

Live Stream MultiViewer AV Monitoring Software

User Guide with application description

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www.multiviewer.tv

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1. Introduction

This document describes the usage of the MultiViewer AV Monitoring application. It is a VLC based software application and throughout this document it shall be referred as MultiViewer.

2. General Description

MultiViewer is a software application that is currently based on the VLC version 1.1.11 provided by third party, which has being patched to support Adobe Flash RTMP streams. If RTMP stream is not required - it can be used with any other version of VLC.

 Please **NOTE**:

If you are going to use HLS streams (extensions .m3u8) - do not patch VLC to ver.1.1.11

Its purpose is to receive 12, 20 or 30 video streams or files and represent them in the full screen as 4x3, 5x4 and 6x5 grids on the any resolution monitor. The application will start monitoring audio and video after launch and it will try to restart the stream in case of discovery of the freeze frame or complete lack of the stream. It will replace missing stream with VIDEO LOSS slide and as an option: will create log, play alarm sound and send notify email.

In case of missing audio it will highlight audiometer bar with RED FRAME.

3. Installation

Before the installation process make sure that latest version of VLC installed from <http://www.videolan.org/>.

Run Setup "MultiViewer" and follow instruction on the screen. It will setup the application and corresponding libraries. The executable will be created in the directory "C:\Program Files\MultiViewer" or if working machine is 64bit machine it will be installed in "C:\Program Files (x86)\MultiViewer". There will be another folder created called "vlc media player 1.1.11-rtmp-(portable)" and all subfolders and files will be copied to VideoLAN directory. This will patch existing version of VLC with the version that support RTMP streams. This should complete the installation.


4. Usage guide

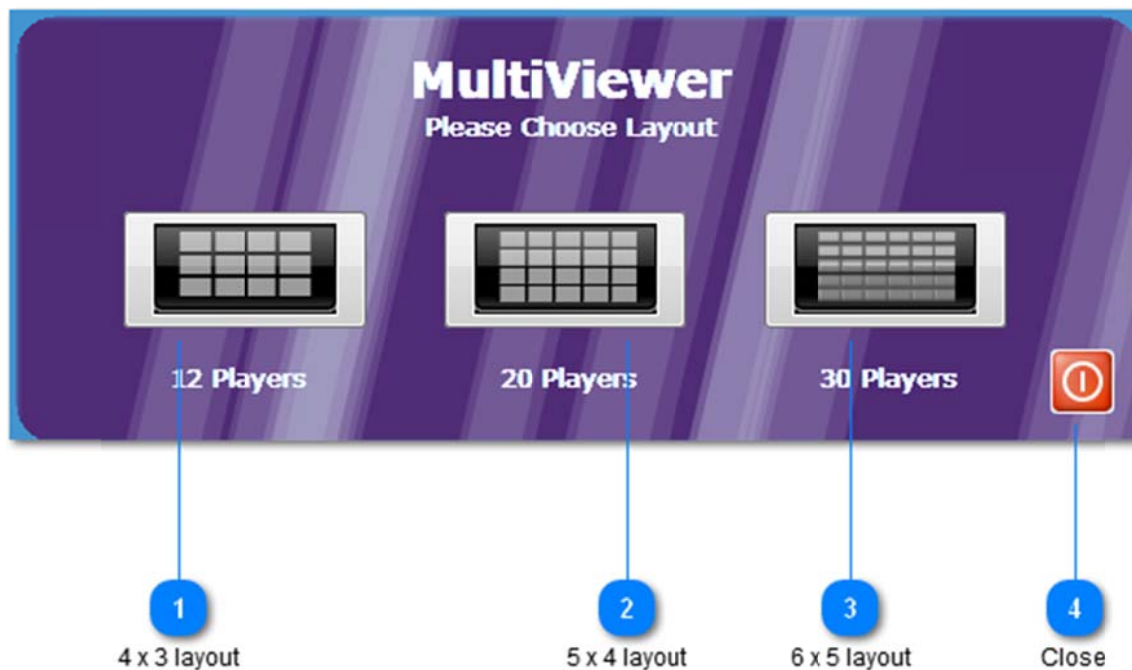
The running application with 30 players' layout appears as below:



4.1 Launching the application.



Double click on MultiViewer.exe file or on the Desktop Shortcut  to execute program. The application will check for Internet connection and in the case of success will prompt the dialog as below:



Please choose layout corresponding to your requirement. The options are 12, 20 or 30 players. By pressing one of the buttons, the choice will be given to configure MultiViewer or execute monitoring application. To exit from program here - press RED button.

