

Loudness Analyzer

LA Production

File-based loudness measurement and normalization



Loudness Analyzer is a line of desktop applications for on-air loudness control and file-based loudness measurement and normalization

Loudness Analyzer



LA Production with Level Magic™ algorithm allows broadcasters to perform file-based loudness measurement and normalization in compliance with all current international standards while preserving high audio quality

Compliant with:

ITU-R BS.1770(-1/2/3)

EBU R128

ATSC A/85

ARIB TR-B32

FREE TV OP-59

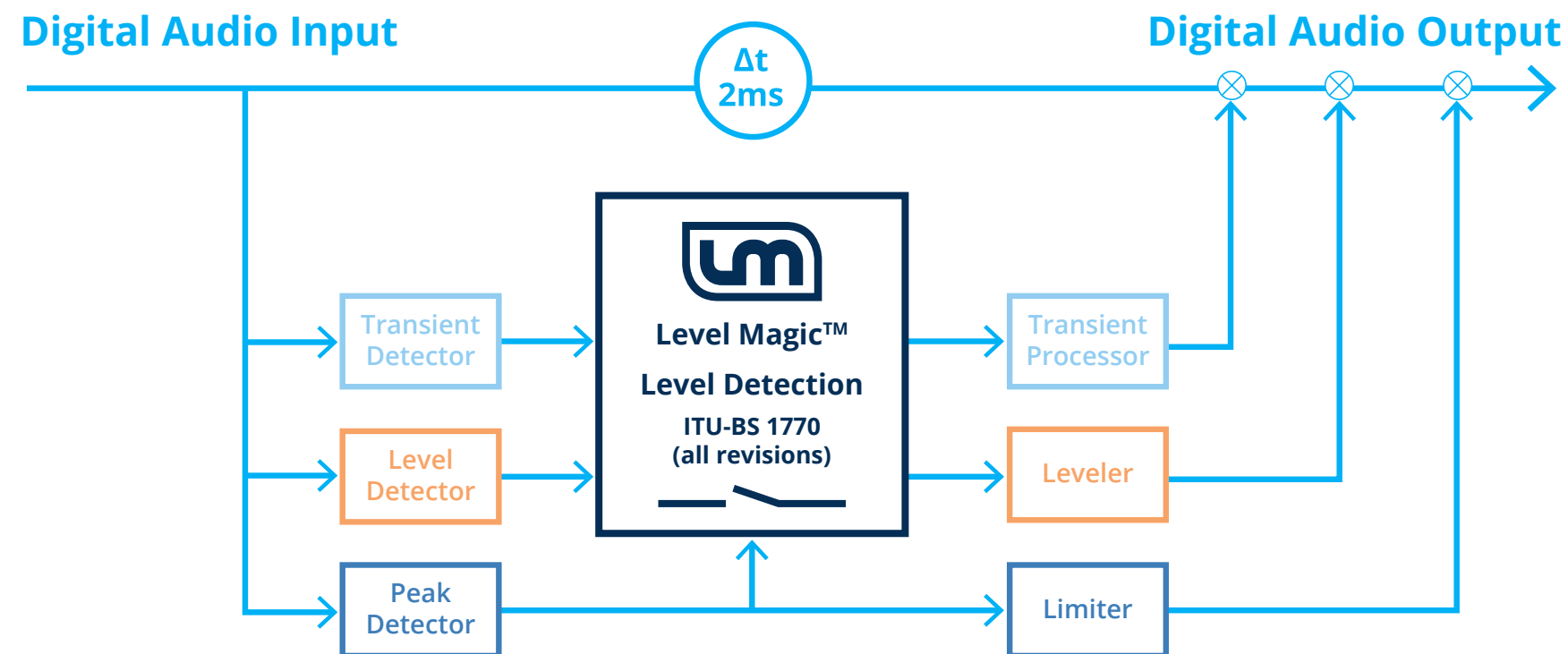
Portaria 354



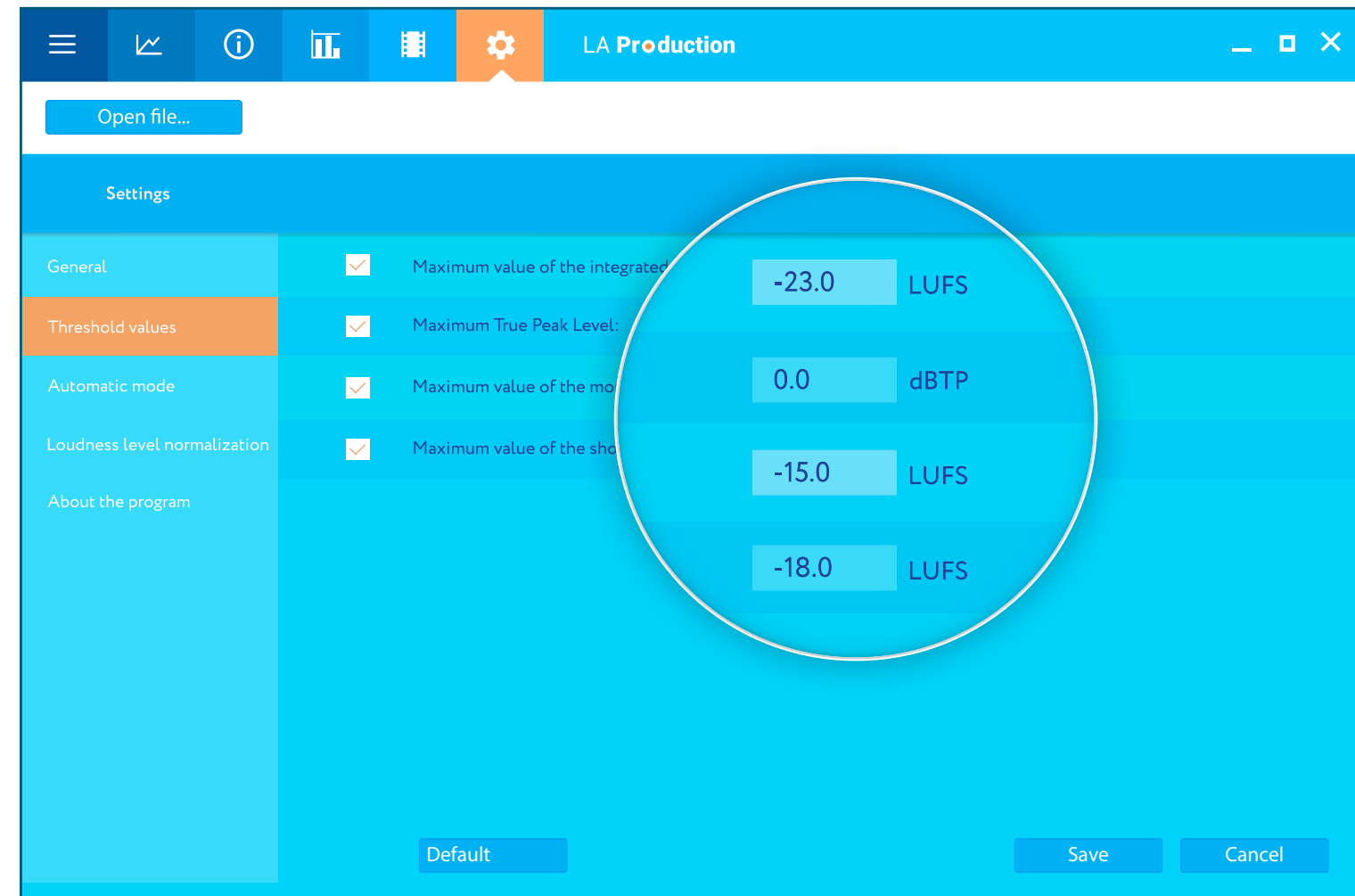
LA Production utilizes the original Level Magic™ algorithm as an option.

Developed by Jünger Audio, Level Magic™ is a sophisticated loudness control algorithm, that normalizes files with a multi-stage design: Adaptive Gain Control (AGC), Transient Processing and Brickwall Peak Limiting.

