LVD TEST REPORT

For

Professional Stereo Compact Mixer

Model Number: M1022, M822FX
Trade Name: HPA
Report Number: SZ061014B01-LV
Date Of Issue: November 17, 2006

Prepared For

Hanpin Pro Audio Co., Ltd.

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Prepared By

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Declaration:

CCS represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with the standards traceable to the national and international reference standards based on SI Units.

CCS's reports apply only to the specific samples tested under conditions. It is manufacturer's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **CCS** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **CCS** issued reports.

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TEST REPORT

IEC 60065:2001, EN 60065:2002

Audio, Video and similar electronic apparatus - Safety requirements

Report reference No. ……..……:	SZ061014B01-LV
Testing laboratory ……:	Compliance Certification Services (Shenzhen), Inc.
Address……..:	No. 5 Jinao Industrial Park, No.35 Jukeng RD. Dashuikeng Village, Guanlan Town , Baoan District, Shenzhen, China
Applicant……:	Hanpin Pro Audio Co., Ltd.
Address……..…..:	2nd Floor, Felix House, 24 Dr. Joseph Riviere Street, Port Louis, Republic of Mauritius.
Manufacturer……:	Hanchih Electronics (Shenzhen) Co., LTD.
Address……..:	Feng Huang Industrial District F.H. road 111#, Fuyong town, Baoan county, Shenzhen city
Standards……..:	IEC 60065:2001, EN 60065:2002
Procedure deviation……....:	N.A.
Non-standard test method……..:	N.A.
TRF originator. ……..:	Compliance Certification Services (shenzhen) Inc.
Copyright blank test report…….……:	Compliance Certification Services (shenzhen) Inc.
Test equipment description……:	Professional Stereo Compact Mixer
Trade mark……:	HPA
Model/Type designation……..:	M1022, M822FX
Rating……:	230V~, 50Hz, 400mA
Test item particulars:	
Equipment mobility……..:	Movable apparatus
Operating condition……..:	Continuous
Tested for IT power systems……..:	N.A.
IT testing, phase-phase voltage (V)..:	N.A.
Class of apparatus……..…:	Class II apparatus
Mass of equipment (Kg)……..:	2.912Kg
Protection against ingress of water…:	IPX0
Testing:	
Date(s) of performance of tests……..:	October 23-25, 2006

Compiled by (+signature):	Aily Wang	Aily Wang / Engineer
Reviewed by (+signature):	Moon Zeng	Moon Zeng / Engineer
Approved by (+signature):	Laurence Yang	Laurence Yang / Supervisor

Possible test case verdicts:

-Test case does not apply to the test object……: **N**(N.A.)

-Test object does meet the requirement……..: **P**(Pass)

-Test object does not meet the requirement……: **F**(Fail)

General remarks:

-"(see remark #)" refers to a remark appended to the report.

-"(see appended table)" refers to a table appended to the report.

-Throughout this report a comma is used as the decimal separator.

-The test results presented in this report relate only to the object tested.

-This report shall not be reproduced, except in full, without the written approval of the issuing testing laboratory.

- Until otherwise specified, all tests are done under normal ambient condition 25℃±10℃, Max RH: 75% and air pressure of 860 mbar to 1060 mbar.

Factory:

See page 1.

General descriptions of the test sample:

This equipment is a professional stereo compact mixer for general use with audio and similar electronic apparatus.

The tests were performed on model M1022.

The model M822FX and M1022 are identical except model name.

The equipment has been evaluated for maximum ambient temperature of +30°C.

Attachments:

Attachment – A. Stylebook Of Rating Label

Attachment – B. Photo Documentation

Attachment – C. Electric Circuit Diagram

Attachment – D. Electric Block Diagram and Board Layout

Attachment – E. Transformer Specification

Attachment – F. Operation instruction about safety, service and using

Attachment – G. Total Test Equipment List

IEC 60065:2001, EN 60065:2002			
Clause	Requirement - Test	Result – Remark	Verdict
3	GENERAL REQUIREMENTS		**P**
	Safety class of the apparatus	Class II apparatus	**P**
4	GENERAL CONDITIONS OF TESTS		**P**
4.1.4	Ventilation instructions require the use of the test box	Compliance	**P**
5.	MARKING		**P**
	Comprehensible and easily discernible	Compliance checked.	**P**
	Permanent durability against water and petroleum spirit	After rubbing test by water and petroleum spirit, the label still easily discernible, indelible and legible.	**P**
5.1	Identification, mark, Model:	See page 1	**P**
	Class II Symbol if applicable	⧈	**P**
	Rated supply Voltage and Symbol:	230V~	**P**
	Frequency if safety dependant	50Hz	**P**
	Rated current or power consumption:	400mA	**P**
5.2	Earth terminal		**N**
	Hazardous live terminal:	No terminal devices which are hazardous live under normal operating conditions.	**N**
	Supply output terminals (Other than mains)	No such terminals	**N**
5.3	Use of triangle with exclamation mark	The mark is shown on the electrical diagram next to every safety critical component.	**P**
5.4	Instructions for use	Instruction for use provided in English and Czech. Versions of other languages will be provided when national approval.	**P**
5.4.1	Mains powered equipment not exposed to dripping or splashing. Warning concerning objects filled with liquid, etc.	The instruction statement complies with the requirement.	**P**
	Hazardous live terminals, instructions for wiring	No terminals are hazardous live.	**N**
	Instructions for replacing lithium battery	No batteries used	**N**
	Instructions for modem if fitted	No modem	**N**
	Class I earth connection warning		**N**
	Instructions for multimedia system connection	Shall be evaluated when used in the multimedia systems.	**P**
	Special stability warning for fixed installation	No such installation, the STABILITY AND MECHANICAL HAZARDS test is required.	**N**
5.4.2	Disconnect device: plug/coupler or all-pole	The statement was provided in user's	**P**

IEC 60065:2001, EN 60065:2002			
Clause	Requirement - Test	Result – Remark	Verdict
	mains switch location, accessibility and markings	manual.	
	Instructions for permanently connected equipment	The apparatus is not a permanently connected apparatus.	**N**
6.	HAZARDOUS RADIATION		**N**
6.1	Ionizing radiation ≦36pA/kg (0.5mR/h)	No Ionizing radiation.	**N**
	European council directive 96/29/euratom of 13 may 1996 10cm from outer surface of apparatus <1uSv/h (0.1mR/h)	No radiation.	**N**
6.2	Laser radiation emission limit to IEC 60825-1		**N**
	Emission Limit under fault conditions:		**N**
7.	HEATING UNDER NORMAL OPERATING CONDITIONS		**P**
7.1	Temperature rises not exceeding specified values, no operation of fuse links	See appended table.	**P**
7.1.1	Temperature rise of accessible parts	See appended table.	**P**
7.1.2	Temperature rise of parts providing electrical insulation	See appended table.	**P**
7.1.3	Temperature rise of parts acting as a support or as a mechanical barrier	See appended table.	**P**
7.1.4	Temperature rise of windings	See appended table.	**P**
7.1.5	Parts not subject to a limit under 7.1.1 to 7.1.4	See appended table.	**P**
7.2	Softening temperature of insulating material supporting parts conductively connected to the supply mains carrying a mains current >0,2A at least 150℃		**N**
8.	CONSTRUCTIONAL REQUIREMENTS WITH REGARD TO THE PROTECTION AGAINST ELECTRIC SHOCK		**P**
8.1	Conductive part covered by lacquer, paper untreated textile oxide film and beads etc. considered to be bare	Considered.	**P**
8.2	No shock hazard when changing voltage setting device, fuse-links or handling drawers etc.	Rated voltage designed. No fuse-link replaced and drawers handled when operation by hand.	**N**
8.3	Insulation of hazardous live parts not provided by hygroscopic material	No insulation used provided by hygroscopic material	**P**
8.4	No risk of electric shock following the removal of a cover which can be removed	No user removable cover.	**N**

IEC 60065:2001, EN 60065:2002			
Clause	Requirement - Test	Result – Remark	Verdict
	by hand		
8.5	Class I equipment	Class II equipment	**N**
	Basic insulation between hazardous live parts and earthed accessible parts		**N**
	Resistors bridging basic insulation complying with 14.2.1 a)	No such components	**N**
8.6	Class II equipment and Class II constructions within class I equipment	Class II equipment	**P**
	Reinforced or double insulation between hazardous live parts and accessible parts	Compliance	**P**
	Components bridging reinforced or double insulation complying with 14.1 a) or 14.3		**N**
	Basic and supplementary insulation each being bridged by a capacitor complying with 14.2.1 a)		**N**
	Reinforced or double insulation being bridged with 2 capacitors in series complying with 14.2.1 a)		**N**
	Reinforced or double insulation being bridged with a single capacitor complying with 14.2.1 b)		**N**
	Basic insulation bridged by components complying with 14.3.4.3		**N**
8.7	Basic insulation between parts at 35V to 71V(peak) a.c. or 60 V to 120V d.c. and accessible parts		**N**
	Reinforced or Double insulation between circuits operating at voltage between 35V and 71V(peak) a.c. or between 60V and 120V d.c. and hazardous live parts at higher voltage	The output voltage of transformer is below 35Vp	**N**
	Separation by Class II isolating transformer		**N**
	Separation by Class I transformer		**N**
	Separation by earthed conductive part		**N**
8.8	Basic or supplementary insulation ≧ 0.4mm(mm):		**N**
	Reinforced insulation≧0.4mm (mm)…….:	Applied to bobbin of transformer	**P**
	Thin sheet insulation	Incorporated in Transformer	**P**
	Basic or supplementary insulation, at least two layers, each meeting 10.3		**N**
	Basic or supplementary insulation, three layers any two of which meeting 10.3		**N**

IEC 60065:2001, EN 60065:2002			
Clause	Requirement - Test	Result – Remark	Verdict
	Reinforced insulation, two layers each of which meet 10.3		**N**
	Reinforced insulation, three layers any two which meet 10.3		**N**
8.9	Adequate insulation between internal hazardous live conductors and accessible parts		**P**
	Adequate insulation between internal hazardous live conductors and parts connected to accessible parts	All internal hazardous live parts are separated by double or reinforce insulation from accessible parts.	**P**
8.10	Double insulation between conductors connected to the mains and accessible parts	Conductors connected to the mains are separated by double insulation provided between such parts	**P**
8.11	Detaching of wires	See below	**P**
	No undue reduction of creepages or clearance distances if wires become detached	Output wire are fixed to PCB by socket, so no undue reduction of creepage or clearance distances	**P**
	Vibration test carried out		**P**
8.12	Adequate cross-sectional area of internal wiring to mains socket-outlets	No such parts	**N**
8.13	Adequate fastening of windows, lenses lamp covers etc. (pull test 20N fo 10s)	No such parts	**N**
8.14	Adequate fastening of covers (pull test 50N, for 10s)	No such parts	**N**
8.15	No risk of damage to the insulation of internal wiring due to hot parts or sharp edges	UL approved for internal wiring, the 2N force test for them, however no risk of damage to wiring by hot parts and hazardous live parts.	**P**
8.16	Only special supply equipment can be used		**N**
8.17	Insulated winding wire without additional interleaved insulation		**N**
8.18	Endurance test as required by 8.17		**N**
8.19	Disconnection from the mains	See below.	**P**
8.19.1	Disconnect device	The power plug used	**P**
	All-pole switch or circuit breaker with >3mm contact separation	No such components.	**N**
8.19.2	Mains switch ON indication	Suitable marking is used.	**P**
8.20	Switch not fitted in the mains cord		**P**
8.21	Bridging components comply with clause 14	No such components.	**N**
9.	ELECTRIC SHOCK HAZARD UNDER NORMAL OPERATING CONDITIONS		**P**

IEC 60065:2001, EN 60065:2002			
Clause	Requirement - Test	Result – Remark	Verdict
9.1	Testing on the outside	See below.	**P**
9.1.1	Accessible parts shall not be hazardous live	All accessible parts are not hazardous live	**P**
9.1.1.1	Touch current measured from terminal devices using the network in annex D	U1=0.103Vpk, U2=0.084Vpk	**P**
	Discharge not exceeding 45µC		**N**
	Energy of discharge not exceeding 350mJ		**N**
9.1.1.2	Test with test finger and test probe	No hazardous live parts can be touched.	**P**
9.1.2	No hazardous live shafts of knobs, handles or levers	Ditto	**N**
9.1.3	Ventilation holes tested by means of 4mm X 100mm test pin	Ditto	**P**
9.1.4	Terminal device tested with 1 mm X 20 mm test pin (10N); test probe D of IEC 61 032	Ditto	**P**
	Terminal device tested with 1 mm X 100 mm straight wire (1N); test probe D of IEC 61 032	Ditto	**P**
9.1.5	Pre-set controls tested with 2 mm X 100 mm test pin (10N); test probe C of IEC 61 032	Ditto	**N**
9.1.6	No shock hazard due to stored charge on withdrawal of the main plug; voltage (V) after 2s:	No such X-capacitor	**N**
	If C is not greater than 0.1 μF no test needed		**N**
9.1.7	Enclosure sufficiently resistant to external force	After test, no damage to the enclosure.	**P**
	Test probe 11 of IEC 61 032 for 10s (50N)	See appended table	**P**
	Test hook of fig. 4 for 10 s (20N)	Ditto	**P**
	30mm diameter test tool for 5 s (100 or 250N)	Ditto	**P**
9.2	No hazard after removing a cover by hand	No such cover can be removed by hand	**N**

10.	INSULATION REQUIREMENTS		**P**
10.1	Insulation resistance (MΩ) at least 2MΩ min. after surge test for basic and 4 MΩ min. for reinforced insulation:	Complied.	**N**
10.2	Humidity treatment 48h or 120h	Equipment is intended to be used in moderate climate, → humidity treatment by 30℃, 93% R.H, 48hours.	**P**
10.3	Insulation resistance and dielectric strength	See appended tables.	**P**

IEC 60065:2001, EN 60065:2002			
Clause	Requirement - Test	Result – Remark	Verdict
11.	FAULT CONDITIONS		**P**
11.1	No shock hazard under fault conditions	U1<70Vpeak, U2<1.4Vpeak, compliance	**P**
11.2	Heating under fault condition	See appended table	**P**
	No Hazard from softening solder	Soldering dose not become soft or fluid	**P**
11.2.1	Measurement of temperature rises	See appended table	**P**
11.2.2	Temperature rise of accessible parts	See appended table	**P**
11.2.3	Temperature rise of parts, other than windings, providing electrical insulation	See appended table	**P**
	Temperature rise of printed circuit boards exceeding the limits of table 3 by max. 100K for max. 5min	Temperatures were not exceeded.	**N**
	a) Temperature rise of printed circuit boards to 20.1.3 exceeding the limits of table 3 by not more than 100K for an area not greater than 2 cm2	Temperatures were not exceeded.	**N**
	b) Temperature rise of printed circuit boards to 20.1.3 up to 300K for an area not greater than 2 cm2 for a maximum of 5 min	Temperatures were not exceeded.	**N**
	Meets all the special conditions if conductors on printed circuit boards are interrupted.	PCB rated V-1 or better	**P**
11.2.4	Temperature rise of parts acting as a support or mechanical barrier	No such parts.	**N**
11.2.5	Temperature rise of windings	See appended table	**P**
11.2.6	Temperature rise of parts not subject to the limits of 11.2.1 to 11.2.5	See appended table	**P**

12.	MECHANICAL STRENGTH		**P**
12.1.1	Bump test where mass >7 kg	<7Kg	**N**
12.1.2	Vibration test		**P**
12.1.3	Impact hammer test	No damage to the equipment after the impact test. The electric strength test for input to output terminals was passed	**P**
	Steel ball test	500g steel sphere ball fall from 0.41m heights onto outer plastic enclosure, the test was done with all enclosure material. No safety relevant damages	**P**
12.1.4	Drop test for portable apparatus where mass < 7 kg	Apparatus with a mass less than 7kg, Three impacts that result from being dropped through a distance of 1m onto a horizontal surface in positions to produce the most	**P**