1

4 x 3 layout



Choose 12 players

2

5 x 4 layout



Choose 20 players

3

6 x 5 layout



Choose 30 players

4

Close Program

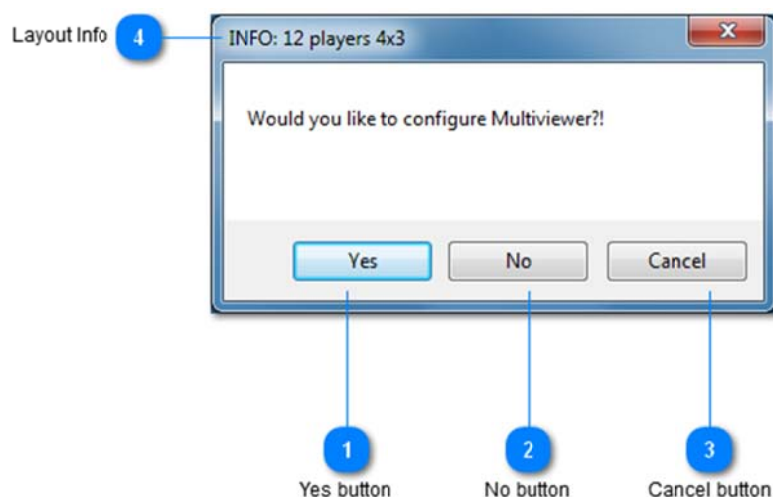


Exit without launching an application

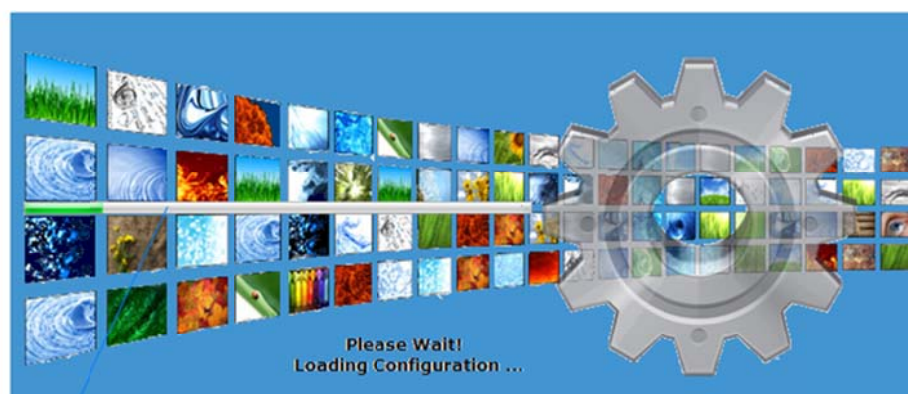
4.2 Configuring MultiViewer.

4.2.1 Launching the configuration first time

If the application executed first time – accept to configure MultiViewer. If the application has being configured already, you may execute monitoring program by pressing “No” button. To exit from program here - press “Cancel”.



