ELSYS Corp.

Polygraph evolution in Russian Federation

Minkin Viktor
Medvedev Andrey

www.elsys.ru 2012

Polygraph evolution in Russian Federation

PRIVATE

Jurisprudence

Asset 64 Labour Code (wolkers's qualities)

Assets 85-90 (privacy)

History of polygraph detector in Russia

1923-27 A.R.Luria's experiments on phygmograph, direct method

Firstly applied motor function method for suspected person

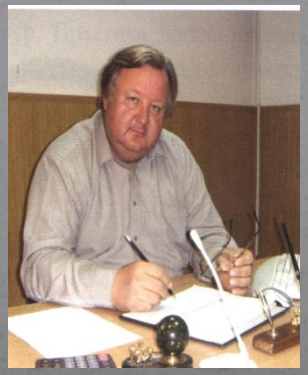
1975 KGB lab in USSR

Varlamov V.A

Polygraph developer Krasnodar polygraph trend founder

Polygraph developer One of Moscow polygraph trend founders

Soshnikov A.P.



Komissarova J.V.

Author of viewing polygraph method/. First court expertise with polygraph

Evolution of hardware

12.08.1995 Law “about operative-research activity” #144 FL

“KRS”	“EPOS”	“Diana”	“Concordia”
Comp	Comp	Comp	Comp
Have own syllabuses for polygraphist + “Antaeus”			
There are about 30 polygraphists in Russia			

Departments which use polygraph detector

other	MVD	FSB	Narco police	Custom house	UFIN	Office of Public Prosecutor
People are instructed						
500	1000	100	50	50	100	100
Really in work						
100	200	50	50	50	50	80

Differences of polygraphs produced in Russia

model	AD	Extra	Tremor	Better works	assemblage	upgrade
Diana	build in	Video+text	+pad	Direct	sure	+
Epos	outside	-		Direct	unsure	+
Concordia	out	Video+text +voice	+pad	Direct	unsure	+
Kris	-	-	+pad	Indirect	unsure	+

Polygraph assisted Investigations

Investigation in operative units:
- clearance of crime
- administrative review.

Investigation on different enterprises

-Criminal investigation
-Civil investigation
-Aministrative investigation

Using of instrumental lie-detection as an acceptable proof for court

Polygraph
Calligraph
Vibraimage

Operation of Vibraimage + polygraph

Current task for this equipment

1. Increase of validity for every single test
2. Increase of validity with different tests results
3. Elimination of PDD examiner's errors
4. Elimination of examinee's resistance

Pretest interview

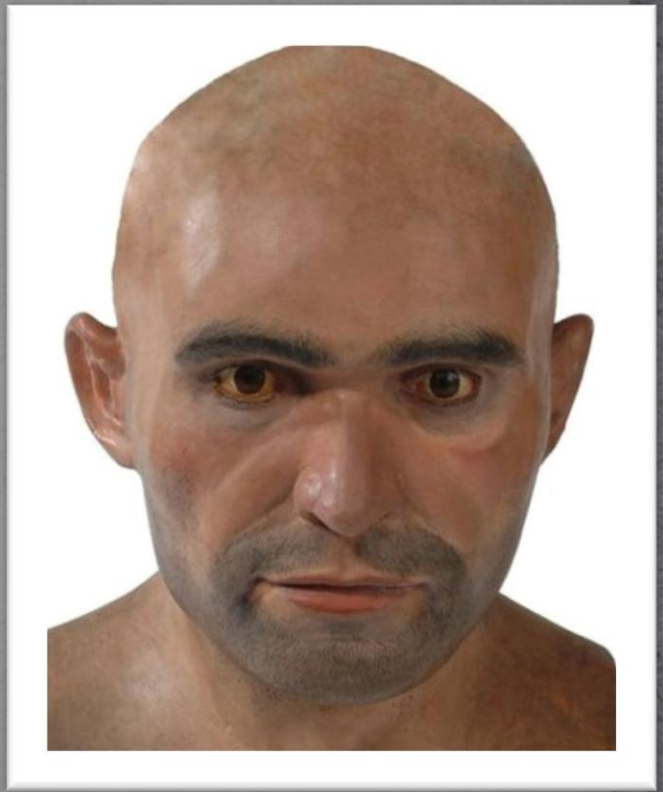
	Basic steps
1	Tuning with verbal and non-verbal signs
2	Asking of examinee to state his own version of happen. Ask some question for better Vibraimage‘s operation.
3	Voice questionnaire (dialogue) so that examinee mostly expressed his emotions.
4	Adjust questionnaire if necessary

	Interferences
1	Wrong shooting
2	Noises (glasses, cream on face, slurred diction, botox)
3	Sound noises (phone, pager, other sound equipment)
4	Indisposition (lack of sleep, different problems which subject is thinking of)

Complicated cases

Person is not emotional

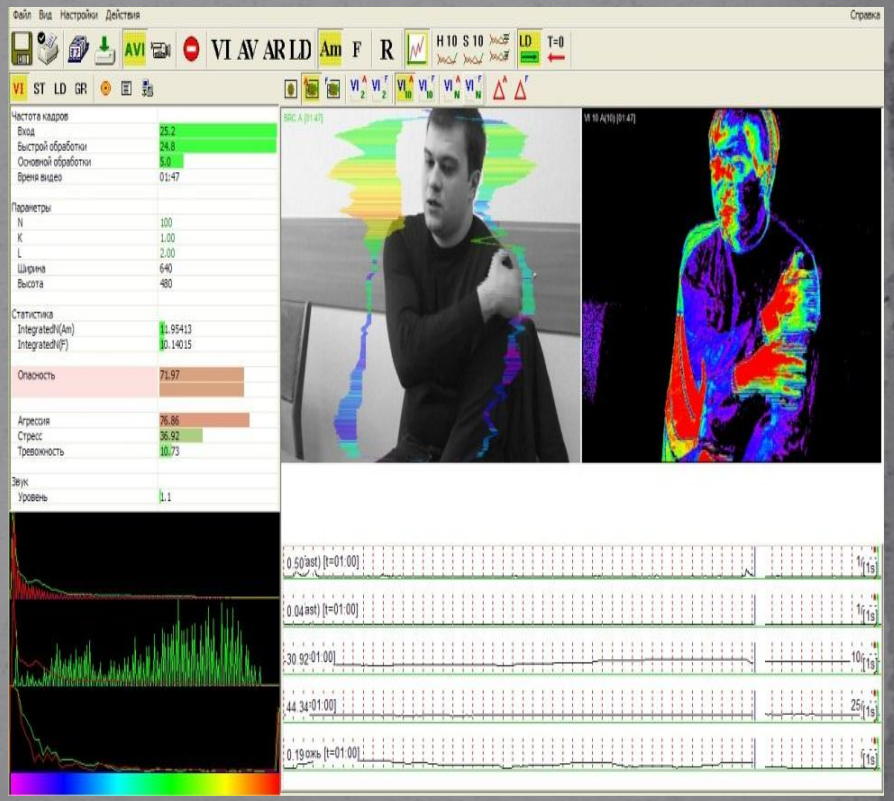
N	Feature	The tested version	Recommendations
1	Monotonic answers	Testing of character accentuation on psychopathy	1. Prof. Filonov's stimulating questions 2. Questions with use of Mian-xian physiognomy
2	Eyes are immobile		
3	Answers are short		
4	Mimicry is poor		



Maximum benefits of pretest interview

1	Lack of sensors on the test, preventing the normal dialogue and gestures.
2	Highest emotional stress, the absence of fatigue from the tests.
3	Opportunity to express their ideas in a familiar form without test distortion
4	Ability to understand which of the polygraph issues caused misunderstanding the question and should be adjusted.