IEC 60065:2001, EN 60065:2002			
Clause	Requirement - Test	Result – Remark	Verdict
		adverse results, after test, the electric strength test for input to output terminals was passed	
12.1.5	Thermoplastic enclosures stress relief test	Metallic enclosure, the test is not required	**N**
12.2	Fixing of knobs, push buttons, keys and levers	Fixing of knobs will not impair the protection against electric shock	**P**
12.3	Remote controls with hazardous live parts	No hazardous live in the remote control device.	**P**
12.4	Drawers (pull test 50N, 10s)		**N**
12.5	Antenna coaxial sockets providing isolation	No such parts	**N**
12.6	Telescoping or rod antennas construction		**N**
12.6.1	Telescoping or rod antennas secure		**N**
13.	CLEARANCE AND CREEPAGE DISTTANCES		**P**
13.1	Clearances in accordance with 13.3	See appended table 13.1	**P**
	Creepage distances in accordance with 13.4	Ditto.	**P**
13.2	Determination of operating voltage	Ditto.	**P**
13.3	Clearances	Ditto.	**P**
13.3.2	Circuits conductively connected to the mains comply with table 8 and, where applicable, table 9	Ditto	**P**
13.3.3	Circuits not conductively connected to the mains comply with table 10	Ditto.	**P**
13.4	Creepage distances	Ditto.	**P**
	Creepage distances greater than table 11 minima	Ditto	**P**
13.5	Printed boards	Not applied.	**N**
13.5.1	Clearances and creepage distances between conductors on printed circuit boards, one of which may be conductively connected to the mains, as in fig. 10		**N**
13.5.2	Type B coated printed circuit boards complying with IEC 60664-3 (basic insulation only)		**N**
13.6	Conductive parts along uncemented joints clearances and creepage distances comply with 13.3 and 13.4	No such components.	**N**
	Conductive parts along reliably cemented joints comply with 8.8	Ditto.	**N**
13.7	Enclosed, enveloped or hermetically sealed	No such a construction	**N**

IEC 60065:2001, EN 60065:2002			
Clause	Requirement - Test	Result – Remark	Verdict
	parts: not conductively connected to the mains: clearances and creepage distances as in table 12		
13.8	Parts filled with insulating compound, meeting the requirements of 8.8		**P**
14.	COMPONENTS		**P**
14.1	Resistors		**N**
	a) Resistors between hazardous live parts and accessible metal parts	No resistors are used between live parts and accessible metal parts.	**N**
	b) Resistors, Other than between hazardous live parts and accessible parts	Ditto.	**N**
	Resistors separately approved:		**N**
14.2	Capacitors and RC units		**N**
	Capacitors separately approved		**N**
14.2.1	Y capacitors tested to IEC 60384-14, 2nd edition.	No such capacitors provided.	**N**
14.2.2	X capacitors tested to IEC 60384-14, 2nd edition.		**N**
14.2.3	Capacitor operating at mains frequency but not connected to the mains: tests for X2	No such capacitors provided.	**N**
14.2.5	Capacitors with volume exceeding 1750mm3 where short-circuit current exceeds 0.2A: compliance with IEC 60 384-1, 4.38 category B or better:		**N**
	Capacitors with volume exceeding 1750mm3 ,mounted closer to a potential ignition source than Table 5 permits: compliance with IEC 60384-1, 4.38 category B or better:		**N**
	Shielded by a barrier to V-0 or metal:		**N**
14.3	Inductors and windings	See below	**P**
	Comply with IEC 61558-1, IEC61558-2 (as relevant) and clause 20.1.4		**N**
14.3.1	Transformers and inductors marked with manufacture's name and type.	Trademark of manufacturer and part number are marked on the isolated transformer.	**P**
	Transformers and inductors separately approved:		**N**
14.3.2	General	See 14.3.4.1	**P**
14.3.3	Constructional requirements	See below	**P**
14.3.3.1	Clearances and creepage distances comply with clause 13	See clause 13.3.2	**P**

IEC 60065:2001, EN 60065:2002			
Clause	Requirement - Test	Result – Remark	Verdict
14.3.3.2	Transformers meet the constructional requirements	See clause 13.3.2	**P**
14.3.4.1	Class II transformers have adequate separation between hazardous live parts and accessible parts (double or reinforced insulation)	Between primary coil and core accord with reinforced insulation,	**P**
	Coil formers and partition walls ≧0.4mm		**N**
14.3.4.2	Class I transformers, with basic insulation and protective screening only if all 7conditions of 14.3.4.2 are met.		**N**
14.3.4.3	Separating transformers with at least basic insulation.		**N**
14.3.5.1	Class II transformers have adequate insulation between hazardous live parts and accessible parts (double or reinforced insulation)	Ditto	**P**
	Coil formers and partition walls ≧0.4mm		**N**
14.3.5.2	Class I transformers have adequate insulation between hazardous live parts and accessible conductive parts or those conductive parts or protective screens connected to a protective earth terminal.		**N**
	Winding wires connected to protective earth have adequate current-carrying capacity		**N**
14.4	High-voltage components.	No high-voltage components used	**N**
	High-voltage components and assemblies; U > 4KV (peak), separately approved.	Ditto.	**N**
	Component meets category V-1 of IEC 60 707	Ditto.	**N**
14.4.1	High-voltage transformers and multipliers tested as part of the submission.	Ditto.	**N**
14.4.2	High voltage assemblies and other parts tested as part of the submission		**N**
14.5	Protective devices	See below.	**P**
	Protective devices used within their ratings	The thermal fuse used.	**P**
	External clearance and creepage distances meet requirement of clause 13 for the voltage across the device when opened		**N**
14.5.1.1	a) Thermal cut-outs separately approved	No such thermal cut-out	**N**
	b) Thermal cut-outs tested as part of the submission		**N**
14.5.1.2	a) Thermal links separately approved.	The thermal link has approbated by UL.	**P**

IEC 60065:2001, EN 60065:2002			
Clause	Requirement - Test	Result – Remark	Verdict
	b) Thermal links tested as part of the submission.	Ditto.	**N**
14.5.1.3	Thermal devices re-settable by soldering	No such components	**N**
14.5.2.1	Fuse-links in the mains circuit according to IEC 60 127	Over current fuse approved according to IEC 60127	**P**
14.5.2.2	Correct marking of fuse-links adjacent to holder:		**N**
14.5.2.3	Not possible to connect fuses in parallel	No such fuse holder.	**N**
14.5.2.4	Not possible to touch hazardous live parts when replacing fuse links without the use of a tool:		**N**
14.5.3	PTC-S thermistors comply with IEC 60730-1		**N**
	PTC-S devices (15W) category V-1 or better		**N**
14.5.4	Circuit protectors have adequate breaking capacity and their position is correctly marked.	Not such protectors used.	**N**
14.6	Switches	Approved by VDE.	**N**
14.6.1 a)	Separate testing to IEC 61058 including: 10000 operations Normal pollution suitability Resistance to heat and fire level 3 And V-0 compliance with annex G, G.1.1		**N**
14.6.1 b)	Tested in the apparatus:		**N**
	Switch controlling > 0.2A with open contact voltage > 35 V (peak)/24 V dc complying with 14.6.3, 14.6.4 and V-0 in annex G, G.1.1		**N**
	Switch controlling > 0.2A with open contact voltage < 35 V (peak)/24 V dc complying with 14.6.3 and V-0 in annex G, G.1.1		**N**
	Switch controlling < 0.2A with open contact voltage > 35 V (peak)/24 V dc complying with 14.6.4 and V-0 in annex G, G.1.1		**N**
14.6.2	Switch tested to 14.6.1 b) constructed to IEC 61058-1 subclause 13.1 and has making/breaking action independent of speed of actuation		**N**
14.6.3	Switch tested to 14.6.1 b) compliant with IEC 61058-1 subclause 16.2.2 d) and m) not attaining excessive temperatures in use		**N**
14.6.4	Switch tested to 14.6.1 b) has adequate dielectric strength		**N**
14.6.5	Mains switch controlling mains socket		**N**

IEC 60065:2001, EN 60065:2002			
Clause	Requirement - Test	Result – Remark	Verdict
	outlets additional tests to IEC 60058-1		
	Socket outlet current marking correct		**N**
14.7	Safety interlocks		**N**
	Safety interlocks to 2.8 of IEC 60950	No safety interlocks used	**N**
14.8	Voltage setting devices		**N**
	Voltage setting device not likely to be changed accidentally	Apparatus is designed for rated rating, no voltage setting device used.	**N**
14.9	Motors	No motor used.	**N**
14.9.1	Endurance test on motors		**N**
	Motor start test		**N**
	Dielectric strength test		**N**
14.9.2	Not adversely affected by oil or grease etc.		**N**
14.9.3	Protection against moving parts.		**N**
14.9.4	Motors with phase-shifting capacitors, three-phase motors and series motors meet clause B.8, B.9 and B.10 of IEC 60 950, Annex B.		**N**
14.10	Batteries	No battery used.	**N**
14.10.1	Batteries mounted with no risk of accumulation of flammable gases.		**N**
14.10.2	No possibility of recharging non-rechargeable batteries		**N**
14.10.3	Recharging currents an times within manufacturers limits		**N**
	Lithium batteries discharge and reverse currents within the manufactures limits		**N**
14.10.4	Battery mould stress relief		**N**
14.10.5	Battery drop test		**N**
14.11	Optocouplers	No optocoupler used.	**N**
	Optocouplers comply with Cl.8		**N**
	Internal and external dimensions to 13.1. or alternatively 13.6 (jointed insulation)		**N**
14.12	Surge suppression varistors	No surge suppression varistor used.	**N**
	Comply with IEC 61051-2		**N**
	Not connected between mains and accessible parts except for earthed parts of permanently connected apparatus		**N**
	Complies with the current pulse, fire hazard and thermal stress requirements of 14.12		**N**

IEC 60065:2001, EN 60065:2002			
Clause	Requirement - Test	Result – Remark	Verdict

15.	TERMINALS		**P**
15.1.1	Mains plug, appliance inlet, interconnection couplers and mains socket-outlet meet the appropriate standard	Power plug comply with the appropriate component standard. No mains supply of this unit to other equipment.	**P**
15.1.2	Connectors for antenna, earth, audio, video or data:	Connectors for audio.	**P**
	No risk of insertion in mains socket-outlets	No such socket-outlets.	**N**
	No risk of insertion into audio or video: outlets marked with the symbol of 5.2		**N**
15.1.3	Output terminals of a/c adaptors or similar devices not compatible with household mains socket-outlets	The apparatus is not supply apparatus.	**N**
15.2	Provision for protective earthing		**N**
	Accessible conductive parts of Class I equipment reliably connected to earth terminal, within equipment		**N**
	Class I supply equipment with non-hazardous live output voltage: output circuit not connected to earth	No such function.	**N**
	Protective earth conductors correctly coloured		**N**
	Equipment with non-detachable mains cord provided with separate protective earth terminal near mains input		**N**
	Protective earth terminal resistant to corrosion		**N**
	Earth resistance test: <0.1Ω at 25A		**N**
15.3	Terminals for external flexible cords and for permanent connection to the mains supply	Apparatus is not designed for permanent connection.	**N**
15.3.1	Adequate terminals for connection of permanent wiring	Ditto	**N**
15.3.2	Reliable connection of non-detachable cords:	The non-detachable cords is fixed by insulation bushing	**P**
	Not soldered to conductors of a printed circuit board	Sockets fix internal conductors.	**P**
	Adequate clearances and creepage distances between connections should a wire break away	The internal wires are fixed by sockets. The hazardous live parts on inter wrapped of transformer, so wires break away is unlikely.	**P**
	Wire secured by additional means to the conductor	The internal wires are fixed by sockets and adhesives	**P**
15.3.3	Screws and nuts clamping conductors have		**N**

IEC 60065:2001, EN 60065:2002			
Clause	Requirement - Test	Result – Remark	Verdict
	adequate threads: ISO 261, ISO 262 or similar		
15.3.4	Soldered conductors wrapped around terminal prior to soldering or held in place by additional means	No such additional means	**N**
	Clamping of conductor and insulation if not soldered or held by screws		**N**
15.3.5	Terminals allow connection of appropriate cross-sectional area of conductors, for the rated current of the equipment	No such terminal	**N**
15.3.6	Terminals to 15.3.3 have sizes required by table 16	Ditto	**N**
15.3.7	Terminals clamp conductors between metal and have adequate pressure	No such terminals	**N**
	Terminals designed to avoid conductor slipping out when tightened or loosened	The terminals itself does not work loose	**P**
	Terminals adequately fixed to avoid loosening when the clamping is tightened or loosened and stress on internal wiring is avoided	The internal wire is not subjected to stress	**P**
15.3.8	Terminals carrying a current more than 0,2A: contact pressure not transmitted by insulating material except ceramic	The current less than 0.2A.	**N**
15.3.9	Termination of non-detachable cords: wires terminated near to each other		**N**
	Terminals located and shielded: test with 8 mm strand		**N**
15.4	Devices forming a part of the mains plug		**N**
15.4.1	No undue strain on mains socket-outlet	No such parts.	**N**
15.4.2	Device complies with standard for dimensions of mains plugs		**N**
15.4.3	Device has adequate mechanical strength (tests a, b, c)		**N**
16.	EXTERNAL FLEXIBLE CORDS		**P**
16.1	Mains cords sheathed type, complying with IEC 60227 for PVC or IEC 60245 for synthetic rubber cords:	VDE approved.	**P**
	Non-detachable cords for Class I have green/yellow core for protective earth		**N**
16.2	Mains cords conductors have adequate cross-sectional area for rated current consumption of the equipment	Ditto	**P**

IEC 60065:2001, EN 60065:2002			
Clause	Requirement - Test	Result – Remark	Verdict
16.3	a) Flexible cords not complying with 16.1, used for interconnections between separate units of equipment used in combination and carrying hazardous live voltages, have adequate dielectric strength	Ditto	**N**
	b) Flexible cords not complying with 16.1, withstand bending and mechanical stress (3.2 of IEC 60227-2)		**N**
16.4	Flexible cords used for connection between equipment have adequate cross-sectional areas to avoid temperature rise under normal and fault conditions	The high temperature rise under normal and fault conditions for conductors is unlikely	**P**
16.5	Adequate strain relief on external flexible cords	Under strain, near aperture, and the flexible cord is subjected 100 times to a pull of 40N for a duration of 1s each, after test the cord not be displaced by more than 2mm	**P**
	Not possible to push cord back into equipment	The insulation bushing used, it is unlikely to push the cord back into apparatus.	**P**
	Strain relief device unlikely to damage flexible cord		**P**
	For mains cords of Class I equipment, hazardous live conductors become taut before earth conductor		**N**
16.6	Apertures for external flexible cord: no risk of damage to the cord during assembly or movement in use	Appropriate bushing is used.	**P**
16.7	Transportable musical instruments and amplifiers fitted with detachable cord set with appliance inlet to IEC 60320-1	Not a transportable apparatus.	**N**
	Transportable musical instruments and amplifiers fitted with detachable cord sets or with means of stowage to protect the cord		**N**

17.	ELECTRICAL CONNECTIONS AND MECHANICAL FIXINGS		**P**
17.1	Torque test to table 12:	See below	**P**
	-screws into metal: 5 times		**N**
	-screws into non-metallic material: 10 times	Metal screw for fastening of top enclosure and bottom enclosure was 10 times tightened with the force specified in table 12	**P**
17.2	Correct introduction into female threads in non-metallic material	No such threads	**N**
17.3	Cover fixing screws: captive	Non-captive screws used as it will not cause a reduction of clearness	**N**

IEC 60065:2001, EN 60065:2002			
Clause	Requirement - Test	Result – Remark	Verdict
	Non-captive fixing screws: no hazard when replaced by a screw whose length is 10 times its diameter		**N**
17.4	No loosening of conductive parts carrying a current > 0,2 A	< 0.2 A	**N**
17.5	Contact pressure not transmitted through plastic other than ceramic for connections carrying a current > 0,2 A	Ditto.	**N**
17.6	Stranded conductors of flexible supply cords carrying a current > 0,2 A with screw terminals not consolidated by solder	Ditto.	**N**
17.7	Cover fixing devices other than screws have adequate strength and their positioning is unambiguous	Only screws used for fixing cover.	**N**
17.8	Fixing devices for detachable legs or stands provided	No detachable legs of stands.	**N**
17.9	Internal pluggable connections, affecting safety, unlikely to become disconnected	Internal pluggable connections is so designed that unintended loosening is unlikely.	**P**
18.	MECHANICAL STRENGTH OF PICTURE TUBES AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION		**N**
	Picture tube separately approved to IEC 61965:		**N**
	Picture tube separately approved to 18.1		**N**
18.1	Picture tubes >16cm intrinsically protected	No picture tubes used.	**N**
	Non-intrinsically protected tubes >16cm used with protective screen		**N**
18.2	Intrinsically protected tubes: tests on 12 samples		**N**
18.2.1	Samples subject to ageing: 6		**N**
18.2.2	Samples subject to implosion test: 6		**N**
18.2.3	Samples subject to mechanical strength test (steel ball): 6		**N**
18.3	Non-intrinsically protected tubes tested to 18.3		**N**
19.	STABILITY AND MECHANICAL HAZARDS		**P**
	Mass of the equipment exceeding 7kg	<7kg	**N**
	Apparatus intended to be fastened in place-suitable instructions	No such instructions.	**N**

