PC2TV

User's Guide

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1. Introduction

To access fast growing video content on the Internet, the PC is still the best tool, and in some cases, the only tool available. Using a TV to watch video is the most desirable way to enjoy video contents. How to enable a TV to access Internet video contents is a hot topic. StrandVision's PC-2-TV solution easily fulfills such needs. It provides a transparent link between a PC and TV so that what is displayed on the PC can also be watched on the TV from any room in your home. In addition, whatever you can do with your PC, your TV can achieve it. For example, watching downloaded video, play a DVD movie, access Internet streaming video, gaming, browsing, display photo, even using MSN, Skype, chatting, video conferencing…etc.

The PC2TV solution has three essential elements: the PC adaptor (PCA), TV adaptor (TVA), and the Local Area Network (LAN) in between. It is essentially an "Ethernet based extension cable for the keyboard, mouse, speaker, microphone, VGA and Infrared signals. It allows using your TV as the screen for the PC in a transparent way. It also allows placing a keyboard, mouse, microphone or MCE infrared remote controller in front of the TV and all the signals will be transparently relayed back to the PC through the LAN.

Plug-and-play delivers the easiest and the quickest way to use the PC2TV solution; there is no configuration necessary and there is no new user interface to learn. It supports up to 1920 x 1080 resolution for full HD live video. Auto adjustment of video compression rate ensures smooth video streaming under different network conditions. High speed ASIC technology ensures very low latency and quick response time when using a mouse connected to the TVA.

All available LAN technologies can be used to connect the PCA and the TVA including Ethernet and power line Ethernet.

2. Unpacking Checklist

After you unpack the package, make sure that the following devices and accessories are available.
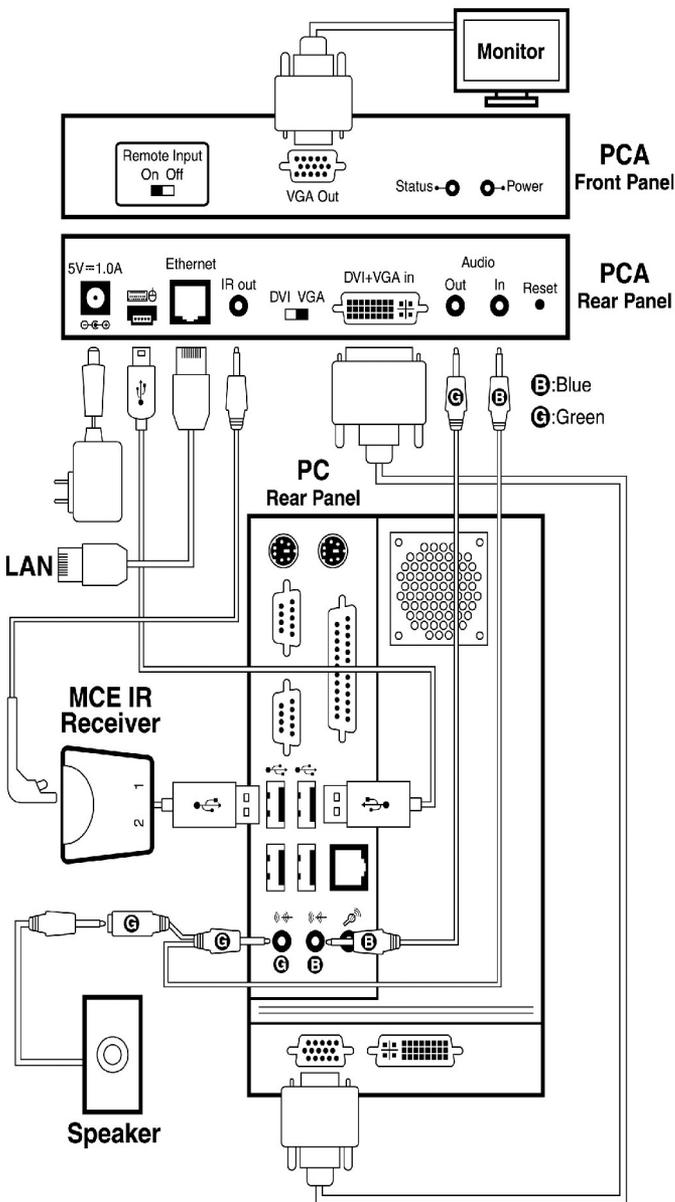
1. One PCA (PC adapter) to connect with PC. Cables for PCA are:
   - ✓ One VGA to DVI cable
   - ✓ Two audio cables
   - ✓ One USB cable
   - ✓ One IR blaster cable
2. One TVA (TV adapter) to connect with TV. Cables for TVA are:
   - ✓ One VGA to DVI cable
   - ✓ One Audio cable
   - ✓ One IR receiver cable
3. Two power adapters
4. One user's guide

3. Connection Setup

This section describes how to connect the cables and how to connect the PCA and the TVA.