- 1 Yes button**
Choose **Yes** button to initiate program that allows modify current configuration. For more info, please refer page 6
- 2 No button**
Choose **No** button to execute MultiViewer application with previously saved configuration. If the program launched first time, please select **Yes** to configure MultiViewer
- 3 Cancel button**
Choose **Cancel** button to exit from program
- 4 INFO**
Information bar – displays information about chosen layout



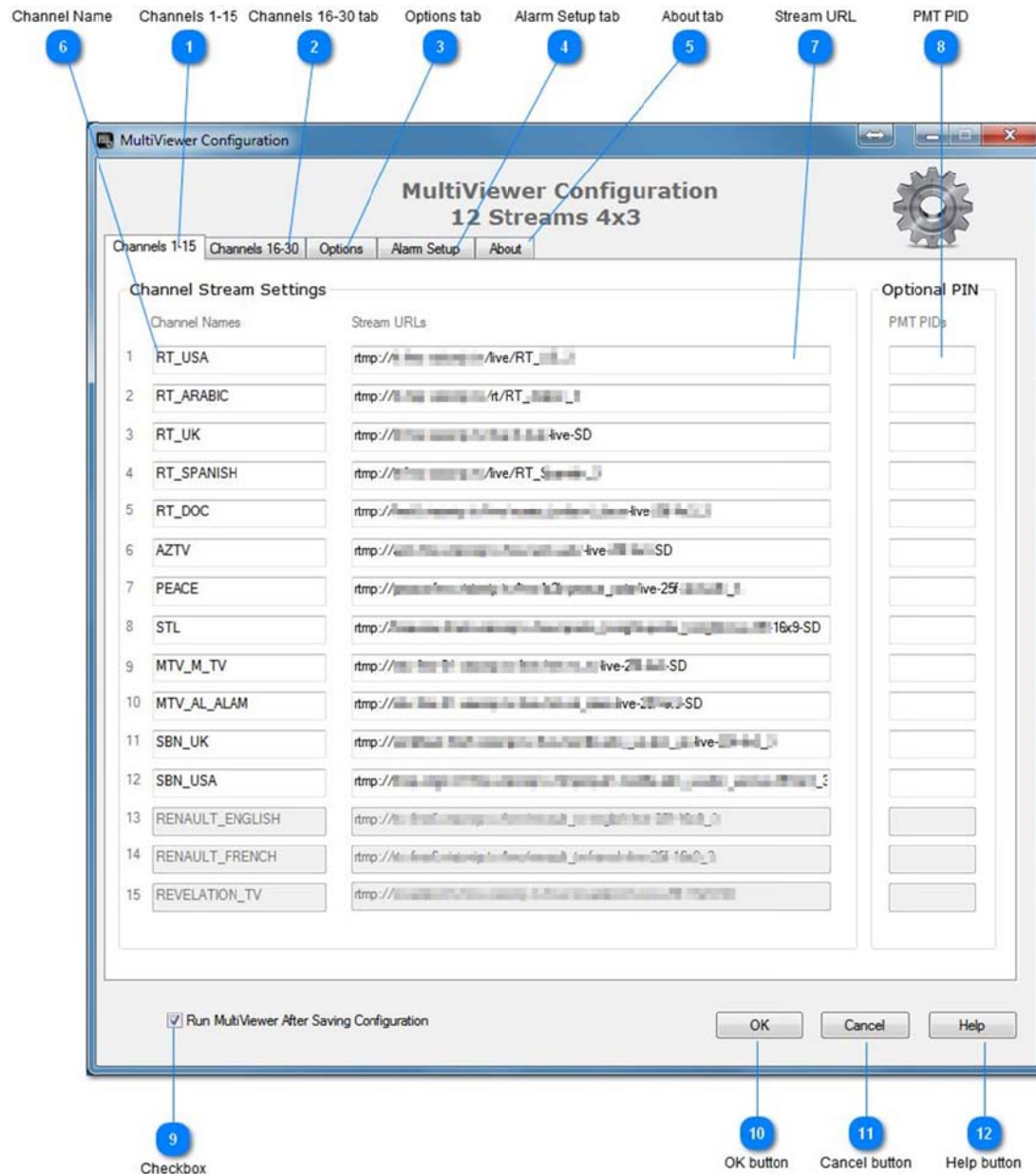
Loader Status

V:

4.2.2 Channel Stream Settings

Please wait until the application finished loading data from current setup. MultiViewer Configuration GUI depends on the chosen layout, which will be clearly labelled at the top of the configuration window.