IEC 60065:2001, EN 60065:2002			
Clause	Requirement - Test	Result – Remark	Verdict
19.1	Test on a plane, inclined at 10° to the horizontal		**N**
19.2	100N force applied vertically downwards		**N**
19.3	Apparatus mass > 25 kg or height > 1 M or supplied with cart or stand	Apparatus mass <25 kg, the test is not required	**N**
19.4	Edges or corners not hazardous	Edge and corners are smooth.	**P**
19.5	Glass surfaces with an area exceeding 0,1m² or maximum dimension >450mm, pass the test of 19.5.1	No glass surfaces	**N**
19.6	Wall or ceiling mountings adequate	No such constructions.	**N**
20.	RESISTANCE TO FIRE		**P**
20.1	Electrical components and mechanical parts		**P**
	a) Exemption for components contained in an enclosure of material V-0 to IEC 60707 with openings not exceeding 1mm in width		**N**
	b) Exemption for small components as defined in 20.1	All components are smaller than 1700mm3 except Transformer and mounted on PCB rated 94V-1 or better.	**P**
20.1.1	Electrical components meet the requirements of Clause 14 or 20.1.4	See the 20.1.4	**P**
20.1.2	Insulation of internal wiring working at voltages >4KV or leaving an internal fire enclosure, not contributing to the spread of fire	Compliance	**P**
20.1.3	Material of printed circuit boards on which the available power exceeds 15W at a voltage between 50V and 400V (peak) a.c. or d.c. meets V-1 or better to IEC60707, unless used in a fire enclosure	PCB rated V-1 or better	**P**
	Material of printed circuit boards on which the available power exceeds 15 W at a voltage >400V (peak) a.c. or d.c. meets V-0 to IEC60707		**N**
20.1.4	Components and parts not covered by 20.1.1, 20.1.2 and 20.1.3 (other than fire enclosures) mounted nearer to a potential ignition source than the distances in Table 21 comply with the relevant flammability category in Table 21	The fire enclosure used	**N**
	Components and parts as above but shielded from a potential ignition source, with the barrier area in accordance with Table 21 and fig.13		**N**

IEC 60065:2001, EN 60065:2002			
Clause	Requirement - Test	Result – Remark	Verdict
20.2	Fire enclosure	The wooden enclosure prevent the fire spread, its thickness>6mm	**P**
20.2.1	Potential ignition sources with open circuit voltage >4kV (peak) a.c. or d.c. contained in a fire enclosure to V-1	Open voltage <4KV	**N**
20.2.2	Internal fire enclosures with openings not exceeding 1mm in width and with openings for wires completely filled	No internal fire enclosure	**N**
20.2.3	Requirements of 20.2.1 and 20.2.2 met by an internal fire enclosure	Ditto.	**N**
A	APPENDIX A , ADDITIONAL REQUIREMENTS FOR APPARATUS WITH PROTECTION AGAINST SPLASHING WATER		**N**
A.5.1	j) Marked with IPX4 (IEC60529), 5.4.1 a) does not apply		**N**
A.10.2.1	Enclosure provides protection against splashing water		**N**
A.10.2.2	Humidity treatment carried out for 7days		**N**
B	APPENDIXB, APPARATUS TO BE CONNECTED TO THE TELECOMMUNICATION NETWORKS		**N**
	Complies with IEC 62151 clause 1		**N**
	Complies with IEC 62151 clause 2		**N**
	Complies with IEC 62151 clause 3 but with 3.5.4 modified to 2.4.10 of this standard		**N**
	Complies with IEC 62151 clause 4 but with 4.1.2, 4.1.3 and 4.2.1.2 modified in accordance with annex B of this standard		**N**
	Complies with IEC 62151 cause 5 but with 5.3.1 modified in accordance with annex B of this standard		**N**
	Complies with IEC 62151 clause 6		**N**
	Complies with IEC 62151 clause 7		**N**
	Complies with IEC 62151 annex A, B and C		**N**

4.2	Table: Input test data				P
For model: M1022					
No.	Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Note
1	207	50	0.069	12.3	Normal operation
2	230	50	0.079	14.0	Normal operation
3	253	50	0.125	17.6	Normal operation

7.1	Table: Heating under normal operating conditions					P
Test points		0.9 times rated supply voltage 207V/50Hz measured Δt(K)		1.1 times rated supply voltage 253V/50Hz measured Δt(K)		Allowed dTmax
Primary input wire of Transformer		10.8		23.6		95
Primary coil of Transformer		23.6		61.3		90
Core of Transformer		23.9		57.1		90
Secondary coil of Transformer		23.2		54.0		90
Secondary output wire of Transformer		12.7		28.8		50
Enclosure inside of adapter		20.3		48.9		50
Enclosure outside of adapter		11.6		28.7		65
Switch outside		3.3		8.9		65
C1		8.2		20.7		100
Power board near IC1		9.8		32.1		100
Mixer PCB near Q1		6.2		17.4		100
Enclosure outside near heatsink		6.2		22.0		45
Ambient		26.1°C		26.6°C		--
	Winding temperature rise measurements					N
	Ambient temperature t1 (°C):					--
	Ambient temperature t2 (°C):					--
temperature rise dT of winding:		R1 (W)	R2 (W)	dT (K)	required dT (K)	insulation class
--		--	--	--	--	--

Comments:

The temperatures were measured by thermal couple (type T) method under worst case normal mode as described in 4.2.1.

With max. ambient temperature specified as 30°C, therefore, the maximum temperature rise is calculated as follows:

Winding components:

- Transformer coil of polyurethane resins and core of transformer — Allowed dTmax→(85+35-30)K = 90K

Components with:

- Primary input wire of 125℃ — Allowed dTmax → (125-30)K=95K
- Enclosure inside of adapter of 80℃ — Allowed dTmax → (80-30)K=50K
- Secondary output wire of 80℃ — Allowed dTmax → (80-30)K=50K
- C1, Power board and Mixer PCB of 130℃ — Allowed dTmax → (130-30)K=100K

User accessible area:

- Enclosure outside of adapter, switch outside — Allowed dTmax → (60+35-30)K=65K
- Enclosure outside near heat sink — Allowed dTmax → (40+35-30)K=45K

9.1.7	Table: Enclosure resistance to external forces test		P
Test part	Pull force	Duration	Result
Enclosure	50N with test probe	10s	The enclosure did not become hazardous live.
Ventilation of enclosure	20N with test hook	10s	Hazardous live parts did not become accessible.
Enclosure	100N	5s	No damage affect the safety

10.2	Table: Humidity treatment		P
Test condition:	Temperature	Relative humidity	Duration
--	30℃	93%	48 hours

10.3	Table: Insulation resistance measurements	P
Insulation resistance between:	R (MΩ)	
For unit		
Input and output terminals (reinforced insulation)	>4	
Input and metal enclosure (reinforced insulation)	>4	
For Transformer		
Primary and secondary (reinforced insulation)	>4	
Primary and core (reinforced insulation)	>4	

10.3	Table: Electric strength measurements	P
Test voltage applied between:	Test voltage (V)	Breakdown
For Unit		
Input and output terminals (reinforced insulation)	4240 Vdc	No
Input and metal enclosure (reinforced insulation)	4240 Vdc	No

For Transformer		
Primary and secondary (reinforced insulation)	3000Vac	No
Primary and core (reinforced insulation)	3000Vac	No

11.2	TABLE: Summary of fault condition tests					P	
	Voltage (V) 0,9 or 1,1 times rated voltage ..... :					--	
	Ambient temperature (°C) ..... :					--	
Monitored point: Under fault conditions specified below						dT (K)	Limit dT
Part	Fault	Test Voltage	Test Time	Input current	Remark		
Transformer output 1-2	S-C	253V	13min	0.079A→ 0.435A→0	The thermal fuse of transformer opened after 12 mins, no hazards. Measured Δt(K) at core of transformer.	108.8	155
Transformer output 1-2	S-C	253V	40min	0.078A→ 0.425A→0	The thermal fuse of transformer opened after 16 mins, no hazards. Measured Δt(K) at core of transformer.	135.8	155
Ventilation openings	B-L	253V	123min	0.079A	Normal in function. Measured Δt(K) at primary coil.	37.9	155
	Winding temperature rise measurements						
	Ambient temperature t1 (°C) .....:						—
	Ambient temperature t2 (°C) .....:						—
Supplementary information							
Fault: S-C=short circuit, O-C=open circuit, B-L=blocked.							
Note: for fuse opened conditions, same results came out for all sources of fuse. If fuse not open have repeat test three times. 1 Shorting test of transformer output is repeated 3 times, after fault test, between input and output terminal electric strength for 3000Vac was passed.							

12.1.3	Table: Impact test	P
Location	Force (J)	Obtained
Enclosure outside	0.5	No damage

12.1.3	Table: Electric strength after impact test	P
Test voltage applied between:	Test voltage (V)	Breakdown
Input and output terminals	4240Vdc	No
Input and metal enclosure	4240 Vdc	No

12.1.4	TABLE: Drop Test		P
Impact Area	Drop Times	Drop No.	Observation

Front enclosure	3	--	Intact
Bottom enclosure	3	--	Intact

12.1.4	**Table: Electric strength after Drop Test**	**P**
Test voltage applied between:	Test voltage (V)	Breakdown
Input and output terminals	3000Vac	No
Input and metal enclosure	3000Vac	No

13.1	**Table: Clearance and creepage distance and distances through insulation**					**P**
clearance cl and creepage distance dcr at/of:	Up (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required dcr (mm)	dcr (mm)
Primary coil →secondary coil	325	230	4.0	↓	2.6	↓

Construction details for safety isolation transformers:		
Transformer:		
Manufacturer: HON-KWANG ELECTRIC(SHENZHEN) CO., LTD.		
Type: 411-M822FX-583		
Recurring peak voltage	325V	325V
Required clearance for reinforced insulation (from table 8 and 9,pollution degree 2)	Inside	Outside
For reinforced	--	4.0mm
Effective voltage rms	230V	230V
Required creepage distance for reinforced insulation (from table 11, pollution degree 2,)	(Material group I)	(Material group I)
For reinforced	2.6mm	2.6mm
Measured min. creepage distances		
Location	Inside (mm)	Outside (mm)
Primary –secondary (reinforced insulation)	--	14.6
Primary- core (reinforced insulation)	--	8.0
Measured min. clearances		
Location	Inside (mm)	Outside (mm)
Primary –secondary (reinforced insulation)	--	14.6
Primary- core (reinforced insulation)	--	8.0
Construction:		

See attachment-E		
Wire numbers:		
Prim.	Wire blue-brown (input wire)	
Sec.	Wire red-blue-green (output wire)	
Bobbin:		
Material	E I DUPONT DE NEMOURS & CO INC, 101L(f1)+	
Thickness	0.68mm	
Electric strength test		
With 3000 V a.c. after humidity treatment		
Result	Pass	

14	**Table: List of critical components and materials**				**P**
Object/part No.	Manufacturer/ Trademark	Type/model	Technical data	Standard	Mark(s) of conformity
Metalic enclosure	--	--	Thickness 1.07mm	--	--
Power switch	Solteam Electronics Co. Ltd.	MR-22	250Vac, 12A	EN 61058	VDE
Current fuse	Hollyland Co. Ltd.	50 T	1AL250V	EN 60127	UL
Internal wires	--	--	80℃, 300V, VW-1	UL 758	UL
PCB	--	--	130℃, V-1 or better	UL 94	UL
Power adaptor	HON-KWANG ELECTRIC(SHENZHEN) CO., LTD.	PA-M822	I/P: 230VAC 50Hz 25W O/P: 18VAC 400mA	--	--
- Insulating bushing material	BIZLINK (BVI) CORP	CT	V-0, 50℃	UL 94	UL

