

## Application Note

### PC2TV Advanced User Guide

This application note describes how to upgrade firmware and setup the PC2TV.

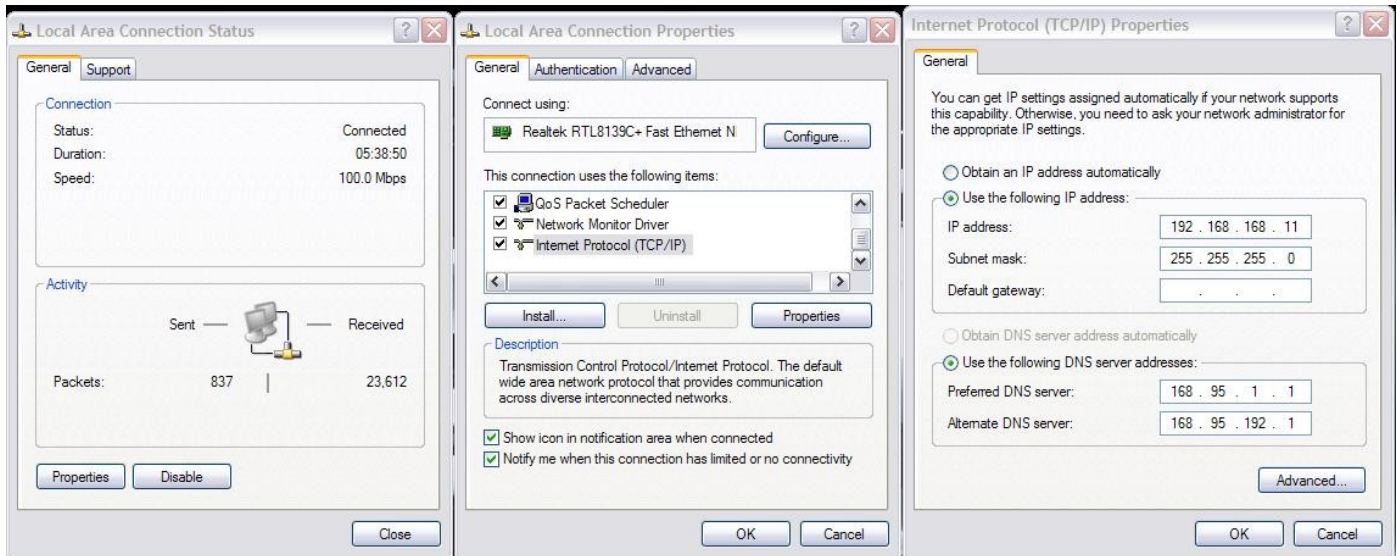
#### Getting Access To The PC2TV Configuration Area

An HTTP web server is embedded in each PCA and TVA. You can setup the PC2TV via a web browser. The web server does not activate when the product is processing. You can get access the web server by the following steps only.

Before configuration the PCA or TVA, you should understand the IP addresses in them. Both PCA and TVA have two IP addresses each, one is the setup IP address and another one is normal IP address. The setup IP address is used for firmware upgrade or configuration. It is permanent IP and it will not be changed no matter what you assign the device IP address which is called normal IP address via web browser. The normal IP address is an IP address which is used in device normal stage. On the other word, the devices use setup IP address in setup stage and normal IP address in normal stage.

The setup IP address of the PCA is 192.168.168.21 and the TVA is 192.168.168.22.

**Step 1:** Assign the PC or laptop IP address through Control Panel, Network Connections, Local Area Connections, Properties, Internet Protocol (TCP/IP), Use the following IP address. Type the IP address field with 192.168.168.11 and Subnet mask with 255.255.255.0. After that, press OK to save the configuration.



**Step 2:** Remove the power from the device. Hold the reset button of the device to be upgraded or setup and power it on while continuing to hold the reset button. The power LED of the device blinks red after about 2 seconds. Release the reset button, and the power LED should become orange. If it doesn't, unplug the device and power it back on. Once the power LED is orange, the device enters into setup stage and you can get access to the HTTP server of that device. On the other word, you cannot get access to the HTTP server in other status.

**Step 3:** Use an Ethernet Cable to connect the PC or laptop and the device. The power LED is still orange and the status LED will blink green as it communicates with the PC.

## Setup the PCA or the TVA

**Step 1:** Connect to the device as described at the beginning of this document

**Step 2:** Use a web browser such as Internet Explorer (IE) to get access the web server by entering the Setup IP address listed above on the url entry area. Once there, you can enter IP address of the device (normal IP address), subnet mask, gateway, device name, network protocol and destination in this page.

