280 x 720	1,280 x 720	1,280 x 720	1,280 x 720	1,280 x 720	
	1,280 x 768	1,280 x 768	1,280 x 768	1,280 x 768	1,280 x 768	
	1,280 x 800	1,280 x 800	1,280 x 800	1,280 x 800	1,280 x 800	
	1,280 x 1,024	Auto-720P or Auto-XGA	1,280 x 1,024	1,280 x 1,024	1,280 x 1,024	
	1,366 x 768	1,366 x 768	1,366 x 768	1,366 x 768	1,366 x 768	
	1,440 x 900	1,440 x 900	1,440 x 900	1,440 x 900	1,440 x 900	
	1,600 x 1,200	Auto-720P or Auto-XGA	Auto-720P or Auto-XGA	Auto-720P or Auto-XGA	Auto-720P or Auto-XGA	
	1,680 x 1,050	Auto-720P or Auto-XGA	Auto-720P or Auto-XGA	Auto-720P or Auto-XGA	Auto-720P or Auto-XGA	
	1,920 x 1,080	Auto-720P or Auto-XGA	Auto-720P or Auto-XGA	Auto-720P or Auto-XGA	1,920 x 1,080 or Auto-720P or Auto-XGA	

6.3 Media Players Compatibility of PC2TV Application

- The following table shows the supported phenomenon for different media players by PC2TV application.
- The operating process should be: Start-up PC2TV utility → "Play" PC2TV application → Start-up media player → Playing the target media content. It might be not workable when the media player is started-up before "Play" PC2TV application.

Media Player	Version	OS	DVD playback	WMV playback	Mpeg2 playback	Mpeg4 playback	H.264 Playback
Windows Media Player	12	Windows 7 & Vista	OK	OK	OK	OK	OK
Windows Media Center	n/a	Windows 7 & Vista	OK	OK	OK	OK	OK
Media Player Classic - Home Cinema	1.3.1959.0	Windows 7 & Vista	OK	OK	OK	OK	OK
KMPlayer	2.9.4.1435	Windows 7 & Vista	OK	OK	OK	OK	OK
Cyberlink PowerDVD	10	Windows 7 & Vista	OK	OK	OK	OK	OK
Windows Media Player	11	Windows XP	N/A, Note 1	OK	N/A, Note 2	N/A, Note 2	N/A, Note 2
Media Player Classic - Home Cinema	1.3.1959.0	Windows XP	OK	OK	OK	OK	OK
KMPlayer	2.9.4.1435	Windows XP	OK	OK	OK	Fail, Note 3	OK
Cyberlink PowerDVD	10	Windows XP	Fail, Note 4	OK	OK	Fail, Note 4	Fail, Note 4

[Note 1](#): Windows Media Player 11 does not support it in default.

[Note 2](#): Windows Media Player 11 does not support it in default, but it would be "OK" after installing K-Lite Codec Pack v6.0.0 or later

[Note 3](#): It would be "OK" after changing KMPlayer setting: [options] → [Preferences] → [Video Processing] → [Renderer] → [Renderer: VMR7 Windowed]

[Note 4](#): It would be "OK" after setting "Hardware Acceleration" to "Full". Please refer to [Section 5.1.4](#).

6.4 DLNA Support Formats

- In order to support multimedia streaming of DLNA, you need at least a DLNA-certificated PC (Windows 7 based), smart phone, Tablet-PC, and/or DLNA software (DMC, DMS) to connect to SmartStream device. Please refer to [Section 2.1](#) and [Section 2.2](#).
- The following tables show the formats that are supported by the DLNA-DMR application of SmartStream device, basically, contents with the supported extension can be streamed to the device. However, due to the file extension might be not always correct, the contents with supported extension might still not able to be played on the TV / Monitor.

6.4.1 Supported Picture Formats

- The following picture formats are supported by SmartStream device.

Format	File extension
GIF	gif
PNG	png
BMP	bmp
JPEG	jpg, jpeg

6.4.2 Supported Audio Formats

- The following audio formats are supported by SmartStream device.
- Besides, SmartStream device could only support **2-channels** audio content. To stream audio contents with multi-channels (over 2-channels) would be mute.

Format	File extension
LPCM	pcm, wav, l16
MPEG-1 Layer 3	mp3
WMA	wma
WAV	wav
MPEG-4	mp4
AAC	aac
OGG	ogg, oga, ogv

6.4.3 Supported Video Formats

- The following video formats are supported by SmartStream device.
- Besides, the bit-rate of a video content is recommended to under **15 Mbps** to be streamed through Wi-Fi network, otherwise, the display fluency might be poor.
- If a video content with unsupported audio format or multi-channels audio, it might cause poor display fluency, influent audio, or mute audio. Please refer to [Section 6.4.2](#).

Format	File extension
WMV	mpe, mpeg, mpg
AVI	avi
AVI	avi
MPEG-1	mpg, mpeg
MPEG-2	mpg, mpeg
MPEG-TS	m2t, tts
MPEG-4	mp4, mp4v, mpeg4, m4v
3GP	3gp, 3gpp
3GP2	3g2, 3gpp2
MOV	mov
MPEG	mpe, mpeg, mpg
MPEG-2	mpe, mpeg, mpg
WMV ¹⁹	wmv
DVR-MS	dvr, dvr-ms

¹⁹ Only Windows Media Video v9 (WMV3 / WVC1) is supported in WMV format.

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