Attachment - A

Stylebook Of Rating Label

Total 1 page including this page

Attachment - B

Photo Documentation

Total 7 pages including this page

Photo # 1 Model: M1022

Photo # 2 Model: M1022

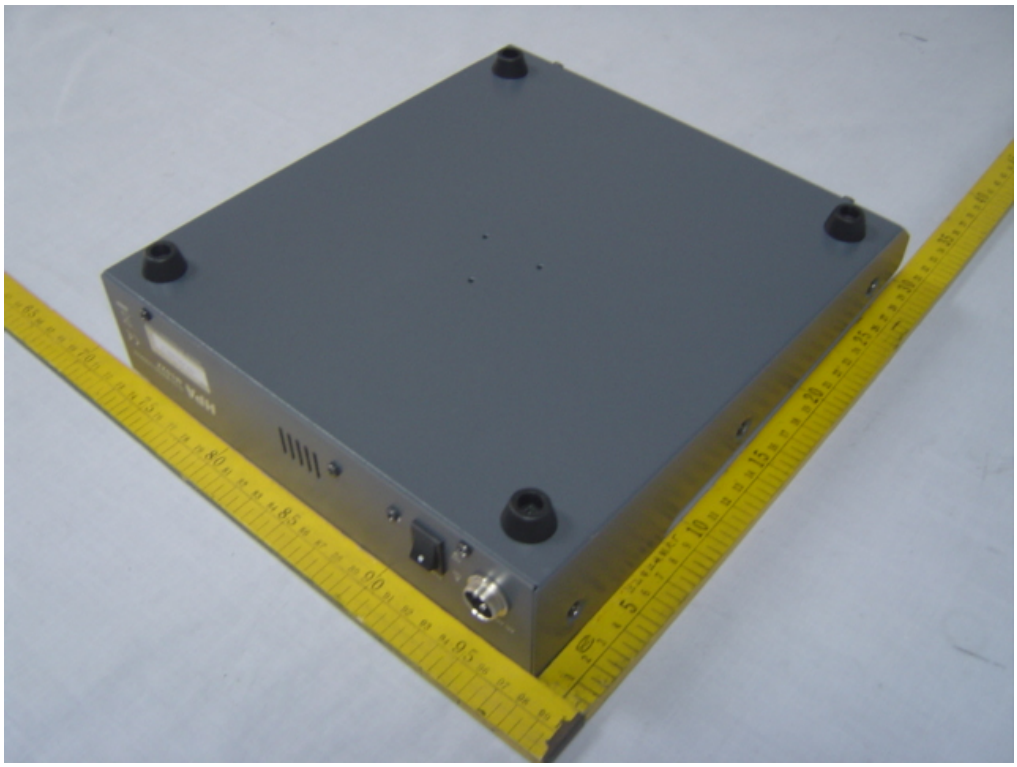


Photo # 3 Model: M1022

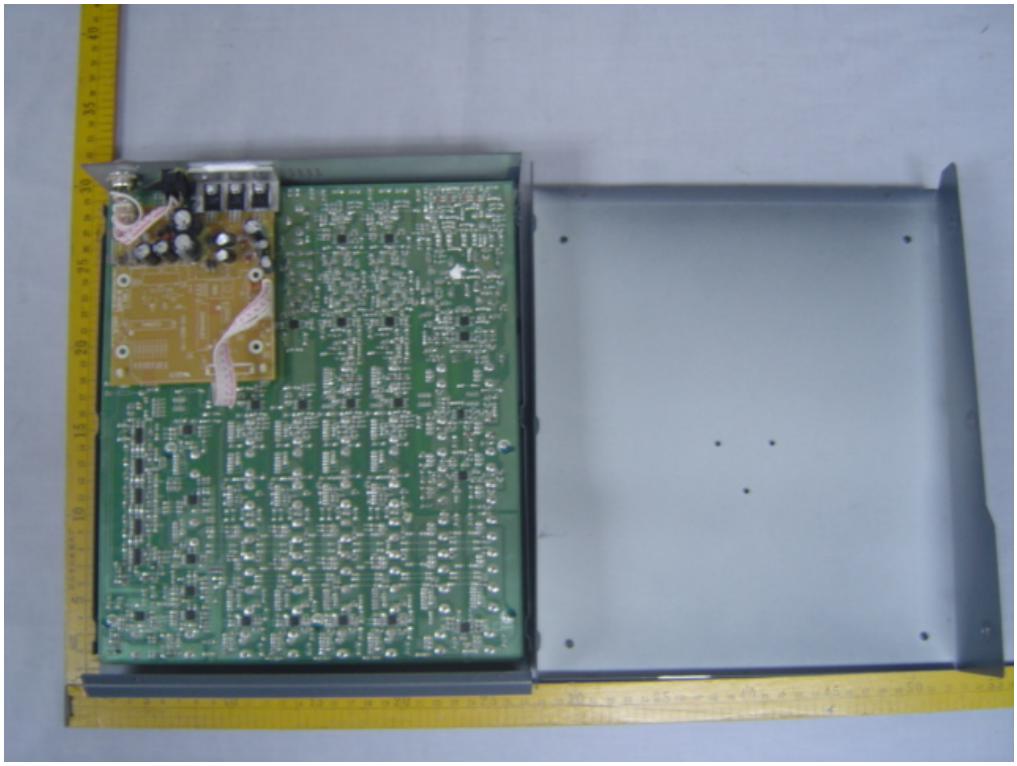


Photo # 4 Model: M1022

Photo # 5 Model: M822FX

Photo # 6 Model: M822FX

Photo # 7 Model: M822FX

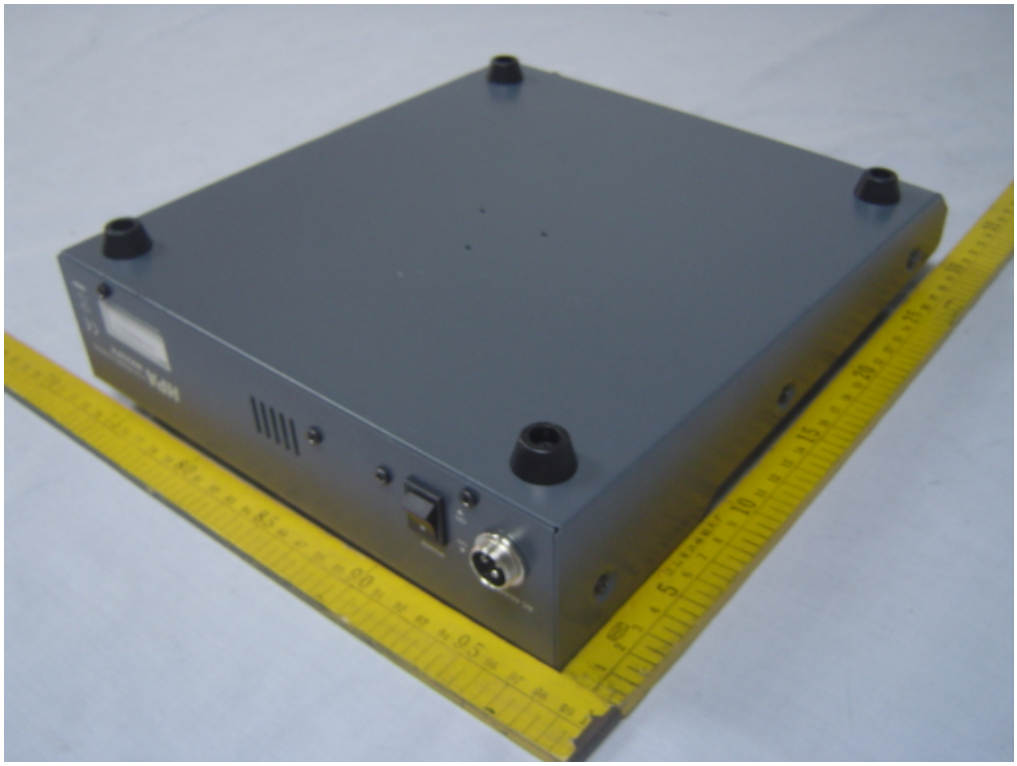


Photo # 8 Model: M822FX

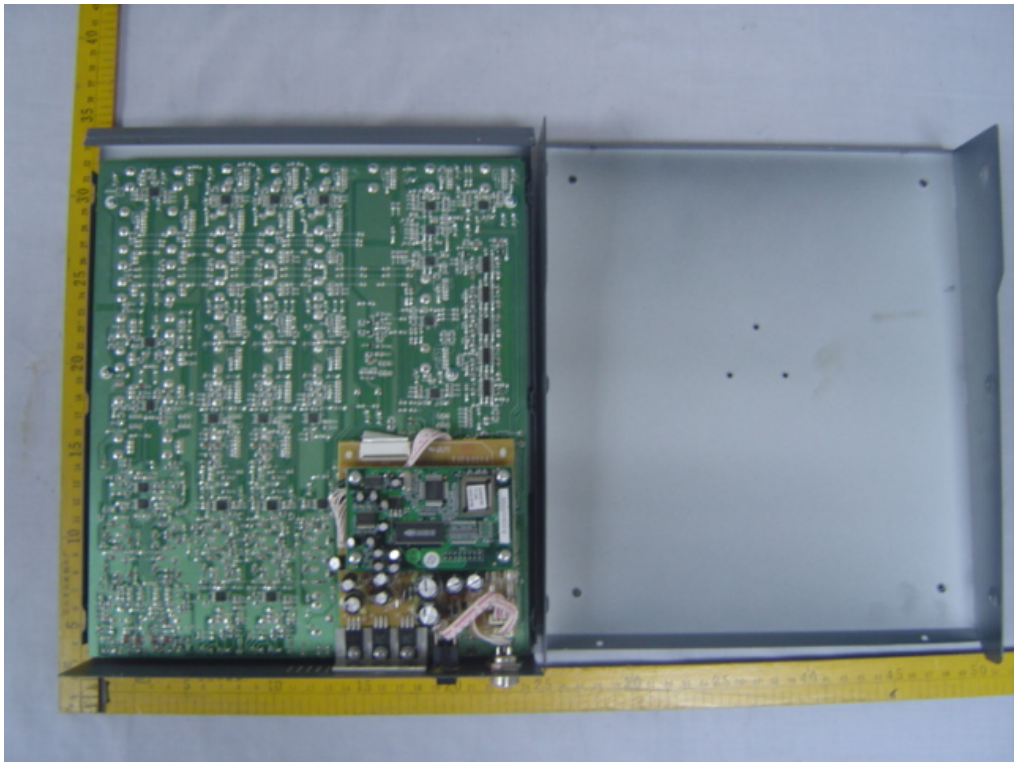


Photo # 9 Model: M822FX

Photo # 10 Model: 411-M822FX-583

Photo # 11 Model: 411-M822FX-583

Photo # 12 Model: 411-M822FX-583

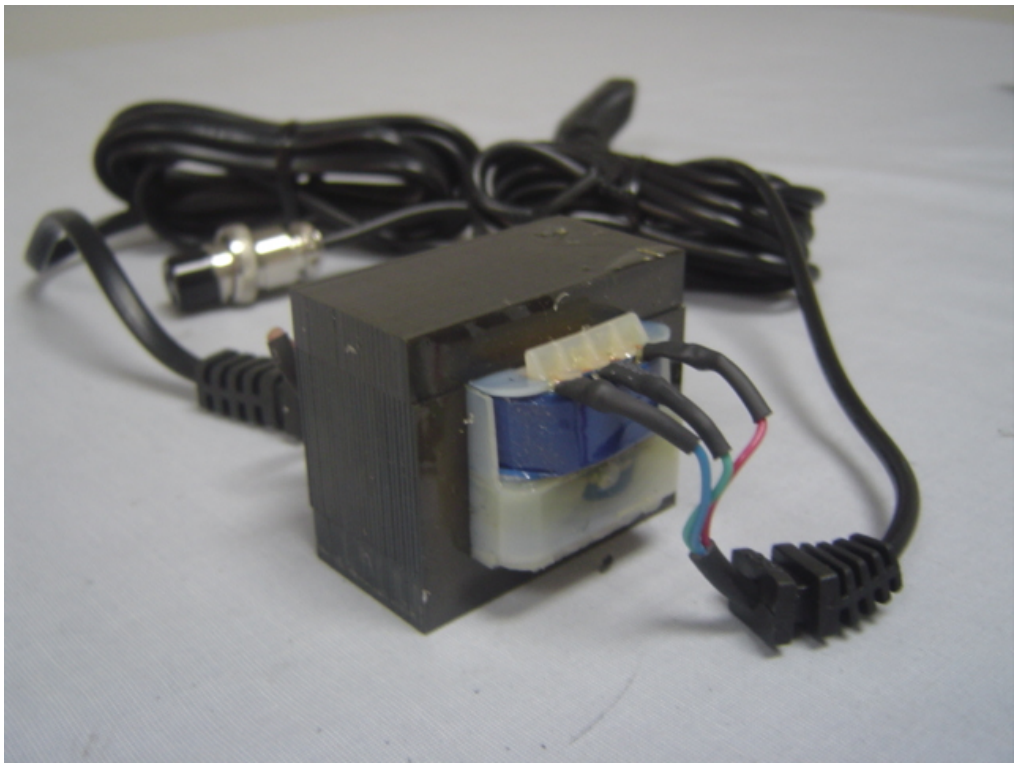


Photo # 13 Model: 411-M822FX-583

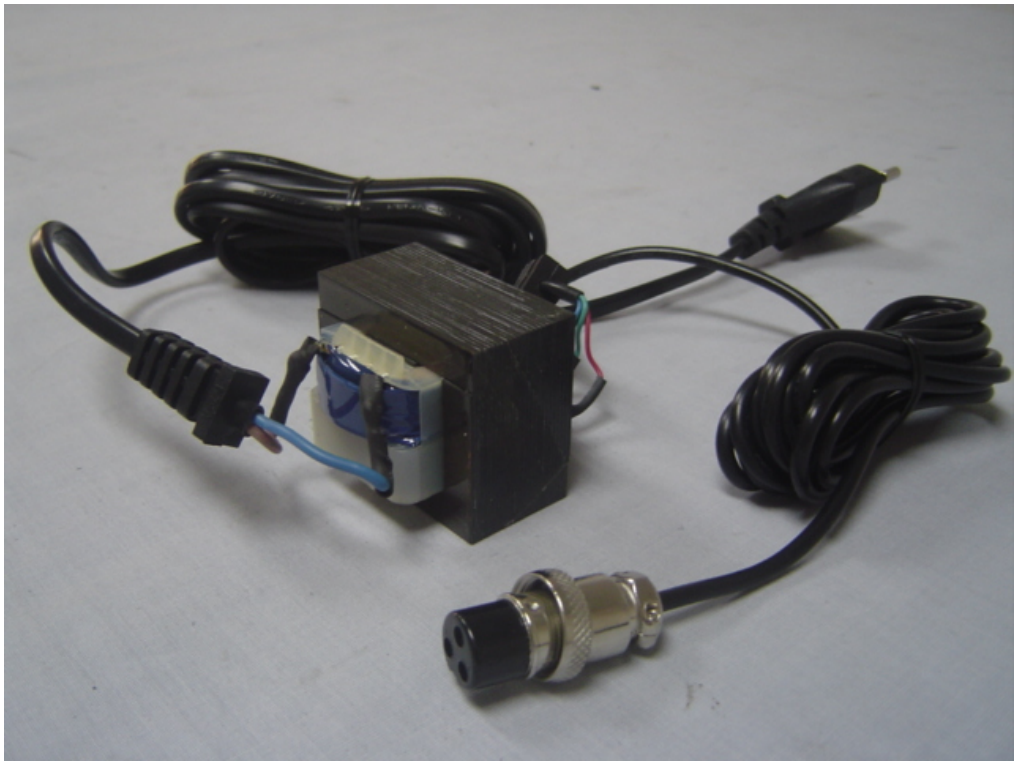
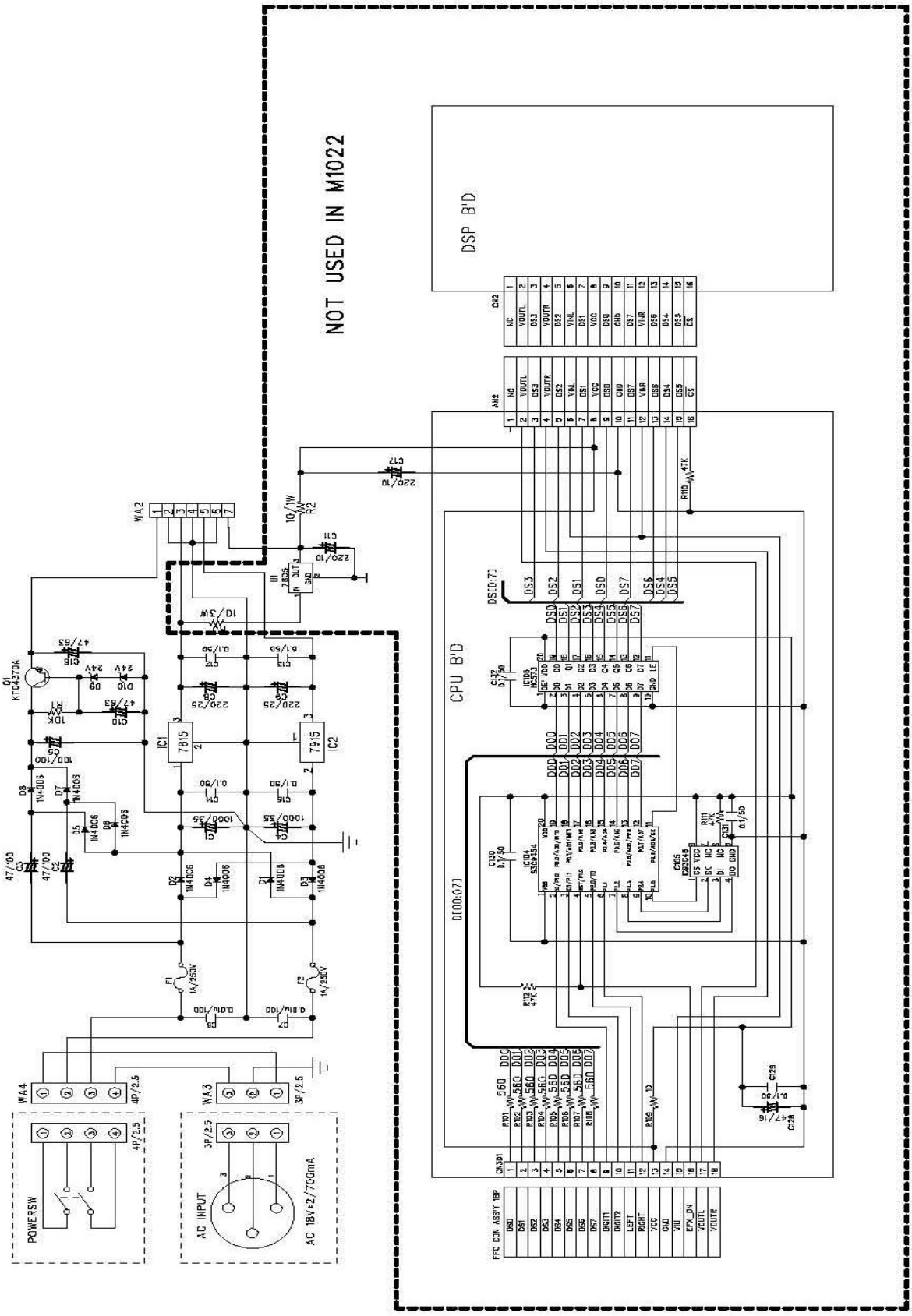


