

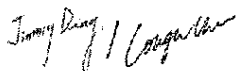
**COVER PAGE FOR TEST REPORT**

Product Category:	Medical Electrical Equipment
Product Category CCN:	PIDF, PIDF7
Test Procedure:	Classification
Product:	Panel PC
Model/Type Reference:	POC-195XXXDCXXXXXXX, and POC-S195XXXXXXXXXX, where X is any alphanumeric character or blank for marketing purpose only, and no impact safety related critical compnents and constructions.
Rating(s):	Input: 100-240 Vac, 47-63 Hz, 1.25-0.5 A
Standards:	UL 60601-1, 1st Edition, 2006-04-26 (Medical Electrical Equipment, Part 1: General Requirements for Safety) CAN/CSA-C22.2 No. 601.1-M90, 2005 (Medical Electrical Equipment - Part 1: General Requirements for Safety)
Applicant Name and Address:	ADVANTECH CO LTD 1 ALLEY 20 LANE 26 RUEIGUANG RD NEIHU DISTRICT TAIPEI 114 TAIWAN
This Report includes the following parts, in addition to this cover page:	
<ol style="list-style-type: none"><li>1. Specific Inspection Criteria</li><li>2. Specific Technical Criteria</li><li>3. Clause Verdicts</li><li>4. Critical Components</li><li>5. Test Results</li><li>6. National Differences</li><li>7. Enclosures</li></ol>	

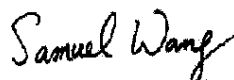
This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up 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.

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**Test Report By:**



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**Reviewed By:**

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## **SPECIFIC INSPECTION CRITERIA**

BA1.0	<b>Special Instructions to UL Representative</b>
BA1.1	N/A
BB1.0	<b>Supporting Documentation</b>
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"><li>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.</li><li>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.</li><li>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.</li></ul>

BC1.0	<b>Markings and instructions</b>	
BC1.1	The following markings and instructions are provided as indicated.	
BC1.2	All clause references are from UL 60601-1, 1st Edition, 2006-04-26 (Medical Electrical Equipment, Part 1: General Requirements for Safety).	
Standard Clause	Clause Title	Marking or Instruction Details
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
	Direct current	
6.1j	Power Input	Amps, VA, or Watts
6.1q	Attention, consult accompanying documents	
	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 cord)



BD1.0	<b>Production-Line Testing Requirements</b>			
BD1.1	<b>Test Exemptions</b> - The following models are exempt from the indicated test			
	Model	Grounding Continuity	Dielectric Voltage Withstand	Patient Circuit Dielectric Voltage Withstand
	All	Exempt	Exempt	Exempt
BD1.2	<b>Solid-State Component Test Exemptions</b> - The following solid-state components may be disconnected from the remainder of the circuitry during either Dielectric Voltage Withstand Test:			
	N/A			

BE1.0	<b>Sample and Test Specifics for Follow-Up Tests at UL</b>			
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**

<b>TEST REPORT</b> <b>UL 60601-1</b> <b>Medical Electrical Equipment</b> <b>Part 1: General requirements for safety</b>	
Report Reference No .....	E214164-A12-UL-1
Compiled by .....	Jimmy Deng/Conga Chen
Reviewed by .....	Samuel Wang
Date of issue .....	2007-10-23
Standards .....	UL 60601-1, 1st Edition, 2006-04-26 (Medical Electrical Equipment, Part 1: General Requirements for Safety) CAN/CSA-C22.2 No. 601.1-M90, 2005 (Medical Electrical Equipment - Part 1: General Requirements for Safety)
Test procedure .....	Classification
Non-standard test method .....	N/A
<b>Test item</b> description .....	Panel PC
Trademark .....	None
Model and/or type reference .....	POC-195XXXDCXXXXXXX, and POC-S195XXXXXXXXXX, where X is any alphanumeric character or blank for marketing purpose only, and no impact safety related critical components and constructions.
Rating(s) .....	Input: 100-240 Vac, 47-63 Hz, 1.25-0.5 A

<b>GENERAL INFORMATION</b>			
<b>Test item particulars (see also clause 5):</b>			
Classification of installation and use .....	Transportable		
Supply connection .....	Appliance coupler		
Accessories and detachable parts included in the evaluation .....	None		
Options included .....	Equipment may be mounted on wall or on stand.		
<b>Possible test case verdicts:</b>			
- 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")		
<b>Abbreviations used in the report:</b>			
- 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
<b>General remarks:</b>			
- "(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			

<b>General Product Information:</b>	
CA1.0	<b>Report Summary</b>
CA1.1	N/A
CB1.0	<b>Product Description</b>
CB1.1	<p>Panel PC, Model POC-195XXXDCXXXXXXX consists of a LCD Panel, CD or DVD-ROM, HDD(optional), CPU, build-in speakers, LED lights, and mainbord, enclosed in metal chassis and plastic enclosure, supplied by a external recognized power supply, for Medical display use.</p> <p>Panel PC, Model POC-S195XXXXXXXXXX consists of a LCD Panel, HDD(optional), CPU, build-in speakers, LED lights, and mainbord, enclosed in metal chassis and plastic enclosure, supplied by a external recognized power supply, for Medical display use.</p>
CC1.0	<b>Model Differences</b>
CC1.1	POC-195XXXDCXXXXXXX. POC-S195XXXXXXXXXX. where X is anv alphanumeric character

	<p>or blank for marketing purpose only, and no impact safety related critical components and constructions.</p> <p>Model POC-195XXXDCXXXXXXX is similar to model POC-S195XXXXXXXXXX, except for model designation, mother board, enclosure, CD or DVD-ROM, and FE connection to external adapter.</p>	
CD1.0	<b>Additional Information</b>	
CD1.1		
CE1.0	<b>Technical Considerations</b>	
CE1.1	The product was investigated to the following additional standards:	UL 60601-1, 1st Edition, 2006-04-26 (includes National Differences for USA), CAN/CSA-C22.2 No. 601.1-M90 (R2005) (includes National Differences for Canada)
CE1.2	The product was not investigated to the following standards or clauses:	Clause 36, Electromagnetic Compatibility (IEC 601-1-2), Clause 48, Biocompatibility (ISO 10993-1), Clause 52.1, Programmable Electronic Systems (IEC 601-1-4)
CE1.3	The product is Classified only to the following hazards:	Casualty, Fire, Shock
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

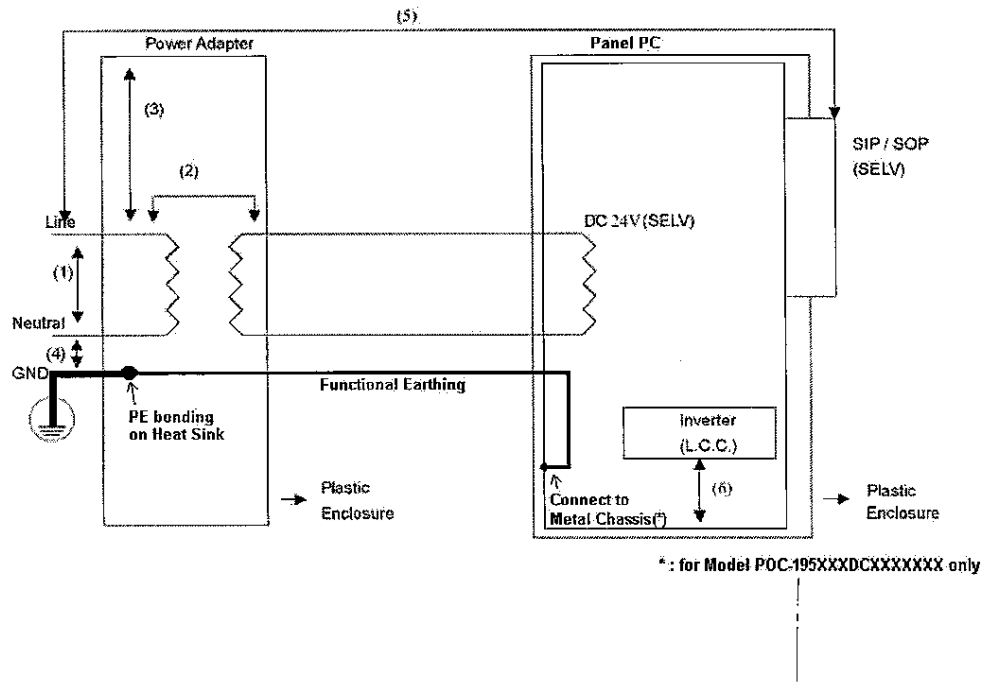
3	<b>GENERAL REQUIREMENTS</b>		Pass
3.1	Equipment when transported, stored, installed, operated in normal use and maintained according to the instructions of the manufacturer, causes no safety hazard which could reasonably be foreseen and which is not connected with its intended application in normal condition (N.C.) and in single fault condition (S.F.C.)		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		N/A

5	<b>CLASSIFICATION</b>		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) .....	Ordinary Equipment, IPX0.	Pass
5.4	Methods of sterilization or disinfection	Not sterilizable.	N/A
5.5	Equipment not suitable for use in the presence of flammable mixtures		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 period .....		-

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
	-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)	BOP, A-f	250	3.0	1.6	3.1	3.1	Between L/N pins on inlet
(2)	DI/RI, A-e	443	16	9	--	--	Provided with Medical Grade Power Supply that complies with UL60601- 1.
(3)	DI/RI, A-a2	250	8	5	8.1	6.8	Between MOV1 pad to external screw.
(4)	BI, A-a1	250	4	2.5	5.5	3.0	Between L/N to Ground pin on inlet.
(5)	DI/RI, A-3	250	8	5	20	20	Line to SIP/SOP
(6)	L.C.C.	--	--	--	--	--	See table 19 for leakage measurements at the worst L.C.C. condition.

#### 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	<b>IDENTIFICATION, MARKING AND DOCUMENTS</b>		Pass
6.1	Marking on the outside of equipment or equipment parts		Pass
6.1c	Markings of the specific power supply affixed	Model number of power supplies are marked on Label.	Pass
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.....	Advantech or control number 48XJ	Pass
6.1f	Model or type reference .....	POC-195XXXDCXXXXXXX and POC-S195XXXXXXXXXX	Pass
6.1g	Rated supply voltages or voltage range(s)	100-240 Vac for power adapter; 24 Vdc for Panel PC	Pass
	Number of phases.....	Single phase, no marking required.	Pass
	Type of current .....	AC	Pass
6.1h	Rated frequency or rated frequency range(s) (Hz) :	47-63Hz	Pass
6.1j	Rated power input (VA, W or A).....	1.25-0.5A	Pass
6.1k	Power output of auxiliary mains socket - outlets	No such parts.	N/A
6.1l	Class II symbol	Class I product	N/A
	Symbol for degree of protection against ingress of water provided.....	Ordinary, IPXO. No marking required.	N/A
	Symbol for protection against electric shock.....	No applied parts.	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		N/A
	Symbol 14 from Table DI for defibrillation-proof with protection partly in patient cable		N/A
6.1m	Mode of operation (if no marking, suitable for continuous operation)	Continuous, no marking.	Pass
6.1n	Types and rating of external accessible fuses.....	No such parts.	N/A
6.1p	Ratings of external output: .....		N/A
6.1q	Symbol for physiological effect(s):		Pass
	- attention, consult accompanying documents	Marking provided on Label	Pass

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
	- non-ionizing radiation, or symbols as adopted by ISO or IEC 417		N/A
6.1r	Anaesthetic-proof symbol: AP or APG.....:	Not AP or APG equipment.	N/A
6.1s	Dangerous voltage symbol		N/A
6.1t	Special cooling requirements		N/A
6.1u	Limited mechanical stability		N/A
6.1v	Protective packing requirement(s)		N/A
	- Marking(s) for unpacking safety hazard(s)		N/A
	- Equipment or accessories supplied sterile, marked as sterile	Not sterile.	N/A
6.1y	Potential equalization terminal	No such parts.	N/A
	- Functional earth terminal	No FE.	N/A
6.1z	Removable protective 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.	N/A
6.2b	Maximum power loading for heating elements or holders for heating lamps		N/A
6.2c	Dangerous voltage symbol		N/A
6.2d	Type of battery and mode of insertion	Battery is not user replaceable.	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	Previously evaluated in UL 60601-1 power supplies.	Pass
6.2f	Protective earth terminal	Previously evaluated in UL 60601-1 power supplies.	Pass
6.2g	Functional earth terminal	Class I equipment, FE was only provided in PC end and for POC-195XXXDCXXXXXX only. See insulation diagram for details.	N/A
6.2h	Supply neutral conductor in permanently installed equipment (N)	Not permanently installed.	N/A
6.2j	Markings required in 6.2 f), h), k), and l) remain visible after connection and are not affixed to parts		Pass

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
	which have to be removed		
	- 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	No mains switch.	N/A
	- ON and OFF positions marked according to Symbols 15 and 16 of table D1 or indicated by an adjacent indicator light		N/A
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 such parts.	N/A
6.3f	The functions of operator controls and indicators are identified	Standby power indicated with green when 'on' and orange when 'off.'	Pass
6.3g	Numeric indications of parameters are in SI units except for units listed in Am. 2	No such parts.	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	Previously evaluated in UL 60601-1 power supplies.	Pass
6.5b	All insulations of internal protective earth conductors are green/yellow at least at their terminations	Previously evaluated in UL 60601-1 power supplies.	Pass
6.5c	Only protective or functional earthing, or potential equalization conductors are green/yellow	Previously evaluated in UL 60601-1 power supplies.	Pass
6.5d	Color of neutral conductor.....:	Appliance inlet provided.	N/A
6.5e	Colors of phase conductor(s).....:		N/A
	- Compliance with IEC 227 and IEC 245		N/A

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
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	No gas connection.	N/A
6.6b	Identification of connection point		N/A
6.7	Indicator lights and push-buttons		Pass
6.7a	Red indicator lights used exclusively to indicate a warning of danger and/or a need for urgent action	No red indicators.	N/A
	- Yellow used to indicate caution or attention required	No yellow indicators.	N/A
	- Green used to indicate ready for action	Standby power indicated with green when 'on' and orange when 'off.'	Pass
6.7b	Color red used only for push-buttons by which a function is interrupted in case of emergency	No such parts.	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		Pass
	Classifications specified in Clause 5 included in both the instructions for use and the technical description		Pass
	Markings specified in Sub-clause 6.1 included in the accompanying documents if they have not been permanently affixed to equipment	Markings affixed to equipment.	N/A
	Warning statements and the explanation of warning symbols provided in the accompanying documents		Pass
6.8.2	Instructions for use		Pass
6.8.2a	General information provided in instructions for use		Pass
	- state the function and intended application of the equipment		Pass
	- include an explanation of: the function of controls, displays and signals		Pass
	- the sequence of operation		Pass
	- the connection and disconnection of detachable parts and accessories		Pass
	- the replacement of material which is consumed during operation		N/A

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
	- 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		Pass
	- instructions concerning cleaning, preventive inspection and maintenance to be performed including the frequency of such maintenance		Pass
	General information provided in instructions:		Pass
	- information for the safe performance of routine maintenance		Pass
	- parts on which preventive inspection and maintenance shall be performed by other persons including the periods to be applied		N/A
	- explanation of figures, symbols, warning statements and abbreviations on the equipment		Pass
6.8.2c	Signal output or signal input parts intended only for connection to specified equipment described		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	No such parts.	N/A
6.8.2f	A warning to remove primary batteries if equipment is not likely to be used for some time	No such parts.	N/A
6.8.2g	Instructions to ensure safe use and adequate maintenance of rechargeable batteries		Pass
6.8.2h	Identification of specified external power supplies or battery chargers necessary to ensure compliance with the requirements of IEC 601-1		Pass
6.8.2j	Identification of any risks associated with the disposal of waste products, residues, etc.		Pass
	- Advice in minimizing these risks		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
	- Instructions for replacement of interchangeable and/or detachable parts which are subject to		Pass

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

	deterioration during normal use		
6.8.3c	Instructions or reference information for repair of equipment parts designated by the manufacturer as repairable provided		N/A
6.8.3d	Environmental conditions for transport and storage specified in accompanying documents and marked on packaging		Pass

7	<b>POWER INPUT</b>		Pass
	Power Input Measurements	(see appended table 7)	Pass

10	<b>ENVIRONMENTAL CONDITIONS</b>		Pass
10.1	Equipment is capable while packed for transport or storage of being exposed to the conditions stated by the manufacturer		Pass
10.2.2a	Rated voltage not exceeding 250 V for hand-held equipment	Not hand held.	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	Max. 240 V ac	Pass
	Rated voltage not exceeding 500 V for all other equipment		N/A
	Rated input frequency not more than 1kHz	Max 63 Hz.	Pass
10.2.2b	Internal replaceable electrical power source specified	No such parts.	N/A

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

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

<b>15</b>	<b>LIMITATION OF VOLTAGE AND/OR ENERGY</b>		N/A
15b	Voltage measured one sec after disconnection of the mains plug does not exceed 60V	Previously evaluated in UL 60601-1 power supplies.	N/A
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	Previously evaluated in UL 60601-1 power supplies.	N/A
	Marking provided for manual discharging		N/A

