



Digital TV Multi-Viewer

Model: IPM-16



USER GUIDE

Version 2.2

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1 Specification

1.1 Packing List

Number	Name	Quantity	Comment
1	Digital TV Multi-Viewer	1	IPM-16
2	Quick Guide	1	
3	Power Supply Adapter	1	230V AC to 12V DC
4	TV Bracket	1	Fixation to the back of TV set
5	2RU Rack Mount	1	In option

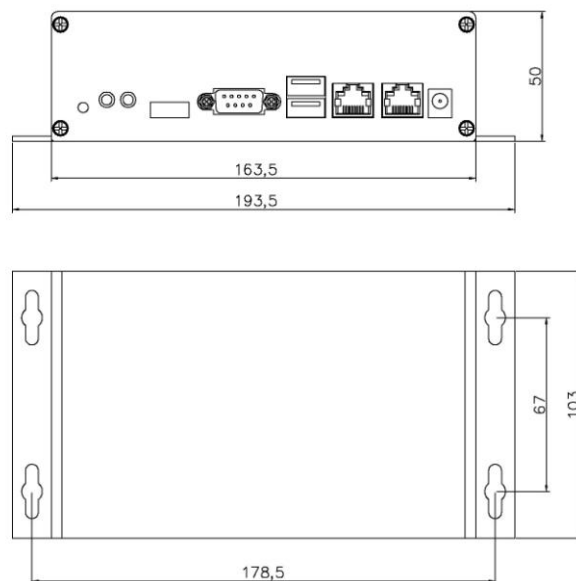


Figure 1: Multi-Viewer Photo

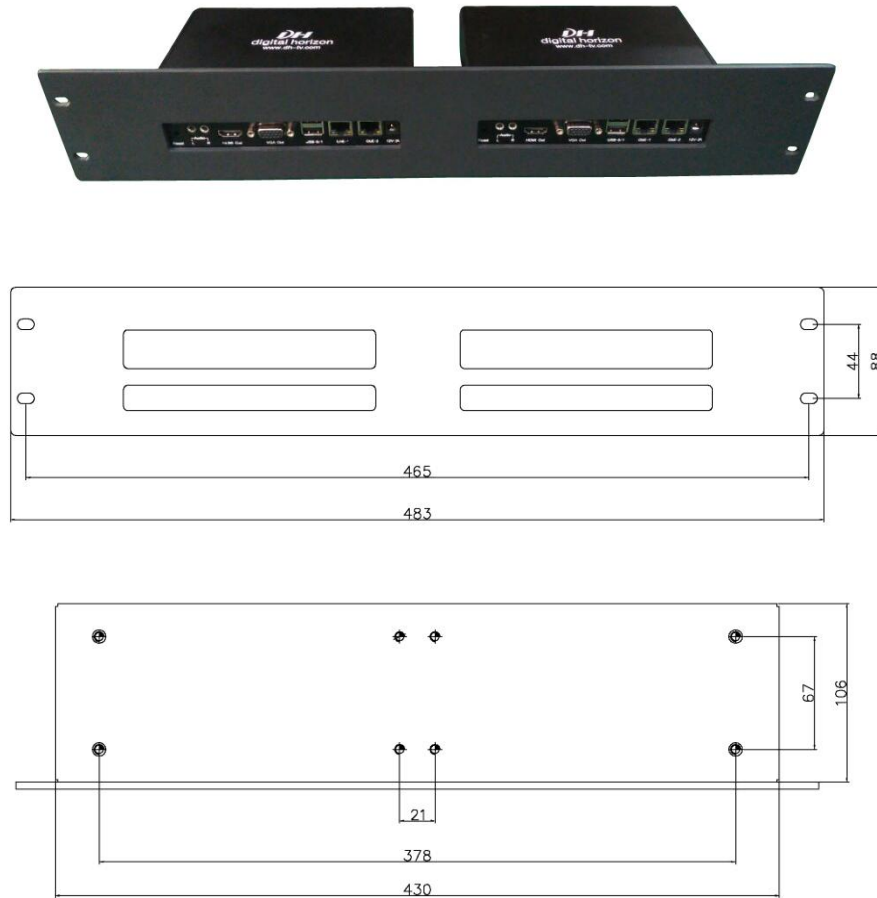
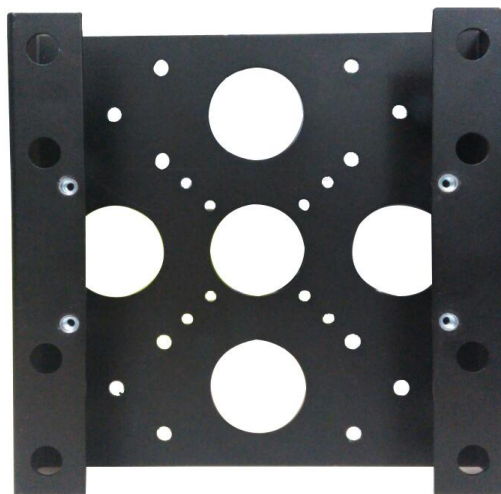


