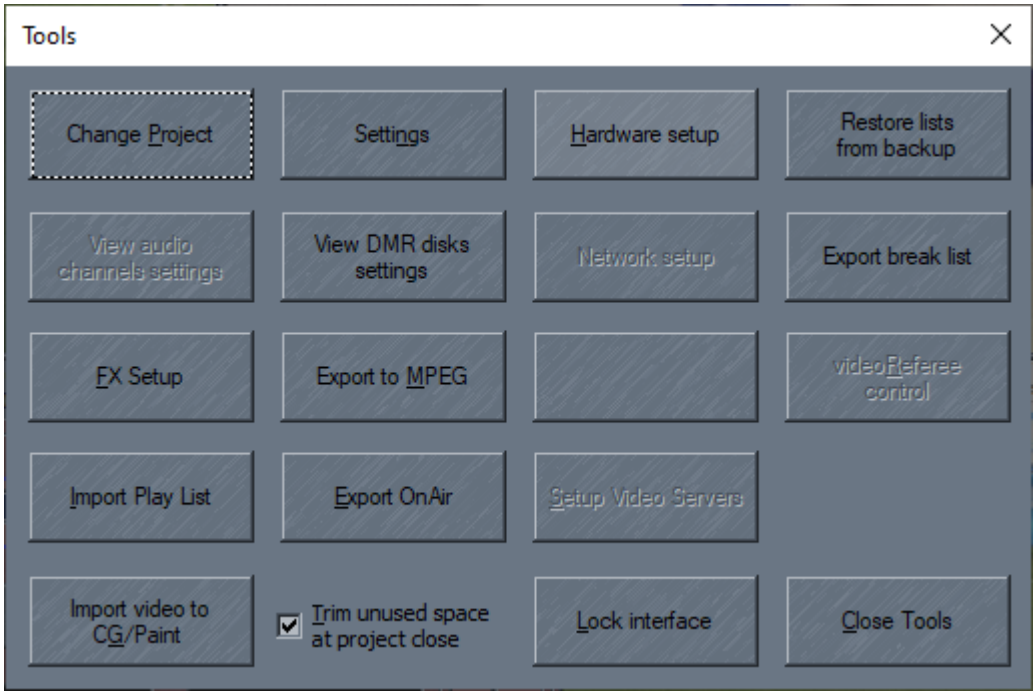
Tools

Multichannel Recording and Instant Replay System



This document is intended for studying the structure and configuration of the **Tools** panel in the "CESM" program. The document contains the contents, description, and usage of the **Tools** menu sections.

The **Tools** menu allows you to:

- Create new projects and edit previously created ones;
- Configure the program interface;
- Modify remote control settings;
- Perform hardware system configuration;
- Use transition effects between video clips;
- Export dropped frame lists;
- Import previously created playlists into the current project;
- Add computer graphics objects or clips to the project;
- Create proxy files from clips contained in the "On Air" area;
- Create an edit file from clips contained in the "On Air" area.

The document also includes a description of the audio panel, which visually displays incoming audio signals and configures audio sources used during video playback.

Users should be familiar with safe operation of computers and know the basics of using Microsoft Windows.

Slomo.tv systems are highly complex. All hardware and software components are carefully chosen and tested for long-term reliability. Therefore, any attempt to modify the system, including installation of additional software, driver or operating system updates, changing the network or disk configuration settings, anti-virus software, may result in erratic operation or system failure not covered by warrantee.

All systems come with a USB Recovery Stick. It contains an image of that particular system. Keep it safe.
The data available on the USB Recovery Stick is necessary to cherish, not to remove as much as possible to create a backup on the side of the media!
Using the supplied Recovery Stick you can, if necessary, restore the original software configuration and get a fully functional system in a few minutes.

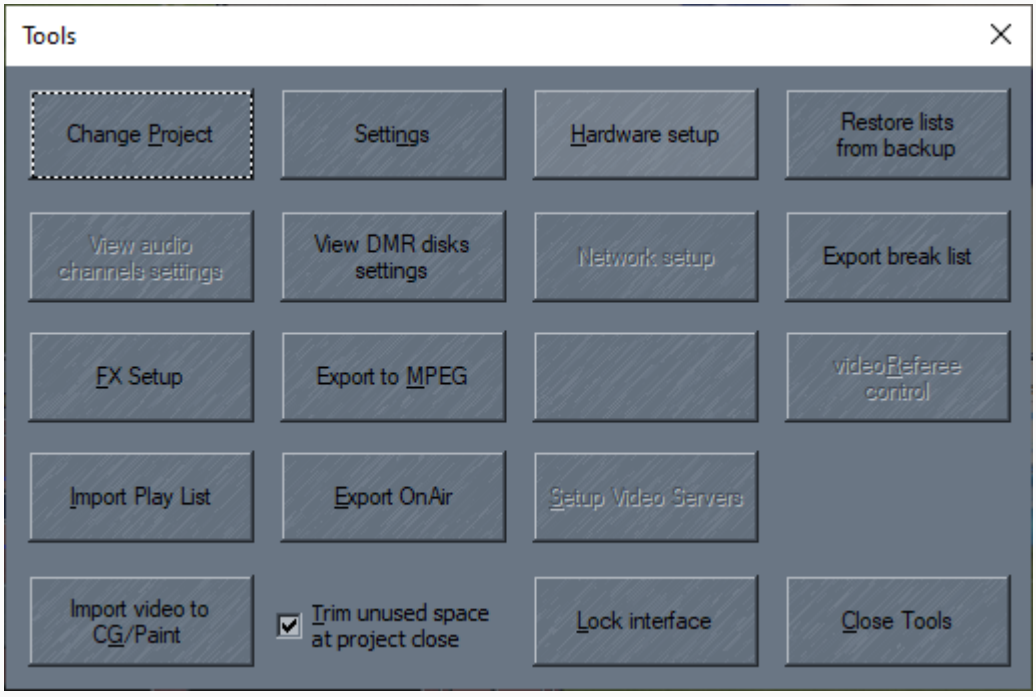
Tools

Tools is accessed from the main interface window by clicking the **Tools** button  on the control panel 

or by pressing `Ctrl` + `Shift` + `T` on the keyboard.

This will open the **Tools** window.

Figure 1 – Tools



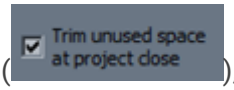
The following sections are available in this window:

- **Change Project** – project settings;
- **Settings** – program interface settings, remote control, event creation;
- **Hardware setup** – additional settings;
- **Restore lists from backup** – restore playlists after system failure;
- **View DMR disks settings** – DMR™ disk settings;
- **Export break list** – export dropped frame list;
- **FX Setup** – transition effects settings;
- **Export to MPEG** – export "On Air" playlist to MPEG format file;
- **Import Play List** – import playlists;
- **Export OnAir** – export "On Air" playlist to edit file with *.mov or *.mxf extension;
- **Import video to CG/Paint** – import computer graphics files and images.

Each button opens a settings menu corresponding to its name. The parameter values for each button in the "Tools" menu are described below.

The following settings are optionally available to the user, depending on the purchased hardware and software configuration:

- **View DMR disks settings** – DMR™ disk settings;
- **Export OnAir** – export playlists for broadcast;
- **Export to MPEG** – MPEG creation;
- **Export VR to DV** – *videoReferee®* materials export;
- **VideoReferee control** – referee remote control configuration;
- **Setup Video Servers** – Video Server option settings;
- **View audio channels settings** – audio channel settings;
- **Network setup** – network settings.

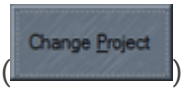
The program allocates disk space to accommodate the project of a specified duration. If you want to release the unused disk space at project's close, check **Trim unused space at project close** (

), and unused project space will become available for new projects.

Change Project

The steps listed below for creating and configuring projects using "Tools" are not performed during normal operation. Use Slomo.tv Launcher for creating and editing projects.

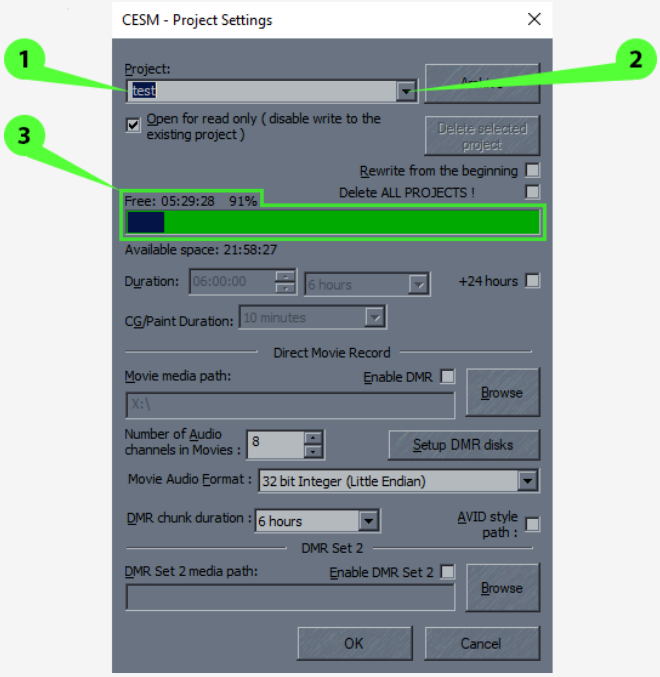
Change Project is used either to create a new project, or to open and edit existing project.

The **Change Project** button (

) opens "CESM – Project Settings" window (Figure 2)

Figure 2 – CESM – Project Settings

1 – Enter the name of a new project



2 – Select a previously created project

3 – Numerical and graphical display of project's free space

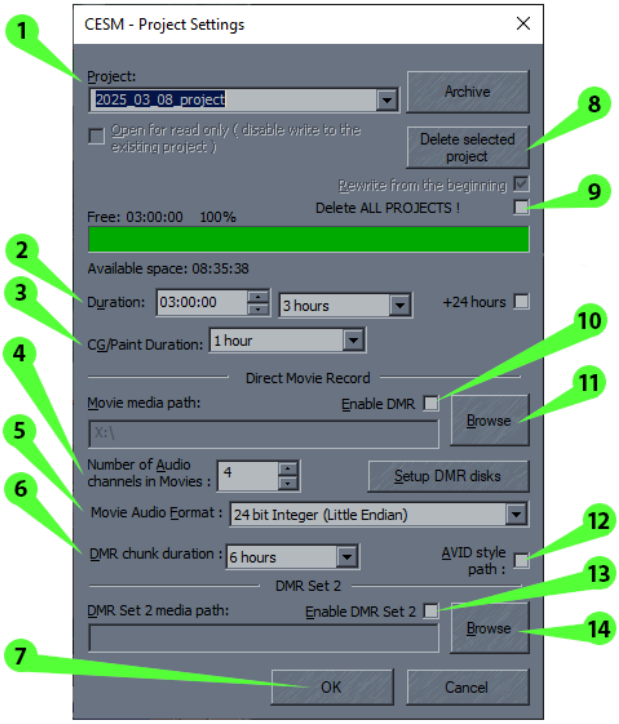
The following project parameters can be modified in this section:

- **Duration** – project duration;
- **CG/Paint Duration** – graphics duration;
- **Activation and configuration of DMR™ disks** ("Enable DMR", "Movie media path", "Setup DMR disks", "DMR chunk duration", "Browse");
- **Activation and configuration of DMR™ Set 2** ("Enable DMR Set 2", "DMR Set 2 media path", "Browse");
- **Number of Audio channels in Movies** – audio channels configuration;
- **Rewrite from the beginning** – rewrite the project;
- **Delete ALL PROJECTS!** – delete all previously created projects;
- **Open for read only** – open for read only.

Creating a new project

To create a new project in the "CESM - Project Settings" window (Figure 3), enter the name of the new project in the **Project** field. To enter the project name, position the mouse cursor in the input field and begin typing characters:

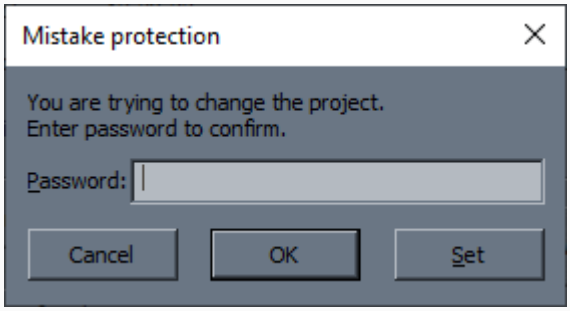
Figure 3 – Creating a new project

1) Enter a name for the new project		8) To free up disk space, selected projects can be deleted
2) Specify the project duration (in one of two fields)		9) Set to free up disk space - delete all projects
3) Reserve time for CG/Paint (in one of two fields)		10) Set for working with DMR™ disks*
4) Set the number of audio channels for video		11) Specify the project location path on DMR™*
5) Select the audio format		12) Set for creating files compatible with AVID Media Composer*
6) Choose the file duration on DMR™*		13) Set for working with DMR™ Set2*
7) Confirm the entered settings		14) Specify the project location path on DMR™ Set 2*

* – access to parameters depends on the type of purchased license.

The program will automatically prompt for a password to modify the project in the opened "Mistake protection" window (Figure 4).

Figure 4 – Password request window for project modification



If a password was previously set for this action, enter the required password in the **Password** field of the request window and click the **OK** button.
If no password was set, confirm the project modification by clicking the **OK** button in the password request window, leaving the password input field empty.

After confirming the actions, entering the name of the created project in the **Project** line will become available (Figure 3).

Perform the necessary project configurations according to the description provided in the "Project Settings" section.

To complete the project setup, click the **OK** button in the "CESM – Project Settings" window (Figure 3).

Editing existing project

To open a previously created project in the "CESM – Project Settings" window (Figure 5), you can either enter the name of the desired project in the **Project** field, or left-click the dropdown list symbol and select a previously created project from the list. When using either method to open a previously created project, the program will automatically prompt for a password to modify the project in the opened "Mistake protection" window (Figure 4).

Figure 5 – Opening a previously created project

1) Enter the project name...

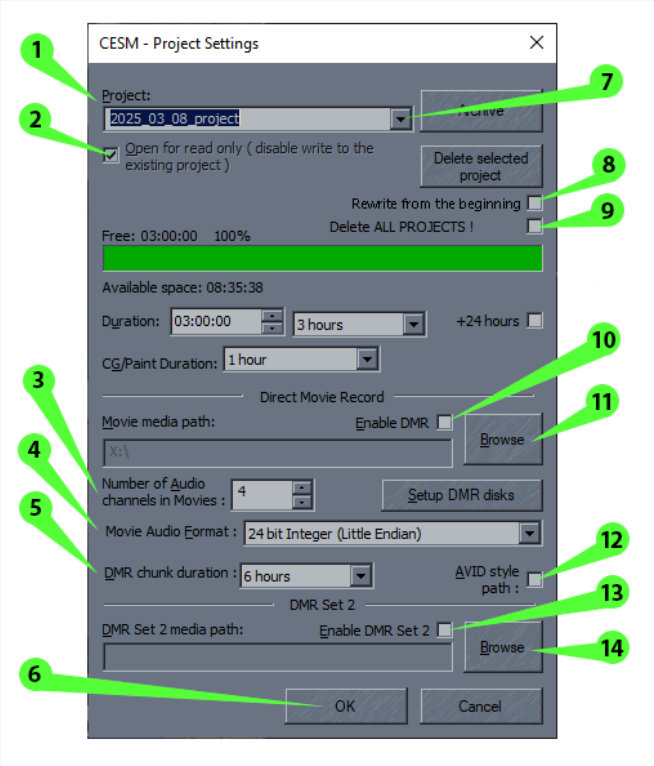
2) Deselect if the project needs to be opened for editing

3) Set the number of audio channels for video

4) Select the audio format

5) Choose the file duration on DMR™*

6) Confirm the entered settings



7) ...or select from the list

8) Set to rewrite the project

9) Set to free up disk space - delete all projects

10) Set for working with DMR™ disks*

11) Specify the project location path on DMR™*

12) Set for creating files compatible with AVID Media Composer*

13) Set for working with DMR™ Set2*

14) Specify the project location path on DMR™ Set 2*

* – access to parameters depends on the type of purchased license.

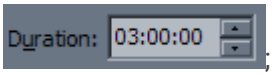
If a password was previously set for this action, enter the required password in the **Password** field of the request window and click the **OK** button.
If no password was set, confirm the project modification by clicking the **OK** button in the password request window, leaving the password input field empty.

After confirming the actions, selecting the name of the required project from the dropdown list or entering the name of a previously created project will become available.
Perform the necessary project configurations according to the description provided in the "Project Settings" section.
To complete the project setup, click the **OK** button in the "CESM - Project Settings" window (Figure 5).

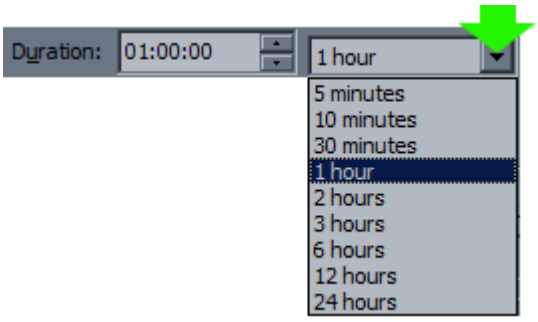
Project settings

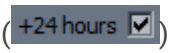
Duration

Project duration can be set:

1. By specific value in hours, minutes and seconds 

;
2. By selecting from a preset range from the drop down list:



3. By activating the "+24 hours" checkbox (

) – 24 hours will be added to the project duration.

> ⚠ Project duration (reserved storage) cannot be changed after the project is created!

CG/Paint Duration

Reserving time for computer graphics objects or clips is performed in the **CG/Paint Duration** line. If the project plans to use computer graphics objects and/or clips, then when creating the project, set the time for the program to reserve disk space for these objects.

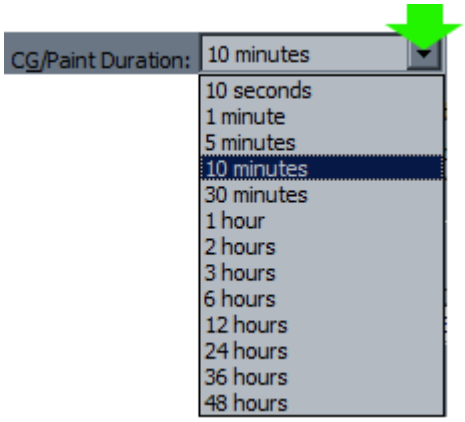
> ⚠ If the specified duration is less than the number of objects loaded into CG/Paint, then when disk space is insufficient, the program will not use objects beyond the specified duration.

