LABORATORY FOR TESTING OF MACHINERY, EQUIPMENT AND DEVICES
CENTER FOR TESTING AND EUROPEAN CERTIFICATION LTD

Center for Testing and European Certification

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ИА "БСА" Рег.№ 101 ЛИ
ЛАБОРАТОРИЯ ЗА ИЗПИТВАНЕ
Accredited certificate
№ 101 ЛИ / 24.11.2014
Valid until: 24.11.2018
of EA BAS, according
EN ISO/IEC 17025

TEST REPORT

№ 2k-15-120 / 26.08.2015

OBJECT TO BE TESTED: Line preamplifier - Model: Dionysos , Serial № 424201 ;
(name of obejct to be tested , type, model, quantity,type and other)

APPLICANT FOR TEST: "Thrax Audio" Ltd. , Bulgaria , 1766 Sofia, 251 Okolovrasten pat, Delta Center , Tel.:+359 2 988 95 55, office@thraxaudio.com ;
Application № 120/ 09.06.2015
(name of the firm – applicant, address, telephone, number and date of the test application)

METHOD OF TEST: BDS EN 60065:2002+A1:2006+A11:2009+A2:2010+A12:2011
Audio, video and similar electronic apparatus –Safety requirements
(IEC 60065:2001, modified)
(number and name of the standards)

DATE OF ACCEPTANCE IN THE TEST LABORATORY: 29.06.2015

MANIFACTURER: "Thrax Audio" Ltd. , Bulgaria , 1766 Sofia, 251 Okolovrasten pat, Delta Center , Tel.:+359 2 988 95 55, office@thraxaudio.com ;

DECLARED TECHNICAL DATA:

Rated voltage –	115/230 VAC
Rated frequency –	50/60 Hz
Class I	

DATE OF TEST PERFORMANCE: 29.06.2015 ÷ 06.07.2015

HEAD OF LABORATORY: .....
/ T. Hristov /

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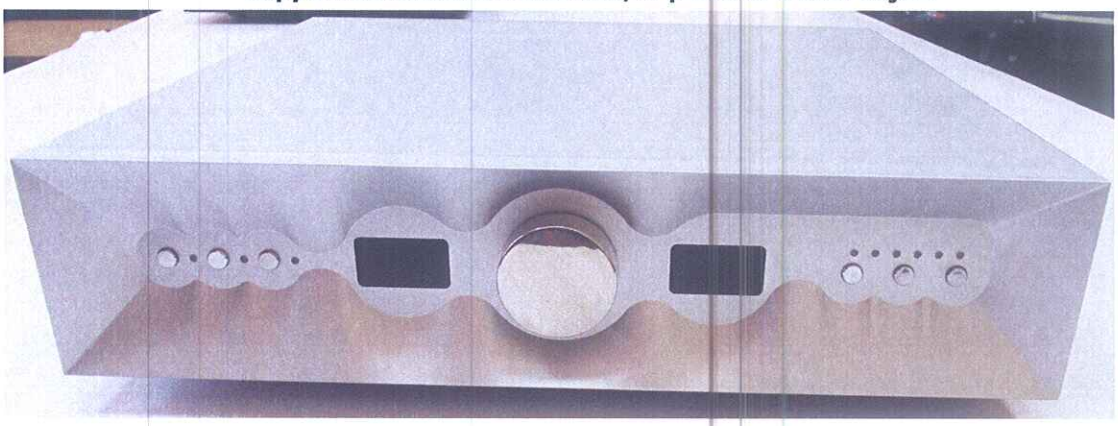
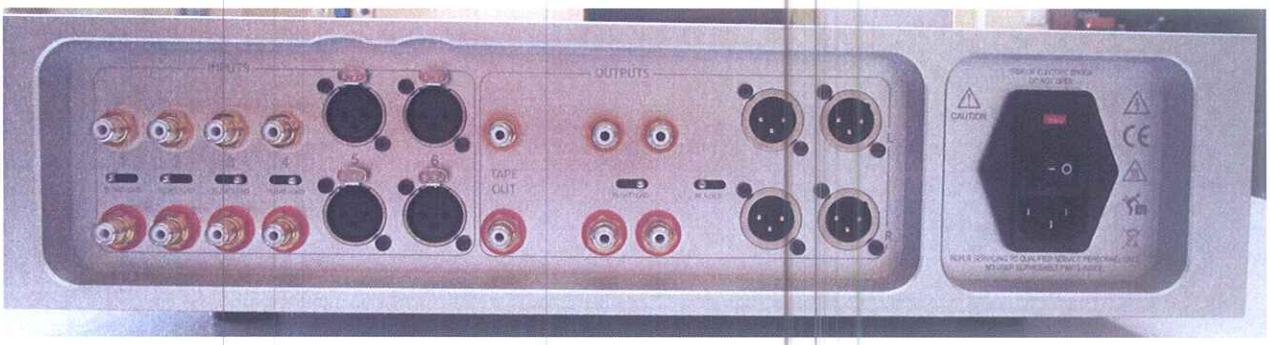
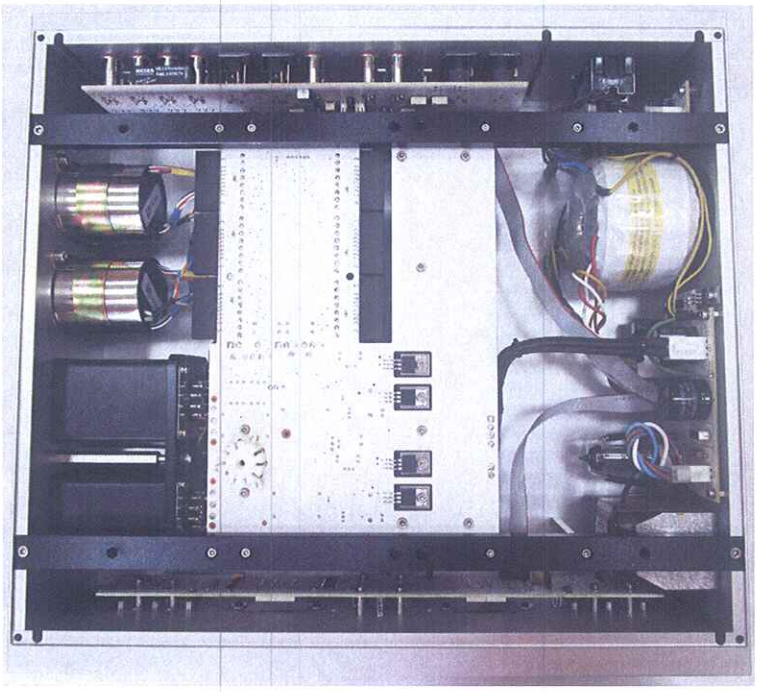
Copy of identification table and/or photo of tested object







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LABORATORY "MACHINES, EQUIPMENT AND DEVICES TESTING"
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RESULTS OF TESTING:

 BDS EN 60065:2002+A1:2006+A11:2009 +A2:2010+A12:2011 Test report : № 2k-15-120 / 26.08.2015

№	Factor name	Units	Standard method	№ of sample	Test results (indetermination)	Factor volume and tolerance	Test conditions
1.	**HEATING UNDER NORMAL OPERATING CONDITIONS**	-	cl. 7	120	-	cl. 7	-
1.1	General	-	cl. 7.1	120	-	cl. 7.1.1 to 7.1.5, Table.3	-
1.1.1	Accessible parts:	-	cl. 7.1.1	120	-	Table 3, item a) "Normal operating conditions"	-
1.1.1.1	Knobs, handles, etc:	-	cl. 7.1.1	120	-	-	-
	– metallic	K	cl. 7.1.1	120	-	30 K	-
	– non-metallic	K	cl. 7.1.1	120	-	50 K	-
1.1.1.2	Enclosures if:	K	cl. 7.1.1	120	-	-	-
	– metallic	K	cl. 7.1.1	120	2	40 K	T_{amb}= 22°C
	– non-metallic	K	cl. 7.1.1	120	-	60 K	-
1.1.2	Parts providing electrical insulation	-	cl. 7.1.2	120	-	Table 3, item b) "Normal operating conditions"	-
1.1.2.1	Supply cords and wiring insulation with:	K	cl. 7.1.2	120	-	-	-
	polyvinyl chloride or synthetic rubber not under mechanical stress	K	cl. 7.1.2	120	1	60 K	T_{amb}= 22°C
	polyvinyl chloride or synthetic rubber under mechanical stress	K	cl. 7.1.2	120	-	45 K	-
	natural rubber	K	cl. 7.1.2	120	-	45 K	-
1.1.2.2	Other insulations of:	K	cl. 7.1.2	120	-	-	-
	thermoplastic materials	K	cl. 7.1.2	120	-	f	-
	non-impregnated paper	K	cl. 7.1.2	120	-	55 K	-
	non-impregnated cardboard	K	cl. 7.1.2	120	-	60 K	-
	impregnated cotton, silk, paper and textile	K	cl. 7.1.2	120	-	70 K	-
	phenol-formaldehyde, melamine-formaldehyde, phenol-furfural or polyester	K	cl. 7.1.2	120	-	85 K	-
	epoxy	K	cl. 7.1.2	120	-	120 K	-
	mouldings of phenol-formaldehyde or phenol-furfural, melamine and melamine phenolic compounds with cellulose fillers	K	cl. 7.1.2	120	-	100 K	-