Figure 2: Multi-viewer in 2RU Rack



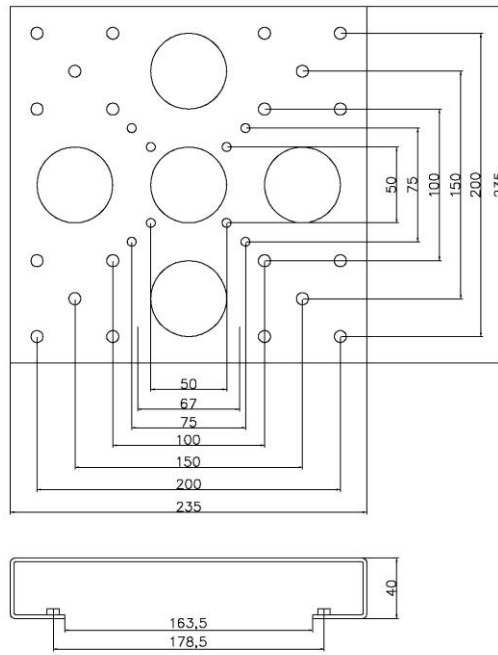


Figure 3: Bracket for TV Mount

1.2 Technical Feature



Figure 4: Front Panel

Interface	
HDMI	Video and audio output to TV set
VGA	Video output to monitor
Audio L/R	Audio output to monitor
GbE-1	TS /IP port, default IP address 192.168.0.164
GbE-2	NMS IP port, default IP address 192.168.1.163
USB-0/1	Mouse and keyboard connection
Reset	Reset the device to default settings
DC -12V	Power supply
Main Feature	
Decoder	MPEG2, MPEG4, H.264
Mosaic display	1, 2x2,3x3, 4x4
Max Number of channel	16 SD TV or 4 HD TV or 36 Radios
Rolling view	For more than 16 channels, rolling view channel by channel, row by row or screen by screen
Type of TS/IP	SPTS and MPTS with demux
Alarm type	Red frame, sound and logs
Remote view	Streaming of Multi-viewer screen over IP and supervision by VLC
Remote control	Web browser
Dimension	193mm x106mm x 50mm (L x W x H)
Weight	0.4kg

2 Installation

2.1 Connection

Multi-viewer can be installed in a digital TV system by using the follow diagram.