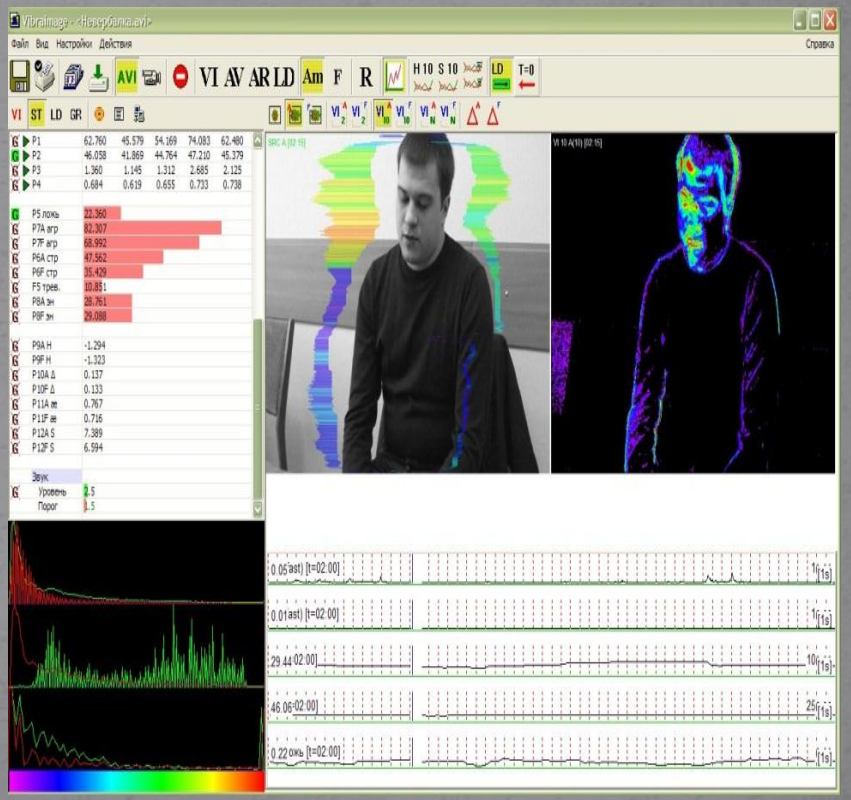
The degree of individual zones tension gives a hint of readiness for testing



Pretest interview
Operation with visual Vibraimage marks

Marks for attention at first

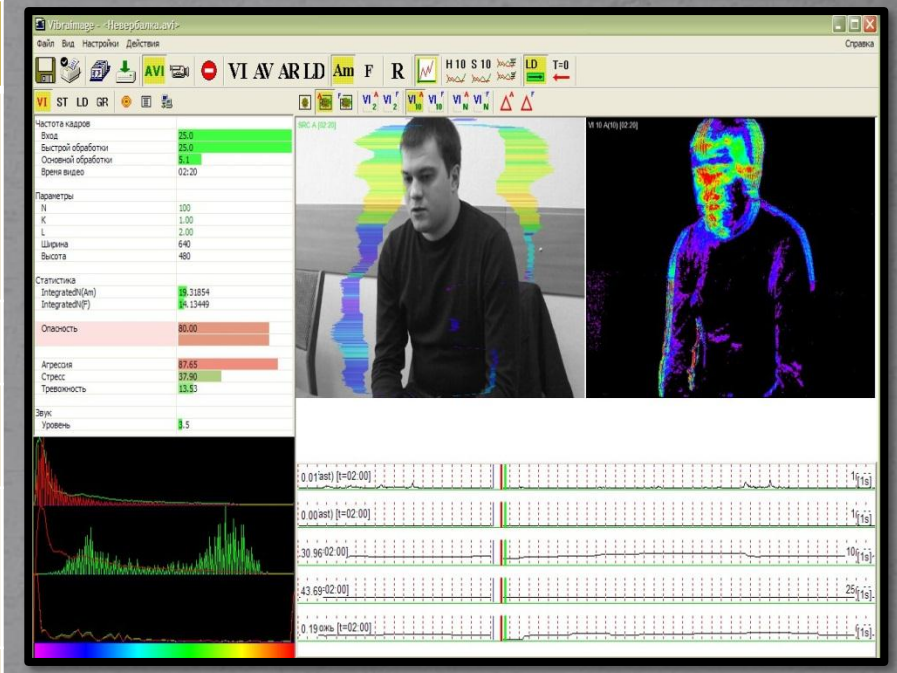
1	The appearance of green in the aura divided with yellow and red
2	Asymmetry of the aura of the left and right sides.
3	Asymmetry of muscle tension in the face and chest.
4	The appearance of the tension triangle (area lip, nose, eye area)
5	Changing dynamics in the form (seal or extension) of the aura and its color after the question of polygraphist.



Scoring procedure of questionnaire

PDD examiner deals with questionnaire and recording “live video” with post-test analysis.

1	Backster test, st. Utah
	N- (Outside issue)*-(Sacrifice)*-(C-C-C…)- (R-R-R).
2	D. Likken test
	Score only Preparatory
3	Test of control and neutral questions
	(N-N-N) -(C)- (R-R-R)



*Outside issue – may be not pronounced

Documents for forensic examination with polygraph

Diploma of University

Диплом является государственным документом о профессиональной переподготовке

Диплом дает право на ведение нового вида профессиональной деятельности

Регистрационный номер 56/08

РОССИЙСКАЯ ФЕДЕРАЦИЯ

ДИПЛОМ

О ПРОФЕССИОНАЛЬНОЙ ПЕРЕПОДГОТОВКЕ

ПП № 670439

Настоящий диплом выдан Медведеву Андрею Юрьевичу

в том, что он(а) с 16 сентября по 16 ноября 2010 прошел(а) профессиональную переподготовку в (на) ОУ ВПО

по программе «Проведение психофизиологического исследования с использованием полиграфа»

Государственная аттестационная комиссия решением от 16 ноября 2010 удостоверяет право (соответствие квалификации) Медведева Андрея Юрьевича на ведение профессиональной деятельности в сфере проведения психофизиологического исследования с использованием полиграфа.

Город Москва 2010

СВИДЕТЕЛЬСТВО

№ 42

Москва

Выдано ст.ОУ УОТМ ГУВД Оренбургской области (должность, звание, Ф.И.О.)

майору милиции

Медведеву Андрею Юрьевичу

в том, что ему(ей) решением Квалификационной комиссии при ВНИИ МВД России предоставлено право работы с полиграфными устройствами при опросе граждан.

Председатель Квалификационной комиссии при ВНИИ МВД России
Начальник отдела полковник милиции (должность, звание) (подпись) А.Н. Скрытников (фамилия, инициалы)

Секретарь - В.Н.С. полковник милиции (должность, звание) (подпись) И.С. Зубрилова (фамилия, инициалы)

"22" 05 2000 г.

Регистрационный номер 42

Certificate of Compliance

СИСТЕМА ДОБРОВОЛЬНОЙ СЕРТИФИКАЦИИ
"МЕЖРЕГИОНАЛЬНЫЙ РЕЕСТР СУДЕБНОЙ ЭКСПЕРТИЗЫ"

Зарегистрирована в Едином реестре зарегистрированных систем добровольной сертификации Федеральным агентством по техническому регулированию и метрологии Российской Федерации

Регистрационный № РОСС RU.И876.04ФГГ0 от 13 декабря 2011 г.

