



NOTICE OF AUTHORIZATION TO APPLY THE UL MARK
This is to replace the previous letter dated October 12, 2007

October 17, 2007

Mr. Morgan Lin
Aaeon Technology Inc
5th Fl, 135 LANE 235 PAO CHIAO RD
Hsin-Tien, Taipei, Tw
E-mail: morganlin@aaeon.com.tw

Reference: File E241995 Project 07CA50621
Product(s): UL/CUL for Medical Station, Redefining Model Name

Dear Ms. Lin,

Any information and documentation involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

UL's investigation of your product has been completed under the above project number and the subject product was determined to comply with the applicable requirements.

This letter temporarily supplements the UL Follow-Up Services Procedure and serves as authorization to apply the UL Listing Mark only at the factory under UL's Follow-Up Service Program to the subject product, which is constructed as described below:

Similar to products covered in the UL Follow-Up Services Procedure, File E241995, Volume X1.

- 1) Report Reference Number: E241995-A4-UL-1, Amendment 2, except for redefine models name from ONYX-173HTx-yz and ONYX-193HTx-yz to xxxxxONYX-173HTy-xxxxxxx and xxxxxONYX-193HTy-xxxxxxx, where x is 0-9, A-Z, "-" or blank; y is T or blank.
- 2) Report Reference Number: E241995-A5-UL-1, Amendment 2, except for redefine model name from ONYX-153HTx-yz to xxxxxONYX-153HTy-xxxxxxx, where x is 0-9, A-Z, "-" or blank; y is T or blank.
- 3) Report Reference Number: E241995-A12-UL-1, Amendment 1, except for redefine models name from xxxxxONYX-175HTy-xx-xxxx and xxxxxONYX-195HTy-xx-xxxx to xxxxxONYX-175HTy-xxxxxxx and xxxxxONYX-195HTy-xxxxxxx, where x is 0-9, A-Z, "-" or blank; y is T or blank.

To provide the manufacturer with the intended authorization to use the UL Mark, the addressee must send a copy of this Notice and all attached material to each manufacturing location as currently authorized in File E241995, Volume X1.

This authorization is effective from the date of this Notice and only for products at the indicated manufacturing locations. Records in the Follow-Up Services Procedure covering the product are now being prepared and will be sent to the indicated manufacturing locations in the near future. Please note that Follow-Up Services Procedures are sent to the manufacturers only unless the Applicant specifically requests this document.

Products that bear the UL Mark shall be identical to those that were evaluated by UL and found to comply with UL's requirements. If changes in construction are discovered, appropriate action will be taken for products not in conformance with UL's requirements and continued use of the UL Mark may be withdrawn.

Sincerely,

Jimmy Deng

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Reviewed by:

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MR. MORGAN LIN
AAEON TECHNOLOGY INC
5TH FL
135 LANE 235 PAO CHIAO RD
HSIN-TIEN
TAIPEI TAIWAN

Date: 11/15/2005
Subscriber: 368202001
File No: E241995
Project No: 05CA28431
PD No: 05023025
Type: R
PO Number: MORGAN LIN

Subject: UL Certification Documents For Applicant

The following material resulting from the investigation under the above numbers is enclosed.

<u>Document</u>	<u>Volume</u>	<u>Report Reference</u>	<u>Status</u>	<u>Date</u>
Index	XI			
UL Test Report	XI	E241995-A5-UL-1	New	09/16/05

Please file revised Authorizations, Indices, and General Inspection Instructions in place of material of like identity. New Test Reports should be filed immediately following the last Test Report. Amendments or Corrections should be filed immediately before the Test Report to which they relate. Re-issued Test Reports should be filed immediately before all material related to the Test Report that it replaces.

NOTE: Manufacturers receive only the following sub-sections of the Applicant's complete Test Report, where applicable: Cover Page, Specific Inspection Criteria (BA through BE), Specific Technical Criteria (through section CF), Critical Components table, and Enclosures containing image supplements. Manufacturers do not receive Test Report information related to standard clause compliance or testing results.

NOTE: Manufacturers that require an Initial Product Inspection (IPI) will receive their copy of the Follow-Up Service Procedure directly from their assigned Inspection Center.

SR# : 373862.
Resend documents of Project 05CA28431.

Please review this material and report any inaccuracies to SAMUEL WANG (886-2-2896-7790), referring to the above Project and/or PD Numbers.

c: TPI File

File		Volume	Page	Date:
E241995	Index	X1	1	26-Sep-05

Index

<u>Product Type</u>	<u>Model/Type Reference</u>	<u>Report Reference #</u>
Panel PC	ONYX-152X-X1, where X may be A-Z, 0-9 or blank	E241995-A2-UL-1
Medical Station	ONYX-173HTx-yz, where x may be T or blank, y may be A-Z, z may be 1 or 2.	E241995-A4-UL-1
Medical Station	ONYX-153HTx-yz, where x may be T or blank, y may be A-Z, z may be 1 or 2.	E241995-A5-UL-1

COVER PAGE FOR TEST REPORT

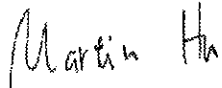
Product Category:	Medical Electrical Equipment
Product Category CCN:	PIDF, PIDF7
Test Procedure:	Classification
Product:	Medical Station
Model/Type Reference:	ONYX-153HTT-A1
Rating(s):	100-240 Vac, 2-1 A, 50-60 Hz
Standards:	UL 60601-1, First Edition (2003) CAN/CSA-C22.2 No.601.1-M90 with updates 1 and 2
Applicant Name and Address:	AAEON TECHNOLOGY INC 5TH FL 135 LANE 235 PAO CHIAO RD HSIN-TIEN TAIPEI TAIWAN
This Report includes the following parts, in addition to this cover page:	
<ol style="list-style-type: none">1. Specific Inspection Criteria2. Specific Technical Criteria3. Clause Verdicts4. Critical Components5. Test Results6. National Differences7. Enclosures	

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of Underwriters Laboratories Inc. ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

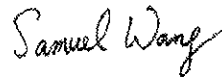
Any information and documentation provided to you involving UL Mark services are provided on behalf of Underwriters Laboratories Inc.

Test Report By:



Martin Hu
Engineer
UL International, L.L.C., Taiwan Branch

Reviewed By:



Samuel Wang
Project Engineer
UL International, L.L.C., Taiwan Branch

SPECIFIC INSPECTION CRITERIA

BA1.0	Special Instructions to UL Representative
BA1.1	N/A

BB1.0	Supporting Documentation
BB1.1	<p>The following documents located at the beginning of this Procedure supplement the requirements of this Test Report:</p> <p>A. Authorization - The Authorization page may include additional Factory Identification Code markings.</p> <p>B. Generic Inspection Instructions -</p> <ul style="list-style-type: none">i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report.ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report.iii. Part AF details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

BC1.0	Markings and instructions	
BC1.1	The following markings and instructions are provided as indicated.	
BC1.2	All clause references are from UL 60601-1, First Edition (2003).	
Standard Clause	Clause Title	Marking or Instruction Details
	US Hospital Grade Marking	"Grounding Reliability Can Only Be Achieved When The Equipment Is Connected To An Equivalent Receptacle Marked 'Hospital Only' Or 'Hospital Grade'." (located on product or power supply)
6.1e	Company identification	Classified or Recognized company's name, Trade name, Trademark or File
6.1f	Model	Model number
6.1g	Supply Connection	Voltage range, ac/dc, phases if more than single phase
6.1h	Supply Frequency	Rated frequency range in hertz
6.1j	Power Input	Amps, VA, or Watts
6.1l	IP Rating	IPX0 or ordinary equipment, optional
6.1m	Mode of Operation	Continuous
6.1n	Fuses	Ratings (current and voltage) and type. (located adjacent to fuse OR as a diagram inside enclosure)

BD1.0	Production-Line Testing Requirements			
BD1.1	Test Exemptions - The following models are exempt from the indicated test			
	Model	Grounding Continuity	Dielectric Voltage Withstand	Patient Circuit Dielectric Voltage Withstand
	N/A			
BD1.2	Solid-State Component Test Exemptions - The following solid-state components may be disconnected from the remainder of the circuitry during either Dielectric Voltage Withstand Test:			
	N/A			
BE1.0	Sample and Test Specifics for Follow-Up Tests at UL			
BE1.1	The following tests shall be conducted in accordance with the Generic Inspection Instructions			
	Model	Samples	Test	Test Details
	N/A			

SPECIFIC TECHNICAL CRITERIA

TEST REPORT UL 60601-1 Medical Electrical Equipment Part 1: General requirements for safety	
Report Reference No	E241995-A5-UL-1
Compiled by	Martin Hu
Reviewed by	Samuel Wang
Date of issue	2005-09-16
Standards	UL 60601-1, First Edition (2003) CAN/CSA-C22.2 No.601.1-M90 with updates 1 and 2
Test procedure	Classification
Non-standard test method	N/A
Test item description	Medical Station
Trademark	None
Model and/or type reference	ONYX-153HTT-A1
Rating(s)	100-240 Vac, 2-1 A, 50-60 Hz

GENERAL INFORMATION			
Test item particulars (see also clause 5):			
Classification of installation and use	Fixed		
Supply connection	Appliance coupler		
Accessories and detachable parts included in the evaluation	None		
Options included	None		
Possible test case verdicts:			
- test case does not apply to the test object	N / A		
- test object does meet the requirement	P(Pass)		
- test object does not meet the requirement	F(Fail) (acceptable only if a corresponding, less stringent national requirement is "Pass")		
Abbreviations used in the report:			
- normal condition	N.C.	- single fault condition	S.F.C.
- operational insulation	OP	- basic insulation	BI
- basic insulation between parts of opposite polarity:	BOP	- supplementary insulation	SI
- double insulation	DI	- reinforced insulation	RI
General remarks:			
- "(see Enclosure #)" refers to additional information appended to the Test Report			
- "(see appended table)" refers to a table appended to the Test Report			
- Throughout the Test Report a point is used as the decimal separator			

General Product Information:	
CA1.0	Report Summary
CA1.1	N/A
CB1.0	Product Description
CB1.1	The subject product, Medical Station, consists of a LCD Panel, DVD/CD-R/RW drive, HDD, CPU, and mainbord, enclosed in metal chassis and plastic enclosure, supplied by a built-in recognized power supply, for use in the Medical System, intended to diagnose, treat, or monitor the Patient.
CC1.0	Model Differences
CC1.1	N/A
CD1.0	Additional Information

CD1.1	N/A	
CE1.0	Technical Considerations	
CE1.1	The product was investigated to the following additional standards:	CAN/CSA C22.2 No. 601.1-M90 (R1997), CAN/CSA C22.2 No. 601.1S1-94, and CAN/CSA C22.2 No. 601.1B-98 (National Differences for Canada)
CE1.2	The product was not investigated to the following standards or clauses:	Clause 52.1, Programmable Electronic Systems (IEC 601-1-4), Clause 48, Biocompatibility (ISO 10993-1), Clause 36, Electromagnetic Compatibility (IEC 601-1-2)
CE1.3	The product is Classified only to the following hazards:	Casualty, Shock, Fire
CE1.4	The degree of protection against harmful ingress of water is:	Ordinary
CE1.6	The mode of operation is:	Continuous
CE1.7	Software is relied upon for meeting safety requirements related to mechanical, fire and shock:	No
CE1.8	The product is suitable for use in the presence of a flammable anesthetics mixture with air or oxygen or with nitrous oxide:	No

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

3	GENERAL REQUIREMENTS		Pass
3.1	Equipment when transported, stored, installed, operated in normal use and maintained according to the instructions of the manufacturer, causes no safety hazard which could reasonably be foreseen and which is not connected with its intended application in normal condition (N.C.) and in single fault condition (S.F.C.)	The equipment causes no hazards when used according the manufacturers instructions.	Pass
3.4	An alternative means of construction is used to that detailed in this standard and it can be demonstrated that an equivalent degree of safety is obtained	No alternative construction.	N/A

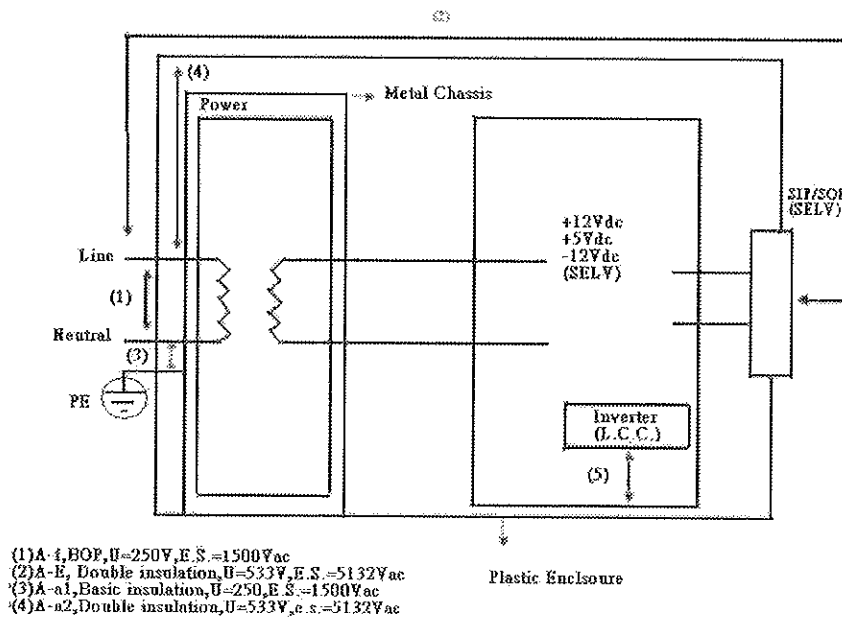
5	CLASSIFICATION		Pass
5.1	Type of protection against electric shock		Pass
	Class I equipment		Pass
	Class II equipment		N/A
	Internally powered equipment		N/A
5.2	Degree of protection against electric shock		Pass
	Type B applied part		N/A
	Type BF applied part		N/A
	Type CF applied part		N/A
	Not classified - no applied parts		Pass
5.3	Classification according to the degree of protection against ingress of water as detailed in the current edition of IEC 529 (see 6.1.1)	IPX0, Ordinary equipment.	Pass
5.4	Methods of sterilization or disinfection		N/A
5.5	Equipment not suitable for use in the presence of flammable mixtures	The equipment is not an AP or APG category equipment.	Pass
	Category AP equipment		N/A
	Category APG equipment		N/A
5.6	Mode of operation:		Pass
	-continuous operation		Pass
	-short-time operation, specified operation; period .:		-
	-intermittent operation, specified operation; rest		-

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

	period		
	-continuous operation with short-time, stated permissible loading time		-
	-continuous operation with intermittent, stated permissible loading/rest time		-

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

INSULATION DIAGRAM



IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

TABLE: to insulation diagram							
Area	Insulation type: operational / basic / supplementary / double / reinforced	Reference voltage (V)	Required creepage (mm)	Required clearance (mm)	Measured creepage (mm)	Measured clearance (mm)	Remarks
(1)	A-f, BOP	250 V	3.0	1.6	3.2	3.2	Dielectric Voltage = 1500 Vac
(2)	A-e, DI/RI	250 V	21.0	12.0	56.6	56.5	Dielectric Voltage = 4000 Vac
(3)	A-a1, BI	250 V	4.0	2.5	4.2	4.2	Dielectric Voltage = 1500 Vac
(4)	A-a2, DI/RI	533 V	16.0	9.0	56.5	56.5	Dielectric Voltage = 5132 Vac
--	LCC + Basic Insulation + PE	351 V	6.0	3.5	7.2	7.2	Basic Insulation provided by CI/Cr, and PE provided on metal enclosure.

INSULATION DIAGRAM CONVENTIONS

Insulation diagram is a graphical representation of equipment insulation barriers, protective impedance and protective earthing. If feasible, use the following conventions to generate the diagram:

1. All isolation barriers are identified by letters between separate parts of diagram, for example separate transformer windings, optocouplers, wire insulation, creepage and clearance distances.
2. Parts connected to earth with large dots are protectively earthed. Other connections to earth are functional.
3. Applied parts are extended beyond the equipment enclosure and terminated with an arrow.
4. Parts accessible to the operator only are extended outside of the enclosure, but are not terminated with an arrow.
5. Blocks containing the letter "Z" indicate protective impedance.
6. Operational Insulation (OP) - indicates insulation that may be required for function of the equipment, but is not required or relied on for compliance with the requirements of clauses 17, 20 and 57.