The duration can be set in one of two fields:

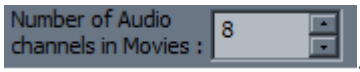
1. By entering a specific value in hours, minutes, and seconds in the 

field;

2. By selecting a duration from a predefined range in the dropdown list:



Number of Audio channels in Movies

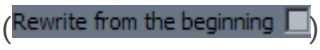
The number of audio channels is set in 

.
In setting audio channels you must take into account the type of audio signal.
Digital audio (AES/EBU) can have from one to eight channels.
Analog audio can have from one to four channels.

Incorrect setting of audio channels can result in absence of video on some channels.

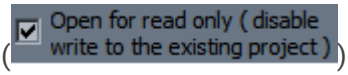
The selected number of audio channels will be used in DMR™ recording.

Rewrite from beginning

It is possible to rewrite the project again. The project will be written erasing the previously recorded information if you check the box in (

).
If this function is not activated, recording will continue from the end of previous recording.

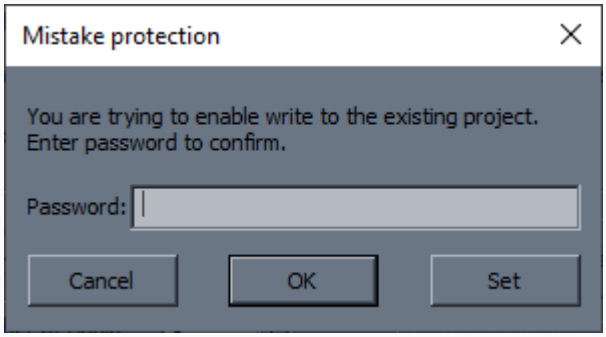
Open for read only

When opening a previously created project, the project write protection function **Open for read only (disable write to the existing project)** (

) is enabled by default. If the existing project needs to be modified, this function must be disabled.

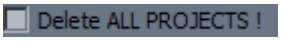
To disable write protection, left-click in the field containing the checkmark. This will open the "Mistake protection" window to request a password (Figure 6).

Figure 6 – Password request window for activating the write option



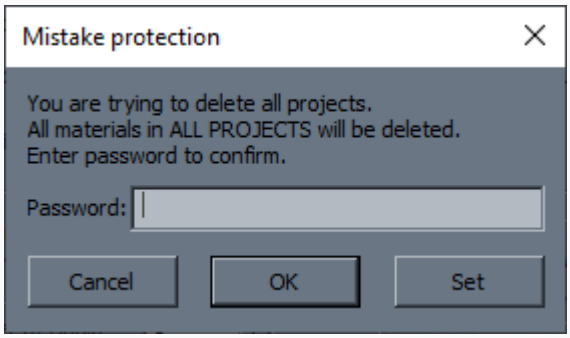
If a password was previously set for this action, enter the required password in the **Password** field of the request window and click the **OK** button.
If no password was set, confirm the project modification by clicking the **OK** button in the password request window, leaving the password input field empty.

Delete ALL PROJECTS !

To delete all previously recorded projects check 

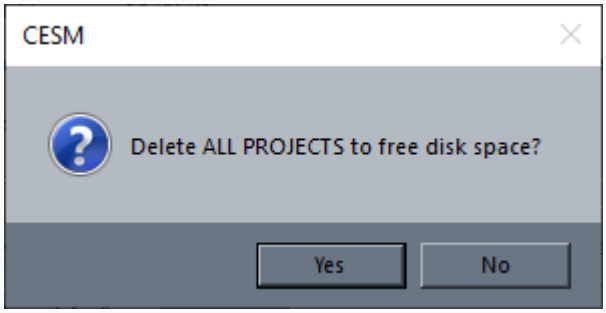
and confirm by entering the password (Figure 7).

Figure 7 – Password request window for project deletion



If a password was previously set for this action, enter the required password in the **Password** field of the request window and click the **OK** button.
If no password was set, confirm the project modification by clicking the **OK** button in the password request window, leaving the password input field empty.
An additional operation confirmation window will then open:

Figure 8 – Confirmation window for project deletion



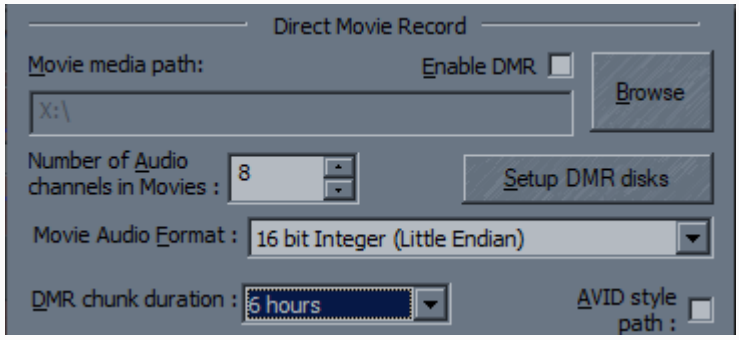
To complete the deletion of all projects click **YES**.

Activation and set-up of DMR™ disks

Using DMR™ technology requires a special license.
DMR™ technology is not available for Simple R series products and Lite configurations.

Configuration and modification of DMR™ parameters is performed in the "Change Project" menu within the DMR™ parameters settings section:

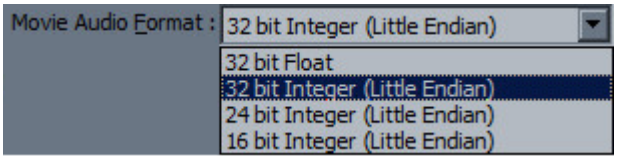
Figure 9 – DMR™ settings



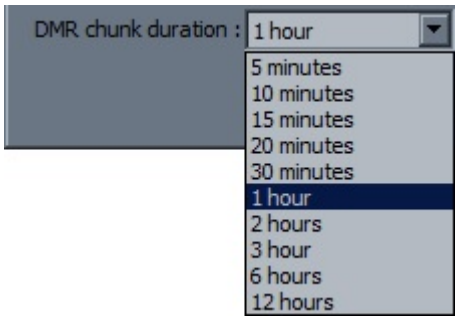
For DMR™ recording the following steps must be taken:

1. Activate this function by checking the **Enable DMR** (

);
2. Set audio format for DMR™ recording – **Movie Audio Format**:

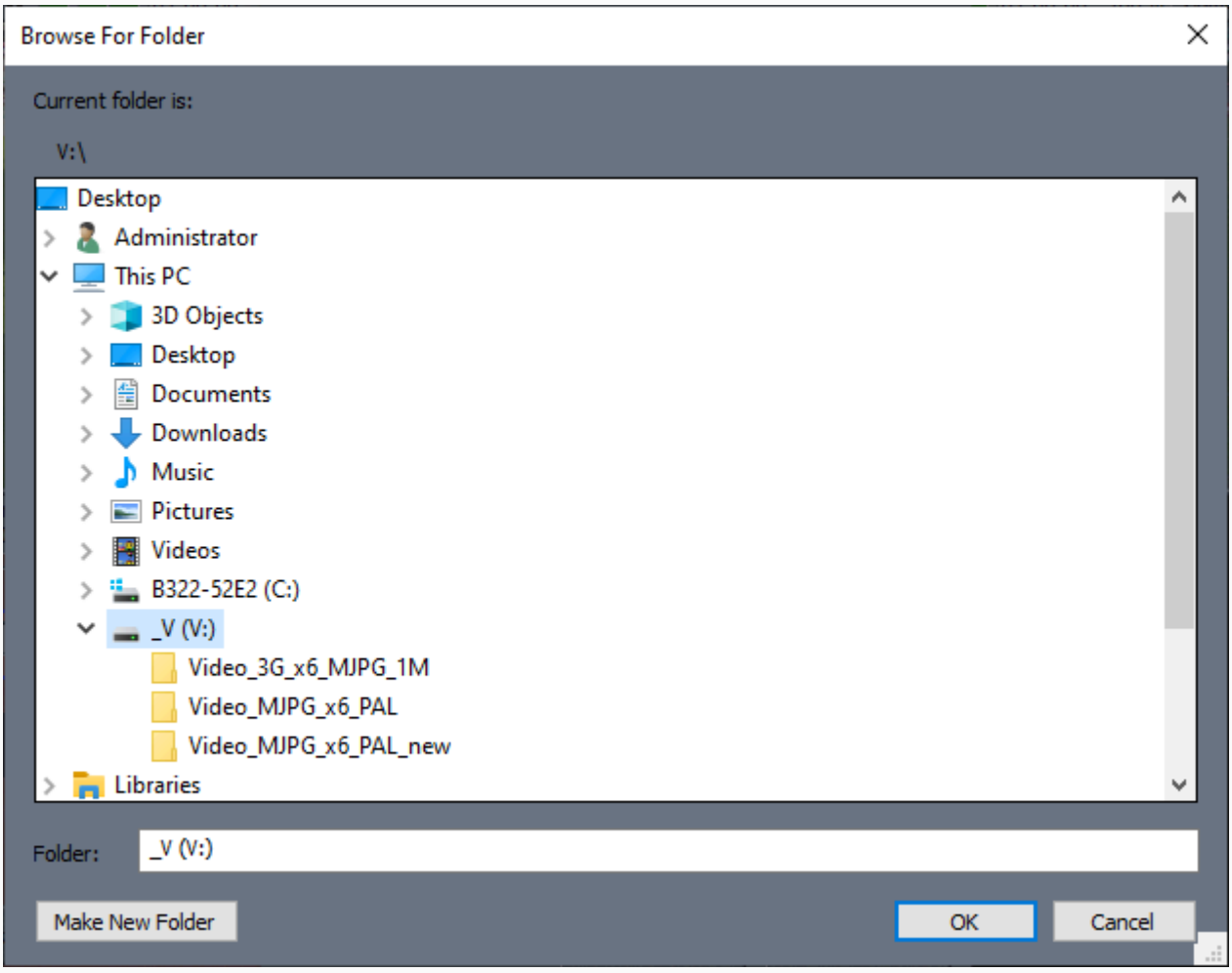


3. Select the length of DMR™ recorded segments (chunk duration) from the preset range (5 min to 12 hours). This parameter specifies the length of created DMR™ files;



4. Specify DMR™ recording path. In **Movie Media Path** area click **Browse** and in Explorer window (Figure 10) select the path or create a folder (**Make New Folder**).

Figure 10 – Selecting drive and folder for DMR™

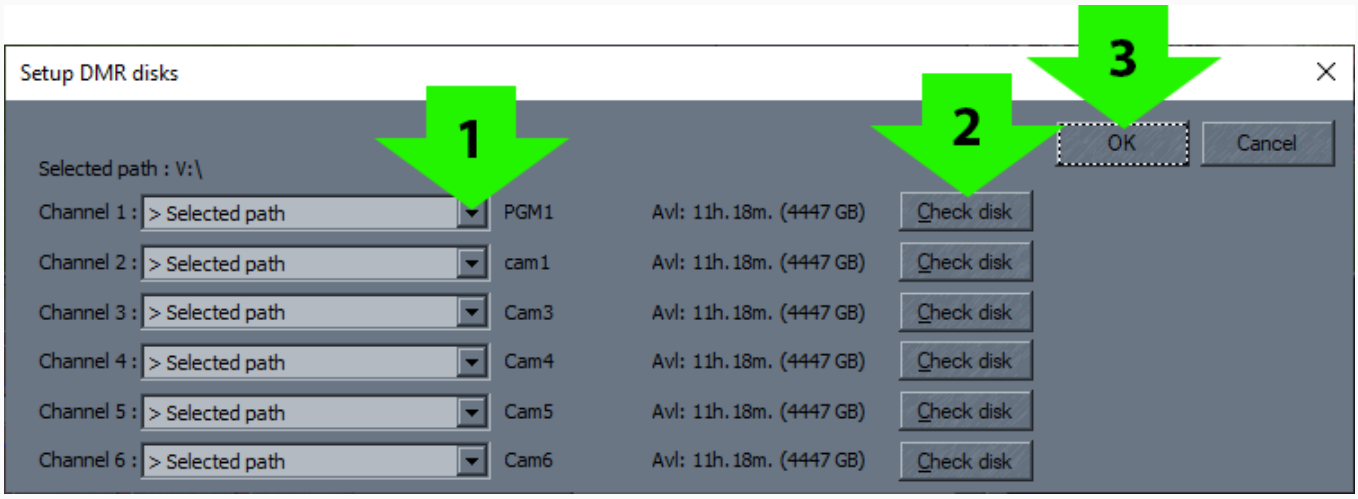


When recording more than 4 channels, for increased performance and reliability it is recommended to record to different DMR™ disks. So for a 6-channel server you can record the first two channels to one DMR™ disk, the next two channels to the second disk and the remaining two to the third DMR™ disk.

To set the path to different DMR™ drives use **Setup DMR disks** (Setup DMR disks) button in "CESM – Project Settings" (Figure 5).

In the opened window (Figure 11) select the disks for each channel (1).
To check the suitability of a disk for recording the video stream (speed and available space) use **Check disk** buttons (2).

Figure 11 – "Setup DMR disks" window

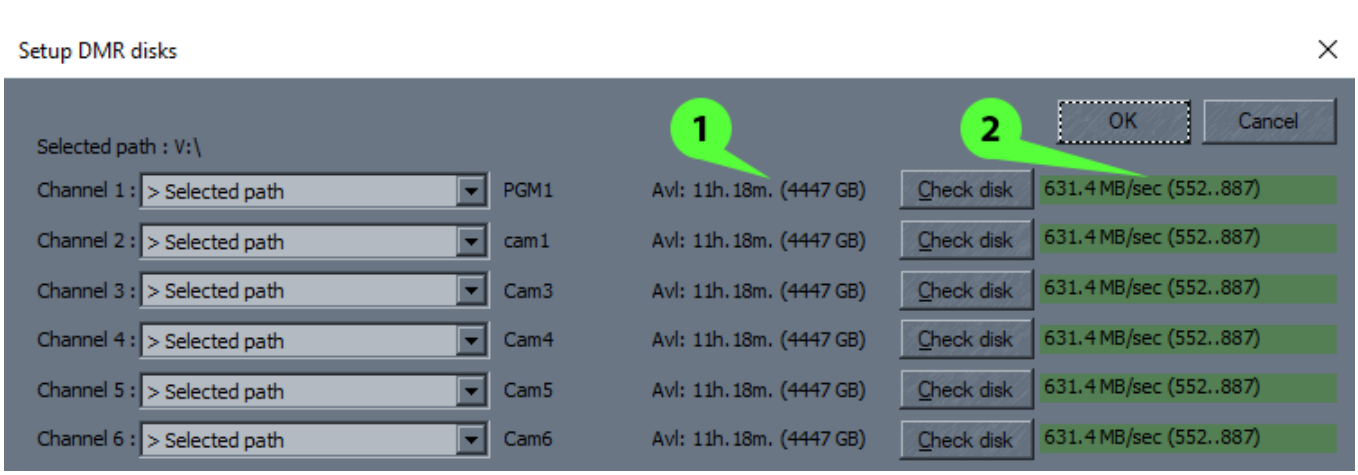


Results of "Check disk" may have the following color indicators:

- Green – high speed;
- Grey – average speed;
- Red – low speed, possible loss of information.

Figure 12 – Results of testing the disks

1 – Available space (Time and volume)	2 – Speed (MB/sec)

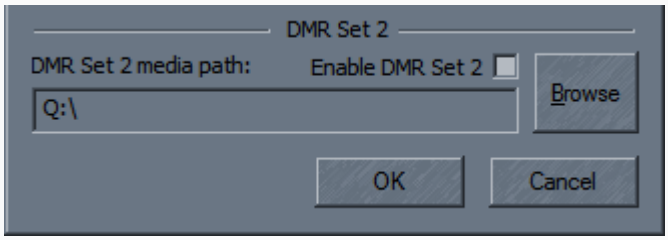


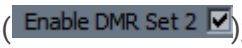
After testing is complete, click **OK** (Figure 11 – 3), and the window will close.

DMR Set 2 parameters

DMR™ files can also recorded to external storage.
To set up recording DMR™ Set 2 in "CESM – Change Project" use the **DMR Set 2** section:

Figure 13 – "DMR Set 2" section

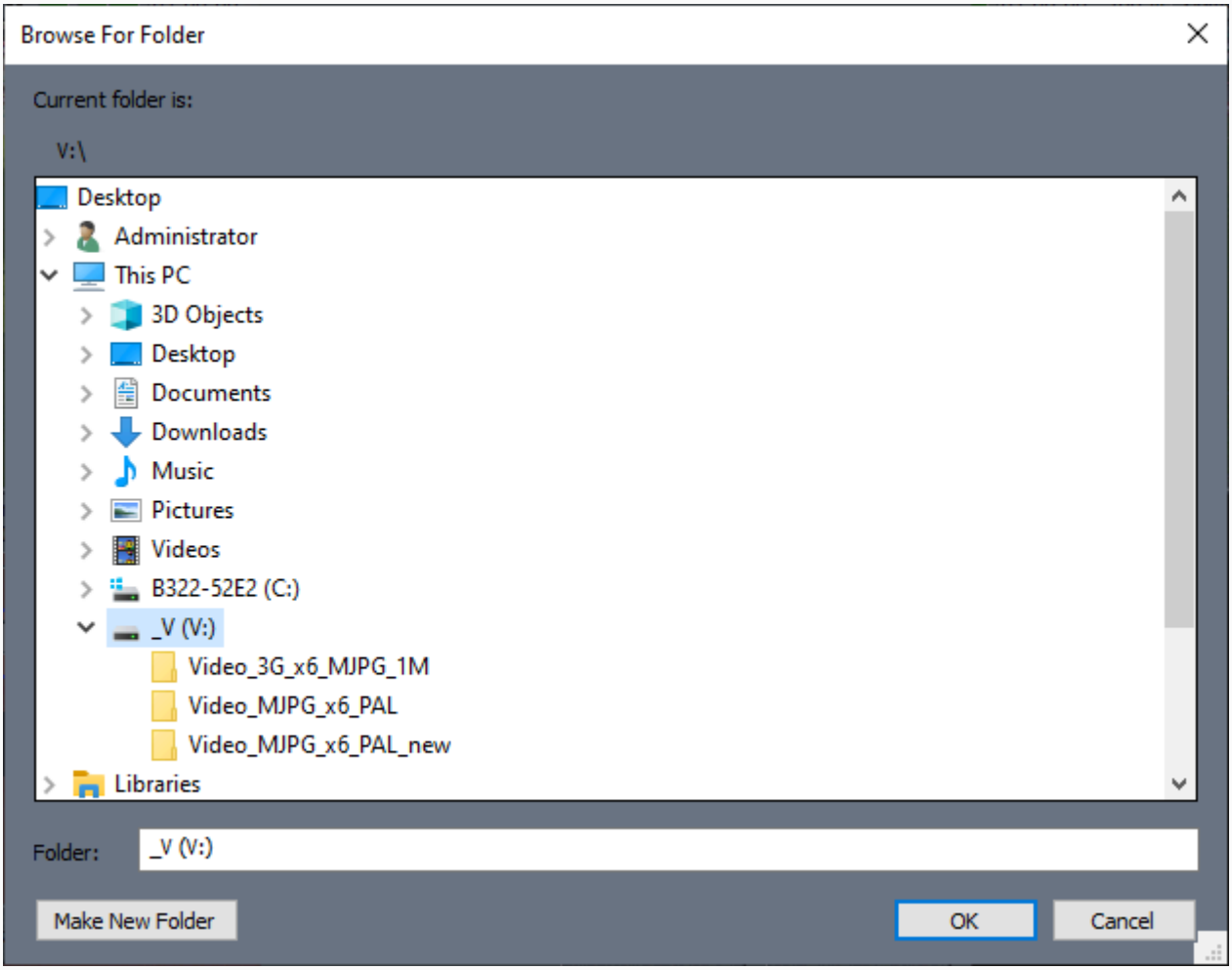


1. Activate **Enable DMR Set 2** checkbox (

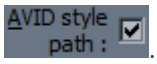
);
2. Using **Browse** select recording path or create a new folder with **Make New Folder** (

) button (Figure 14).