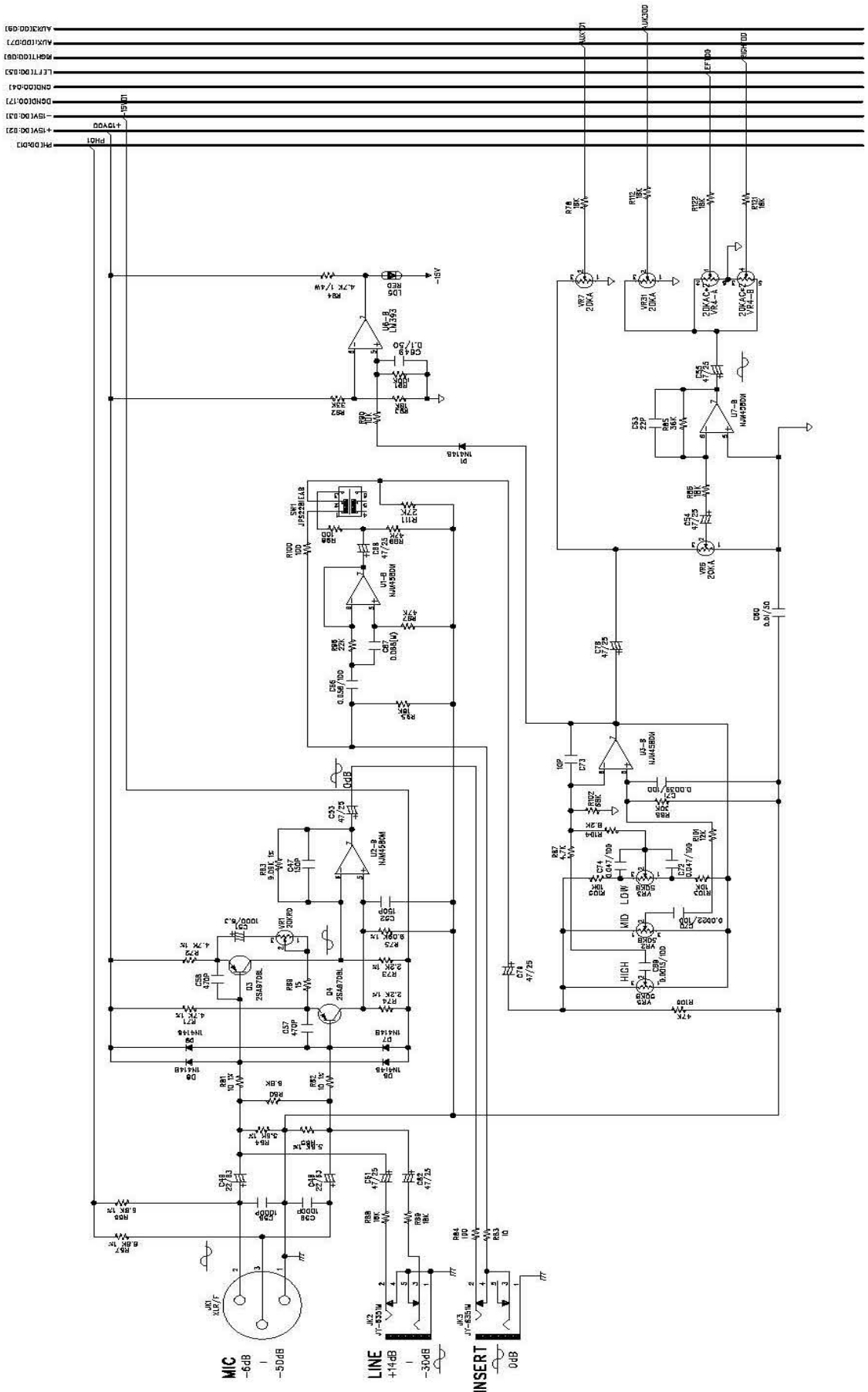
Photo # 14 Model: 411-M822FX-583

Attachment - C

Electric Circuit Diagram

Total 7 pages including this page

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LINE
+14dB
-30dB
INSERT
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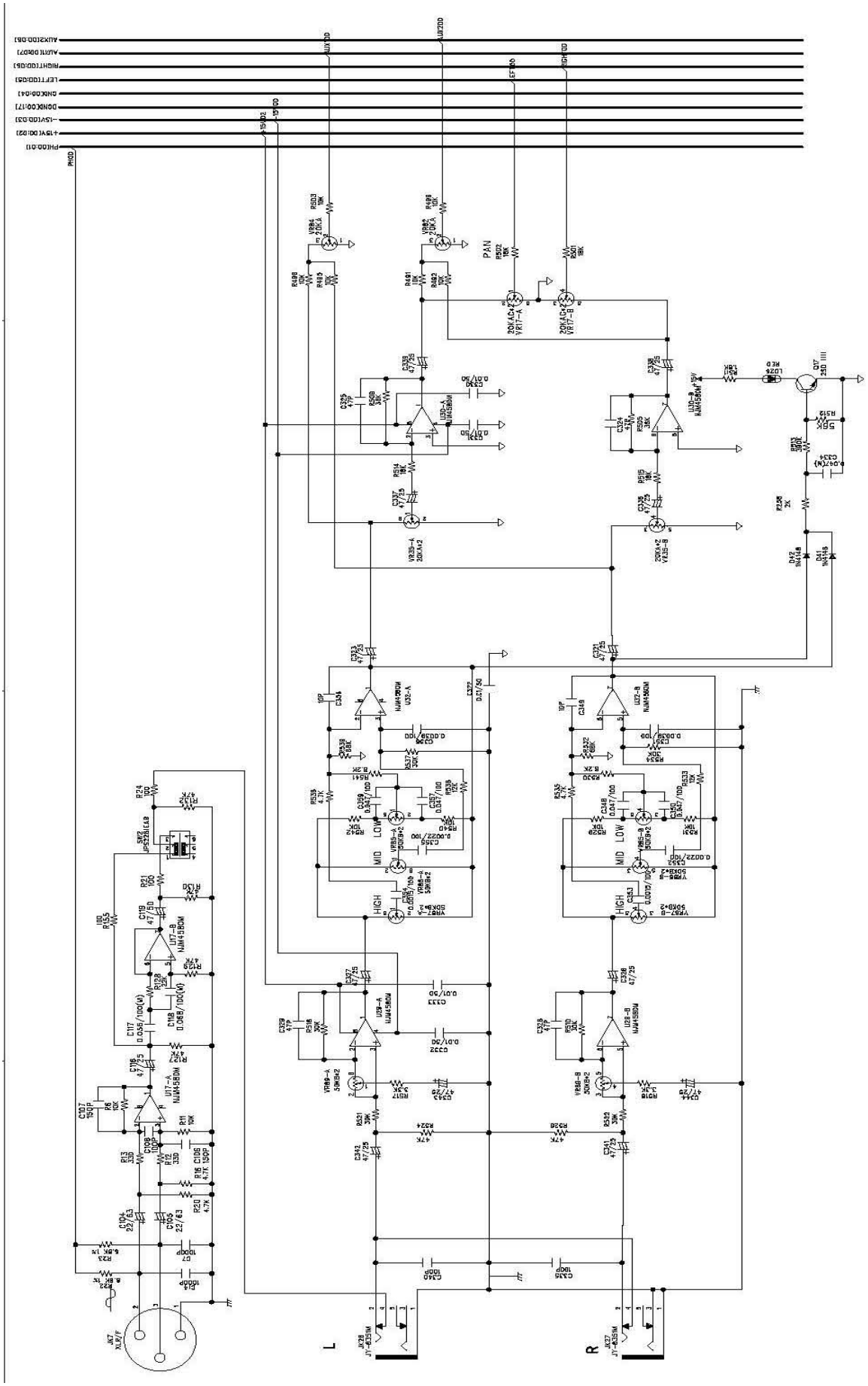
MID
LOW
HIGH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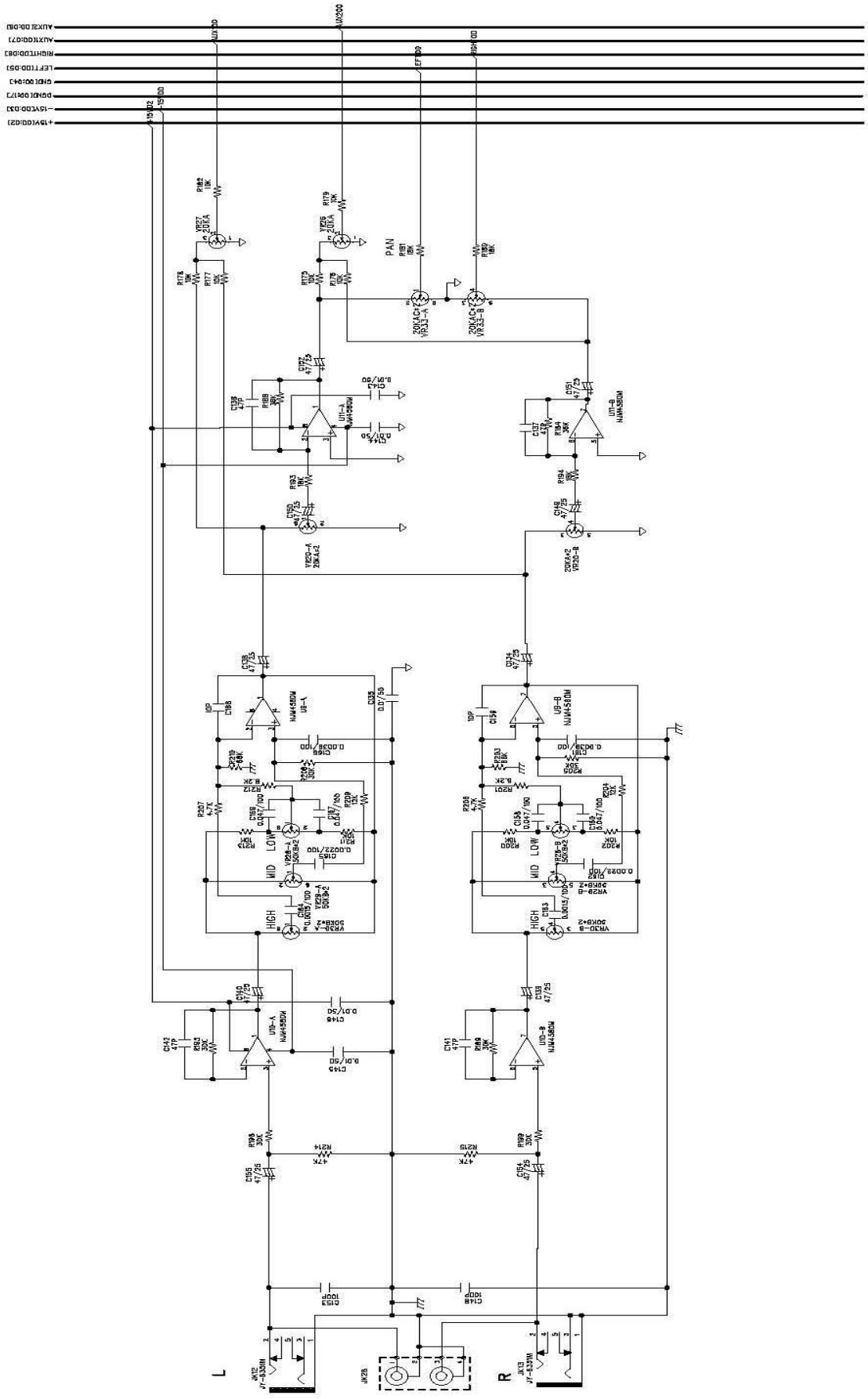
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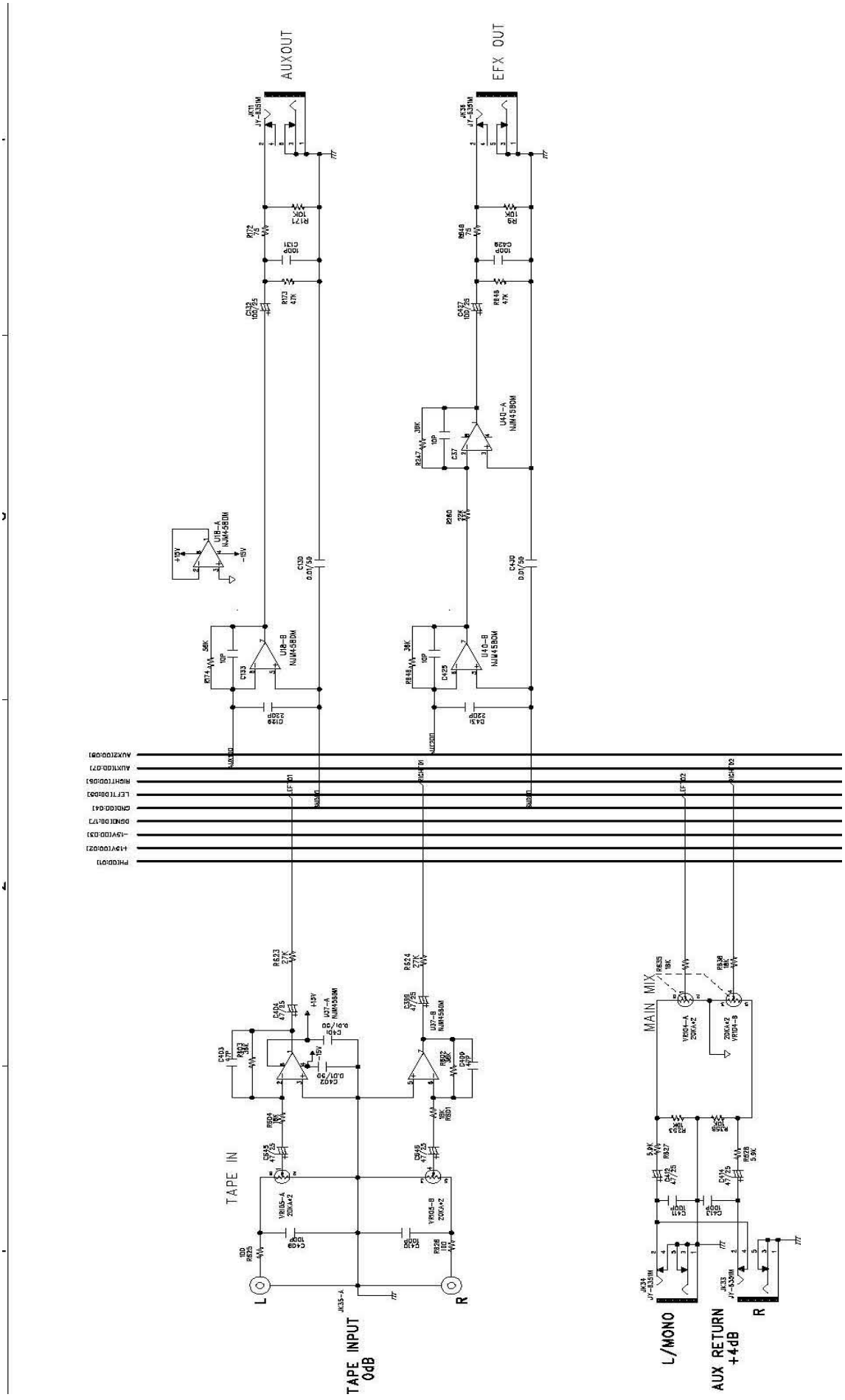
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MAIN MIX
TAPE IN
TAPE INPUT
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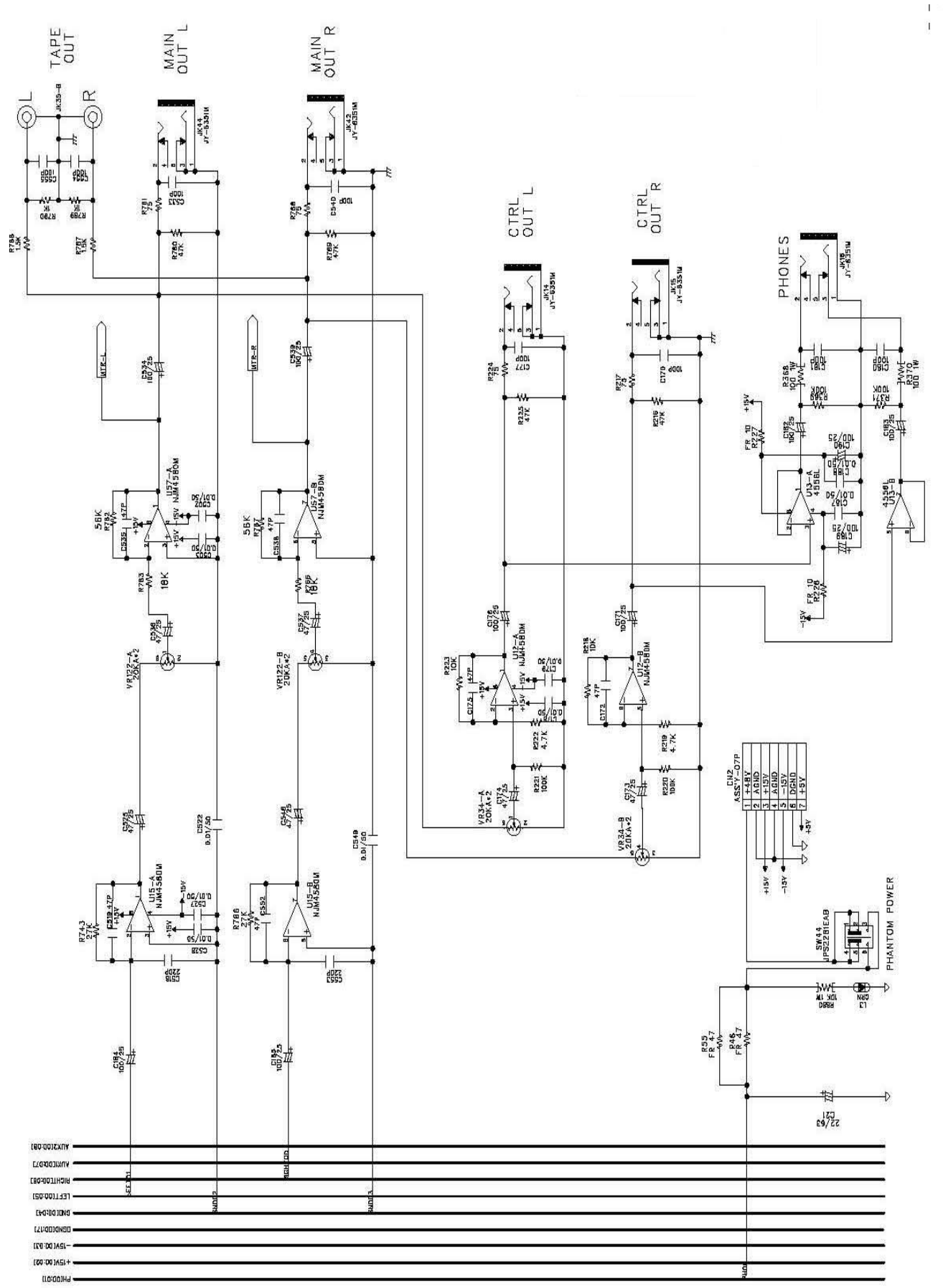
L/MONO
AUX RETURN
+4dB
L
R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CTRL OUT L
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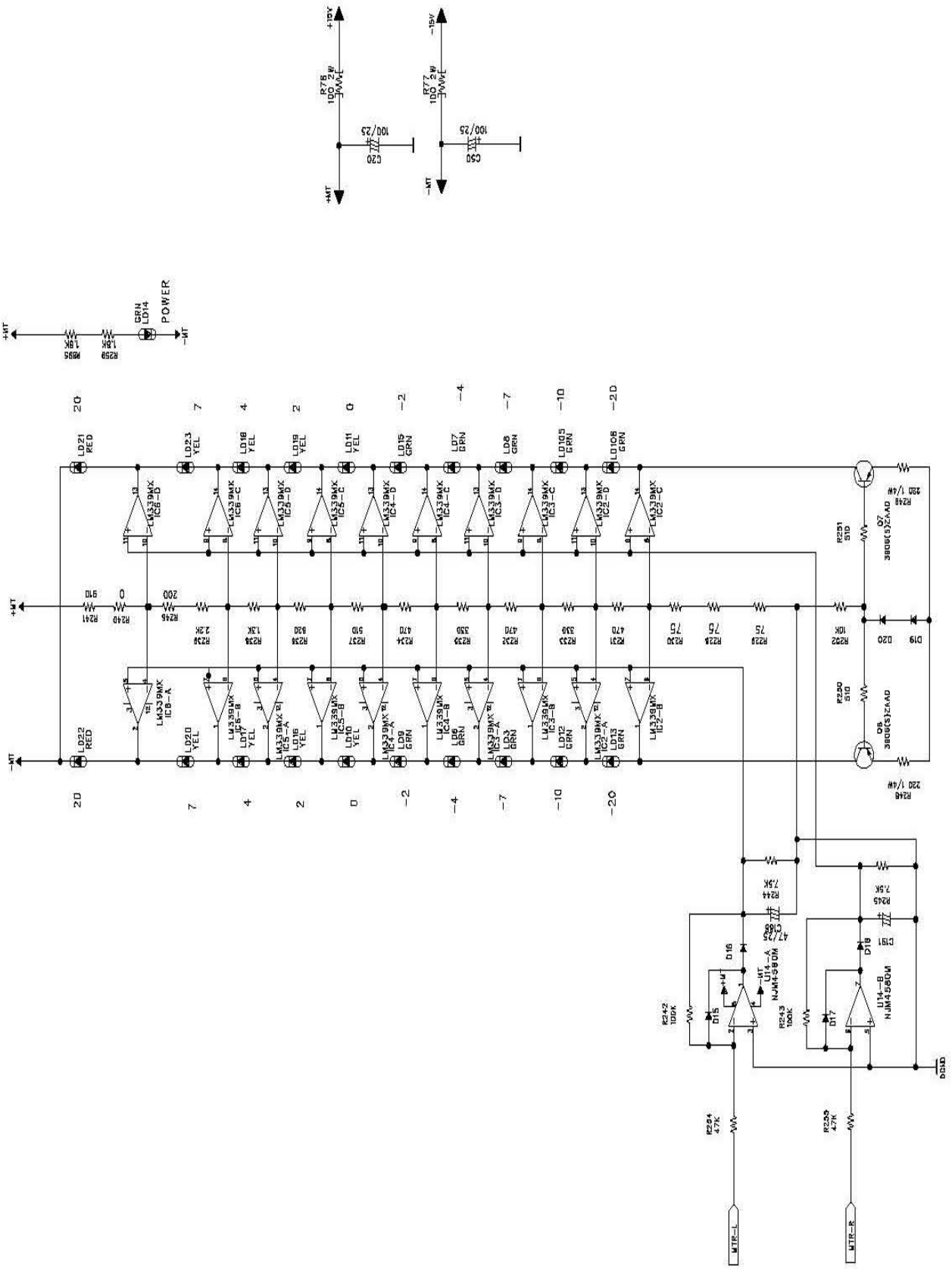
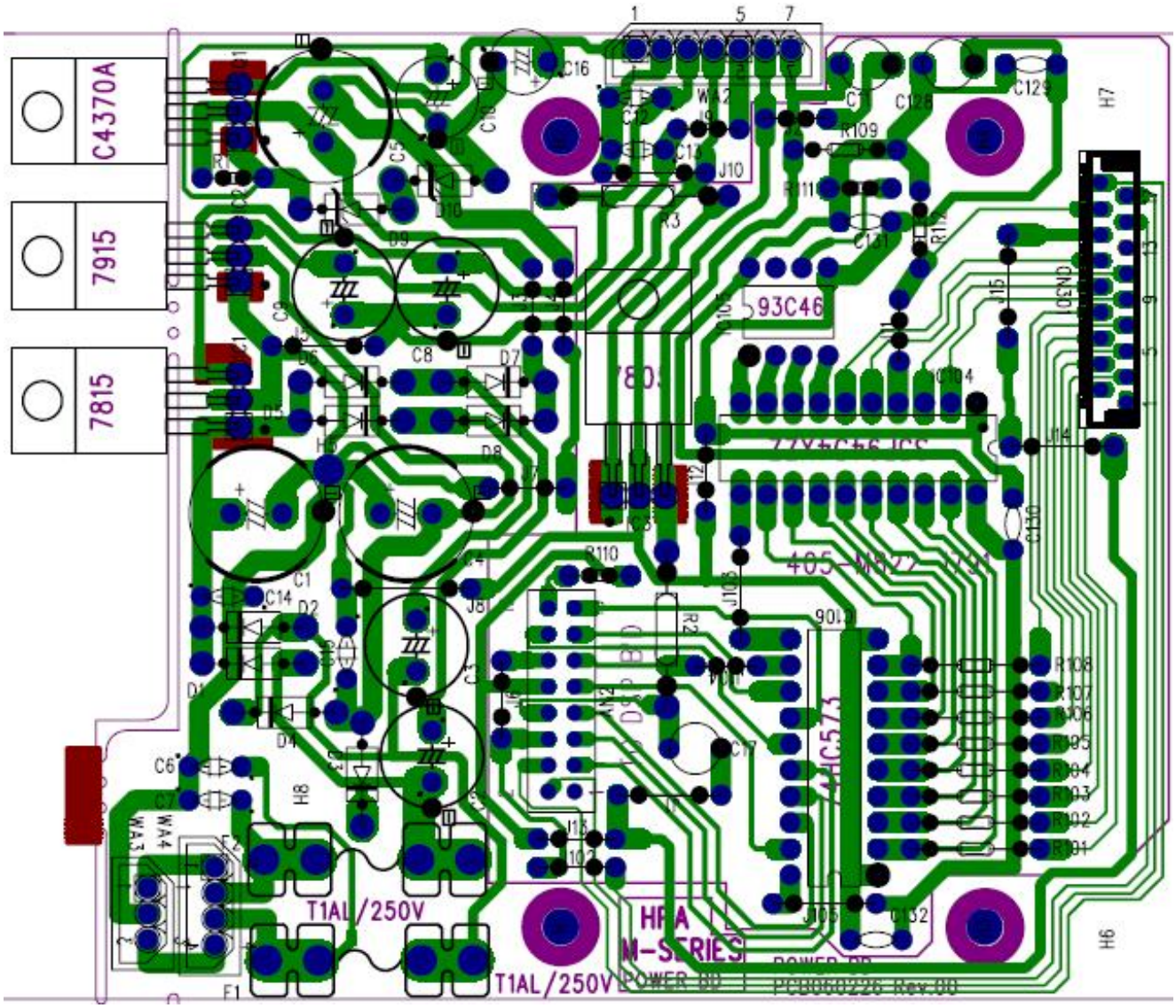
PHONES
PHANTOM POWER