3. 1.   PC Adapter (PCA) Connection

The PCA is connected to your PC. The connection method is shown below. Using the USB cable, VGA to DVI cable and two audio cables, connect rear panel connectors on the PCA to the connectors on PC. Your local monitor may be connected to the VGA connector on the front panel. The IR blaster cable is connected to the IR connector on rear panel and the IR blaster LED must be facing the IR receiver of your Media Center PC, TV tuner card or DVD player. Connect the included power adapter to the DC power socket and plug the power supply to wall. To avoid damage of the PCA, please use the power adapter in the package only. The RJ-45 connector is for connection to any Ethernet CAT-5 device or directly to the TVA RJ-45 socket. A switch can be placed between PCA and TVA but both PCA and TVA must be put in the same class C network.

Monitor

PCA
Front Panel

Remote Input
On Off

VGA Out

Status — Power

PCA
Rear Panel

5V⎓1.0A   Ethernet   IR out   DVI VGA   DVI+VGA in   Audio   Reset
Out   In

B:Blue
G:Green

PC
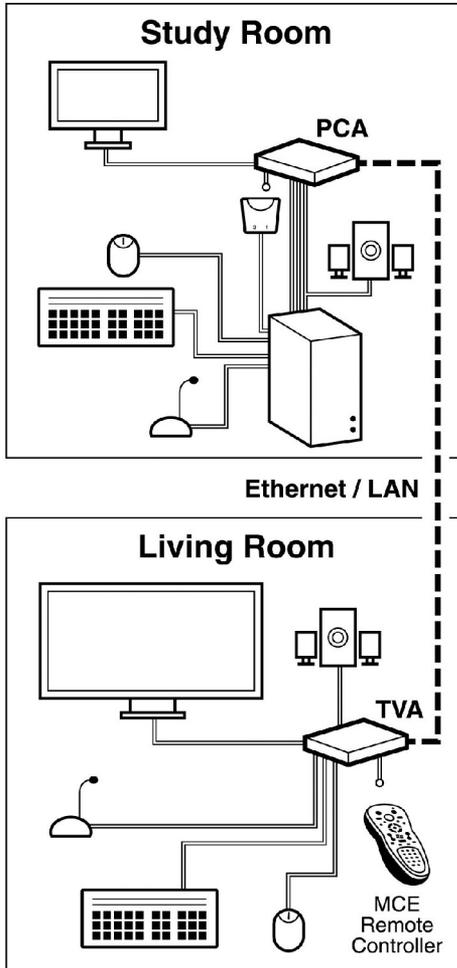**Rear Panel**

LAN

MCE IR
Receiver

1
2

Speaker

3. 2. TV Adapter (TVA) Connection

The DVI and audio out ports on the TVA are connected to the TV using the included VGA to DVI and audio cables. The other connectors are connected to peripherals such as a keyboard, mouse and microphone. There is an IR receiver connector at the rear panel of TVA. The IR receiver cable is connected to it and the receiver should be positioned to be visible from the front of the TV. Connect the Ethernet CAT-5 cable between a network source and the PCA RJ-45 connector. A switch or router can be placed between TVA and PCA but both PCA and TVA must be put in the same class C network. Connect the included power adapter to the DC power socket and plug the power supply to wall. To avoid damage to the TVA, please use power adapter in the package. Turn on your TV and change the input source to D-sub, PC or VGA.
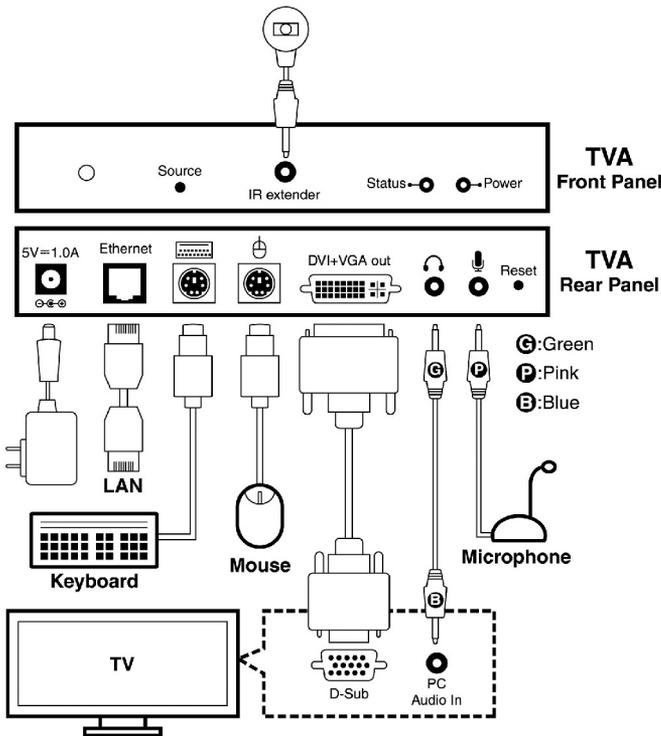
3. 3.   *PC2TV Connection*

