





J*AN

The **Application Manager** is the tool to launch **Junger Audio** PC based GUI applications. Such applications are the **Spectral Signature** control GUI, the loudness live plot, the loudness logger, a comprehensive metering tool etc.

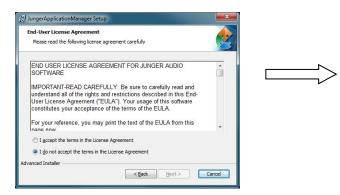
Installation instructions

A person with administration rights for the particular PC must install it after unpacking the ZIP. When you double click on the installer file, e.g. "JungerApplicationManger_x.y.abcd_setup.exe":

Click on "Next >" to start the process.



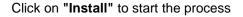
As a next step the Junger Audio **End User License Agreement** appears:



After reading the **EULA** you may accept it or not. If you don't accept it you may go "< **Back**" and close the update program. Selection is made by the above radio buttons.

click on "Next >" to start the installation:

JungerApplicationManager S	Setup 📃
Ready to Install The Setup Wizard is ready to	begin the Junger Application Manager installation
Cick "Install" to begin the inst installation settings, click "Bac	tallation. If you want to review or change any of your & Click 'Cancel' to exit the wizard.
Advanced Installer	< Back Minstal Cancel



Now you will be asked for the installation folder. You may change it or accept it. If you accept it you can click on "**Next** >"

lungerApplicationManager Setup		
Select Installation Folder		
This is the folder where JungerAppli	icationManager will be installed.	C.
To install in this folder, dick "Next". "Browse".	To install to a different folder, en	ter it below or click
Eolder:		
C:\Program Files (x86)\Junger Audio	\JungerApplicationManager\	Brgwse
anced Installer		
	< Back	Cancel
	Contraction of the second seco	

you will then get a progress bar:

JungerApplicationManager	Setup
Installing JungerApplicat	ionManager
Please wait while the Set take several minutes. Status:	up Wizard installs JungerApplicationManager. This may
dvanced Installer	
	< <u>B</u> ack Next > Cancel

you may also cancel the installation

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Run the Junger Application Manager

When the installation is finished you will get a notification. You may launch it right away by enabling the check box "Launch ApplicationManager"



Press **<Finish>** to end the installation.

You may also start the application from the installation folder: Start > All Programs > Junger Audio > Junger Application Manager

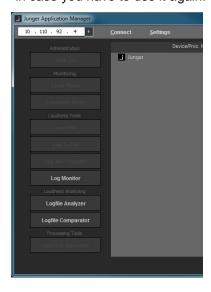
Junger Application Manager - Workspace	
Select a workspace	
Choose a workspace folder to use for this session	
Default Folder for Log Storage:	Free space: 61.669 (MB)
C:\Users\URichter\Pocuments\Junger Audio\Junger Appl	ication Manager\
Default Folder for Log Analyser:	Free space: 61.669 (MB)
C:\Users\URichter\Documents\Junger Audio\Junger Appl	ication Manager\
Default Folder for Log Storage: C:\Users\URIchter\Documents\Junger Audio\Junger Appl Default Folder for Log Analyser: C:\Users\URIchter\Documents\Junger Audio\Junger Appl Device Address List and Error Logs: C:\Users\URIchter\Documents\Junger Audio\Junger Appl	Free space: 61.669 (MB)
C:\Users\URichter\Documents\Junger Audio\Junger Appl	ication Manager \
Use this as the default and do not ask again	OK Cancel

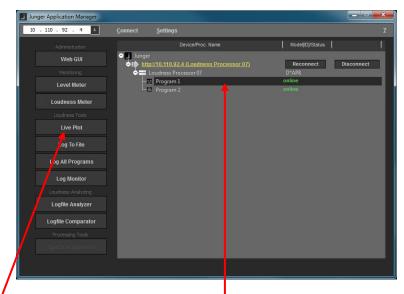
Here you may define your working directories. Press **<OK>** to run **Application Manager**. You can select "Use this as the default and do not ask again".

These settings may be reached later on from the Application Manager window.

and press <Connect>

Now a tree spans from the device IP address to program(s) processed by that device:





The associated buttons will be enabled *if* you select (highlight) a program *that* is enabled for the respective functions. Additional information is displayed in the next columns.

Important Note ! The "Loudness Tools" are an option of the **J*AM** which one must buy. This option is protected by a USB dongle. If no valid dongle is plugged into the PC, the "Loudness Tools" of the **J*AM** are disabled and the respective launch buttons are not highlighted. You can see this status in the "?" menu > "**About**" pop up: "No License found for Loudness logging tools" will be displayed in that case. If you insert such dongle, wait a couple of seconds for **J*AM** to detect your license before you continue. A message box will inform you about the detected license.

To connect with a specific device you must enter its IP address. The IP address will be stored automatically in case you have to use it again:

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Device/Pro	c.Name	Model[ID]/Status	
Junger Inttp://10.110.64.128 (Lou Inttp://10.110.64.128 (Lou Inttp://10.110.64.128 (Lou Inttp://10.110.64.128 (Lou Inttp://10.110.53.83 (Jung Inttp://10.110.53.83 (Jung Inttp://10.110.53.83 (Jung Inttp://10.110.53.83 (Jung Inttp://10.110.53.83 (Jung Inttp://10.110.53.83 (Jung Inttp://10.110.53.83 (Jung Inttp://10.110.53.83 (Jung Inttp://10.110.53.83 (Jung Inttp://10.110.53.83 (Jung Inttp://10.110.53.83 (Jung Inttp://10.110.53.83 (Jung Inttp://10.110.53.83 (Jung Inttp://10.110.53.83 (Jung Inttp://10.110.53.83 (Jung Inttp://10.110.53.83 (Jung Inttp://10.110.53.83 (Jung Inttp://10.110		Reconnect TAP online online Reconnect C8086+M[1] / ITU 1770-1	Disconnect Disconnect
Device/Proc Name	device name [e.g. "Lo		'http://10.110.64.128] and the ']. You may click on the link to of the device.
	frame name [e.g. "Jur one line below [e.g. "I	nger Loudness Control NDR-HH"] and further s used by that progran	IRL, the display shows the I"] and the processor name down the program names n, separated by a colon
Model[ID]/Status	the module type and i		e of a c8k system 86+M[1]"] can be read here. • the status [online / <mark>offline</mark>].
Reconnect		between the J*AM and econnect with it from h	d the device or frame is nere.
Disconnect	you may disconnect the and the device or frame	he communication bet ne.	ween the J*AM
For the olk avetom one mu	at keep in mind that all	modulos of a alk from	a communicate internally via th

For the c8k system one must keep in mind that all modules of a c8k frame communicate internally via the CAN bus but the bandwidth of the CAN bus is limited so you can not gather an unlimited amount of measurement data. At the moment we have limited the number of c8k processors which may be connected with the J^*AM to 2 at a time.

