EddySmart for Android



What is EddySmart?

EddySmart converts your smartphone into a digital eddy current instrument for education. It does not substitute but accompanies lectures and textbook stuff to help you learning eddy current inspection. The frequency range from 1 to 20 kHz makes it possible to practice tasks like

- Surface crack detection and evaluation
- Hidden defect detection and evaluation
- Material sorting
- Wall and coating assessment
- Conductivity assessment
- The kit contains
- An absolute shoe probe
- Reference pieces
- USB stick with the EddySmart software
- This manual

Please, take into account that EddyCationSmart software drives your sound system up to its limit. Disturbances being negligible at normal use may reduce the signal to noise ratio visibly. Hence, unplug any USB cable connection of your smartphone.

If you want to use other than the shipped probe, please contact the EddyCation team eddycation@t-online.de

Symbols and legend





Quick Start

Enable installation from unknown sources: Settings -> Lock screen and security:



Select the folder with EddySmart.apk, e.g.: My Files -> Device storage -> Download:



Preferences

Depending on your smartphone select the following preferences.

EddySmart					
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(Y Plane Preferences	L.				
Audio source: UNPROCES	sed.				
Select source from list Point size: medium Select point size		0			
Point color: black Select point color	MIC	0			
Grid: full Select grid style	CAMCORDER Older Phor	<u>ົ</u>			
Record color: keep color Select record color	VOICE_RECOGNITION	٢			
Max. recording time: 10 s		VOICE_COMMUNICATION			
You may stop recording manual	Nat REMOTE_SUBMIX	٢			
Tap me for decompensation	UNPROCESSED	•			
Show details: yes Want to see settings in XY plane	Current phones				
Default gain: 20.0 dB Set default value					
Default volume: 15 Set default volume between 11	5				

Avoid Overdrive

Pink background indicates overdrive. Reduce sound volume until pink background vanishes.



Balance and Shift

Tap the central spot for balancing. Tap outside for shift points.







Threshold

Tap and move for setting. Move to x-axis for removing.





Frequency and Filters Tap the button for possible settings.

Tap the setting for selection.

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EddySmart					\$	
Vol 14	50,7 dB	0,4°	0	Hz ↑	50 Hz ↓	
				400 H	Hz↓	
20 kHz	1(00 Hz ↑		200 Hz↓		
16 kHz	50	50 Hz ↑		100 Hz↓		
12 kHz	2	5 Hz ↑	50		0 Hz↓	
10 kHz	1	15 Hz ↑		25 Hz↓		
8 kHz	1() Hz ↑	Hz↑		15 Hz↓	
6 kHz	5	5 Hz ↑		10 Hz↓		
4 kHz	2	2 Hz ↑		5 Hz↓		
2 kHz	1	Hz↑		2 Hz↓		
1 kHz	0	0 Hz ↑ 1 Hz ↓			Ļ	
16 kHz Frequen	z cy l	Signal filters0 Hz ↑50 Hz ↓High passLow pass				

XY and Yt Mode

Tap mode button for mode selection. The selected mode is indicated.



Interruptible Recording and Post Processing



Presets

Save current setting as preset by name.



Presets are saved in Internal memory -> EddySmart/Presets

Screen Sharing

Share screenshot via e-mail, messenger or social media.







Examples

Signals of different materials



Reference pieces For training



Disclaimer of liability

Despite all care in the development and adaption of the eddy current probe, a damage of the smartphone can not be excluded. The sensor is used at your own risk. We are not liable for any damage of your smartphone. Only the electrical integrity of the sensor in the intended use is guaranteed. There is no claim to the improvement of the software.

Intended use

Sensor, references and, if shipped, the smartphone are intended exclusively for demonstrating and practicing the eddy current method for non-destructive material testing on the shipped references.

The sensor and the software are developed for the smartphone Samsung Galaxy S6/S7 running at least Android 5 (Lollipop API 21). Other smartphones have not been tested.

Tested Compatibility

Samsung Galaxy S5, S6, S7, Note 4 Motorola G4+, G5

Contact

For questions please visit http://eddycation.de or mail to eddycation@t-online.de

We wish you lots of fun and success!

Memos				
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Photos