Автономная некоммерческая организация (наименование органа по сертификации)

"МЕЖРЕГИОНАЛЬНЫЙ ЦЕНТР СУДЕБНОЙ ЭКСПЕРТИЗЫ"

Адрес: 101990, г. Москва, Армянский пер., д. 9/1/1, стр.1

СЕРТИФИКАТ СООТВЕТСТВИЯ

№ 0006

Действителен с 15 июня 2012 г. по 14 июня 2015 г.

НАСТОЯЩИЙ СЕРТИФИКАТ УДОСТОВЕРЯЕТ, ЧТО

Медведев
Андрей Юрьевич

ЯВЛЯЕТСЯ КОМПЕТЕНТНЫМ И СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ СИСТЕМЫ ДОБРОВОЛЬНОЙ СЕРТИФИКАЦИИ К СУДЕБНЫМ ЭКСПЕРТАМ ПО СПЕЦИАЛЬНОСТИ

"ОСНОВЫ СУДЕБНОЙ ЭКСПЕРТИЗЫ И КРИМИНАЛИСТИКИ"

ОСНОВАНИЯ ДЛЯ ВЫДАЧИ СЕРТИФИКАТА

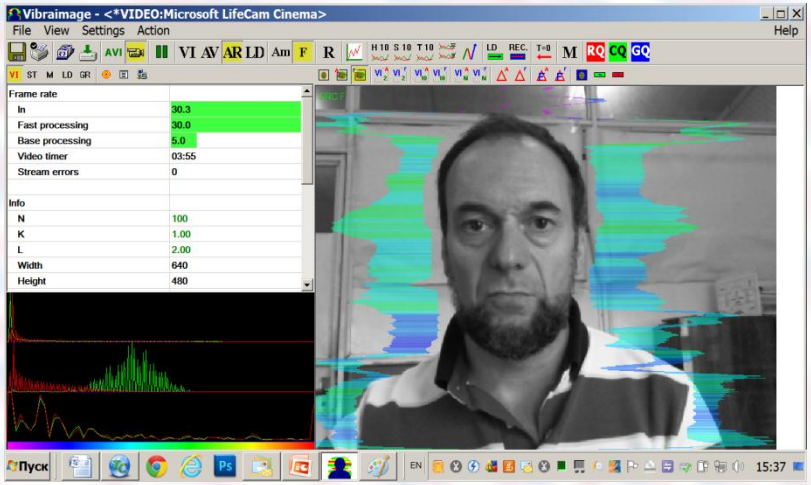
Решение Совета Системы от15.06.2012 г. (Протокол №12)

Руководитель органа по сертификации А.А. Водопалина

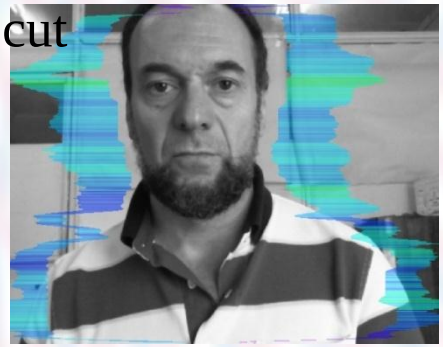
Vibraimage - video polygraph

Steps Before PDD examination by vibraimage:

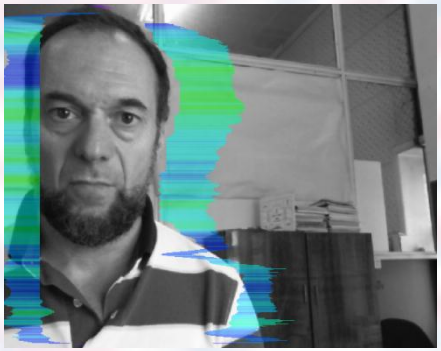
1. Select a correct position of person



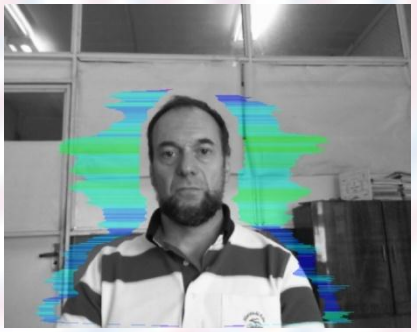
Low quality – up is cut



Low quality – side is cut



Low quality – face is small

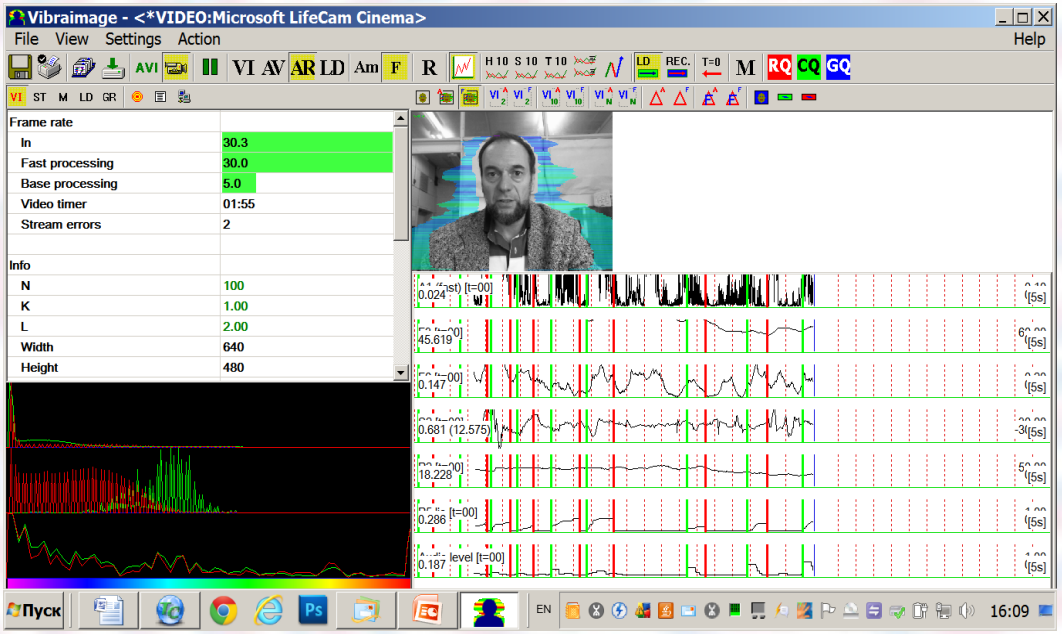


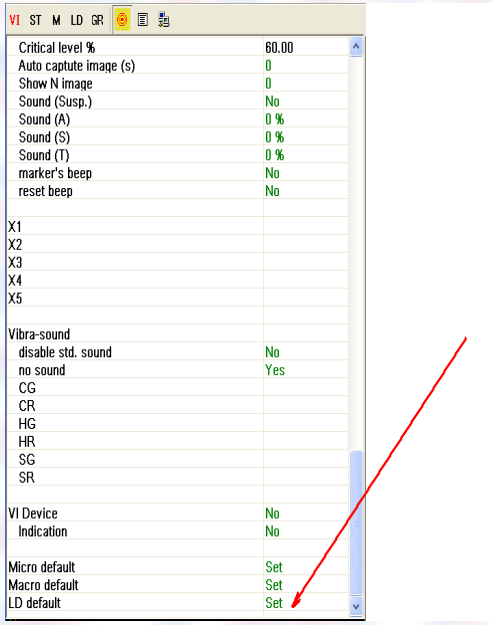
The person image must be high quality, the maximal facial size on screen is preferable and face position must be in the center of the screen. For the frame with horizontal resolution 640 pixels the person face should be not less than 200 pixels.