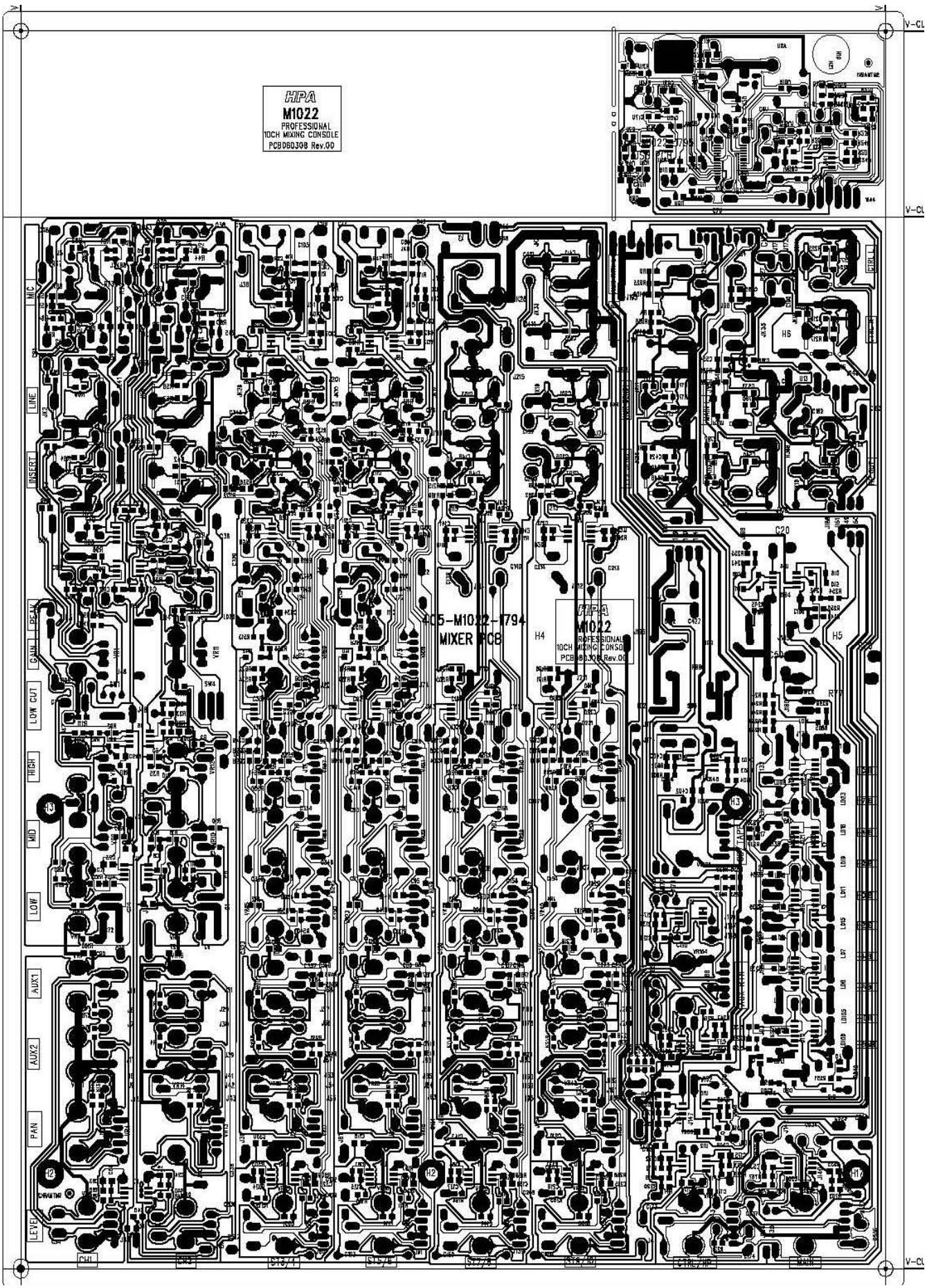


Attachment - D

Electric Block Diagram and Board Layout

Total 2 pages including this page




HPA
M1022
PROFESSIONAL
10CH MIXING CONSOLE
PCB060308 Rev.00
MIC
LINE
INSERT
GAIN
PEAK
LOW CUT
HIGH
MID
LOW
AUX1
AUX2
PAN
LEVEL
CTRL
C20
H4
H5
H6

Attachment - E

Transformer Specification
Total 7 pages including this page

HON-KWANG ELECTRIC CO., LTD.
HON-KWANG ELECTRIC(SHENZHEN) CO., LTD
HON-KWANG ELECTRIC(KUNSHAN) CO., LTD

FOR APPROVAL

漢平 REV:A2

CUSTOMER: _____

DESCRIPTION: ADAPTOR TYPE: EI-48

MODEL NO: 411-M822FX-583 PART NO: HKSD-061545EP

DESIGNED NO: 061545EP-0813 DATE: SEP.06.2006

APPROVED SIGNATURES			

鳳冠電機股份有限公司
鳳冠電機(深圳)有限公司
鳳冠電機(昆山)有限公司

鳳冠電機（深圳）有限公司

HON-KWANG ELECTRIC(SHENZHEN) CO., LTD.

APPENDIX REV.A2

MODEL NO.	411-M822FX-583	DESIGNED NO.	061545EP-0813	DATE	SEP.06.2006

INDEX

REVISION RECORD LIST

REVISION	REVISION RECORD	DATE
A0	NEW ISSUE	2006.08.15
A1	在銘板上追加垃圾桶.	2006.08.31
A2	依客戶要求更改銘板內容 及更改包裝尺寸.	2006.09.06

LIST BY:敬曉清 CHECKED BY: 郭宣 EXAMINED BY:

組長 2006-9-7 徐雲安

課長 2006-9-07 卓文秀

鳳冠電機（深圳）有限公司
HON-KWANG ELECTRIC(SHENZHEN) CO., LTD.
SPECIFICATION

REV.A2
Page 1

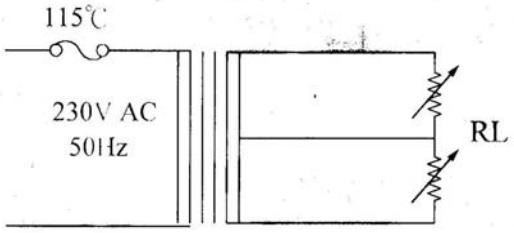
MODEL NO.	411-M822FX-583	DESIGNED NO.	061545EP-0813	DATE	SEP.06.2006

CORE TYPE: EI-48

1. SURFACE :damage,rusting,foam not permitted.
2. STRAIN RELIEF TEST: 20LBS for 60 seconds in any direction.
3. CHARACTERISTICS:
   - 3.1 PRIMARY RATED VOLTAGE & LINE FREQUENCY: 230V AC 50 Hz.
     - 3.1.1 EXCITING CURRENT(Io): 90 mA MAX.At primary rated voltage.
   - 3.2 SECONDARY RATED VOLTAGE AND CURRENT:

RATED VOLTAGE	RATED CURRENT	NO LOAD VOLTAGE	RIPPLE VOLTAGE	REMARK
AC 18V*2±5%	AC 400mA	AC 20.3V*2±5%		

   - 3.3 HI-POT TEST: Shall withstand without breakdown 3.75KV 60 Hz for one minute between blades and output plug and case.At an alternative potentials 10% higher may be applied for one second.(sensitivity current: 1.0 mA)
   - 3.4 INSULATION TEST : 500 VDC 100 megaohm min.between blades and output plug and case.
   - 3.5 TEMPERATURE RISE : 75 ℃ Max. (at 25℃) with load show on the circuit.
   - 3.6 THIS SPECIFICATION SUBJECT TO:
   - 3.7 The adaptor meet requirement of lead free and SONY(SS-00259)
4. CIRCUIT DIAGRAM:



5. OUTPUT PLUG: MIKE FEMALE PLUG ,OUTPUT CORD : AWG#24 UL2464, 1830mm±100mm.
6. STORAGE TEMPERATURE : -5℃ ~ 60℃
7. OPERATION TEMPERATURE : -5℃ ~ 30℃
8. UNIT NET WEIGHT: 611g±5%
9. APPENDIX: Overall drawing , illustration , material list , nameplate, inner box and package drawing.