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

6	IDENTIFICATION, MARKING AND DOCUMENTS		Pass
6.1	Marking on the outside of equipment or equipment parts		Pass
6.1c	Markings of the specific power supply affixed	Supplied by internal power, Magic Power Technology Co., Ltd. model MPM-9561.	N/A
6.1d	If marking is not practicable due to size or nature of enclosure, information is included in accompanying documents		Pass
6.1e	Name and/or trademark of the manufacturer or supplier	See Cover Page.	Pass
6.1f	Model or type reference	See Cover Page.	Pass
6.1g	Rated supply voltages or voltage range(s)	See Cover Page.	Pass
	Number of phases.....	Single	Pass
	Type of current.....	See Cover Page.	Pass
6.1h	Rated frequency or rated frequency range(s) (Hz) :	See Cover Page.	Pass
6.1j	Rated power input (VA, W or A)	See Cover Page.	Pass
6.1k	Power output of auxiliary mains socket - outlets	No power output socket provided.	N/A
6.1l	Class II symbol	Class I Product	N/A
	Symbol for degree of protection against ingress of water provided	Optional, IPX0 or ordinary equipment.	Pass
	Symbol for protection against electric shock	No applied part.	N/A
	If equipment has more than one applied part with different degrees of protection, the relevant symbols are clearly marked on such applied parts, or on or near relevant outlets		N/A
	Symbol for protection of defibrillation-proof applied parts	No applied parts.	N/A
	Symbol 14 from Table DI for defibrillation-proof with protection partly in patient cable	No patient cable.	N/A
6.1m	Mode of operation (if no marking, suitable for continuous operation)	Optional, continuous operation.	Pass
6.1n	Types and rating of external accessible fuses.....	No external accessible fuses.	N/A
6.1p	Ratings of external output:.....	No external output.	N/A
6.1q	Symbol for physiological effect(s):		N/A
	- attention, consult accompanying documents		N/A
	- non-ionizing radiation, or symbols as adopted by		N/A

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
	ISO or IEC 417		
6.1r	Anaesthetic-proof symbol: AP or APG		N/A
6.1s	Dangerous voltage symbol	No dangerous voltage	N/A
6.1t	Special cooling requirements	No special cooling requirements	N/A
6.1u	Limited mechanical stability		N/A
6.1v	Protective packing requirement(s)	No special measures have to be taken during transport or storage.	N/A
	- Marking(s) for unpacking safety hazard(s)		N/A
	- Equipment or accessories supplied sterile, marked as sterile		N/A
6.1y	Potential equalization terminal	No such terminal provided.	N/A
	- Functional earth terminal	No such terminal provided.	N/A
6.1z	Removable protective means	No such means.	N/A
	Durability of marking test	(see appended table 6.1)	Pass
6.2	Marking on the inside of equipment or equipment parts		Pass
6.2a	Nominal voltage of permanently installed equipment	Not permanently installed equipment.	N/A
6.2b	Maximum power loading for heating elements or holders for heating lamps	No heating elements and lamps.	N/A
6.2c	Dangerous voltage symbol	No dangerous voltage presents.	N/A
6.2d	Type of battery and mode of insertion	(see appended table 56.1)	Pass
	- Marking referring to accompanying documents used for battery not intended to be changed by the operator		Pass
6.2e	Fuses accessible with a tool identified either by type and rating or by a reference to diagram		N/A
6.2f	Protective earth terminal	Marked according to Symbol 6 of table D1 .	Pass
6.2g	Functional earth terminal		N/A
6.2h	Supply neutral conductor in permanently installed equipment (N)		N/A
6.2j	Markings required in 6.2 f), h), k), and l) remain visible after connection and are not affixed to parts which have to be removed		Pass

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
	- Markings comply with IEC 445		Pass
6.2k	For permanently connected devices the supply connections are clearly marked adjacent to the terminals (or in accompanying documents for small equipment)		N/A
6.2l	Statement for suitable wiring materials at temperatures over 75°C		N/A
6.2n	Capacitors and/or circuit parts marked as required in Sub-clause 15c		N/A
6.3	Marking of controls and instruments		Pass
6.3a	Mains switch clearly identified		N/A
	- ON and OFF positions marked according to Symbols 15 and 16 of table D1 or indicated by an adjacent indicator light	Marked according to Symbols 15 and 16. The power supply cord is the mains disconnect indicated in accompanying documents.	Pass
6.3b	Indication of different positions of control devices and switches		N/A
6.3c	Indication of the direction in which the magnitude of the function changes, or an indicating device	No Safety Hazard caused during function changeing.	Pass
6.3f	The functions of operator controls and indicators are identified		Pass
6.3g	Numeric indications of parameters are in SI units except for units listed in Am. 2	No numeric indication used for control.	N/A
6.4	Symbols		Pass
	Used symbols comply with Appendix D or IEC 417 and/or IEC 878 or ISO publications (if applicable)		Pass
6.5	Colors of the insulation of conductors		Pass
6.5a	Protective earth conductor has green/yellow insulation	Protective earth conductor had been evaluated as part of the power supply.	Pass
6.5b	All insulations of internal protective earth conductors are green/yellow at least at their terminations		N/A
6.5c	Only protective or functional earthing, or potential equalization conductors are green/yellow	Evaluated as part of the power supply.	Pass
6.5d	Color of neutral conductor	Evaluated as part of the power supply.	Pass
6.5e	Colors of phase conductor(s)		N/A

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
	- Compliance with IEC 227 and IEC 245	Evaluated as part of the power supply.	Pass
6.5f	Additional protective earthing in multi-conductor, cords are marked green/yellow at the ends of the additional conductors		N/A
6.6	Medical gas cylinders and connections		N/A
6.6a	In accordance with ISO ISO/R 32		N/A
6.6b	Identification of connection point		N/A
6.7	Indicator lights and push-buttons		N/A
6.7a	Red indicator lights used exclusively to indicate a warning of danger and/or a need for urgent action		N/A
	- Yellow used to indicate caution or attention required		N/A
	- Green used to indicate ready for action		N/A
6.7b	Color red used only for push-buttons by which a function is interrupted in case of emergency		N/A
6.8	ACCOMPANYING DOCUMENTS		Pass
6.8.1	Equipment accompanied by documents containing at least instructions for use, a technical description and an address to which the user can refer	See Enclosure 6-01 for details.	Pass
	Classifications specified in Clause 5 included in both the instructions for use and the technical description	See Enclosure 6-01 for details.	Pass
	Markings specified in Sub-clause 6.1 included in the accompanying documents if they have not been permanently affixed to equipment		Pass
	Warning statements and the explanation of warning symbols provided in the accompanying documents	See Enclosure 6-01 for details.	Pass
6.8.2	Instructions for use		Pass
6.8.2a	General information provided in instructions for use	See Enclosure 6-01 for details.	Pass
	- state the function and intended application of the equipment	See Enclosure 6-01 for details.	Pass
	- include an explanation of: the function of controls, displays and signals	See Enclosure 6-01 for details.	Pass
	- the sequence of operation	See Enclosure 6-01 for details.	Pass
	- the connection and disconnection of detachable parts and accessories	See Enclosure 6-01 for details.	Pass
	- the replacement of material which is consumed		N/A

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
	during operation		
	- information regarding potential electromagnetic or other interference and advice regarding avoidance		Pass
	- include: indications of recognized accessories, detachable parts and materials, if the use of other parts or materials can degrade minimum safety		N/A
	- instructions concerning cleaning, preventive inspection and maintenance to be performed including the frequency of such maintenance		N/A
	General information provided in instructions:		Pass
	- information for the safe performance of routine maintenance	See Enclosure 6-01 for details.	Pass
	- parts on which preventive inspection and maintenance shall be performed by other persons including the periods to be applied	See Enclosure 6-01 for details.	Pass
	- explanation of figures, symbols, warning statements and abbreviations on the equipment	See Enclosure 6-01 for details.	Pass
6.8.2c	Signal output or signal input parts intended only for connection to specified equipment described	See Enclosure 6-01 for details.	Pass
6.8.2d	Details about acceptable cleaning, disinfection or sterilization methods included		Pass
6.8.2e	Warning statement for mains operated equipment with additional power source		N/A
6.8.2f	A warning to remove primary batteries if equipment is not likely to be used for some time		N/A
6.8.2g	Instructions to ensure safe use and adequate maintenance of rechargeable batteries		N/A
6.8.2h	Identification of specified external power supplies or battery chargers necessary to ensure compliance with the requirements of IEC 601-1		N/A
6.8.2j	Identification of any risks associated with the disposal of waste products, residues, etc.	See "A.3 Computer Recycling" in Enclosure 6-01 for details.	Pass
	- Advice in minimizing these risks	See "A.3 Computer Recycling" in Enclosure 6-01 for details.	Pass
6.8.3	Technical description		Pass
6.8.3a	All characteristics essential for safe operation provided		Pass
6.8.3b	Required type and rating of fuses utilized in the mains supply circuit external to permanently installed equipment		N/A

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

	- Instructions for replacement of interchangeable and/or detachable parts which are subject to deterioration during normal use		N/A
6.8.3c	Instructions or reference information for repair of equipment parts designated by the manufacturer as repairable provided	See Enclosure 6-01 for details.	Pass
6.8.3d	Environmental conditions for transport and storage specified in accompanying documents and marked on packaging	Storage and transportation: Temperature: -20 °C ~ 60 °C (-4 °F ~ 140 °F).	Pass

7	POWER INPUT		Pass
	Power Input Measurements	See Table 7.	Pass

10	ENVIRONMENTAL CONDITIONS		Pass
10.1	Equipment is capable while packed for transport or storage of being exposed to the conditions stated by the manufacturer	Storage and transportation: Temperature: -20 °C ~ 60 °C (-4 °F ~ 140 °F), Humidity: 5% ~ 90%	Pass
10.2.2a	Rated voltage not exceeding 250 V for hand-held equipment	Not hand-held equipment.	N/A
	Rated voltage not exceeding 250 V d.c. or single-phase a.c. or 500 V polyphase a.c. for equipment up to 4kVA	100-240 Vac, single-phase	Pass
	Rated voltage not exceeding 500 V for all other equipment		N/A
	Rated input frequency not more than 1kHz	50-60 Hz	Pass
10.2.2b	Internal replaceable electrical power source specified		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

14	REQUIREMENTS RELATED TO CLASSIFICATION		Pass
14.4a	Class I and Class II equipment in addition to basic insulation provided with an additional protection		Pass
14.4b	Equipment supplied from external dc source of reverse polarity results in no safety hazard		N/A
14.5a	Dual classification for internally powered equipment with a means of connection to supply mains	Class I only.	N/A
14.5b	Internally powered equipment complies with requirements for Class I or Class II equipment while connected to supply mains, and with requirements for internally powered equipment when not connected	Class I only.	N/A
14.6c	Applied parts intended for direct cardiac application are of type CF	No applied parts.	N/A

15	LIMITATION OF VOLTAGE AND/OR ENERGY		Pass
15b	Voltage measured one sec after disconnection of the mains plug does not exceed 60V	(see appended table 15b)	Pass
15c	For live parts accessible after equipment has been de-energized the residual voltage does not exceed 60 V nor residual energy exceed 2 mJ	No such parts.	N/A
	Marking provided for manual discharging	No components provided for manual discharging.	N/A

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16	ENCLOSURES AND PROTECTIVE COVERS		Pass
16a	Equipment enclosed to protect against contact with live parts, and with parts which can become live (finger, pin, hook test)		N/A
	Insertion or removal of lamps - protection against contact with live parts provided		N/A
16b	Opening in a top cover positioned that accessibility of live parts by a test rod is prevented	(see appended table 56.1)	Pass
16c	Conductive parts accessible after the removal of handles, knobs, levers		N/A
	- have a resistance of not more than 0.2 Ohm		N/A
	- separated from live parts by one of the means described in Sub-clause 17g		N/A
16d	Parts with voltage exceeding 25V a.c. or 60V d.c. which cannot be disconnected by external mains switch or plug protected against contact		N/A
16e	Removable enclosures protecting against contact with live parts		Pass
	- Removal possible only with the aid of a tool		Pass
	- Use of automatic device making parts not live when the enclosure is opened or removed		N/A
	- Exception 16e applied to the following parts.....:		N/A
16f	Openings for the adjustment of controls using a tool. The tool not able to touch basic insulation or any live parts		Pass

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17	SEPARATION		Pass
17a	Separation method of the applied part from live parts:		N/A
	1) basic insulation: applied part earthed		N/A
	2) by protectively earthed conductive part (e.g. screen)		N/A
	3) by separate earthed intermediate circuit limiting leakage current to applied part in event of insulation failure		N/A
	4) by double or reinforced insulation		N/A
	5) by protective impedances limiting current to applied part		N/A
	- Additional leakage current test in single fault conditions		N/A
17c	There is no conductive connection between applied parts and accessible conductive parts which are not protectively earthed	No applied part.	N/A
17d	Supplementary insulation between hand-held flexible shafts and motor shafts (Class I)	No such parts.	N/A
17g	Separation method of accessible parts other than applied parts from live parts:		Pass
	1) basic insulation: accessible part earthed	The Accessible Part, protected earthed metal Enclosure, is separated from Live parts by Basic Insulation.	Pass
	2) by protectively earthed conductive part (e.g. screen)		N/A
	3) by separate earthed intermediate circuit limiting leakage current to enclosure in event of insulation failure		N/A
	4) by double or reinforced insulation	Evaluated as part of the power supply.	Pass
	5) by protective impedances limiting current to accessible part		N/A
	- Additional leakage current test in single fault conditions	Evaluated as part of the power supply.	Pass
17h	Arrangements used to isolate defibrillation-proof applied parts so designed that:		N/A
	- no hazardous electrical energies appear during a discharge of a cardiac defibrillator		N/A
	- after exposure to the defibrillation voltage, the equipment continues to perform its intended function		N/A

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18	PROTECTIVE EARTHING, FUNCTIONAL EARTHING AND POTENTIAL EQUALIZATION		Pass
18a	Accessible parts of Class I equipment separated from live parts by basic insulation connected to the protective earth terminal	The Accessible Part, protected earthed metal Enclosure, is separated from Live parts by Basic Insulation.	Pass
18b	Protective earth terminals suitable for connection to the protective earth conductor		Pass
18e	Potential equalization conductor		N/A
	- Readily accessible		N/A
	- Accidental disconnection prevented in normal use		N/A
	- Conductor detachable without the use of a tool		N/A
	- Power supply cord does not incorporate a potential equalization conductor		N/A
	- Connection means marked with Symbol 9, Table DI		N/A
18f	For equipment without power supply cord, impedance between protective earth terminal and accessible metal part $\leq 0.1 \text{ Ohm}$		N/A
	- For equipment with an appliance inlet, impedance between protective earth contact and any accessible metal part $\leq 0.1 \text{ Ohm}$	(see appended table 18)	Pass
	- For equipment with a non-detachable power supply cord, impedance between protective earth pin in mains plug and accessible metal part $\leq 0.2 \text{ Ohm}$		N/A
18g	If the impedance of protective earth connections other than in Cl. 18 f) exceeds 0.1 Ohm , the allowable value of the enclosure leakage current is not exceeded in single fault condition		N/A
18k	Functional earth terminal not used to provide protective earthing		N/A
18l	Class II equipment with isolated internal screens		N/A
	- insulation of screens and all internal wiring connected to them is double insulation or reinforced insulation		N/A
	- functional earth terminal clearly marked		N/A
	- explanation of functional earth terminal provided in the accompanying documents		N/A

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19	CONTINUOUS LEAKAGE CURRENTS AND PATIENT AUXILIARY CURRENTS		Pass
19.1b	Leakage currents	All combination of the conditions considered.	Pass
	- earth leakage current	(see appended table 19)	Pass
	- enclosure leakage current	(see appended table 19)	Pass
	- patient leakage current		N/A
	- patient auxiliary current	No applied part.	N/A

20	DIELECTRIC STRENGTH		Pass
	Overall compliance with Clause 20	(see appended table 20)	Pass

21	MECHANICAL STRENGTH		Pass
21a	Sufficient rigidity of an enclosure tested by: force of 45 N	(see appended table 21)	Pass
21b	Sufficient strength of an enclosure tested by: impact hammer	(see appended table 21)	Pass
21c	On portable equipment carrying handles or grips withstand the requirements of the loading test	No handles provided.	N/A
21.3	No damage to parts of patient support and/or immobilization system after the loading test	No patient support and/or immobilization system.	N/A
21.5	Hand held equipment or equipment parts are safe after drop test	Not hand-held equipment.	N/A
21.6	Portable and mobile equipment is able to withstand rough handling		N/A

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22	MOVING PARTS		N/A
22.2a	Moving parts of a transportable equipment are provided with guards which form an integral part of the equipment		N/A
22.2b	Moving parts of a stationary equipment are provided with similar guards as above, unless it is evident that equivalent protection is separately provided during installation		N/A
22.3	Cords (ropes), chains and bands are provided with guides to prevent them from running off or from jumping out of their guiding devices		N/A
	Guides or other safeguards are removable only with a tool		N/A
22.4	Dangerous movements of equipment parts, which may cause physical injury to the patient, are possible only by the continuous activation by the operator		N/A
22.6	Parts of equipment subject to mechanical wear are accessible for inspection		N/A
22.7	Means provided for emergency switching of an electrically produced mechanical movement which could cause a safety hazard		N/A
	The means for emergency switching is readily identifiable and accessible and does not introduce a further safety hazard		N/A
	Devices for emergency stopping able to break the full load current of the relevant circuit, taking into account possible stalled motor currents		N/A
	Means for stopping of movements operate as a result of one single action		N/A