MultiViewer Configuration GUI looks as below:




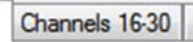
There are two tabs for setting up Channel names, corresponding stream URLs or file paths and optional PMT (PIDs) up to 30 Channels.


 Please **NOTE**:

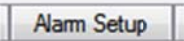
Depends on the chosen layout some of the fields could be greyed out. Access to all 30 links is available in the 30 players' layout only.

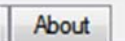
PMT PIDs could be used in setting up UDP/RTP streams, where is the requirement to choose specific Channel from incoming MUX stream, e. g. Stream URL = udp://@221.1.1.3:2000 and PMT = [1], [5] or [530] etc.

- 1 **Channels 1-15**


Select this tab to configure Sources for Channels from 1 to 15
- 2 **Channels 16-30**


Select this tab to configure Sources for Channels from 16 to 30
- 3 **Options tab**


Select this tab to enable / disable monitoring, system clock, backup or restore current configuration, convert m3u playlists
- 4 **Alarm tab**


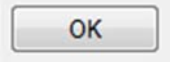
Select this tab to enable / disable audio alarm, log creation, email configuration warning
- 5 **About tab**


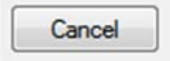
Select this tab to find out about version of MultiViewer and current System Information.
- 6 **Channel Name**


Type Channel name here – it will be used as logo to indicate player during playback
- 7 **Stream URL link**

Insert the streaming link for current channel
- 8 **PMT PID**

Use that field, if incoming source is muxed stream and contain information about Program Map Tables
- 9 **Check box**
☒ Run MultiViewer After Saving Configuration

Check this box to launch MultiViewer after saving changes in configuration.
- 10 **OK button**