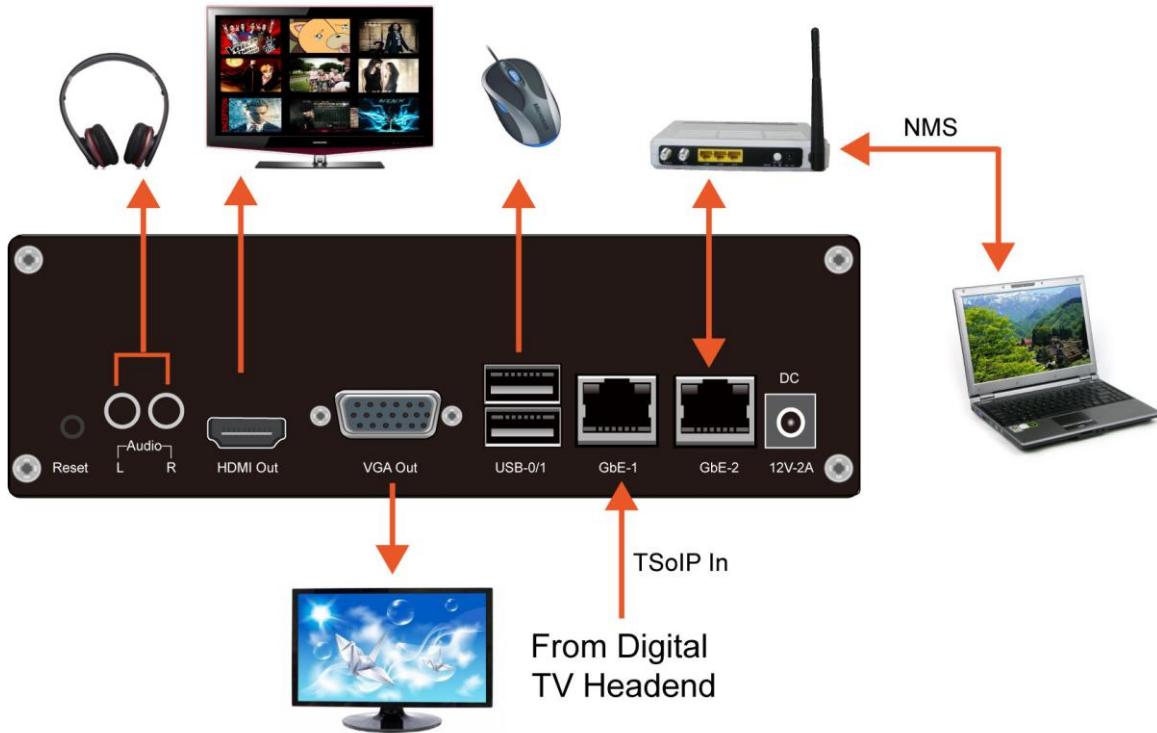


Figure 5: System Connection

2.2 Access to NMS Page

After the physical connection, switch on the Multi-viewer. Use a mouse to connect to the USB port of the Multi-viewer and click right. A menu will be displayed on the TV screen as in the Figure 6 and the 1st line is the NMS IP address. In case of NMS IP loss, this is a simple way to find it as well.



Figure 6: MNS IP Display with Mouse

Open the NMS by using any internet browser. The default address of NMS IP is 192.168.1.163. The welcome menu is shown in the Figure 6.



Figure 7: Welcome Menu

In the welcome menu, enter the user name and password, the default words are both "dh-tv". Then the main menu will be displayed.