23	SURFACES, CORNERS AND EDGES		Pass
	Rough surfaces, sharp corners and edges which may cause injury or damage avoided or covered	The edges are well rounded.	Pass

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24	STABILITY IN NORMAL USE (see appended table 24)		N/A
24.1	Equipment does not overbalance during normal use when tilted through an angle of 10°		N/A
24.3	Equipment overbalances when tilted through an angle of 10°		N/A
	- does not overbalance when tilted through an angle of 5° in any position excluding transport		N/A
	- carry a warning notice stating that transport should only be undertaken in a certain position		N/A
	- in the position specified for transport does not overbalance when tilted to an angle of 10°		N/A
24.6a	Equipment or its parts with a mass of more than 20 kg is provided with:		N/A
	- suitable handling devices (grips etc.), or		N/A
	- instructions for lifting and handling during assembly		N/A
24.6b	On portable equipment with a mass of more than 20 kg carrying handle(s) is (are) so situated that equipment may be carried by 2 or more persons	Mass is less than 20 kg.	N/A

25	EXPELLED PARTS		N/A
25.1	Protective means are provided where expelled parts of the equipment could be a hazard		N/A
25.2	Display vacuum tubes with a face dimension exceeding 16 cm are provided with adequate protection against implosion		N/A

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28	SUSPENDED MASSES		N/A
28.3	Suspension system with safety device		N/A
	Safety device provided where the integrity of a suspension depends on parts which may have hidden defects, or on parts having safety factors not complying with Sub-clause 28.4		N/A
	Safety device has safety factors complying with Sub-clause 28.4.2		N/A
	Clear indication to the operator that the safety device has been activated after failure of suspension means		N/A
28.4	Suspension systems of metal without safety devices		N/A
	1) Total load does not exceed the safe working load		N/A
	2) Safety factors not less than 4 where it is unlikely that supporting characteristics will be impaired		N/A
	3) Safety factors not less than 8 where impairment is expected		N/A
	4) Safety factors multiplied by 1.5 for metal having an elongation at break of less than 5%		N/A
	5) Sheaves, sprockets, band wheels and guides so constructed that the safety factors maintained till replacement		N/A

29	X-RADIATION		N/A
29.2	EQUIPMENT not intended to produce X-radiation produces an exposure $\leq 130 \text{ nC/kg}$ (0.5 mR)		N/A

36	ELECTROMAGNETIC COMPATIBILITY		N/A
	Equipment complies with IEC 601-1-2	Compliance documented by the manufacturer.	N/A

37	COMMON REQUIREMENTS FOR CATEGORY AP AND CATEGORY APG EQUIPMENT		N/A
	Requirements for category AP and APG equipment (Cl. 37 - 41)	Not category AP or APG equipment.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

42	EXCESSIVE TEMPERATURES		Pass
42.1	Equipment does not attain temperatures exceeding the values given in Table Xa over the range of ambient temperatures per Clause 10.2.1	(see appended table 42)	Pass
42.2	Equipment does not attain temperatures exceeding the values given in Table Xb at 25°C ambient	(see appended table 42)	Pass
42.3	Applied parts not intended to supply heat have surface temperatures not exceeding 41°C	No applied part.	N/A
42.5	Guards to prevent contact with hot surfaces removable only with a tool	No hot accessible surface.	N/A

43	FIRE PREVENTION		Pass
	Strength and rigidity necessary to avoid a fire hazard	The equipment is well constructed with regard to avoid fire hazard.	Pass

44	OVERFLOW, SPILLAGE, LEAKAGE, HUMIDITY, INGRESS OF LIQUIDS, CLEANING, STERILIZATION AND DISINFECTION		Pass
44.2	Equipment contain a liquid reservoir:		N/A
	- the equipment is electrically safe after 15% overfill steadily over a period of 1 min		N/A
	- transportable equipment is electrically safe after additionally having been tilted through an angle of 15° in the least favorable direction(s) (if necessary with refilling)		N/A
44.3	Electrical properties of the equipment do not change in connection of spillage test (200 ml of water)		N/A
44.4	Liquid which might escape in a single fault condition does not wet parts which may cause a safety hazard		N/A
44.5	Equipment sufficiently protected against the effects of humidity	(see appended table 44)	Pass
44.6	Enclosures designed to give a protection against harmful ingress of water classified according to IEC Publication 529		N/A
44.7	Equipment capable of withstanding cleaning, sterilization or disinfection without deterioration of safety provisions		Pass

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Clause	Requirement + Test	Result - Remark	Verdict

45	PRESSURE VESSELS AND PARTS SUBJECT TO PRESSURE		N/A
45.2	Pressure vessel with pressure volume greater than 200 kPa x l and pressure greater than 50 kPa withstand the hydraulic test pressure		N/A
45.3	Maximum pressure does not exceed the maximum permissible working pressure for individual parts		N/A
45.7	Unless excessive pressure can not occur, pressure-relief device provided		N/A
45.7a	a) Pressure-relief device connected as close as possible to the pressure vessel		N/A
45.7b	b) Readily accessible for inspection		N/A
45.7c	c) Not capable of being adjusted or rendered inoperative without a tool		N/A
45.7d	d) Discharge opening located that the released material is not directed towards person		N/A
45.7e	e) Discharge opening located that operation will not deposit material which may cause a safety hazard		N/A
45.7f	f) Adequate discharge capacity to ensure pressure does not exceed the maximum permissible working pressure		N/A
45.7g	g) No shut-off valve between a pressure-relief device and the parts intended to be protected		N/A
45.7h	h) Minimum number of cycles of operation: 100.000		N/A

48	BIOCOMPATIBILITY		N/A
	Parts of equipment and accessories intended to come into contact with biological tissues, cells or body fluids are evaluated in accordance with ISO 10993-1		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

49	INTERRUPTION OF THE POWER SUPPLY		Pass
49.1	Thermal cut-outs and over-current releases with automatic resetting not used if they may cause a safety hazard	No such devices.	N/A
49.2	Interruption and restoration of power supply does not result in a safety hazard other than interruption of intended function		Pass
49.3	Means are provided for removal of mechanical constraints on patient in case of a supply mains failure		N/A

51	PROTECTION AGAINST HAZARDOUS OUTPUT		N/A
51.4	Equipment furnishing both low-intensity and high-intensity outputs provided with means minimizing possibility of a high intensity output being selected accidentally		N/A

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52	ABNORMAL OPERATION AND FAULT CONDITIONS		Pass
52.1	Equipment is so designed and manufactured that even in single fault condition no safety hazard as described under 52.4 exists (see 3.1 and Cl. 13)	Both normal and single fault condition considered.	Pass
	The safety of equipment incorporating programmable electronic systems is checked by applying IEC 601-1-4		N/A
52.5.2	Failure of thermostats presents no safety hazards	No thermostats provided.	N/A
52.5.3	Short-circuiting of either part of double insulation presents no safety hazard	Evaluated as part of the power supply.	Pass
52.5.5	Impairment of cooling: temperatures not exceeding 1.7 times the values of Clause 42 minus 17.5°C	See table 52 for details.	Pass
52.5.6	Locking of moving parts presents no safety hazard	(see appended table 52)	Pass
52.5.7	Interruption and short-circuiting of motor capacitors presents no safety hazard	No motor provided.	N/A
52.5.8	Duration of motors locked rotor test in compliance with Cl. 52.5.8	No motor provided.	N/A
52.5.9	Failure of one component at a time presents no safety hazard		Pass
52.5.10	Overload of heating elements presents no safety hazard	Evaluated as part of the power supply.	Pass
52.5.10f	Motors intended to be remotely controlled, automatically controlled, or liable to be operated continuously provided with running overload protection	No motor provided.	N/A
52.5.10h	Equipment with three-phase motors can safely operate with one phase disconnected	No motor provided.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

56	COMPONENTS AND GENERAL ASSEMBLY		Pass
	List of critical components	(see appended table 56.1)	Pass
56.1b	Ratings of components not in conflict with the conditions of use in equipment		Pass
	Ratings of mains components are identified	Evaluated as part of the power supply.	Pass
56.1d	Components, movements of which could result in a safety hazard mounted securely	The movement of components is prevented.	Pass
56.1f	Conductors and connectors secured and/or insulated to prevent accidental detachment resulting in a safety hazard		Pass
56.3a	Connectors provide separation required by Sub-clause 17g		Pass
	Plugs for connection of patient circuit leads can not be connected to other outlets on the same equipment	No patient circuit.	N/A
	Medical gas connections not interchangeable	No medical gas connections.	N/A
56.3b	Accessible metal parts can not become live when detachable interconnection cord between different parts of equipment is loosened or broken		Pass
56.3c	Leads with conductive connection to a patient are constructed such that no conductive connection remote from the patient can contact earth or hazardous voltages.		N/A
56.4	Connections of capacitors		Pass
	Not connected between live parts and non-protectively earthed accessible parts	Evaluated as part of the power supply.	Pass
	If connected between mains part and protectively earthed metal parts comply with: IEC Publication 384-14	Evaluated as part of the power supply.	Pass
	Enclosure of capacitors connected to mains part and providing only basic insulation, is not secured to non-protectively earthed metal parts	Evaluated as part of the power supply.	Pass
	Capacitors or other spark-suppression devices are not connected between contacts of thermal cut-outs	Evaluated as part of the power supply.	Pass
56.5	Protective devices which cause disconnection from the supply mains by producing a short-circuit not provided in equipment		Pass
56.6	Temperature and overload control devices		Pass

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Clause	Requirement + Test	Result - Remark	Verdict
56.6a	Thermal cut-outs which have to be reset by a soldering not fitted in equipment		N/A
	Thermal safety devices provided where necessary to prevent operating temperatures exceeding the limits	Thermal safety devices not provided.	N/A
	Audible warning provided where the loss of function caused by operation of a thermal cut-out presents a safety hazard	No audible warning provided.	N/A
	Self-resetting thermal cut-outs and self-resetting over-current releases operated 200 times		N/A
	Non-self resetting over-current releases operated 10 times	No such device provided.	N/A
	Independent non-self-resetting thermal cut-out provided where a failure of a thermostat could constitute a safety hazard		N/A
56.6b	Thermostats with varying temperature settings clearly indicated	No thermostats provided.	N/A
	Operating temperature of thermal cut-outs indicated		N/A
56.7	Batteries		Pass
56.7a	Battery compartments:		Pass
	- adequately ventilated		Pass
	- accidental short-circuiting is prevented	See Table Additional Test for details.	Pass
56.7b	Incorrect polarity of connection prevented	See Table Additional Test for details.	Pass
56.8	Indicators - unless indication provided by other means (from the normal operation position), indicator lights are used (color see 6.7):		Pass
	- to indicate that equipment is energized	See Sub-clause 6.3a and 6.7.	Pass
	- to indicate the operation of non-luminous heaters if a safety hazard could result		N/A
	- to indicate when output exists if a safety hazard could result		N/A
	- charging mode indicator provided		N/A
56.10	Actuating parts of controls		N/A
56.10b	Actuating parts are adequately secured to prevent them from working loose during normal use		N/A
	Controls are secured to prevent the movement relative to scale marking (safety related only)		N/A

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	Detachable indicating devices are prevented from incorrect connection without the use of tool		N/A
56.10c	Stops are provided on rotating controls:		N/A
	- to prevent an unexpected change from maximum to minimum or vice versa where this could produce a safety hazard		N/A
	- to prevent damage to wiring		N/A
56.11	Cord-connected hand-held and foot-operated control devices		N/A
56.11a	Contain voltages not exceeding 25 V a.c. or 60 V d.c. and isolated from the mains part by Cl. 17g		N/A
56.11b	Hand-held control devices comply with the requirement and test of Sub-clause 21.5		N/A
	- Foot-operated control devices designed to support the weight of an adult human being		N/A
56.11c	Devices not change their setting when inadvertently placed		N/A
56.11d	Foot-operated control devices are at least IPX 1		N/A
	- For surgical use, electrical switching parts are IPX 8		N/A
56.11e	Adequate strain relief at the cord entry provided		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
57	MAINS PARTS, COMPONENTS AND LAYOUT		Pass
57.1	Isolation from supply mains		Pass
57.1a	Equipment provides means to isolate its circuits electrically from the supply mains on all poles simultaneously	Evaluated as part of the power supply.	Pass
	Means for isolation incorporated in equipment or, if external, specified in the accompanying documents		N/A
57.1d	Switches used to comply with Sub-clause 57.1a comply with the creepage distances and air clearances as specified in IEC Publication 328		Pass
57.1f	Mains switches not incorporated in a power supply cord		Pass
57.1h	Appliance couplers and flexible cords with mains plugs provide compliance with Sub-clause 57.1a		Pass
57.1m	Fuses and semiconductor devices not used as isolating devices	Evaluated as part of the power supply.	Pass
57.2	Mains connectors and appliance inlets		Pass
57.2e	Auxiliary mains socket-outlets on non-permanently installed equipment of a type that cannot accept a mains plug		N/A
57.2g	Unless functional earth needs to be provided, Class I appliance inlet is not used in Class II equipment	Class I equipment with Class I appliance inlet.	N/A
57.3	Power supply cords		Pass
57.3a	Not more than one connection to a particular supply mains	Only one connection to a particular supply mains.	Pass
	If alternative supply allowed, no safety hazards when more than one connection is made simultaneously	No alternative supply allowed.	N/A
	The mains plug has only one power supply cord		Pass
	Non-permanently connected equipment provided with power supply cord or appliance inlet	Appliance Inlet provided.	Pass
57.3b	Power supply cords sufficiently robust to comply with the requirements of IEC 227, designation 53 and IEC 245, designation 53	UL Listed power supply cord optional provided.	Pass
	Polyvinyl chloride insulated power supply cords not used for equipment having external metal parts with a temperature exceeding 75°C		N/A
57.3c	Nominal cross-sectional area of conductors of power supply cords not less than in Table XV		Pass

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57.3d	Stranded conductors not soldered if fixed by any clamping means		Pass
57.4	Connection of power supply cords		Pass
57.4a	Cord anchorages		N/A
	Equipment provided with power supply cords has cord anchorages such that the conductors are relieved from strain, including twisting		N/A
	Tying the cord into a knot or tying the ends with string not used		N/A
	Cord anchorages made of insulating material or metal insulated from unearthed accessible metal parts by supplementary insulation		N/A
	Cord anchorages made of metal provided with an insulating lining		N/A
	Clamping screws do not bear directly on the cord insulation		N/A
	Screws associated with cable replacement are not used to secure other components		N/A
	Conductors of the power supply cord arranged that the protective earth conductor is not subject to strain as long as the phase conductors are in contact with their terminals		N/A
57.4b	Power supply cord protected against excessive bending	UL Listed power supply cord optional provided.	Pass
57.4c	Adequate space inside equipment to allow the supply cable conductors to be introduced and connected	Evaluated as part of the power supply.	Pass
57.5	Mains terminal devices and wiring of mains part		Pass
	Mains connected equipment other than those with a detachable supply cord provided with mains terminals, where connections are made with screws, nuts or equally effective methods	Detachable supply cord used.	N/A
	If a conductor breaks away, barriers are provided such that creepage distances and air clearances cannot be reduced		N/A
	Screws and nuts which clamp external conductors not serve to fix any other component		N/A
57.5b	Terminals closely grouped with any protective earth terminal		Pass
	Mains terminal devices accessible only with use of a tool		Pass

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	Mains terminal devices located or shielded that, should a wire of a stranded conductor escape when the conductors are fitted, there is no risk of accidental contact		Pass
57.5c	Internal wiring not subjected to stress when the means for clamping the conductors are tightened or loosened		Pass
57.5d	Cord terminals not require special preparation of the conductor		N/A
57.6	Mains fuses and overcurrent releases		Pass
	Fuses or over-current releases provided accordingly for Class I and Class II	Class I, fuses were provided in each supply leads and evaluated as part of the power supply.	Pass
	Current rating of mains fuses and over-current releases such that they reliably carry the normal operating current		Pass
	Protective earth conductor not fused	Evaluated as part of the power supply and no additional fuses employed in end Product.	Pass
	Neutral conductor not fused for permanently installed equipment	Portable equipment.	N/A
57.8	Wiring of the mains part		Pass
57.8a	Individual conductor in the mains part with insulation not at least electrically equivalent to that of the individual conductors of flexible supply cords complying with IEC Publications 227 or 245, treated as bare conductor		Pass
57.8b	Cross-sectional area of conductors up to protective device not less than the minimum required for the power supply cord		Pass
	Cross-sectional area of other wiring and the sizes of tracks on printed wiring circuits sufficient to prevent any fire hazard		Pass
57.9	Mains supply transformers		Pass
57.9.1	Overheating	Evaluated as part of the power supply.	Pass
	External to the transformer protective devices connected in such a way that failure of any component cannot render the protective devices inoperative	Evaluated as part of the power supply.	Pass
57.9.1a	Short-circuit of secondary windings not caused	Evaluated as part of the power	Pass