Press OK button to save configuration
- 11 **Cancel button**


Press Cancel button to Close program without saving changes
- 12 **Help button**


Press Help button to launch this manual as PDF file

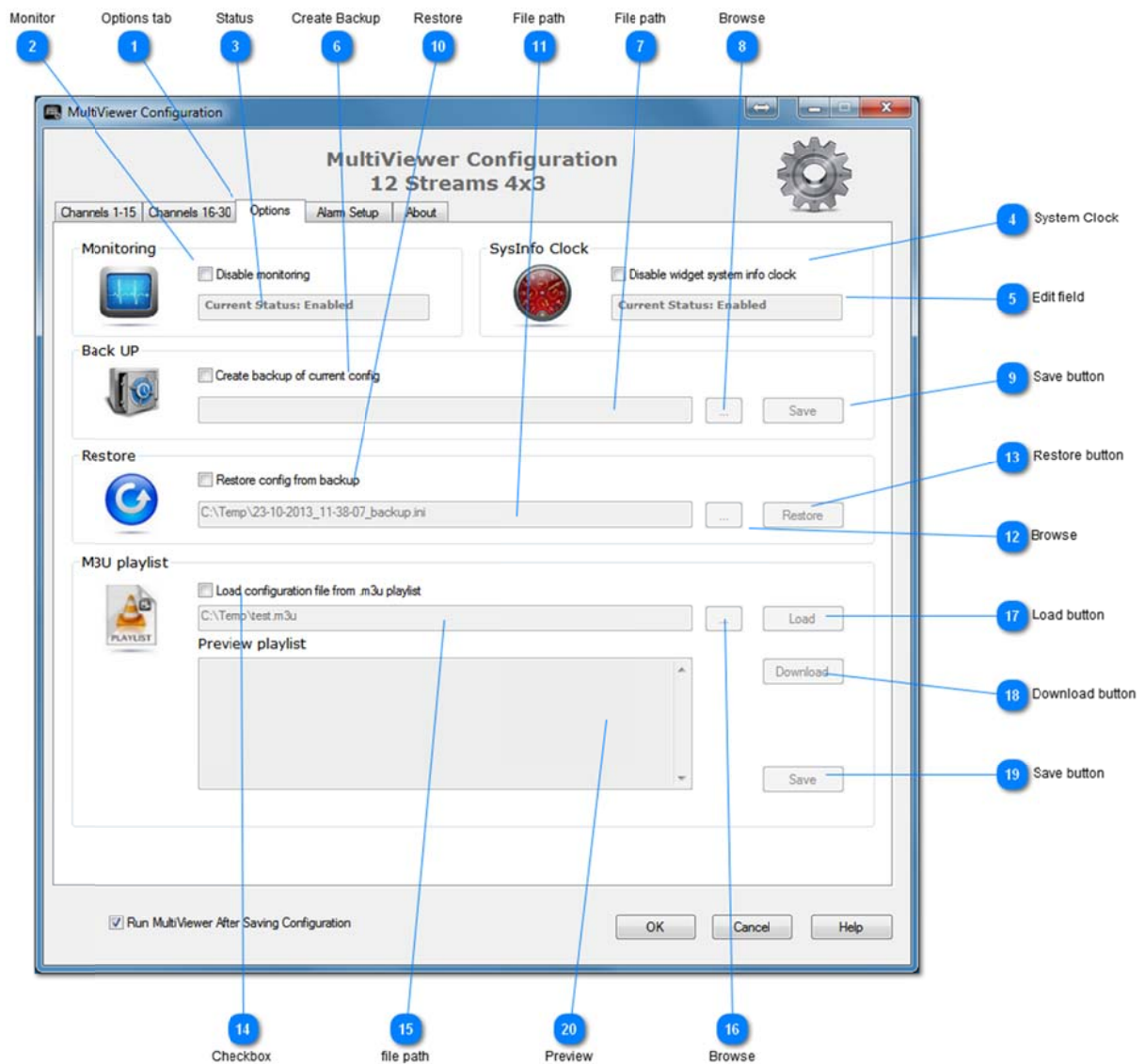
 Please **NOTE:**

To monitor video and audio signal directly from capture card (e.g. Osprey 450e) Stream URL link (7) should look like this:

dshow:// :dshow-vdev="Osprey-450e Video Device 1A" :dshow-adev="Osprey-450e Audio 1A Unbalanced" :dshow-caching=100

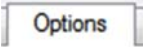
4.2.3 Choosing the options

Select Option tab to disable or enable monitoring, switch off system clock widget, save current configuration in INI file or restore from backup. In addition, convert M3U playlist and load as new configuration for the instant setup.



You may create your own playlist or, by pressing Download button, you can get test M3U file from the Internet and load it to MultiViewer

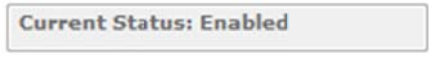
- 1 Option Tab**

 Options

Select this tab to configure Options
- 2 Monitor**

☐ Disable monitoring

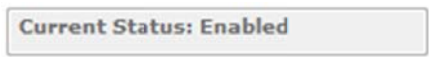
Select this checkbox to disable monitoring. It will run media players, but will not check the streams
- 3 Status**



Status window - displays current status for monitoring
- 4 System clock**

☐ Disable widget system info clock

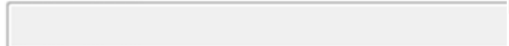
Select this checkbox to disable System clock
- 5 Status window**




Status window - displays current status for system clock
- 6 Create Backup**

☐ Create backup of current config


Select this checkbox to create backup file of current configuration
- 7 File path**



This field shows where backup file will be stored. It is active only if checkbox (6) selected
- 8 Browse**




Click this button to choose location for backup file. It is active only if checkbox (6) selected
- 9 Save button**




Click this button to save current configuration to the file. It is active only if checkbox (6) selected
- 10 Restore**

☐ Restore config from backup


Select this checkbox to restore configuration from backup file
- 11 File path**



This field shows file path to the backup file that will be restored. It is active only if checkbox (10) selected
- 12 Browse**



Click this button to choose location of the file to be restored. It is active only if checkbox (10) selected
- 13 Restore button**



Click this button to restore the configuration from the file. It is active only if checkbox (10) selected