As a result, the audio is compliant with the selected standard but free of any unwanted artefacts such as pumping, breathing or distortion



The application allows adjusting threshold values for integrated loudness, true peak level, momentary loudness and short-term loudness

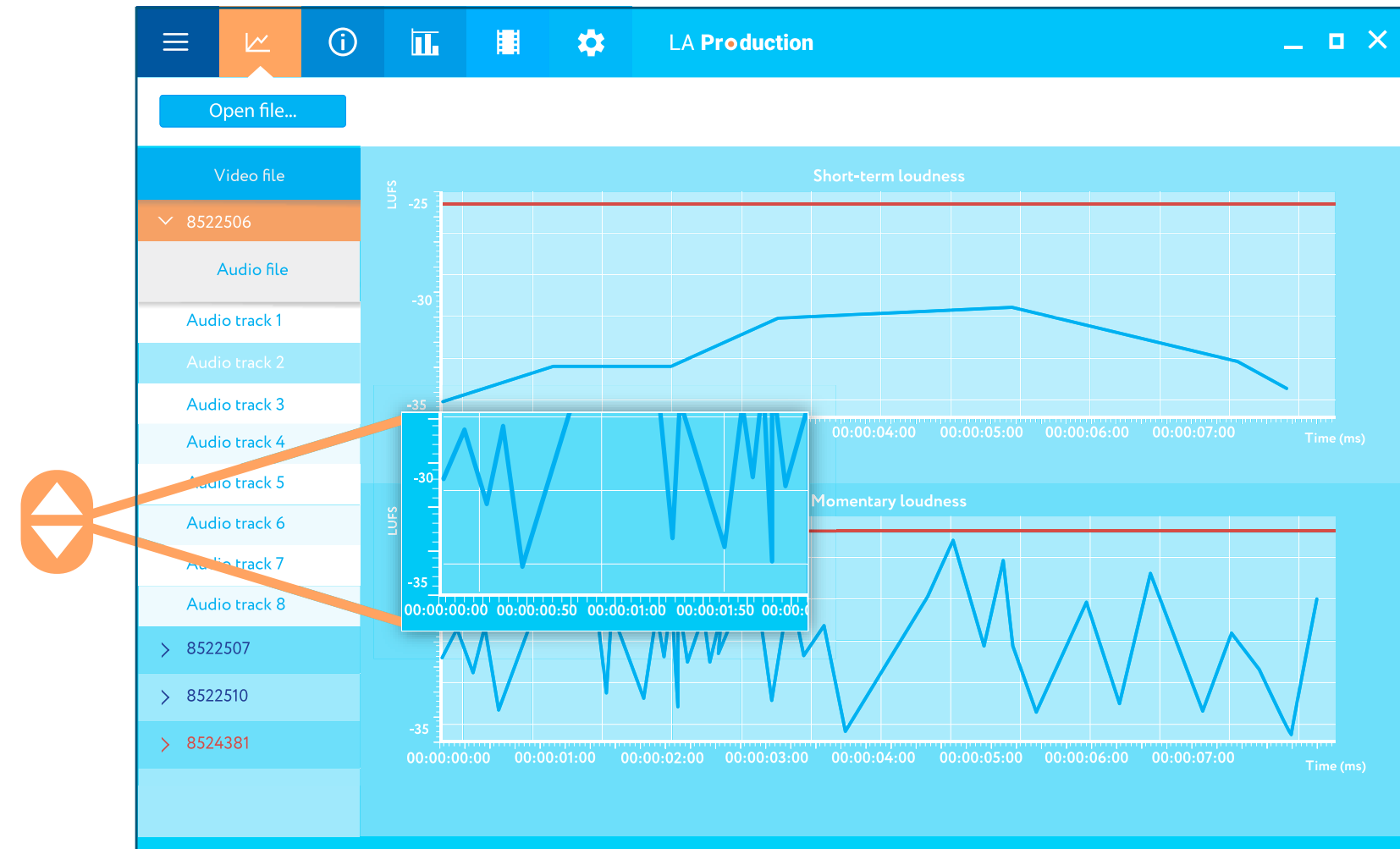


The application analyzes audio and video files and displays the most critical loudness values