Vibraimage - video polygraph

Before PDD examination start by vibraimage:

2. Stand a correct system settings



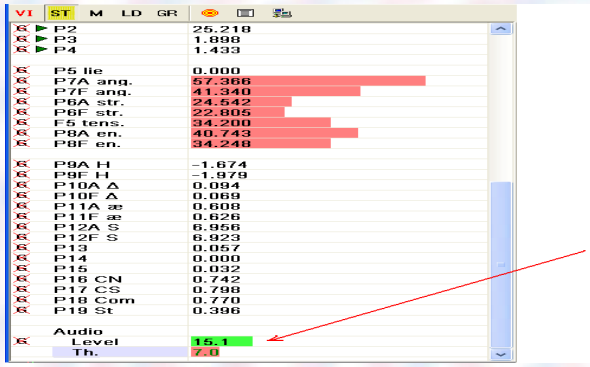


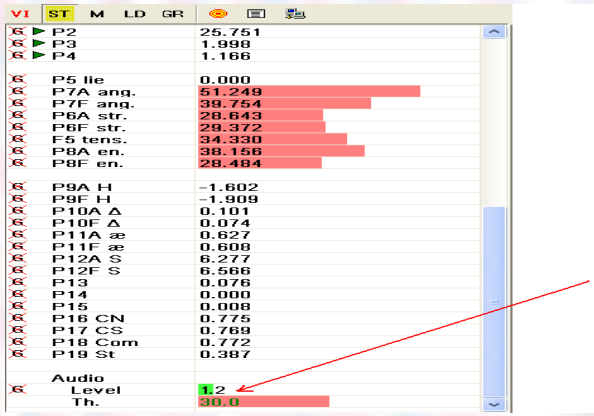
Start from LD default settings and control Video IN rate, Base processing rate, Stream errors and processor power

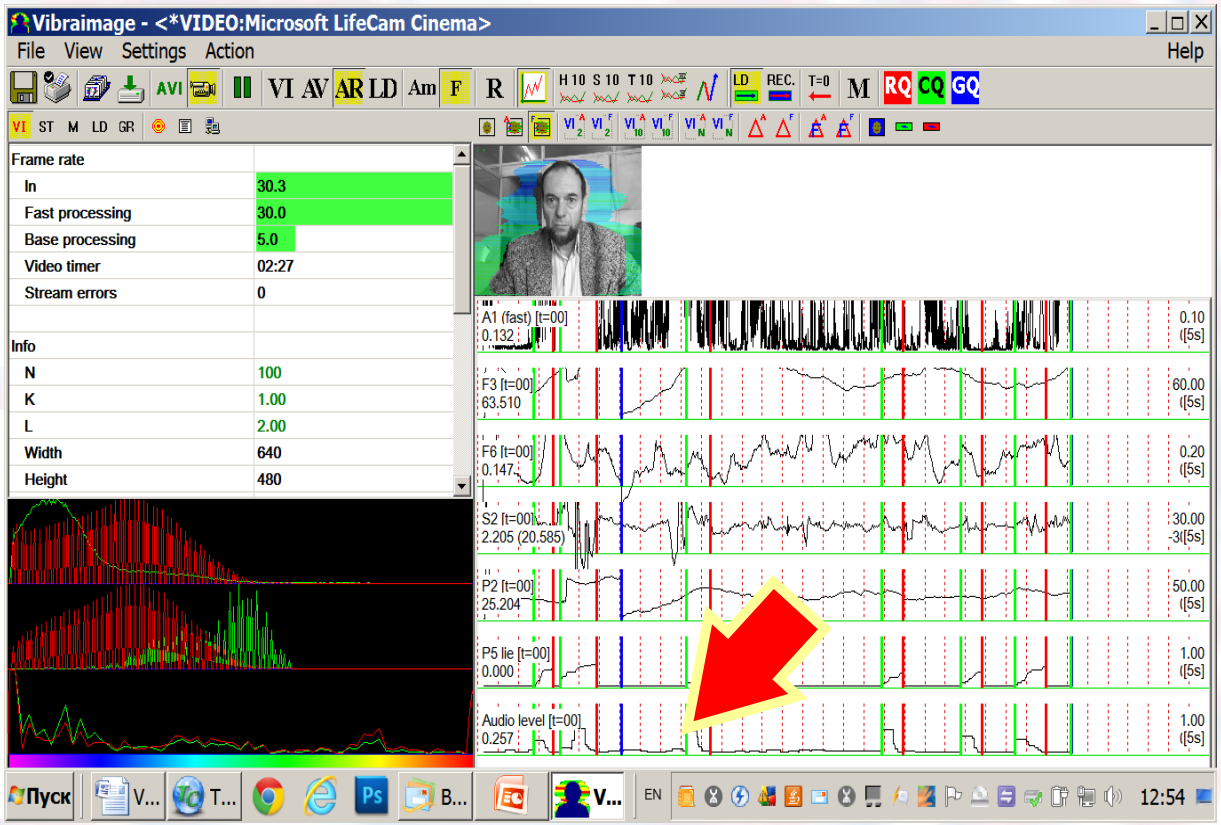
Vibraimage - video polygraph

Before PDD examination start by vibraimage:

3. Stand correct system audio settings



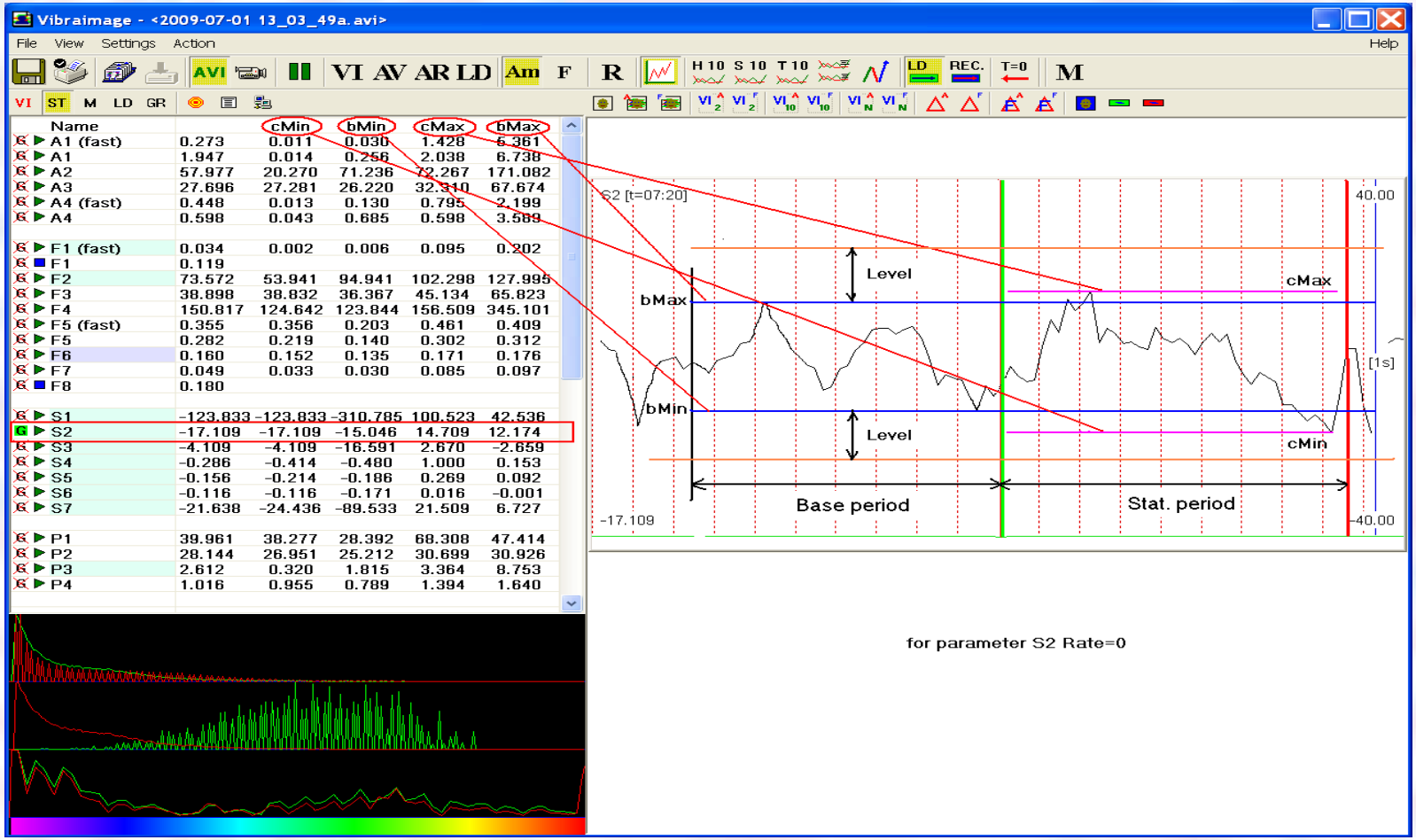




After standing Audio Threshold you need to test audio quality on the down graph of LD default menu. With the question start you need to see green vertical line and red line after some seconds of the reply

Vibraimage - video polygraph

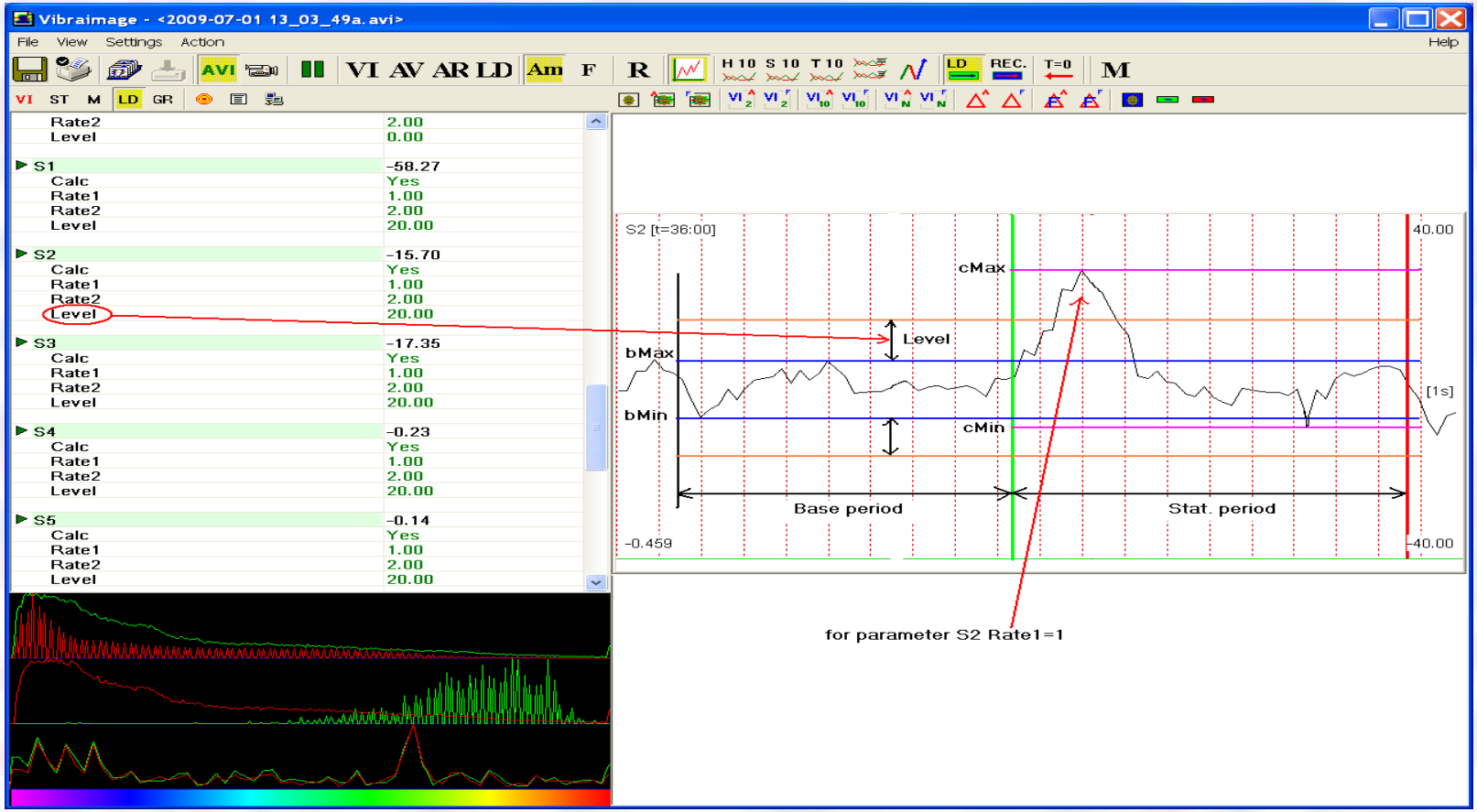
Vibraimage parameters rates and PDD calculations



No difference between Stat period and Base period for indicated parameter S2

Vibraimage - video polygraph

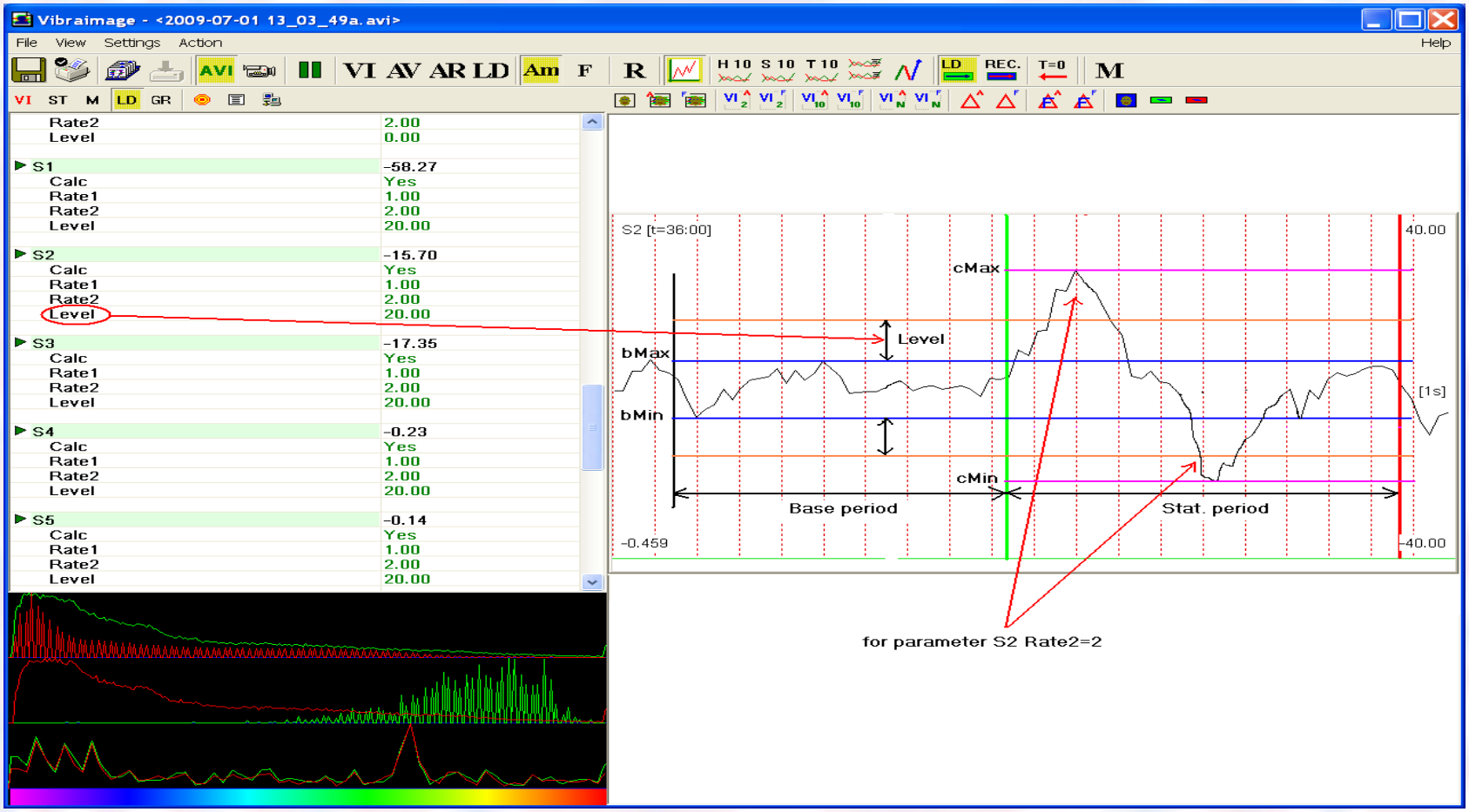
Vibraimage parameters rates and PDD calculations