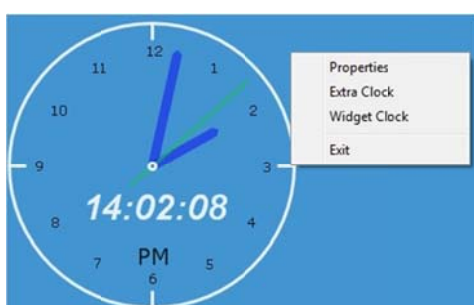
- 14 Checkbox** Select this checkbox to load the configuration from m3u playlist
☐ Load configuration file from .m3u playlist
- 15 File path** This field shows file path to M3U playlist file.
 It is active only if checkbox (14) selected
- 16 Browse** Click this button to choose location of the file.
 It is active only if checkbox (14) selected
- 17 Load button** Click this button to load M3U playlist and convert it to INI configuration file
 It is active only if checkbox (14) selected
- 18 Download button** Click this button to download playlist from the Internet
 It is active only if checkbox (14) selected
- 19 Save button** Click this button to save changes
 It is active only if checkbox (14) selected
- 20 Preview** This field shows preview of loaded playlist.
 It is active only if checkbox (14) selected

4.2.4 Main Clock and System Clock Widget

There are two types of system clocks available to meet your needs: Main clock and System widget clock.

 Please **NOTE**:

The main clock is available, if **System clock** checkbox (4) unticked. **System widget clock** could be launched from menu of main clock



Options to change size and transparency of the clock by choosing **Properties** or transparency of the background

by scrolling mouse wheel.

Options to launch **Extra Clock**.

Widget clock is not resizable, but has plenty options to choose from. It will monitor CPU and memory load, system drive capacity and network activity. It can be used as an alarm clock.



1 CPU load



When CPU load is 100% system will straggle to playback the streams

2 System Drive Capacity



Keep system drive capacity below 60%

3 Memory load



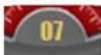
Status on memory load

4 Current Time



Current time of System clock

5 Current Date



Current date

6 Alarm Indicator



Alarm indicator is lit on when alarm is triggered

7 Network Activity



Network activity indicator

8 Seconds dial



Subsidiary Seconds Dial at 6 o'clock.