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№	Factor name	Units	Standard method	№ of sample	Test results (indetermination)	Factor volume and tolerance	Test conditions
1.1.2.2	mouldings of phenol-formaldehyde or phenol-furfural, melamine and melamine phenolic compounds with mineral fillers	K	cl. 7.1.2	120	-	110 K	-
	mouldings of thermosetting polyester with mineral fillers	K	cl. 7.1.2	120	-	95 K	-
	mouldings of alkyd with mineral fillers	K	cl. 7.1.2	120	-	95 K	-
	composite materials of polyester with glass-fibre reinforcement	K	cl. 7.1.2	120	-	95 K	-
	composite materials of epoxy with glass-fibre reinforcement	K	cl. 7.1.2	120	-	100 K	-
	silicone rubber	K	cl. 7.1.2	120	-	145 K	-
1.1.3	Parts acting as a support or a mechanical barrier	-	cl. 7.1.3	120	-	Table.3, item c) "Normal operating conditions"	
1.1.3.1	Wood and wood-based materials	K	cl. 7.1.3	120	-	60 K	-
	Thermoplastic materials	K	cl. 7.1.3	120	-	f	-
1.1.4	Winding wires	-	cl. 7.1.4	120	-	Table.3, item b) and item d) "Normal operating conditions"	-
1.1.4.1	non-impregnated silk, cotton, etc.	K	cl. 7.1.4	120	-	55 K	-
	impregnated silk, cotton, etc	K	cl. 7.1.4	120	-	70 K	-
	oleoresinous materials	K	cl. 7.1.4	120	-	70 K	-
	polyvinyl-formaldehyde or polyurethane resins	K	cl. 7.1.4	120	16	85 K	-
	polyester resins	K	cl. 7.1.4	120	-	120 K	-
	polyesterimide resins	K	cl. 7.1.4	120	-	145 K	-
1.1.5	Other parts, not covered by items a), b), c) and d):	-	cl. 7.1.5	120	-	Table.3, item e) "Normal operating conditions"	-
1.1.5.1	Parts of wood and wood-based material	K	cl. 7.1.5	120	-	60 K	-
	Lithium batteries	K	cl. 7.1.5	120	-	40 K	-
	All other parts excluding Resistors and parts of metal, glass, ceramic, etc.	K	cl. 7.1.5	120	-	200 K	-
1.2.1	Heat resistance of insulating material	-	cl. 7.2	120	150 °C	150 °C	ISO 306, heating rate 50 °C/h