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	excessive temperature	supply.	
57.9.1b	Overload of secondary windings not caused excessive temperature	Evaluated as part of the power supply.	Pass
57.9.2	The dielectric strength of the electrical insulation of a mains supply transformer such that it passes tests	Evaluated as part of the power supply.	N/A
57.9.4	Construction		Pass
57.9.4a	Separation of primary and secondary windings		Pass
	- separate bobbins or formers		N/A
	- one bobbin with insulating partition		N/A
	- one bobbin with concentric windings and having copper screen with a thickness of not less than 0.13 mm		N/A
	- concentrically wound on one bobbin with windings separated by double insulation	Evaluated as part of the power supply.	Pass
57.9.4c	Means provided to prevent displacement of end turns	Evaluated as part of the power supply.	Pass
57.9.4d	Insulated overlap of not less than 3 mm if a protective earthed screen has only one turn	Evaluated as part of the power supply.	N/A
57.9.4e	Insulation between the primary and secondary in transformers with double insulation		Pass
	- 1 insulation layer having a thickness of at least 1 mm		N/A
	- at least 2 insulation layers with a total thickness of at least 0.3 mm	Evaluated as part of the power supply.	Pass
	- three layers provided that each combination of two layers can withstand the dielectric strength test for reinforced insulation	Evaluated as part of the power supply.	Pass
57.9.4g	Exit of the wires of toroidal transformers provided with double sleeving complying with requirements for double insulation and having total thickness at least 0.3 mm extending at least 20 mm outside the winding		N/A
57.10	Creepage distances and air clearances		Pass
57.10a	Values: compliance with at least the values of Table XVI	Biult-in SPS had been evaluated as part of the power supply. The clearance and creepage of Panel PC comply with at least the values of Table XVI.	Pass

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
	Creepage distances for slot insulation of motors at least 50% of the specified values	No motor provided.	N/A
57.10b	Minimum creepage distances and air clearances in the mains part between parts of opposite polarity not required if short-circuiting does not produce a safety hazard	Built-in SPS had been evaluated as part of the power supply. The clearance and creepage of Panel PC comply with at least the values of Table XVI.	Pass
57.10c	Creepage distances or clearances of at least 4 mm are maintained between defibrillation-proof applied parts and other parts	No applied parts.	N/A

58	PROTECTIVE EARTHING - TERMINALS AND CONNECTIONS		Pass
58.1	Clamping means of the protective earth terminal		Pass
	Not be able to loosen without the aid of a tool	Evaluated as part of the power supply. The PE terminal is not able to loosen without the aid of a tool.	Pass
	Screws for internal earth connections are covered or protected against loosening from outside	Screws for internal protective earthing connections are completely covered or protected against inadvertent loosening from the outside of Equipment.	Pass
58.7	Earth pin of the appliance inlet regarded as the protective earth terminal	Evaluated as part of the power supply.	Pass
58.8	The protective earth terminal not used for the mechanical connection or the fixing of any component not related to earthing	Evaluated as part of the power supply.	Pass
58.9	Where the protective earth connections are made via a plug or socket device the protective earth connection is made before and interrupted after the supply connections during connection and interrupting	Evaluated as part of the power supply.	Pass

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
59	CONSTRUCTION AND LAYOUT		Pass
59.1	Internal wiring		Pass
59.1a	Cables and wiring protected against contact with a moving part		Pass
	Wiring having basic insulation only protected by additional fixed sleeving		Pass
	Components are not likely to be damaged in the normal assembly or replacement of covers		Pass
59.1b	Movable leads are not bent around a radius of less than five times the outer diameter of the lead		Pass
59.1c	Insulating sleeving adequately secured		Pass
	If the sheath of a flexible cable or cord is used as supplementary insulation it complies with requirements of IEC 227 and IEC 245 and dielectric test	Evaluated as part of the power supply.	Pass
	Conductors subjected to temperatures exceeding 70°C have an insulation of heat-resistant material	Evaluated as part of the power supply.	Pass
59.1d	Aluminum wires of less than 16 mm ² cross-section not used		N/A
59.1f	Connecting cords between equipment parts considered as belonging to the equipment		Pass
59.2	Insulation		Pass
59.2b	Mechanical strength and resistance to heat and fires retained by all types of insulation		Pass
59.2c	Insulation not likely to be impaired by deposition of dirt or by dust resulting from wear of parts		Pass
	Parts of rubber resistant to ageing	No rubber provided.	N/A
59.3	Excessive current and voltage protection		Pass
	Internal electrical power source provided with device for protection against fire hazard	Fuse was provided by built-in recognized power supply.	Pass
	Fuse elements replaceable without opening the enclosure fully enclosed in a fuseholder		Pass
	Protective devices between an isolated applied part and the body of the equipment do not operate below 500 V r.m.s.	No applied part.	N/A
59.4	Oil containers		N/A
	Oil containers adequately sealed		N/A
	Container allow for the expansion of the oil		N/A

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
	Oil containers in mobile equipment sealed to prevent the loss of oil during transport		N/A
	Partially sealed oil-filled equipment or equipment parts provided with means for checking the oil level		N/A

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

6.1	TABLE: marking durability		Pass
Marking tested		Remarks	
--		--	
supplementary information:			
Evaluated under previous Product with the same Label source. See E241995-A2 for details.			

7	TABLE: power input					Pass
Operating condition		Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Remarks
--		Unit: V	Unit: Hz	Unit: A	Unit: W	Rating Current
Max normal Load/--		90	50	0.823	74.0	--
Max normal Load/--		90	60	0.823	73.6	--
Max normal Load/2A		100	50	0.731	73.3	Pass
Max normal Load/2A		100	60	0.731	73.1	Pass
Max normal Load/1A		240	50	0.326	71.7	Pass
Max normal Load/1A		240	60	0.332	71.8	Pass
Max normal Load/--		264	50	0.306	71.6	--
Max normal Load/--		264	60	0.316	71.8	--
supplementary information:						
Maximum normal load was defined as follows: Cross reading and writing data between HDD, and CD-ROM in maximum speed, LCD with maximum brightness and contract, connect with 7 USB ports with dummy load 0.5 A.						

15b	TABLE: residual voltage in attachment plug										Pass	
Voltage measured between:		Measurements [V]										Remarks
		1	2	3	4	5	6	7	8	9	10	
--		--	--	--	--	--	--	--	--	--	--	
supplementary information:												
Evaluated as part of the power supply.												

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

15c	TABLE: residual voltage or energy in capacitors				N/A
Capacitor and its location	Residual voltage (V)	Time after disconnection (s)	Capacitance value (μ F)	Residual energy (mJ)	Remarks
supplementary information:					

17h1	TABLE: defibrillation-proof applied parts				N/A
Test Condition: Fig. 50 or 51	Accessible part of measurement:	Applied part with test voltage	Test voltage polarity	Measured voltage between Y1 and Y2 (mV)	Remarks
supplementary information:					

17h2	TABLE: defibrillation-proof recovery time				N/A
Applied part with test voltage	Test voltage polarity	Recovery time from accompanying documents (s)	Measured recovery time (s)	Remarks	
supplementary information:					

18	TABLE: protective earthing				Pass
Test location	Test current (A)	Measured voltage (V)	Resistance (ohms)	Remarks	
AC Inlet earth pin to metal enclosure near power supply.	40	3.2	0.08	Pass, 2 minutes, Limitation 0.1 ohm	
supplementary information:					
Test of 40 A is conducted for C-UL investigation, 2 times of 20 A breaker, and represents worse case.					

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

19	TABLE: leakage current				Pass
Type of leakage current and test condition (including single faults)		Supply voltage (V)	Supply frequency (Hz)	Measured max. value (µA)	Remarks
Earth Leakage Current (Fig. 16):		Vac	Hz	B/A (µA)	--
ER, NC, S1 = 1, S5 = N		264	60	148.7/157.8	MD
ER, NC, S1 = 1, S5 = R		264	60	148.2/161.5	--
ER, SFC (Neutral Open), S1 = 0, S5 = N		264	60	289.5/302.4	--
ER, SFC (Neutral Open), S1 = 0, S5 = R		264	60	290.3/305.1	--
Enclosure Leakage Current (Fig. 18):		--	--	--	--
EN, NC, S1 = 1, S5 = N, S7 = 1		264	60	0.8/0.9	MD1 between Metal part near SIP/SOP
EN, NC, S1 = 1, S5 = R, S7 = 1		264	60	0.6/1.1	--
EN, SFC (Neutral Open), S1 = 0, S5 = N, S7 = 1		264	60	1.0/1.2	--
EN, SFC (Neutral Open), S1 = 0, S5 = R, S7 = 1		264	60	1.0/1.1	--
EN, SFC (Ground Open), S1 = 1, S5 = N, S7 = 0		264	60	157.4/158.2	--
EN, SFC (Ground Open), S1 = 1, S5 = R, S7 = 0		264	60	158.5/161.5	--
EN, NC, S1 = 1, S5 = N, S7 = 1		264	60	0.7/0.7	MD2 between Touch panel and Rear Enclosure
EN, NC, S1 = 1, S5 = R, S7 = 1		264	60	0.6/0.7	--
EN, SFC (Neutral Open), S1 = 0, S5 = N, S7 = 1		264	60	0.8/1.0	--
EN, SFC (Neutral Open), S1 = 0, S5 = R, S7 = 1		264	60	0.9/1.0	--
EN, SFC (Ground Open), S1 = 1, S5 = N, S7 = 0		264	60	1.3/1.4	--
EN, SFC (Ground Open), S1 = 1, S5 = R, S7 = 0		264	60	1.7/1.6	--
supplementary information:					
Touch panel was not considered as Applied Part.					
ER - Earth leakage current EN - Enclosure leakage current P - Patient leakage current PM - Patient leakage current with mains on the applied parts PA - Patient auxiliary current Fig. 15 - refers to Fig. 15 in IEC601-1 MD - Measuring device			A - After humidity conditioning B - Before humidity conditioning 1 - Switch closed or set to normal polarity 0 - Switch open or set to reversed polarity NC - Normal condition SFC - Single fault condition		

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

20	TABLE: dielectric strength				Pass
Insulation under test (area from insulation diagram)		Insulation type: (OP-operational / BI-basic / SI-supplementary / DI-double / RI-reinforced)	Reference voltage (V)	Test voltage (V)	Remarks
Area (2), Primary to SIP/SOP		DI	533 Vac	5132 Vac	Pass
Area (3), Primary to GND/PE		BI	250 Vac	2121 Vdc	Pass
Area (4), Primary to plastic enclosure with foil		DI	250 Vac	4000 Vac	Pass
supplementary information:					
--					

21	TABLE: mechanical strength		Pass
Part under test		Test (impact, drop, force, handle, rough handling, mobile)	Remarks
Enclosure outside near power supply		Foece Test (21a)	Pass, 45 N
Enclosure outside near power supply		Impact Test (21b)	Pass, 0.5 J
supplementary information:			
--			

24	TABLE: - stability		N/A
Part under test		Test condition	Remarks
supplementary information:			

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

29	TABLE: X - radiation			N/A
Part under test	Test condition	Measured radiation (mR)	Remarks	
supplementary information:				

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

42	TABLE: normal temperature		Pass
Supply voltage: See below Ambient temperature: See below		Test Condition: Maximum normal load	
Measuring location		Measured temperature (°C)	Remarks
Power supply		90/264 Vac, 60 Hz	Calculated, limitation
1.T1 coil		54.4/49.3	67.8/65.3 ,120
2.EL2 coil		53.7/50.6	67.1/66.6 ,130
3.C7 body		54.4/55.4	67.8/71.4 ,105
4.T2 coil		51.2/52.8	64.6/68.8 ,120
5.PCB near T1		63.7/62.5	77.1/78.5 ,130
Inverter:		--	--
6.T1 core		64.6/62.6	78.0/78.6 ,105
7.L1 coil		66.3/68.9	79.7/84.9 ,105
8.C1 body		65.0/66.7	78.4/82.7 ,105
9.PCB near T1		56.4/63.1	69.8/79.1 ,105
Main board		--	--
10.U13 body		56.8/61.2	70.2/77.2 ,105
11.L3 coil		53.8/59.0	67.2/75.0 ,105
12.L4 coil		51.4/58.7	64.8/74.7 ,105
13.L6 coil		51.2/57.3	64.6/73.3 ,105
14.L7 coil		50.5/59.2	63.9/75.2 ,105
15.L9 coil		50.8/57.7	64.2/73.7 ,105
16.Heatsink of U10		48.4/55.3	61.8/71.3 ,105
17.PCB near U10		49.9/57.0	63.3/73.0 ,105
18.PCB of RAM		47.7/54.7	61.1/70.7 ,105
19.HDD body		38.5/50.7	51.9/66.7 ,--
20.Enclosure of inside near power		33.3/33.1	46.7/49.1 ,60
21.Enclosure of outside		28.6/35.2	42.0/51.2 ,85
22.Ambient		26.6/24.0	40/40 ,--
COR - indicates measurements taken using change-of-resistance method			
supplementary information:			
Maximum normal load was defined as follows: Cross reading and writing data between HDD, and CD-ROM in maximum speed, LCD with maximum brightness and contract, connect with 7 USB ports with dummy load 0.5 A.			

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

44	TABLE: overflow, spillage, leakage, humidity, ingress of liquids, cleaning, sterilization, disinfection		Pass
Test type and condition		Part under test	Remarks
Humidity, 25 °C, 95%, 48 hrs		The unit	No Breakdown, Pass, See Table 20 for test conditions.
Cleaning		The unit	No Breakdown, Pass, See Table 20 for test conditions.
supplementary information:			
--			

45	TABLE: hydrostatic pressure and pressure-relief device cycling test		N/A
Test type and condition		Part under test	Test pressure
			Remarks
supplementary information:			

52	TABLE: abnormal operation		Pass
Test type, condition and clause reference		Observed results	Remarks
Ventilation Openings blacked, Clause 52.5.5 (240 Vac, 60 Hz, 2.6 hrs)		Inverter T1 coil near Ventilation:56.9°C PCB near T1:66.9°C, Ambient:26.4°C	NT,NC,NB, Temperature stabled,see attached heating chart for details
CPU Fan Locked, clause 52.5.6 (240 Vac, 60 Hz, 2.3 hrs)		Inverter T1 coil near Ventilation:56.4°C, Heatsnik of U10:81.4°C, Ambient: 26.0°C	NT,NC,NB, Temperature stabled,see attached heating chart for details
Power Fan Locked, clause 52.5.6 (240 Vac, 60 Hz, 1.5 hrs)		Inverter T1 coil near Ventilation:86.3°C, PCB near T1:88.9°C, Ambient: 26.4°C	Unit shut down NT,NC,NB, ,see attached heating chart for details
supplementary information:			
NB - No indication of dielectric breakdown, see Table 20 for dielectric test conditions. NC - Cheesecloth remained intact NT - Tissue paper remained intact			

IEC 60601		
Clause	Requirement + Test	Result - Remark
		Verdict

TABLE: list of critical components						
56.1	Object/part No.	Manufacturer/ trademark	type/model	technical data	Product Category CCN(s)	Required Marks of Conformity
						Photo ID, Item # or other sorting identifier
	01. Printed wiring board	Various	Various	Min V-1, 105°C	ZPMV2	UL
	02. Enclosure	Teijin Chemicals (E98529)	TN-7000	V-0, 60°C, min. 1.5 mm thick. Overall 309.5 by 303.0 by 80.4 mm. Two pieces construction, secured together by screws.	QMIFZ2	UL
	02-01. Openings	--	--	Provided numerous circularity openings on rear. Top rear ventilation Openings each diameter 3.3 mm maximum, covering an area overall 330 by 35.5 mm.	--	--
	03 Built-in Switching Power Supply	FSP group Inc (E211696)	FSP180-50MP	Input: 100-240 Vac, 4 A, 50-60 Hz Output 5 V, 12A, 5 Vsb, 2A 12 V, 12A, 12 V, 0.8A, 3.3 V, 16.8A	QQHM2/8	UL
	04. DC/AC Inverter	--	--	12 Vdc, 1900 mA, provided on a stand of 7.2 mm height	--	--
	04-01 Transformer (T1,T2)	--	--	105°C Wiring Pin 1-2: Diameter: 0.23 mm Turns: 14 Pin 2-3: Diameter: 0.23 mm Turns: 14 Pin 10-6: Diameter: 0.05 mm Turns: 1930	--	--
						3-03
						3-01
						3-02
						3-03
						3-05
						3-04

IEC 60601		
Clause	Requirement + Test	Result - Remark
		Verdict

04-02 Fuse(F1)	Various	Various	3 A,125 Vac/63 Vdc	JDYX	UL	
04-03 Core	--	--	Ferrite core, Core size:17.6 mm by 16.3 mm by 7.4 mm	--	--	
05. Real Time Clock Battery	Sony Energy Devices Corp	CR2032	3 Vdc, Max abnormal Charging Current 10 mA	BBCV2	UL	3-04
06. CPU Fan	Young Lin Tech Co.,Ltd (E199993)	DFC601005L	5 Vdc, 0.2 A,14.35 CFM	GPWV2	UL	3-04
07.Hard Disk Drive	Various	Various	Generic ,5 Vdc ,0.55 A maximum	NWQG2	UL	3-04
08. DVD Rom Drive (Optional)	Various	Various	Generic, 5 Vdc , 1.5 A maximum	NWQG2	UL	3-04
09. Speaker (provide two)	--	--	4 ohm, 2 W	--	--	3-04
10 LCD panel	Chunghwa Picture Tubes, Ltd.	CLAA150XP03	15"TFT LCD	--	--	3-04
11 Internal Wire	Various	Various	FEP, PTFE, PVC, TFE, neoprene, polyimide or marked VW-1; minimum 60 V, 80°C.	AVLV2	UL	
12 Power supply Cord (Optional)	Various	Various	Detachable, Hospital Grade, maximum 4.5 m long; min 125 V, 10 A, with NEMA 5-15P or 250 V, 10 A, with NEMA 6-15P, Type SVT or SPT-2, 18 AWG	ZJCZ and RTRT and AXUT	UL	
13 Label Material	Various	Various	50°C if max. surface temperature not specified.	PGDQ2 or PGJ12	UL	

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

56.10	TABLE: actuating parts and controls		N/A
Part under test	Torque applied	Remarks	
supplementary information:			

56.11b	TABLE: foot operated control devices-loading		N/A
Part under test		Observed results	Remarks
supplementary information:			

57.4	TABLE: cord anchorages				N/A
Cord under test	Mass of equipment	Pull	Torque	Remarks	
supplementary information:					

57.4b	TABLE: cord bending			N/A
Cord under test	Test mass	Measured curvature	Remarks	
supplementary information:				

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

57.9.1a	TABLE: transformer short circuit					Pass
Winding under test	Protection	Measured temperatures (°C)			Test duration	Remarks
		Primary	Secondary	Ambient		
---	--	---	--	--	---	--
supplementary information:						
Evaluated in separate report of power supply.						