Figure 14 – Selecting drive and folder for DMR Set 2



After setting up the project click **OK** in "CESM – Change Project"

If you need to work with AVID Media Composer and create compatible files on a remote storage device, activate the **AVID style path** parameter (used only in conjunction with "Enable DMR Set 2") – 

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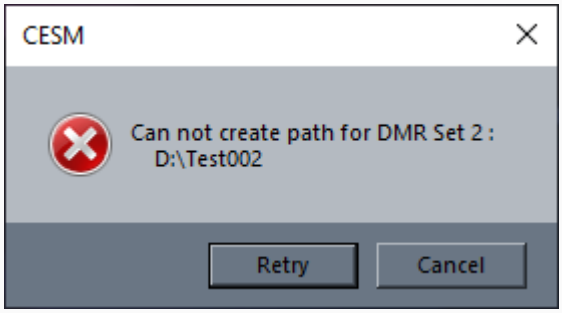
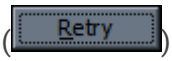
Warning messages in using DMR Set 2

If after working with DMR Set 2 the external storage was disconnected, at the next start of the program the following message will appear:

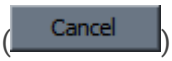
Figure 15 – Directory creation error message



In the message, instead of the text "D:\Test002", the actual path you previously specified to the device will be displayed.

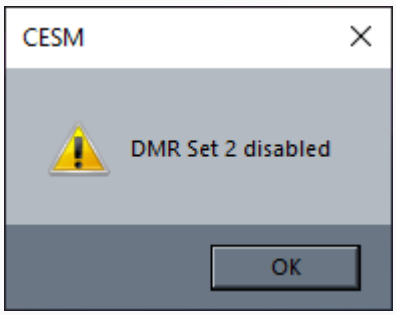
If you want to use the specified storage device and continue working with it, you need to connect the storage device indicated in the message and click the **Retry** button (

). The system will search again for devices connected to the system, and the software will be launched with the specified settings.

If you cannot connect the storage device mentioned in the message, click the **Cancel** (

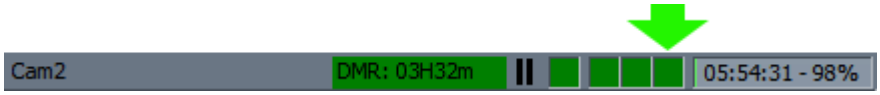
) button. In this case, the previously set DMR Set 2 path settings will be reset, and the program will launch to operate without DMR Set 2:

Figure 16 – DMR Set 2 deactivation confirmation



To continue press **OK**.

After the start of the program you can again set up DMR Set 2 in "CESM – Change Project".
In working without DMR Set 2 you can hide its recording indicator in all channels:



Press  in 

. The program interface will reset without this indicator:
It will be updated the program window and the indicator will not be displayed:

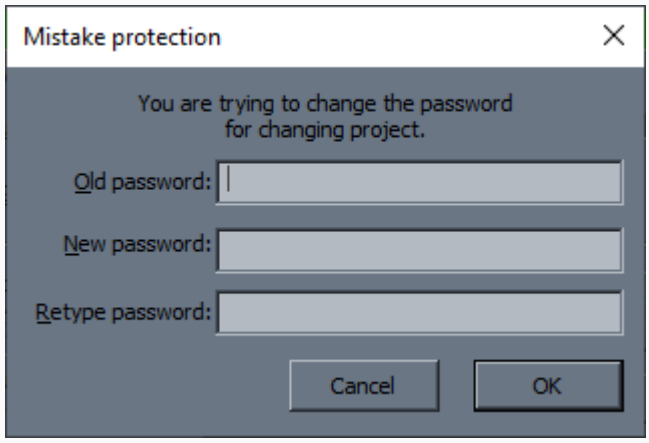
Passwords

The following actions can be protected by passwords:

- Change project,
- Create new project,
- Open project for editing,
- Delete all projects.

To set a password in the password request window for performing the above actions, click the **Set** button (Set) and in the opened window enter the old password (if not previously set, then leave empty), the new password, repeat the new password and click the **OK** button (Figure 17).

Figure 17 – Password Setup Window

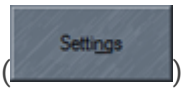


Passwords can contain any symbols in any quantity. Each password protects only the function it was set for.

If the password is lost, it cannot be restored and all project data will be blocked!

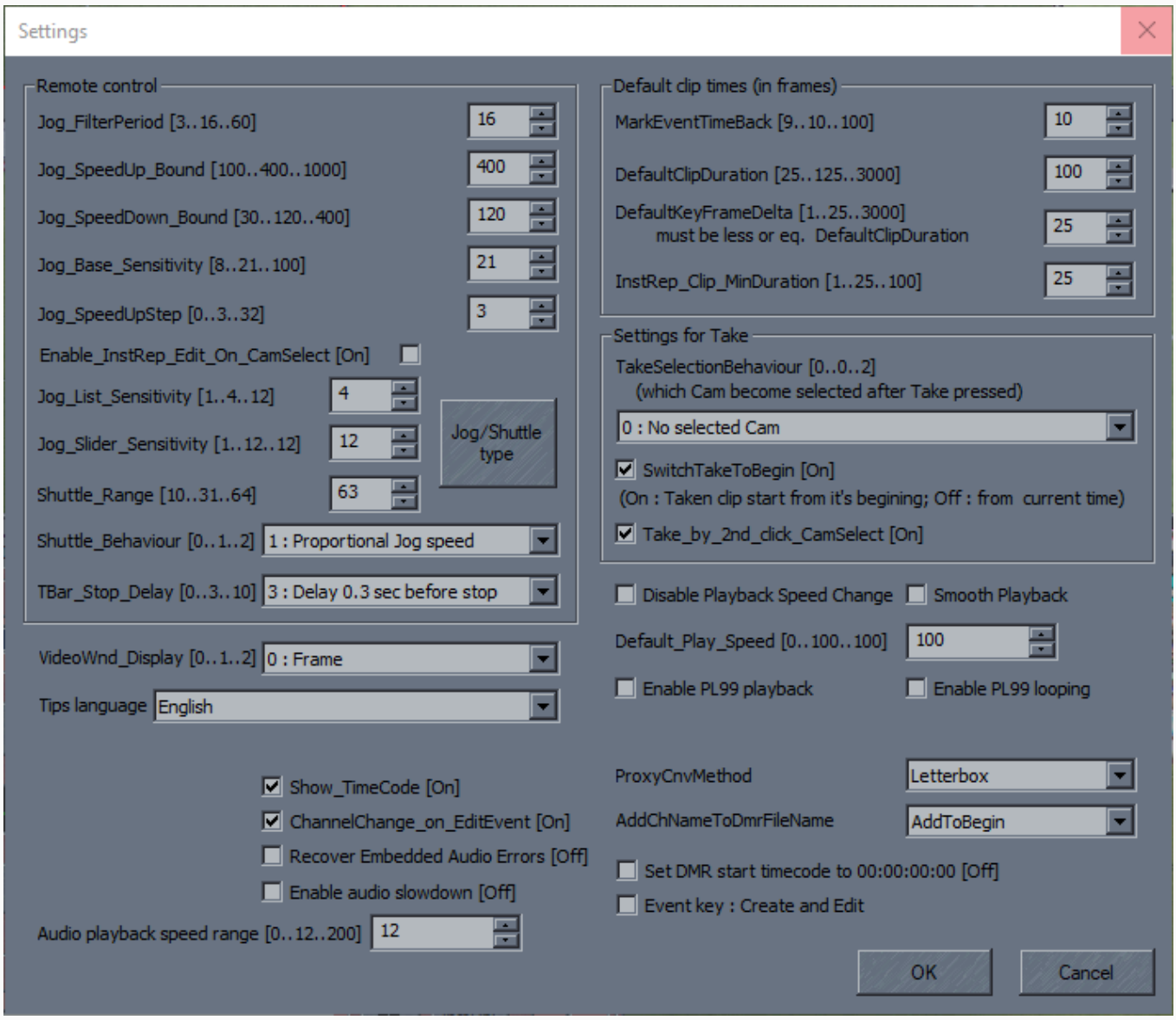
Settings

Settings is used to configure the program interface, remote control (Control Z / Zx / ZR / ZR2) and action of control keys. It opens the following window:

To access the "Settings" menu, click the **Settings** button (

) in the "Tools" window – this will open the window shown in Figure 18.

Figure 18 – "Settings" window



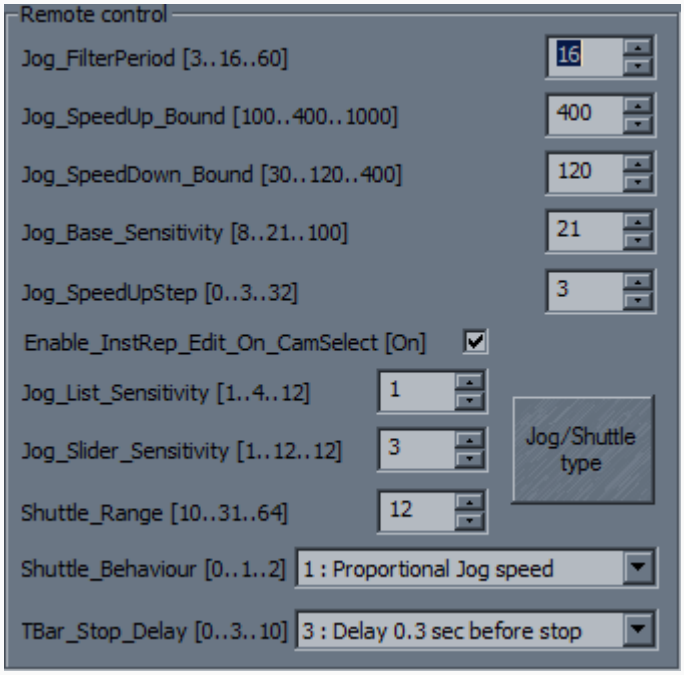
The window is divided into 4 zones for configuring the following:

- **Remote Control** – remote control (Z / Zx / ZR / ZR2) configuration;
- **Default clip times (in frames)** – clip duration settings;
- **Settings for Take** – determine the active (selected) camera in operational replay mode;
- **Additional parameters**.

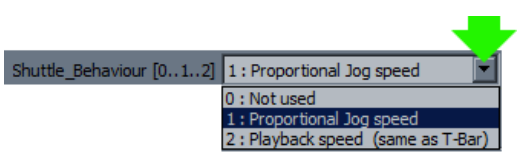
Remote Control

Remote control setup Figure 19 configures Jog/Shuttle and T-Bar parameters.

Figure 19 – Remote Control section



- Parameters **Jog_FilterPeriod**, **Jog_SpeedUp_Bound**, **Jog_SpeedDown_Bound**, **Jog_Base_Sensitivity**, **Jog_SpeedUpStep** are for setting the operating mode of Jog Handle at acceleration;
- **Enable_InstRep_Edit_On_CamSelect [On]** is responsible for operation in Live mode. If it is not activated, than output transmits live video when you change the active channel. If this parameter is activated, the output provides a static image;
- **Jog_List_Sensitivity** determines Jog handle sensitivity in playlists;
- **Jog_Slider_Sensitivity** determines Jog handle sliders sensitivity;
- **Shuttle_Range** indicates the type of remote control used and typically has a value of 12 or 31 and if correct defines the zero position of the handle.
- **Shuttle_Behaviour** sets possible Shuttle modes:

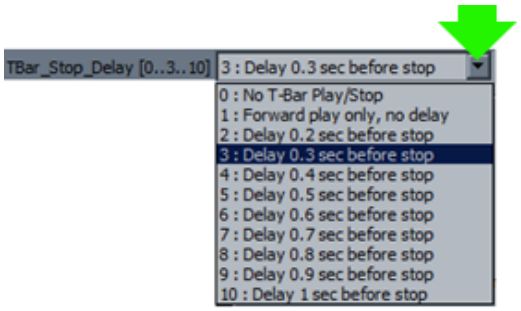


0 : Not used – Shuttle is disabled;

1 : Proportional Jog speed – controls rewind speed;

2 : Playback speed – control of replay speed (similar to T-Bar).

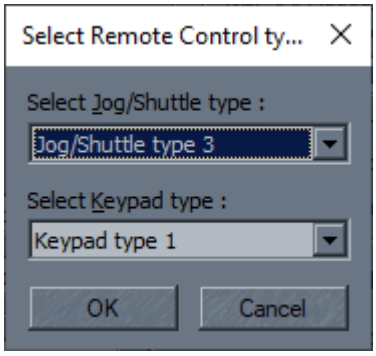
- **TBar_Stop_Delay** determines the value of delay it takes for a complete stop when T-Bar is moved to zero position. **TBar_Stop_Delay** is used to avoid accidental stopping at slowdowns/accelerations when T-bar passes over the zero position. This parameter can have the following values:



0 : No TBar Play/Stop – T-Bar is not used for start/stop of replay;
1 : 1: Forward play only, no delay – control of replay without delay;
2 : Delay 0.2 sec before stop – delay of 0.2 sec before replay stops.
... And so on, up to 1 sec.

- **Jog/Shuttle type** (

) is used initially to select system settings corresponding to Control Z / Zx / ZR / ZR2 supplied with the server.
It will open the window for selecting the Jog/Shuttle and the Keypad:

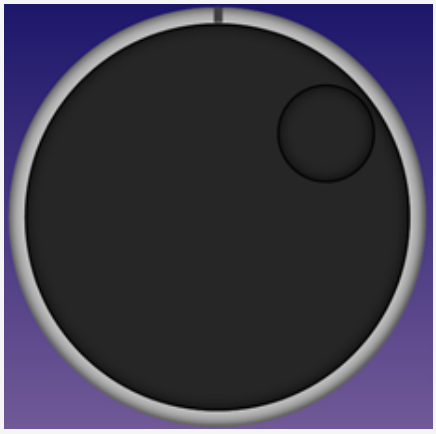


Select the type of Jog/Shuttle wheel and keypad used.
Depending on the type of Jog/Shuttle wheel used, set Jog/Shuttle type 1 / Jog/Shuttle type 2 / Jog/Shuttle type 3. Figure 20 shows the possible Jog/Shuttle wheel options.

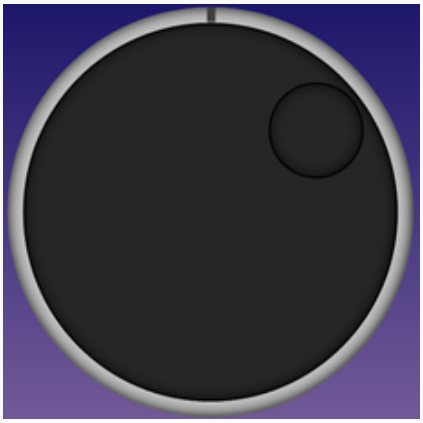
Jog/Shuttle type 2 and **Jog/Shuttle type 3** have a similar appearance but differ in internal design and operating principle.
They can be distinguished by the remote control model: **Jog/Shuttle type 2** is used in **Control ZR** remote controls, while **Jog/Shuttle type 3** is used in **Control ZR2** remote controls.

Figure 20 – Jog/Shuttle Options

Jog/Shuttle type 1



Jog/Shuttle type 2
(Control ZR)



Jog/Shuttle type 3
(Control ZR2)

The Keypad type also has to match your remote controller. Figure 21 shows the available keyboard options.

Figure 21 – Keypad Options

Keypad type 1

Keypad type 2

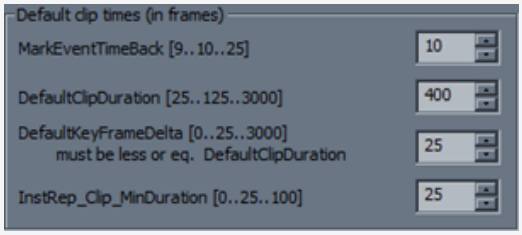
Press **OK** to save the settings.

Default clip times (in frames)

In the **Default clip times (in frames)** settings section, shown in Figure 22, the following parameters are configured:

Figure 22 – "Default clip times (in frames)" section

- **MarkEventTimeBack** – the number of frames where the mark is placed, counted back from the moment you press the button;
- **DefaultClipDuration** – location of Mark In counting back from the Mark Out of Event;
- **DefaultKeyFrameDelta** – location of the Key Frame (visualized frame) relative to marking the Event;
- **InstRep_Clip_MinDuration** – minimum clip duration in operational replay mode.

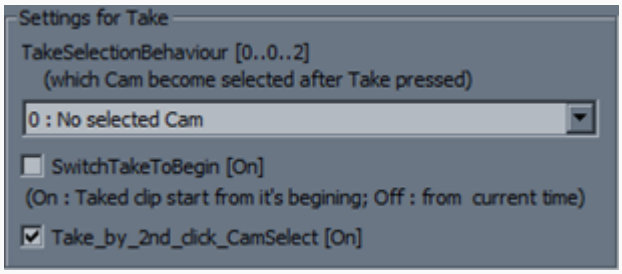


All parameters are in frames. In square brackets are shown the minimum and maximum parameter values.

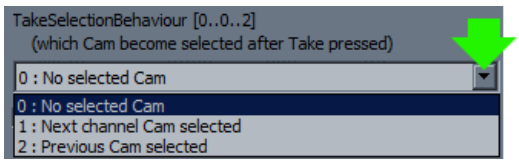
Settings for Take

Settings for Take (Figure 23) determine the active (selected) camera in Instant Replay mode.