LIST BY:敬曉清　　CHECKED BY:　　EXAMINED BY:

鳳冠電機（深圳）有限公司

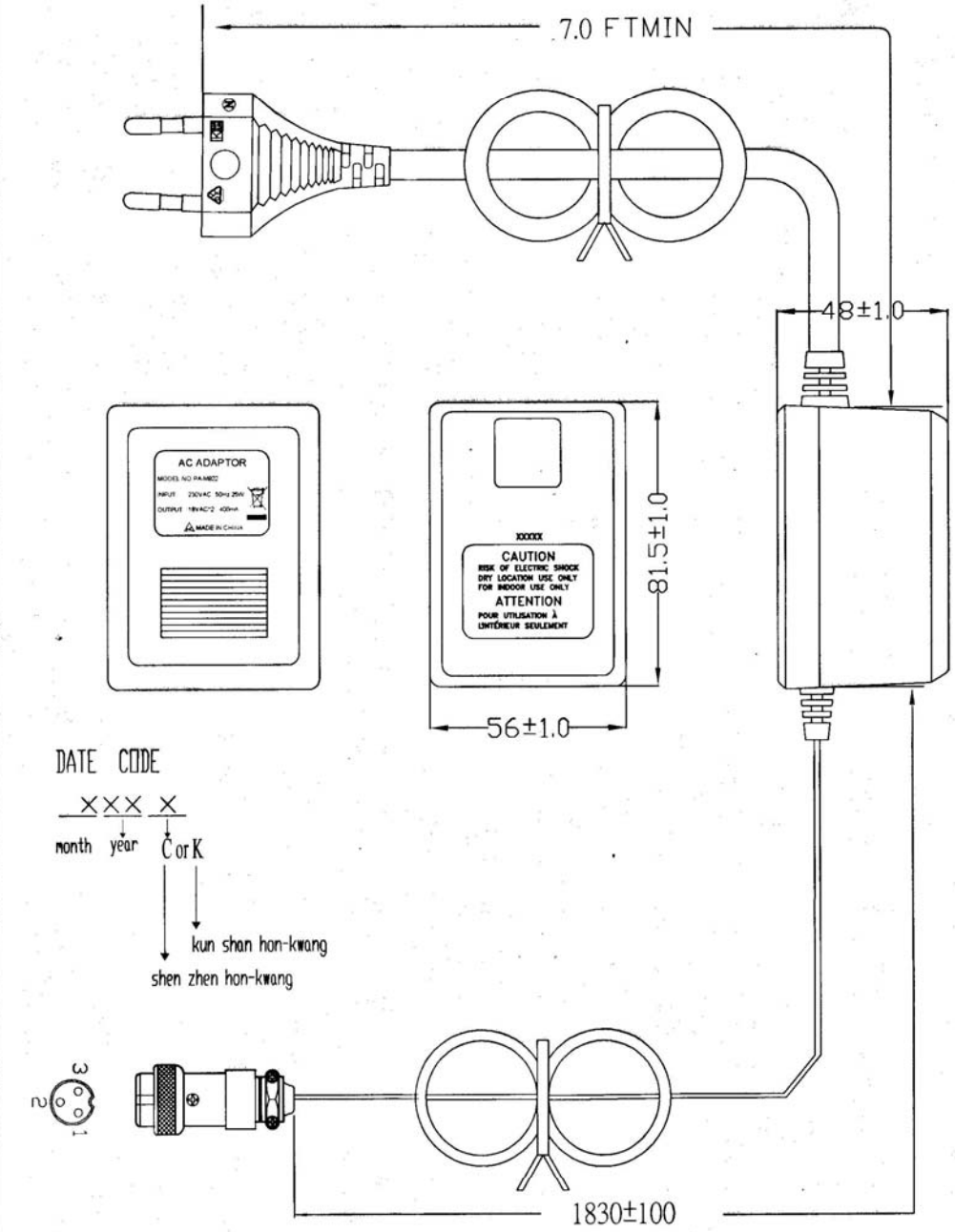
HON-KWANG ELECTRIC(SHENZHEN) CO., LTD.

OVERALL DRAWING

REV.A2
Page 2

MODEL NO.	411-M822FX-583	DESIGNED NO.	061545EP-0813	DATE	SEP.06.2006

UNIT:mm



LIST BY:敬曉清　　CHECKED BY: 郭宣　　EXAMINED BY:

組長 2006-9-7. 潘營安

課長 2006-9-07 卓文秀

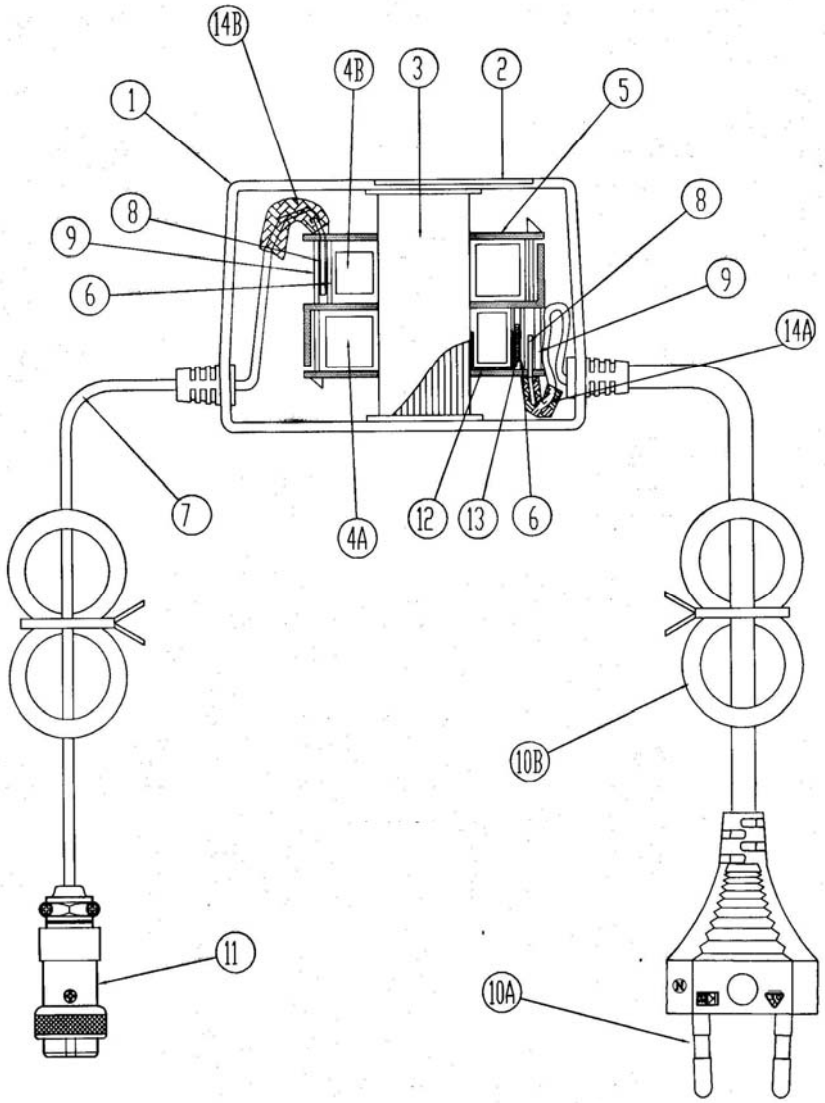
鳳冠電機（深圳）有限公司

HON-KWANG ELECTRIC(SHENZHEN) CO., LTD.

ILLUSTRATION

REV.A2
Page 3

MODEL NO.	411-M822FX-583	DESIGNED NO.	061545EP-0813	DATE	SEP.06.2006



LIST BY:敬曉清　　CHECKED BY: 郭宣　　EXAMINED BY:

鳳冠電機（深圳）有限公司
HON-KWANG ELECTRIC(SHENZHEN) CO., LTD.
ILLUSTRATION

REV.A4
Page 4

MODEL NO.	411-M822FX-583	DESIGNED NO.	061545EP-0813	DATE	OCT.19.2006

NO.	Description	Material	Spec	Manufacturer
1	ENCLOSURE	ABS94V-0 NORYL	PA-765A PX1005X (GG)(f1)	Chi Mei Corporation(UL E56070S) Ge Plastics Japan.Co Ltd.(E45587)
2	NAME PLATE	TKSMI#200	0.2mm	Ehoung Nameplate Co., Ltd. SHENZHEN ZHIDAMEI PRINTING FACTORY(MH26755)
3	CORE	Silicon Steel		Nippon Steel Corporation JFE STEEL CORPORATION
4	(A)PRIMARY WINDING (B)SECONDARY WINDING	Polyurethane Enamel led Copper Wire	2UEW	FENG CHING METAL CORP(E172395) TA YA ELECTRIC WIRE & CABLE CO LTD(E84201) SHENZHEN DAYANG INDUSTRY CO LTD(E176101) HUIYANG GOLDEN OCEAN MAGNET WIRE(E225143)
5	BOBBIN	PA66	101L(f1)+,V-2,130℃	E I DUPONT DE NEMOURS & CO INC(E41938)
6	WRAP (PRI. & SEC.)	(1)Polyester Tape	(1)0.05mm X 2 Turns	CHYUN YIH TAPE CO LTD(E81174) DUCK SUNG HITECH CO LTD(E105147) NITTO DENKO CORP(E34833) SYMBIO INC(E50292)
		(2)Press Board	(2)0.50mm X 1 Layer	Miki Tokushu Paper Mfg.Co.,Ltd.(JIS:C-2305)
7	OUTPUT CORD	PVC	AWG#24 UL2464	Techpoint Electric Wire & Cable Co.,Ltd.(E174881) Dong Guan Guncetsi(Guncehol)Electric Wire & Cable Factory(E204204) Jhi Wei Electric Wire & Cable Co.,Ltd.(E157717) Dong Guan Tapping Electrical Materials Co Ltd(E169161)
8	LEAD WIRE FIXD (PRI. & SEC.)	(1)Polyester Tape (2)TB	(1)0.05mm X 2 Turns (2)0.50mm X 1 Layer	SAME AS ITEM 6(1) Dong Guan Dong Shen Metal Products Factory
9	OUTER WRAP (PRI. & SEC.)	(1)Polyester Tape (2)Press Board	(1)0.05mm X 2 Turns (2)0.50mm X 1 Layer	SAME AS ITEM 6(1) Miki Tokushu Paper Mfg.Co.,Ltd(JIS:C-2305)
10	(A)INPUT PLUG		LC-7 LP-21 KE-21	Long Crown Wire Co.,Ltd.(40013871) Taiwan Line Tek Electronic CO.,Ltd.(40009324) Kenic Electric Mfg Co.,Ltd.(97182)
	(B)INPUT CORD	PVC	H03VVH2-F 0.75mm²×2C	TaiWan Line Tek Electronic Co.,Ltd.(40009324) Leader(Top Resources Co.,Ltd.)(96273) I-Sheng Electric Wire & Cable Co.,Ltd.(40006070) Lucky United Electric Wire & Cable Co.,Ltd.(98629) Kenic Electric Mfg Co.,Ltd.(103853)
11	OUTPUT PLUG		MIKE FEMALE PLUG	Long Crown Electric Co.,Ltd.or Equ.
12	PRIMARY CROSSOVER	Acetate Cloth Tape	0.18mmX 1 Layer	SAME AS ITEM 6(1)
13	THERMAL PROTECTOR	Thermal Cutoff 115℃	322 P2-1A-F A2-1A-F SM110B0/1 F2 L20	Uchihashi Estec Co.,Ltd.(VDE 40007524) AUPO ELECTRONICS CO.,LTD.(VDE 40005586) AUPO ELECTRONICS CO.,LTD.(VDE 40005586) Nec Corp(VDE 40012828) XIAMEN SET ELECTRONIS CO.,LTD.(VDE 40004041) Joint Force Metal research & co.,(VDE 40008646)
14	HEAT SHRINKABLE TUBING	Changbao102 125℃ RSFR 125℃	(A)4φx20mm(PRI) (B)3φx20mm(SEC)	Shenzhen Changyuan Electronic Material Co Ltd (E180908) Shenzhen Woer Heat-Shrinkable Material Co Ltd (E203950)
15	TIE	PET		Yi Tong Environment Protecting Plastic Tie Factory Handica Bvsiness Co.,Ltd

LIST BY:敬曉清　　CHECKED BY:　　EXAMINED BY:

組長 2006.10.19 潘瑩安

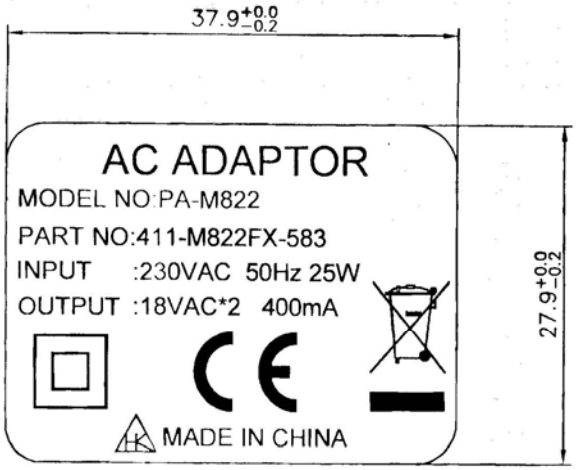
鳳冠電機（深圳）有限公司

HON-KWANG ELECTRIC(SHENZHEN) CO., LTD.

NAMEPLATE

PART NO.	411-M822FX-583	DESIGNED NO.	061545EP-0813	DATE	SEP.08.2006

UNIT:mm



0.2mm NAME-PLATE: BLACK CHARACTERS SILVER BACKGROUND.
TKSMI#200

THE ABOVE MARKING IS OUR OWN DESIGN FOR NAMEPLATE.
IF YOU WANT TO CHANGE THE LOGO,
PLEASE PROVIDE US MORE DETAILS OF YOUR ARTWORK.

LIST BY:敬曉清 CHECKED BY: 工程師 2006.09.08 李雪南 EXAMINED BY: 組長 2006.09.08 潘瑩安

Attachment - F

Operation instruction about safety, service and using
Total 8 pages including this page

Owner's Manual

Professional Stereo Compact Mixer

M822FX

M1022

HPA

WARNING

1. Read these instructions - All the safety and operating instructions should be read before this product is operated.
2. Retain these instructions - The safety and operating instructions should be retained for future reference.
3. Heed all warnings - All warnings on the appliance and in the operating instructions should be adhered to.
4. Follow all instructions - All operating and use instructions should be followed.
5. Do not use this apparatus near water - The appliance should not be used near water or moisture - for example, in a wet basement or near a swimming pool, and the like.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacture's instructions.
8. Do not install near any heat sources such as radiators, heat registers,stoves,or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding plug. A polarized plug has two blades with one wider than the ther. A grounding plug has two blades and a third grounding prong.The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and at the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart or rack is used,use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug the apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified personnel. Servicing is required when the apparatus has been damaged In any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Please keep the unit in a good ventilation environment.
16. WARNING:To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall not be placed on apparatus.
17. WARNING: The mains plug or appliance inlet is used as disconect device, the disconnect device shall remain readily operable.
18. Power Sources – This product should be operated only from the type of power source indicated on the rating label.If you are not sure of the type of power supply to your home, onsult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer the perating instructions.
19. Safety Check – Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
20. Don't touch conductive parts of output terminals to prevent hazardous electrical shock. The external wiring connected to the terminals requires installation by an instructed person or the used of ready - made leads or cords.
21. This eguipment is for commercial & professional use only.
22. This product is in compliance with EU WEEE regulations. Disposal of end of life produc should not betreated as municipal waste. Please refer to your local regulations for instructions on proper disposal of this product.

23. To prevent hazardous electrical shock, do not touch the conductive parts of the output terminals.The external wiring connected to the terminals requires installation by an quallified technician or the use of ready made leads or cords.

Protective earthing terminal. The apparatus should be connected to a mains socket outlet with a protective earthing connection.

This lightning flash is intended to alert the user to the presence of non-insulated "dangerous voltage" on the output terminals that may be of sufficient magnitude to constitute a risk of electric shock.The external wiring connected to the terminals requires installation by an instructed person or the used of ready-made leads or cords.

CAUTION: To reduce the risk of electric shock, do not remove any cover. No user-serviceable parts inside. Refer servicing to qualified service personnel only.

The lightning flash with arrowhead symbol within the equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of suf ficient magnitude to constitute a risk of electric shock.

The exclamation point within the equilateral triangle is intended to alert the user to the presence of important operation and maintenance (servicing) instructions in the literature accompanying this appliance.

CAUTION: To prevent electric shock, do not use this polarized plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

Table of Contents

Introductions

M822FX / M1022

Professional Stereo Compact Mixer

Welcome

Thank you for purchasing M822FX /M1022 Mixing Console. The M822FX / M1022 provides an excellent balance of operability, functionally and ease of use. In order to take full advantage of the M 822FX/ M1022 capabilities and enjoy years of trouble - free use, please read this manual carefully.

Unpacking

Although it is neither complicated to install nor difficult to operate your set, a few minutes of your time is required to read this manual for a properly wired installation and becoming familiar with its many features and how to use them. Please take a great care in unpacking your set and do not discard the carton and other packing materials. They may be needed when moving your set and are required if it ever becomes necessary to return your set for service. Never place the unit near radiators, in front of heating vents, to direct sun light, in excessive humid or dusty location to avoid early damage and for your years of quality entertainment. Connect your complementary components as illustrated in the following page.