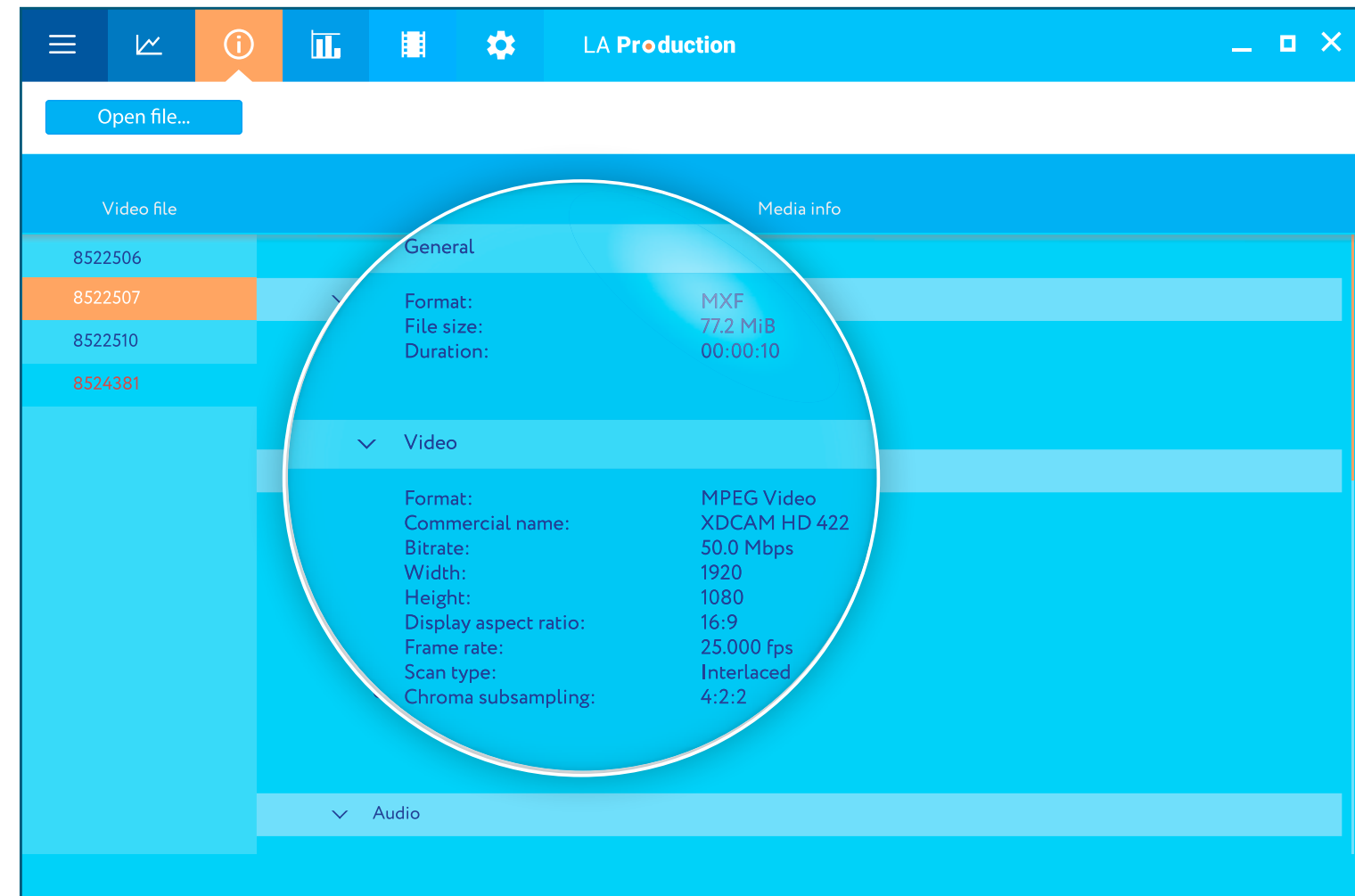
If the predefined level is exceeded, the respective value and the file name are marked red

Audio file	Number of channels	Duration	Maximum true peak Level dBTP	Maximum value of the momentary loudness. LUFS	Maximum value of the short-term loudness. LUFS	Integrated loudness. LUFS	Loudness range. LUFS
Audio track 1	1	00:00:07	-47.3	-61.8	-30.4	-20.6	0.0
Audio track 2	1	00:00:07	-7.0	-25.1	-30.4	-31.5	3.6
Audio track 3	1	00:00:07	-7.0	-23.2	-29.2	-17.6	6.3
Audio track 4	1	00:00:07	-7.7	-23.3	-29.3	-17.3	5.5
Audio track 5	1	00:00:07	-70.0	-70.0	-70.0	-70.0	0.0
Audio track 6	1	00:00:07	-70.0	-70.0	-61.9	-70.0	0.0
Audio track 7	1	00:00:07	-70.0	-70.0	-70.0	-70.0	0.0
Audio track 8	1	00:00:07	-70.0	-70.0	-70.0	-70.0	0.0
> 8522507	8	00:00:05					
> 8522510	8	00:00:07					