Figure 23 – "Settings for Take" section



- **TakeSelectionBehavior** determines the next camera which will be selected after you press the "Take" button:



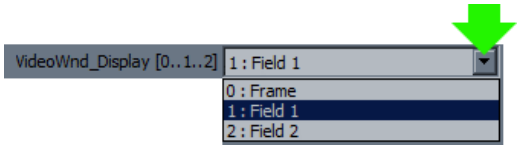
0 : No selected Cam – no camera is selected for this action;	
1 : Next channel Cam selected – the next camera is selected;	
2 : Previous Cam Selected – the previous camera is selected.	

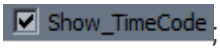
- **SwitchTakeToBegin** – responsible for configuring the "Switch In" button action – selecting the clip start point after switching: from the beginning of the clip or from the current time moment;
- **Take_by_2nd_click_CamSelect** determines how the next camera will be selected during operational replay. When activated, camera selection will be performed at the second pressing of camera button.

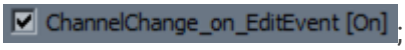
Additional parameters

Parameters not grouped by zones are responsible for interface configuration, proxy creation, timecode display and usage, and audio playback during speed changes:

- **VideoWnd_Display** – to set type of image display window:

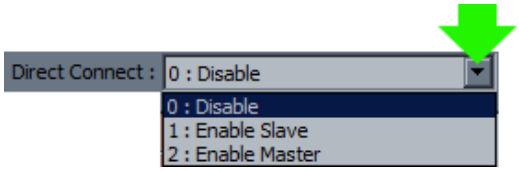
	0 : Frame – by the full frame;
	1 : Field 1 – by the first field of the frame;
	2 : Field 2 – by the 2nd field of the frame.

- **Tips language** – select the language of program tips;
- **Show_TimeCode** - to display time-code check  ;

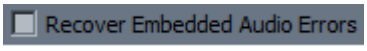
- **ChannelChange_on_EditEvent** – to indicate the active camera in playlists check the box in  ;

- **Direct Connect** – setting the system operation mode when combining machines into a single network for video exchange (available optionally depending on the purchased license). If no license is present, **Direct**

Connect is not displayed in the "Settings" window. This parameter can have the following values:

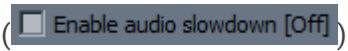


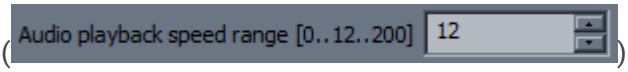
0 : Disable – No networking;
1 : Enable Slave – only provides access to its clips to Master servers;
2 : Enable Master – provides access to clips on other servers with Direct Connect option.

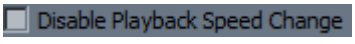
- The **Recover Embedded Audio Errors** parameter is responsible for audio error correction. To activate this parameter, check the box in the 

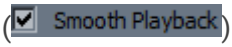
field. Using this parameter without urgent necessity is not recommended.

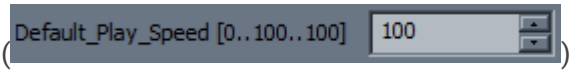
> Before using **Recover Embedded Audio Errors** feature try to correct audio errors by setting up equipment responsible for audio signal quality.

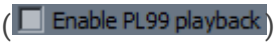
- The **Enable audio slowdown** parameter (

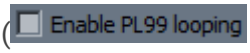
) determines how audio is stretched during playback speed changes. When this parameter is activated, the audio pitch will decrease/increase according to the playback speed, providing smoother audio playback during speed variations;
- The **Audio playback speed range** parameter (

) determines at what percentage of video slowdown the audio playback will stop;
- **Disable Playback Speed Change** used to protect playback from accidental speed change. Checking the box at 

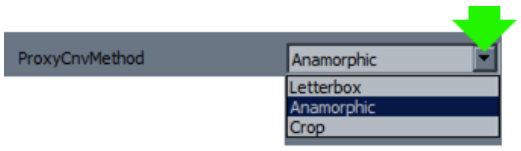
will make playback speed impossible to change;
- **Smooth Playback** (

) is used at low playback speeds on close-ups and medium shots to provide a smoother slow motion video;
- **Default Play Speed** (

) – sets the default playback speed (in percentages);
- **Enable PL99 playback** (

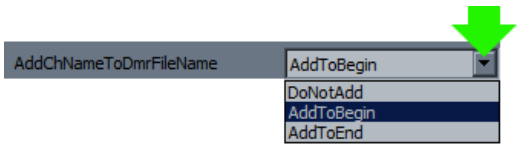
) – when this parameter is activated, the preview will display the contents of Playlist99;
- **Enable PL99 looping** (

– when this parameter is activated, Playlist99 playback will restart from the beginning upon completion;
- **ProxyCnvMethod** – proxy recording method selection:

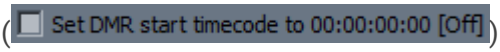


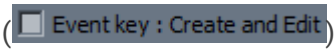
Letterbox – wide screen format (16:9) with black fields on top and bottom;
Anamorphic – full screen format;
Crop – 4:3 format.

- **AddChNameToDmrFileName** – selects the place for adding camera name to DMR™ file:



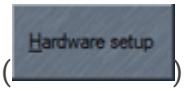
DoNotAdd – no camera name is added;
AddToBegin – camera name is added at the front of file name;
AddToEnd – camera name is added at the end of file name

- **Set DMR start timecode to 00:00:00:00** (

) – when this parameter is activated, the DMR™ recording timecode will start from 00:00:00:00.
- **Event key: Create and Edit** (

) – this parameter inverts the standard event creation algorithm. When activated, pressing the `Event` button on the remote control or `~` on the keyboard will create an event and place it in the editing area. The key combinations `Shift` + `Event` on the remote control or `Ctrl` + `~` on the keyboard will create an event without placing it in the editing area.

Hardware setup

In the **Hardware setup** section of the "Tools" menu, internal board and device parameters are configured. The menu has several tabs, each dedicated to configuring a specific hardware device. To access the settings, click the **Hardware setup** button (

) in the "Tools" window.

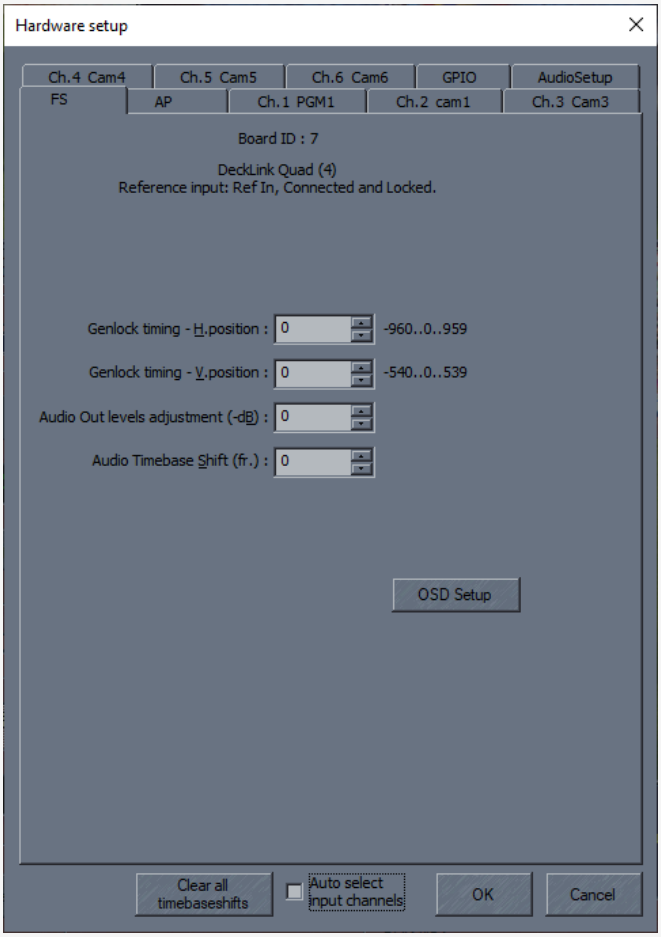
> ⚠ Almost all parameters have immediate effect rather than upon pressing the **OK** button. Pressing **OK** only saves your settings in the ini-file. The **Cancel** button cancels the applied settings.
> In connection with this it is recommended to make all adjustments before starting recording.

FS

In the **FS** (Feeder Station) tab (Figure 24), **PGM** video output parameters are configured. Depending on the system configuration, the following parameters can be adjusted:

Figure 24 – "FS" Tab – Video Output Configuration

- **Genlock timing** – synchronization settings – sets horizontal (H. position) and/or vertical (V. position) offset values;
- **Audio out levels adjustment (-dB)** – audio level fine-tuning – sets audio level gain/attenuation in dB;
- **Audio Timebase Shift (fr.)** – audio time shift (in frames);
- **Output format**[1]: "Level A" or "Level B" – selection of video output format for 3G-SDI signal;
- **OSD Setup button** – configuration of on-screen display in PGM and PVW windows during broadcast. OSD Setup settings are described in the next section "OSD Setup".



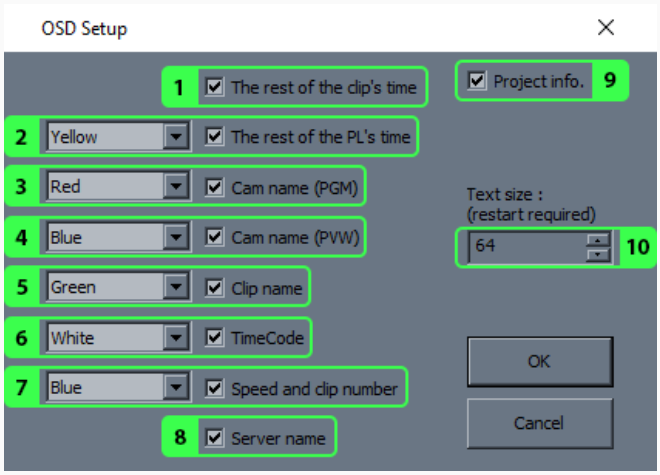
OSD Setup

To configure the PGM and PVW indicators, click the **OSD Setup** button (

. The "OSD Setup" window will open (Figure 25):

1. May not be displayed if the used configuration does not support 3G-SDI signal format changes

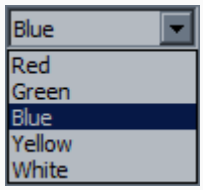
Figure 25 – "OSD Setup" Window



1. Remaining time until the end of the currently playing clip;
2. Remaining time until the end of the currently playing playlist;
3. Camera (channel) name in the PGM window;
4. Camera (channel) name in the PVW window;
5. Name of the currently playing clip;
6. Timecode of the currently playing clip;
7. Speed and clip number in the playback queue;
8. Server serial number;
9. Current project information;
10. Display text size.

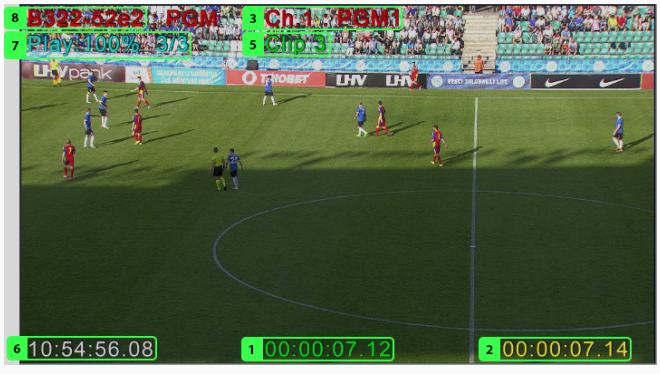
To enable or disable the display of an indicator, check/uncheck the box next to it.

You can also change the color of some indicators. To do this, expand the dropdown menu to the left of the parameter and select a color:

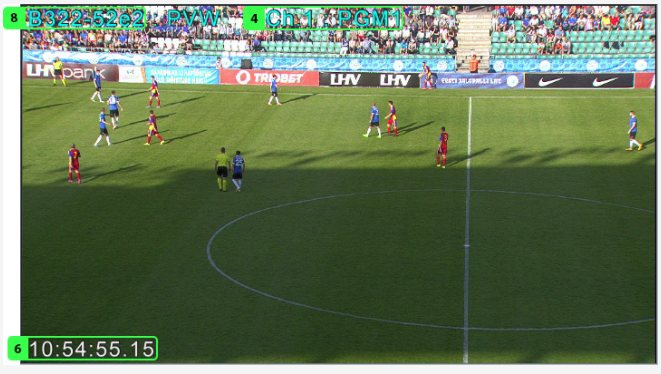


The indicator positions in the PGM and PVW windows are shown in Figure 26.

Figure 26 – Indicator positions in the PGM and PVW



PGM



PVW

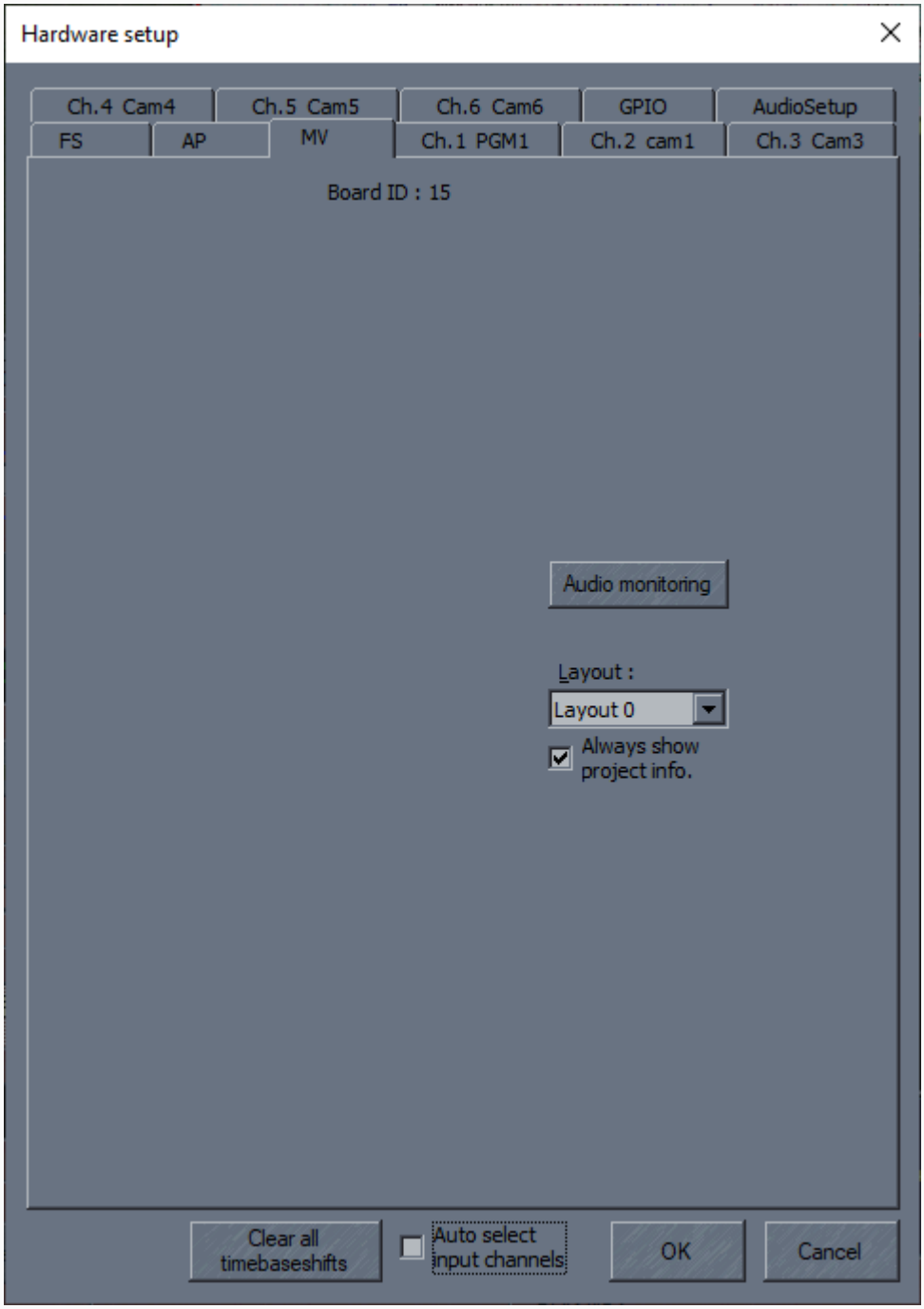
AP

The **AP** tab contains settings for the **PVW** video output parameters. The **AP** settings are identical to the "FS" settings.
See the "FS" section.

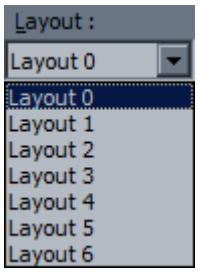
MV

In the **MV** tab (Figure 27), multiviewer output parameters are configured:

Figure 27 – "MV" tab



- **Audio monitoring** – menu for configuring audio level meter (PPM) display. PPM settings are described in detail in the next section "Audio Monitoring".
- **Layout** – multiviewer view – sets window arrangement, window types, information window. 7 multiviewer options are available:



Layout 0 – all windows of equal size;

Layout 1 – large PGM and PVW windows at the top (each 1/2 screen), with all Live channel windows below; if information window doesn't fit, it won't display;

Layout 2 – only PVW window displayed;

Layout 3 – only PGM window displayed;

Layout 4 – all channels in Live mode of equal size;

Layout 5 – all channels in Edit All mode of equal size;

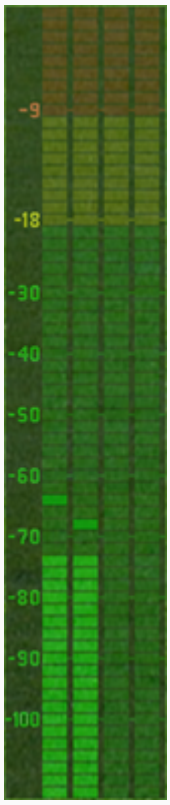
Layout 6 – combination of Layout 4 and Layout 5. The left half is occupied by a large PVW window and channels in Edit All mode. The right half is occupied by a large PGM window and channels in Live mode.

For quick multiviewer switching from remote control:
– Control Z / Zx press combination: `Alt` + `Quad`;
– Control ZR / ZR2 press combination: `Alt` + `FX | Switch In`.

- **Always show project info** – parameter shows/hides current project information display in Layout 2 (PVW only) and 3 (PGM only).