Features

-2 MONO (M1022/M822FX) INPUT AND 3 STEREO (M822FX) ,4 STEREO (M1022)INPUT

Any sound source of microphones, cassette decks, electronic guitars, organs can be applied to the channel input.

- MAIN L/R OUTPUT

Main L/R are provided for convenient use.

- AUX RETURN AND 2 AUX SEND

For convenient use of external equipment, AUX SEND and AUX RETURN function are provided.

- CHANNEL EQUALIZER

The 3 band equalizer are designed for ±15dB (HF,LF), ±12dB(MF) control on input channel.

- 2 MONO CHANNEL INSERT

- DSP FUNCTION : 100 SELECTABLE PRESETS (ONLY M822FX)

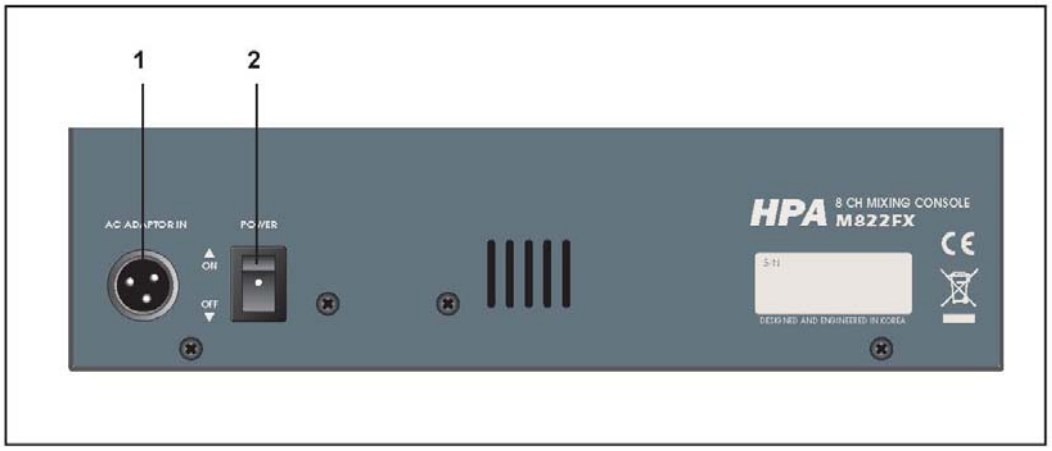
A built-in 24bit DSP(Digital Signal Processor) with 100 selectable presets including Reverb, Delay and Chorus, offers dazzling studio quality effects.

- PHANTOM POWER(+48V)

Phantom power is provided for easy connection of condenser microphones requiring an external power supply.

- EXTERNAL AC POWER

Rear Panel Controls



1. AC ADAPTOR IN CONNECTOR

Connects to the included PA-M822 power adaptor.

NOTE:*Use only the PA-M822 adaptor included with this mixer. Use of a different adaptor may result in fire or electric shock.*

2. POWER SWITCH

Use this switch to turn mixer power to ON.

Specifications

*0dB=0.775Vrms, 0dBV=1VRMS
-General Specifications

Maximum Output Level (0.5% T.H.D at 1kHz)	+20dB(MAIN L/R), +20dB(AUX1,EFX, CTRL ROOM)
	+20dB(INSERT) More than 100mW(HEADPHONES) @33Ω
T.H.D	<0.1% @+14dB 20Hz ~ 20kHz (MAIN L/R, AUX SEND,EFX SEND CTRL ROOM)
Frequency Response	20Hz ~ 20kHz, +1/-2dB (MIX L/R, AUX SEND,EFX SEND CTRL ROOM)
Hum and Noise (Average, 20kHz LPF Rs=150Ω)	-127dB equivalent input noise, -95dB residual noise (MAIN L/R, AUX /EFX SEND, CTRL ROOM OUT), -88dB (MAIN L/R, ALT 3/4, AUX/EFX send, CTRL ROOM OUT) * Master fader at nominal level and all channel fader Minimum.
Maximum Voltage Gain	66dB MIC IN TO Main L/R, 60dB MIC IN TO AUX 1, 66dB MIC IN TO EFX(REV)
	76dB MIC IN TO CONTROL ROOM L/R, 58.2dB MIC IN TO REC L/R, 46dB LINE IN TO MAIN L/R
	46dB LINE IN TO AUX 1, 46dB LINE IN TO EFX (REV)
	56dB LINE IN TO CONTROL ROOM L/R, 36dB ST IN TO MAIN L/R
	6dB AUX RETURN IN TO MAIN L/R, 16dB TAPE IN TO MAIN L/R
Crosstalk (at 1kHz)	-70dB between input channels, -70dB between input/output channels
Gain Control (mono Input Channel)	44dB Variable (-50dB ~ -6dB), (-30dB ~ +14dB)
Gain Control(mono/stereo combination Input ch)	40dB Variable (-20dB ~ +20dB)
Input Channel Equalization	HIGH: 12kHz shelving, MID : 2.5kHz peaking LOW: 80Hz shelving * Turnover/roll off frequencies: located 3dB below maximum boost/cut
LED Meters	10-Segment LEDx2 MAIN L/R,
Internal Digital Effect (only in M822FX)	100 selectable presets
	FOOT switch (ON/OFF)
Channel Indicators	Peak: An indicator for each channel turns on when the pre-channel fader signal is 5dB below clipping.
Phantom +48 VDC Power (Balanced input)	Supplied when Phantom +48V switch is ON.
Included Accessory	Power adaptor (PA-M822)
Power Supply	USA and Canada: 120V AC, 60Hz
	Europe: 230V AC, 50/60Hz
	Australia: 240V AC, 50Hz
Power Consumption	25W
Weight	2.4kg
Dimensions (W x D x H)mm	(295 x 249 x 75) mm

* Specifications and design subject to change without notice for improvements.

Specifications

-INPUT

Input Connector	Input Impedance	Nominal Impedance	Rated Input Level	Connector Type
CH Mic	4kΩ	50 ~ 600Ω	-50dB	XLR 3-31 Type Balanced
CH Line	10kΩ	600Ω	-30dB	Phone Jack (TRS) T = Hot R = Cold S = GND
Stereo Input Mic	3kΩ	600Ω	-44dB	XLR 3-31 Type Balanced
Stereo Input Line	5kΩ	600Ω	-20dB	Unbalanced Phone Jack
Aux Return Insert Input	10kΩ	600Ω	+4dB	Unbalanced Phone Jack
Mono Channel Insert Input	10kΩ	600Ω	0dB	Phone Jack (TRS) T = Out R = In S = GND
Tape In	10kΩ	600Ω	-10dBV	RCA pin Jack

-OUPUT

Output Connector	Output Impedance	Nominal Impedance	Rated Output Level	Connector type
MAIN	75Ω	10KΩ	+4dB	Unbalanced Phone Jack
CTRL Room Out	75Ω	10KΩ	+4dB	Unbalanced Phone Jack
Aux/ Efx Send	75Ω	600Ω	+4dB	Unbalanced Phone Jack
Mono channel insert output	100Ω	10kΩ	0dB	Phone Jack (TRS) T = Out R = In S = GND
Rec Out	600Ω	10kΩ	-10dBV	RCA pin Jack
Phones Out	100Ω	33Ω	3mW	Stereo Phone Jack

* Specifications and design subject to change without notice for improvements.

Attachment - G

CCS Lab Equipment List

Total 3 pages including this page

Tested with	Item	Instrument Name	Manufacturer	Model	Scope	Calibration Date	Due Date	Series No	Company Internal Number
☒	1	True RMS Multimeter	FLUKE	179	DC:1mV-1000V AC:0.1mV-1000V	2006-05-25	2007-05-24	85560236	SZ000143 (New)
☐	2	Digital Multimeter	AGILENT	34401A	DC:0. 0002% of reading+ 0.0001% of range	2006-05-25	2007-05-24	MY41023572	I00148
☐	3	DC Electronic Load	PRODIGIT	3311	0-60V/0-60A/300W	2006-10-24	2007-10-23	20902C425	I00108
☐	4	Dual DC Electronic Load	PRODIGIT	3331A 3331A 3330A	60V/50A 250W, 60V/5A 50W 60V/50A 250W, 60V/5A 50W 60V/50A 250W, 60V/5A 50W	2006-10-24 2006-10-24 2006-10-24	2007-10-23 2007-10-23 2007-10-23	30931A009 30931A010 30630A046	I00162
☐	5	AC/DC Electronic Load	PRODIGIT	3250 3250 3251 3252	60V/20A/300W 60V/20A/300W 150V/8A/300W 300v/4A/300W	2006-10-24 2006-10-24 2006-10-24 2006-10-24	2007-10-23 2007-10-23 2007-10-23 2007-10-23	403500001 403500002 405510013 409520080B	I00184 I00185 I00186 I00187
☐	6	Function Signal Generator	NDY	EE1641B1	0.2Hz~2MHz	2006-10-24	2007-10-23	006775	I00106
☐	7	Function Generator	KENWOOD	FG-273A	0.2HZ~2MHZ 7ranges (1/10/100/1k/10k/100k/1M)	2006-10-24	2007-10-23	08010374	D000100
☐	8	Audio Signal Generator	LWDQGS	TAG-101	400HZ~20KHZ,0.1%	2006-09-22	2007-09-21	303931	I00153
☒	9	Audio Generator	WELLSTAR	AG-101	400HZ~20KHZ,0.1%	2006-10-24	2007-10-23	0000679	D00099
☐	10	Pink Noise Signal Generator	ZHINAN	ZN1681	white noise : 20KHz~100KHz pink noise : -6dB~50KHz	2006-06-21	2007-06-20	220315	I00107
☒	11	Withstand Voltage Tester (AC/DC)	Ainuo	9604	AC/DC 0.1-5KV±3% AC：50HZ 、60HZ	2006-08-03	2007-08-02	029605246	I00100
☐	12	Earth Continuity Tester	Ainuo	9613B	5~10A±10%:0~600mΩ 11~25A±5%:0~300mΩ 26~30A±10%:0~600mΩ	2006-08-03	2007-08-02	029607220	I00102
☒	13	Insulation & Withstand Voltage Tester (AC)	Ainuo	9632A	withstand voltage: 0.1~5KV/50Hz/60Hz Insulation: 40mA/0.3~1000MΩ	2006-08-03	2007-08-02	029603229	I00101
☒	14	Push-Pull Scales	IMADA	FB-300NK	30Kg*250g±0.3	2006-10-24	2007-10-23	103813	I00104

☒	15	Push-Pull Scales	IMADA	FB-30NK	3Kg*25g±0.3	2006-10-24	2007-10-23	102465	I00103
☒	16	Digital Scale	Ai Hua	ACS-30N-JS	100g~30kg	2006-10-24	2007-10-23	330210078	I00112
☒	17	Digital Phosphor Oscilloscope	Tektronix	TDS3032B	300MHz 2.5GS/s	2006-09-22	2007-09-21	B014638	I00110
☐	18	Electronic Digital Micrometer	Guang Lu	N/A	0~25mm，0.001mm	2006-10-24	2007-10-23	20624	I00105
☐	19	Digital Caliper	MITUTOYO	CD-6"CS	0-150/0.01 mm	2006-10-20	2007-10-19	02120194	I00136
☒	20	Digital Caliper	SHANGHAI LiangJuRenJu	SD-089	0-150、0.01mm	2006-10-20	2007-10-19	224366	N/A
☐	21	Feeler Gauge	JINGHUA	N/A	0.02~1.00mm	2006-03-11	2007-03-10	201608	I00109
☐	22	Digital Power Meter	PROTRONIX	1201	2000W/300V/20A	2006-05-29	2007-05-28	908275	I00141
☐	23	Digital Power Meter	PROTRONIX	1201	2000W/300V /20A	2006-03-08	2007-03-07	908495	I00140
☐	24	Digital Power Meter	PROTRONIX	1201	2000W/300V/20A	2006-10-24	2007-10-23	201323	D000101
☒	25	Digital Power Meter	PRODIGIT	4010A	300V/20A	2006-10-24	2007-10-23	004010006	I00060
☐	26	Optical Power Meter	ADVANTEST	TQ8210	400~1650nm	2006-09-06	2007-09-05	120700127	I00116
☐	27	Optical Sensor/Block	ADVANTEST	Q82017A	400~1100nm	2006-09-06	2007-09-05	120601081	I00116
☒	28	Temp. & Humi. Chamber	TERCHY	MHG-8000NF	TEM：-70℃~150℃ UMMI：20~98%	2006-10-24	2007-10-23	E21104	I00115
☒	29	THERMO-HYGRO METER	TANITA	TT-492	T:-23℃~+43℃ H:16%~90%	2006-05-29	2007-05-28	407	N/A
☒	30	THERMO-HYGROGRAPH	Shanghai Qixiang	ZJ1-2B	-35~45℃±1℃, 30~100%RH±5%RH	2006-09-22	2007-09-21	0305080	I00154
☐	31	AC/DC Clamp Meter	PROVA	CM-01	DC/AC I：0~200A DC/AC V：400V R：0~40Ω	2006-03-08	2007-03-07	02140899	I00111
☐	32	LCR Digital Meter	Tong Hui	TH2811C	L：0.01uH~9999H C：0.01pF~19999uF R：0.1 mΩ~99.99 MΩ	2006-10-24	2007-10-23	Q2-92-212	I00113
☐	33	Torque Meter	KANON	SGK(II)	15kgf.cm	2006-10-24	2007-10-23	01F22	I00137
☒	34	Test Finger/ Test Pin/ Test Probe	Zhong Chang	N/A	IEC335,IEC60065	2006-08-03	2007-08-02	02020	I00117
☒	35	Test Pin	N/A	N/A	4x100mm	2006-03-08	2007-03-07	N/A	I00228
☒	36	Spring Impact Hammer	Zhong Chang	0.5J	W=0.5J±0.04J	2006-10-27	2007-10-26	201599	I00118
☒	37	Ball Pressure Tester	Zhong Chang	N/A	Sphere R=2.5mm G=20N	2006-10-24	2007-10-23	I00119	I00119

☒	38	Professional Stopwatch	Jingang	JG3208	F=32.768HZ	2006-03-08	2007-03-07	JG3208	I00114
☐	39	Leakage Current Tester	Simpson	228	10mA	2006-03-08	2007-03-07	3-714652	I00134
☐	40	AC Leakage Current Tester	Simpson	229-2	10mA	2006-10-24	2007-10-23	12267	I00226
☒	41	Stability Tester	Weina	WD-2	0--15°, 1rd/min	2006-10-20	2007-10-19	02120097	I00135
☒	42	10°angle gauge	Weina	N/A	10°	2006-10-20	2007-10-19	SB04002289-0009	I00126
☐	43	15°angle gauge	Weina	N/A	15°	2006-10-20	2007-10-19	SB04002289-0008	I00127
☒	44	Steel ball	Guang Ke Yuan	φ50mm	500g±25g ,φ50mm	2006-03-10	2007-03-09	N/A	I00130
☒	45	Hybrid Temperature Recorder	YOKOGAWA	DR130-00-23-1R	20 channels	2006-06-05	2007-06-04	12C412947-315	I00145
☐	46	Hybrid Temperature Recorder	YOKOGAWA	DR130-00-23-1R	20 channels	2006-10-24	2007-10-23	27DA32650-442	I00189
☐	47	Hybrid Temperature Recorder	YOKOGAWA	DR230-00-33-1R	30 channels	2006-09-22	2007-09-21	27C827440-334	I00155
☒	48	Temperature Oven	Jinzhong	JB101-2	300℃,3KW,550*550*450	2006-06-01	2007-05-31	200340	I00147
☐	49	DC Power Supply	Dong Fang	WYK-605	O/P:0-60V, 0-5A	2006-05-30	2007-05-29	305172	I00146
☐	50	HV Attenuation Probe	FLUKE	80K-40	1000:1	2006-05-26	2007-05-25	80860025	SZ000144
☐	51	Lightning Surge Generator	SANKI	LSG-65	0~10KV	2006-08-03	2007-08-02	0440307E	I00173
☐	52	Socket Torque Test Apparatus	Ceprei Calibration and Tesing Center	940B	50Ncm	2006-06-13	2007-06-12	0506Y03	F00255
☐	53	Exposure Level Tester ELT-400	Narda Safety Test Solutions	2304/03	23℃±3K (20…60)% rel. humidity	2006-03-14	2008-03-13	K-0030	I00234
☐	54	Magnetic Field Prode 100cm^2	Narda Safety Test Solutions	2300/90.10	23℃±3K (20…60)% rel. humidity	2006-03-03	2008-03-02	K-0036	I00234
☐	55	Switching Power Supply ATE	TechRed	TR-868	0-80V/0-80A/400W	2006-10-24	2007-10-23	ATE868205083	I00246
☐	56	Switching Power Supply ATE	TechRed	TR-868	0-80V/0-80A/400W	2006-10-24	2007-10-23	ATE868205084	I00245