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
16	<b>ENCLOSURES AND PROTECTIVE COVERS</b>		Pass
16a	Equipment enclosed to protect against contact with live parts, and with parts which can become live (finger, pin, hook test)		Pass
	Insertion or removal of lamps - protection against contact with live parts provided	No such parts.	N/A
16b	Opening in a top cover positioned that accessibility of live parts by a test rod is prevented	No top openings.	N/A
16c	Conductive parts accessible after the removal of handles, knobs, levers		N/A
	- have a resistance of not more than 0.2 Ohm	No such parts.	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	No such parts.	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 .....:	No such 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		N/A



IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

17	<b>SEPARATION</b>		Pass
17a	Separation method of the applied part from live parts:		N/A
	1) basic insulation: applied part earthed	No applied parts.	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		N/A
17d	Supplementary insulation between hand-held flexible shafts and motor shafts (Class I)		N/A
17g	Separation method of accessible parts other than applied parts from live parts:		Pass
	1) basic insulation: accessible part earthed	R/C UL60601-1 Class I power supply used.	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	R/C UL60601-1 Class I power supply used.	Pass
	5) by protective impedances limiting current to accessible part		N/A
	- Additional leakage current test in single fault conditions	(see appended table 19)	N/A
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	No applied parts.	N/A
	- after exposure to the defibrillation voltage, the equipment continues to perform its intended function		N/A

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

18	<b>PROTECTIVE EARTHING, FUNCTIONAL EARTHING AND POTENTIAL EQUALIZATION</b>		Pass
18a	Accessible parts of Class I equipment separated from live parts by basic insulation connected to the protective earth terminal	Previously evaluated in UL 60601-1 power supplies.	Pass
18b	Protective earth terminals suitable for connection to the protective earth conductor	Previously evaluated in UL 60601-1 power supplies.	Pass
18e	Potential equalization conductor		N/A
	- Readily accessible	No such parts.	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 $\leq 0.1 \text{ Ohm}$	Previously evaluated in UL 60601-1 power supplies.	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 $0.1 \text{ Ohm}$ , 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

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

<b>19</b>	<b>CONTINUOUS LEAKAGE CURRENTS AND PATIENT AUXILIARY CURRENTS</b>		Pass
<b>19.1b</b>	Leakage currents		Pass
	- earth leakage current		Pass
	- enclosure leakage current		Pass
	- patient leakage current	No applied parts.	N/A
	- patient auxiliary current		N/A

<b>20</b>	<b>DIELECTRIC STRENGTH</b>		Pass
	Overall compliance with Clause 20	(see appended table 20)	Pass

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

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

22	<b>MOVING PARTS</b>		N/A
22.2a	Moving parts of a transportable equipment are provided with guards which form an integral part of the equipment	No hazardous motion.	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	<b>SURFACES, CORNERS AND EDGES</b>		Pass
	Rough surfaces, sharp corners and edges which may cause injury or damage avoided or covered		Pass

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

24	<b>STABILITY IN NORMAL USE (see appended table 24)</b>		Pass
24.1	Equipment does not overbalance during normal use when tilted through an angle of 10°	(see appended table 24)	Pass
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	No such parts.	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		N/A

25	<b>EXPELLED PARTS</b>		N/A
25.1	Protective means are provided where expelled parts of the equipment could be a hazard	No such parts.	N/A
25.2	Display vacuum tubes with a face dimension exceeding 16 cm are provided with adequate protection against implosion		N/A

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

28	<b>SUSPENDED MASSES</b>		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	<b>X-RADIATION</b>		N/A
29.2	EQUIPMENT not intended to produce X-radiation produces an exposure $\leq 130 \text{ nC/kg}$ (0.5 mR)	No such parts.	N/A

36	<b>ELECTROMAGNETIC COMPATIBILITY</b>		N/A
	Equipment complies with IEC 601-1-2	Not included in the scope of this evaluation.	N/A

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

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

<b>42</b>	<b>EXCESSIVE TEMPERATURES</b>		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		Pass
42.3	Applied parts not intended to supply heat have surface temperatures not exceeding 41°C	No applied parts.	N/A
42.5	Guards to prevent contact with hot surfaces removable only with a tool	No hot surfaces.	N/A

<b>43</b>	<b>FIRE PREVENTION</b>		Pass
	Strength and rigidity necessary to avoid a fire hazard		Pass

<b>44</b>	<b>OVERFLOW, SPILLAGE, LEAKAGE, HUMIDITY, INGRESS OF LIQUIDS, CLEANING, STERILIZATION AND DISINFECTION</b>		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	No such parts.	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	Ordinary.	N/A
44.7	Equipment capable of withstanding cleaning, sterilization or disinfection without deterioration of safety provisions		N/A

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

45	<b>PRESSURE VESSELS AND PARTS SUBJECT TO PRESSURE</b>		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	No such parts.	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	<b>BIOCOMPATIBILITY</b>		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	No applied parts.	N/A



IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

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

51	<b>PROTECTION AGAINST HAZARDOUS OUTPUT</b>		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	No hazardous output.	N/A

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
52	<b>ABNORMAL OPERATION AND FAULT CONDITIONS</b>		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)		Pass
	The safety of equipment incorporating programmable electronic systems is checked by applying IEC 601-1-4	Software not relied on for safety.	N/A
52.5.2	Failure of thermostats presents no safety hazards	No such parts.	N/A
52.5.3	Short-circuiting of either part of double insulation presents no safety hazard	Previously evaluated in UL 60601-1 power supplies.	Pass
52.5.5	Impairment of cooling: temperatures not exceeding 1.7 times the values of Clause 42 minus 17.5°C	(see appended table 42 and 52)	Pass
52.5.6	Locking of moving parts presents no safety hazard	No moving parts.	N/A
52.5.7	Interruption and short-circuiting of motor capacitors presents no safety hazard		N/A
52.5.8	Duration of motors locked rotor test in compliance with Cl. 52.5.8		N/A
52.5.9	Failure of one component at a time presents no safety hazard	Previously evaluated in UL 60601-1 power supplies.	Pass
52.5.10	Overload of heating elements presents no safety hazard	No such parts.	N/A
52.5.10f	Motors intended to be remotely controlled, automatically controlled, or liable to be operated continuously provided with running overload protection		N/A
52.5.10h	Equipment with three-phase motors can safely operate with one phase disconnected		N/A

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
56	<b>COMPONENTS AND GENERAL ASSEMBLY</b>		Pass
	List of critical components	(see appended critical component table)	Pass
56.1b	Ratings of components not in conflict with the conditions of use in equipment		Pass
	Ratings of mains components are identified	Previously evaluated in UL 60601-1 power supplies.	Pass
56.1d	Components, movements of which could result in a safety hazard mounted securely		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 connection.	N/A
	Medical gas connections not interchangeable	No gas connection.	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.	No patient connection.	N/A
56.4	Connections of capacitors		Pass
	Not connected between live parts and non-protectively earthed accessible parts	Previously evaluated in UL 60601-1 power supplies.	Pass
	If connected between mains part and protectively earthed metal parts comply with: IEC Publication 384-14		Pass
	Enclosure of capacitors connected to mains part and providing only basic insulation, is not secured to non-protectively earthed metal parts		Pass
	Capacitors or other spark-suppression devices are not connected between contacts of thermal cut-outs		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		N/A

IEC 60601			
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		N/A
	Audible warning provided where the loss of function caused by operation of a thermal cut-out presents a safety hazard		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		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		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 appended table additional tests)	Pass
56.7b	Incorrect polarity of connection prevented	(see appended table additional tests)	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	Green indicator used.	Pass
	- to indicate the operation of non-luminous heaters if a safety hazard could result	No such parts.	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	No such parts.	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

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

	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	No such parts.	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

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
57	<b>MAINS PARTS, COMPONENTS AND LAYOUT</b>		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	Previously evaluated in UL 60601-1 power supplies.	Pass
	Means for isolation incorporated in equipment or, if external, specified in the accompanying documents	Incorporated in equipment.	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		N/A
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		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	No such parts.	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	N/A
57.3	Power supply cords		Pass
57.3a	Not more than one connection to a particular supply mains		Pass
	If alternative supply allowed, no safety hazards when more than one connection is made simultaneously		N/A
	The mains plug has only one power supply cord		Pass
	Non-permanently connected equipment provided with power supply cord or appliance inlet		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		Pass
57.3c	Nominal cross-sectional area of conductors of power supply cords not less than in Table XV	18 AWG	Pass

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
57.3d	Stranded conductors not soldered if fixed by any clamping means		Pass
57.4	Connection of power supply cords		N/A
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	Detachable power cord provided.	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		N/A
57.4c	Adequate space inside equipment to allow the supply cable conductors to be introduced and connected		N/A
57.5	Mains terminal devices and wiring of mains part		N/A
	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 power 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		N/A
	Mains terminal devices accessible only with use of a tool		N/A

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
	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		N/A
57.5c	Internal wiring not subjected to stress when the means for clamping the conductors are tightened or loosened		N/A
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	Previously evaluated in UL 60601-1 power supplies.	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		Pass
	Neutral conductor not fused for permanently installed 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		N/A
57.8b	Cross-sectional area of conductors up to protective device not less than the minimum required for the power supply cord	Previously evaluated in UL 60601-1 power supplies.	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	Previously evaluated in UL 60601-1 power supplies.	N/A
	External to the transformer protective devices connected in such a way that failure of any component cannot render the protective devices inoperative		N/A
57.9.1a	Short-circuit of secondary windings not caused excessive temperature	Previously evaluated in UL 60601-1 power supplies.	N/A
57.9.1b	Overload of secondary windings not caused excessive temperature	Previously evaluated in UL 60601-1 power supplies.	N/A



IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
57.9.2	The dielectric strength of the electrical insulation of a mains supply transformer such that it passes tests	Switching power supply.	N/A
57.9.4	Construction		Pass
57.9.4a	Separation of primary and secondary windings	Previously evaluated in UL 60601-1 power supplies.	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		Pass
57.9.4c	Means provided to prevent displacement of end turns		Pass
57.9.4d	Insulated overlap of not less than 3 mm if a protective earthed screen has only one turn		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		N/A
	- three layers provided that each combination of two layers can withstand the dielectric strength test for reinforced insulation	Previously evaluated in UL 60601-1 power supplies.	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	(see insulation diagram) Previously evaluated in UL 60601-1 power supplies.	N/A
	Creepage distances for slot insulation of motors at least 50% of the specified values		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	Previously evaluated in UL 60601-1 power supplies.	Pass

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

	safety hazard		
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	<b>PROTECTIVE EARTHING - TERMINALS AND CONNECTIONS</b>		Pass
58.1	Clamping means of the protective earth terminal		Pass
	Not be able to loosen without the aid of a tool	Previously evaluated in UL 60601-1 power supplies.	Pass
	Screws for internal earth connections are covered or protected against loosening from outside		Pass
58.7	Earth pin of the appliance inlet regarded as the protective earth terminal		Pass
58.8	The protective earth terminal not used for the mechanical connection or the fixing of any component not related to earthing		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		Pass

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
59	<b>CONSTRUCTION AND LAYOUT</b>		Pass
59.1	Internal wiring		Pass
59.1a	Cables and wiring protected against contact with a moving part	No moving parts.	N/A
	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	No movable leads.	N/A
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		N/A
	Conductors subjected to temperatures exceeding 70°C have an insulation of heat-resistant material		N/A
59.1d	Aluminum wires of less than 16 mm <sup>2</sup> cross-section not used	No such parts.	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 such parts.	N/A
59.3	Excessive current and voltage protection		N/A
	Internal electrical power source provided with device for protection against fire hazard		N/A
	Fuse elements replaceable without opening the enclosure fully enclosed in a fuseholder		N/A
	Protective devices between an isolated applied part and the body of the equipment do not operate below 500 V r.m.s.		N/A
59.4	Oil containers		N/A
	Oil containers adequately sealed	No oil containers.	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	<b>TABLE: marking durability</b>		Pass
Marking tested		Remarks	
--		--	
supplementary information:			
Previously evaluated under E214164-A7.			

7	<b>TABLE: power input</b>					Pass
Operating condition	Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Remarks	
Model POC-195XXXDCXXXXXXX with Sinpro adapter, MPU100-108	--	--	--	--	Panel PC input current (A)	
Max Normal Load / --	90	47	1.354	119.4	4.10	
Max Normal Load / --	90	63	1.348	119.5	4.10	
Max Normal Load / 1.25	100	47	1.218	119.1	4.10	
Max Normal Load / 1.25	100	63	1.208	119.3	4.10	
Max Normal Load / 0.5	240	47	0.501	118.3	4.10	
Max Normal Load / 0.5	240	63	0.498	118.1	4.10	
Max Normal Load / --	264	47	0.464	119.3	4.10	
Max Normal Load / --	264	63	0.455	119.0	4.10	
Model POC-S195XXXXXXXXXX with Sinpro adapter, MPU100-108	--	--	--	--	Panel PC input current (A)	
Max Normal Load / --	90	47	0.730	64.8	2.31	
Max Normal Load / --	90	63	0.724	64.8	2.31	
Max Normal Load / 2.0	100	47	0.646	64.3	2.31	
Max Normal Load / 2.0	100	63	0.647	64.4	2.31	
Max Normal Load / 2.0	240	47	0.295	66.5	2.31	
Max Normal Load / 2.0	240	63	0.302	66.4	2.31	
Max Normal Load / --	264	47	0.275	66.5	2.31	
Max Normal Load / --	264	63	0.283	66.5	2.31	
supplementary information:						
Max. Normal Load, model POC-195XXXDCXXXXXXX: The unit continuously crossed reading and writing data between HDD and CD-ROM Drive, each USB loaded 2.5W (total 15W) and 1394 port loaded 2.5W (total 7.5W) and PS2 used Y-shaped adapter for mouse and keyboard and operated with maximum brightness, contrast setting of screen, and maximum volume of speakers, and turn on the book light. Max. Normal Load, model POC-S195XXXXXXXXXX: The unit continuously crossed reading and writing data between HDD, each USB loaded 2.5W (total 5W) and PS2 used Y-shaped adapter for mouse and keyboard and operated with maximum brightness, contrast setting of screen, and maximum volume of speakers, and turn on the book light.						

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Clause	Requirement + Test	Result - Remark	Verdict

15b	TABLE: residual voltage in attachment plug										N/A	
Voltage measured between:		Measurements [ V ]								Remarks		
		1	2	3	4	5	6	7	8		9	10
supplementary information:												

15c	TABLE: residual voltage or energy in capacitors					N/A
Capacitor and its location		Residual voltage (V)	Time after disconnection (s)	Capacitance value (μF)	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:					

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Clause	Requirement + Test	Result - Remark	Verdict

18	TABLE: protective earthing				N/A
Test location		Test current (A)	Measured voltage (V)	Resistance (ohms)	Remarks
supplementary information:					

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Clause	Requirement + Test	Result - Remark	Verdict

19	<b>TABLE: leakage current</b>				Pass
Type of leakage current and test condition (including single faults)		Supply voltage (V)	Supply frequency (Hz)	Measured max. value (µA)	Remarks
Model POC-195XXXDCXXXXXXX		--	--	Before / after humidity	Tested with power adapter MPU100-108
Earth Leakage Current (Fig. 17):		--	--	--	--
ER, NC (S1, S2, S3=1), S5=1		264	63	44.5 / 44.2	MD
ER, NC (S1, S2, S3=1), S5=0		264	63	43.6 / 44.0	MD
ER, SFC: S1=0, (S2, S3=1, S5=1)		264	63	104.8 / 103.6	MD
ER, SFC: S1=0, (S2, S3=1, S5=0)		264	63	104.7 / 103.4	MD
ER, SFC: S2=0, (S1, S3=1, S5=1)		264	63	12.6 / 12.3	MD
ER, SFC: S2=0, (S1, S3=1, S5=0)		264	63	11.5 / 12.0	MD
ER, SFC: S3=0, (S1, S2=1, S5=1)		264	63	11.1 / 10.8	MD
ER, SFC: S3=0, (S1, S2=1, S5=0)		264	63	10.3 / 10.9	MD
Enclosure Leakage Current (Fig. 19):		--	--	--	--
EN, NC (S1, S8=1), S5=1		264	63	0.8 / 0.8	MD1
EN, NC (S1, S8=1), S5=0		264	63	0.8 / 0.8	MD1
EN, SFC: S1=0, S8=1, S5=1		264	63	1.0 / 1.0	MD1
EN, SFC: S1=0, S8=1, S5=0		264	63	1.0 / 1.0	MD1
EN, SFC: S8=0, S1=1, S5=1		264	63	0.9 / 0.9	MD1
EN, SFC: S8=0, S1=1, S5=0		264	63	1.0 / 0.9	MD1
EN, NC (S1, S8=1), S5=1		264	63	1.0 / 1.0	MD2
EN, NC (S1, S8=1), S5=0		264	63	1.0 / 1.0	MD2
EN, SFC: S1=0, S8=1, S5=1		264	63	0.3 / 0.3	MD2
EN, SFC: S1=0, S8=1, S5=0		264	63	0.3 / 0.3	MD2
EN, SFC: S8=0, S1=1, S5=1		264	63	0.8 / 0.8	MD2
EN, SFC: S8=0, S1=1, S5=0		264	63	0.8 / 0.8	MD2
EN, NC (S1, S2, S3, S8=1), S5=1		264	63	0.8 / 0.9	MD3
EN, NC (S1, S2, S3, S8=1), S5=0		264	63	0.8 / 0.9	MD3
EN, SFC: S1=0, S2, S3, S8=1, S5=1		264	63	0.9 / 0.8	MD3
EN, SFC: S1=0, S2, S3, S8=1, S5=0		264	63	0.8 / 0.9	MD3
EN, SFC: S2=0, S1, S3, S8=1, S5=1		264	63	0.9 / 0.8	MD3
EN, SFC: S2=0, S1, S3, S8=1, S5=0		264	63	0.9 / 0.8	MD3
EN, SFC: S3=0, S1, S2, S8=1, S5=1		264	63	0.8 / 0.8	MD3
EN, SFC: S3=0, S1, S2, S8=1, S5=0		264	63	0.8 / 0.8	MD3
EN, SFC: S8=0, S1, S2, S3=1, S5=1		264	63	102.0 / 102.2	MD3