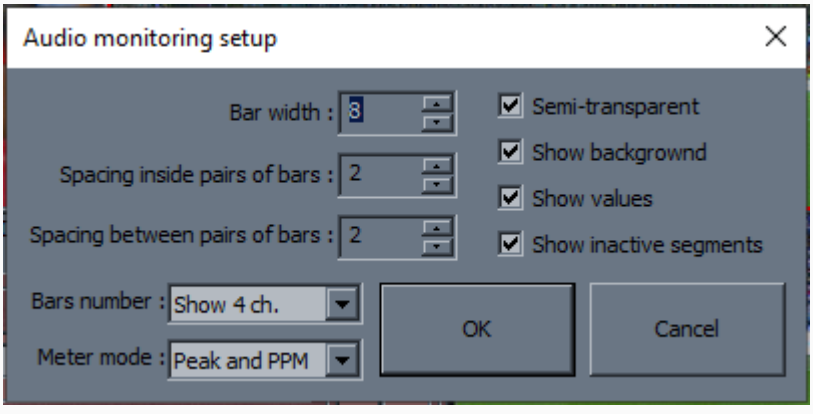
Audio Monitoring

The multiviewer allows displaying a **Peak Program Meter (PPM)** overlay on each channel's video feed.
The **PPM** consists of bars, each displaying the peak audio level of one audio channel. The bars are divided into three zones: green - normal level, yellow - possible audio distortion, and red - distorted audio. Numerical dB values are shown to the left of the bars.



To configure PPM display, go to "Tools" → "Hardware setup" → "MV" → "Audio Monitoring". A configuration window will open:

Figure 28 - Audio Monitoring Setup



Bar width – width of each bar (Figure 29 – 1);

Spacing inside pairs of bars – spacing between two bars within their pair (Figure 29 – 3);

Spacing between pairs of bars – spacing between bar pairs (Figure 29 – 2).

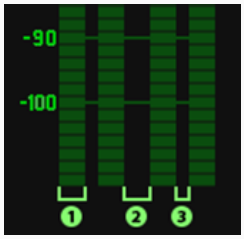


Figure 29 – Setting up PPM

Bars number – total number of displayed bars (audio channels). To select, click the dropdown button and choose the quantity. Available options:

- **Off** – channel display disabled,
- **2 channels,**
- **4 channels,**
- **8 channels,**
- **4x4** – first 4 channels displayed on left side of image, second 4 channels on right.

Meter mode – audio level display mode. Available:

- **Peak only** – displays exact audio level peaks;
- **PPM only** – displays averaged audio level peaks;
- **PPM + Peak** – displays both averaged and exact audio level peaks.

Semi-transparent – semi-transparent/opaque PPM display;

Show background – show/hide PPM background. When disabled, "Show values" is automatically disabled too;

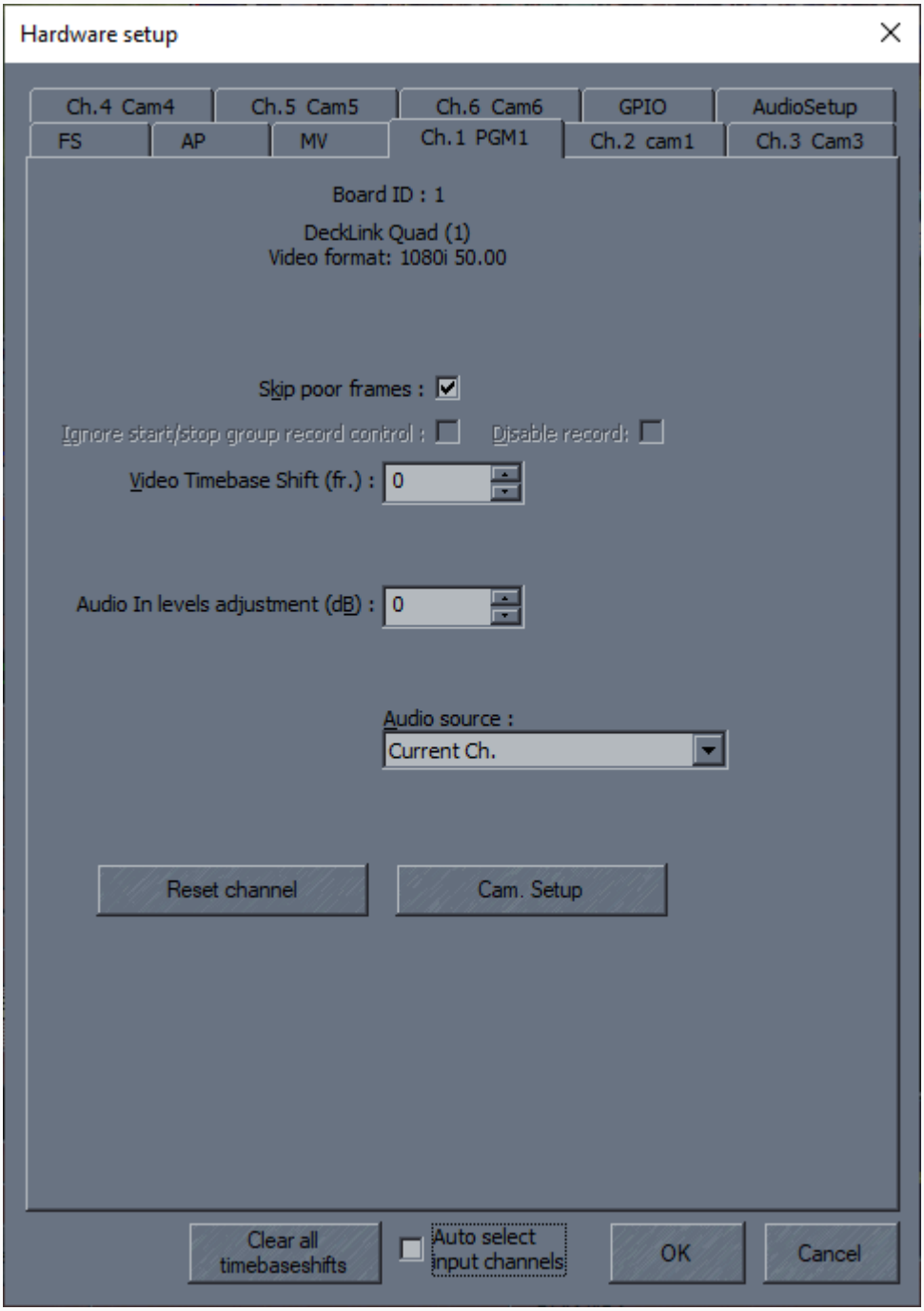
Show values – display of dB values to the left of bars;

Show inactive segments – enables/disables discrete display of bars.

Ch.

Ch. tabs (Figure 30) are used to configure the settings for each input.

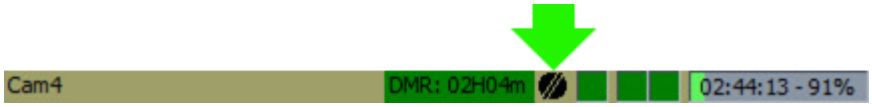
Figure 30 – Setup of video channels



- The **Skip poor frames** parameter is used to skip defective frames;

- The **Ignore start/stop group record control** parameter (Ignore start/stop group record control: ☐)[1] controls the selected channel's response to the group recording control buttons in the "Recording Control" zone. When this parameter is activated (Ignore start/stop group record control: ☑) in the channel settings, it enables per-channel control of this channel, i.e., to enable/disable recording on this channel, you must use the recording management menu of the selected channel accessible by right-clicking the Record Unit status indicator (⏸ / ●):

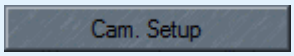
- The **Disable record** parameter (Disable record: ☐)[2] is used to prohibit recording of the selected channel. When **Disable record** is activated – a "checkmark" is set to the right of the parameter (Disable record: ☑) – the channel will not be recorded. To resume recording, uncheck **Disable record**. Parameter activation is indicated by a crossed-out circle (⊘) in the recording status line of the selected channel:



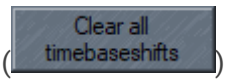
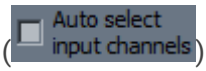
- The **Video Timebase Shift (fr.)** parameter (Video Timebase Shift (fr.) : 0) performs video shift, if there is a delay in any of the channels, to ensure synchronization across all channels. This value is set in frames. The **Video Timebase Shift** parameter is used in cases where there are long communication lines from external equipment connected to one of the inputs, which create time delays in video signal transmission.
  Increasing the shift by one is equivalent to shifting the camera, i.e., an empty (black) frame will be inserted into this channel's video to align the timing with the other channels.
  Decreasing the shift by one, i.e., removing one frame in the selected channel, is equivalent to inserting an empty (black) frame into all other channels' video to align the timing across all channels.
- The **Output format**[3] parameter is used to select the video output format for 3G-SDI: "Level A" or "Level B".
- The **Audio In levels adjustment (dB)** parameter (Audio In levels adjustment (dB) : 0) is used when it is necessary to amplify the input audio signal. This parameter is recommended for use when other methods of amplifying the audio signal have failed.
- The **Audio source** parameter (Audio source : Current Ch.) sets the audio signal source for the selected video channel. The audio signal source can be either the same channel or another channel receiving the audio source.

If one of the video channels malfunctions (no video signal, incorrect video signal display), it is possible to reboot the hardware of this specific channel without restarting the entire system. For this, use the **Reset channel** button (Reset channel). After clicking the button, the selected channel will be rebooted.

1, 2 Available only for systems equipped with an HDD array.
3. May not be displayed if the used configuration does not support 3G-SDI signal format changes.

The  button is not used in systems with Super Motion technology and in systems working with third-party cameras (not slomo.tv)!

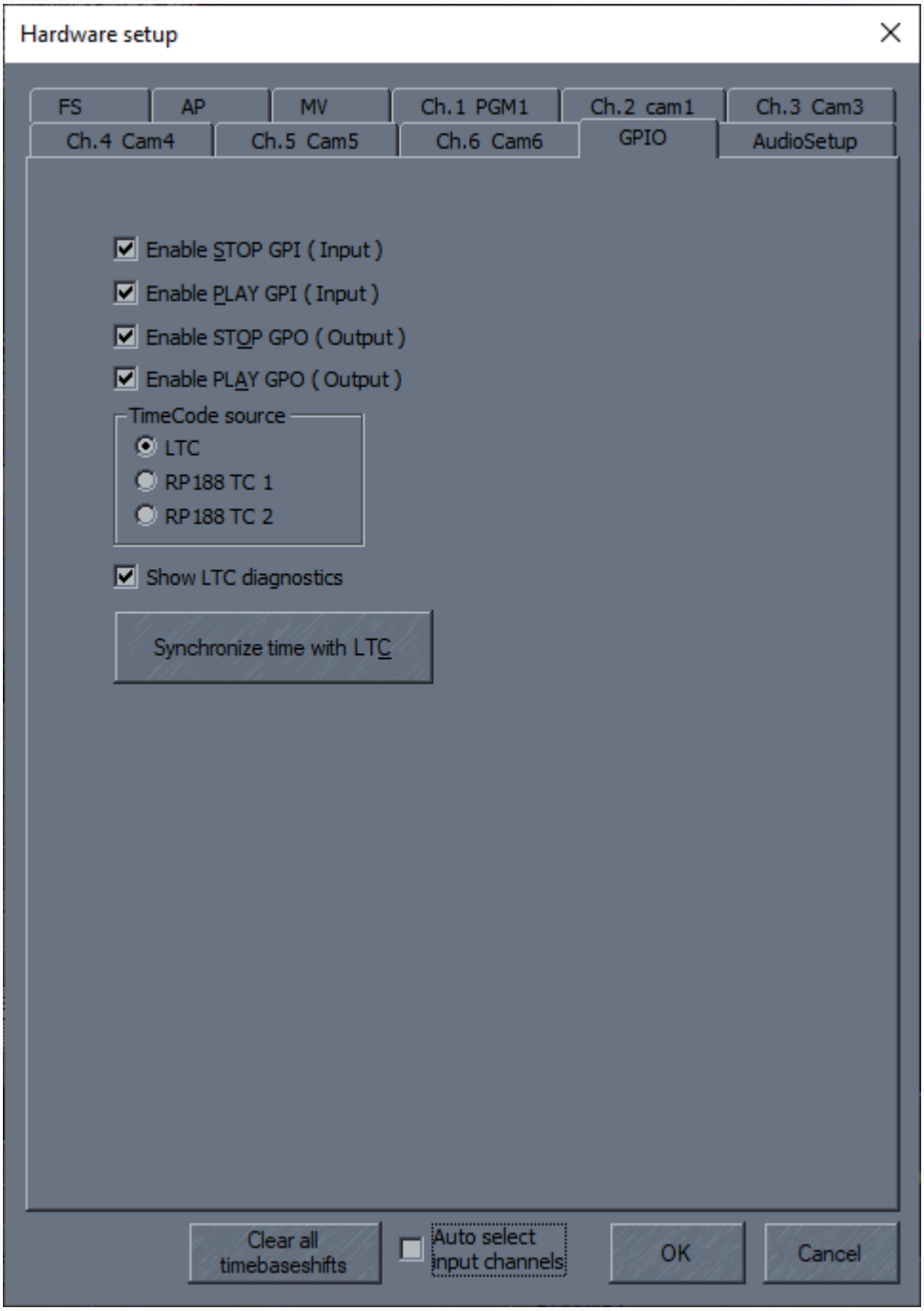
The bottom part of the **Hardware setup** window contains common parameters for the **Ch.** tabs:

- The **Clear all timebaseshifts** button () resets the "Video Timebase Shift (fr.)" setting in all **Ch.** tabs to the default value.
- **Auto select input channels** () – if the parameter is activated, when switching to one of the **Ch.** tabs, the corresponding channel (camera) will be automatically selected in the main interface.

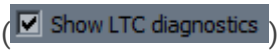
GPIO

In the **GPIO** tab (Figure 31), GPIO interface parameters are configured. This interface can be configured for input ("Enable STOP GPI (Input)", "Enable PLAY GPI (Input)") and for output ("Enable STOP GPO (Output)", "Enable PLAY GPO (Output)"). Checking/unchecking the corresponding box activates/deactivates the selected GPIO interface parameter.

Figure 31 – "GPIO" tab

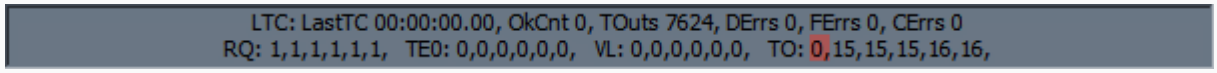


This tab also configures the timecode standard used (**Time Code source**): "LTC", "RP188TC 1", "RP188TC 2".

The **Show LTC Diagnostics** parameter (

) controls the display of the "LTC" line (timecode information) in the "System Information Box" (Figure 32).

Figure 32 – System Information Box



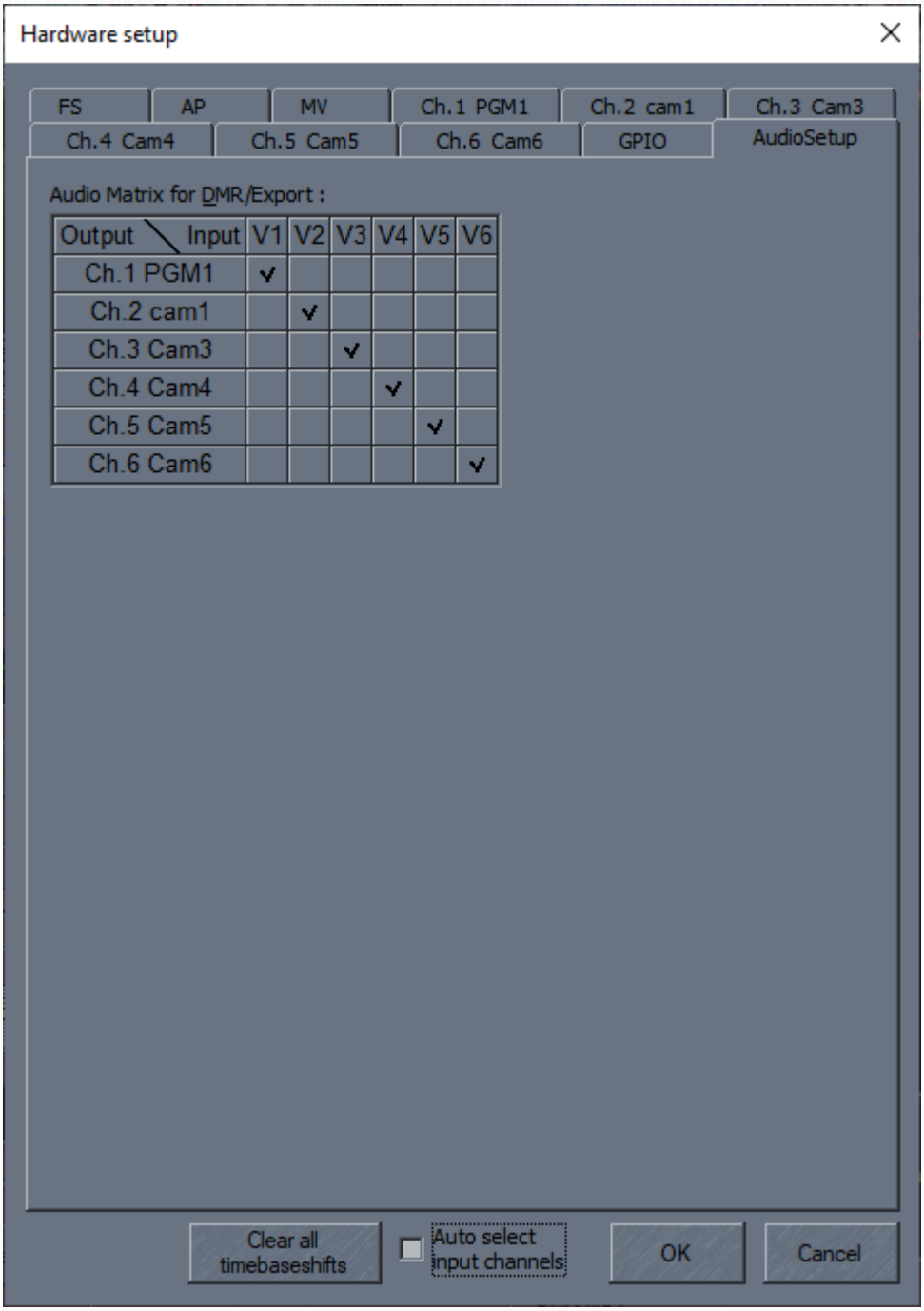
The system implements the ability to synchronize the system time with a connected external timecode source. To synchronize the system time with an external timecode source, click the **Synchronize time with LTC** button (Synchronize time with LTC) in the "GPIO" tab. Since the program uses system time as the timecode source when no external timecode source is present, using the Synchronize time with LTC button allows continuing work with the required timecode value when the external timecode source is absent (cable break, disconnection).

When the **Synchronize time with LTC** button is pressed, the synchronization command is instantly initiated. If timecode is being received, the system time will immediately synchronize with the incoming timecode, and this action cannot be canceled. If timecode is absent for any reason, the program will wait for timecode arrival either until it appears, or until the synchronization command is canceled by the Cancel synchronization button, or until the settings dialog is closed.