After the above connections are finished, the whole system should be shown as below.

4. PC Adapter (PCA)

Connected to your Windows Media Center Edition PC is the PCA which has many connectors, DC input, RJ-45 connector, keyboard, mouse, audio in, audio out and DVI. The connectors on the rear panel of the PCA are connected to your PC and the VGA connector on the front panel of PCA is connected to your monitor. The power adapter, IR blaster cable and Ethernet cable are connected to the rear panel. Two switches are located on the PCA. The remote input switch selects whether the PC is controlled from the locally connected peripherals or those connectors to the TVA. The DVI/VGA switch beside DVI connector can switch input source from DVI or VGA.

Note: The DVI connector on the rear panel of PCA is DVI-I (digital and analog) connector which supports DVI-D (digital), generally called DVI, or DVI-A (analog) which provides the same analog signal found on a VGA connector. The included cable is a VGA to DVI-A cable. If you want to use better performance DVI-D (digital) signal, you can use a DVI-D cable to connect your PC and the PCA.

4. 1.   Front Panel and Rear Panel

Your monitor can be connected to the VGA connector on the front panel of PCA. The Status and Power LEDs are located on that panel. There is a slide switch, named "remote input", which selects the local or remote keyboard and mouse.

The rear panel has a DC in connector, mini USB connector for keyboard and mouse, RJ-45 connector for Ethernet cable IR blaster connector, DVI-I connector and audio in and out connectors. The USB, monitor, audio in and out connect to your PC by using the cables provided in the package. The audio cable that is connected to "audio out" on the PCA must be connected to the line in (or sometimes mic) connector of your PC. The other audio cable is connected between "audio in" on the PCA and the line out connector of your PC. Using other power adapter may damage the PCA. The RJ-45 connector is used for connection between PCA and TVA.

For more detailed information of cable connections, please refer to the "Connection Setup" section.

When the PC and the PCA are connected with VGA cable, the PCA can drive the local monitor and the remote TV at the same time. In this configuration, the local monitor will also function if the PCA power is off. When the PC and the PCA are connected with DVI-D cable, the PCA will only drive the remote TV and not the local monitor.

4. 2.   LED display and Switches

LED	Color	Status	Descriptions
Status	Green	On	Local area network is connected
		Off	Local area network is not connected.
		Blink	Ethernet active
	Orange/Red	Blink	The PCA is using large network bandwidth.
Power	Off	Off	Power off
	Green	Green	Power on and network connection is established.
	Red	Red	Power on but network connection is not established.

Slide Switch	Descriptions
DVI	The PC and the PCA are connected with DVI cable.
VGA	The PC and the PCA are connected with VGA cable.
Remote input on	Turn on the remote input and user can use the peripherals connected to the TVA to control the PC.
Remote input off	Turn off the remote input and user cannot use the peripherals connected to the TVA to control the PC.

Push button	Descriptions
Source	Push it to enter menu.
Reset	When the PC and the PCA are connected with VGA cable, sometimes the picture on the TV connected to TVA shifts from TV screen. This push button is used to reset the output picture. Press it to do auto adjustment.

4. 3.   IR Blaster

The IR blaster is connected to the IR blaster socket at the rear panel of the PCA. When you press any key on any infrared remote controller, the TVA receives the IR signal and transmits it to the

PCA. The IR signal is delivered to the IR receiver through the LED on the IR blaster. To work properly, the IR blaster LED must be facing the IR receiver of your Windows Media Center Edition PC, TV tuner card or DVD player.

LED

IR

5. TV Adapter (TVA)

The TVA is connected to your TV. It also has many connectors such as, power, RJ-45, keyboard, mouse, speaker, microphone and DVI, on the rear panel. There is a push button for source, two three-color LEDs and an IR receiver connector on the front panel.

5. 1.   Front Panel and Rear Panel

On the front panel, there are two three-color LEDs that indicate Ethernet status and power. There is a push button to select the PCA that is used as the source when more than one PCA are on the network. The IR receiver cable is connected to IR receiver socket that receives IR signals form remote controllers.