Please note: It is possible to connect to all modules in a **Compact 64** or a **Compact 265** system, if their CAN bus speed is set to 1Mbit/s. For more information, please see the **C8000** manual.

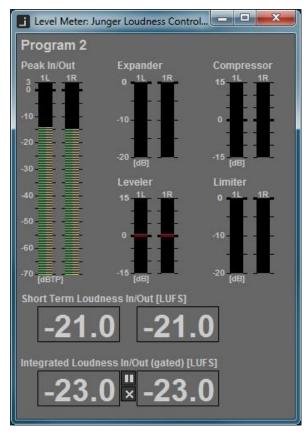
Below a **J*AM** GUI that is connected with a **T*AP** and a c8k frame that has one **LevelMagicII™** processor C8086+ installed. You must enable the check box beside the c8k processor in order to read measurement data from that module:

Junger Application Manager		
10 . 110 . 16 . 147 +	<u>C</u> onnect <u>S</u> ettings	2
Administration	Device/Proz. Name	Model[ID]/Status
Web GUI	Junger Http://10.110.92.4 (L/udness Processor 07)	Reconnect Disconnect
Monitoring	Loudness Processor 07	D*AP8
Level Meter	- Щ Program 1 - □ Program 2	online online
Loudness Meter		
Loudness Tools	http://1.110.16.147 (Junger Loudness Control)	Reconnect Disconnect
Live Plot		C8086M[16] online
Log To File	- 🗆 Program 2 - 🖬 Program 3	online online
Log All Programs	L Program 4	online
Log Monitor		
Loudness Analyzing		
Logfile Analyzer		
Logfile Comparator		
Processing Tools		
Spectral Signature		

Web GUI	a link that contains the IP address of the device to launch the web browser. You may also click on the device URL in the main window.
Level Meter	you may launch a bar graph meter that shows metering information.
Loudness Meter	you may launch a bar graph meter that shows loudness information.
Live Plot	this will start a live plot which shows curves over time of input/output true peak and loudness measurement.
Log to File	starts file logging. The letters turn orange and the metering data for loudness and true peak measurement will be stored in a dedicated file
Log All Programs	allows you to start file logging for all supported programs.
Log Monitor	gives you an overview over programs which have a running log service
Logfile Analyzer	recalls a log file stored on the PC and displays it as a screen plot
Logfile Comparator	opens two independent log files stored on the PC and displays it one above the other.
Spectral Signature	starts the display and control tool for the dynamic multiband filter.

Monitoring - Level Meter

Level meter for a 2ch program:

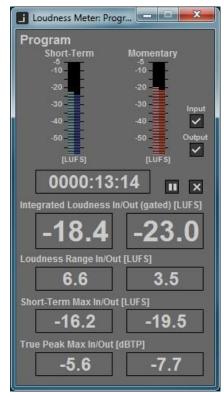




It shows the input vs. output peak level, the limiter as well as the leveller gain reduction plus Short Term and Integrated Loudness.

Monitoring - Loudness Meter

The Loudness Meter shows the most common loudness measures. Those are



Short Term and Momentary Loudness

Checkboxes to show Input, Output or both at the same time

Integration Time and control buttons to reset integration and maximum values

Integrated Loudness

Loudness Range

Maximum Short Term

Max True Peak

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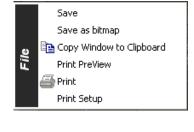
Loudness Tools - Live plot

This tool is meant for live analysis of true peak levels and short term input/output loudness of the pre selected channel. All relevant information is given at the top of the display. On the right you get a four column bar graph that shows the **true peak** values and the **short term** loudness. These values are plotted along the time line. On the left hand side you get the **statistical distribution of loudness** input vs. output. This unique kind of display is an easy way to see how the loudness processor performs.

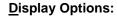


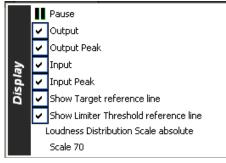
The tool keeps all data gathered from the selected processing channel in the PC RAM. This allows you to change the time scale by selecting it from the pull down menu **<u>Time Range</u>** or by the pull down box on the bottom left side: 2 min **u** at any time you like. The tool keeps data for 2 hours in the RAM, for both the input and the output. After that it starts cycling the data in FIFO (first in first out) style.

File:



will save the live plot measurement data into a "*.csv" file.





pauses the plot.

disables/enables the respective display for the short term loudness and true peak plot for both the input and the output displays.

disables/enables the display of the respective reference line.

change scale between absolute and relative change peak/loudness scale between 40 and 70dBFS/LUFS.

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Reset Plot:

?:



will do what it says – you may reset the measurement and start it again. This will be prompted by a pop up.

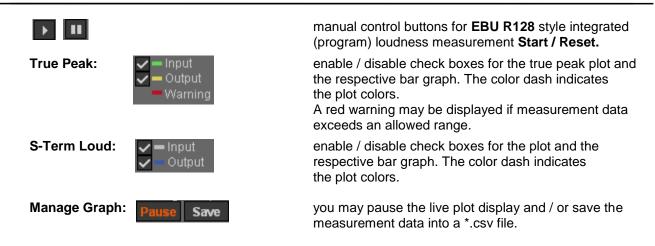
a "Help" menu is not available yet.

The **"About ... "** selection shows the **Junger Audio** contact data, the software version of the **J*AM** and presence of a valid license for the **Loudness Logging Tools**.