Significant changes of the one level of parameter between Stat period and Base period for indicated parameter S2

Vibraimage - video polygraph

Vibraimage parameters rates and PDD calculations



Significant changes of the two levels of parameter between Stat period and Base period for indicated parameter S2

Vibraimage - video polygraph

Vibraimage PDD equation

$$L = \frac{\sum_{1}^{m} P_i * K}{\sum_{1}^{n} P_c * K}$$

P_i – parameter with significant changes between Base period and Stat period;

P_c – parameter measured for lie detection;

K – rate coefficient for measured parameter P_i.

n – number of measured parameters for lie detection;

m – number of changed parameters during lie detection

P5 and P20 difference

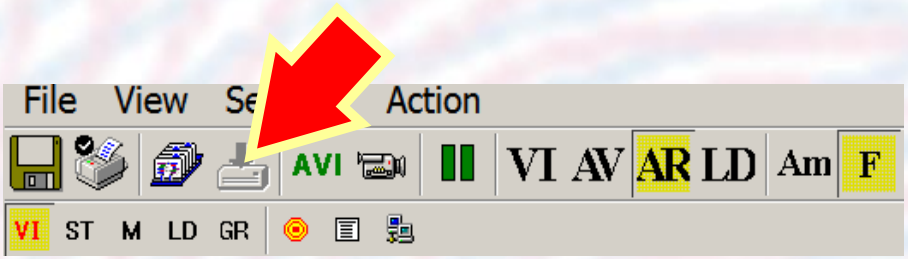
P5 - equal rates (1,2) for every parameter – interview testing

P20 – individual rate for every parameter – Comparative testing (Backster, MCT)

A4 (fast)	0.00
Calc	Yes
Rate1 V	1.00
Rate2 V	2.00
Rate1 C	-1.00
Rate2 C	0.00
Level	100.00
A4	0.00
Calc	Yes
Rate1 V	1.00
Rate2 V	2.00
Rate1 C	1.00

Vibraimage - video polygraph

Auto processing of Vibraimage PDD results file recording



max result

RQ(m)	-13,00	3		
RQ(m) stat:		-6,00	-3,00	-4,00
CQ(m)	1,00	3		
CQ(m) stat:		1,00	0,00	0,00
LD(M)	NDI			

global result

LD result NDI

average result

RQ(a)	32,14	3		
RQ(a) stat:		39,29	30,36	26,79
CQ(a)	33,33	3		
CQ(a) stat:		39,29	26,79	33,93
LD(a)	INC			

integrated result

RQ(i)	187,12	3		
RQ(i) stat:		189,84	171,70	199,84
CQ(i)	243,53	3		
CQ(i) stat:		337,87	156,91	235,81
LD(i)	NDI			

Vibraimage - video polygraph

Question response recording

Name	cMin	bMin	cMax	bMax	vRates	cRates
A1X	0,000321925	0,00028099	0,138081	0,0615276	1	-2
A1	0,0140144	0,0146971	0,56111	0,271115	1	-1
A2						
A3						
A4X	0,00229991	0,0016103	0,0797878	0,0195772	1	-1
A4	0,0695558	0,0648941	0,236523	0,10109	1	1
F1X	5,37147e-005	2,68573e-005	0,0131511	0,00906286	1	1
F1	0,00204782	0,00193537	0,03866	0,0303415	1	-1
F2						
F3						
F4						
F5X	0,243025	0,348067	0,450588	0,424852	1	1
F5						
F6						
F7						
F8	0,0460208	0,0525183	0,361447	0,302455	2	2
F9	0,0338512	0,0431701	0,11822	0,18395	1	-1
S1	-114,445	-60,7949	112,78	52,7444	2	1
S2	-5,25213	-6,19922	10,5145	3,17822	1	-1
S3						
S4	-1	-0,293413	0,547922	0,456464	2	-2
S5	-0,0521262	-0,0909889	0,316215	0,159266	1	-1
S6						
S7	-60,2543	-46,0583	-36,5063	-32,9983	1	0
P1						
P2	43,6609	46,3716	48,2687	48,4124	1	-1
P3	0,333964	0,387631	1,11551	0,692358	1	1
P4						
P5 lie	33,929					
LD	-4					