AudioSetup

AudioSetup tab (Figure 33) is used only to configure distribution of audio sources for DMR™ and export. To assign an audio source to a video channel, click on the corresponding Audio Matrix intersection.

Figure 33 – "AudioSetup" tab

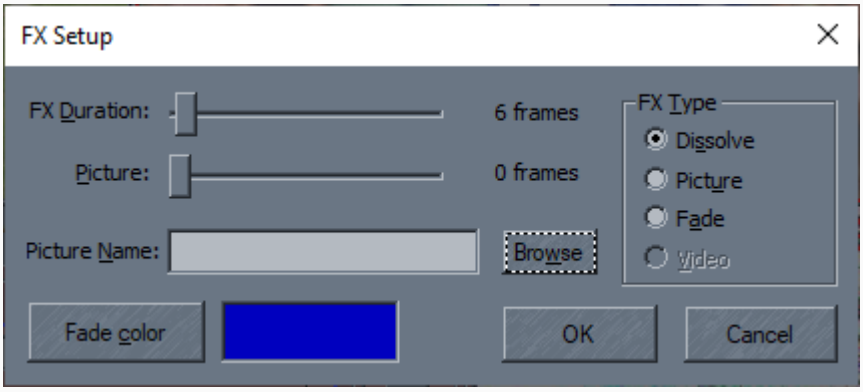


If the audio matrix is not filled correctly, some DMR™ video channels may have no audio.

FX Setup

FX Setup configures transition effects between clips (Figure 34).

Figure 34 – "FX Setup"

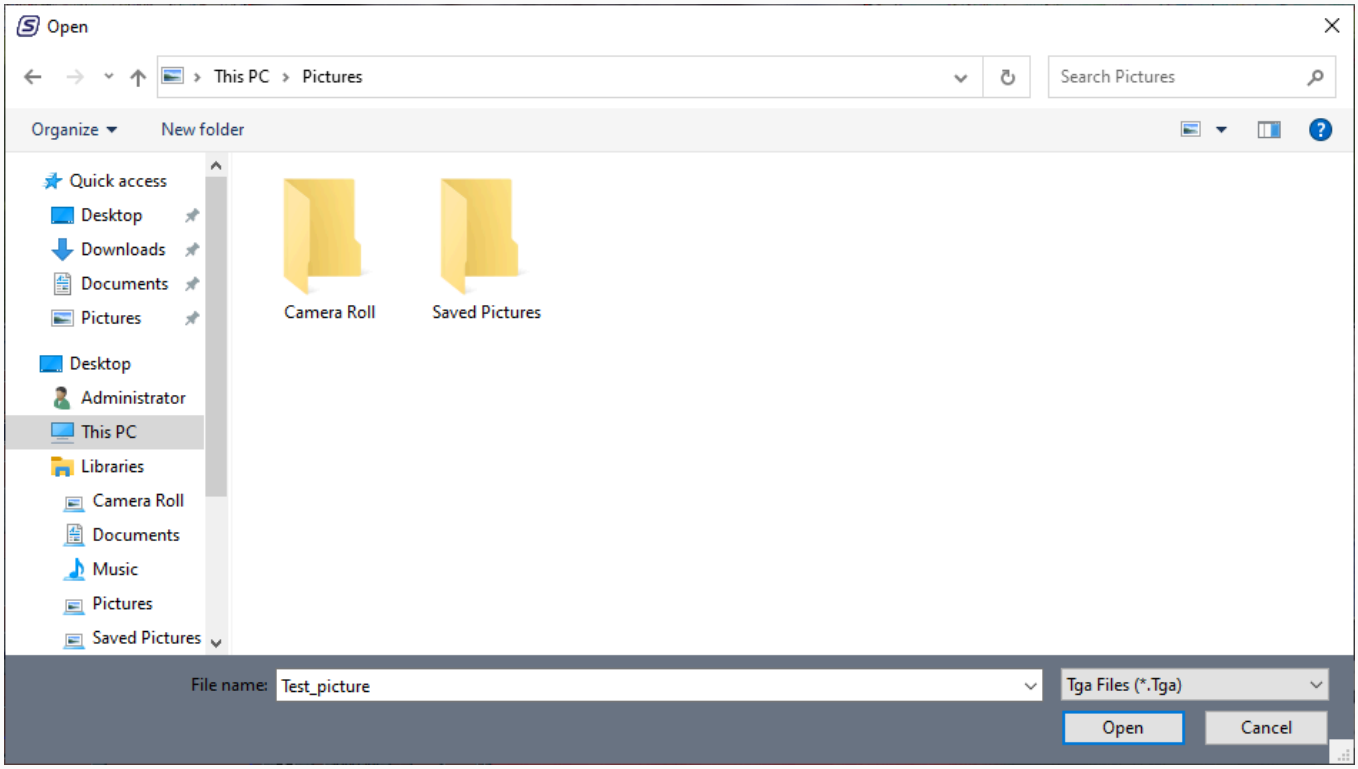


FX Setup configures:

- **FX Duration** – transition duration (in frames);
- **FX Type: Dissolve, Picture, Fade** – type of transition effect used.

To use a picture for transition effect you need to click on **Browse** button and specify the path in the Explorer window (Figure 35):

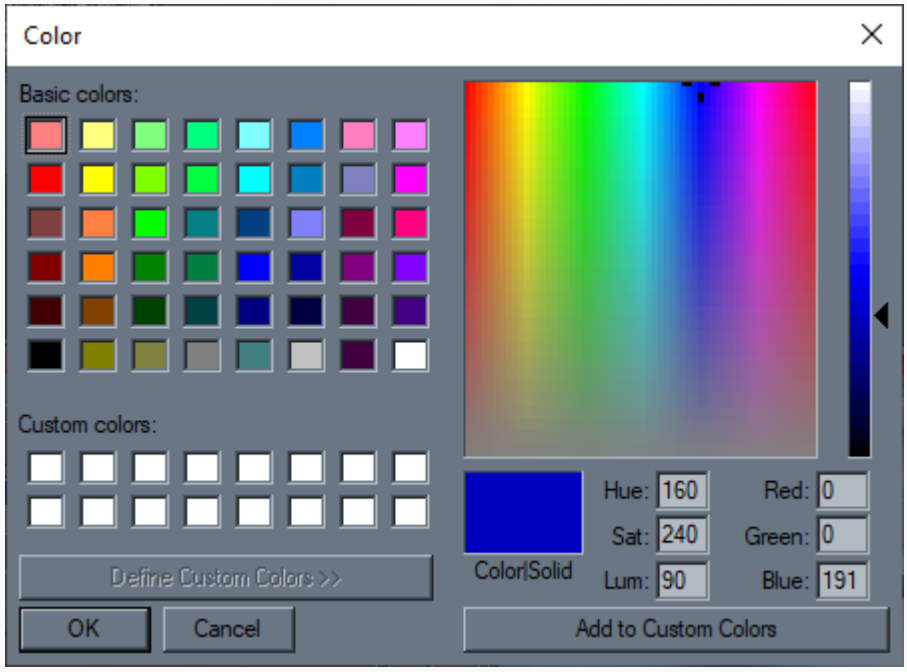
Figure 35 – Explorer window for selecting transition image

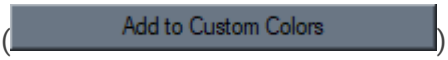


The file must have one of the following extensions: * .tga, * .bmp, * .jpg, * .png, where * is the file name.
The resolution of the image must match the resolution of the used video.

FX **Fade** allows selection of colors using **Fade Color** (Fade color) button, which will open the "Color" window:

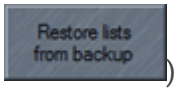
Figure 36 – Color selection for FX Fade



You can assign up to 16 favorite colors. To do this, set an arbitrary color in the spectrum on the right side of the window and click the **Add to Custom Colors** button (

). The color will then be saved in the **Custom Colors** area and available for use.

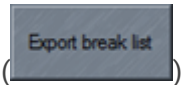
Restore lists from backup

This section of the "Tools" is used to restore all playlists and settings after a system failure (crash, reboot or involuntary termination of the program).
To restore the system immediately after the program started use the **Restore lists from backup** button (

). The system will automatically restore its prior to failure state.

Export break list

This section of "Tools" is used for exporting the list of errors to diagnose problems which occurred during the operation of the program.

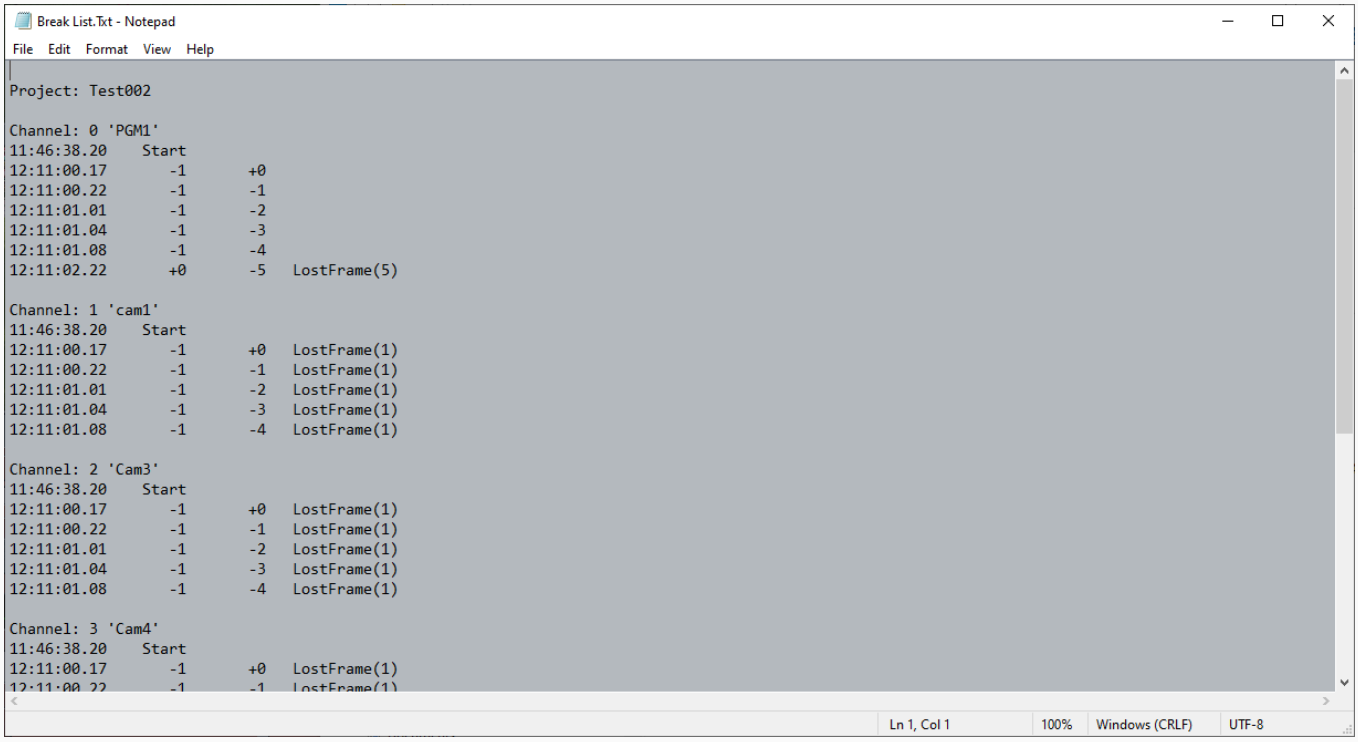
After clicking on the **Export break list** button (

) in the opened Explorer window specify the export path, the name of the file and click **Save**.

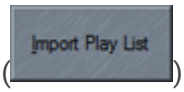
The saved file will have extension *.txt
This file is used for video editing and fixing missed frames.

The file will contain for each channel the name of the project, time and number of dropped frames.

Figure 37 – Example of a break list file



Import Play List

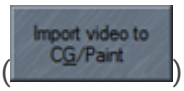
To import into the project previously created playlists use **Import Play List** (

) button and in the opened window specify the path to the file to be imported.

Imported file must have extension *.xsm

Import video to CG/Paint

Graphics import

To import into the project graphics or clips use **Import video to CG/Paint** (

) button and in the opened window specify the path to the file to be imported.
Imported object will be available in "CG/Paint" (6) folder, in the lower left corner of the main program interface window.

Imported file must have extension *.avi, *.mov, *.tga, *.bmp, *.jpg.

To load the sequence of images (*.tga, *.bmp) correctly, you must select the first file of the sequence.

Import graphics with alpha-channel or audio

The program provides for working with a pair of imported files - the main video and video with alpha channel/audio. Import of graphics with an alpha channel/audio requires preliminary preparation of files.

The imported file must have the extension *.avi or *.mov.

Audio format - uncompressed 16 / 24 / 32 bits, 48000 kHz.

Imported video files must comply with the used general broadcast television standard:

- Standard Definition:
  - 720x576 6:2:2 10 bit 50i 3x4/16x9 (PAL);
  - 720x480 6:2:2 10 bit 59.94i 3x4/16x9 (NTSC).
- High Definition:
  - 1920x1080 6:2:2 10 bit 50i 4x3/16x9;
  - 1920x1080 6:2:2 10 bit 59.94i 4x3/16x9.

Important! Despite the apparent similarity of frequencies of 59.94Hz and 60Hz, the latter is not a broadcast frequency and is not supported by the system. The same applies to the frame rate of 24Hz.

When importing, the system scans the files located in the folder with the main video looking for the alpha-channel and audio file[1]. For successful detection, the file name must meet the following requirements:

1. Alpha-channel file must have the same name as the main file with one of the alpha-channel indicators:
   - alpha
   - mask
   - key
2. Audio file must have the same name as the main file with one of the audio indicators:
   - audio
   - sound
3. File name may contain both upper and lower case letters.
4. The separator between the file name and the indicator can be one of the following characters:
   - dot: "."
   - underscore: "_"
   - dash: " - "
   - space: " "

For example: ClipName.mov – main video file.
ClipName_alpha.mov – apha-channel file.
ClipName-Sound.mov – audio file.

An alpha channel file must be at least as long as the main file.
If there are several files in the folder, the first one will be used. The search order is: alpha; mask; key. If, for

1. If alternative audio needs to be used. If an audio file is found – it will be used instead of the audio from the main file.

example, in the folder there are ClipName_mask.mov and ClipName_key.mov files, the ClipName_mask.mov file will be imported, and the ClipName_key.mov file will be ignored.

The search order for audio files is: audio; sound.

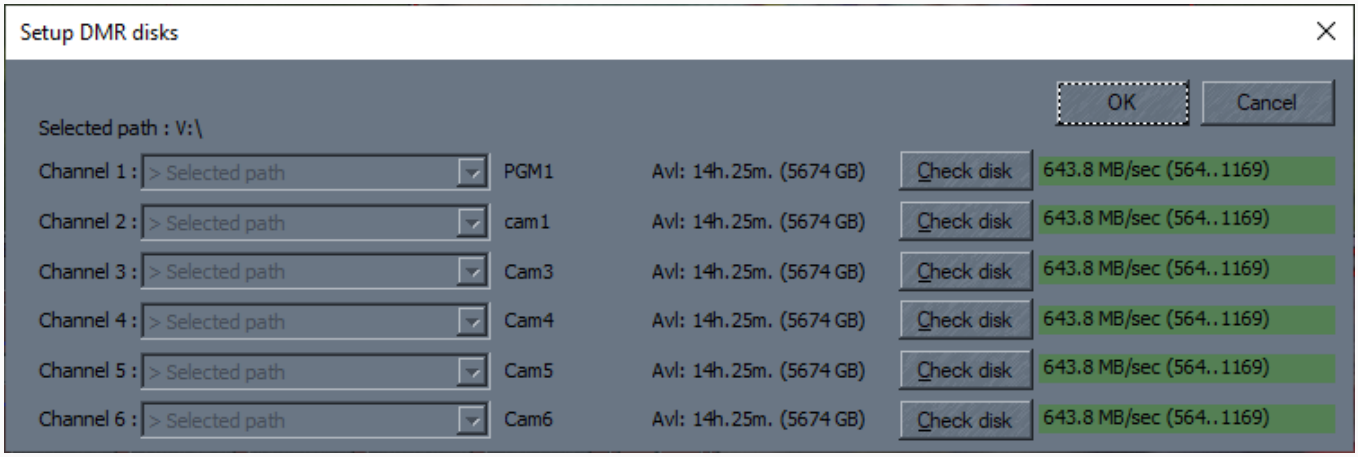
In the CG / Paint (6) tab in the lower left corner of the main interface only the main file will be displayed. The alpha-channel / audio files will not be displayed.

View DMR disks settings

Clicking on **View DMR disks settings** button (

) will open the following window:

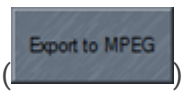
Figure 38 – "Setup DMR disks"



In this window you can view the current DMR™ settings and test the speed of DMR™ disks, but cannot change the DMR™ configuration.