The upper area of the live plot display offers a lot of detailed information and some setups you can also find in the Display Option menu:

Module Program Config Loudness Process Program 2 2/0 Loudness Distribution Loudness Control Mode EBU R 128	7 - 8 gated -25 LKFS Input/C	udness Loudness Range True Peak S-Term Loud. Manage Manage Graph 8 / -22.2 12.8 / 9.6 II Input Input Input Pause Save utput LU Input/Output Output Output Output Pause Save .4 / -23.2 Integr. Time 00:00:37 Input Warning Input Input
Module:	device (single c	levice) or c8k module name
Loudness Distribution:	estimation of ho	ness distribution of the short term values. This allows easy ow the levelling process can manage the desired target e source loudness distribution.
Program:	[Program 2]	name of the program that is measured by the live plot
Config:	[2/0]	configuration of the audio channels
Channel:	[7 – 8]	audio channels of the device or module used for that program
Loudness Control Mode:	[EBU R128]	display of the actual loudness control mode of the processor. You must not be confused by the loudness measurement methods.
Integrated Loudness gated:	[-25.8 / -22.2]	loudness measurement - input vs. output using ITU BS.1770-2 (gated)
LKFS Input/Output:		unit of measurement for the integrated loudness
LKFS Input/Output ungated:	[-27.4 / -23.2]	loudness measurement – input vs. output using ITU BS.1770-1 (ungated)
Loudness Range:	[12.8 / 9.6]	
LU Input/Output:		unit of measurement for loudness range
Integr. Time:		integration time of the EBU R128 program loudness measurement

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Besides logging loudness values over the course of time, the major application of the tool is loudness measurement of programs or parts of it. Following the **EBU R128** standard, the Loudness Logger may measure and display the integrated loudness as well as the loudness range.



You must place the mouse inside the plot window, click the left button and drag the mouse over the region of interest. When you release the button, the region will be highlighted and a small option pop up opens:



It gives you the choice to add the selected measurement to an integrated loudness measurement or you may reset the previous integrated measurement or add a marker.

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Loudness Tool – Live Plot – display of measurement values:

As explained in the previous paragraphs, the values of an integrated loudness measurement will be displayed in the upper area of the plot. In the bottom of the plot you see a horizontal line that represents the selected time frame for the measurement. If you select multiple time frames or if you pause and continue the integrated measurement manually, multiple horizontal lines will be displayed to show the areas which contribute to the overall result.

Loudness Tools - Log To File / Log All Programs

10 . 110 . 92 . 238 +	<u>C</u> onnect <u>S</u> ettings		
	Device/Proc. Name	Model(ID)/Status	
Web GUI	Junger Junger http://10.110.92.238 (Junger Loudness Control)	Reconnect Disconnect	
	Junger Loudness Control	D*AP8	
Level Meter	- II Program 1	online	
Loudness Meter	Program 2	online	
Loudness Tools			
Live Plot			
Log All Programs			

For each program detected by the **J*AM** you may start an independent log file. You can select the folder where such file will be stored from the <u>Settings</u> menu. The file is a comma separated (*.csv) file. You may also log all programs of a device or a c8k module which have the status "online" by pressing **<Log All Programs>** after highlighting the respective device or module.

Loudness Tools - Log Monitor

Device Name	Program Name and Channel	Status	Start Time	End Time
Junger Loudness Control	Program 2: 7-8	logging / Auto-Restart is on		
Junger Loudness Control	Program 1: 1-6	logging / Auto-Restart is on		

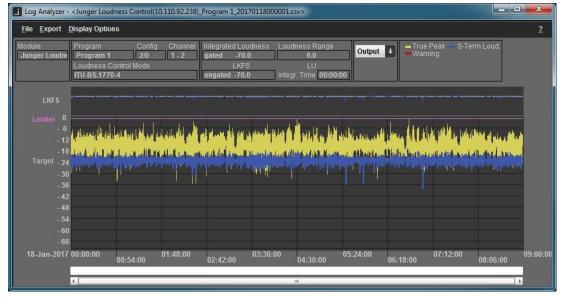
The log monitor window simply shows the individual programs of devices and/or c8k modules which are currently logged to file.

Loudness Analyzing - Logfile Analyzer

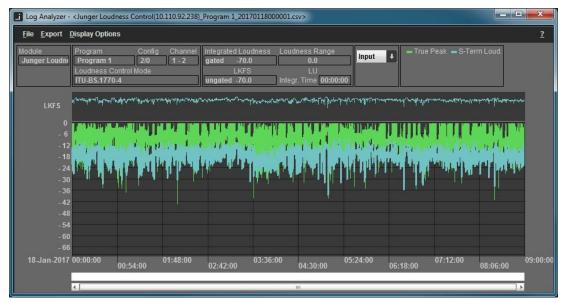
When you press the **<Logfile Analyzer>** button a file dialog opens up. It directs you to the defined folder for logging files. Here you may select a file that you can analyze offline :

🖻 🦳 juenger 🔷 🔺	File name	Modification D	File Size		Enter part of flename
Anwendungsda					
🕀 🦲 AppData	Junger Loudness Control(10.110.92.238)_Program 1_20170118000001.csv	18/01/2017, 10:42	22.04.0		Date Range Selection
- Contacts	Junger Loudness Control(10.110.9Program 1_20170118103702.csv	18/01/2017, 10:37	4 KB		From: To:
Cookies	Junger Loudness Control(10.110.9Program 1_20170118102107.csv	18/01/2017, 10:36	732 KB		13.01.2017 - 18.01.2017
Desktop	Junger Loudness Control(10.110.9Program 2_20170118102109.csv	18/01/2017, 10:36	739 KB		
E- Documents	Junger Loudness Control(10.110.9Program 3_20170118102111.csv	18/01/2017, 10:36	738 KB		File Info
📴 Eigene Bilde	Junger Loudness Control(10.110.9Program 4_20170118102112.csv	18/01/2017, 10:36	737 KB		Log Start: 18-Jan-2017, 00:00:00.0
🛄 Eigene Mus	Junger Loudness Control(10.110.92.238)_Program 1_20170118000000.csv	18/01/2017, 10:21	28.81		IP: 10.110.92.238
🚞 Eigene Vide	Junger Loudness Control(10.110.9Program 2_20170118000000.csv	18/01/2017, 10:21	29.11		Module: Junger Loudness Control
🖻 🛄 Junger Aud	Junger Loudness Control(10.110.9Program 3_20170118000000.csv	18/01/2017, 10:21	29.11		Program: Program 1
- 🔄 Junger	Junger Loudness Control(10.110.9Program 4_20170118000001.csv	18/01/2017, 10:21	29.11		Processing Channels: 1 - 2 Channel Configuration: 2/0
Downloads	Junger Loudness Control(10.110.9Program 1_20170117182606.csv	18/01/2017, 00:00	15.47		Leveling Mode: ITU-BS. 1770-4
Druckumgebung	Junger Loudness Control(10.110.9Program 2_20170117182606.csv	18/01/2017, 00:00	15.65		Device: DAP8
Eigene Dateien	Junger Loudness Control(10.110.9Program 3_20170117182606.csv	18/01/2017, 00:00	15.65		
🕀 🦲 Favorites 🗧	Junger Loudness Control(10.110.9Program 4_20170117182606.csv	18/01/2017, 00:00	15.65		
- 🗀 Links	Junger Loudness Control(10.110.92.238)_Program 1_20170117163034.csv	17/01/2017, 16:30	7 KB		
Colorado Einstellur	Junger Loudness Control(10.110.92.238)_Program 2_20170117163034.csv	17/01/2017, 16:30	7 KB		
Music	Junger Loudness Control(10.110.92.238)_Program 3_20170117163034.csv	17/01/2017, 16:30	7 KB		
Pictures	Junger Loudness Control(10.110.92.238) Program 4_20170117163034.csv	17/01/2017, 16:30	7 KB		
Recent	Junger Loudness Control(10.110.92.238)_Program 1_20170117154321.csv	17/01/2017, 16:22	1.844 KB		
- Saved Games	Junger Loudness Control(10.110.92.238) Program 2_20170117154322.csv	17/01/2017, 16:22	1.852 KB		
Searches	C8092 DEVICE 04(10.110.16.147) Program 1 20170116153458.csv	16/01/2017, 15:35	12 KB		
	C8092 DEVICE 04(10, 110, 16, 147) Program 2 20170116153458.csv	16/01/2017, 15:35	11 KB	+	