9 Option menu button

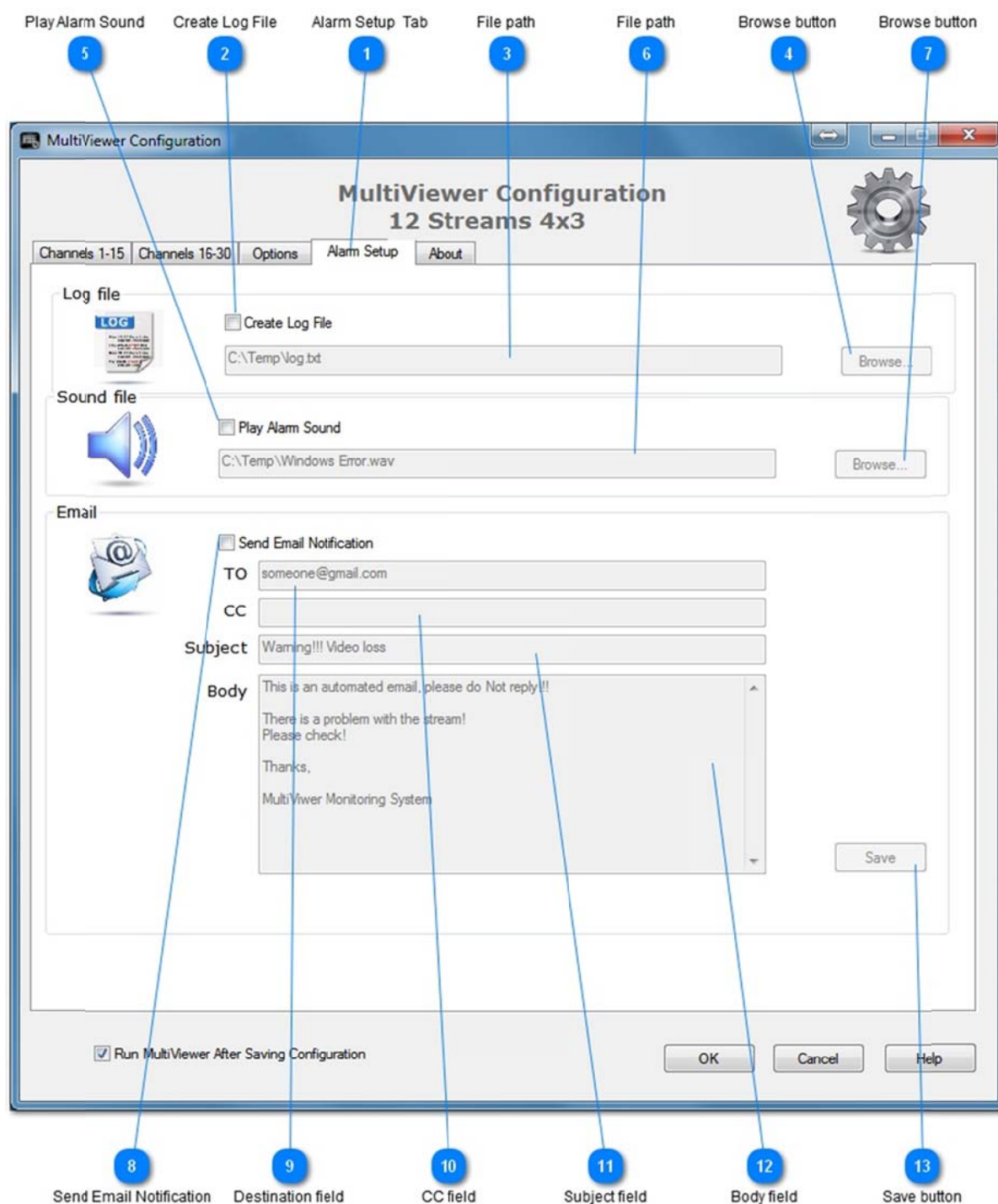


Click this button to open options menu. There are options for Alarm Clock setup and Colour Schema

4.2.4 Setting up Alarm

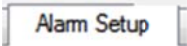
 Please **NOTE**:

Alarm Setup available in the full version of the application



To attract an attention the monitoring application can play alarm sound in case of missing stream or frozen video, create the log file with the record of the missing Channel and time stamp and it may send email notification

- 1

Alarm Setup Tab


Select this tab to configure Alarm
- 2

Create Log File
☐ Create Log File

Select this checkbox to create log.
- 3

File path

This field shows file path to log file.
It is active only if checkbox (2) selected
- 4

Browse button

Click this button to choose location of the file.
It is active only if checkbox (2) selected
- 5

Play Alarm sound
☐ Play Alarm Sound

Select this checkbox to enable Alarm sound.
- 6

File path

This field shows file path to sound file.
It is active only if checkbox (5) selected
- 7

Browse button

Click this button to choose location of the file.
It is active only if checkbox (5) selected
- 8

Send Email Notification
☐ Send Email Notification

Select this checkbox to setup email notification system.
- 9

Destination field

This field shows destination email address.
It is active only if checkbox (8) selected
- 10

CC field

This field shows destination of carbon copy email address. It is active only if checkbox (8) selected
- 11

Subject field

This field shows the Subject.
It is active only if checkbox (8) selected
- 12

Body field

This is an automated email, please do Not reply!!!
There is a problem with the stream!
Please check!
Thanks,
MultiViwer Monitoring System

This field shows the Body.
It is active only if checkbox (8) selected
- 13

Save button

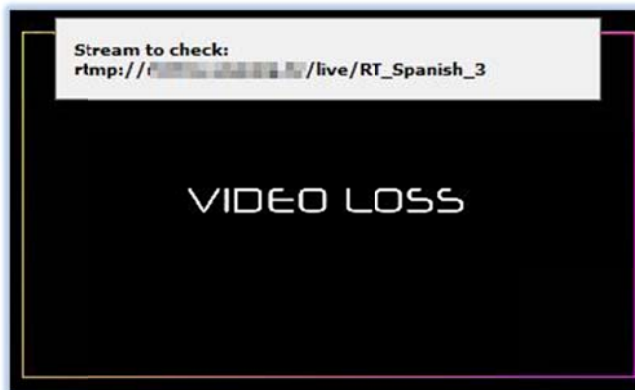
Click this button to save any changes.
It is active only if checkbox (8) selected