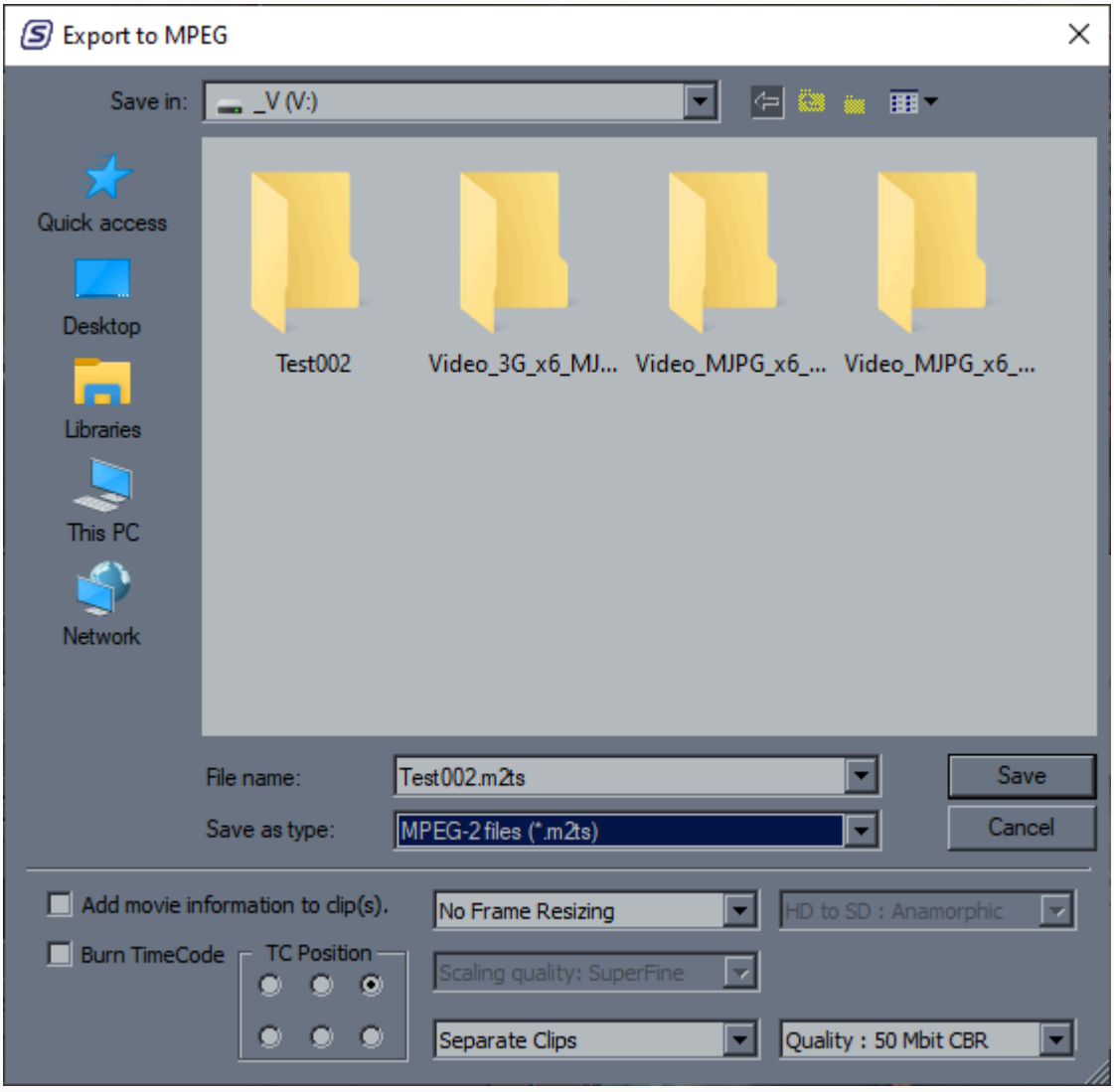
Export to MPEG

This section of "Tools" is used to create a proxy files from clips contained in "On Air". This function becomes active when clips are added to "On Air", at the end of playback and after project recording has ended.

Clicking on **Export to MPEG** button (

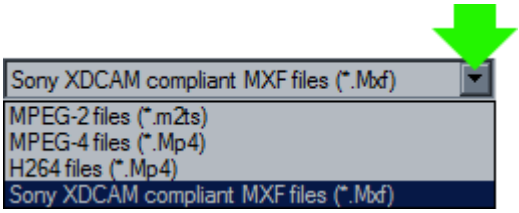
) will open "Export to MPEG" window:

Figure 39 – "Export to MPEG" window



In the opened window, the parameters of the file being created are set[1]:

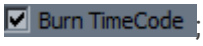
- **Save in** – location for saving the file (disk and folder);
- **File name** – name of the file to be saved. Default – current project name;
- **Save as type** – format of the file to be saved:



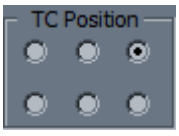
- **Add movie information to clip(s)** – if the parameter is active, information about each clip will be added to the beginning of its video file (Figure 40);

1. Depending on the license type and used configuration, some fields may be unavailable for configuration.

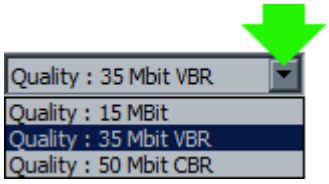
Figure 40 – Movie information example

- **Burn Timecode** – instruction to burn timecode. To activate, check the **Burn Timecode** box: 

;
- **TC Position** – position of burned timecode relative to the video window:

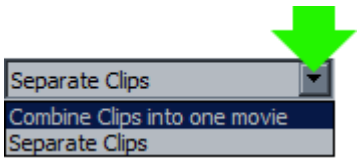
			
	Top left	Top center	Top right
	Bottom left	Bottom center	Bottom right

- **Quality** – quality of the created video[1]: "15 Mbit", "35 Mbit VBR", "50 Mbit CBR":



Clip recording parameter:

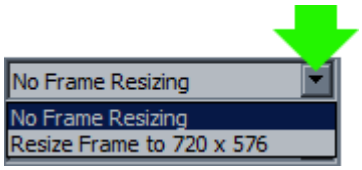
1. Only for MPEG-2 files (*.m2ts).



Combine Clips into one movie – record as one combined clip;

Separate Clips – record as separate clips.

Selection of frame size for created video[1] – "HD" or "SD":

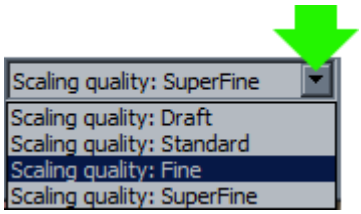


No Frame Resizing – used for creating video in HD format;

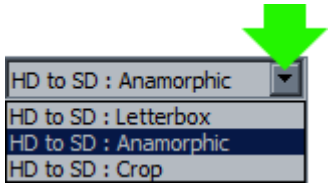
Resize Frame to 720 x 576 – used for creating video in SD format.

To create video in HD format, select "No Frame Resizing" (do not change frame size); to create video in SD format, select "Resize Frame to 720 x 576" from the dropdown list. When selecting "Resize Frame to 720 x 576" (video in SD format), additional settings become available, such as:

- **Scaling quality** (listed in order of improving quality):



- **Frame formation parameter**:



Letterbox – widescreen format (16:9) without cropping but with black bars added at the top and bottom of the image;

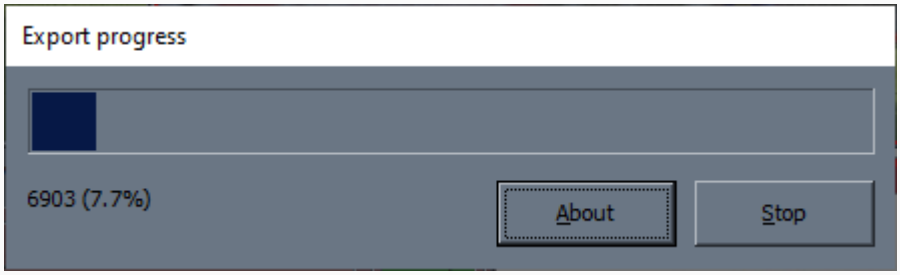
Anamorphic – fullscreen format without cropping and compression;

Crop – format with image cropping from the sides to fit 4:3 screen size.

After completing the selection of parameters for the video file being created, click the **Save** button in the "Export to MPEG" window (Figure 41).
During export execution, a progress window will open displaying the operation status:

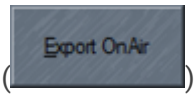
1. Except Sony XDCAM compliant MXF files (*.Mxf).

Figure 41 – "Export to MPEG" operation progress window



Upon completion of export, the progress window will close automatically.

Export OnAir

Export OnAir (

) is used to create files of clips contained in the "On Air" in *.Mov or *.Mxf format.

This option becomes active after completion of recording and stopping playback when you add clips to "On Air".

Creating a clip for export

There are many ways to create a clip. Here we will consider one in which clip duration is equal to entire recording. That means that recording has finished. You will need to create clips for export for each channel you want to export.
First you need to mark the clip. This is done only once and after that you can create clips for each channel by sequentially switching between channels selected for export.

First, let's do the clip marking.
Select a channel for export - the active channel. In our example, the active channel is second (1). Note the position of the slider (2) in the "Editing Control" (Figure 42).

Figure 42 – Selecting channel for export

Press `Ctrl` + `Alt` + `*` on keyboard. The slider will move from initial position (1) to the end of recording (2) (Figure 43).

Figure 43 – Jump to recording end

Let's set the **Mark Out** by one of the following:

1. Clicking on **Mark Out** button ( ]) on the interface;
2. Pressing `]`, `Numpad_9` or `Ctrl` + `E` on keyboard;
3. Pressing `Mark Out` on remote control.

The right border of the blue strip representing the clip area is now at slider position (1). Additional information is displayed by the slider (2) and clip (3) time-codes. They are identical (Figure 44).

Figure 44 – Setting the Mark Out

Let's press `Ctrl` + `Alt` + `Num_Lock` on keyboard. The slider moves to the beginning of recording (1). The entry point (2) does not coincide with the slider position (Figure 45).

Figure 45 – Jump to recording start

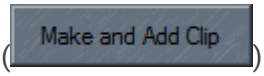
Now set the **Mark In** by one of the following:

1. Clicking on **Mark In** button ([ ) in the program interface;
2. Pressing `[`, `Numpad_7` or `Ctrl` + `Q` on keyboard;
3. Pressing `Mark In` button on remote control.

The left edge of the blue strip is at slider position (1). The time-codes of slider (2) and clip entry point (3) confirm that (Figure 46).
Clip marking is finished.

Figure 46 – Setting the Mark In

After the clip is marked it needs to be created either in "Clips" and/or in "On Air". Because we are creating the clip for export, we will place it in both "Clips" and "On Air" using one of the following:

1. Clicking on **Make and Add Clip** (

) button (1) in program interface;
2. Pressing `Numpad_Enter` on keyboard;
3. Pressing `Clip` on the remote control.

Figure 47 – Clip creation

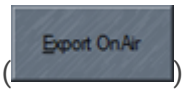
Notice changes in the right upper corner (2). We have edited and created a clip placing it in "On Air" playlist.

The single clip containing entire recording from Cam2 was placed in "On Air".
To create the clip of entire recording from another channel we need to make that channel active and create the clip without changing the clip marking.

If needed the clip can be deleted from "On Air" by selecting it and clicking on  button or pressing `Ctrl` + `Delete` on the keyboard or pressing `Ctrl` + `Del` on Control ZR / ZR2.

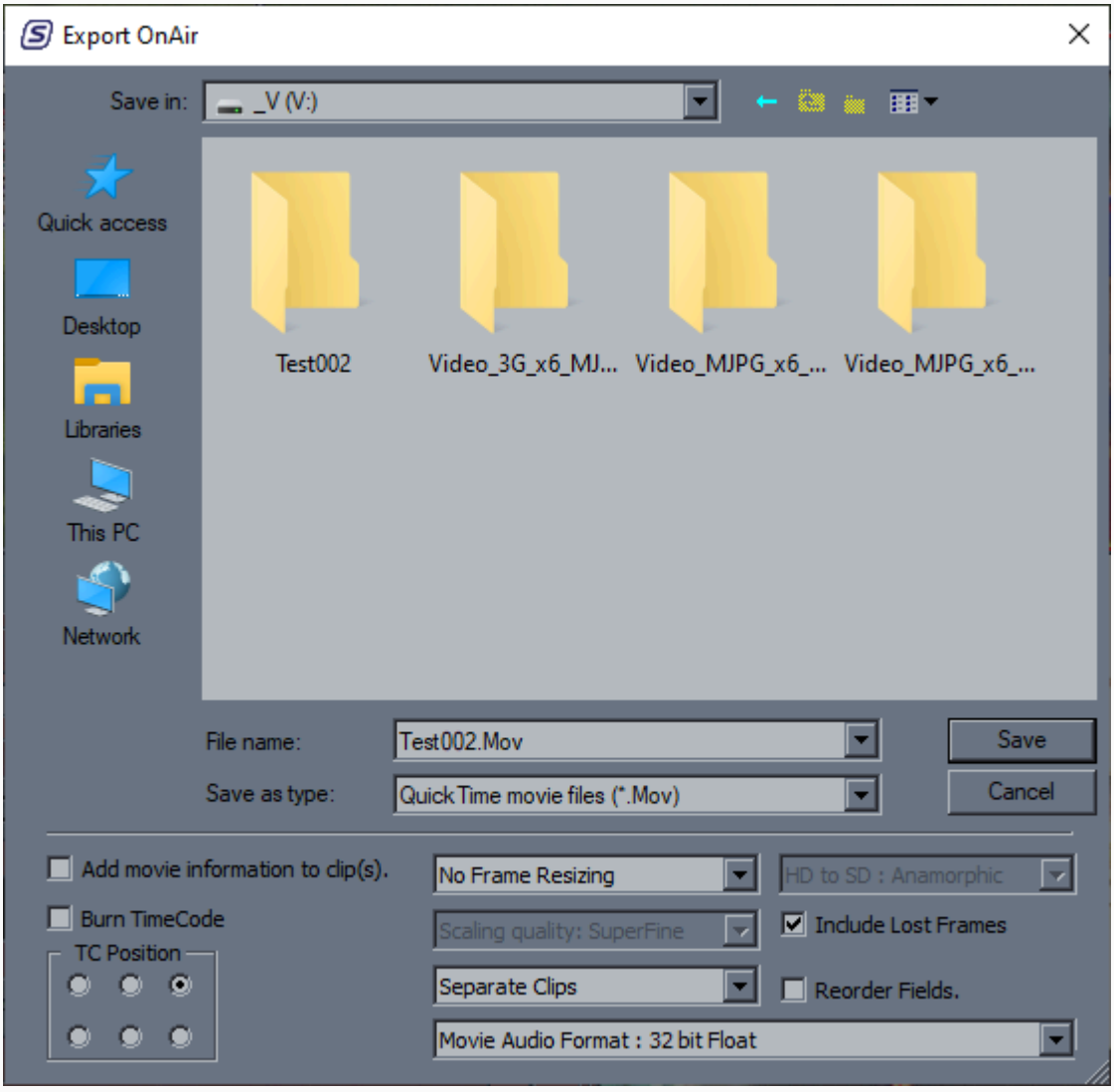
If there were brakes during recording you can export the fragments of video between the brakes. To quickly position on recording stops use `Alt` + `Num_Lock` and `Alt` + `*` to move the slider back (`Num_Lock`) or forward (`*`) to exact position when there was time-code interruption.
Don't forget that interruptions can also be caused by problems during recording. It is recommended that operators keep written notes about any problems, stops etc.

Menu Export OnAir

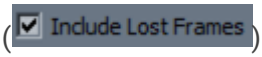
Clicking the **Export OnAir** button (

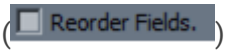
) opens the window (Figure 48) where parameters of exported file can be set.

Figure 48 – "Export OnAir" window

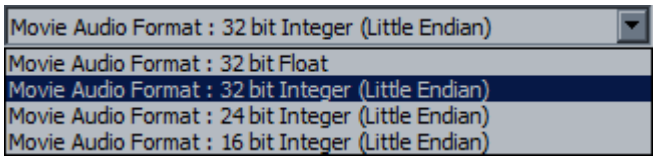


This window is analogues to "Export to MPEG", except the following:

- **Include Lost Frames** (

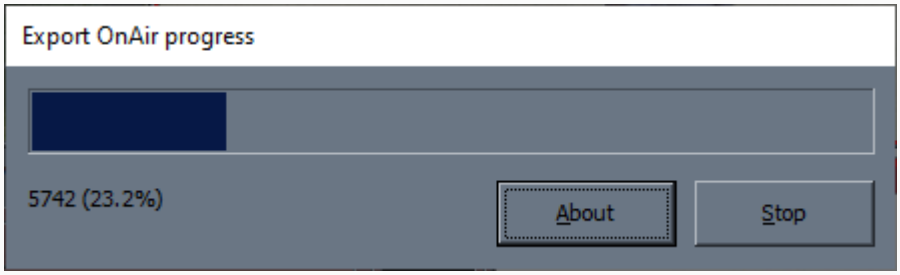
) – marking the location of dropped frames in the created video file;
- **Reorder Fields** (

) – field reordering when using different television broadcasting standards. This function may be necessary in case of incorrect recording in the wrong format (DV50, DV25 with field order as in PAL, SECAM) or when needing to record SD (NTSC) proxy format from HD or SD from HD for PAL DV50, DV25.
- **Movie Audio Format**:



After all parameters have been selected click **Save**.
During export the following window will open, displaying the progress of the operation:

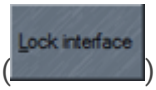
Figure 49 – "Export OnAir progress" window

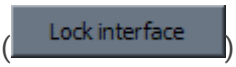


This window will automatically close at the end of export operation.

Lock Interface

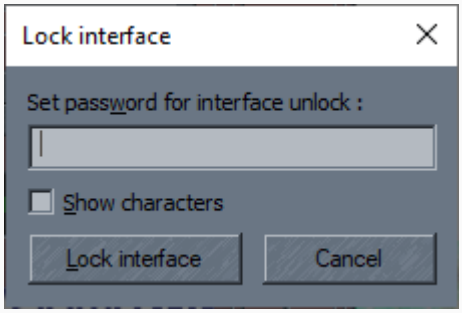
The **Lock Interface** button in the "Tools" menu is used to lock the program interface against accidental unauthorized access.

To activate the lock, click the **Lock interface** button (

). In the opened window (Figure 50), enter the lock password and click the **Lock interface** button (

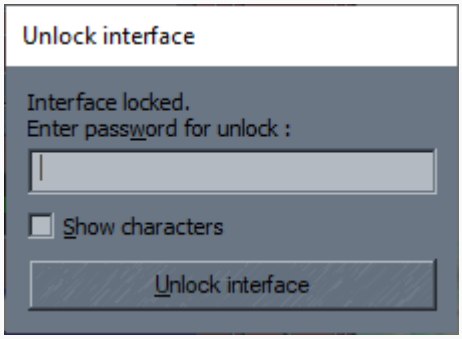
). For convenient password entry, you can check the "Show characters" box to display entered characters.

Figure 50 – Password setting window for program interface lock



After clicking the **Lock interface** button, the password setting window will automatically change to the program interface unlock window (Figure 51).
To unlock the program interface, enter the previously set password in the unlock window and click the **Unlock interface** button.

Figure 51 – Password entry window for program interface unlock



The previously set password is automatically remembered by the program. To cancel using the previously entered password, you need to set the program interface lock with an empty password.
The password can consist of any characters in any quantity.
This password is only valid for the current system session, and if the password is lost, you must restart the computer to restore access.