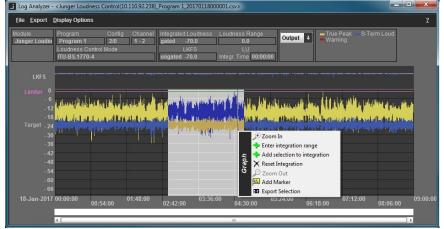
If you select a file and press **<Open>** the log analyzer loads that file and opens the graphic display:



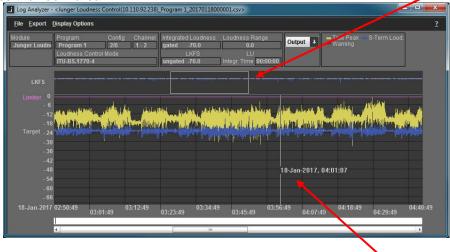
This is the display of the whole log file that has been started at 00:00:00 and stopped at 09:00:00. From the drop down box in the top area of the window you may also display the input measurement:



You can now mark an area of interest and zoom into it to get a better resolution for your measurement :

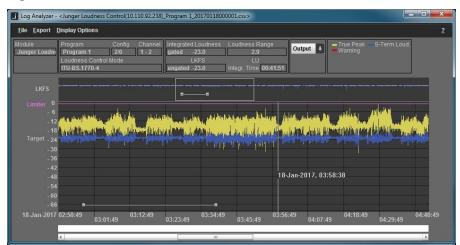


Click into the graph, hold the left mouse button, drag it over the area of interest and release it. This will highlight the area. Now move the cursor into it and click to get the option pop up. Select "**Zoom In**" and the graph window shows that area. In the overview area at the top you see a magnifier that indicates the zoom area:

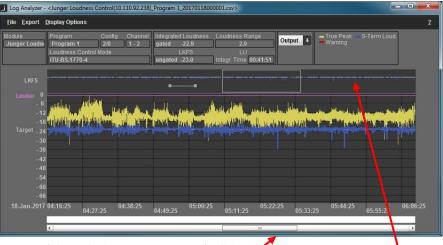


The cursor (if placed into the graph display) shows the respective time stamp from the log file. It also shows information about current parameter changes such as **Loudness Control Mode**. You may repeat the zoom function until the displayed zoom level meets your requirement.

Now you can mark the area where you want to measure the program loudness. Mark the area and press the right mouse button to get the option display and select "Add To Integration" :



This will display the integrated loudness and the loudness range as well as the integration time:



At the very bottom of that window you see a soft slider.

This allows you to move the graph forwards and backwards while the magnifier gives you an indication about where you are while the horizontal line to the left of the magnifier still shows the area of integrated measurement.

Loudness Analyzing - Logfile Comparator

If you press that button a popup asks you to select two files for comparison. You may either select two different files or you may use the same file for comparison between input and output :

ompare Log Files		
Top window file:		
Bottom window file:		
same as top window file		
	ОК	Cancel