57.9.1b	TABLE: overload						Pass
Winding under test	Protection	Measured temperatures (°C)			Test duration	Test current or thermal cutout temp.	Remarks
		Primary	Secondary	Ambient			
---	---	---	---	---	---	---	---
supplementary information:							
Evaluated in separate report of power supply.							

57.9.2	TABLE: transformer dielectric strength				N/A
Transformer under test	Test voltage applied to	Test voltage	Test frequency	Remarks	
supplementary information:					

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

TABLE: additional tests			Pass
Clause	Test type and condition	Remarks and observed results	Verdict
56.7	Reversed Battery Connection	Lithium Battery, Sony Energytec Inc., Model: CR2032, Max Abnormal Charging Current 10 mA.	--
--	CR2032, normal	0 mA	Pass
--	CR2032, R104 short	0.1 mA	Pass
--	CR2032, D32 short	2.78 mA	Pass
59.2	Ball Pressure Test, Location Enclosure, Material Chi Mei PA-765B+, 2.7 mm thickness. Condition 75°C, 0.82 mm	Dent Diameter 0.82 mm	Pass
UL60950, Clause 2.4.2	LCC test for D/A inverter, input 12 Vdc	Maximum measured frequency 62.1 kHz with repective measureed current 0.81 mAp and limited current 43.47 mA, Vpp 992 V.	Pass
UL60950-1, Clause 4.2.10	Loading test, force applied 14.76 kg	No breaking and damage.	Pass
55 US Deviation	Mechanical Abuse - Ball Drop Test. Location: Top, Side, and Back enclosure.	No cracking.	Pass
55 US Deviation	Molde Stress Relief Test. Condition: 70°C, 7 hrs.	No deformation present.	Pass
supplementary information:			

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Enclosure
National Differences

(Total 8 Pages including this Cover Page)

Canada
USA

IEC 60601			
SubClause	Difference + Test	Result - Remark	Verdict

Canada - Differences to IEC 60601-1:1988 + A1:1991 + A2:1995			
6	Canadian difference to this clause no longer applicable		N/A
6.61	Point of connection of gas cylinders:		N/A
6.61	- is gas specific		N/A
6.61	- is non-interchangeable		N/A
6.61	- is identified		N/A
56.3a	Medical gas inlet connectors:		N/A
56.3a	- are gas specific		N/A
56.3a	- are non-interchangeable		N/A
56.3a	- are DISS type complying with CGA V-5		N/A
56.3a	- are configured to permit the supply from assemblies complying with CAN/CSA - Z5359-04 (replaces Z305.2)		N/A
56.6a	Where consequential loss of function caused by operation of a thermal cut-out presents a safety hazard, both visible and audible warnings provided		N/A
57.2g	Mains plug of non-permanent installed equipment:		Pass
57.2g	- if molded on type - hospital grade complying with CSA C22.2, No. 21		N/A
57.2g	- hospital grade disassembly type complying with CSA C22.2, No. 42		Pass
57.2g	- if Class II equipment - polarized hospital grade CSA configuration 1-15P	Class I equipment.	N/A
57.3b	Detachable power supply cords:		Pass
57.3b	- unlikely to be detached accidentally		Pass
57.3b	- impedance of earth contacts presents no safety hazard		Pass
57.3b	- possibility of replacement by a cord which could make equipment hazards minimized		Pass
57.3b	- complies with CSA C22.2 NO. 21		Pass
57.3b	- not smaller than No. 18 AWG		Pass
57.3b	- minimum serviceability of Type SJ for mobile equipment or Type SV for other		Pass
57.9	Canadian difference to this clause no longer applicable		Pass

IEC 60601			
SubClause	Difference + Test	Result - Remark	Verdict
58.2	Canadian difference to this clause no longer applicable		Pass
59.1	Connecting cables comply with Canadian Electrical Code, Part I		Pass
60	Canadian difference to this clause no longer applicable	No applied part.	N/A

IEC 60601			
SubClause	Difference + Test	Result - Remark	Verdict

USA - Differences to IEC 60601-1:1988 + A1:1991 + A2:1995			
3.100.1a	Printed wiring boards comply with U.S. National or internationally harmonized component standards unless they are connected totally in a SELV circuit limited to 15 W, or less, maximum available power and whose failure will not result in a Safety Hazard.	PWB complies with U.S. National standards.	Pass
3.100.1b	Lithium batteries comply with U.S. National or internationally harmonized component standards	R/C Lithium batteries provided.	Pass
3.100.1c	Optical isolators comply with U.S. National or internationally harmonized component standards . unless they are connected totally in a SELV circuit limited to 15 W, or less, maximum available power and whose failure will not result in a Safety Hazard.	Optical isolators evaluated as part of the power supply.	Pass
3.100.1d	Wiring and tubing comply with U.S. National or internationally harmonized component standards unless they are connected totally in a SELV circuit limited to 15 W, or less, maximum available power and whose failure will not result in a Safety Hazard.	Wiring and tubing comply with U.S. National standards.	Pass
3.100.1e	CRT's > 5 inches comply with U.S. National or internationally harmonized component standards	No CRT provided.	N/A
3.101.1	Primary circuit components up to isolation transformer meet U.S. national or international harmonized component standards		Pass
6	a) All words in "CAUTION", WARNING", and "DANGER" markings at least 1.6 mm (1/16 inch) high	Markings at least 1.6 mm (1/16 inch) high.	Pass
6	b) Signal words "CAUTION", WARNING", and "DANGER" at least 2.8 mm (7/64 inch)	Signal words at least 2.8 mm (7/64 inch) high.	Pass
6	c) Letters in contrast color to the background		Pass
6	Equipment capable of emitting ionizing radiation provided with warning statement	Not emits ionizing radiation.	N/A
6	If equipment produced in more than one factory, factory identification marked on the equipment	Factory ID provided.	Pass
6	Multiple-voltage equipment intended for permanent connection marked with voltage for which it is connected when shipped	Not permanent connected.	N/A
6.2I	Statement for suitable wiring materials at temperatures over 60 °C		N/A
6.6a	Identification of the content of gas cylinders in accordance with the color coding requirement of ANSI/NFPA99.		N/A

IEC 60601			
SubClause	Difference + Test	Result - Remark	Verdict
6.8	Cord-connected equipment provided with instructions to indicate type of attachment plug for alternate voltage		N/A
10.2.2a	Rated voltage not exceeding 250 Vdc or single phase ac or 600 V polyphase ac for equipment up to 4kVA	100-240 Vac, single phase	Pass
10.2.2a	Rated voltage not exceeding 600 V for all other equipment		N/A
14	Fixed equipment and permanent equipment is Class I		Pass
18m	Earthing of X-ray equipment: All parts operating at over 600 V ac, 850 V dc, or 850 V peak are enclosed in protectively earthed enclosures		N/A
18m	Earthing of X-ray equipment: Connections from high-voltage equipment to other high voltage components made with high voltage shielded cables		N/A
18n	Accessible non-current carrying conductive parts are protectively earthed		N/A
19	Enclosure and earth leakage currents comply with U.S. limits		Pass
22	When risk of injury can occur, end stops are provided		N/A
22	End stops have mechanical strength as determined by the test		N/A
22.4	Dangerous movements of equipment parts which may cause physical injury to the patient or operator are possible only by the continuous activation by the operator		N/A
22.7a	Emergency off switch has red actuator		N/A
22.7a	Emergency off switch: once actuated, maintains the equipment in "off" condition until action, different from that used to actuate, is performed		N/A
22.7a	Emergency off switch is readily accessible to operator		N/A
22.7b	Emergency off switch is marked with word "STOP" or symbol 5110 of IEC 878 in compliance with U.S. Clause 6		N/A
22.7b	Emergency off switch: separate and independent of		N/A

IEC 60601			
SubClause	Difference + Test	Result - Remark	Verdict

	the intended movement control		
28.3	No evidence of damage to a safety catch after test		N/A
28.3	Safety catch marking provided		N/A
28.4	No damage to structural parts as a result of loading test		N/A
42	Insulation systems with measured temperatures exceeding Class A 105°C (based on 40°C ambient) comply with UL1446	(see appended table 42 and 56.1)	Pass
55	Polymeric enclosures and external combustible surfaces		Pass
55	Polymeric enclosures comply with: Conductive coatings applied to nonmetallic surfaces comply with UL 746C	No Conductive coatings provided.	N/A
55	External combustible surface of more than 9.47 m2 or single dimension of 3.7 m have flame spread rating not exceeding 75 (Steiner Tunnel Test)	No such surface provided.	N/A
55	External combustible surface of more than 4.74 m2 but not exceeding 9.47 m2 have flame spread rating not exceeding 75 (Radiant Panel or Steiner Tunnel Test)	No such surface provided.	N/A
55	Polymeric enclosures for transportable equipment rated 94V-2 or better		Pass
55	Polymeric enclosures for fixed or stationary equipment rated 94V-0 or better	Polymeric enclosure complies with 94V-0.	Pass
55	Polymeric enclosures withstand 6.78 Nm impact test	(see appended table Additional Test)	Pass
55	Polymeric enclosures: no deformation after mold stress test		Pass
55	Polymeric enclosures of hand-held equipment withstands 1.22 m drop test	Not hand-held equipment.	N/A
56.3a	Connector, pin, plug attached to patient connected lead or contact cannot engage any part on the equipment, including separable cord set		N/A
56.3a	Connector, pin, plug attached to patient connected lead or contact cannot make contact with live parts of power receptacle outlet (if product can be used without professional supervision)		N/A
57	Permanently connected equipment provided with field wiring provision in accordance with NEC, ANSI/NFPA 70	Portable equipment.	N/A
57.2	Power cord mains plug is "Hospital Grade" type		Pass

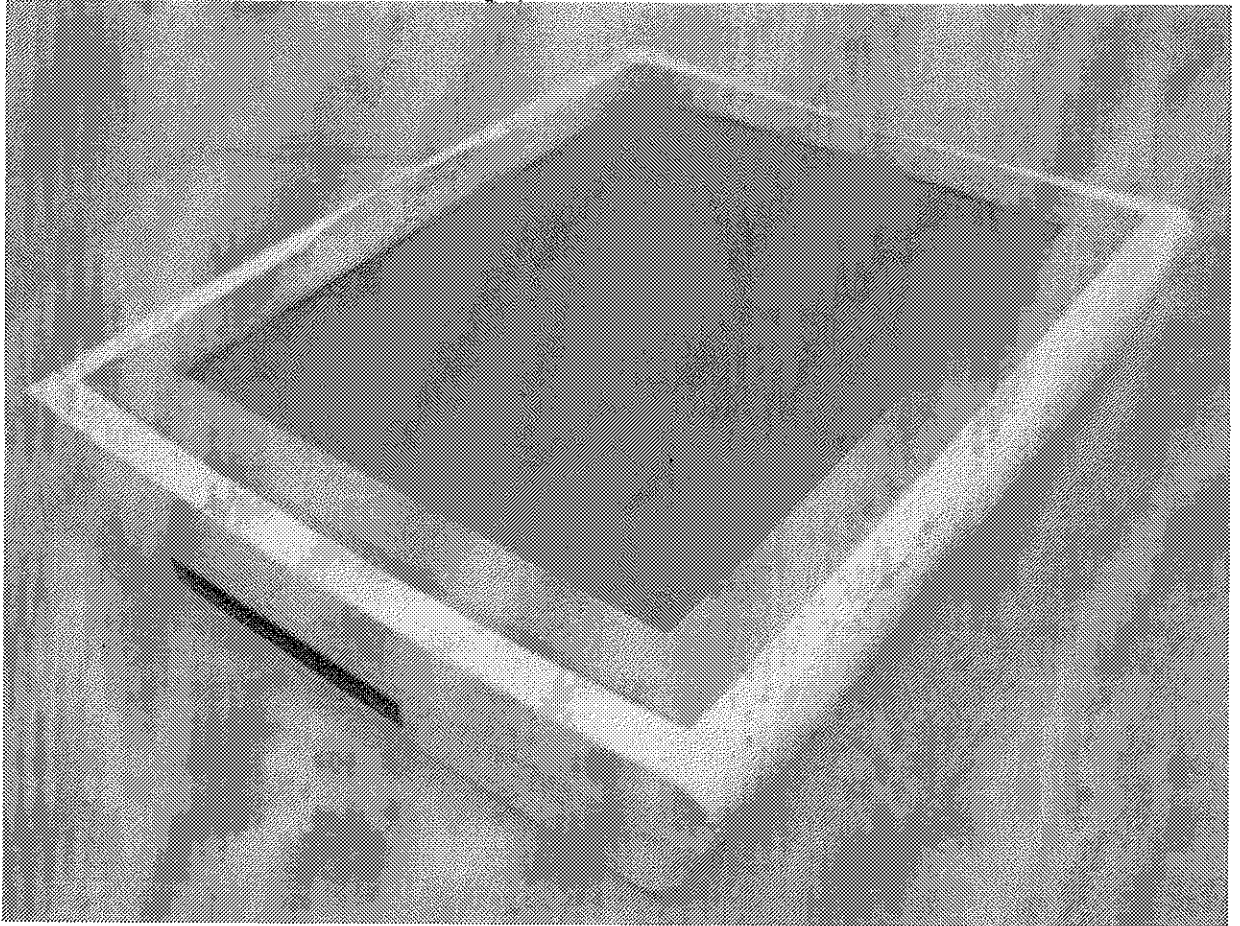
IEC 60601			
SubClause	Difference + Test	Result - Remark	Verdict
57.2	Grounding reliability marking provided		Pass
57.2	Plug for radiography equipment acceptable for current not less than 50 % of maximum input	Not radiography equipment.	N/A
57.2	Plug acceptable for use with current not less than 125 % of rated current	The attachment plug rating is greater than 125% of unit's rated input current.	Pass
57.2	Plug acceptable for voltage for which the equipment is configured when shipped		Pass
57.2	Polarized plug wired such that the center contact of edison-base lampholder, single-pole switch or single-pole overcurrent device connected in ungrounded side		N/A
57.3b	Detachable power supply cord unlikely to become detached accidentally		Pass
57.3b	Flexible cord is of type acceptable for application		Pass
57.3b	Flexible cord not smaller than 18 AWG		Pass
57.3b	Flexible cord complies with serviceability requirements		Pass
57.5b	If leads are provided for connection to branch circuit, the free end is in separate compartment		Pass
57.5b	If leads are provided for connection to branch circuit, the free length of leads inside field-wiring compartment is at least 152 mm long		Pass
58.2	Connections are mechanically secured in addition to soldering	Evaluated as part of the power supply.	Pass
59.1	Installation of connecting cords between parts of equipment in compliance with NEC		Pass
59.1	Cable type acceptable for external interconnection		Pass
400	Oxygen		N/A
400.1	At least one of the following three requirements is satisfied:		N/A
400.1.1	Electrical components separated by barrier per 400.2		N/A
400.1.2	Compartments with electrical components ventilated per 400.3		N/A
400.1.3	Electrical components comply with 400.4 so that cannot be a source of ignition		N/A
400.2	Barrier required by 400.1 is sealed at all joints and holes		N/A