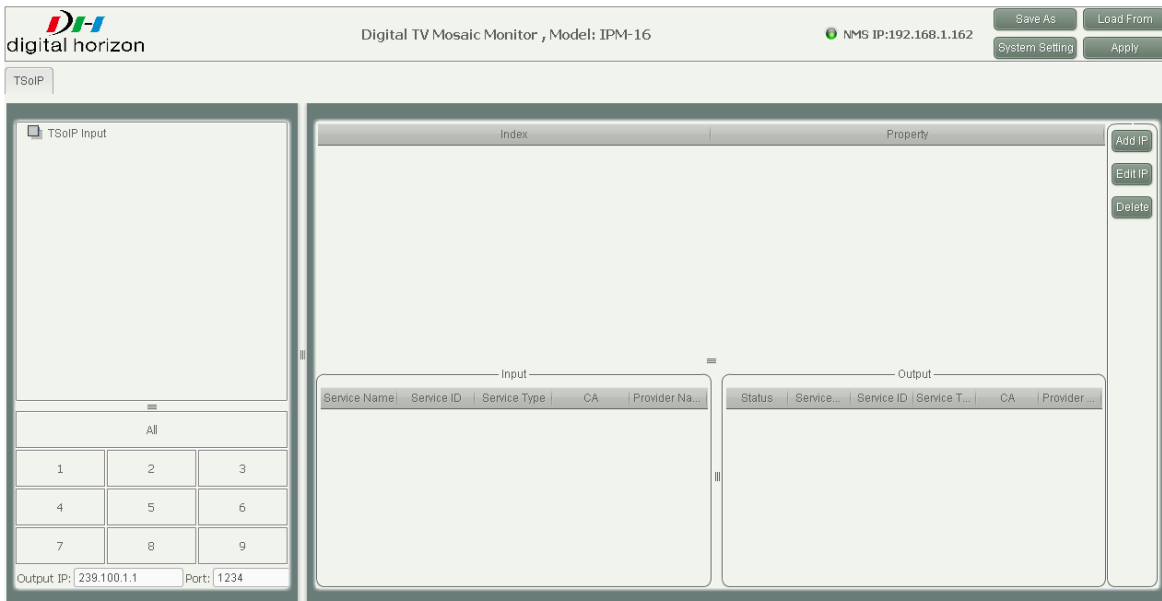


Figure 8: Main Menu

2.3 TV Channel Scanning

Connect the TSolIP source to the GbE-2 port. Both MPTS and SPTS IP input sources can be used. It is recommended not to mixed SD with HD signals in the same Multi-viewer.

- Selection of TSolIP source type

TSolIP source type should be set in System setting menu. Three types of stream sources, H.264, MPEG-2 and MPEG-4, are supported.

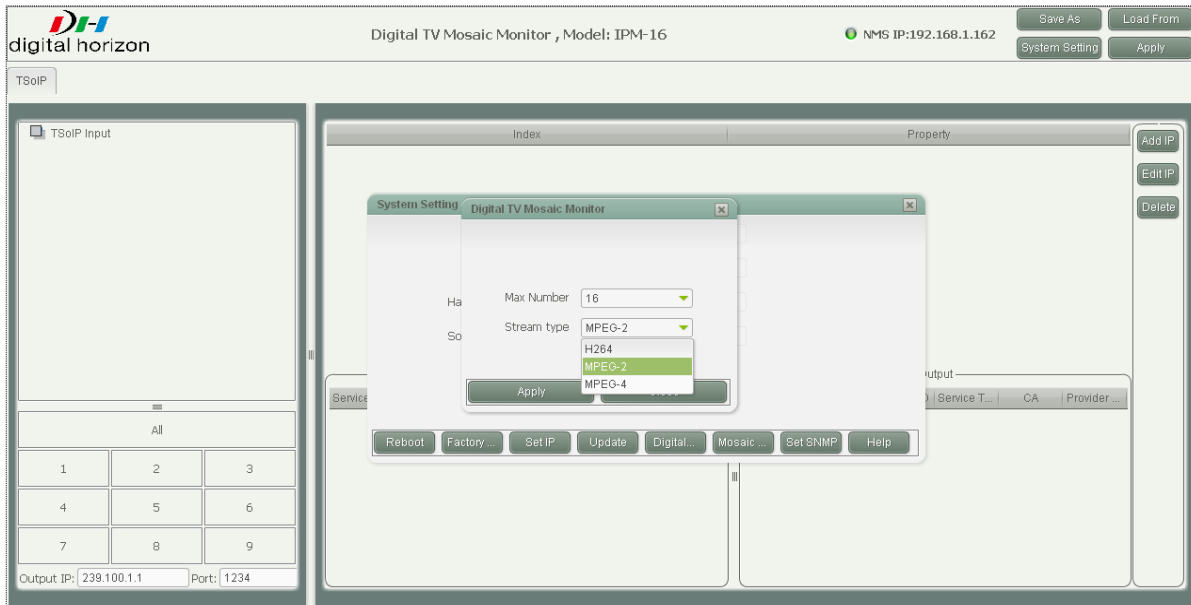


Figure 9: Selection of TSolP Source Type

- Add TSolP Input

Click the “Add IP” button and set the TSolP address and its port.