Log Analyzer -	 <junger c<="" li="" loudness=""> </junger>	ontrol(10.110.92.238)_	Program 1_2017011800	0001.csv> / <junger lo<="" th=""><th>udness Control(10.110</th><th>.92.238)_Program 1_201</th><th>70118000001.csv></th><th></th><th></th><th></th><th>×</th></junger>	udness Control(10.110	.92.238)_Program 1_201	70118000001.csv>				×
<u>File Export</u>	Display Options										2
Module Junger Loudni	Program Program 1 Loudness Control I ITU-BS,1770-4	Config Channel 2/0 1 - 2 Mode	Integrated Loudness gated -70.0 LKFS ungated -70.0	Loudness Range 0.0 LU Integr. Time 00:00:00	Output +	rue Peak — S-Term Lo Varning	oud.				
LKFS											-
Limiter 0 - 6 - 12	م بغلميمني غالي	ابداه ومعصل	و المربع إغاميا بعراب	al minutes with status	, and the part of the			June hilles	and price in such as	and and participant defined	
- 18 Target - 24 - 30	1 I I	il-No-d-Shrachtilar 19			the state of the s	new a think at the		n nachta - faard itst m		House & Marrison	
- 36 - 42 - 48 - 54	1										
- 60 - 66 18-Jan-2017			01:48:00		03:36:00		05:24:00		07:12:00		09:00:00
		00:54:00				04:30:00		06:18:00		08:06:00	
Hadada	<	Caste Channel		Lundares Deces		m Serie Dank - O Tarrak])	
Module Junger Loudni	Program Program 1 Loudness Control 1 ITU-BS.1770-4	Config Channel 2/0 1 - 2 Node	Integrated Loudness gated -70.0 LKFS ungated -70.0	Loudness Range 0.0 LU Integr. Time 00:00:00	Output 📢 🗕	m (rue Peak S-Term Lo Varning	oud.			1,	
	Program Program 1 Loudness Control I	2/0 1 - 2	gated -70.0 LKFS	0.0 LU	Output 📢 🗕		oud				
Junger Loudni	Program Program 1 Loudness Control I ITU-BS.1770-4	2/0 1 · 2 Mode	gated -70.0 LKFS ungated -70.0	0.0 LU Integr, Time 00:00:00]	
Junger Loudni LKFS Limiter 0 - 6 - 12	Program Program 1 Loudness Control 1 ITU-BS:1770-4	2/0 1 - 2 Mode	gated -70.0 LKFS ungated -70.0	0.0 LU Integr. Time 00:00:00		¹ prite Ling Million				¹⁴ 1111 get get stage get f 1 tops	
Junger Loudni LKFS Limiter 0 - 6 - 12 - 18 Target - 24 - 30	Program Program 1 Loudness Control I ITU-BS-1770-4	2/0 1 - 2 Mode	gated -70.0 LKFS ungated -70.0	0.0 LU Integr. Time 00:00:00					A HAAN AN AN	¹⁴ 1111 get get stage get f 1 tops	-
Junger Loudni LKFS Limiter 0 - 6 - 12 - 18 Target - 2 - 30 - 42	Program Program 1 Loudness Control 1 ITU-BS.1770-4	210 1-2 Mode	gated -70.0 LKFS ungated -70.0	0.0 LU Integr. Time 00:00:00		¹ prite Ling Million			sing price data pang pering pang Seconda pang pengang pe	litikat ad principalitikan	
LKFS LKFS Limiter 0 - 6 - 11 - 11 Target - 24 - 30	Program Program 1 Loudrees Control 1 ITU-BS-1770-4	210 1-2 Mode	gated -70.0 LKFS ungated -70.0	0.0 LU Integr. Time 00:00:00		¹ prite Ling Million				litikat ad puta a piddara	
Junger Loudni LKFS Limiter 0 -11 Target - 24 -36 -42 -44 -44 -55	Program Program 1 Loudness Control ITU-BS.1770-4	210 1-2 Mode	gated -70.0 LKFS ungated -70.0	0.0 LU Integr. Time 00:00:00		All press Harm And Harm			á (řítě ži se (reis o) Sozač by her vor tri 07:12:00	litikat ad puta a piddara	09:00:00



The **Display Options** menu offers features to ease navigation for log file comparison :

5	✓ Unlink
io ni	Link Bottom > Top
pti	Link Top > Bottom
0	Scale 40

Both displays have individual controls to move the graphs. You may unlink the controls.

You may link the controls from the top window to the bottom one. You may link the controls from the bottom window to the top window. Changes the level scale from 40dB to 70dB and vice versa.

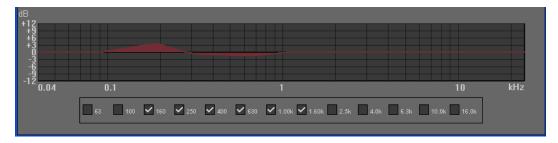
Processing Tools - Spectral Signature



Module	the name of the device [e.g. Loudness Processor 07]
Program	the name of the respective program [e.g. Program 2]
Config	the channel configuration of that program [e.g. 2/0]
Channel	processing channels employed by that program [7 – 8]
Linking	the link mode of the processing channels for that program [stereo] - overwrites device settings -
Channel	selects individual processing channels depending on the link mode [L, R, L/R] - overwrites device settings -
Enable	enables / disables the Spectral Signature for the selected channel - overwrites device settings –

Speed	[Slow, Mid, Fast]
Gate	[-10, -12, -15, -20dB. OFF]
Max Gain	[0 12dB]
Response	[Soft, Mid, Hard]
Maximum Loudness Boost	[0 12dB]
Manage Signatures	
Load	from a file
Record	will capture a mask (press twice to stop recording)
Save	to a file
Legend of the curve colors	
Input	spectral distribution of the input signal
Gain	momentary gain applied by the application
Signature	the reference curve
Absolute Gate	processing threshold for each filter. You must press and hold the <ctrl></ctrl> button of the PC keyboard to display the thresholds. By use of the mouse wheel you may change it.

You may disable certain processing bands from the process by means of the check boxes :



Important note! A signature and the related parameters of the application will be stored as a preset inside your Audio Processor. I.e. you may recall preconfigured Spectral Signature settings directly from your Audio Processor by recalling presets without the need to run the PC application :

Loudness Processor 07	SYSTEM	INTERFAC	ES	ROUTING	DOLBY	PROCESSING	AUDIO PR	DCESSOR	EVENTS		
System Status 🧶	Overview	Setup	Input	Upmix	Filter	Dynamics	Voice Over	Level Ma	gic Output	Monitor	
Spectral Signature Equalizer											
			ON AIF	2					PRESI	ETS	
Link		Program 1 All			Program	n 2	1 2		reset1	1	Preset1
Spectral Signature	L/R/C/Ls/Rs				2L/2R		3 4 5			3 4 5	2L/2R
Additional parameters are accessible through the Windows GUI (J*AM).	Not	available y	vet				6 7 8 9 10 11	which an accessibi through ti Windows GUI (J*A)	parameters e on ly le ne	6 7 8 9 10 11 12	GUI (J*AM).
	Note				Note		12 13 14 15 16 17 18 19 20	Note		13 14 15 16 17 18 19	
	1	Preset load sav	ve	(Pres 1 load	et save	20	expo cop		20	export import copy paste

See your Audio Processor's manual for preset operation.



Settings dialog

To open the settings dialog please click on the "Settings" button in the menu bar in the main window.

Settings – Folders

This dialog provides settings for locations where to store loudness log files, log analyzer files as well as a error log for J*AM itself and a list of recent used ip addresses.

Folders Communication Windows Logging	
Default Folder for Log Storage: C:\temp	Free space: 284.876 (MB)
Default Folder for Log Analyser: C:\temp	Free space: 284.876 (MB)
Device Address List and Error Logs: C:\temp	Free space: 284.876 (MB)
	OK Cancel

Settings - Communication

The dialog for communication settings allows making decisions about UDP ports to use and gives a shortcut to your firewall settings. Make sure to allow J*AM using the desired UDP ports.