IEC 60601			
SubClause	Difference + Test	Result - Remark	Verdict
400.3	Ventilation required by 400.1 is such that oxygen content does not exceed 4% above ambient		N/A
400.4	Under N.C. and S.F.C. the product of the value of no load rms voltage and short circuit rms current less than 10 VA		N/A
400.4	Surface temperature of components below 300°C in N.C. and S.F.C		N/A
400.5	External exhaust gas outlets located at least 20 cm from any electrical component mounted on the outside		N/A
400.6	Hospital beds intended for use with oxygen administering equipment provided with required markings		N/A
400.7	Pendant controls on hospital beds with oxygen administering equipment marked as required		N/A
400.8	Instructions for installation are in compliance with requirements of this clause		N/A
600.1	Separate power units packed with equipment		N/A
600.1	Separate power units provided with correlation marking		N/A
600.2.1	Direct plug-in unit construction and performance comply with required sections of UL1310		N/A
600.2.2	Direct plug-in unit external temperature rise during overheating test do not exceed 65°C		N/A
600.2.3	If direct plug-in unit provided with a mounting tab - unit marked as required by UL1310		N/A

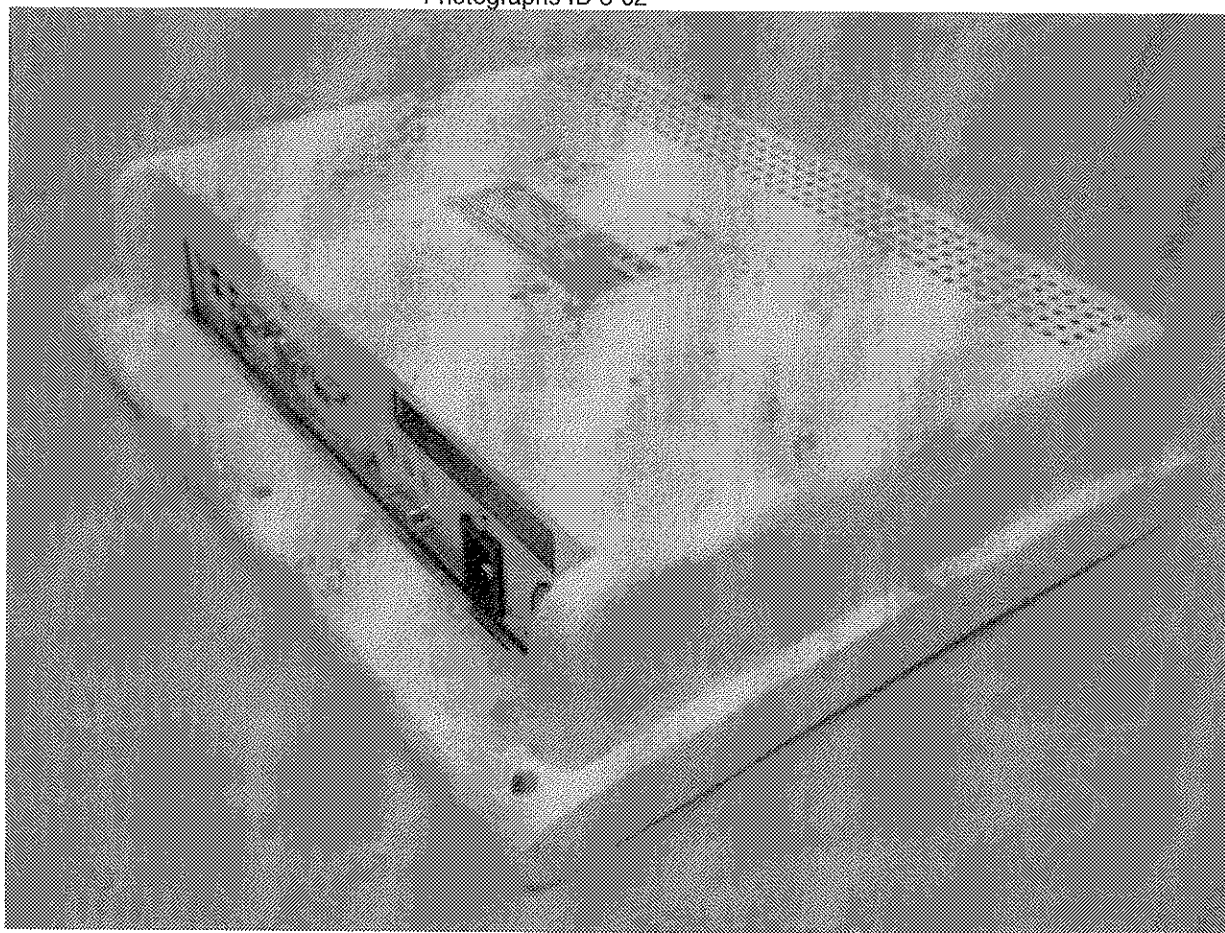
Enclosure
Photographs

Supplement Id	Description
3-01	Front View
3-02	Rear View
3-03	Inside View
3-04	Inside View without chassis
3-05	Inverter Front View
3-06	Inverter Rear View