**IP Address** called normal IP address. It can be changed according to your network scenario or usage.

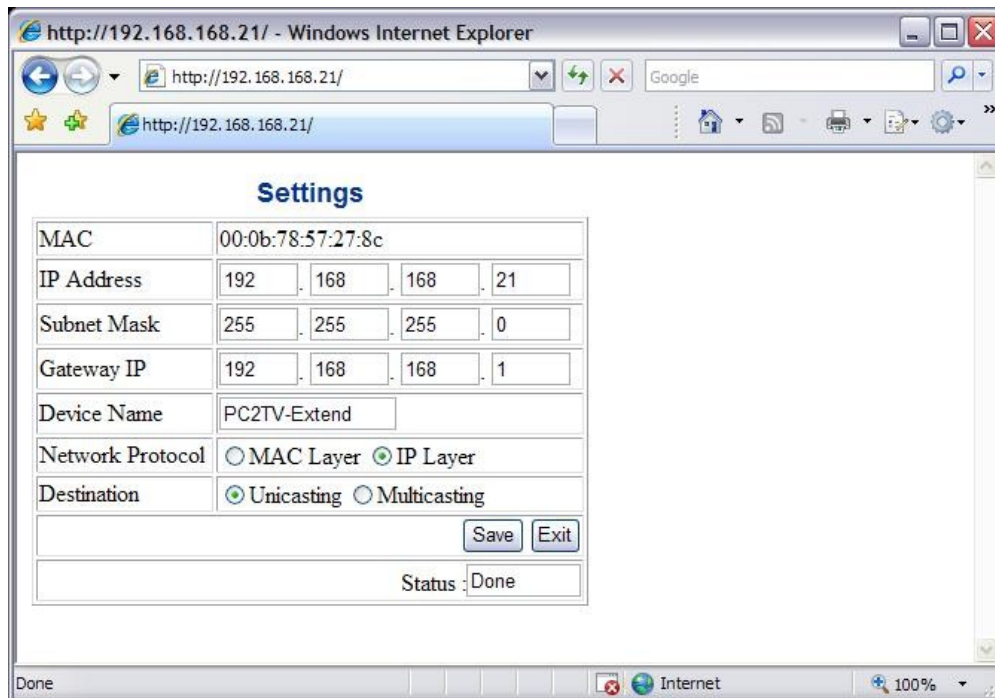
**Subnet Mask** is subnet mask of the normal IP address. If you are unsure, use 255.255.255.0.

**Gateway IP** is gateway IP of the normal IP address.

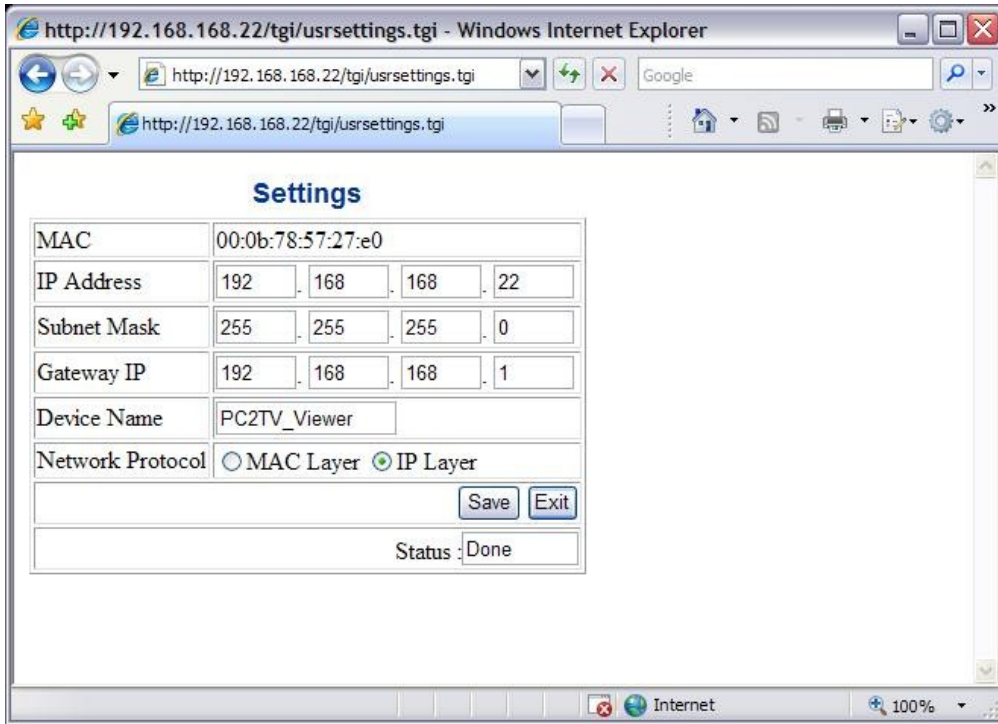
**Device Name** for the PCA is a name which will be shown via OSD. You can modify the device name to verify the PCA when you have many PCA devices on the network.