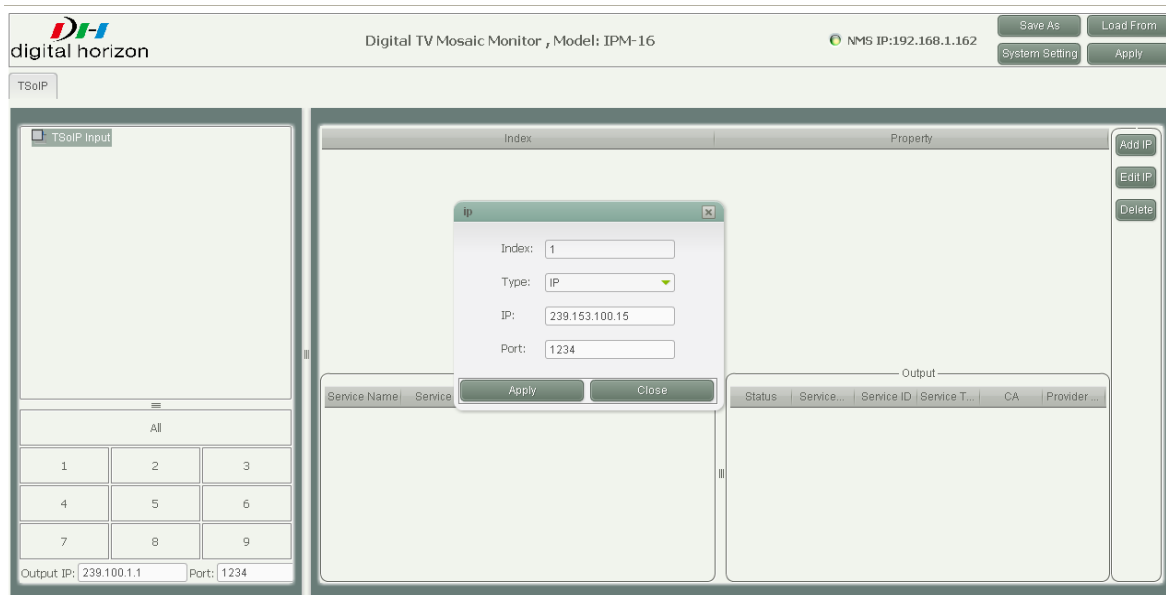


Figure 10: Add TSolP Input

- Scanning of TV channels

After the setting of the TSolP address and its port, click on the “Scan” button to search the channels. The service name, service ID will be displayed after a successful scanning. Click “Apply” button to send the configuration to the device. During this process, the NMS interface will be disconnected, user has to refresh the web page to get back to the NMS by entering user name and password again.