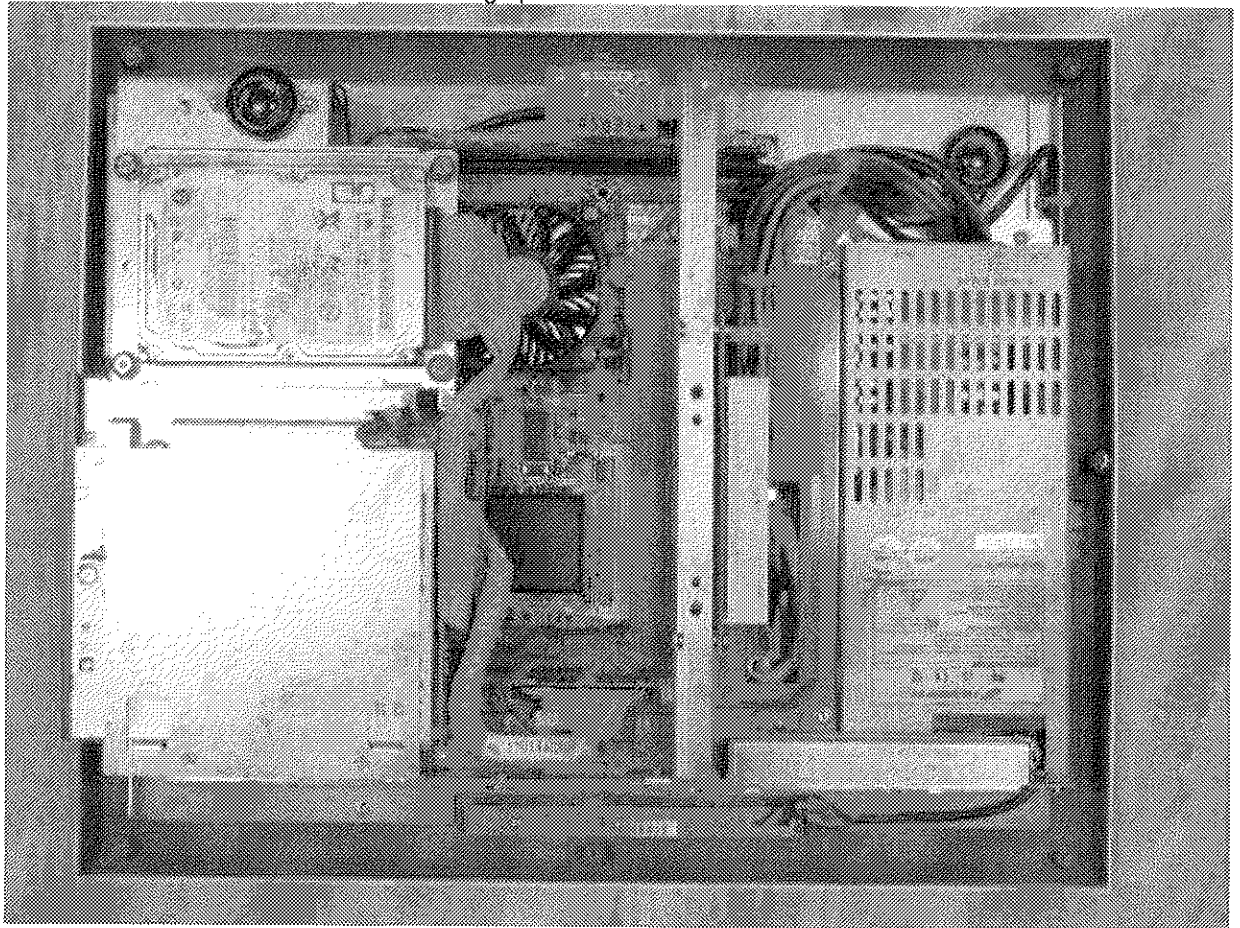
Photographs ID 3-01



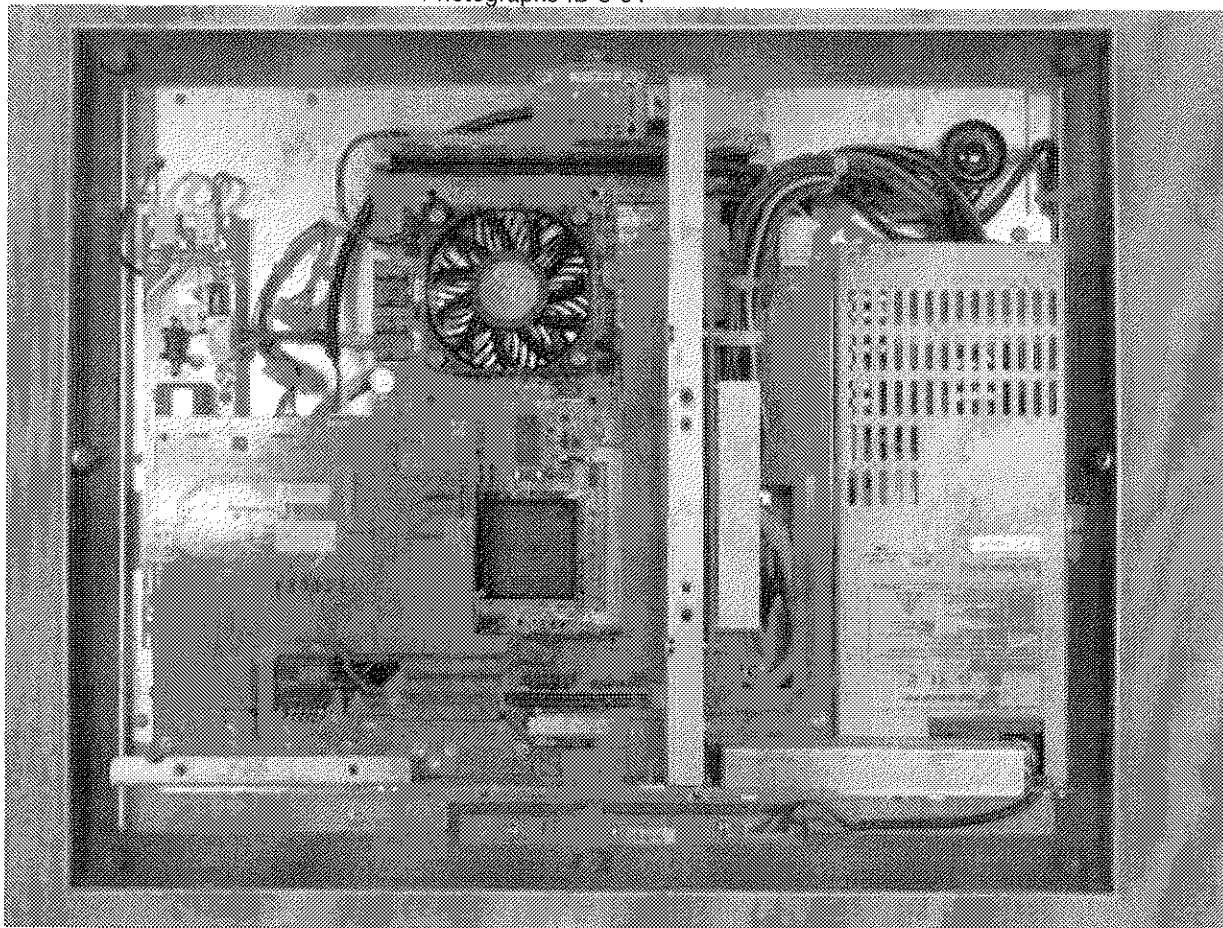
Photographs ID 3-02



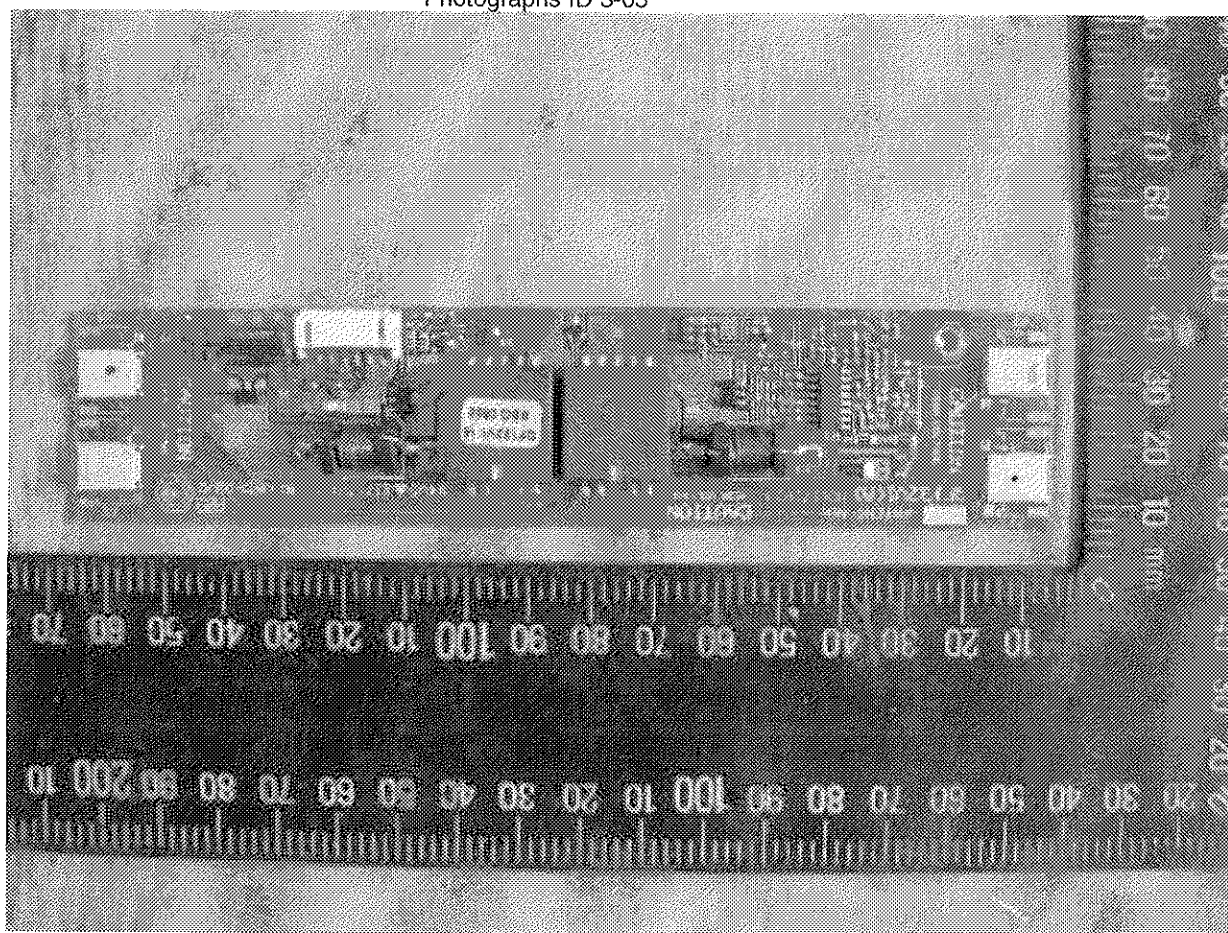
Photographs ID 3-03



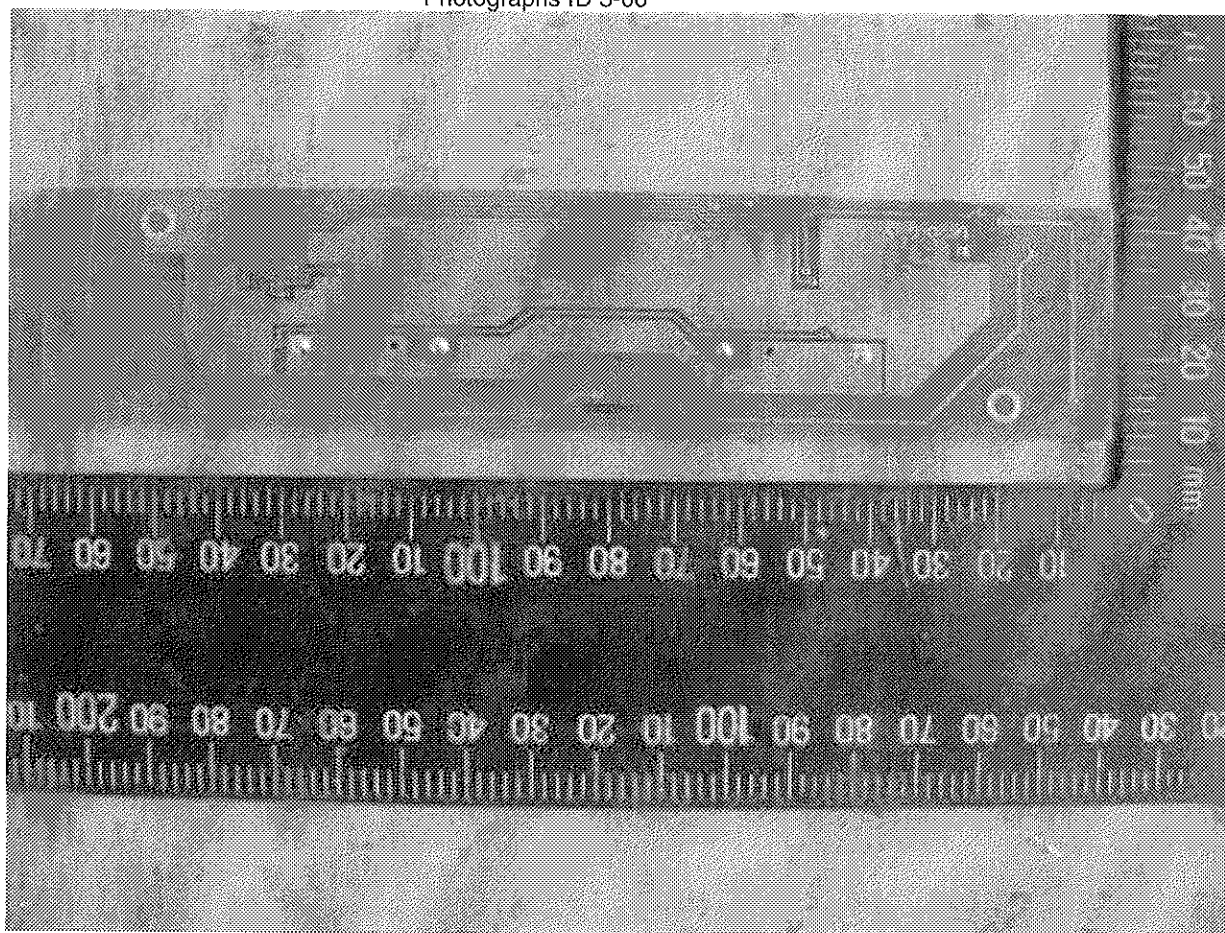
Photographs ID 3-04



Photographs ID 3-05



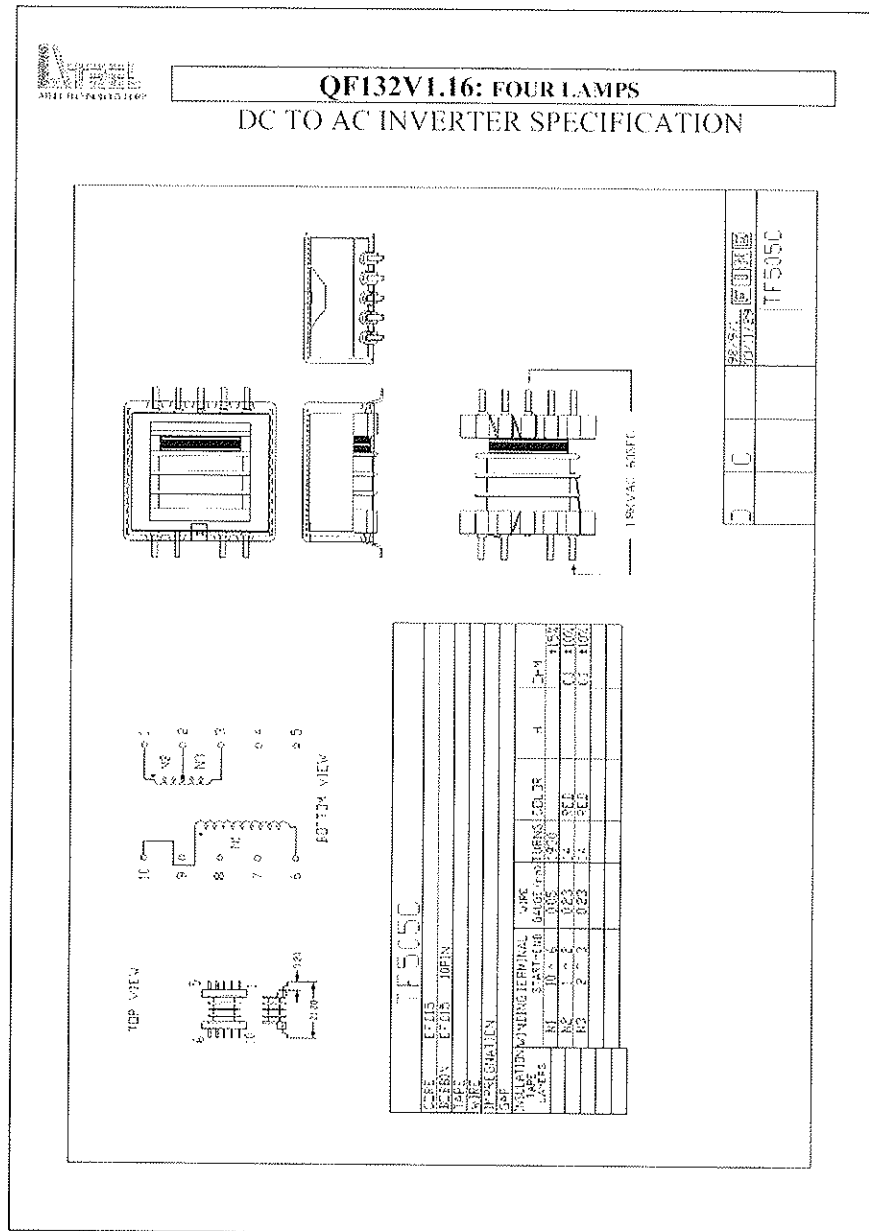
Photographs ID 3-06



Enclosure
Diagrams

Supplement Id	Description
4-01	Inverter Transformer Spec

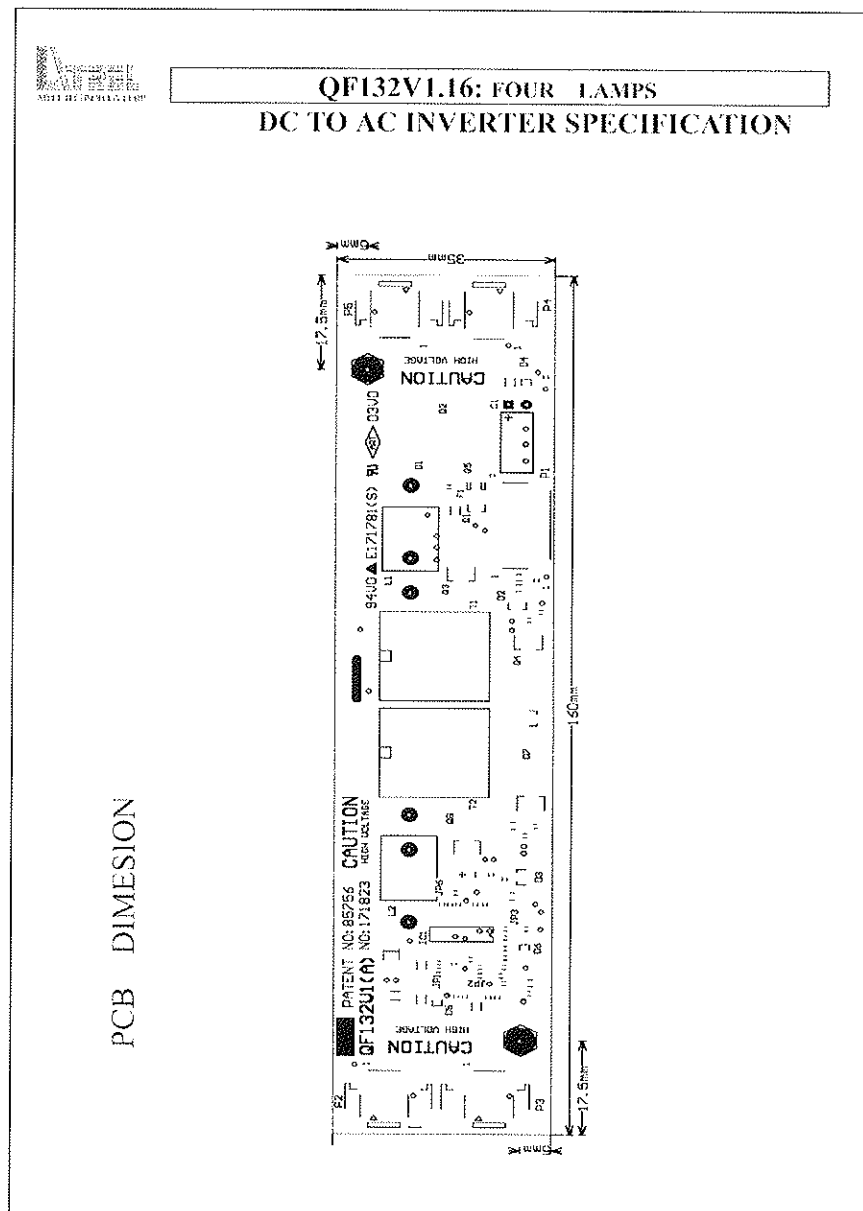
Diagrams ID 4-01



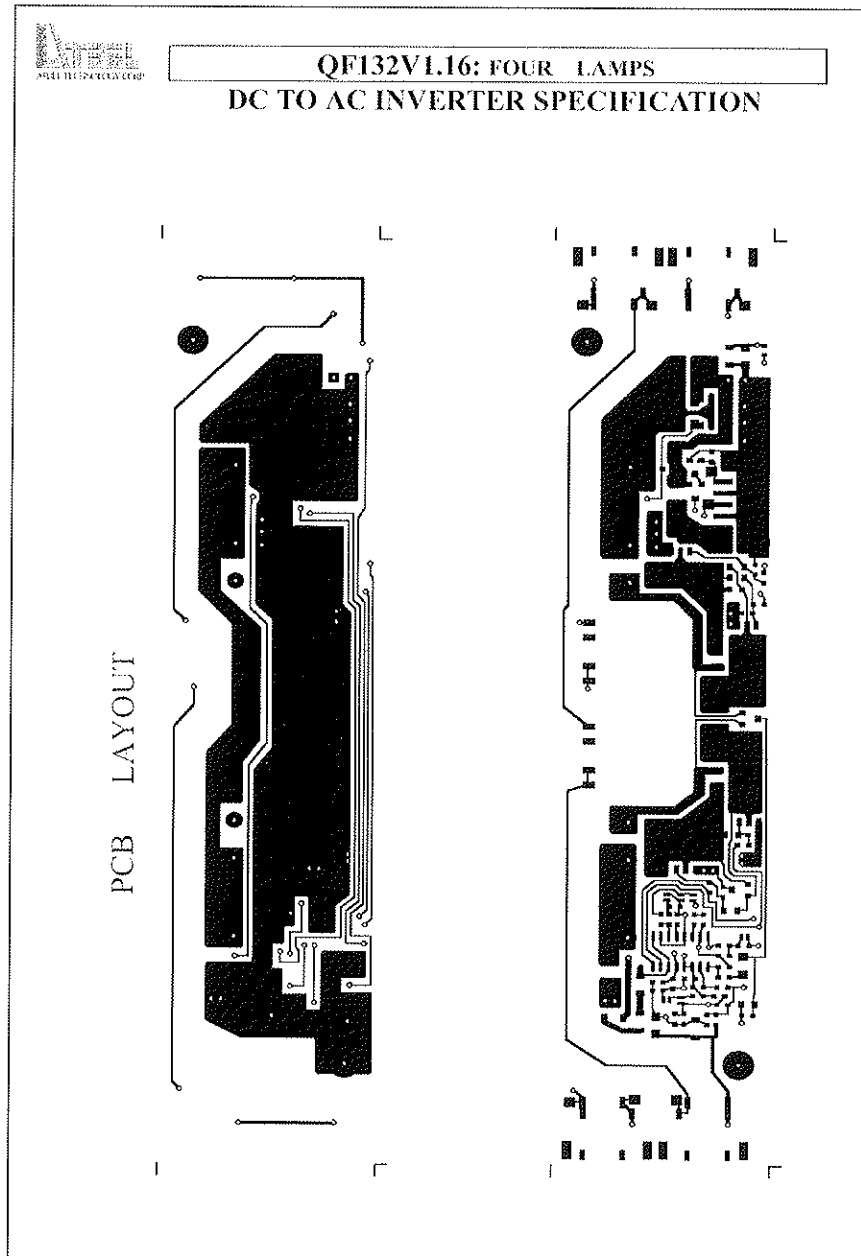
Enclosure
Schematics + PWB

Supplement Id	Description
5-01	Inverter Component and Trace Layout

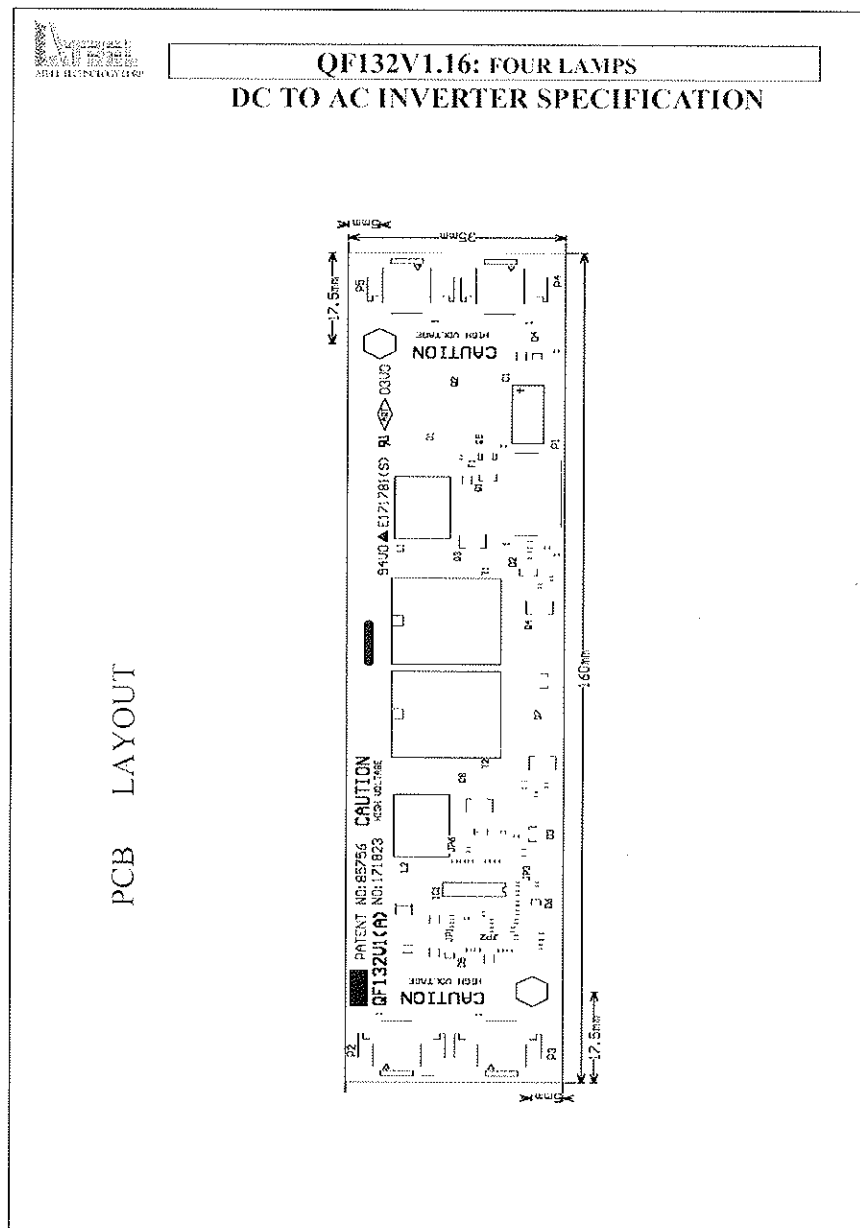
Schematics ID 5-01



Schematics ID 5-01



Schematics ID 5-01



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E241995-A5-UL-1

Enclosure
Manuals

Supplement Id	Description
6-01	Manuel

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Medical Station

ONYX-153/173

ONYX-153/173

15"/17" Pentium[®] M

High Brightness

Low Noise Medical Station

ONYX-153/173 Rev. A Manual 2nd Ed.
Aug. 2005

Manuals ID 6-01

Medical Station**Onyx-153/173**

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Medical Station

Onyx-153/173

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Medical Station

Onyx-153/173

Packing List

Before you begin installing your Medical Station, please make sure that the following items have been shipped:

- Onyx-153/173 series Medical Station
- HDD screws
- CD-ROM

Contains User's Manual (in PDF format), Drivers and Utilities

If any of these items are missing or damaged, you should contact your distributor or sales representative immediately.