The charts with short-term and momentary loudness values are available in a separate window. It is possible to zoom in to get a close-up view



Media information about both video and audio files can be accessed through a separate window



In case loudness discrepancies are revealed, Loudness Analyzer allows correcting audio level in accordance with the selected value

The screenshot shows the Loudness Analyzer interface with a 'Normalization settings' dialog box open. The dialog box contains the following fields:

- Save results to: C:\Users\Admin
- Target level of integrated loudness: -23.0 LUFS
- Start manually:

The background table displays the following data:

Video file	Number of audio tracks	Duration	Port-	Integrated loudness, LUFS	Loudness range, LUFS
8522506	8	00:00:10			
Audio file	Number channel				
Audio track 1	1			-61.9	0.0
Audio track 2	1			-31.5	3.6
Audio track 3	1			-17.6	6.3
Audio track 4	1			-17.3	5.5
Audio track 5	1			-70.0	0.0
Audio track 6	1			-70.0	0.0
Audio track 7	1	00:00:07		-70.0	0.0
Audio track 8	1	00:00:07		-70.0	0.0
8522507	8	00:00:05			
8522510	8	00:00:07			

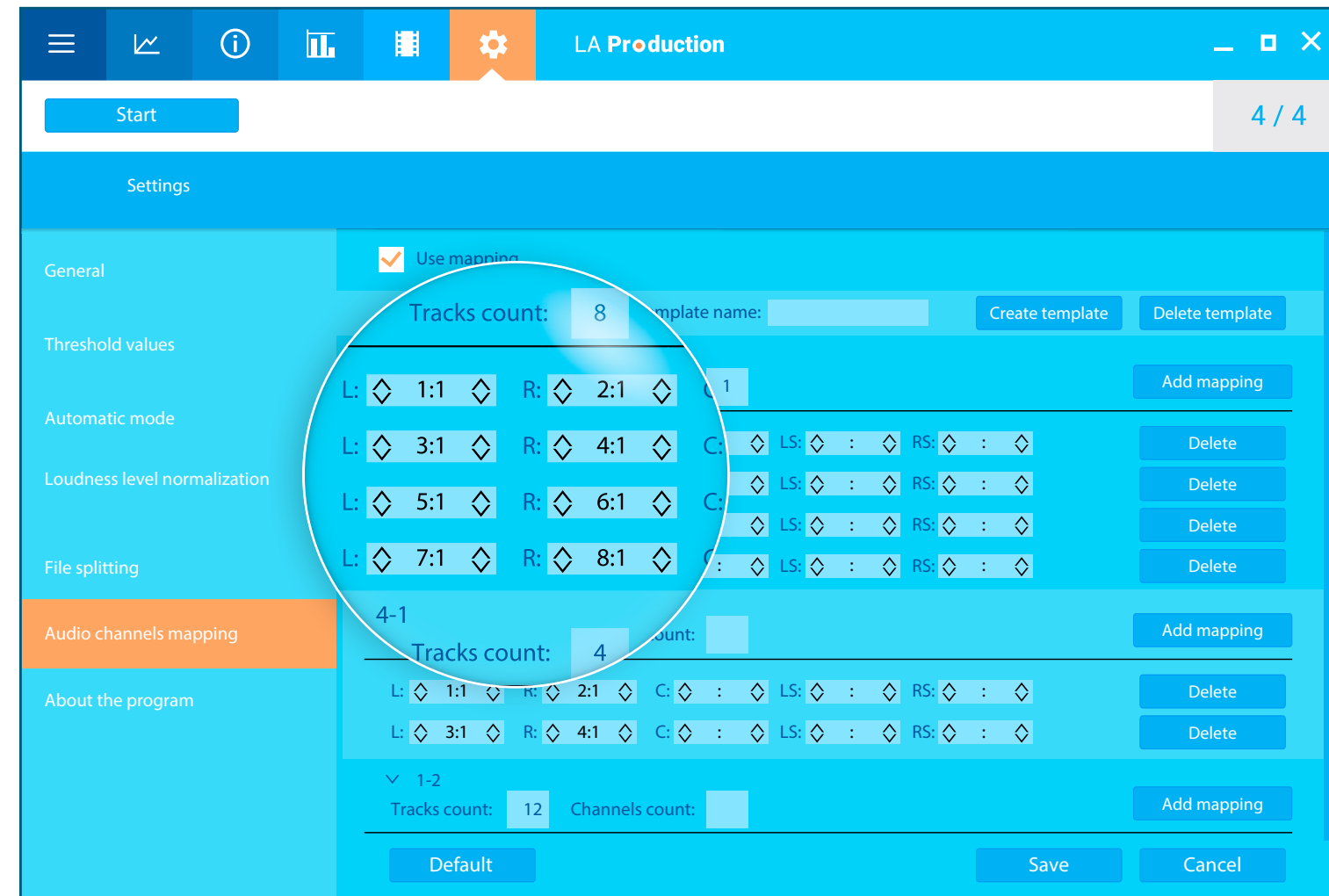
Buttons at the bottom of the interface include 'Normalize' and 'Save'.