**Network protocol** is the way to pack the transmitted packets. The audio and video packets are transmitted from the PCA and the PS2 and the audio packets are transmitted from the TVA. When you set the transmitted packets in MAC (MAC layer), the audio and video transmits less bandwidth than IP packets. You cannot use MAC layer when you are using 802.11n wireless or you display to many receivers using the Multicast destination. For detailed information, please refer to Setup Overview.

**Destination** selects how audio and video packets are transmitted. For one-to-one application - one TVA is connected to one PCA - you can use Unicast. For one-to-many application - many TVA connected to a PCA - or for many-to-many application - many TVA connected to many PCA - you must use Multicast. The PCA and the TVA uses IGMP to transmit the multicast packets, thus you must use a switch which supports IGMP snooping for the many-to-many application. IGMP is an IP packet protocol, so you must set the device to IP Layer in the Network Protocol configuration. Note: The other media such as PowerLine, PLC and wireless cannot support multicast. For more information, please refer to the Setup Overview.



Settings	
MAC	00:0b:78:57:27:8c
IP Address	192 . 168 . 168 . 21
Subnet Mask	255 . 255 . 255 . 0
Gateway IP	192 . 168 . 168 . 1
Device Name	PC2TV-Extend
Network Protocol	<input type="radio"/> MAC Layer <input checked="" type="radio"/> IP Layer
Destination	<input checked="" type="radio"/> Unicasting <input type="radio"/> Multicasting
<input type="button" value="Save"/> <input type="button" value="Exit"/>	
Status : Done	



**Step 3:** After clicking the Save button, the device saves new parameters. After you turn off and on this device, it work normally to transmit the screen information. You cannot get access to the web server in this mode.

**NOTE:** The PCA and TVA have two IP address. The setup IP address is used for firmware upgrade and configuration. The setup IP address will never be changed when you modify the IP address which is called normal IP address. The next time you configure the device, you must use the setup IP address to get access the web server.

## Upgrading the PCA or the TVA

**Step 1:** You should save the new firmware into your PC or laptop first. The latest firmware can be found at the [PC-2-TV.net](http://www.pc2-tv.net) web site.

**Step 2:** Be sure that the PC and the device are on a good power source. If power fails during the upgrade, the device will be unusable and is not covered by the manufacturer warranty.