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Medical Station

Onyx-153/173

Safety & Warranty

1. Read these safety instructions carefully.
2. Keep this user's manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Do not use liquid or spray detergents for cleaning. Use a damp cloth.
4. For pluggable equipment, the power outlet must be installed near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall could cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. **DO NOT COVER THE OPENINGS.**
8. **Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.**
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient over-voltage.
12. Never pour any liquid into an opening. This could cause fire or electrical shock.
13. Never open the equipment. For safety reasons, only qualified service personnel should open the equipment.

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14. If any of the following situations arises, get the equipment checked by service personnel:
- The power cord or plug is damaged.
 - Liquid has penetrated into the equipment.
 - The equipment has been exposed to moisture.
 - The equipment does not work well, or you cannot get it to work according to the users manual.
 - The equipment has been dropped and damaged.
 - The equipment has obvious signs of breakage.
15. **DO NOT LEAVE THIS EQUIPMENT IN AN UNCONTROLLED ENVIRONMENT WHERE THE STORAGE TEMPERATURE IS BELOW -20° C (-4°F) OR ABOVE 60° C (140° F). IT MAY DAMAGE THE EQUIPMENT.**
16. External equipment intended for connection to signal input/output or other connectors, shall comply with relevant UL / IEC standard (e.g. UL 1950 for IT equipment and UL 60601-1 / IEC 60601 series for systems – shall comply with the standard IEC 60601-1-1, Safety requirements for medical electrical systems. Equipment not complying with UL 60601-1 shall be kept outside the patient environment, as defined in the standard.

Caution:

It may cause the danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer.

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Medical Station

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Classification

1. Degree of protection against electric shock: not classified
2. Degree of protection against the ingress of water: IPX0
3. Equipment not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.
4. Mode of operation: Continuous
5. Type of protection against electric shock: Class I equipment

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Medical Station

Onyx-153/173

FCC Safety

Warning!



This device complies with Part 15 FCC Rules.

Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

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Medical Station

Onyx-153/173

UL Module Description



*Onyx-153/173 AC modules are developed to
suitable for the Classification Mark
requirement*




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Safety Symbol Description

The following safety symbols are the further explanations for your reference.

	<i>Medical equipment with respect to electric shock, fire and mechanical hazards only in accordance with UL 60601-1, and CAN/CSA C22.2 NO. 601.1</i>
	<i>Attention, consult ACCOMPANYING DOCUMENTS.</i>
	<i>Ground wire Protective Ground wire.</i>

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Medical Station

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Medical Station

ONYX-153/173

Chapter

General Information

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Medical Station**ONYX-153/173**

1.1 Introduction

The ONYX-153/173 are the flagships of AAEON's medical Stations. The high brightness LCD, Low Noise solution, integrated multimedia functions and extensive expansion options make them the perfect platform upon which to build comprehensive lifestyle computing applications.

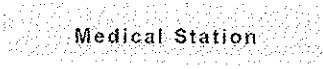
The ONYX-153/173 includes all the features of a powerful computer into a slim and attractive chassis. The ONYX-153 has a 15" 400 nits TFT display with 1024 x 768 resolution. The ONYX-173 has a 17" 300 nits TFT display with 1280 x 1024 resolution. Integrating with high brightness LCD is easier to analyze DICOM image. This model owns sidemount slim 8 in1 card reader, slim DVD ROM, and smart card reader to support vivid storage read/write and ID check by smart card reader.

These two models designed with Pentium[®] M CPU by higher 2MB L2 cache to improve system effectiveness. It accommodates one 2.5" hard disk drive and up to 1GB DDR SDRAM.

The ONYX-153/173 are compact, selectable WLAN and Giga LAN network compatible PC with full safety and medical approval and features to control a dedicated system with a wide variety of applications. Combining the ONYX-153/173 into your system can achieve both cost-saving and efficient improvements.

Common applications include point of sale systems, healthcare utility, interactive information displays, automation control systems,

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Medical StationONYX-153/173

general desktop use, multimedia recreation, and other medical requirements. The ONYX-153/173 are definitely your perfect choices.

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Medical Station

ONYX-153/173

1.2 Feature

- 15" /17" True color TFT LCD display
- 400/300 nit high brightness to X-ray films
- Latex-free
- Integrated RFID security (optional)
- Integrated Smart card reader (optional)
- Integrated fingerprint scanner (optional)
- Integrated Web-CAM (optional)
- Mini capture card support Non-DICOM CAM to DICOM (optional)
- High performance low power system solution
- Celeron® M Processors/ Pentium® M 1.6 GHz up to 2.0GHz(optional)
- 802.11g wireless antenna (optional)
- Resistive touch screen (optional)
- Plastic construction with medical outlook color

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Medical Station

ONYX-153/173

1.3 Specification

Hardware Specifications

Display	ONYX-153: 15" XGA color TFT LCD ONYX-173: 17" SXGA color TFT LCD
CPU Board	Supports Socket 478-based Intel®Pentium® M Process and Celeron®M up to 1.8GHz with FSB 400MHz
Disk Drive Space	2.5" Hard Disk Drive (ATA100) Suck-in DVD-ROM 8 in 1 card reader Smart Card reader (optional)
Expansion	One Mini PCI slot; One PCI expansion
Button	Brightness: "+" / "-"; Sound: "+" / "-"; Power SW
I/O	3 RS-232 ports, 1 RS-232/422/485 port 7 USB 2.0 ports 1 x on up side for Web-CAM 2 x internal for card reader and smart card (optional) 4 x on rear bracket 1 parallel port 1 PS/2 keyboard and 1 PS/2 mouse Sound: 1 x Line-in 1 x line-out 1 x Mic-in 2 x Speakers on back side ONYX-153 with 1W speaker ONYX-173 with 2W speaker

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Medical Station

ONYX-153/173

LCD Specifications

Model Name	ONYX-153 series	ONYX-173 series
Display Type	15" color TFT LCD	17" color TFT LCD
Max. Resolution	1024 x 768	1280 x 1024
Max. Colors	16.7M	16.7M
Dot Size (mm)	0.297 x 0.297	0.297 x 0.297
Luminance (cd/m2)	400 (TYP)	300 (TYP)
Viewing Angle	170 (H)	150 (H)
	170 (V)	130 (V)
Operating Temperature	0°C~40°C (32°F~104°F)	0°C~40°C (32°F~104°F)
Brightness Control	Yes	Yes
Back Light MTBF	50,000 Hrs	40,000 Hrs

Note:

All AAEON's LCD products are manufactured with High precision technology. However, there are a small number of defective pixels in all LCD panels that are not able to change color. This is a normal occurrence for all LCD displays from all manufacturers and should not be noticeable or objectionable under normal operation. AAEON LCD panels are qualified for industry standard conditions in the following: total 7 dead pixels on a screen or if there are 3 within 1 inch square area of each other on the display.

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Medical Station

ONYX-153/173

Mechanical Specifications

Architecture	Close-frame
Front Bezel	Plastic bezel with resistive touch screen
Color	Blue-white (Sky series) and Green-white (Garden series)
Mounting / Holder	VESA 75/100mm, ONYX-153 supports VESA 75 only
Construction	3mm ABS + PC TYPE Plastic housing
Dimension (W x H x D)	ONYX-153: 398 x 330 x 92.5 mm (15.7"x13"x3.6") ONYX-173: 460 x 385 x 97 mm (18.1"x97.8"x3.8")
Carton Dimension	ONYX-153: 510x 213x465mm (20.1"x 8.4"x 18.3") ONYX-173: 605x 230x 610mm (23.8"x 9.1"x 24")
Net Weight	ONYX-153: 6.3Kg ONYX-173: 7.6Kg
Gross Weight	ONYX-153: 9.3Kg ONYX-173: 10.6Kg
Packing Filler	PE

Power Supply Specifications

Power	180W
Input Voltage	100~240 V AC, 4 A max. @ 50 ~ 60 Hz
Output Voltages	+5 V@12 A, +12 V@12 A, +3.3 V@16.8 A, +5 Vsb@2.0 A, -12 V@0.8 A
MTBF	100,000 hrs operation at 25°C

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Medical Station

ONYX-153/173

Environmental Specifications

Operating Temperature	0°C to 40°C (32°F ~104°F)
Storage & Transportation Temperature	-20°C to 60°C (-4°F ~140°F)
Storage & Transportation Humidity	5% to 95% @ 40°C, non-condensing
Vibration	0.5G / 5 ~ 500Hz (Random) / operation
Shock	15G peak acceleration (11 msec. duration) / operation
Drop	76cm (1 Corner, 3 Edge, 6 Surface)
EMI / Safety	CE / FCC Class B/UL 60601-1/EN 60601-1
Noise	35db
Input Power Rating	100-240Vac 50-60Hz 2.1A
Power Consumption	70W

TouchScreen (Optional)

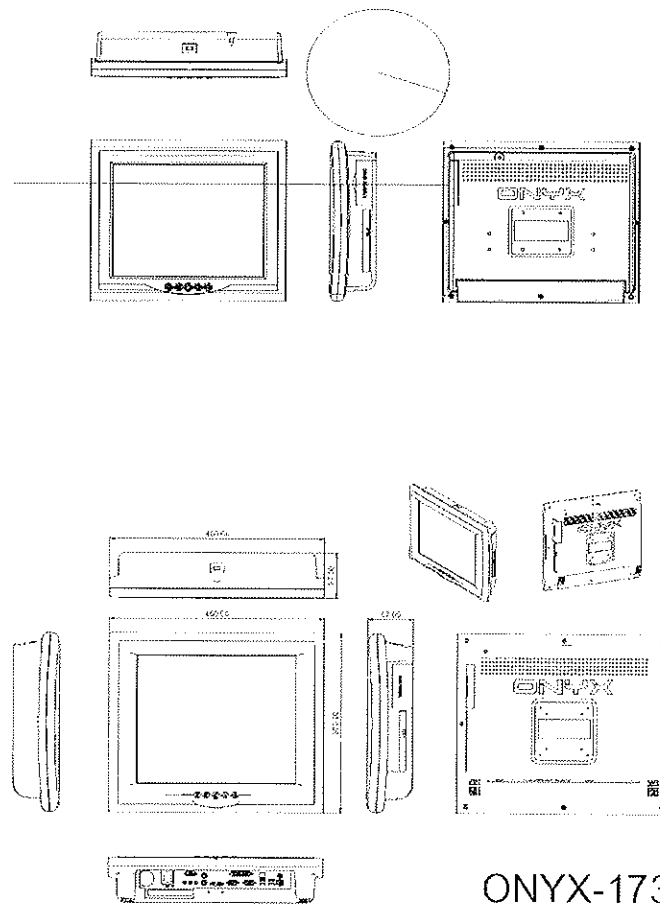
Type	8-wire, Analog Resistive
Interface	RS-232 interface
Resolution	2048 x 2048
Light Transmission	> 75%
Life Time	1 million activations

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Medical Station

ONYX-153/173

1.4 Dimension



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Medical Station

ONYX-153/173

Chapter

2

Hardware Installation

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Medical Station

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2.1 Safety Precautions

Warning!

Always completely disconnect the power cord from your board whenever you are working on it. Do not make connections while the power is on, because a sudden rush of power can damage sensitive electronic components.

Caution!

Always ground yourself to remove any static charge before touching the board. Modern electronic devices are very sensitive to static electric charges. Use a grounding wrist strap at all times. Place all electronic components on a static-dissipative surface or in a static-shielded bag when they are not in the chassis

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ONYX-153/173

Appendix

A

Miscellanea

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A.1 General Cleaning Tips

You may need the following precautions before you begin to clean the computer. When you clean any single part or component for the computer, please read and understand the details below fully.

1. Never spray or squirt the liquids directly onto any computer component. If you need to clean the device, please rub it with a piece of dry cloth.
2. Be cautious of the tiny removable components when you use a vacuum cleaner to absorb the dirt on the floor.
3. Turn the system off before you start to clean up the component or computer.
4. Never drop the components inside the computer or get circuit board damp or wet.
5. Be cautious of all kinds of cleaning solvents or chemicals when you use it for the sake of cleaning. Some individuals may be allergic to the ingredients.
6. Try not to put any food, drink or cigarette around the computer.

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A.2 Cleaning tools

Although many companies have created products to help improve the process of cleaning your computer and peripherals users can also use household items to clean their computers and peripherals. Below is a listing of items you may need or want to use while cleaning your computer or computer peripherals.

Keep in mind that some components in your computer may only be able to be cleaned using a product designed for cleaning that component, if this is the case it will be mentioned in the cleaning tips.

- **Cloth** - A piece of cloth is the best tool to use when rubbing up a component. Although paper towels or tissues can be used on most hardware as well, we still recommend you to rub it with a piece of cloth.
- **Water or rubbing alcohol** - You may moisten a piece of cloth a bit with some water or rubbing alcohol and rub it on the computer. Unknown solvents may be harmful to the plastics parts.
- **Vacuum cleaner** - Absorb the dust, dirt, hair, cigarette particles, and other particles out of a computer can be one of the best methods of cleaning a computer. Over time these items can restrict the airflow in a computer and cause circuitry to corrode.

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Medical Station**ONYX-153/173**

- **Cotton swabs** - Cotton swabs moistened with rubbing alcohol or water are excellent tools for wiping hard to reach areas in your keyboard, mouse, and other locations.
- **Foam swabs** - Whenever possible it is better to use lint free swabs such as foam swabs.

Note:

We strongly recommended that you should shut down the system before you start to clean any single components.

Please follow the steps below.

1. Close all application programs.
2. Close operating software.
3. Turn off power switch
4. Remove all device
5. Pull out power cable

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A.3 Scrap Computer Recycling

If the computer equipments need the maintenance or are beyond repair, we strongly recommended that you should inform us as soon as possible for the suitable solution. For the computers that are no longer useful or work well, please contact with worldwide distributors for recycling

The worldwide distributors show on the following website:

<http://www.macon.com/2TableIndex>ContactATableID-011rees>

Note:

Follow the national requirement to dispose unit

Issue Date: 2005-09-16

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Report Reference #

E241995-A5-UL-1

Enclosure
Miscellaneous

Supplement Id	Description
7-01	Label

Misc ID 7-01

AAEON Technology Inc.**MODEL : ONYX-153HTT-A1****Product Name : Medical Station****L/N : A5A00****CPU :****HDD :****Option :****Electrical Rating : AC 100-240V,47-63Hz,2A/1A****Classification : Class I , Not Classified, No Applied, No AP/APG****E241995
13YG****UL/EN60601-1
CAN/CSA C22.2
NO.601.1****POSA0000****MADE IN TAIWAN**

Enclosure
Test Record

Description
Test Record 1
CRD
Scanned Datasheet

Test Record No. 1

The following tests were conducted:

Test	Comments
Power Input (7.1)	
Earthing and Potential Equalization (18F)	
Leakage Current (19)	
Dielectric Voltage Withstand (20.4)	
Enclosure Mechanical Strength (21A, B)	
Temperature (42)	
Humidity Preconditioning Treatment (44.5)	
Overflow, Spillage, Leakage, Cleaning, Sterilization and Disinfection, Harmful Ingress of Liquids (44)	
Abnormal Operation and Fault Conditions (52)	
Mechanical Abuse - Ball Drop (55)	
Mold Stress Relief (55)	
Ball Pressure (59.2)	

Test results are valid only for the tested equipment. These tests are considered representative of the products covered by this Test Report. The test methods and results of the above tests have been reviewed and found to be in accordance with the requirements in the Standard.

The manufacturer submitted representative production sample of Medical Station, Model ONYX-153HTT-A1.

WTDP: Unless otherwise noted in the above list of tests, all tests were conducted by Compliance Certification Services Inc, located in WuGu, Taipei, Taiwan, and witnessed by a member of the UL staff under the WTDP program.

The following tests were conducted under UL60950-1 for reference

- Limited Current Curcuit Test
- Loading Test
- Li-Battery Reverse Current Test
- Limited Power Source Test