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Clause	Requirement + Test	Result - Remark	Verdict

EN, SFC: S8=0, S1, S2, S3=1, S5=0	264	63	102.0 / 102.1	MD3
EN, NC (S1, S2, S3, S8=1), S5=1	264	63	1.4 / 1.5	MD4
EN, NC (S1, S2, S3, S8=1), S5=0	264	63	1.4 / 1.5	MD4
EN, SFC: S1=0, S2, S3, S8=1, S5=1	264	63	0.8 / 0.8	MD4
EN, SFC: S1=0, S2, S3, S8=1, S5=0	264	63	0.8 / 0.8	MD4
EN, SFC: S2=0, S1, S3, S8=1, S5=1	264	63	0.8 / 0.8	MD4
EN, SFC: S2=0, S1, S3, S8=1, S5=0	264	63	0.8 / 0.8	MD4
EN, SFC: S3=0, S1, S2, S8=1, S5=1	264	63	0.8 / 0.8	MD4
EN, SFC: S3=0, S1, S2, S8=1, S5=0	264	63	0.8 / 0.8	MD4
EN, SFC: S8=0, S1, S2, S3=1, S5=1	264	63	2.8 / 2.8	MD4
EN, SFC: S8=0, S1, S2, S3=1, S5=0	264	63	2.8 / 2.8	MD4
D/A Inverter HV - Metal Chassis Short	--	--	--	--
EN, NC (S1, S8=1), S5=1	264	63	0.8 / 0.8	MD1
EN, NC (S1, S8=1), S5=0	264	63	0.8 / 0.8	MD1
EN, SFC: S1=0, S8=1, S5=1	264	63	1.1 / 1.0	MD1
EN, SFC: S1=0, S8=1, S5=0	264	63	1.1 / 1.0	MD1
EN, SFC: S8=0, S1=1, S5=1	264	63	1.0 / 1.0	MD1
EN, SFC: S8=0, S1=1, S5=0	264	63	1.0 / 1.0	MD1
EN, NC (S1, S8=1), S5=1	264	63	1.0 / 1.0	MD2
EN, NC (S1, S8=1), S5=0	264	63	1.0 / 1.0	MD2
EN, SFC: S1=0, S8=1, S5=1	264	63	0.2 / 0.2	MD2
EN, SFC: S1=0, S8=1, S5=0	264	63	0.2 / 0.2	MD2
EN, SFC: S8=0, S1=1, S5=1	264	63	0.8 / 0.8	MD2
EN, SFC: S8=0, S1=1, S5=0	264	63	0.8 / 0.8	MD2
EN, NC (S1, S2, S3, S8=1), S5=1	264	63	0.8 / 0.8	MD3
EN, NC (S1, S2, S3, S8=1), S5=0	264	63	0.8 / 0.8	MD3
EN, SFC: S1=0, S2, S3, S8=1, S5=1	264	63	0.8 / 0.8	MD3
EN, SFC: S1=0, S2, S3, S8=1, S5=0	264	63	0.8 / 0.8	MD3
EN, SFC: S2=0, S1, S3, S8=1, S5=1	264	63	0.8 / 0.8	MD3
EN, SFC: S2=0, S1, S3, S8=1, S5=0	264	63	0.8 / 0.8	MD3
EN, SFC: S3=0, S1, S2, S8=1, S5=1	264	63	0.9 / 0.8	MD3
EN, SFC: S3=0, S1, S2, S8=1, S5=0	264	63	0.9 / 0.8	MD3
EN, SFC: S8=0, S1, S2, S3=1, S5=1	264	63	102.1 / 102.2	MD3
EN, SFC: S8=0, S1, S2, S3=1, S5=0	264	63	102.1 / 102.3	MD3
EN, NC (S1, S2, S3, S8=1), S5=1	264	63	1.3 / 1.4	MD4
EN, NC (S1, S2, S3, S8=1), S5=0	264	63	1.3 / 1.4	MD4
EN, SFC: S1=0, S2, S3, S8=1, S5=1	264	63	0.8 / 0.8	MD4
EN, SFC: S1=0, S2, S3, S8=1, S5=0	264	63	0.8 / 0.8	MD4
EN, SFC: S2=0, S1, S3, S8=1, S5=1	264	63	0.8 / 0.8	MD4
EN, SFC: S2=0, S1, S3, S8=1, S5=0	264	63	0.8 / 0.8	MD4
EN, SFC: S3=0, S1, S2, S8=1, S5=1	264	63	0.8 / 0.8	MD4
EN, SFC: S3=0, S1, S2, S8=1, S5=0	264	63	0.8 / 0.8	MD4
EN, SFC: S8=0, S1, S2, S3=1, S5=1	264	63	2.7 / 2.8	MD4
EN, SFC: S8=0, S1, S2, S3=1, S5=0	264	63	2.8 / 2.8	MD4

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Clause	Requirement + Test	Result - Remark		Verdict

D/A Inverter C5 Short	--	--	--	--
EN, NC (S1, S8=1), S5=1	264	63	1.3 / 1.3	MD1
EN, NC (S1, S8=1), S5=0	264	63	1.3 / 1.3	MD1
EN, NC (S1, S8=1), S5=1	264	63	1.0 / 1.0	MD2
EN, NC (S1, S8=1), S5=0	264	63	1.0 / 1.0	MD2
EN, NC (S1, S2, S3, S8=1), S5=1	264	63	0.8 / 0.8	MD3
EN, NC (S1, S2, S3, S8=1), S5=0	264	63	0.8 / 0.9	MD3
EN, NC (S1, S2, S3, S8=1), S5=1	264	63	1.4 / 1.5	MD4
EN, NC (S1, S2, S3, S8=1), S5=0	264	63	1.4 / 1.5	MD4
Model POC-S195XXXXXXXXX	--	--	Before / after humidity	Tested with power adapter MPU100- 108
Earth Leakage Current (Fig. 17):	--	--	--	--
ER, NC (S1, S2, S3=1), S5=1	264	63	33.5 / 33.0	MD
ER, NC (S1, S2, S3=1), S5=0	264	63	33.2 / 33.1	MD
ER, SFC: S1=0, (S2, S3=1, S5=1)	264	63	105.0 / 103.8	MD
ER, SFC: S1=0, (S2, S3=1, S5=0)	264	63	104.8 / 103.5	MD
ER, SFC: S2=0, (S1, S3=1, S5=1)	264	63	12.6 / 12.3	MD
ER, SFC: S2=0, (S1, S3=1, S5=0)	264	63	11.6 / 11.6	MD
ER, SFC: S3=0, (S1, S2=1, S5=1)	264	63	11.1 / 11.1	MD
ER, SFC: S3=0, (S1, S2=1, S5=0)	264	63	10.3 / 10.4	MD
Enclosure Leakage Current (Fig. 19):	--	--	--	--
EN, NC (S1, S8=1), S5=1	264	63	0.6 / 0.6	MD1
EN, NC (S1, S8=1), S5=0	264	63	0.6 / 0.6	MD1
EN, SFC: S1=0, S8=1, S5=1	264	63	1.0 / 0.9	MD1
EN, SFC: S1=0, S8=1, S5=0	264	63	1.0 / 0.9	MD1
EN, SFC: S8=0, S1=1, S5=1	264	63	4.1 / 4.0	MD1
EN, SFC: S8=0, S1=1, S5=0	264	63	4.1 / 4.0	MD1
EN, NC (S1, S8=1), S5=1	264	63	0.9 / 0.8	MD2
EN, NC (S1, S8=1), S5=0	264	63	0.9 / 0.8	MD2
EN, SFC: S1=0, S8=1, S5=1	264	63	0.3 / 0.3	MD2
EN, SFC: S1=0, S8=1, S5=0	264	63	0.3 / 0.3	MD2
EN, SFC: S8=0, S1=1, S5=1	264	63	0.8 / 0.8	MD2
EN, SFC: S8=0, S1=1, S5=0	264	63	0.8 / 0.8	MD2
EN, NC (S1, S2, S3, S8=1), S5=1	264	63	23.4 / 22.7	MD3
EN, NC (S1, S2, S3, S8=1), S5=0	264	63	23.8 / 22.8	MD3
EN, SFC: S1=0, S2, S3, S8=1, S5=1	264	63	31.0 / 31.2	MD3

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Clause	Requirement + Test	Result - Remark		Verdict
EN, SFC: S1=0, S2, S3, S8=1, S5=0	264	63	31.0 / 31.2	MD3
EN, SFC: S2=0, S1, S3, S8=1, S5=1	264	63	2.2 / 2.2	MD3
EN, SFC: S2=0, S1, S3, S8=1, S5=0	264	63	2.2 / 2.2	MD3
EN, SFC: S3=0, S1, S2, S8=1, S5=1	264	63	2.0 / 2.0	MD3
EN, SFC: S3=0, S1, S2, S8=1, S5=0	264	63	2.0 / 2.0	MD3
EN, SFC: S8=0, S1, S2, S3=1, S5=1	264	63	10.0 / 10.2	MD3
EN, SFC: S8=0, S1, S2, S3=1, S5=0	264	63	10.0 / 10.1	MD3
EN, NC (S1, S2, S3, S8=1), S5=1	264	63	5.0 / 5.0	MD4
EN, NC (S1, S2, S3, S8=1), S5=0	264	63	5.0 / 5.0	MD4
EN, SFC: S1=0, S2, S3, S8=1, S5=1	264	63	0.7 / 0.7	MD4
EN, SFC: S1=0, S2, S3, S8=1, S5=0	264	63	0.7 / 0.7	MD4
EN, SFC: S2=0, S1, S3, S8=1, S5=1	264	63	0.7 / 0.7	MD4
EN, SFC: S2=0, S1, S3, S8=1, S5=0	264	63	0.7 / 0.7	MD4
EN, SFC: S3=0, S1, S2, S8=1, S5=1	264	63	0.7 / 0.7	MD4
EN, SFC: S3=0, S1, S2, S8=1, S5=0	264	63	0.7 / 0.7	MD4
EN, SFC: S8=0, S1, S2, S3=1, S5=1	264	63	0.6 / 0.7	MD4
EN, SFC: S8=0, S1, S2, S3=1, S5=0	264	63	0.6 / 0.7	MD4
D/A Inverter HV - Metal Chassis Short	--	--	-	--
EN, NC (S1, S8=1), S5=1	264	63	0.5 / 0.5	MD1
EN, NC (S1, S8=1), S5=0	264	63	0.5 / 0.5	MD1
EN, SFC: S1=0, S8=1, S5=1	264	63	0.9 / 0.9	MD1
EN, SFC: S1=0, S8=1, S5=0	264	63	1.0 / 0.9	MD1
EN, SFC: S8=0, S1=1, S5=1	264	63	4.0 / 4.1	MD1
EN, SFC: S8=0, S1=1, S5=0	264	63	4.0 / 4.2	MD1
EN, NC (S1, S8=1), S5=1	264	63	0.9 / 0.9	MD2
EN, NC (S1, S8=1), S5=0	264	63	0.9 / 0.9	MD2
EN, SFC: S1=0, S8=1, S5=1	264	63	0.3 / 0.2	MD2
EN, SFC: S1=0, S8=1, S5=0	264	63	0.2 / 0.2	MD2
EN, SFC: S8=0, S1=1, S5=1	264	63	0.9 / 0.9	MD2
EN, SFC: S8=0, S1=1, S5=0	264	63	0.9 / 0.9	MD2
EN, NC (S1, S2, S3, S8=1), S5=1	264	63	23.2 / 22.8	MD3
EN, NC (S1, S2, S3, S8=1), S5=0	264	63	23.0 / 22.7	MD3
EN, SFC: S1=0, S2, S3, S8=1, S5=1	264	63	31.0 / 31.2	MD3
EN, SFC: S1=0, S2, S3, S8=1, S5=0	264	63	31.0 / 31.2	MD3
EN, SFC: S2=0, S1, S3, S8=1, S5=1	264	63	2.1 / 2.1	MD3
EN, SFC: S2=0, S1, S3, S8=1, S5=0	264	63	2.1 / 2.1	MD3
EN, SFC: S3=0, S1, S2, S8=1, S5=1	264	63	2.0 / 2.1	MD3
EN, SFC: S3=0, S1, S2, S8=1, S5=0	264	63	2.0 / 2.1	MD3
EN, SFC: S8=0, S1, S2, S3=1, S5=1	264	63	10.1 / 10.0	MD3

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Clause	Requirement + Test	Result - Remark	Verdict

EN, SFC: S8=0, S1, S2, S3=1, S5=0	264	63	10.1 / 10.0	MD3
EN, NC (S1, S2, S3, S8=1), S5=1	264	63	5.0 / 5.0	MD4
EN, NC (S1, S2, S3, S8=1), S5=0	264	63	5.0 / 5.0	MD4
EN, SFC: S1=0, S2, S3, S8=1, S5=1	264	63	0.7 / 0.7	MD4
EN, SFC: S1=0, S2, S3, S8=1, S5=0	264	63	0.7 / 0.7	MD4
EN, SFC: S2=0, S1, S3, S8=1, S5=1	264	63	0.6 / 0.7	MD4
EN, SFC: S2=0, S1, S3, S8=1, S5=0	264	63	0.7 / 0.7	MD4
EN, SFC: S3=0, S1, S2, S8=1, S5=1	264	63	0.7 / 0.7	MD4
EN, SFC: S3=0, S1, S2, S8=1, S5=0	264	63	0.7 / 0.7	MD4
EN, SFC: S8=0, S1, S2, S3=1, S5=1	264	63	0.6 / 0.7	MD4
EN, SFC: S8=0, S1, S2, S3=1, S5=0	264	63	0.6 / 0.7	MD4
D/A Inverter C5 Short	--	--	--	--
EN, NC (S1, S8=1), S5=1	264	63	0.6 / 0.6	MD1
EN, NC (S1, S8=1), S5=0	264	63	0.6 / 0.6	MD1
EN, NC (S1, S8=1), S5=1	264	63	0.9 / 1.0	MD2
EN, NC (S1, S8=1), S5=0	264	63	0.9 / 1.0	MD2
EN, NC (S1, S2, S3, S8=1), S5=1	264	63	23.3 / 22.8	MD3
EN, NC (S1, S2, S3, S8=1), S5=0	264	63	23.4 / 22.8	MD3
EN, NC (S1, S2, S3, S8=1), S5=1	264	63	5.0 / 5.2	MD4
EN, NC (S1, S2, S3, S8=1), S5=0	264	63	5.0 / 5.2	MD4

## supplementary information:

MD: Earth pin to Earth; MD1: Foil with enclosure of adapter to Earth; MD2: Foil with Enclosure on 2 sides of adapter; MD3: Metal enclosure of Panel PC to Earth; MD4: Foil with plastic enclosure to metal enclosure of Panel PC.