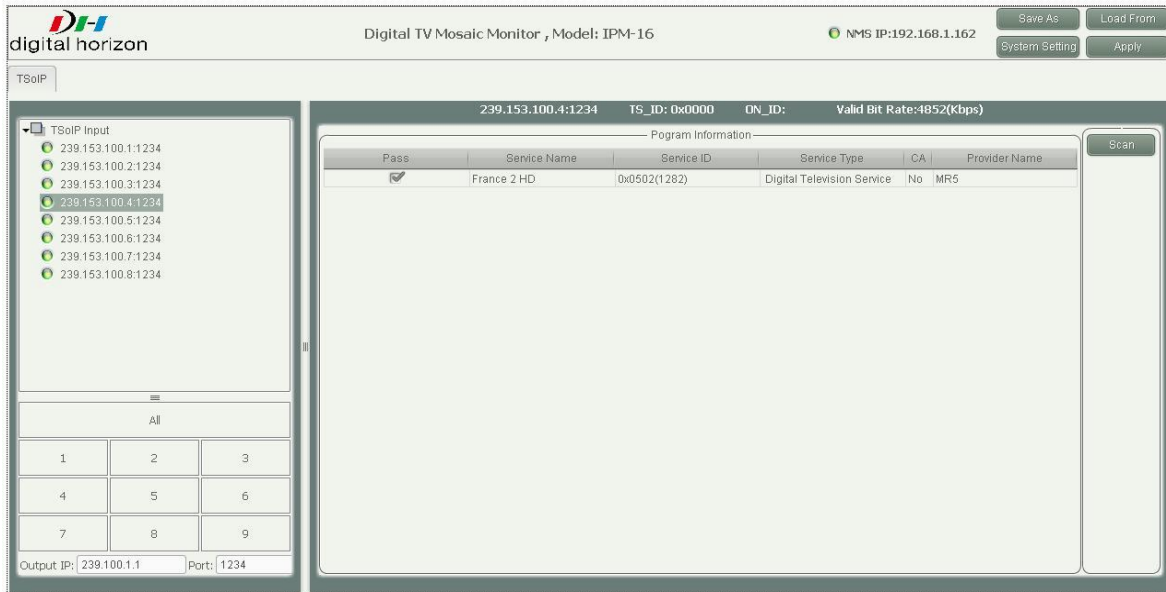


Figure 11: Channel Sacn

3 Utilization

3.1 Mouse Quick Configuration

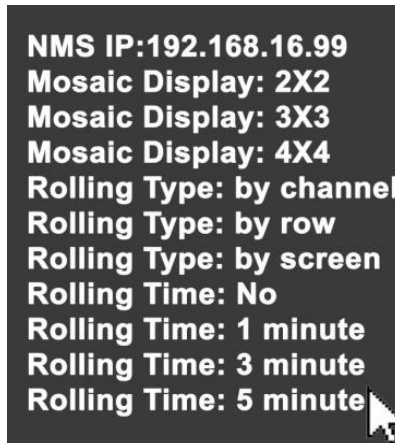


Figure 12: Quick Configuration by Mouse

Multi-viewer has an easy configuration mode by using the mouse. Connect a mouse to the USB port. Click right key of the mouse, a menu is displayed on the TV screen as in the Figure 6. Except the NMS IP address, Mosaic display mode, Rolling type and Rolling Time can be set by the mouse.

3.2 Mosaic Display

After the scanning of the TV channels from the IP input of GbE-1, the video image of each channel will be displayed on the TV screen. All video images of TV channels will be automatically aligned and filled on the TV screen. The Multi-viewer can support 1, 2x2, 3x3, 4x4 mosaic layout on the TV screen as shown in the Figure 13.

Use the mouse and move to any of the TV channel and click on it to zoom as a full screen display. Click again to go back to previous mosaic layout. To change the mosaic mode, click right of the mouse, a configuration menu is displayed as in the Figure 12. Move the cursor of the mouse to 2x2, 3x3 or 4x4 to change the mosaic layout.



Figure 13: Mosaic Layout on the TV screen

The mosaic layout can also be modified from NMS page as in the Figure 14.

