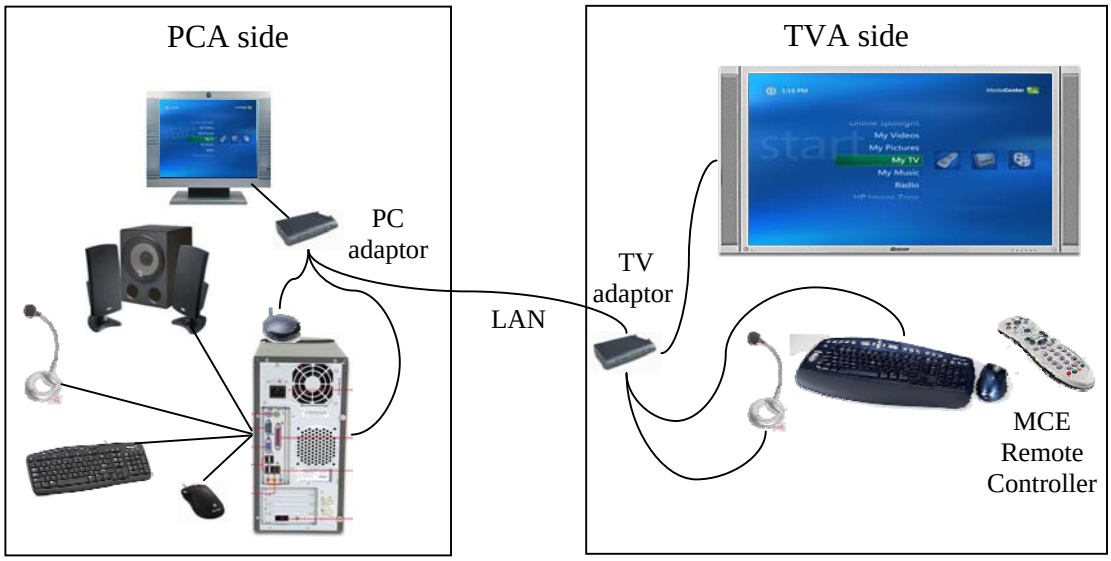
taifatech

Application Note

PC2TV EDID and scaling rules

This application note describes the rules of how PC2TV works with two displays, monitors or TVs. The PC2TV can connect to two displays, and the two displays can support difference resolution. In this case, PC2TV will work with below rules.

After installation is finished, the system will be as below.



There are two adaptors, PC adaptor and TV adaptor, and two displays, a monitor and a TV, are connected to each adaptor. The PCA will process EDID and let the PC know what kind of resolutions can be supported. The rules are describes below.

Monitor status and specification	PCA and PC are connected with a VGA cable.	PCA and PC are connected with a DVI-D cable.
A monitor is connected to the PCA and it supports larger than 150MHz clock.	The PCA copies the monitor EDID and remove the EDID which is larger than 150MHz clock.	The PCA copies the monitor EDID and changes to digital mode and then removes the EDID which is larger than 150MHz clock mode.
A monitor is connected to the PCA and it supports equal to or smaller than 150MHz clock.	The PCA copies the monitor EDID.	The PCA copies the monitor EDID and changes to Digital mode.
Monitor is not connected to the PCA.	Use default EDID.	Used default EDID.

Note:

1. The rules are based on EDID (Extended Display Identification Data) version 1.3.
2. When the PCA is turned off, PCA only bypasses analog (VGA) signal to the monitor.

There is a scalar which can scale up or down the images in TVA. The PCA sends JPEG files to the TVA and the TVA displays the images on a TV. When the input JPEG resolution of TVA is not equal to the TV resolution, the scalar will process with the below rules.

Input JPEG resolution	The display type is 4:3 or 5:4.	The display type is 16:9 or 16:10.
Any 3:2/4:3/5:4 resolution	The TVA searches a display EDID 4:3/5:4 timing between JPEG and the display and scales up or down the images.	The TVA searches a display EDID 4:3/5:4 timing between JPEG and the display, and scales up or down the images. If the EDID does not exit, the TVA will search a display EDID 16:9/16:10 timing between JPEG and the display and scales up or down the images.
Any 16:9/16:10 resolution	The TVA searches a display EDID 16:9/16:10 timing between JPEG and the display. If it is exist, scale up or down the images. If it does not exist, the TVA will search a display EDID 4:3/5:4 timing between JPEG and the display, and scale up or down the images.	The TVA searches a display EDID 16:9/16:10 timing between JPEG and the display, and scales up or down the images.

Note:

1. Suggested scaling size is smaller than two times of original JPEG resolution or larger than half of original JPEG resolution.