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

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Clause	Requirement + Test	Result - Remark	Verdict

20	<b>TABLE: dielectric strength</b>				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	
Model POC- 195XXXDCXXXXXX with Sinpro adapter, MPU100-108	--	--	--	--	
Adapter Primary to Adapter Plastic Enclosure	DI/RI	443	4772	No Breakdown	
Adapter Primary to Panel PC SIP/SOP	DI/RI	443	4772	No Breakdown	
Model POC- 195XXXDCXXXXXX with Sinpro adapter, MPU100-108	--	--	--	--	
Adapter Primary to Adapter Plastic Enclosure	DI/RI	443	4772	No Breakdown	
Adapter Primary to Panel PC SIP/SOP	DI/RI	443	4772	No Breakdown	
supplementary information:					
--					

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Clause	Requirement + Test	Result - Remark	Verdict

21	TABLE: mechanical strength		Pass
Part under test		Test (impact, drop, force, handle, rough handling, mobile)	Remarks
Model POC-195XXXDCXXXXXXX (Top, Bottom, Rear, and Front sides)		21.a Force Test, 45N	There was no cracking of the enclosure and no live parts became accessible.
Model POC-195XXXDCXXXXXXX (Top, Bottom, Rear, and Front sides)		21.b Impact Test, 0.5J	There was no cracking of the enclosure and no live parts became accessible.
Model POC-195XXXDCXXXXXXX (Top, Bottom, Rear, and Front sides)		21.6 Rough Handling - Drop Test, drop from height of 3 mm	There was no cracking of the enclosure and no live parts became accessible.
Model POC-S195XXXXXXXXXXXX (Top, Bottom, Rear, and Front sides)		21.a Force Test, 45N	There was no cracking of the enclosure and no live parts became accessible.
Model POC-S195XXXXXXXXXXXX (Top, Bottom, Rear, and Front sides)		21.b Impact Test, 0.5J	There was no cracking of the enclosure and no live parts became accessible.
Model POC-S195XXXXXXXXXXXX (Top, Bottom, Rear, and Front sides)		21.6 Rough Handling - Drop Test, drop from height of 3 mm	There was no cracking of the enclosure and no live parts became accessible.
supplementary information:			
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24	TABLE: - stability		Pass
Part under test		Test condition	Remarks
Model POC-195XXXDCXXXXXXXXX		Front, Rear, Back side on a plane 10 degree	No overbalance
Model POC-S195XXXXXXXXXXXX		Front, Rear, Back side on a plane 10 degree	No overbalance
supplementary information:			
Model POC-195XXXDCXXXXXXXXX is similar to model POC-S195XXXXXXXXXXXX, except for model designation, mother board, enclosure, CD or DVD-ROM, and FE connection to external adapter.			

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Clause	Requirement + Test	Result - Remark	Verdict

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

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Clause	Requirement + Test	Result - Remark	Verdict

42	<b>TABLE: normal temperature</b>		Pass
Supply voltage: See below Ambient temperature: See below		Test Condition: See below	
Measuring location		Measured temperature (°C)	Remarks
Model POC-195XXXDCXXXXXXX, with power adapter MPU100-108 Input Voltage: 90V/63Hz		Measured/C calculated temperature(°C)	Limitation(°C)
Ambient		26.1 / 40.0	--
DC Jack		45.6 / 59.5	--
L2 coil		66.0 / 79.9	105
PWB under U13		69.5 / 83.4	105
C77 body		63.7 / 77.6	85
PWB under U41		68.2 / 82.1	105
PWB under U38		78.6 / 92.5	105
PWB under U46		69.6 / 83.5	105
L10 coil		68.5 / 82.1	105
C119 body		66.5 / 80.4	85
RTC Battery body		60.9 / 74.8	100
HDD body		43.6 / 57.5	--
CD-ROM body		42.6 / 56.5	--
D/A Inverter		--	--
T4 coil		69.5 / 83.4	105
T2 coil		68.4 / 82.3	105
T2 core		67.2 / 81.1	105
L2 coil		71.7 / 85.6	105
C1 body		65.2 / 79.1	85
Panel body		60.0 / 73.9	--
Plastic enclosure inside		50.8 / 64.7	70
Plastic enclosure outside		45.0 / 58.9	85
AC Power Adapter (Sinpro Adapter: MBU100-108)		--	--
T2 coil		89.0 / 102.9	120
T2 core		83.2 / 97.1	120
Plastic enclosure inside		74.8 / 88.7	105
Model POC-195XXXDCXXXXXXX, with power adapter MPU100-108 Input Voltage: 264V/63Hz		Measured/C calculated temperature(°C)	Limitation(°C)
Ambient		26.3 / 40.0	--
DC Jack		45.7 / 59.4	--
L2 coil		65.9 / 79.6	105
PWB under U13		69.7 / 83.4	105
C77 body		63.7 / 77.4	85
PWB under U41		68.3 / 82.0	105



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Clause	Requirement + Test	Result - Remark	Verdict

PWB under U38	78.6 / 92.3	105	
PWB under U46	69.5 / 83.2	105	
L10 coil	68.6 / 82.3	105	
C119 body	66.6 / 80.3	85	
RTC Battery body	61.2 / 74.9	100	
HDD body	43.7 / 57.4	--	
CD-ROM body	42.7 / 56.4	--	
D/A Inverter	--	--	
T4 coil	69.5 / 83.2	105	
T2 coil	68.4 / 82.1	105	
T2 core	67.2 / 80.9	105	
L2 coil	71.7 / 85.4	105	
C1 body	65.3 / 79.0	85	
Panel body	60.2 / 73.9	--	
Plastic enclosure inside	50.9 / 64.6	70	
Plastic enclosure outside	45.3 / 59.0	85	
Metal enclosure outside (heat sink)	52.4 (measured in chamber at ambient 40 degree C)	60	
AC Power Adapter (Sinpro Adapter: MBU100-108)	--	--	
T2 coil	96.9 / 110.6	120	
T2 core	91.0 / 104.7	120	
Plastic enclosure inside	81.5 / 95.2	105	
Model POC-S195XXXXXXXXXX, with power adapter MPU100-108 Input Voltage: 90V/63Hz	Measured/C alculated temperature( °C)	Limitation(°C)	
Ambient	25.8 / 40.0	--	
DC Jack	60.9 / 75.1	--	
L20 coil	72.3 / 86.5	105	
L13 coil	75.4 / 89.6	105	
L11 coil	67.1 / 81.3	105	
C55 body	61.2 / 75.4	85	
PWB under U5	67.3 / 81.5	105	
PWB under U6	65.2 / 79.4	105	
PWB under U4	57.4 / 71.6	105	
RTC Battery body	51.4 / 65.6	100	
HDD body	55.7 / 69.9	--	
D/A Inverter	--	--	
T4 coil	55.3 / 69.5	105	
T2 coil	64.1 / 78.3	105	
T2 core	61.1 / 75.3	105	
L2 coil	69.5 / 83.7	105	
C1 body	64.8 / 79.0	85	
Panel body	55.7 / 69.9	--	

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
	Plastic enclosure inside	49.0 / 63.2	70
	Plastic enclosure outside	42.1 / 56.3	85
	AC Power Adapter (Sinpro Adapter: MBU100-108)	--	--
	T2 coil	70.2 / 84.4	120
	T2 core	70.1 / 84.3	120
	Plastic enclosure inside	67.9 / 82.1	105
	Model POC-S195XXXXXXXXXX, with power adapter MPU100-108 Input Voltage: 264V/63Hz	Measured/C alculated temperature( °C)	Limitation(°C)
	Ambient	26.4 / 40.0	--
	DC Jack	61.5 / 75.1	--
	L20 coil	72.8 / 86.4	105
	L13 coil	75.9 / 89.5	105
	L11 coil	67.7 / 81.3	105
	C55 body	61.8 / 75.4	85
	PWB under U5	68.0 / 81.6	105
	PWB under U6	65.8 / 79.4	105
	PWB under U4	57.9 / 71.5	105
	RTC Battery body	56.3 / 69.9	100
	HDD body	51.9 / 65.5	--
	D/A Inverter	--	--
	T4 coil	55.7 / 69.3	105
	T2 coil	64.3 / 77.9	105
	T2 core	61.3 / 74.9	105
	L2 coil	69.8 / 83.4	105
	C1 body	65.2 / 78.8	85
	Panel body	56.3 / 69.9	--
	Plastic enclosure inside	49.4 / 63.0	70
	Plastic enclosure outside	42.5 / 56.1	85
	Metal enclosure outside (heat sink)	50.3 (measured in chamber at ambient 40 degree C)	60
	AC Power Adapter (Sinpro Adapter: MBU100-108)	--	--
	T2 coil	81.7 / 95.3	120
	T2 core	81.4 / 95.0	120
	Plastic enclosure inside	78.7 / 92.3	105
COR - indicates measurements taken using change-of-resistance method			
supplementary information:			
Temperature was measured under Max. normal load operation as specified in Power Input test.			

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

44	<b>TABLE: overflow, spillage, leakage, humidity, ingress of liquids, cleaning, sterilization, disinfection</b>		Pass
Test type and condition		Part under test	Remarks
Humidity Conditioning: 95%RH, 32°C, 48 hours		Model POC-195XXXDCXXXXXXX with power adapter Sinpro, MPU100-108	Repeated leakage and dielectric tests with acceptable results. See appended tables 19 and 20 for details.
Humidity Conditioning: 95%RH, 32°C, 48 hours		Model POC-S195XXXXXXXXXX with power adapter Sinpro, MPU100-108	Repeated leakage and dielectric tests with acceptable results. See appended tables 19 and 20 for details.
supplementary information:			
--			

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

52	<b>TABLE: abnormal operation</b>		Pass
Test type, condition and clause reference		Observed results	Remarks
Model POC-195XXXDCXXXXXXX		--	--
Impairment of Cooling, Blocked Vents. (with Sinpro Adapter MPU100-108, Voltage: 264V/63Hz)		Temperature stabilized. Ambient: 26.3 degree C; T2 coil: 101.2 degree C; T2 core: 97.0 degree C	Measured temperatures were under the limits
Model POC-195SXXXXXXXXXX		--	--
Impairment of Cooling, Blocked Vents. (with Sinpro Adapter MPU100-108, Voltage: 264V/63Hz)		Temperature stabilized. Ambient: 26.5 degree C; T2 coil: 90.1 degree C; T2 core: 86.1 degree C	Measured temperatures were under the limits
supplementary information:			
--			

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. Power Supply Cord (optional)	Various	Various	Various	Listed, Hospital Grade, maximum 4.5 m (14.76 ft.) long, rated 105 °C, Type SJT flexible cord, No. 18 AWG/3C. One end terminates in 125 V, 10 A, with NEMA 5-15P or 250 V, 10 A with NEMA 6-15P, grounding type, the other end with an appliance coupler.	ZJCZ and AXUT and RTRT, or ELBZ	UL
02. Inter Connecting Cable(optional)	Various	Various	Various	Rated minimum 30 V, 60 degree C, maximum 3.05 m long, jacketed, marked "VW-1" or "FT-1"	AVLV2 DVPJ	UL
03. Secondary Internal Wiring, (low Voltage)	Various	Various	Various	Rated minimum 80 degree C, 30 V. FEP, PTFE, PVC, TFE, neoprene, polyimide, or marked VW-1	AVLV2	UL
04. Insulating Tubing/Sleeving	Various	Various	Various	FEP, PTFE, PVC, TFE, neoprene, polyimide or marked VW-1; 105 degree C, 300V.	UZFT2 YDPU2 YDRY2 YDTU2	UL
05. Connectors and Receptacles (secondary ELV/SELV circuits)	Various	Various	Various	Metal/Plastic Copper alloy pins housed in bodies of plastic rated V-2 minimum	QMFZ2 ECBT2 RTRT2	UL
06. Label	Various	Various	Various	Minimum 65 degree C	PGDQ2 PGJ12	UL
07. Printed Wiring Board	Various	Various	Various	V-1 minimum, 105 degree C.	ZPMV2	UL
08. Power Adapter	Sinpro Electronics Co., Ltd.	MPU100-108		Input: AC 100-240V, 47-63Hz, 1.25-0.5A; Output: DC 21-27V, 4.8-3.7A	QQHM2/8	UL
						7-01
						3-23

IEC 60601		
Clause	Requirement + Test	Result - Remark
		Verdict

09. LCD Panel	AU Optonics Corporation	M190EG01	19 inch, TFT- LCD	--	--	
10. DC/AC Inverter	Lecerf Technology	LV-1501-PLC G02	I/P: 13Vdc maximum, 2750mA maximum O/P: 1800Vrms maximum, 7.5mA maximum	--	--	3-07
10-1. DC/AC Inverter transformers (T1, T2), Core	Various	Various	Ferrite, Overall 23.7 by 20 by 5.2 mm	--	--	4-02
10-1-1. Bobbin	Various	Various	LCP, rated minimum V-2, minimum 0.3 mm thickness, 105 degree C	QMFZ2	UL	
10-1-2. Wiring	Various	Various	Minimum 105 degree C	OBMW2	UL	
11. Hard Disk Drive (Optional)	Various	Various	5Vdc, 2.0A maximum	NWQG2	UL	
12. CD-ROM Drive or DVD-ROM Drive (for Model: POC-195XXDCXXXXXX use only)	Various	Various	5Vdc, 2.0A maximum	NWQG2	UL	
13. Speaker (two provided)	--	--	4 ohm, 1W maximum	--	--	
14. Mother Board (for Model: POC-195XXDCXXXXXX)	Advantech Co., Ltd.	PCM-9690	--	--	--	3-06
14-1. RTC Battery	Various	Various	3V, 195mAh, maximum abnormal charging current 5mA. Battery is protected against charging current by multiple components (Diode D20 and 1k ohm Resistor R379)	BBCV2	UL	
14-2. Polyswitch for USB and PS2 Port (FS6, F2,	Tyco Electronics Corp Raychem	miniSMDC110	8Vdc, 1h: 1.1A, 1t: 2.2A	XGPU2	UL	

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Clause	Requirement + Test	Result - Remark
		Verdict

F3, F4, F5, F6, F7)	Circuit Protection Div					
14-2a. Alternate of Polyswitch for USB and PS2 Port (FS6, F2, F3, F4, F5, F6, F7)	Polytronics Technology Corp.	SMD1812P110TS /TF	8Vdc, Ih: 1.1A, It: 2.2A	XGPU2	UL	
14-3. Polyswitch for 1394 Port (FS9)	Polytronics Technology Corp.	SMD2920P300TF /15	15 V dc, Ih: 3.0 A, It: 5.0 A	XGPU2	UL	
15. Mother Board (for Model: POC-S195XXXXXXXXXX)	Advantech Co., Ltd.	PCM-9686	--	--	--	3-14
15-1. RTC Battery	Various	Various	3V, 195mAh, maximum abnormal charging current 5mA. Battery is protected against charging current by multiple components (Diode D2 and 1k ohm Resistor R152)	BBCV2	UL	
15-2. Polyswitch for USB and PS2 Port (FS2, F1, F2, F2)	Tyco Electronics Corp Raychem Circuit Protection Div	miniSMDC110	8Vdc, Ih: 1.1A, It: 2.2A	XGPU2	UL	
15-2a. Alternate of Polyswitch for USB and PS2 Port (FS2, F1, F2, F2)	Polytronics Technology Corp.	SMD1812P110TS /TF	8Vdc, Ih: 1.1A, It: 2.2A	XGPU2	UL	
16. Enclosure (for Model: POC-S195XXXXXXXXXX)	GE Plastics Global Products For Worldwide Procurement	C2800	V-0, 3.0 mm thickness minimum, 70 degree C, overall 471.5 by 416.2 by 110.8 mm	QMFZ2	UL	3-13
16-1 Metallized Coating	Basictak Co., Ltd.	599-B3730, 599-B4540	Applied on inside of enclosure substrate, GE plastics global products for worldwide procurement, model C2800, rated 65°C. Thickness minimum 1.0mm, maximum 2.0mm.	QMRX2	UL	

IEC 60601				
Clause	Requirement + Test	Result - Remark		Verdict
16-2 Heatsink	--	--	Metal, overall 260 by 210 by 74 mm, see enclosure 3-19, 3-20 for appearances.	--
16-3 Openings of Bottom Side	--	--	Provided numerous openings covered two same areas of 37.7 by 12 mm, each one measured 1.7 mm diameter for speaker used	--
17. Enclosure (for Model: POC-195XXXXCXXXXXX)	GE Plastics Global Products For Worldwide Procurement	C2800	V-0, 3.0 mm thickness minimum, 70 degree C, overall 471.5 by 416.2 by 123.6 mm	QMFZ2
17-1 Metallized Coating	Basictak Co., Ltd.	599-B3730, 599-B4540	Applied on inside of enclosure substrate, GE plastics global products for worldwide procurement, model C2800, rated 65°C. Thickness minimum 1.0mm, maximum 2.0mm.	QMRX2
17-2 Heatsink	--	--	Metal, overall 210 by 160 by 45 mm, see enclosure 3-17, 3-18 for appearances.	--
17-3 Openings of Rear Side	--	--	1) Provided numerous openings covered one area of 348 by 64 mm, each one measured 17.2 by 2.1 mm maximum 2) Provided numerous openings covered one area of 272 by 4.7 mm, each one measured 20 mm by 1.6 mm maximum	--
17-4 Openings of Bottom Side	--	--	1) Provided numerous openings covered two same	--
				3-03

IEC 60601				
Clause	Requirement + Test	Result - Remark	Verdict	
		areas of 37.7 by 12 mm, each one measured 1.7 mm diameter for speaker used 2) Provided numerous openings covered one area of 74 by 28 mm, each one measured 3.9 mm diameter on metal chassis 3) Provided numerous openings covered one area of 441 by 12.4 mm, each one measured 2.3 mm diameter 4) Provided numerous openings covered one area of 63 by 32 mm, each one measured 2.3 mm diameter 5) Provided numerous openings covered one area of 64 by 57 mm, each one measured 2.3 mm diameter 6) Provided numerous openings covered one area of 188 mm by 37 mm, each one measured 19.5 by 2.5 mm maximum		
18. Lamp wiring	--	Rated VW-1, 3 kV, 150 degree C --	AVLV2	UL
19. Base	--	Metal, overall 330 mm diameter and high 315 mm, weight 5.56kg --	--	3-21



IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

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

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

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

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

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

57.9.1a	<b>TABLE: transformer short circuit</b>					N/A
Winding under test	Protection	Measured temperatures (°C)			Test duration	Remarks
		Primary	Secondary	Ambient		
supplementary information:						

57.9.1b	TABLE: overload						N/A
Winding under test	Protection	Measured temperatures (°C)			Test duration	Test current or thermal cutout temp.	Remarks
		Primary	Secondary	Ambient			
supplementary information:							

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

	<b>TABLE: additional tests</b>		Pass
Clause	Test type and condition	Remarks and observed results	Verdict
55DV.4.1 Mold Stress	Models POC-195XXXDCXXXXXXX, 74.6 degree C, 7 hours. Enclosure material: Mfr GE Plastic, type C2800	No damage, no warping.	Pass
55DV.4.1 Mold Stress	POC-S195XXXXXXXXXX, 73.2 degree C, 7 hours. Enclosure material: Mfr GE Plastic, type C2800	No damage, no warping.	Pass
55DV.4.3 Ball Drop	Ball Impact of 6.78Nm onto Model POC- 195XXXDCXXXXXXX	Enclosure was cracked on the rear openings. No live part was exposed and can be touched by test finger.	Pass
55DV.4.3 Ball Drop	Ball Impact of 6.78Nm onto Model POC- S195XXXXXXXXXX	No damage	Pass
49 Interruption of power supply	Model POC-195XXXDCXXXXXXX, with power adapter MPU100-108	No hazard	Pass
49 Interruption of power supply	Model POC-S195XXXXXXXXXX, with power adapter MPU100-108	No hazard	Pass
56.7 Reversed Battery Connection	Model POC-195XXXDCXXXXXXX, battery type: BR2032	No flames, toxic gases, molten metal and risk of explosion	Pass
56.7 Reversed Battery Connection	Model POC-S195XXXXXXXXXX, battery type: BR2032	No flames, toxic gases, molten metal and risk of explosion	Pass
59.2 Ball Pressure	75 degree C, 1 hour. Enclosure material: Mfr GE Plastic, type C2800, thickness: 3.0 mm.	0.7 mm impression	Pass
UL60950- 1, 2.4.1, 2.4.2 Limited Current Circuit Measurem ent	Inverter: Lecerf, LV-1501-PLC G02	Part I: Maximum measured frequency 67.57 kHz with respective measured Voltage 128.0 Vpk and limited current 47.0 mA. Part II: measured capacitance of LN3 from pin1 to pin2 is 0.000002 uF which is far below the limit value 0.1 uF.	For reference only. The LCC is failed, but the device was provided with fire/mechani cal/electrica l enclosure for protection.