Folders Communication Windows Logging	
Communication Port Range: Min: 49152 Ma	ax: 65535 Default
Open Windows Firewall Configuration Window:	Open
	OK Cancel

Settings - Windows

To make changes to the behavior of J*AM's application windows use the Windows settings. There you may tell J*AM always to stay in the top layer of you desktop or to reset stored window positions.

Folders Communication Windows Logqing			
Always on top:			
Saved windows layout:	Reset		
		ОК	Cancel

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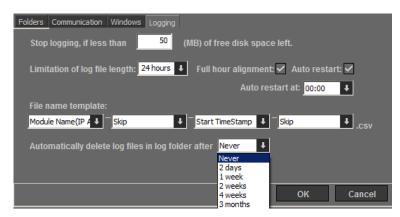
Settings – Logging

In logging setting, the follow option can be made:

To prevent your hard drive being entirely filled up with logging data, the amount of free disk space left unassigned for other applications can be defined

Folders Communication Windows Logging
Stop logging, if less than (MB) of free disk space left.
Limitation of log file length: 24 hours Full hour alignment: Auto restart: Auto restart at: 00:00
1 hour Auto restart at: 00:00 ↓ 3 hours 3 hours 6 hours Module Name(IP A ↓ Skip 12 hours Start TimeStamp ↓ Skip
Automatically delete log files in log folder after Never
OK Cancel

The life period of logging data can be defined as well. Each log file has been recorded with a time stamp. Log files, which are older than the current life period will be deleted automatically on next program start.



Settings – Automation

Selecting the checkbox "Apply the following..." the J*AM application starts up with a predefined setting, which devices and their programs will be logged automatically. The desired device and program will be defined selecting "Apply current configuration).

Folders Communication Windows Logging Automation		
_		
Apply the following logging configuration on each	h program start	
Filepath for start configuration:		
Users/URichter/Documents/Junger Audio/Junger Application	Manager\configuration_current	t_4.xml
	Apply current config	uration

For information about the used xml file format, please have a look to section **Getting J*AM's status programmatically** below.

Notes on parameter changes while logging loudness data

J*AM is able to handle changes of all available device parameters. In the following an overview about the supported parameters and J*AM behavior on their changes is given.

Operating Mode / Program Configuration	When this Parameter is changed, typically the number of programs is changing. If this happens J*AM continues logging active programs based on their index. That means, if 'Program 2' is being logged while the Operating Mode / Program Configuration is changed, J*AM keeps logging this program in the same file despite the fact that the channel indices of this program may have changed. Also J*AM is always logging 'All Programs' once you told it to do so. After changes on Program Configuration or Operating Mode J*AM will close application windows of obsolete programs, e.g. when changing from 4x2 to 5.1+2 mode J*AM would close the Level Meter window for Program 4, if it is open.
Program name, device names module names	If supported by your device, changes on these parameters will be visible in the tree view and application windows.
Loudness Control Mode	For all devices the current Loudness Control Mode will be displayed in the application windows.

J*AM automatically adds a marker to your program-based log file signaling changes for each parameter. When analyzing a log file of a program or device whose parameter has been changed, J*AM Analyzer will show, depending on the time-based mouse cursor position, the parameters changes made in contrast to the time of the log start.

Getting J*AM's status programmatically

<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema">

In order to retrieve J*AM's status information such as connection or logging state programmatically you may parse the XMLfile

%userprofile%\documents\Junger Audio\Junger Application Manager\configuration_backup.xml

The structure of this file is given by the following XML schema definition. This definition can be also found in the directory next to you installation folder (next to your JungerApplicationManager.exe). Please see the comments in the XML schema definition for further information.

```
<xsd:annotation>
<xsd:documentation xml:lang="en">
 J*AM configuration schema
</xsd:documentation>
</xsd:annotation>
<!-- Main node -->
<rest:</pre>
<xsd:complexType name="JamConfiguration">
 <xsd:sequence>
 <!-- The only node allowed within the main node: "device". Occurence is not limited -->
  <rpre><xsd:element name="device" type="Device" maxOccurs="unbounded"/>
</xsd:sequence>
<!-- configuration version is mandatory and should be "1" -->
<xsd:attribute name="configuration-version" type="xsd:positiveInteger" use="required"/>
</xsd:complexType>
<!-- A device means a C8000 frame or an *AP device (such as M*AP, T*AP, D*AP, V*AP) -->
<xsd:complexType name="Device">
```

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<xsd:sequence> -- A device has an arbitrary number of modules. *AP devices have only one module at this time. --> <xsd:element name="module" type="Module" maxOccurs="unbounded"/> </xsd:sequence> <!-- The following attribute signals whether J*AM got a working TCP/HTTP connection to the device. This should not be set by the user --> <xsd:attribute name="is-http-connected"</pre> type="xsd:boolean"/> <!-- It's mandatory to give an IP address --> <xsd:attribute name="ip-address"</pre> type="xsd:string" use="required"/> </xsd:complexType> <!-- Modules mean to be C8000 cards such as C8086 or C8491. Please note: For *AP devices there always only one module with the ID "1". --> <xsd:complexType name="Module"> <xsd:sequence> <!-- Modules contain an arbitrary number of programs --> <xsd:element name="program" type="Program" maxOccurs="unbounded"/> </xsd:sequence> <!-- This attribute signals the state of the GUI button labelled "Log All Programs". If this attribute is "true" J*AM is writing log files for all programs of the current module Please note, you need a license for J*AM's Loudness Tools to use this feature --> <xsd:attribute name="is-all-logging"</pre> type="xsd:boolean"/> <!-- The following attribute signals the state of the incoming meter stream from the device. If it's "false" there are some issues with the connection to the device --><xsd:attribute name="is-metering-active"</pre> type="xsd:boolean"/> <!-- The following attribute signals whether the user requested a meter subscription for the module. Since J*AM subscribes metering for *AP device per default, this is mainly interesting for users of the C8000 system where this flag is representing the state of the check box in the device tree --> <xsd:attribute name="is-metering-requested" type="xsd:boolean"/> <!-- For C8000: The following attribute represents the CAN ID as you set it on the modules board or as you see them in the fame controller's web GUI. <xsd:attribute name="id"</pre> type="xsd:string"/> </xsd:complexType> <!-- Programs represent the 'leaves' of the device tree --> <xsd:complexType name="Program"> <!-- The following attribute signals if a Meter Window is opened for the current program --> type="xsd:boolean"/> <xsd:attribute name="has-meter-window"</pre> <!-- The following attribute signals if a Liveplot Window is opened for the current program Please note, you need a license for J*AM's Loudness Tools to use this feature --> <xsd:attribute name="has-liveplot-window"</pre> type="xsd:boolean"/> <!-- The following attribute signals if a Liveplot Window is opened for the current program --> type="xsd:boolean"/> <xsd:attribute name="has-spectral-signature-window"</pre> <!-- The following attribute signals if J*AM is writing a logfile for the current program --> <xsd:attribute name="is-logging"</pre> type="xsd:boolean"/> <!-- The following attribute contains the 1-based 'program index' as you can see it in the device tree --> <xsd:attribute name="index"</pre> type="xsd:positiveInteger"/> </xsd:complexType>

```
</xsd:schema>
```