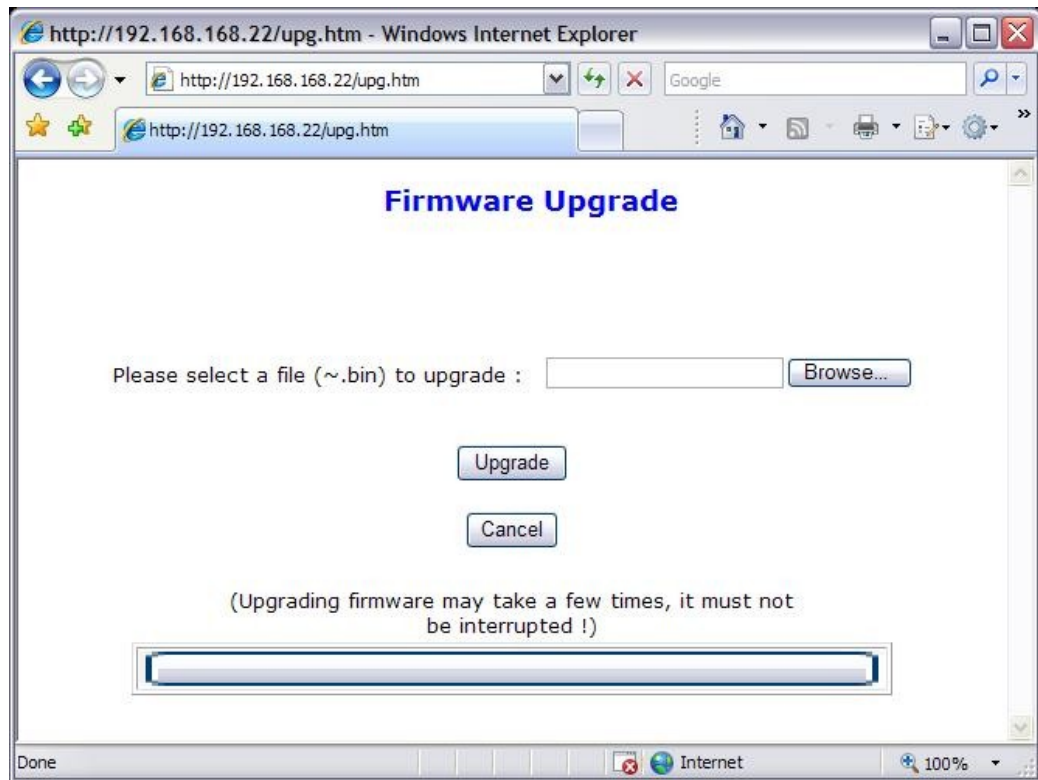
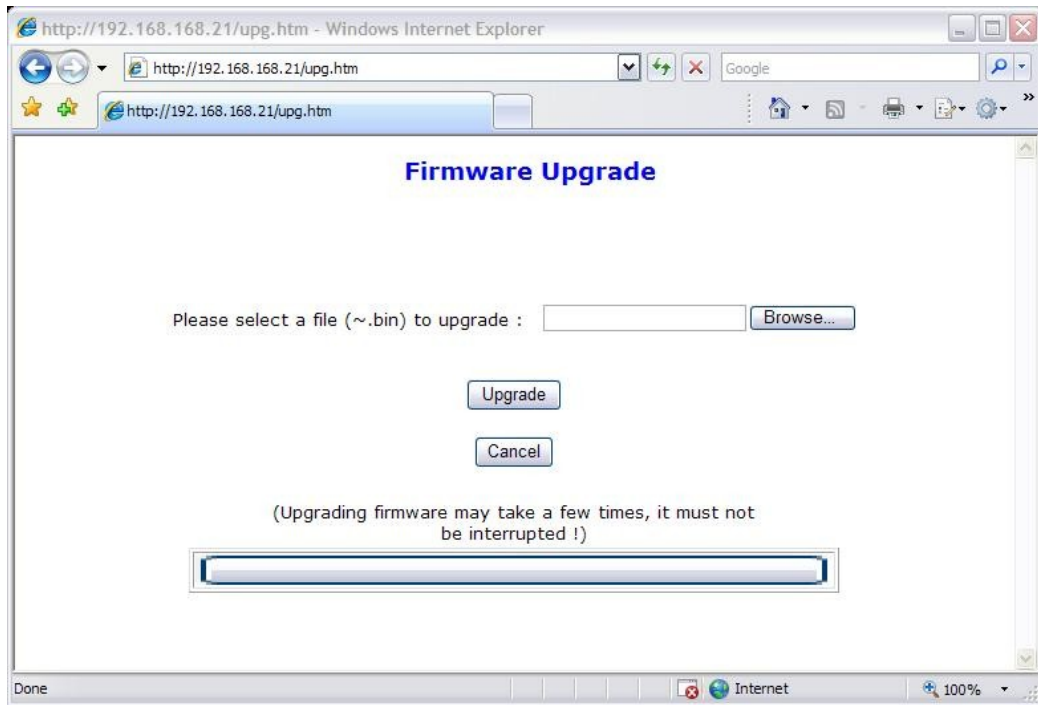
**Step 3:** Connect to the device as described at the beginning of this document

**Step 4: IMPORTANT:** Disable any antivirus and firewall software before you upgrade the firmware.

**Step 5:** Use your web browser to get access the web server. Type <http://192.168.168.21/upg.htm> to upgrade the PCA and <http://192.168.168.22/upg.htm> to upgrade the TVA.

**Step 6:** Click the browse button and select the proper firmware for the device. Do not send a PCA firmware to a TVA or vice versa.

**Step 7:** Click the upgrade button **AND WAIT!!** The firmware upgrade process cannot be interrupted so please do not browse to a different web page, turn off your computer or the upgraded device or disconnect the Ethernet cable until the process is finished. If the upgrade process is interrupted for any reason, the system will permanently crash and void your warranty.