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
UL60950-1, 2.5 Limited Power Source Measurements	Model POC-195XXXDCXXXXXXX, with power adapter MPU100-108	Maximum measured VA is 19.7, the value does not exceed the 5 times of Uoc $= 11.545 \times 5 = 57.725$ .	For reference only
UL60950-1, 2.5 Limited Power Source Measurements	Model POC-S195XXXXXXXXXX, with power adapter MPU100-108	Maximum measured VA is 6.3795, the value does not exceed the 5 times of Uoc $= 5.1 \times 5 = 25.5$ .	For reference only
UL60950-1, 4.3.8 Lithium Battery Reverse Current Measurement Test	Model POC-195XXXDCXXXXXXX, with power adapter MPU100-108	Abnormal Reverse Current: 3.0 mA, the value does not exceed the RTC battery limitation, 5.0 mA.	For reference only
UL60950-1, 4.3.8 Lithium Battery Reverse Current Measurement Test	Model POC-S195XXXXXXXXXX, with power adapter MPU100-108	Abnormal Reverse Current: 2.98 mA, the value does not exceed the RTC battery limitation, 5.0 mA.	For reference only
supplementary information:			
--			

**Enclosure**  
**National Differences**

**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	No gas connection.	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	No gas connection.	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		Pass
57.2g	- hospital grade disassembly type complying with CSA C22.2, No. 42		N/A
57.2g	- if Class II equipment - polarized hospital grade CSA configuration 1-15P		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	18 AWG	Pass
57.3b	- minimum serviceability of Type SJ for mobile equipment or Type SV for other	Type SJT or equivalent	Pass
57.9	Canadian difference to this clause no longer applicable		N/A

IEC 60601			
SubClause	Difference + Test	Result - Remark	Verdict

58.2	Canadian difference to this clause no longer applicable		N/A
59.1	Connecting cables comply with Canadian Electrical Code, Part I		Pass
60	Canadian difference to this clause no longer applicable		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.		Pass
3.100.1b	Lithium batteries comply with U.S. National or internationally harmonized component standards		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.	No such parts.	N/A
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.		Pass
3.100.1e	CRT's > 5 inches comply with U.S. National or internationally harmonized component standards	No such parts.	N/A
3.101.1	Primary circuit components up to isolation transformer meet U.S. national or international harmonized component standards	Previously evaluated in UL 60601-1 power supplies.	Pass
6	a) All words except the signal words in "CAUTION", "WARNING", and "DANGER" 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)		Pass
6	c) Letters in contrast color to the background		Pass
6	Equipment capable of emitting ionizing radiation provided with warning statement		N/A
6	If equipment produced in more than one factory, factory identification marked on the equipment	Factory T1 shown on Label.	Pass
6	Multiple-voltage equipment intended for permanent connection marked with voltage for which it is connected when shipped		N/A
6.2l	Statement for suitable wiring materials at temperatures over 60 °C	Not permanently installed.	N/A
6.6a	Identification of the content of gas cylinders in accordance with the color coding requirement of ANSI/NFPA99.	No gas connection.	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	Max. 240 V ac	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	Transportable equipment	N/A
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	Not x-ray equipment.	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	(see appended table 19)	Pass
22	When risk of injury can occur, end stops are provided	No hazardous motion.	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		Pass
55	Polymeric enclosures and external combustible surfaces		Pass
55	Polymeric enclosures comply with: Conductive coatings applied to nonmetallic surfaces comply with UL 746C	(see critical component table)	Pass
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)		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)		N/A
55	Polymeric enclosures for transportable equipment rated 94V-2 or better	(see critical component table)	Pass
55	Polymeric enclosures for fixed or stationary equipment rated 94V-0 or better		N/A
55	Polymeric enclosures withstand 6.78 Nm impact test	(see appended table 21)	Pass
55	Polymeric enclosures: no deformation after mold stress test	(see appended table additional tests)	Pass
55	Polymeric enclosures of hand-held equipment withstands 1.22 m drop test	Not hand held.	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	No patient connection.	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	Not permanently connected.	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 x-ray equipment.	N/A
57.2	Plug acceptable for use with current not less than 125 % of rated 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	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		N/A
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		N/A
58.2	Connections are mechanically secured in addition to soldering	Previously evaluated in UL 60601-1 power supplies.	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

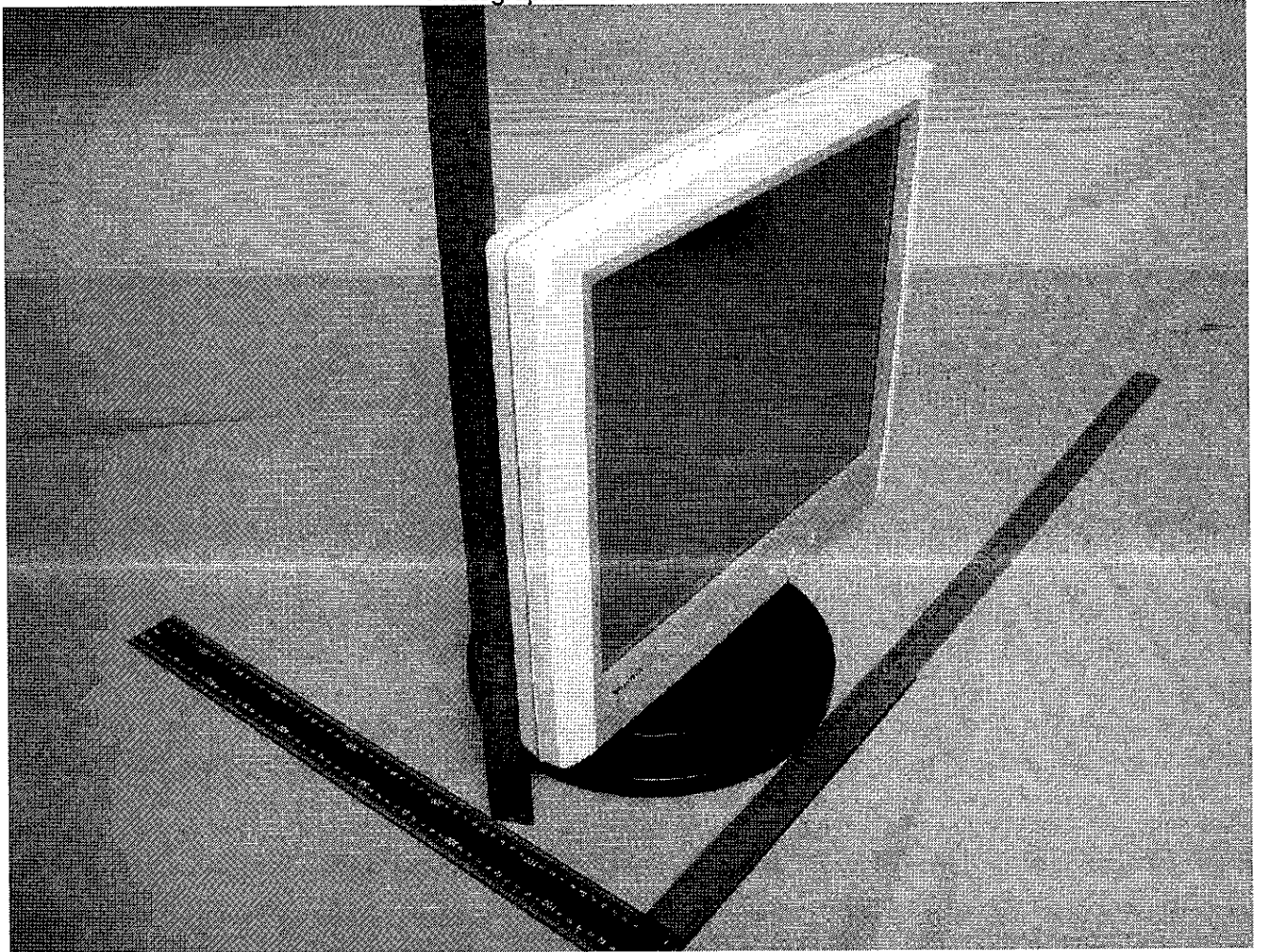
IEC 60601			
SubClause	Difference + Test	Result - Remark	Verdict
400.3	Ventilation required by 400.1 is such that oxygen content does not exceed 4% above ambient		N/A
400.4	Under N.C. and S.F.C. the product of the value of no load rms voltage and short circuit rms current less than 10 VA		N/A
400.4	Surface 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**

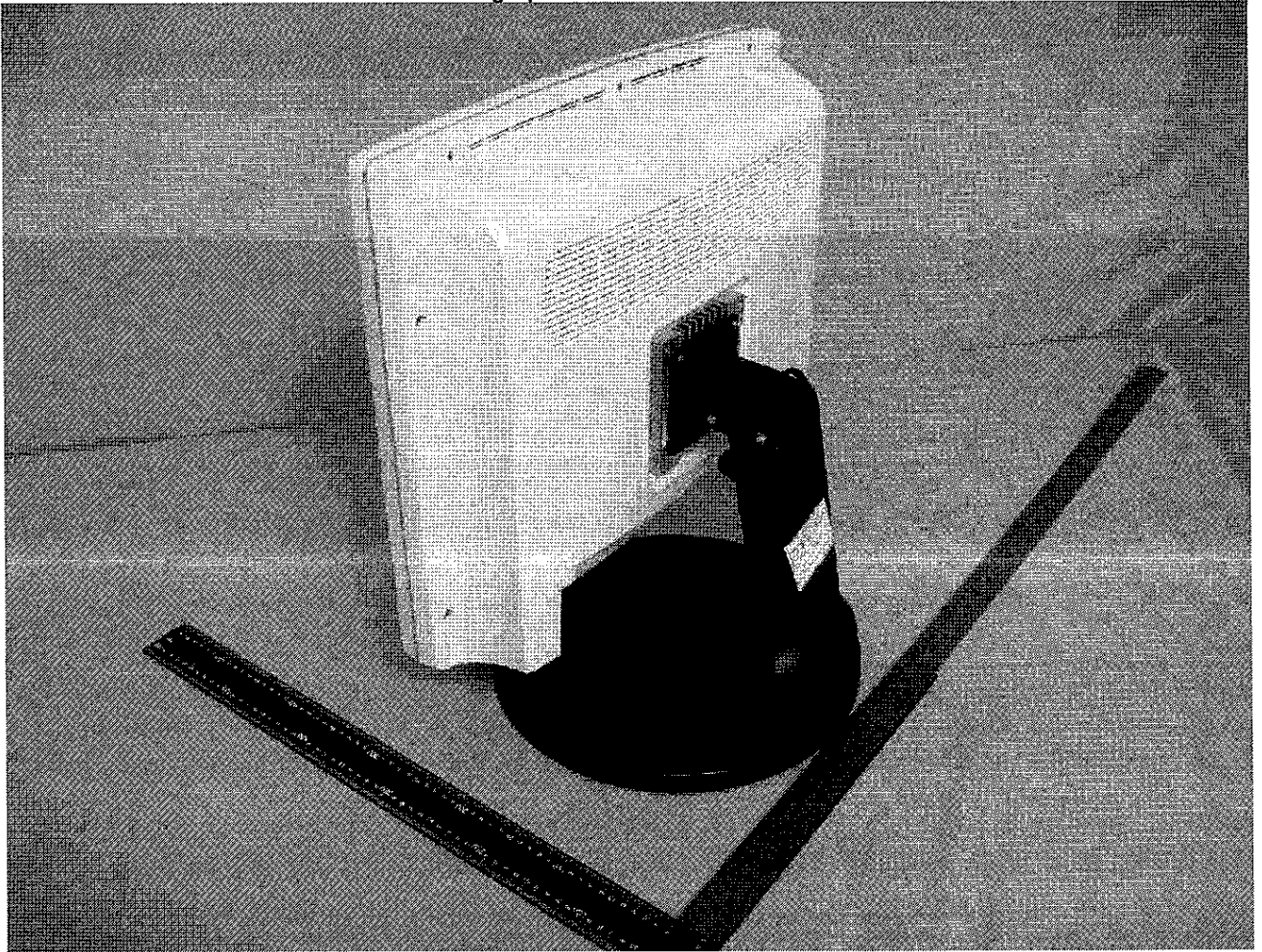
### **Photographs**

Supplement Id	Description
3-01	POC-195, overall front view
3-02	POC-195, overall rear view
3-03	POC-195, bottom view
3-04	POC-195, side view
3-05	POC-195, internal view1
3-06	POC-195, internal view2
3-07	POC-195 and POC-S195, inverter top view
3-08	POC-195 and POC-S195, inverter bottom view
3-09	POC-S195, overall front view
3-10	POC-S195, overall rear view
3-11	POC-S195, back view
3-12	POC-S195, bottom view
3-13	POC-S195, internal view1
3-14	POC-S195, internal view2
3-17	POC-195, heat sink
3-18	POC-195, heat sink2
3-19	POC-S195, heat sink
3-20	POC-S195, heat sink2
3-21	POC-195 and POC-S195, base_front view
3-22	POC-195 and POC-S195, base_rear view
3-23	POC-195 and POC-S195, power adapter