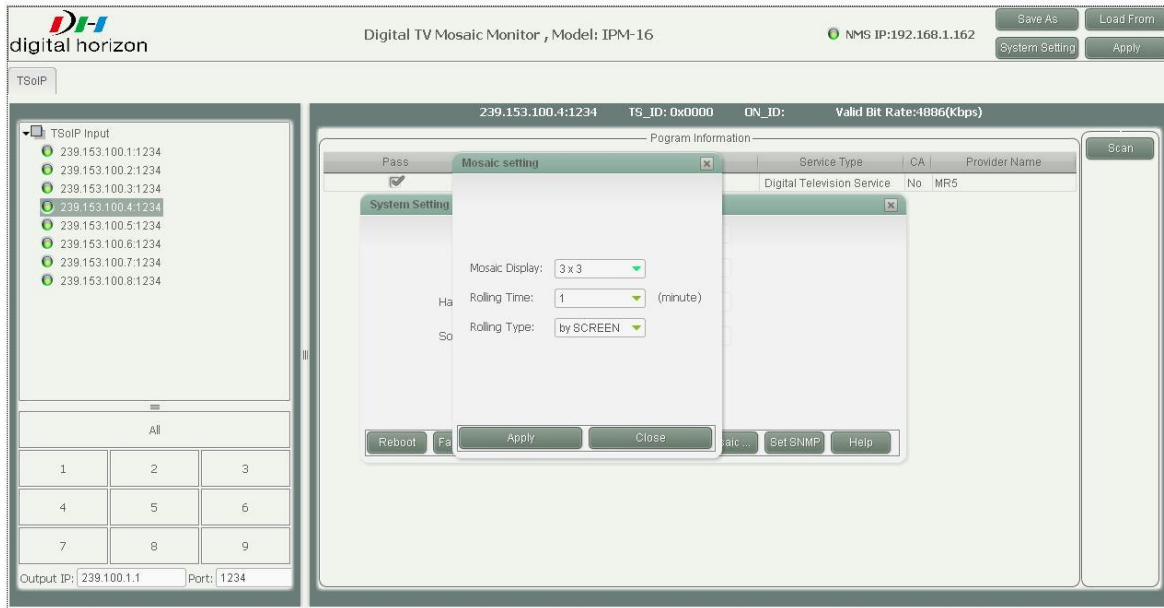


Figure 14: Mosaic Configuration by NMS

3.3 Logo Insertion

It is possible to insert a logo to replace one or several empty TV channels on the screen. The logo can be in the format of JPEG or PNG at a size of 16:9 or 4:3

For the number of TV channel less than the integer of 1, 4, 9 or 16, Multi-viewer will fill a static image or a logo at empty place in the same way.



Figure 15: Logo Insertion

3.4 Rolling View Display

For the number of TV channel more than the integer of 4, 9 or 16, Multi-viewer will loop the channels in 3 ways: channel by channel, row by row, or screen by screen according to the mosaic display setting. The rolling time can be set to 0, 1, 3, 5 minutes. The rolling time and Type can be set by using mouse right key in the same way as described above.



Figure 16: Rolling View for 20 TV Channels

3.5 Radio Channel Supervision



Figure 17: Radio Channel Supervision

Multi-viewer can be configured to supervise radio channels. Up to 36 channels can be displayed on the TV screen with their logos. For more than 36 radio channels, the same rolling channel rule is applied in the same way as with the TV channels.

3.6 Remote view

Multi-viewer output to the TV or monitor screen can be remotely supervised by IP streaming using VLC. The IP streaming address is defined in the NMS page as in the figure18.