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№	Factor name	Units	Standard method	№ of sample	Test results (indetermination)	Factor volume and tolerance	Test conditions
2.	**ELECTRIC SHOCK HAZARD UNDER NORMAL OPERATING CONDITIONS:**	-	cl. 9	120	-	cl. 9	-
2.1	Touch current	-	BDS EN 60990:2006 cl. 8	120	-	BDS EN 60990:2006 Annex D BDS EN 60065:2002+A1:2006 +A11:2009+A2:2010 +A12:2011 cl.9.11	-
2.1.1	for a.c.:	-	cl. 9.1.1	120	0,01 mA	< 0,7 mA	-
2.1.2	for d.c.:	-	cl. 9.1.1	120	-	< 2 mA	-
2.2	Risk of an electric shock from stored charge on capacitors	-	cl. 9.1.6	120	0 V	cl. 9.1.6 U < 34 V	The test may be repeated up to 10 times
3.	**INSULATION REQUIREMENTS**	-	cl. 10	120	-	cl. 10	-
3.2	Humidity treatment	-	cl. 10.2	120	Humidity 93 % t=30 °C 48 h	Humidity 93 (+2/-3)% t=30(+0/-2)°C 48 h	-
3.3	Insulation resistance and dielectric strength	-	cl. 10.3	120	-	cl. 10.3	-
3.3.1	The insulation of the insulating materials	-	cl. 10.3.1	120	-	cl. 10.3.1	-
3.3.2.1	The insulation resistance	Ω	cl. 10.3.2	120	-	cl. 10.3.2,Table 3	-
3.3.2.1.1	Between parts of different polarity directly connected to the mains	MΩ	cl. 10.3.2, Table 3	120	-	≥ 2 MΩ	1 min , 500 V
3.3.2.1.2	Between parts separated by basic insulation or by supplementary insulation	MΩ	cl. 10.3.2, Table 3	120	200 MΩ	≥ 2 MΩ	1 min , 500 V
3.3.2.1.3	Between parts separated by reinforced insulation	MΩ	cl. 10.3.2, Table 3	120	-	≥ 4 MΩ	1 min , 500 V
3.3.2.2	Dielectric strength test	V	cl. 10.3.2	120	-	cl. 10.3.2, Table 3	-
3.3.2.2.1	Between parts of different polarity directly connected to the mains.	V	cl. 10.3.2, Table 3	120	-	For rated mains voltages ≤150 V (r.m.s.)	1 410 V
					-	For rated mains voltages >150 V (r.m.s.)	2 120 V

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№	Factor name	Units	Standard method	№ of sample	Test results (indetermination)	Factor volume and tolerance	Test conditions
3.3.2.2.2	Between parts separated by basic insulation or by supplementary insulation	V	cl. 10.3.2, Table 3	120	1 800 V	Curve A Figure 7 1 800 V	1 min, 50 Hz
3.3.2.2.3	Between parts separated by reinforced insulation.	V	cl. 10.3.2, Table 3	120	-	Curve B Figure 7 4 000 V	1 min, 50 Hz
4.	**FAULT CONDITIONS**	-	cl. 11	120	-	т. 11	-
4.2	Heating under fault condition	-	cl. 11.2	120	-	11.2.1 to 11.2.6 including Table 2	-
4.2.1	Accessible parts:	-	cl. 11.2.2	120	-	Table 3, item a) "Fault conditions"	-
4.2.1.1	Knobs, handles, etc:	K	cl. 11.2.2	120	-	-	-
	– metallic	K	cl. 11.2.2	120	-	65 K	-
	– non-metallic	K	cl. 11.2.2	120	-	65 K	-
4.2.1.2	Enclosures if:	K	cl. 11.2.2	120	-	-	-
	– metallic	K	cl. 11.2.2	120	4	65 K	T_{amb}= 23°C
	– non-metallic	K	cl. 11.2.2	120	-	65 K	-
4.2.3	Parts providing electrical insulation	-	cl. 11.2.3	120	-	Table 3, item b) "Fault conditions"	-
4.2.3.1	Supply cords and wiring insulation with:	K	cl. 11.2.3	120	-	-	-
	polyvinyl chloride or synthetic rubber not under mechanical stress	K	cl. 11.2.3	120	1	100 K	T_{amb}= 23°C
	polyvinyl chloride or synthetic rubber under mechanical stress	K	cl. 11.2.3	120	-	100 K	-
	natural rubber	K	cl. 11.2.3	120	-	100 K	
4.2.3.2	Other insulations of:	K	cl. 11.2.3	120	-	-	-
	thermoplastic materials	K	cl. 11.2.3	120	-	f	-
	non-impregnated paper	K	cl. 11.2.3	120	-	70 K	-
	non-impregnated cardboard	K	cl. 11.2.3	120	-	80 K	-
	impregnated cotton, silk, paper and textile	K	cl. 11.2.3	120	-	90 K	-
	phenol-formaldehyde, melamine-formalde-hyde, phenol-furfural or polyester	K	cl. 11.2.3	120	-	110 K	-
	epoxy	K	cl. 11.2.3	120	-	150 K	-
	mouldings of phenol-formaldehyde or phenol-furfural, melamine and melamine phenolic compounds with cellulose fillers	K	cl. 11.2.3	120	-	130 K	-
	mouldings of phenol-formaldehyde or phenol-furfural, melamine and melamine phenolic compounds with mineral fillers	K	cl. 11.2.3	120	-	150 K	-