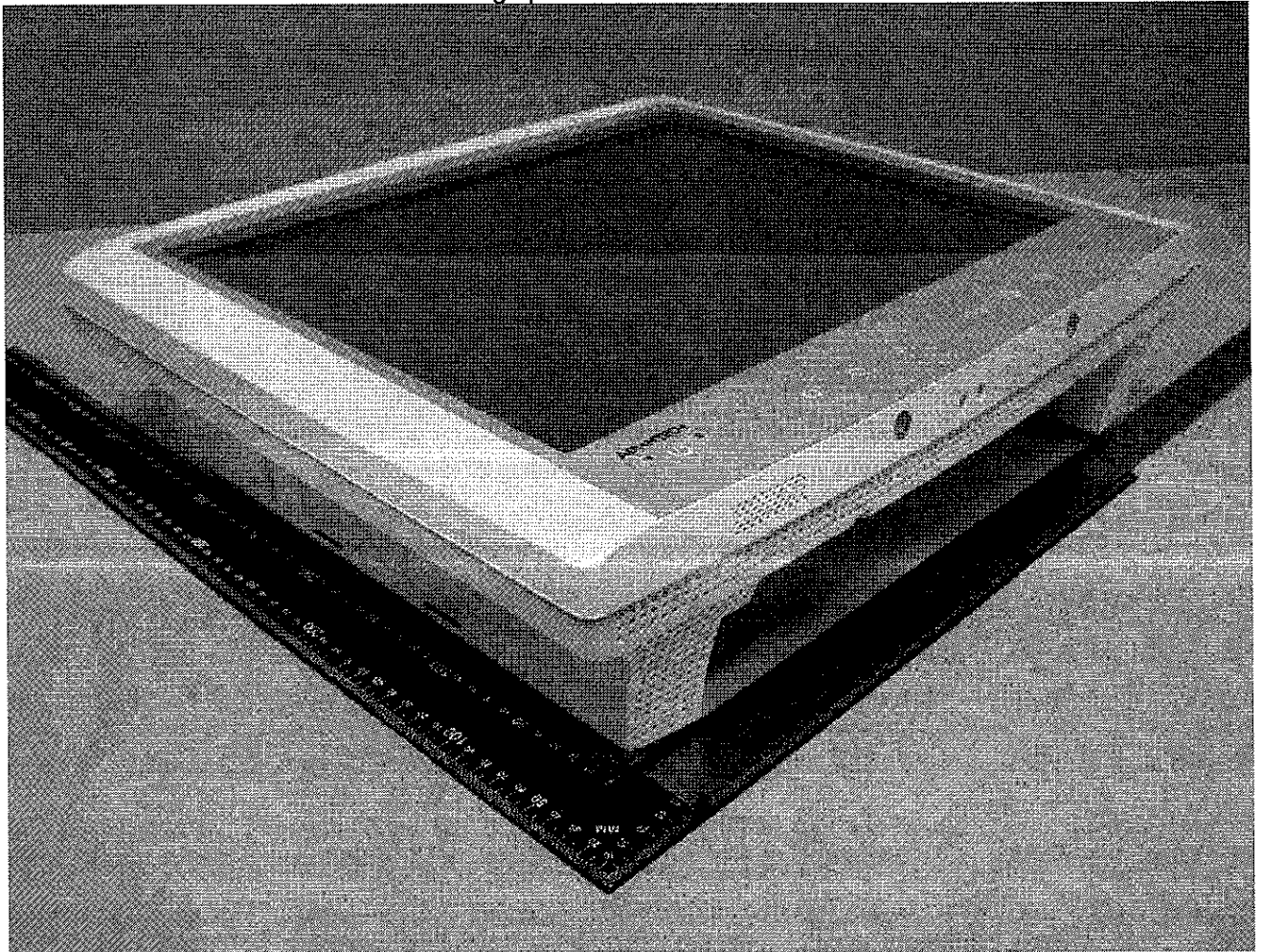
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Photographs ID 3-02

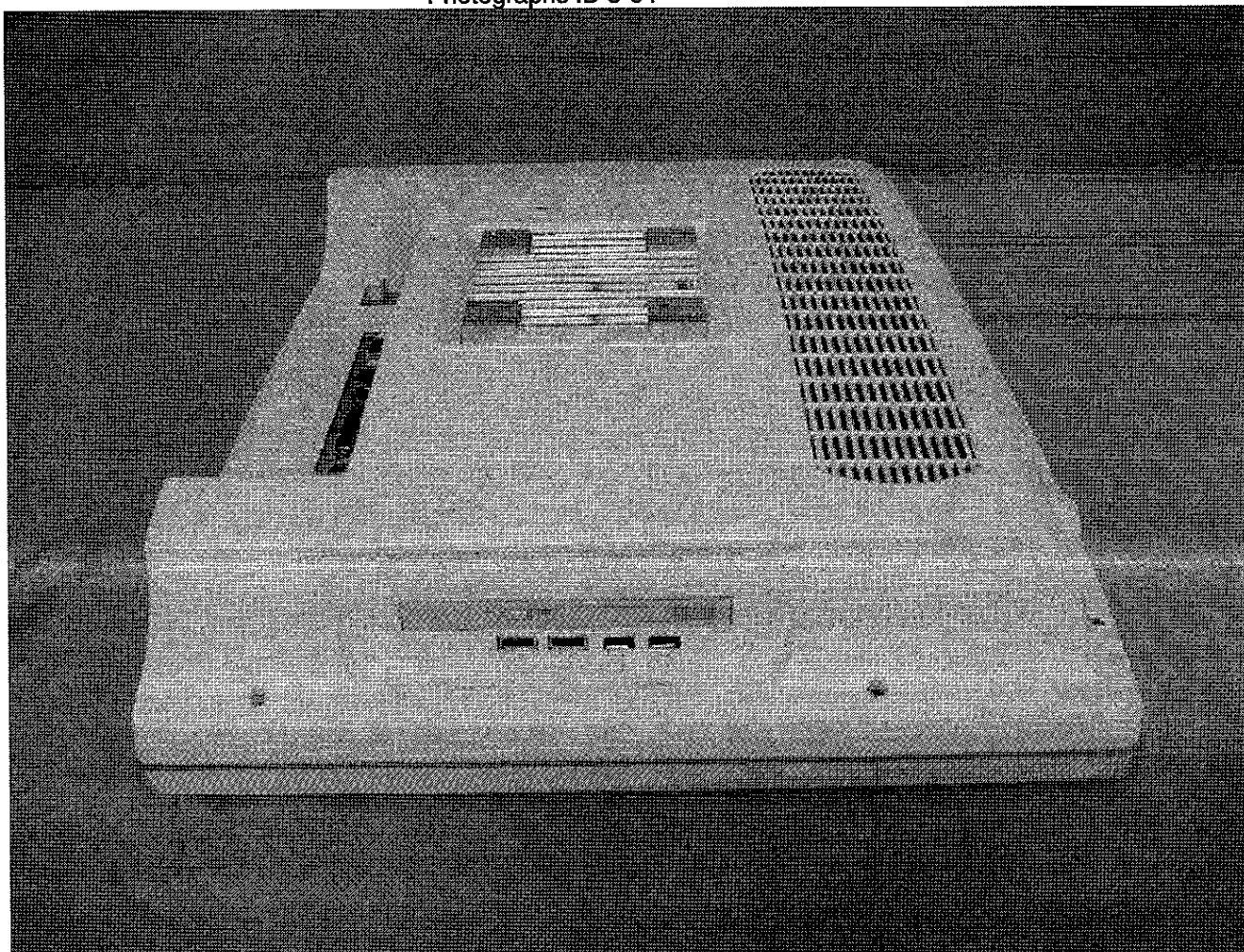


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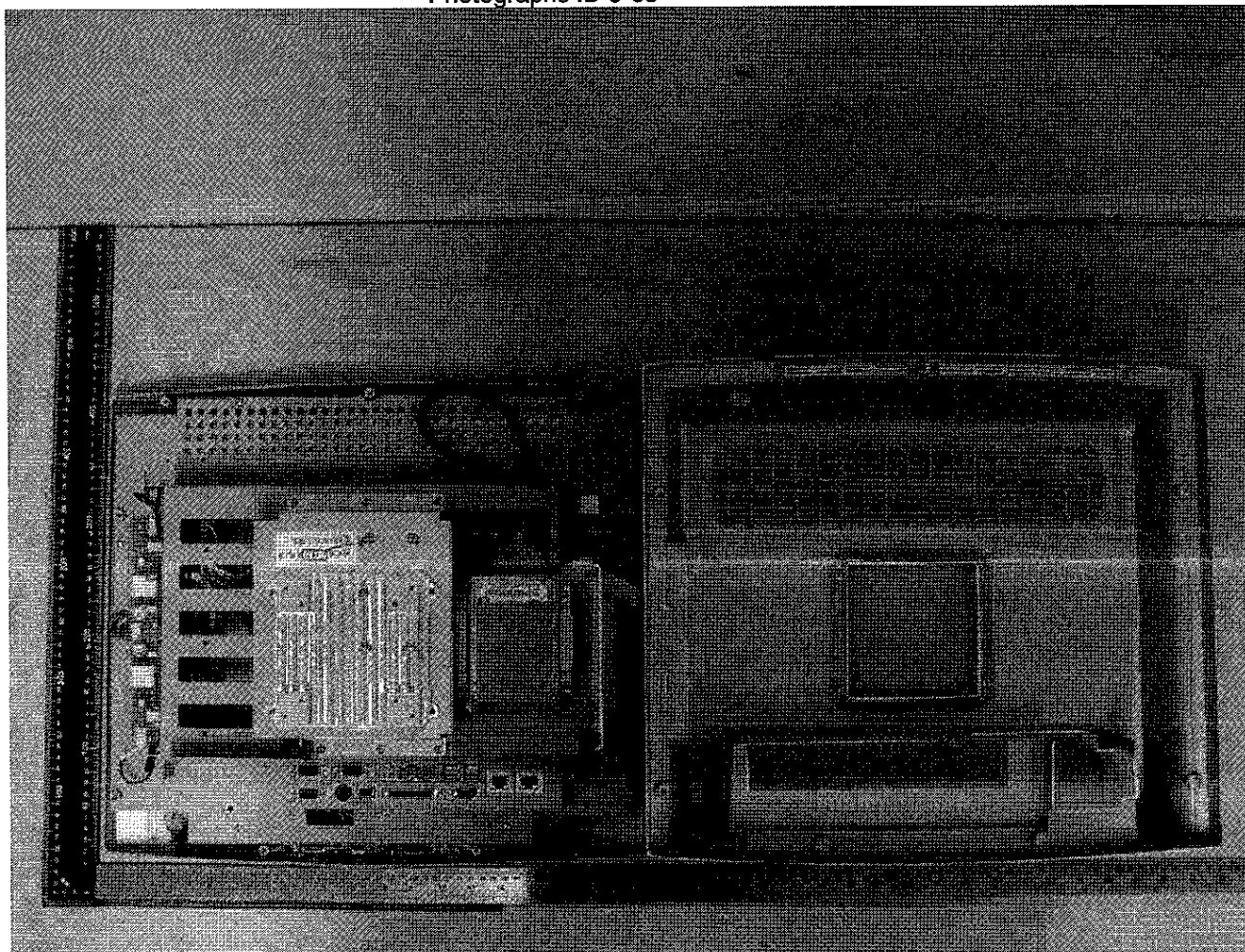




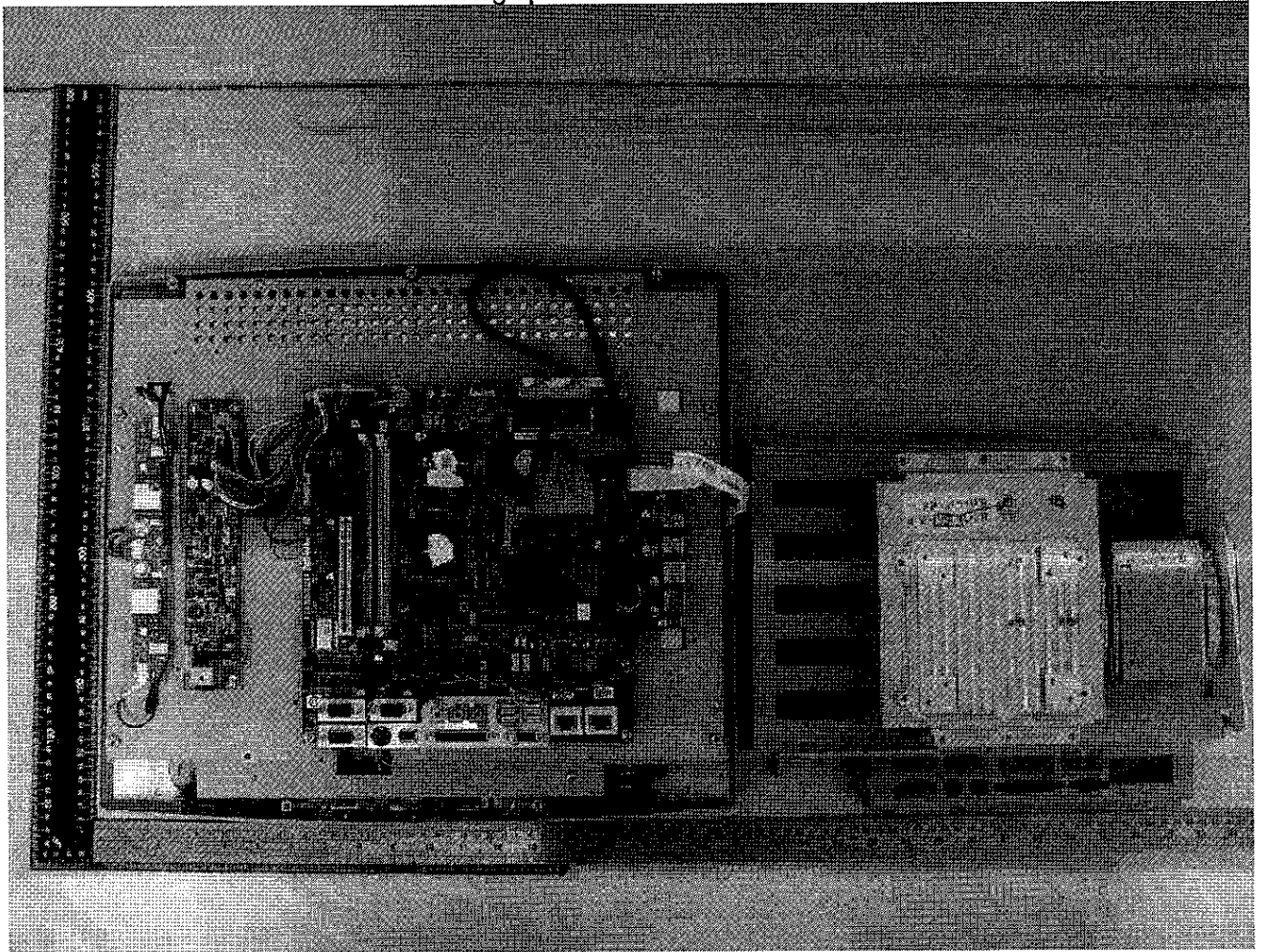
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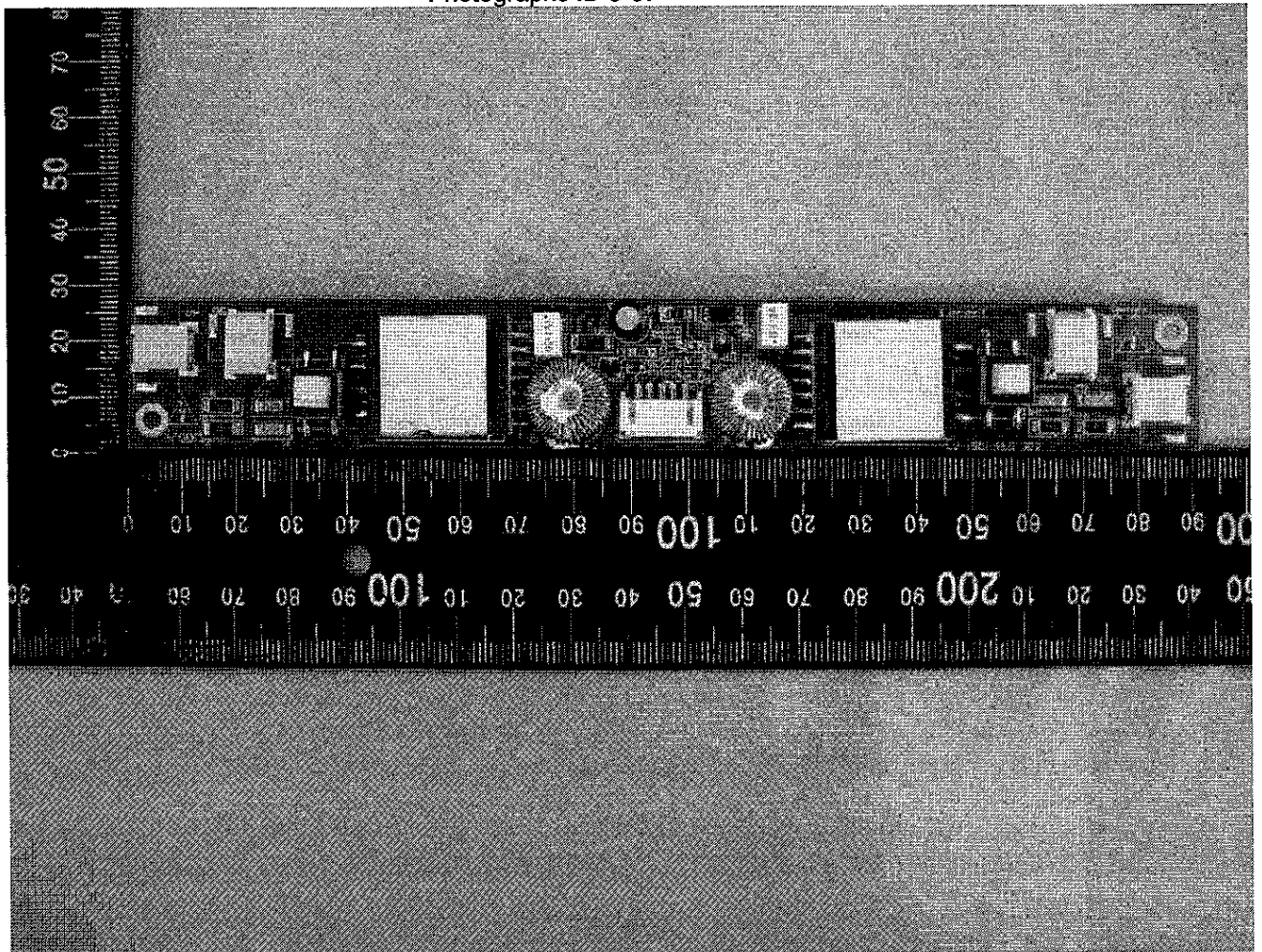
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Photographs ID 3-06