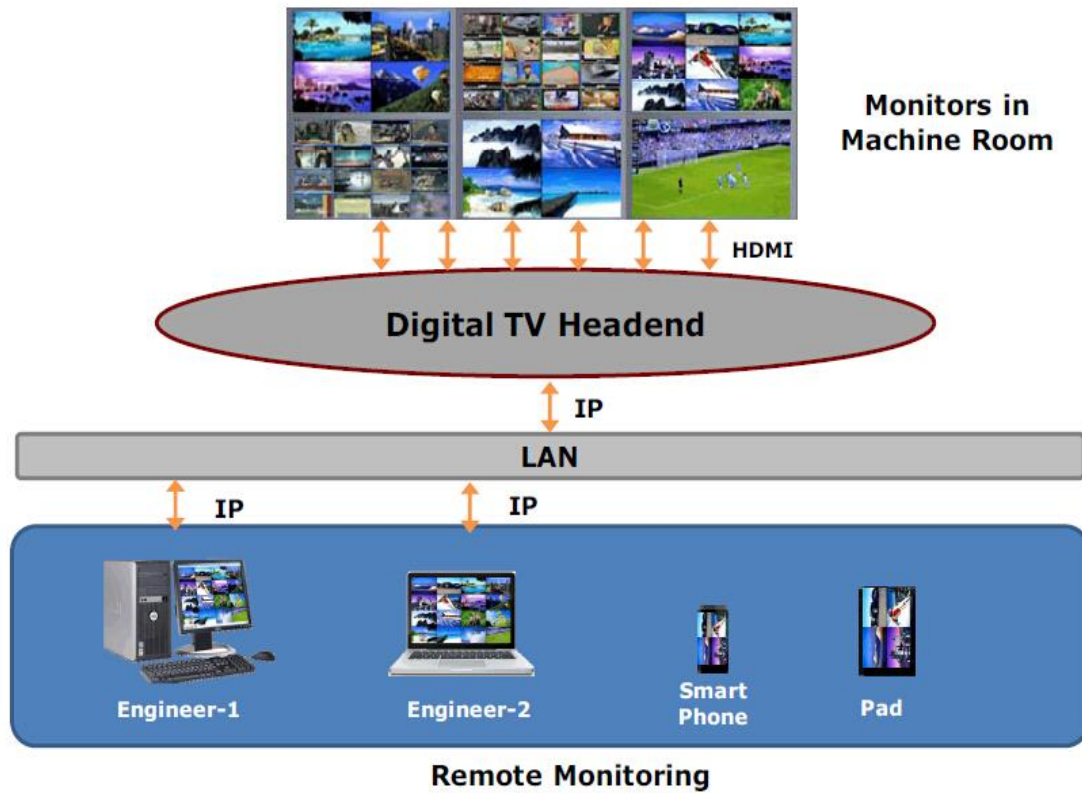


Figure 18: Remote View Configuration

3.7 Alarms

In case of one or some channels break down or missing, a red frame will be showed on that or those channels with "Signal Loss!". At the same time, an audio alarm and a log message will be generated. Alarm log messages can be visualized by a pre-defined IP link. A trap will be sent to SNMP server. The audio alarm can be changed and selected in the NMS menu.

3.7.1 Alarm view



Figure 19: Alarm View

3.7.2 Alarm Log message

Alarm log messages can be checked by using web browser, for example:

Http://NMS IP address/new.log; with current 5000 log messages

Http://NMS IP address/old.log; with previous 5000 log messages

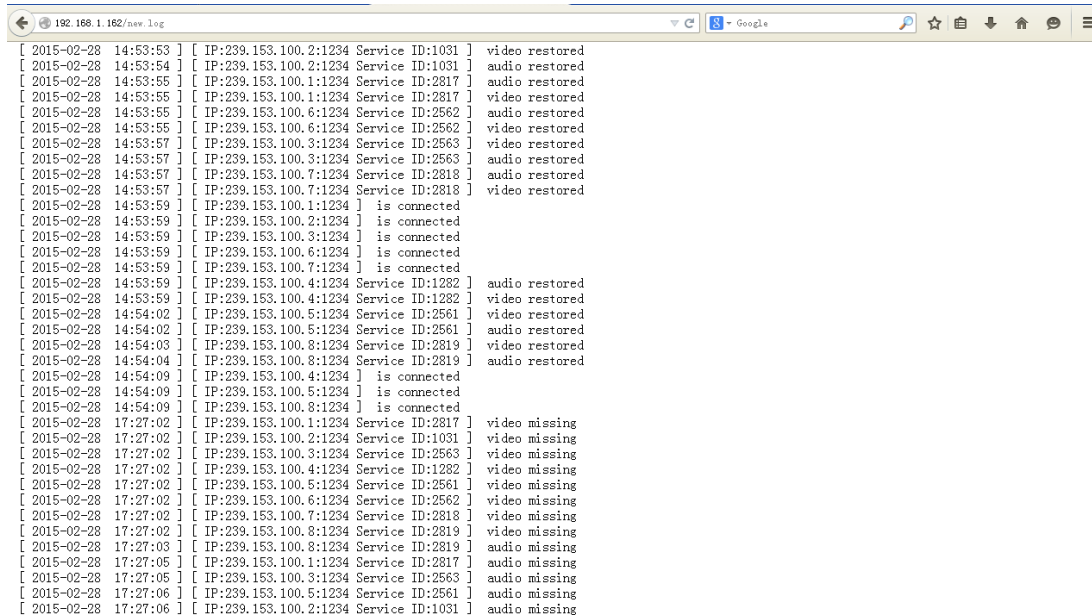


Figure 20: Alarm Log Message

3.7.3 SNMP Trap

To be updated!