Technical info

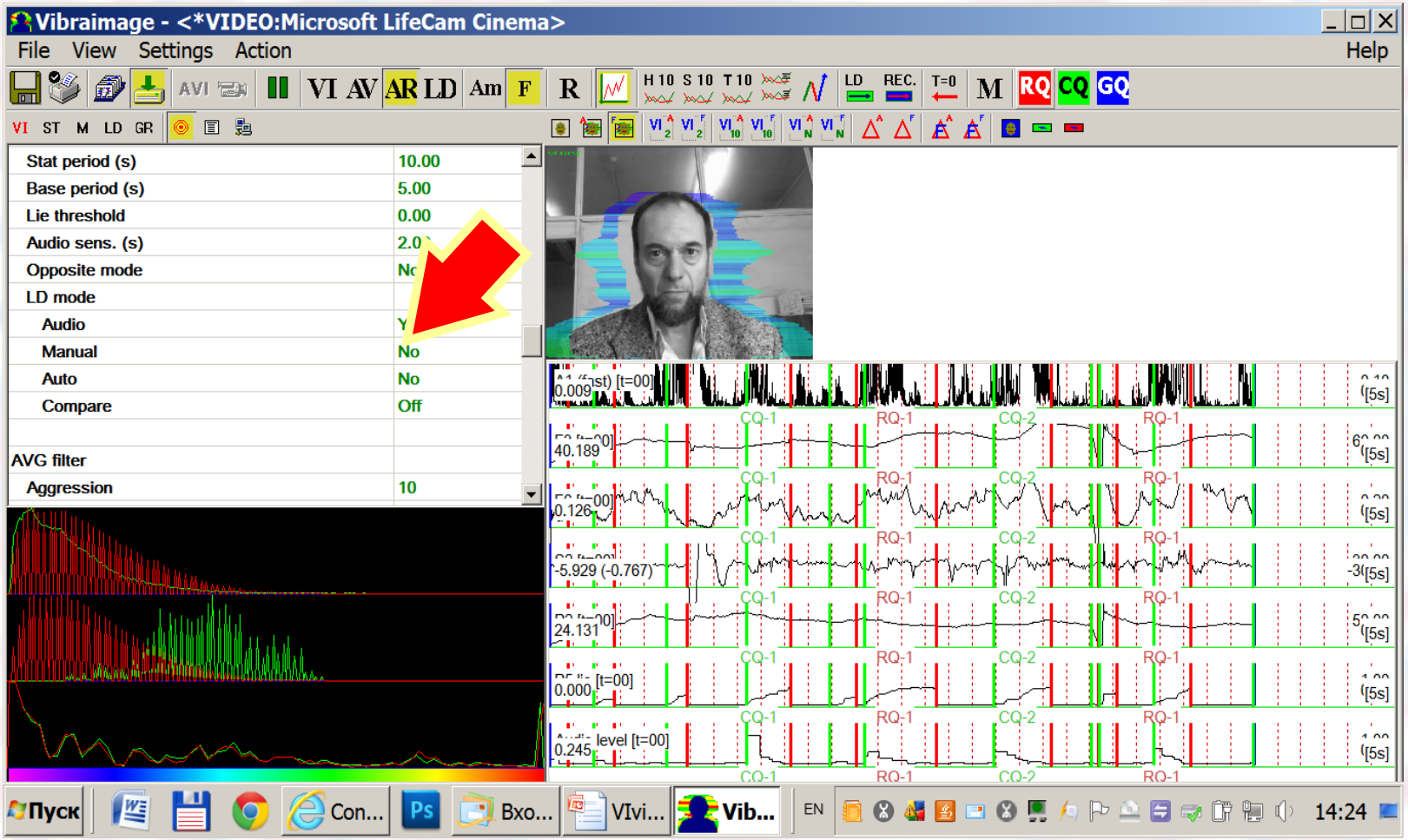
2 RQ 31.01.2011 16:10:33

Lie detected
Start time 31.01.2011 16:10:33
Video timer (start) 02:35
Stop time 31.01.2011 16:10:41
Video timer (stop) 02:43
LD time 31.01.2011 16:10:40
LD video timer 02:42