Example

An example of the backup file is given below. In this example J*AM has two devices connected devices: A T*AP with the IP address 10.110.64.209 and a C8000 frame with the IP address 10.110.59.99. In the device nodes you can see the HTTP connection state as an attribute.

In case of C8000 frames each device node has module nodes representing module cards identified by their CAN ID. For *AP (such as T*AP, D*AP, M*AP) devices there is always only one module with the ID '1'. In the module node the attribute 'is-metering-active' signals if J*AM is receiving logging data from the device. The program nodes show if a certain program is being logged. Programs are indexed as they occur in J*AM device tree.

<program index="1" is-logging="true" has-meter-window="true"/>

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```
<program index="2" is-logging="false" has-meter-window="true"/>
                           <program index="3" is-logging="false"/><program index="4" is-logging="false"/></program
                  </module>
         </device>
         <device ip-address="10.110.59.99" is-http-connected="true">
                  <module id="4" is-metering-requested="true" is-metering-active="true" is-all-
logging="false">
                           <program index="1" is-logging="true"/>
<program index="2" is-logging="true"/>
<program index="3" is-logging="false"/>
                           <program index="4" is-logging="false"/>
                  </module>
                  <module id="D" is-metering-requested="true" is-metering-active="true" is-all-
logging="true">
                           <program index="1" is-logging="true"/>
                           <program index="2" is-logging="true"/>
<program index="3" is-logging="false"/>
                           program index="4" is-logging="false"/>
                           program index="5" is-logging="true"/>
                           <program index="6" is-logging="true"/>
                           <program index="7" is-logging="true"/>
<program index="8" is-logging="true"/></program index="8"
                  </module>
         </device>
</jam-configuration>
```

Controlling J*AM via Event Actions from the device

Using J*AM 2.6.7 and higher it is possible to control file logging, loudness Integration and log file markers by events triggered by the device. This allows you to take automatically control over the core functions in J*AM This feature is currently only supported by V*AP devices with firmeware1.0.x and higher. The image below shows three functions which may be controlled remotely by the device:

- 1. Loudness logging: "Start" / "Stop" (red highlighting)
- 2. Integrated Loudness: "Start" / "Pause" / "Reset" (blue highlighting)
- 3. Liveplot/Logfile Markers: "Add Marker" (yellow highlighting)

Junger Application Mana	ager	
10 , 110 , 88 , 120	• <u>Connect</u> <u>Settings</u>	2
Administration		
Web GUI	http://10.110.88.120 (V*AP) Reconnect Disconnect V*AP V*AP	
Monitoring	- 🖞 Voice 1 online - 🖞 Voice 2 online	
Level Meter	- 🖬 Program online	
Loudness Tools		- - - x
Live Plot		?
Log To File	Device Name Program Name and Channel Status Start Time	Ī
Log All Program		18-Jul-20
Live Plot: VAP (Progra	ram 1)	×
File Display Options	Time Range Reset Plot	2
Module V*AP	Program Config Channel Integrated Loudness Loudness Range True Peak S-Term Loud. Manage Program 2/0 1 - 2 gated -21.6 / -20.8 10.3 / 5.8 □	Contraction of the local division of the loc
Loudness Distribution	Loudness Control Mode LUFS Input/Output LU Input/Output Output Output Output	Save oudness
LU In Out	EBUR 128 ungated -21.7 / -20.8 integr. Time 00:03:55 X Warning dBTP / L Content Start 0 Lin	.UFS niter=-0
+18	6	
+12	provident providence and the provident of the provident prov	
+ 6		
0	-24 ^{Ta}	rget=-23
- 6	-30	
-12		
-18		
-24		
-30		Þ
-36	60	

How to configure the device to control J*AM functions

In order to control any J*AM function by the device first you need to create a new "Parameter Event". Therefor please navigate to the EVENTS menu in the devices web GUI. Choose from the sub menu "Events" and select the tab "Parameter Events".

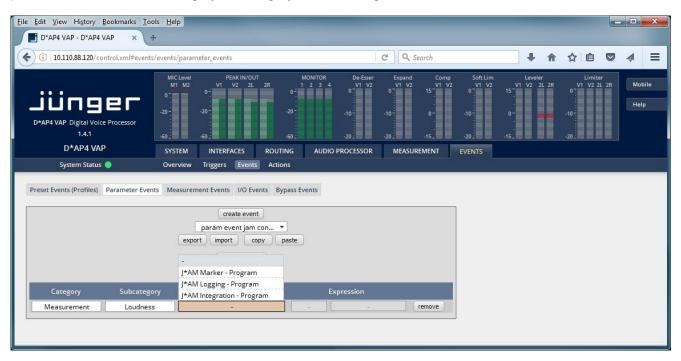
On this page you may create a new empty event by clicking the button labeled "create event". After entering a new name for your event please choose "Empty" from the settings dropdown box and click OK. See image below.

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Eile Edit View History Bookmarks Too	and the second se				
(i) 10.110.88.120/control.xml#events	/events/parameter_events	1)	C Search	↓ ♠ ☆	
D*AP4 VAP Digital Voice Processor 1.4.1 D*AP4 VAP	MIC Level PEAK IN/OUT M1, M2, V1, V2, 2L, 2R 0 20 		Expand Comp Soft-Li V1 V2 V1 V2 V1 V 0 1 5 0 1 1 1 0 1 1 1 1 1 1 1 1 1 1 1 1	2 V1 V2 2L 2R 0*	Limiter V1 V2 21-2R Help
System Status 🔵	Overview Triggers Events Actio	ons		-	
Preset Events (Profiles) Parameter Even	ts Measurement Events I/O Events By	vpass Events			