4.3 Discovering the missing or frozen video.

When the application will discover missing video or frozen frame, it will replace that player with flashing yellow rectangle for few seconds and then with VIDEO LOSS slide and Channel name (see picture below) and as an option: will create log, play alarm sound and send notify email.



Then the program will show URL of the missing stream



4.4 Discovering the missing audio.

During normal playback the audiometer will be displayed on the left hand side and will indicate presence of the sound track.



In case of missing audio – the application will highlight audiometer with RED FRAME, which will disappear as soon it will regain the audio stream.

4.5 Getting the streams details.

Press **F1** button - to display the list of the Channels and corresponding URLs that has being configured in current configuration

Row	Col 0	Col 1
[0]		
[1]	RT_US	rtmp://rtmp.rtmp.rtmp.com/live/RT_US_3
[2]	RT_ARABIC	rtmp://rtmp.rtmp.rtmp.com/live/RT_Arabic_3
[3]	RT_UK	rtmp://rtmp.rtmp.rtmp.com/live/rtuk-live-SD
[4]	RT_SPANISH	rtmp://rtmp.rtmp.rtmp.com/live/RT_Spanish_3
[5]	RT_DOC	rtmp://rtmp.rtmp.rtmp.com/live/rtuk-live-SD
[6]	AZTV	rtmp://rtmp.rtmp.rtmp.com/live/rtuk-live-SD
[7]	FACING_UK	rtmp://rtmp.rtmp.rtmp.com/live/rtuk-live-SD
[8]	STL	rtmp://rtmp.rtmp.rtmp.com/live/rtuk-live-SD
[9]	MTV_M_TV	rtmp://rtmp.rtmp.rtmp.com/live/rtuk-live-SD
[10]	MTV_AL_ALAM	rtmp://rtmp.rtmp.rtmp.com/live/rtuk-live-SD
[11]	SBN_UK	rtmp://rtmp.rtmp.rtmp.com/live/rtuk-live-SD
[12]	SBN_US	rtmp://rtmp.rtmp.rtmp.com/live/rtuk-live-SD
[13]	RENAULT_ENGLISH	rtmp://rtmp.rtmp.rtmp.com/live/rtuk-live-SD
[14]	RENAULT_FRENCH	rtmp://rtmp.rtmp.rtmp.com/live/rtuk-live-SD
[15]	REVELATION_TV	rtmp://rtmp.rtmp.rtmp.com/live/rtuk-live-SD
[16]	VISIONCHINA_NEWS	rtmp://rtmp.rtmp.rtmp.com/live/rtuk-live-SD
[17]	VISIONCHINA_CCT...	rtmp://rtmp.rtmp.rtmp.com/live/rtuk-live-SD
[18]	VISIONCHINA_DOC	rtmp://rtmp.rtmp.rtmp.com/live/rtuk-live-SD
[19]	I2RA_TV	rtmp://rtmp.rtmp.rtmp.com/live/rtuk-live-SD
[20]	TELESUR	rtmp://rtmp.rtmp.rtmp.com/live/rtuk-live-SD

Copy Selected

4.6 Closing the application.

Press **ESC** button - to close the application and wait until the dialog as below disappears:



 Please **NOTE:**

In order to reset VLC media player preferences the MultiViewer application must exit properly. In addition, it clears temporally files from system created by VLC media player

5. Known Issues

- The patched VLC media player ver.1.1.11 crash randomly.
- VLC ver.2.1.0 and above does not resize player window
- Visibility and size of the audiometer depends on the quality of the stream.

6. Proposals for future implementations and expansion

- Ability to re-arrange players without leaving monitoring application

Those implementations will be available on the request