R(m)	-3
R(a)	30.3571
tR(i)	171.696

Vibraimage - video polygraph

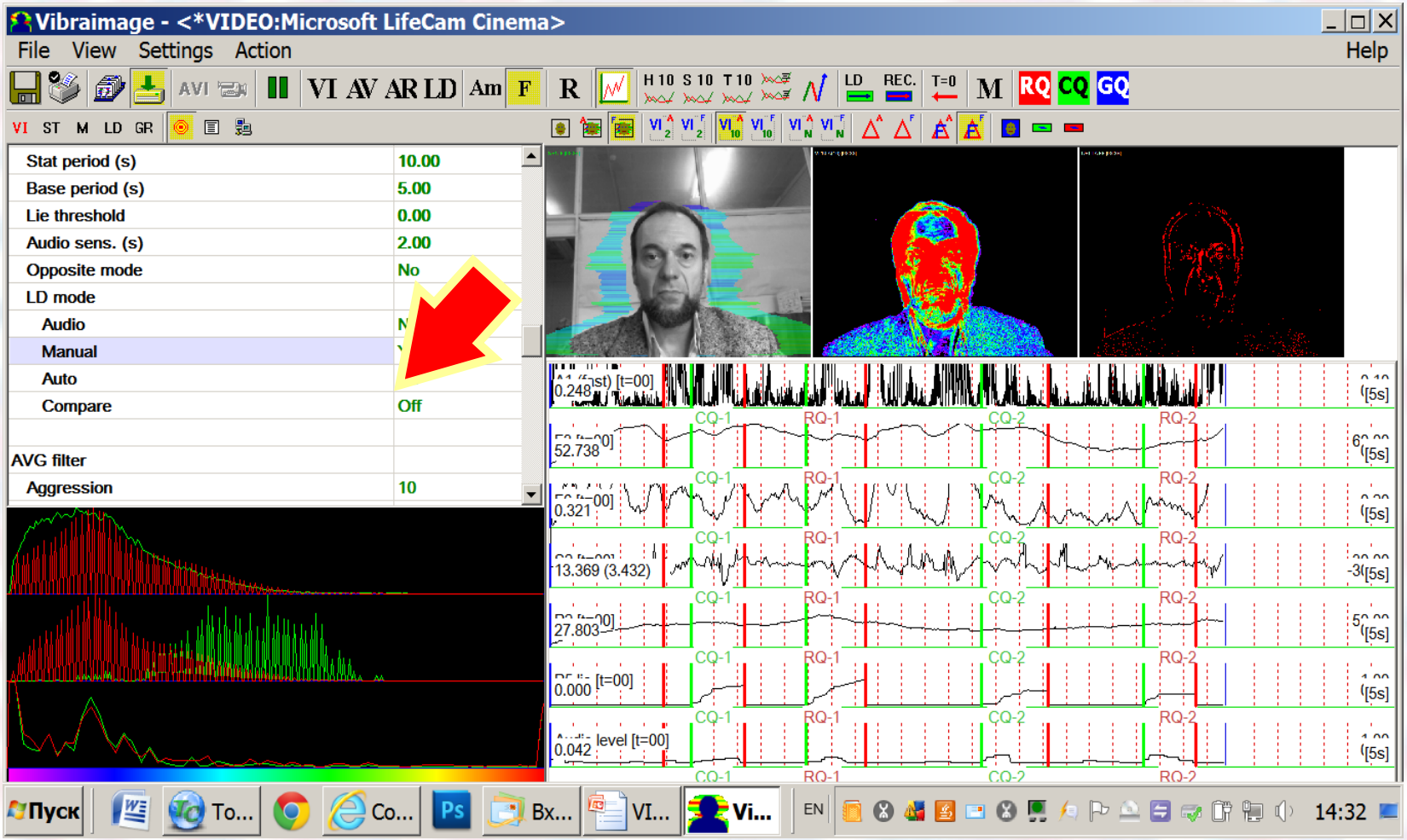
Audio mode testing



Audio level starts and finishes the stat period processing

Vibraimage - video polygraph

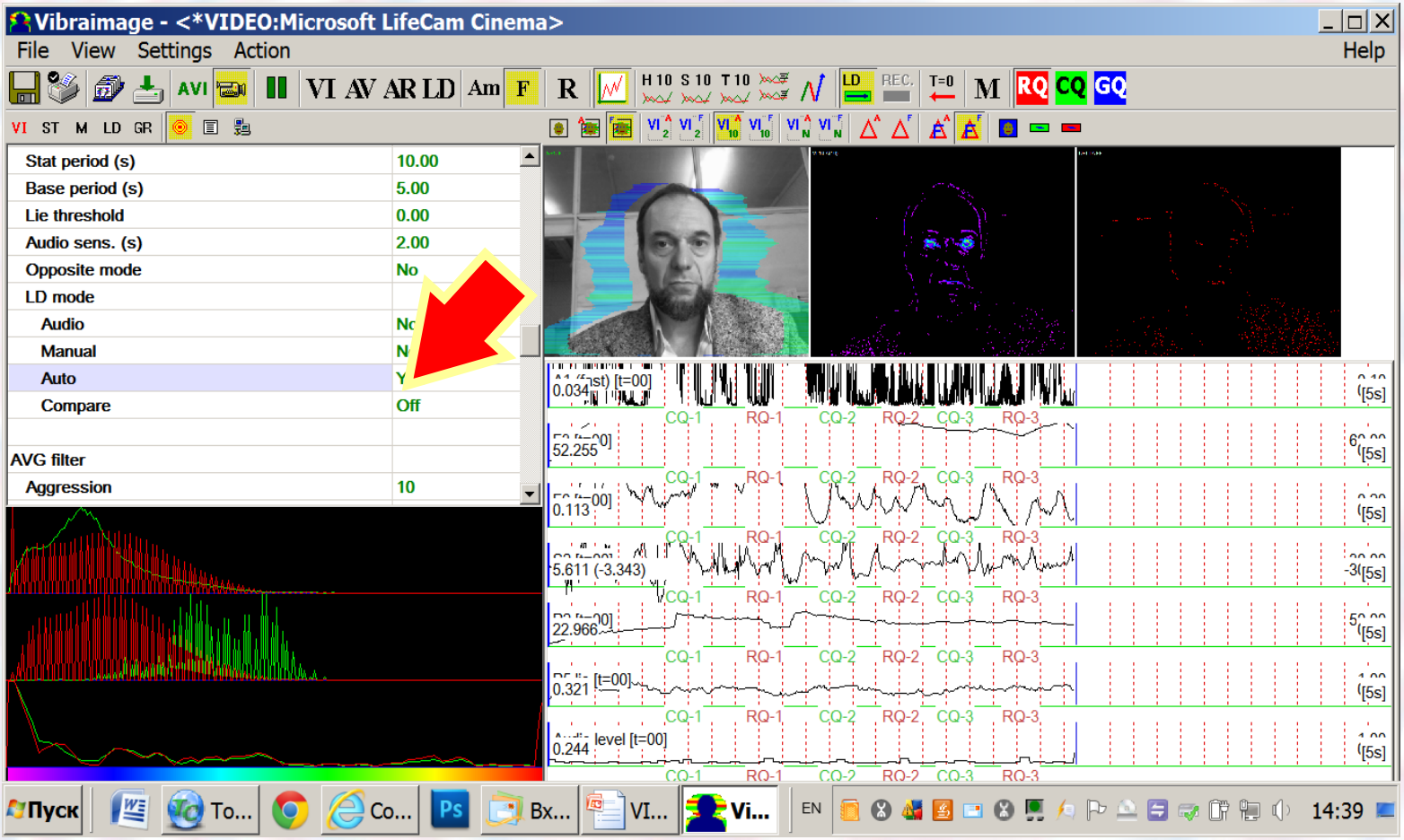
Manual mode testing



Manual regulation of starts and finishes for stat period processing

Vibraimage - video polygraph

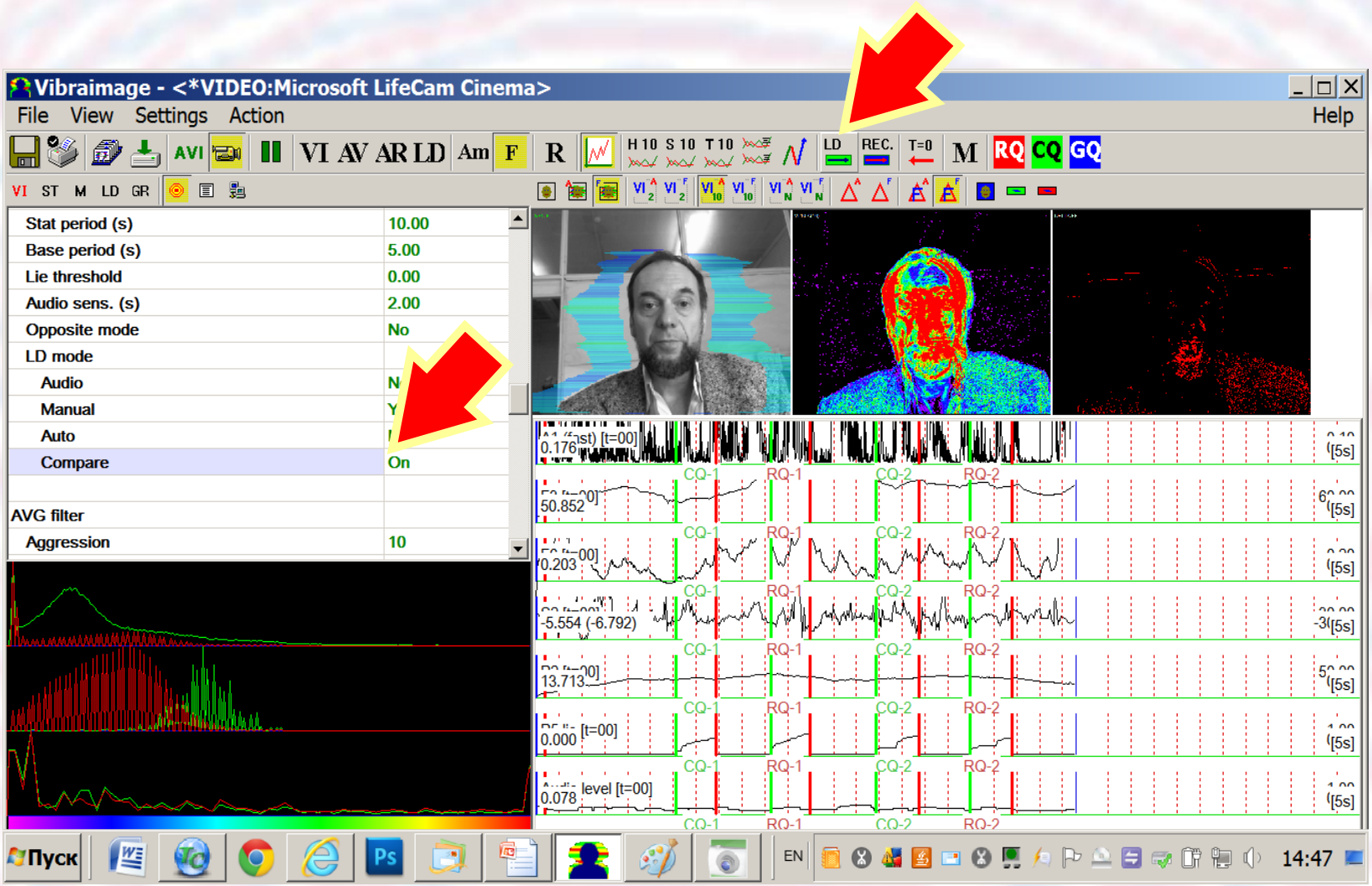
Manual mode testing



Auto processing of comparative test or interview

Vibraimage - video polygraph

Manual comparative testing



Manual selection of base period for testing and processing

Vibraimage - video polygraph

Contact polygraph vs Vibraimage polygraph. Correlation and problems

Psychophysiological parameters
What is more informative
Vestibulo-emotional reflex + vestibular system
Or
AD. SGR, HR, BW

Normal correlation must be (90-95)%

Problems in correlation
Testing conditions for vibraimaging
Constant and universal light
Experience of personal
More statistics requested

Vibraimage advantages
- **Contactless**
- **Interview**
- **Less time requests**
- **High accuracy and statistics**

Polygraph advantages
- **Long time of experience**
- **Stable results**

CONTACT INFORMATION

VibraImage store

http://www.psymaker.com

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Using of lie-detection technology

http://polygraph.pul.ru
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Phone: +7 903 366 63 07

medvedev241@yandex.ru
medvedev241@mail.ru

Vibraimage - video polygraph

Thank You!

www.elsys.ru

www.psymaker.com

www.vibrabrain.com