	create event				
		paste	Create Event		
	add parameter		Event Name parame	event jam control	
Category Subcatego		Expression	Empty 🔻		
Audio Processor On Air Too	ls Cough Cut - Voice 1	follow		ok	cancel

Once you created your new Parameter Event you need to add the desired parameter by clicking "add parameter" and select the category/subcategory as in the image below.



The column labeled Parameter provides three parameters which may be changed. See the table below for all parameters and possible expressions.

Parameter Name	Expression / Command	Description	
J*AM Marker - Program	Free text	You may submit arbitrary textual content as a marker to your Liveplot/Logfile	
J*AM Logging - Program	Log To New File	Start/Restart file logging	
	Stop Logging	Stop file logging	
	Integration Start	Start integration of loudness	
J*AM Integration - Program	Integration Pause	Pause integration of loudness	
	Integration Reset	Reset integration of loudness	

As an example the image below shows a parameter setting a new Marker labeled "My new marker text".

<u>File Edit View History Bookmarks Too</u>	ols <u>H</u> elp						
D*AP4 VAP - D*AP4 VAP * +							
(i) 10.110.88.120/control.xml#events	:/events/parameter_events		୯ ୧	Search	+ 1	☆ 🖻 🛇	. ₹
D*AP4 VAP Digital Voice Processor 1.4.1	MIC Level PEAK IN/C M1 M2 0 ⁻ -20 ⁻ -60 ⁻	2L 2R 1 2 3 4	De-Esser Expand V1 V2 V1 V2 -10	Comp Soft Lim V1 V2 V1 V2 15 0- -15- -20-	Leveler VI V2 2L 2R 15	Limiter V1 V2 2L 2R -10-	Mobile Help
D*AP4 VAP	SYSTEM INTERFACES		D PROCESSOR MEASU	REMENT EVENTS			
System Status Overview Triggers Events Actions							
Preset Events (Profiles) Parameter Events Measurement Events I/O Events Bypass Events create event param event jam con export import copy paste							
add parameter							
Category Subcatego Measurement Loudness			xpression My new marker text	remove			
Loudness	S J AWI Marker - Pri	ogram set		CHOYE			

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In order to apply this parameters value you need to trigger its Parameter Event. For this reason you need to switch to the tab EVENTS > Actions > Event Actions and add a new Action by pressing "add action":

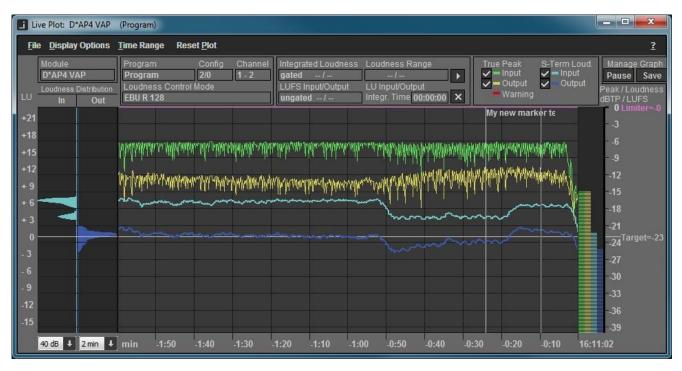
	s <u>H</u> elp		
D*AP4 VAP - D*AP4 VAP × + 10.110.88.120/control.xml#events/		C Q Search	↓ 佘 ☆ 自 ♡ ∢ 三
• 10.110.88.120/Control.xm#events/	actions/event_actions	C Search	
D*AP4 VAP Digital Voice Processor 1.4.1 D*AP4 VAP	MIL Level PEAK IN/OUT MONITOR MIL M2 VI V2 2L 2R 1 2.3 4 0 - - - 0 - - 3 4 - - - - - - - 3 4 - - - - - - - 3 4 - - - - - - - 3 4 - - - - - - - 3 4 - - - - - - - 2 4 - - - - - - 3 4 - - - - - - - - - 3 4 - - - - - - - - - - - - - -	De-Esser Expand Comp SoftLim VI VV VI VV VI VV VI VV -10 <th>Leveler Limiter 115 2 12.78 VI V2 21.28 Mobile 0 1 10 10 10 10 10 10 10 10 10 10 10 10</th>	Leveler Limiter 115 2 12.78 VI V2 21.28 Mobile 0 1 10 10 10 10 10 10 10 10 10 10 10 10
	Action Name Image: Action Action Image: Action Action Action Image: Action in the mobile user interface Image: Action Action Action In the mobile user interface	Action	
Mobile Options: Enable the display of a	revenue second in the mounte second internation		

After entering a name for your action please click "ok".

The new Action will appear in the action table. To apply your Parameter Event to the new action just choose it from the dropdown box in the column Parameter Events. This will result in a view as in the following image:

ols <u>H</u> elp		
+		and the second se
s/actions/event_actions	C Q Search	↓ 俞 ☆ 自 ♥ ∢ 〓
		22 V1 V2 V1 V2 2L 2R V1 V2 2L 2R Mobile -10 0
SYSTEM INTERFACES ROUTING	AUDIO PROCESSOR MEASUREMENT	EVENTS
Overview Triggers Events Actions		
rigger Preset Events Des	stination Parameter Events Measuremer	nt Events I/O Events Bypass Events Mobile Options
- force - Voic	ce 1, Voice 2 param event ja	- OFF
an Event Action. Manual execution remains ava an Event Action in the mobile user interface.	ailable when disabled.	
	Actions/event_actions	Actions/event_actions: C Q Search MICLevel PEAKIN/OUT AUDIO PROCESSOR MEASUREMENT Overview Triggers Events Actions Figger Preset Events Destination Parameter Events Measuremer force Voice 1, Voice 2 param event ja

You may test your new parameter action by pressing the "force" button. This would now add the new marker to J*AM's Liveplot:



Instead of manually triggering this action by pressing the "force" button you may automate a trigger for this action. Please see your V*AP devices manual for further information.

Important notes

- Although not all combinations are tested, one may use our USB loudness licensing dongle within virtualized operation systems
- Recommended hardware for machines J*AM is running on: Intel AtomN330 1.6GHz, 2GB RAM, 250GB HDD, Nvidia ION, Win 7
- J*AM requires approximately 65 megabyte per day for each logged program
- The EBU integration in J*AM and your Junger devices WebGUI work independently

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