Video player allows the user to split videos into fragments and compare their loudness levels. It also might be used for the analysis of certain fragments of the compliance recording

The screenshot shows the 'LA Production' video player interface. The video being played is 'videofile_name.mp4'. Below the video is a timeline with markers for five video fragments. A table below the timeline lists the fragments and their measurement results. A circular callout highlights the 'Measurement results' column of the table.

Block Id	Segment name	Mark In	Mark Out	Measurement results
1	Video fragment 1	00:03:00:05	00:03:00:00	-24
1	Video fragment 2	00:08:00:05	00:09:00:03	-22,3 (1.7; 0.7)
1	Video fragment 3	00:09:50:08	00:18:38:14	-24,3 (-0.3; -1.3)
1	Video fragment 4	00:18:38:22	00:21:19:10	-23 (1.0; 0.0)
1	Video fragment 5	00:21:19:10	00:21:19:10	-23

Audio channel mapping allows for bringing together channels from different audio tracks and having all them analyzed and normalized as it has been predefined in mapping settings



In auto mode, files from selected folders are analyzed, and, if any deviations from predefined loudness values are identified, the app normalizes their loudness levels

The screenshot shows the software interface in 'AUTO' mode. The top navigation bar includes a menu icon, a graph icon, an information icon, a table icon, a settings icon, and the text 'LA Production'. Below the navigation bar is an 'Open file...' button and an 'AUTO' mode selector. The main content area displays a table with the following data:

File Location	Number of files	Duration					
> 8522506	8	00:00:10					
> 8522506	8	00:00:10					
∨ 8522506	8	00:00:10					
Video file	Number of audio tracks	Duration					
∨ 8522506	8	00:00:10					
Audio file	Number of channels	Duration	Maximum True Peak Level. dBTP	Maximum value of the momentary loudness. LUFS	Maximum value of the short-term loudness. LUFS	Integrated loudness. LUFS	Loudness range. LU
Audio track 1	1	00:00:07	-47.3	-61.8	-61.9	-61.9	0.0
Audio track 2	1	00:00:07	-7.0	-25.1	-30.4	-31.5	3.6
Audio track 3	1	00:00:07	-7.0	-23.2	-29.2	-31.4	6.3
Audio track 4	1	00:00:07	-7.7	-23.3	-29.3	-31.6	5.5
Audio track 5	1	00:00:07	-70.0	-70.0	-70.0	-70.0	0.0
Audio track 6	1	00:00:07	-70.0	-70.0	-61.9	-70.0	0.0

At the bottom of the interface, there are 'Clear' and 'Save as' buttons.

System requirements:

Processor: Intel Core i3

RAM: 4GB or higher

OS: Windows 7/8, 32/64bit

Supported formats:

Audio: .WAV

Video: .MXF .AVI .MOV
.MP4 .FLV .MPG



Aleksey Dolgov

Vice President, R&D

dolgov@tecomgroup.ru



Anton Turchenko

Vice President, Business Development

turchenko@tecomgroup.ru