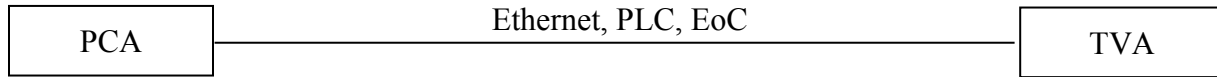


**Step 6:** Browse the route to the saved firmware and click Upgrade. Upgrade process may take a few minutes. Please do not turn off your PC or the device or unplug the Ethernet cable. It will cause damage to the device and void your warranty.

**Step 7:** After firmware upgrade is finished, turn off and on the device to work normally.

## Setup Overview

### One-to-One Scenario



Network Protocol: MAC or IP  
Destination: Unicast

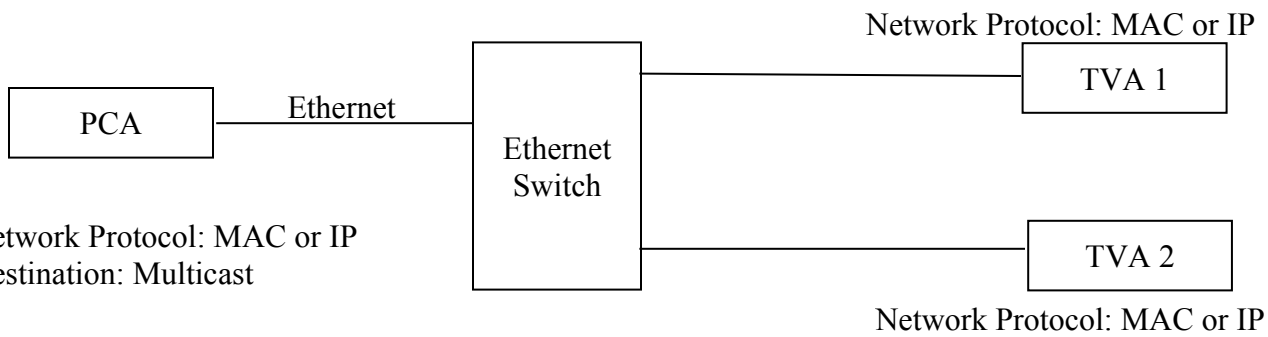
Network Protocol: MAC or IP



Network Protocol: IP  
Destination: Unicast

Network Protocol: IP

### One-to-Many Scenario

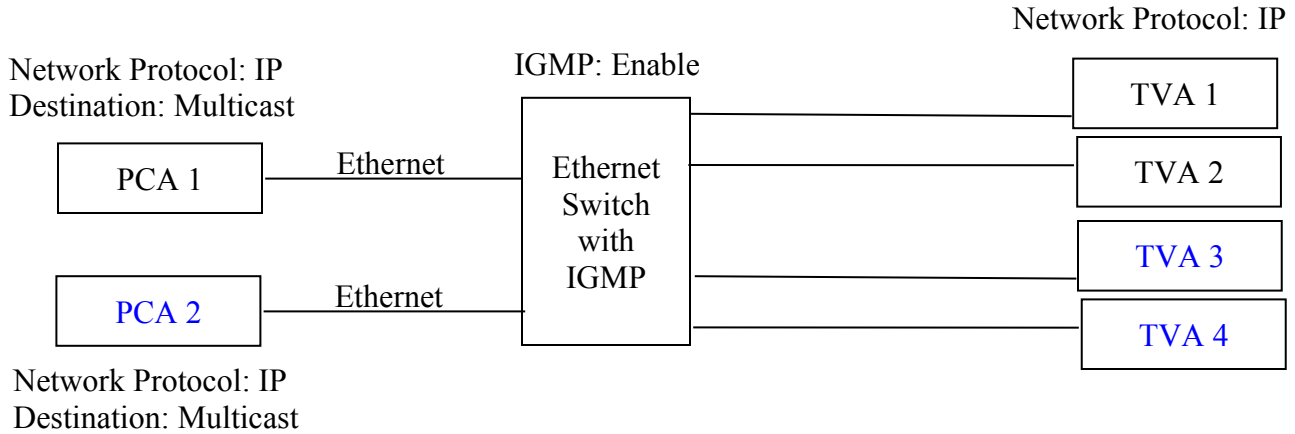


Network Protocol: MAC or IP  
Destination: Multicast

Network Protocol: MAC or IP

**Note:** If you set the device to MAC layer in Network Protocol, the PCA and TVA will not transmit IGMP packets.

## Many-to-Many Scenario



Group 1: PCA 1, TVA 1 & TVA 2

Group 2: PCA 2, TVA 3 & TVA 4

**Note:** The Ethernet Switch must support IGMP snooping and have the ability to handle various Multicast packets to work in this mode.