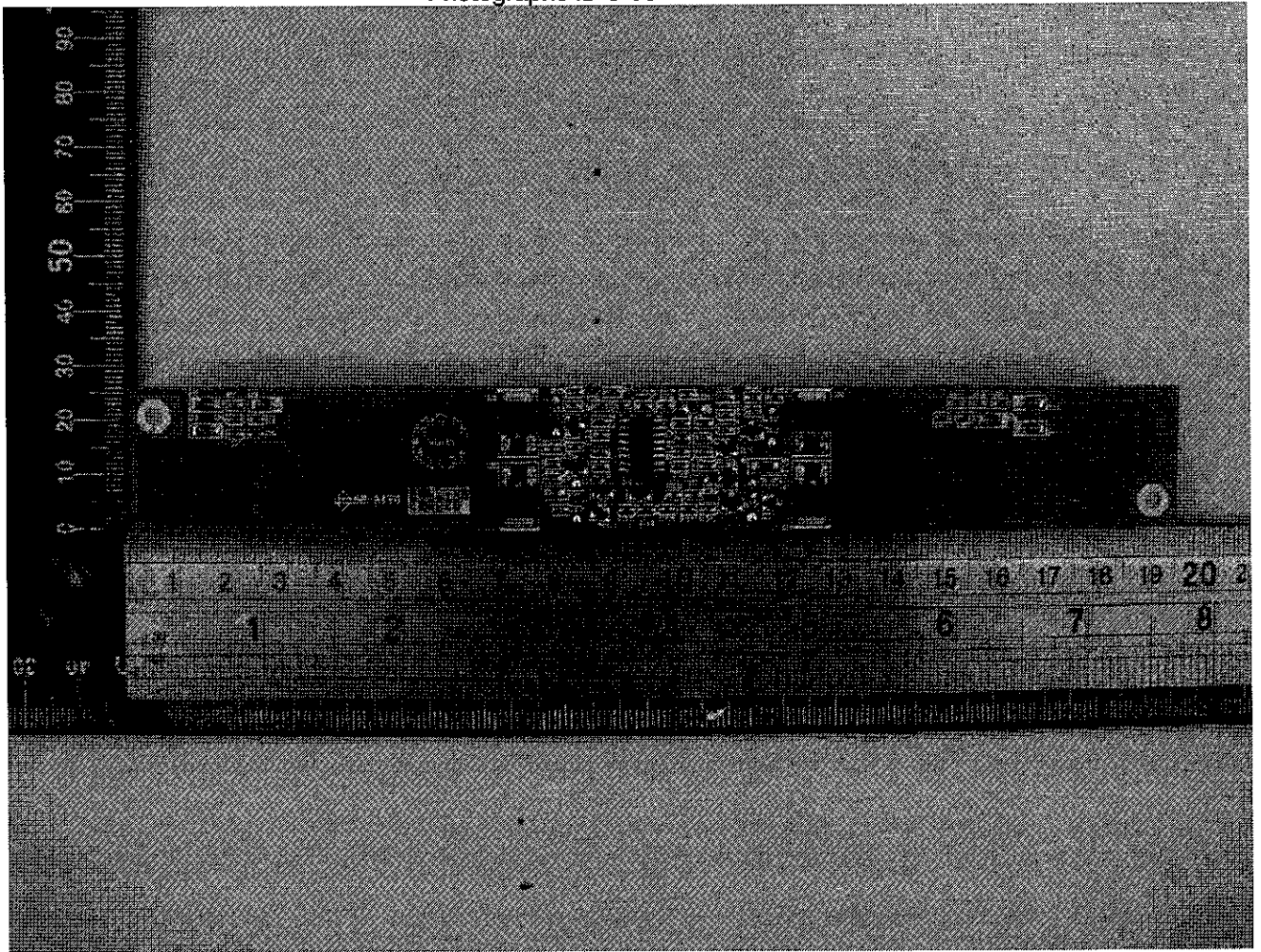


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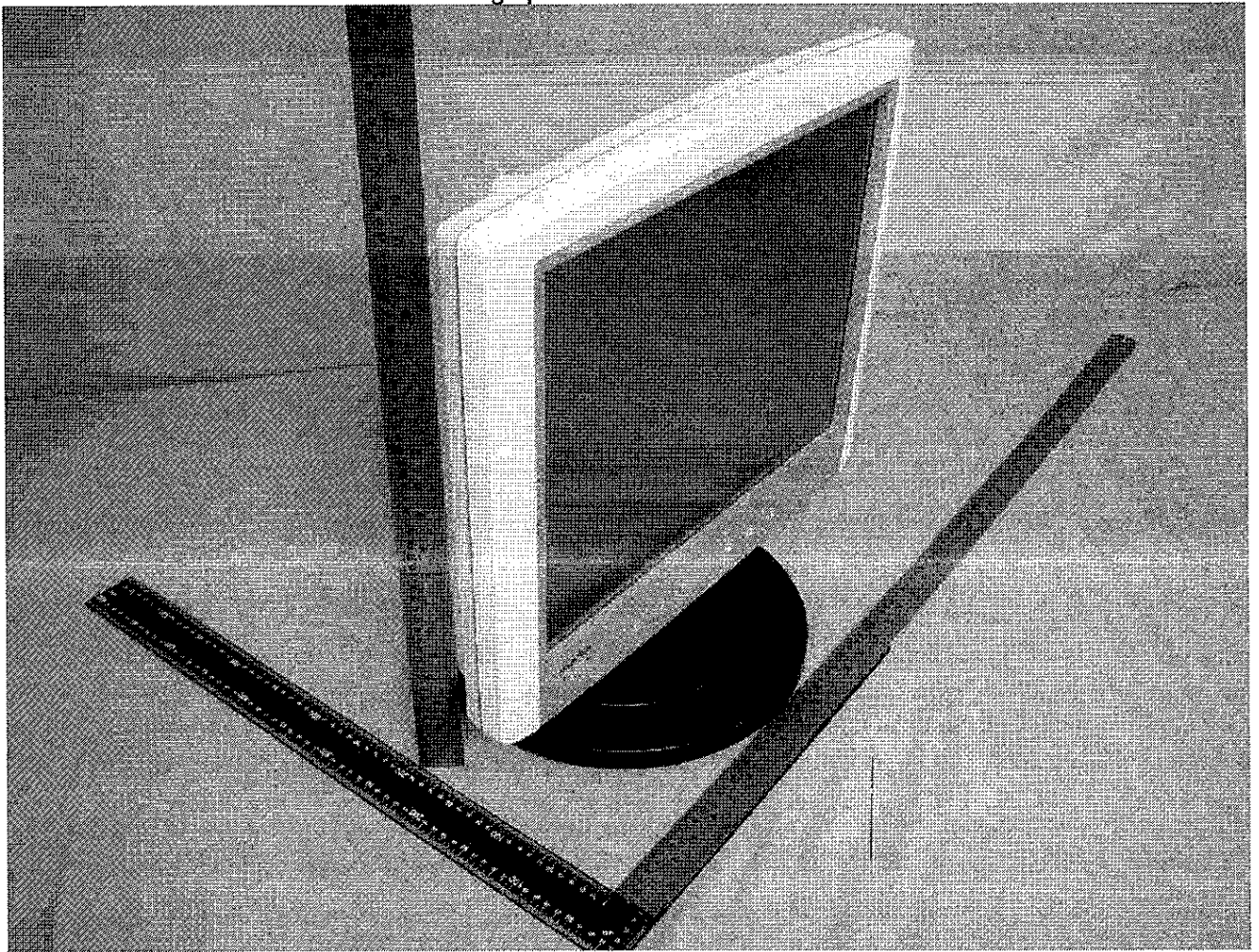




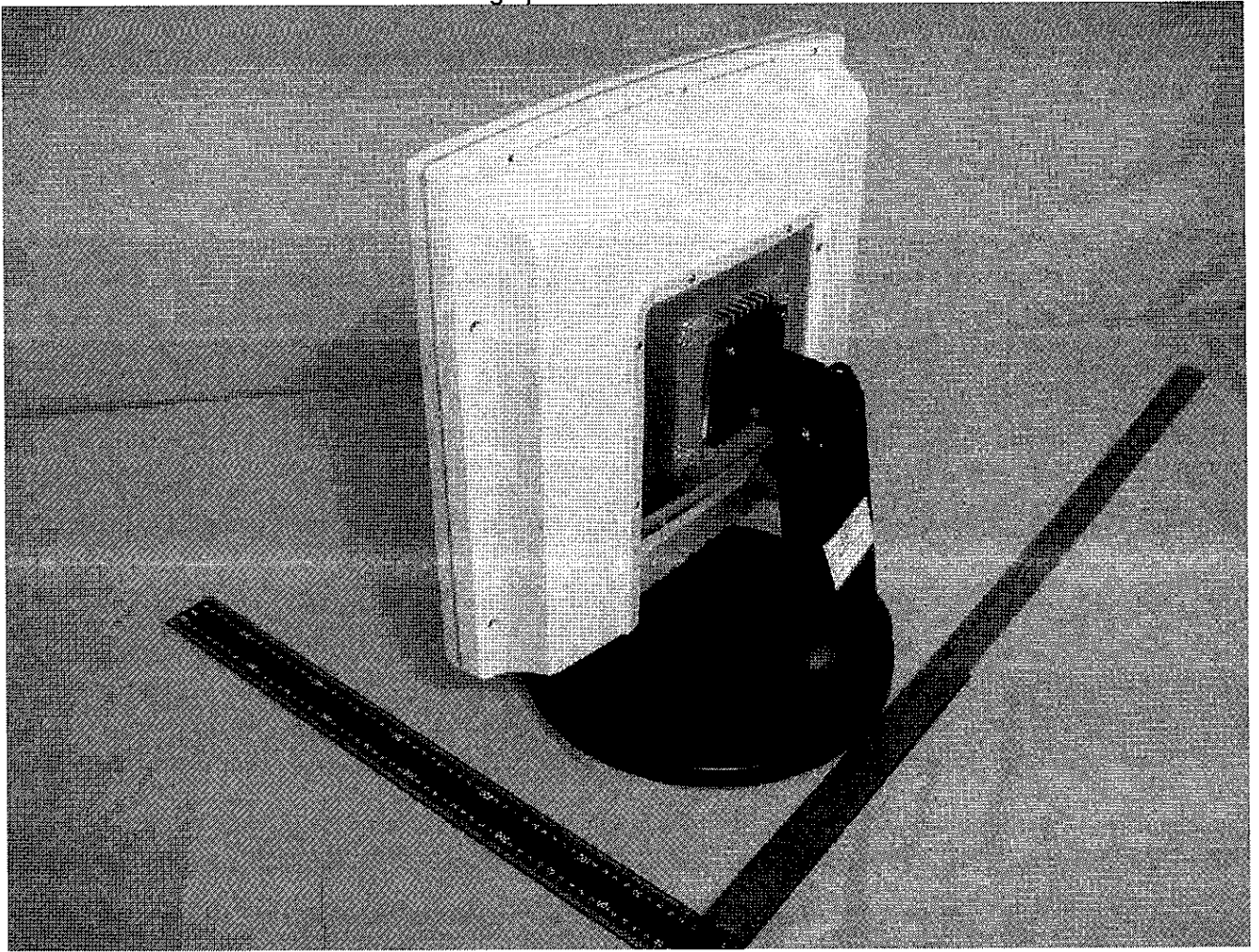
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Photographs ID 3-09

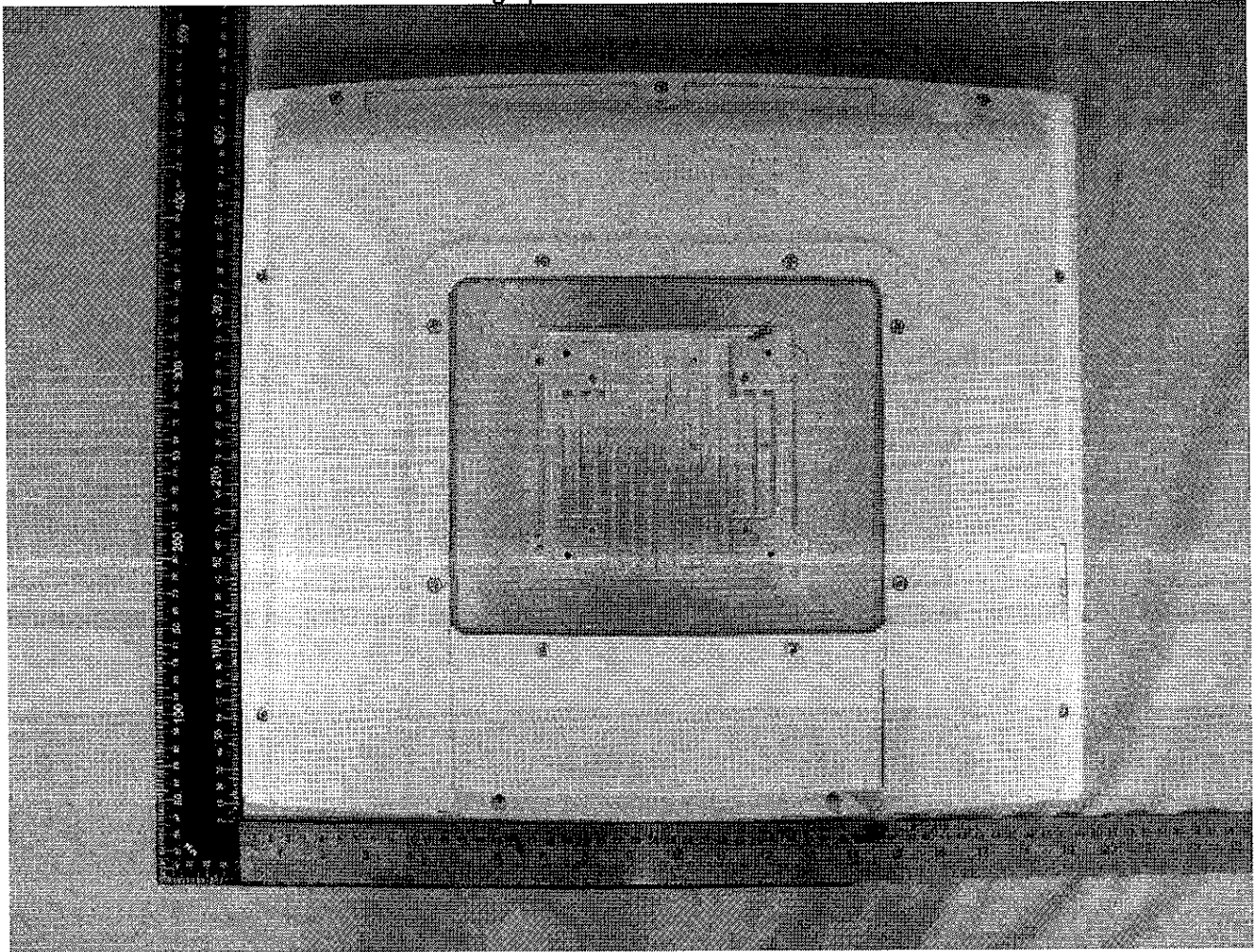


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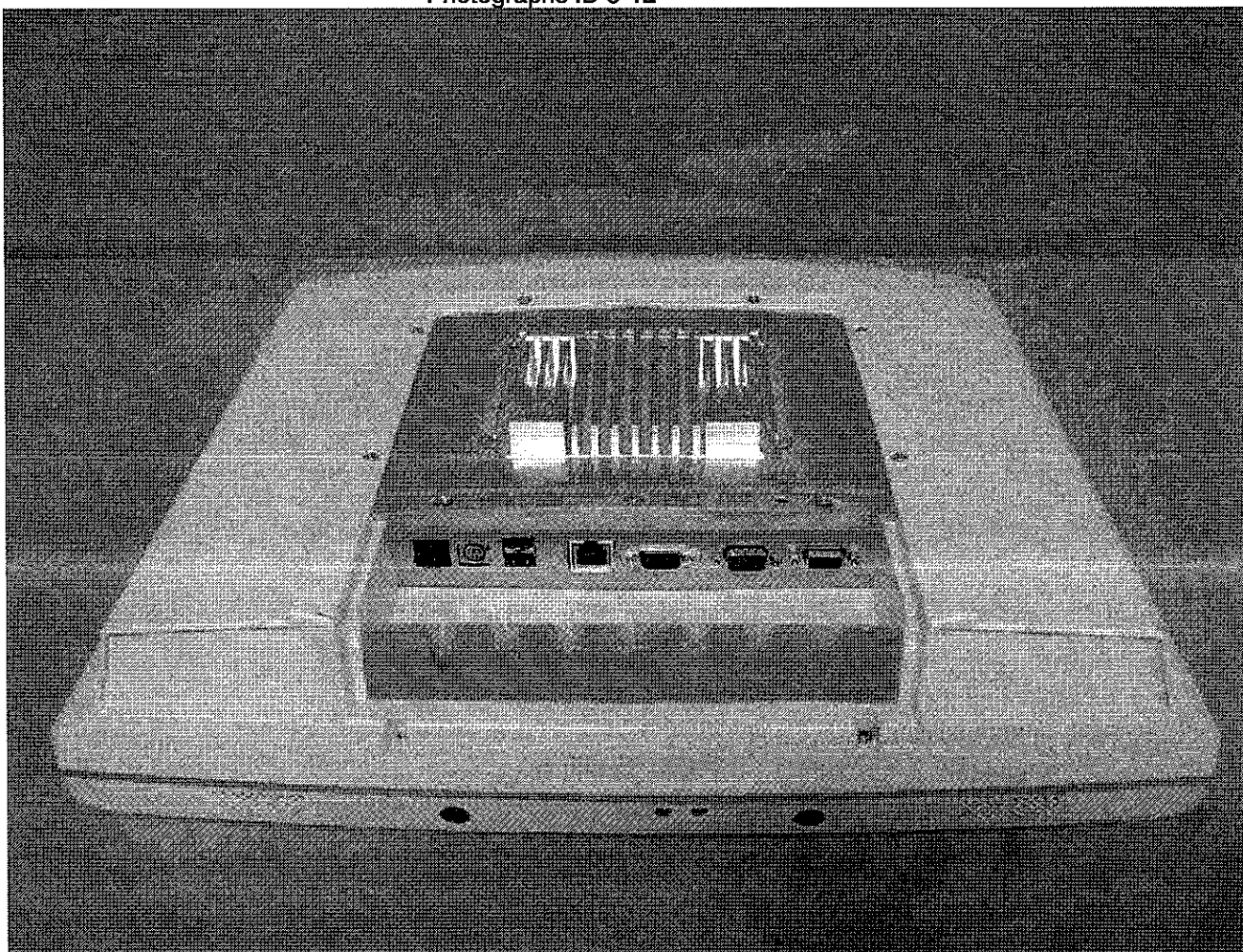