On the rear panel, the DVI and speaker connectors are connected to TV using the included cables. The keyboard, mouse and microphone connectors are available for remote use of the PC. The TVA supports Ethernet connection or direct cable connection to PCA using CAT5 network cabling through the RJ-45 connector. To avoid damage to the TVA, please use the adapter in the package only.

5. 2.   LED display

LED	Color	Status	Descriptions
Status	Green	On	Local area network is connected
		Off	Local area network is not connected.
		Blink	Ethernet active
	Orange/Red	Blink	The TVA is using large network bandwidth.
Power	Off	Off	Power off
	Green	Green	Power on and network connection is established.
	Red	Red	Power on but network connection is not established.

5. 3.   IR Receiver

The IR receiver is connected to the IR receiver socket at the rear panel of the TVA. This cable can be used as an IR receiver extension when you put the TVA behind something and the IR receiver on the TVA not conveniently visible. The IR receiver can receive a 38kHz IR signal from any remote controller and transmit it to the PCA.

6. OSD and Source button

When the TVA is turned on, the OSD will display "**PC2TV**".

When the TVA is connected to PCA, the TV will display the PC screen.

When the TVA does not find a PCA on network or the Ethernet cable is not connected to the TVA, the TV will display "**No PCA**". When the TVA finds one or more PCA in the network, it will show a PCA screen on the TV.

When there is more than one PCA on the network, the push button called "source" on the TVA allows the proper PCA to be selected.

When the source button is pushed and you select a PCA to be connected, the TVA will automatically connect to that PCA after three seconds. The TV will show "**Connecting to…**".

After the PCA and TVA connection is established, the TVA will display the PC screen that is connected to that PCA.

Run Time OSD

When the source button is pushed in run time (a TVA is connected to a PCA), the TVA shows the following menu.

OSD	Description
PCA …	List all discovered PCA. "Connected" means that PCA is connected to the TVA.
REFRESH	Using VGA mode, sometime the graphic is not fixed in the TV screen. At that time, you can use "REFRESH" to automatically adjust the graphic into the TV screen.
LOCK PCA	Lock the connected PCA.
PCA SETTING	Setup the connected PCA
TVA OFF	Turn off the TVA
EXIT	Exit the menu

Push the source button to jump to the menu which you want to select and after four seconds, it will enter into the menu. Selecting the PCA setting will enter into following menu.

OSD	Description
Multi/One TVA	Change the PCA transmitting method. Multi TVA mode: the PCA transmits audio/video in multicast packets. One TVA mode: the PCA transmits audio/video in unicast packets
Bandwidth	Users can change to high, medium or low bandwidth to transfer audio/video.
Info	It will show the PCA and TVA information.
Exit	Exit the PCA setting menu.

TVA Setup OSD

The push button is pressed before a TVA is connected to a PCA.

OSD	Description
Refresh	
TVA setting	Setup the TVA. It includes Audio and IR input setting.
TVA off	Turn off the TVA.

When you enter TVA setting, you can setup audio and IR inputs.

OSD	Description
Audio input	You can enable or disable audio input in this item.
IR input	IR input is enabled or disabled in this item.
Return	Return to above menu.

Audio Input Setting

OSD	Description
MIC in disable	Disable MIC input reduces bandwidth utilization from the TVA to a PCA.
MIC in enable	You can turn on MIC input using this.
Return	Return to above menu.

IR Input Setting

OSD	Description
IR disable	Turns off IR receiver
Internal IR	Enable internal IR receiver by using this item.
Return	Return to above menu.

7. PC2TV Specifications

Input resolution
- All standard resolutions from 640 x 480 to 1920 x 1080 @ 70Hz ~ 60Hz
- 1440x900

- 1400 x1050
- 1680x1050
- 1360x768

Output resolution
- All standard resolutions from 640 x 480 to 1920 x 1080 @ 60Hz ~ 70Hz
- 1440x900
- 1400 x1050
- 1680x1050
- 1360x768

Output frame rate
- 640X480 @ 70fps
- 800X600 @ 70fps
- 1024X768 @ 60fps
- 1280X1024 @ 30fps
- 1600X1200 @ 30fps
- 720X480 @ 60fps
- 720X576 @ 50fps
- 1280X720 @ 30fps
- 1440x900 @ 30fps
- 1400 x1050 @ 30fps
- 1680x1050 @ 30fps
- 1360x768 @ 30fps
- 1920X1080 @ 25fps

Scalar
- Allows PC2TV difference input and output resolution

LAN
- 10/100Mbps
- Auto-MDIX
- Flow control

IR in/out
- 38KHz