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№	Factor name	Units	Standard method	№ of sample	Test results (indetermination)	Factor volume and tolerance	Test conditions
4.2.3.2	mouldings of thermosetting polyester with mineral fillers	K	cl. 11.2.3	120	-	150 K	-
	mouldings of alkyd with mineral fillers	K	cl. 11.2.3	120	-	150 K	-
	composite materials of polyester with glass-fibre reinforcement	K	cl. 11.2.3	120	-	150 K	-
	composite materials of epoxy with glass-fibre reinforcement	K	cl. 11.2.3	120	-	150 K	-
	silicone rubber	K	cl. 11.2.3	120	-	190 K	-
4.2.4	Parts acting as a support or a mechanical barrier	-	cl. 11.2.4	120	-	Table 3, item c) "Fault conditions"	-
4.2.4.1	Wood and wood-based materials	K	cl. 11.2.4	120	-	90 K	-
	Thermoplastic materials	K	cl. 11.2.4	120	-	f	-
4.2.5	Winding wires	-	cl. 11.2.5	120	-	Table 3, items b) and d) "Fault conditions"	-
4.2.5.1	non-impregnated silk, cotton, etc.	K	cl. 11.2.5	120	20	75 K	-
	impregnated silk, cotton, etc	K	cl. 11.2.5	120	-	100 K	-
	oleoresinous materials	K	cl. 11.2.5	120	-	135 K	-
	polyvinyl-formaldehyde or polyurethane resins	K	cl. 11.2.5	120	-	150 K	-
	polyester resins	K	cl. 11.2.5	120	-	155 K	-
	polyesterimide resins	K	cl. 11.2.5	120	-	180 K	-
4.2.6	Other parts, not covered by items a), b), c) and d):	-	cl. 11.2.6	120	-	Table 3, item e), "Fault conditions"	-
4.2.6.1	Parts of wood and wood-based material	K	cl. 11.2.6	120	-	140 K	-
	Lithium batteries	K	cl. 11.2.6	120	-	50 K	-
	All other parts excluding Resistors and parts of metal, glass, ceramic, etc.	K	cl. 11.2.6	120	-	300 K	-
5.	**MECHANICAL STRENGTH**	J	cl. 12	120	0,5 J	cl. 12.1.3 0,5 ± 0,04	-

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№	Factor name	Units	Standard method	№ of sample	Test results (indetermination)	Factor volume and tolerance	Test conditions
6.	**CLEARANCES AND CREEPAGE DISTANCES**	-	cl. 13	120	-	cl. 13	-
6.1	Clearances in circuits conductively connected to the mains	-	cl. 13.3.2	120	-	Table 8	-
6.1.1	Clearances for basic insulation	mm	cl. 13.3.2	120	3,72 mm	≥2 mm	-
6.1.2	Clearances for supplementary insulation	mm	cl. 13.3.2	120	-	≥2mm	-
6.1.3	Clearances for reinforced insulation	mm	cl. 13.3.2	120	-	≥4 mm	-
7.	**TERMINALS**	-	cl. 15	120	-	cl. 15	-
7.2.4	The resistance of the connection between the protective earthing terminal or contact, and parts required to be connected thereto	Ω	cl. 15.2	120	0,008	≤ 0,1	25 A

Used technical equipments:

№	Designation	Type	Manufacturer	Identification №	Date of last calibration
1.	Appliance multitester	CA6160	CHAUVIN ARNOUX France	№ 109096DBH/ 16010173	21.03.2014
2.	Digital multimeter	UNIGOR 390	LEM-Austria	PI 3288	19.03.2014
3.	Climatic chamber	Alpha 990H	Design Environmental England	A3793	-
4.	Digital gauge	-	China	090	30.10.2014
5.	Impact spring hammer tester	-	Bulgaria	011	21.07.2014
6.	Termometer-higrometer	177-H1	TESTO Germany	01320300/902	17.04.2015

TEST PERFORMER: 1. ..... / St. Srebranov /

2. ..... /I. Mandzhukov/

HEAD OF LABORATORY: ..... / T. Hristov /

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