Audio control

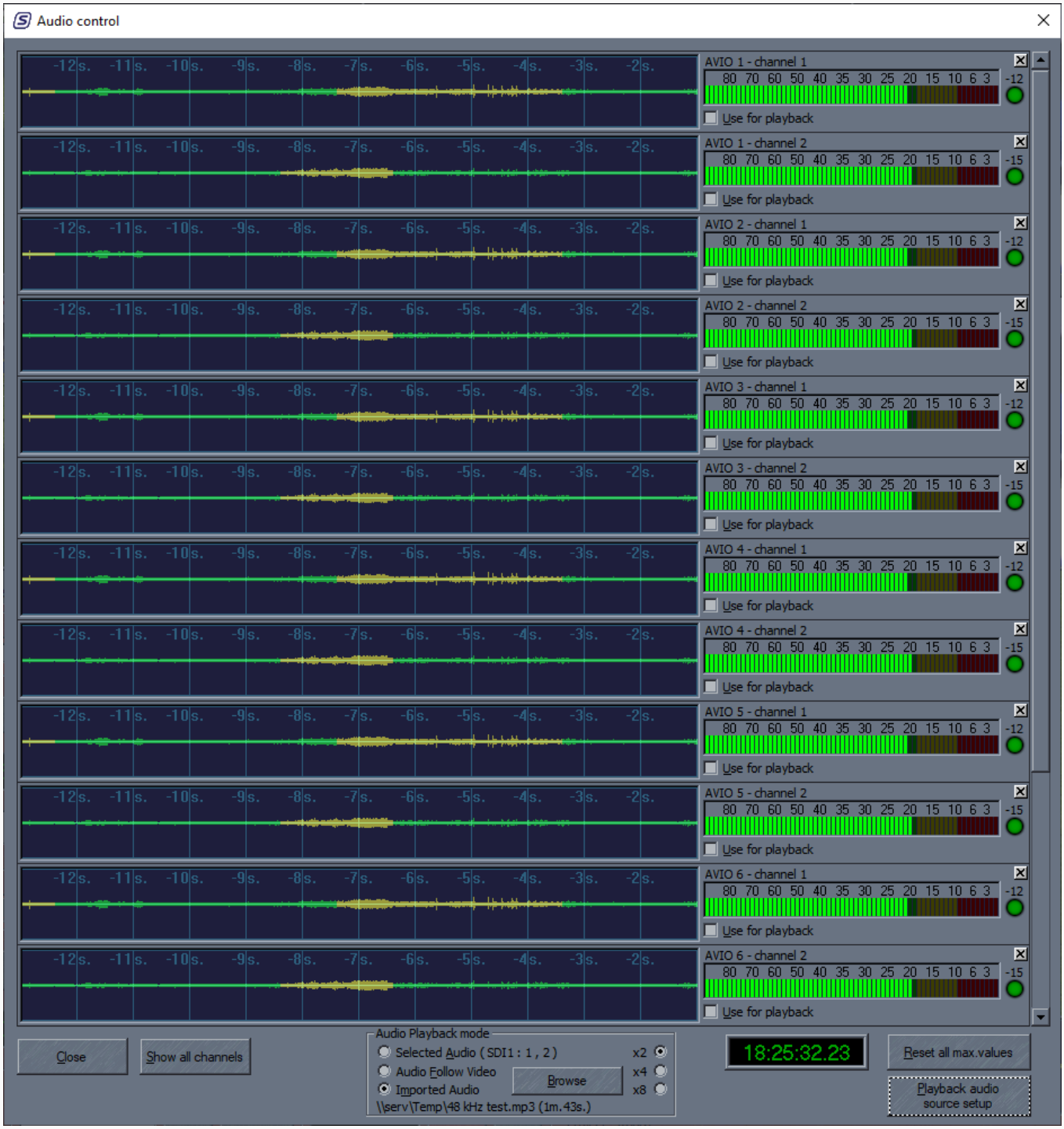
The **Audio control** can be opened in one of the following ways:

- In the program's main window, on the control panel 

, click the  button;
- Press the keyboard shortcut `Ctrl` + `Shift` + `A`.

After which the window shown in Figure 52 will open.

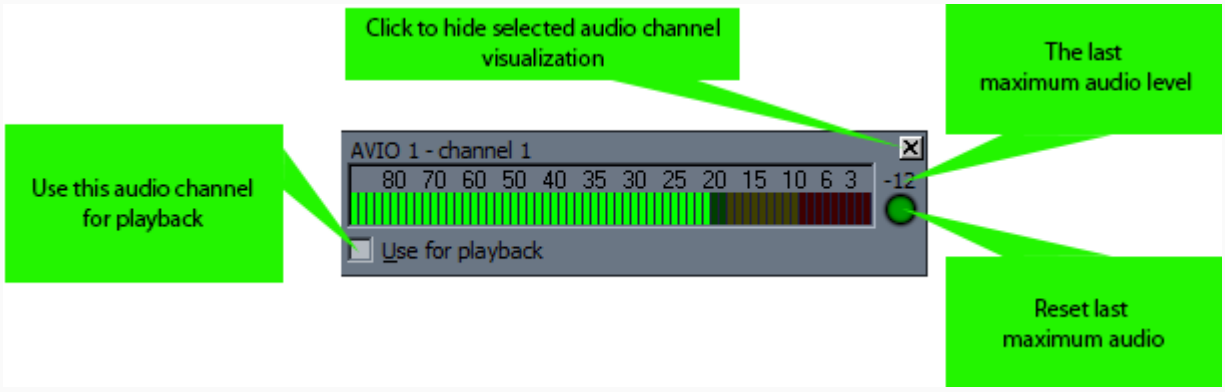
Figure 52 – Audio control



All slomo.tv servers work with various audio sources. Primarily, this is audio embedded in the SDI signal. Some servers may have additional AES/EBU and MADI inputs.
All servers can accept up to eight audio tracks embedded in SDI for each video channel. AES/EBU and MADI audio are organized similarly (in groups of 8 tracks).

Initially, the audio panel displays all audio channels that the system can work with. However, not always are that many audio tracks fed into the system input. For convenience, you can disable the display of unused audio tracks. To do this, click the button in the audio track diagram window (Figure 53).

Figure 53 – Audio track diagram

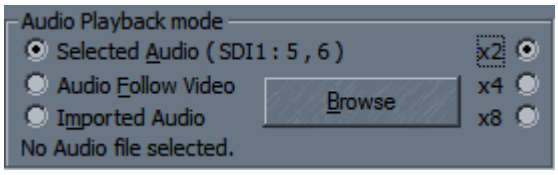


To restore the display of all audio channels, click the **Show all channels** button (Show all channels).

Each audio track diagram has a maximum audio level value indicator. To reset the levels of all channels, use the **Reset all max. values** button (Reset all max.values). It resets all previously displayed audio level values in the audio channels.

Audio Signal Source Selection

For playback, the audio signal source can be configured – **Audio Playback mode**:



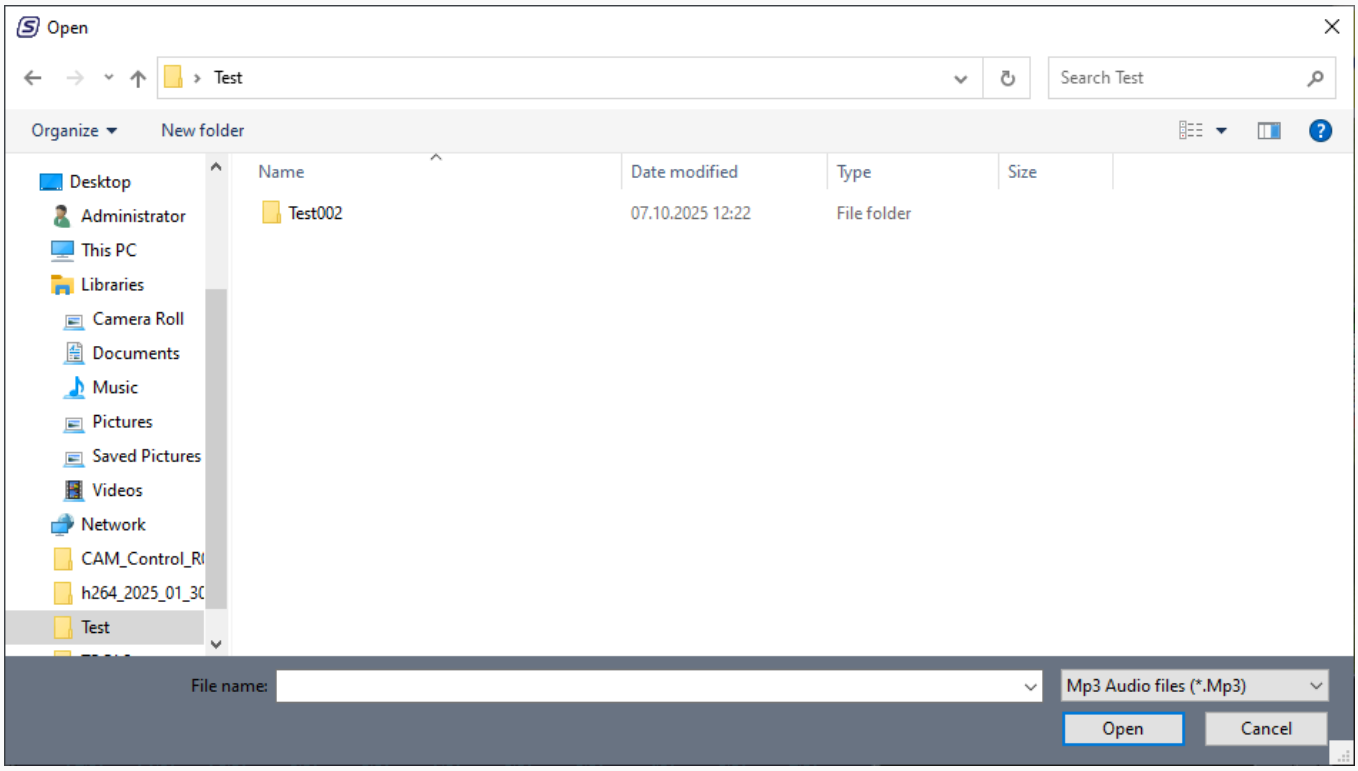
The following can serve as audio signal sources:

- **Selected Audio** – audio coming with a specific video channel, i.e., when switching video channels, audio will always be used from the selected channels, not from the video channels currently playing. Marking the audio channel used for playback is done by checking the "Use for playback" box (Use for playback) in the audio track diagram window;

> ⚠ The "Use for playback" parameter is used in pairs, i.e., the checkmark will be placed in the selected and the following audio channels (two audio tracks will be used) and, consequently, care must be taken to ensure these audio tracks match.

- **Audio Follow Video** – audio coming with the selected video channel for playback. When switching the video channel for playback, the audio channel of the selected video channel will also be switched;
- **Imported Audio** – imported audio. Audio from an audio file is used for playback. To add an audio file, click the Browse button and, in the opened window (Figure 54), select an audio file to use as the audio signal source.

Figure 54 – Selecting audio source

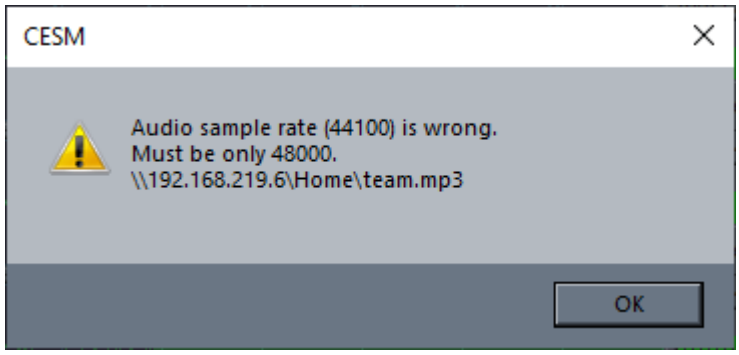


The imported audio must be located on the same disk as the program (C:\ or V: drive). If the audio file is located elsewhere, an error message about accessing the audio file will appear upon subsequent program restart.

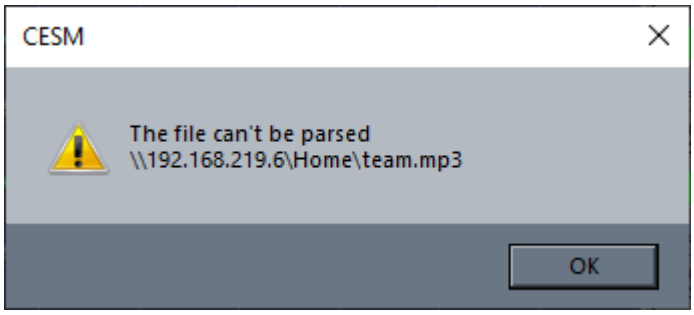
The imported audio file must be in *.mp3 format with a 48 kHz frequency.
Audio files different from the specified format will not open, and an error message will be displayed.

When using imported audio that does not meet the requirements, the following error messages may occur:

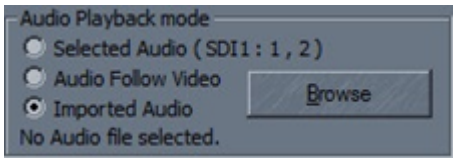
- Opening a file with incorrect frequency:



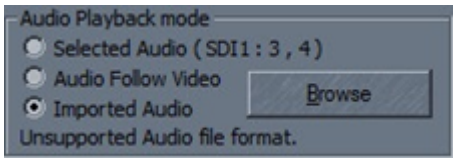
- Opening a file of incorrect format:



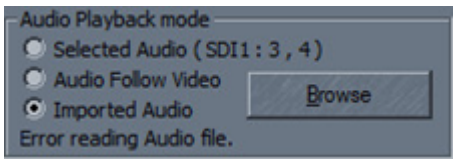
- "No Audio file selected" – the audio file used previously was not found:



- "Unsupported Audio file format" – the used audio file format is not supported by the system (audio file frequency does not match the required one):



- "Error reading Audio file":

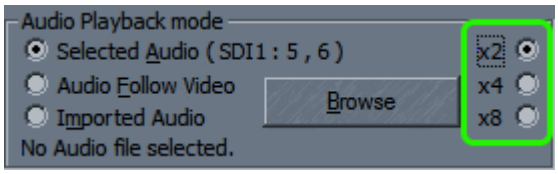


It is important to specify the audio source correctly, otherwise audio may be absent during playback.

When video speed is changed, the audio will slow down according to the set speed, and then, upon reaching a certain slow-down percentage, the audio playback will stop. The slow-down percentage at which audio stops playing is set in "Tools" → "Settings" → "Audio playback speed range".
If imported audio is used as the audio source, it is always played at 100% speed, regardless of the video playback speed used.

Selecting the Number of Audio Channels for Playback

To select the number of channels for playback, a switch is located in the **Audio Playback mode** field (on the right):



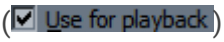
This switch allows selecting how many channels will be used for playback:

- **x2** (1 pair);
- **x4** (2 pairs);
- **x8** (4 pairs – all 8 audio tracks).

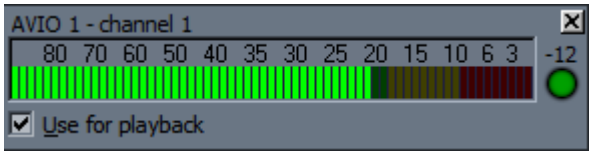
When receiving a "mono" type audio signal, the sound is duplicated onto two tracks. When receiving a "stereo" type audio signal, the incoming stereo signal will be used.

For playback, two audio tracks are used. When receiving a "mono" type audio signal, it is duplicated onto two tracks. When receiving a "stereo" type audio signal, the incoming stereo signal will be used. If more audio signals are received, only two audio tracks will still be used.

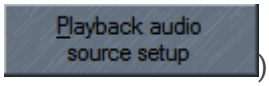
Selecting a Channel for Playback

To assign a channel for playback, check the **Use for playback** box (

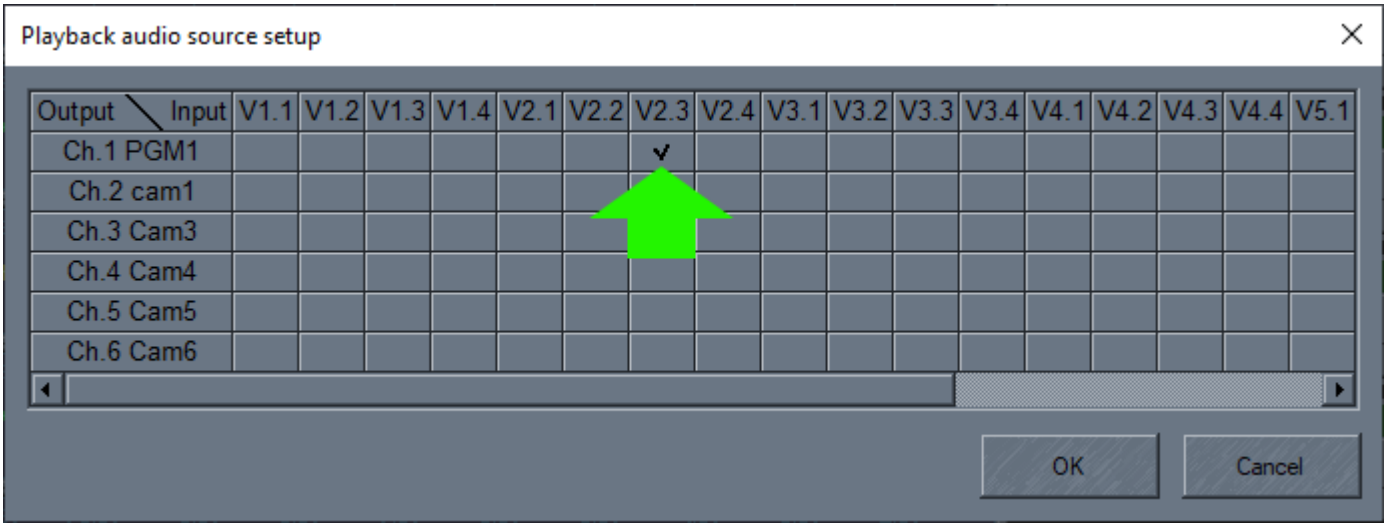
) in the corresponding audio track diagram:



Fixed Binding of Playback Channel to Input

To set a fixed binding of the playback channel to the input, click the **Playback Audio Setup** button (

). The **Playback audio source setup** window will open:



In this window, the user can bind the playback channel to an input channel.
Symbols used to denote audio sources:

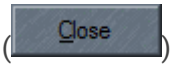
- **V** – embedded audio in the input video channel will be used;
- **A** – audio coming via the AES/EBU interface;
- **MC** or **MO** – audio coming via the MADI interface (C – coaxial, O – optical).

The combination of video channels and audio sources is set by clicking at the corresponding intersection.

Numbers following the source type indicate the source number and the pair within it. For example:

- "V5.4" indicates embedded audio in SDI of the 5th video channel, 4th pair (tracks 7 and 8);
- "V6.3" indicates embedded audio in SDI of the 6th video channel, 3rd pair (tracks 5 and 6);
- "A2.1" indicates AES/EBU audio of the 5th pair (tracks 9 and 10).

Settings made in the **Playback audio source setup** window take priority over settings made in the "Audio Control" window.
By default, this window has no preliminary settings.

To finish working with the audio panel, click the **Close** button (

) or . All audio settings made are saved automatically.