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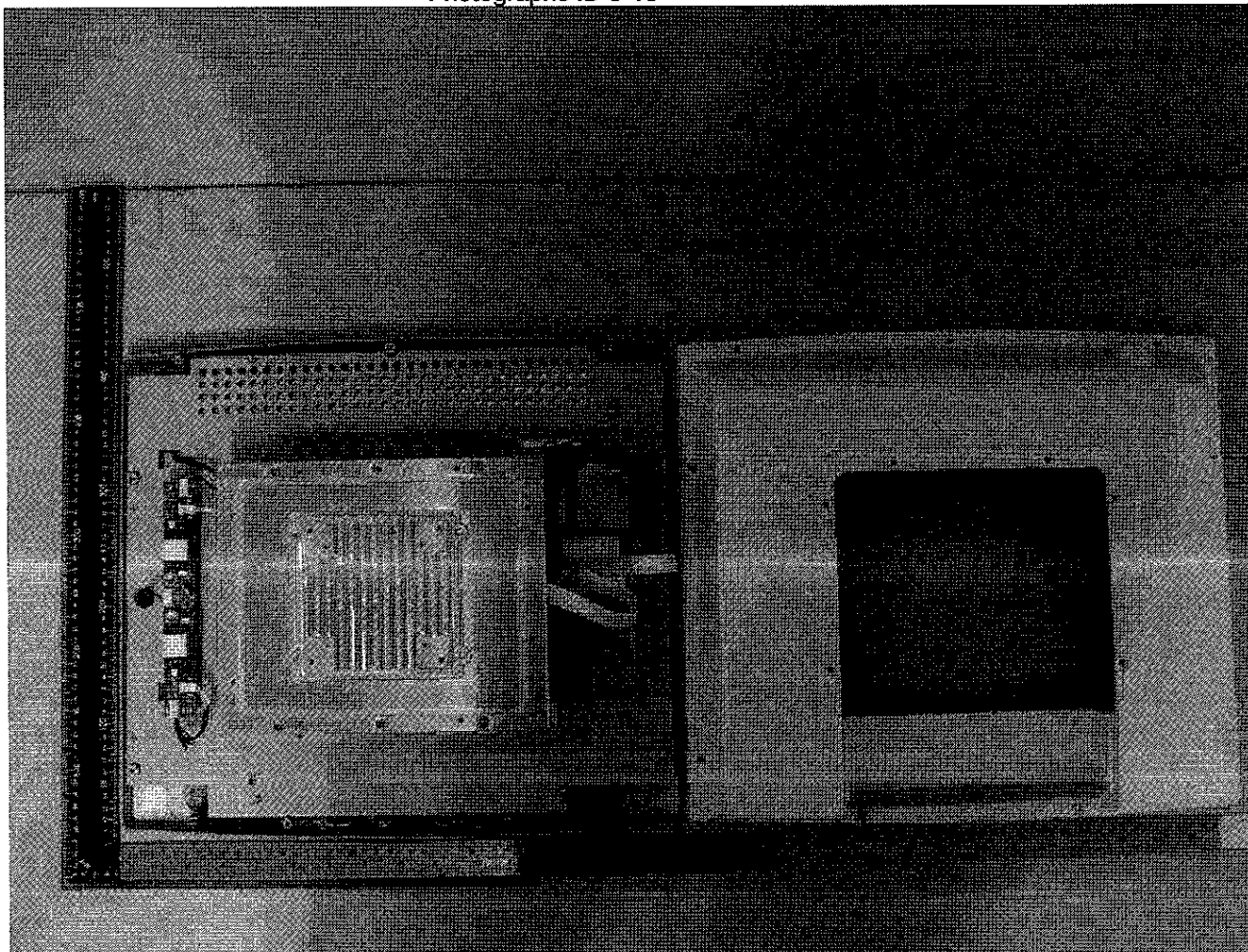




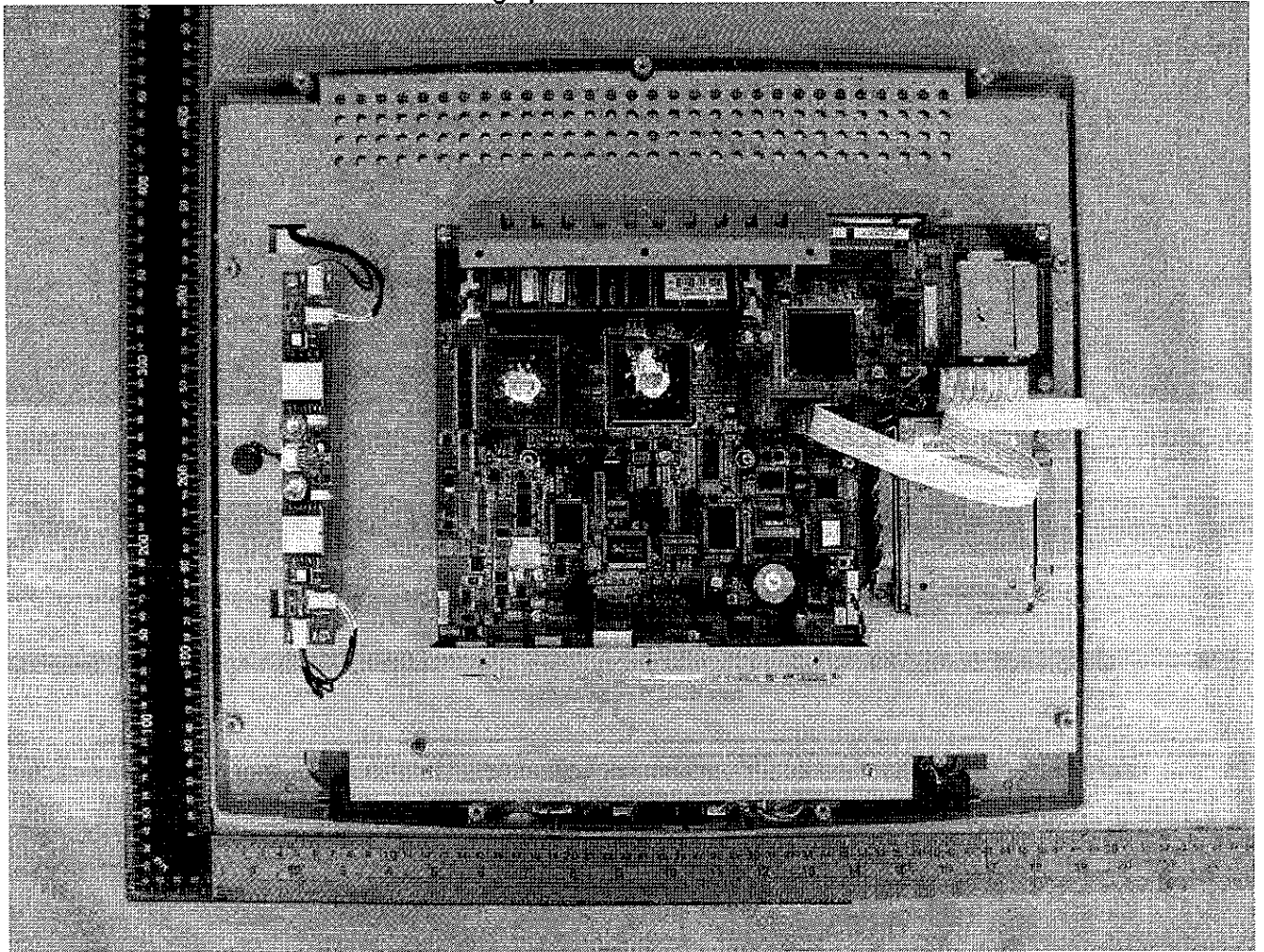
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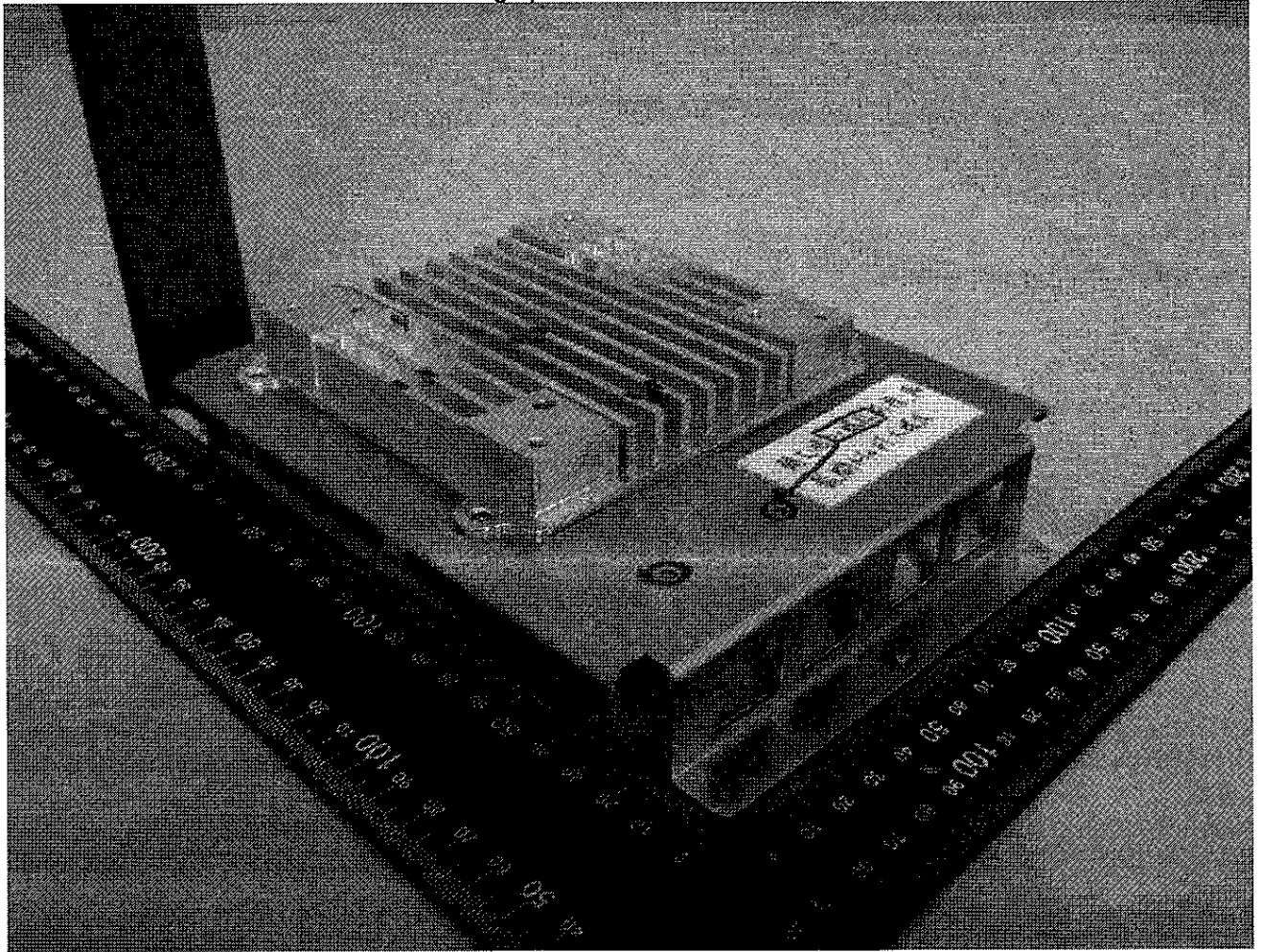
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Photographs ID 3-14

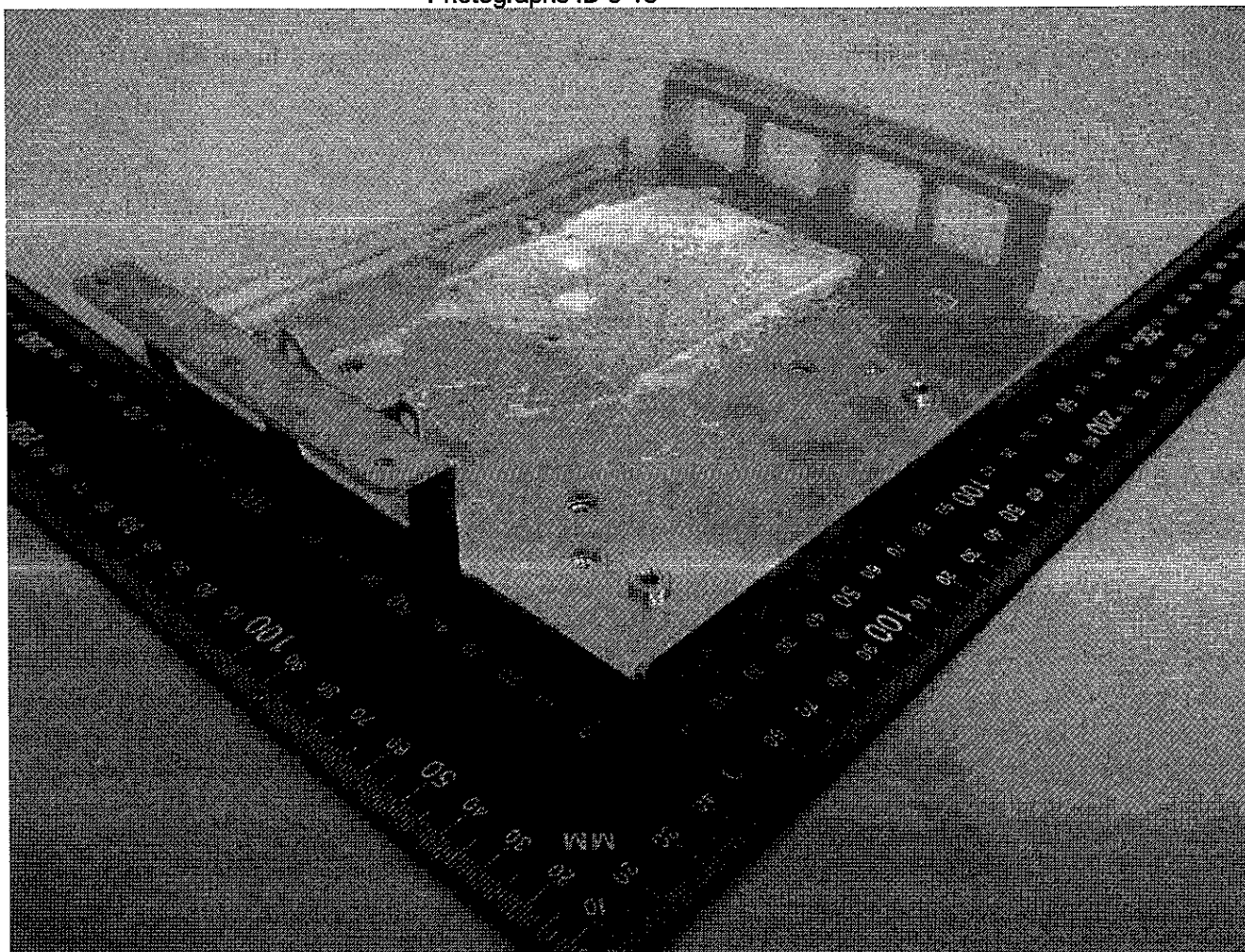


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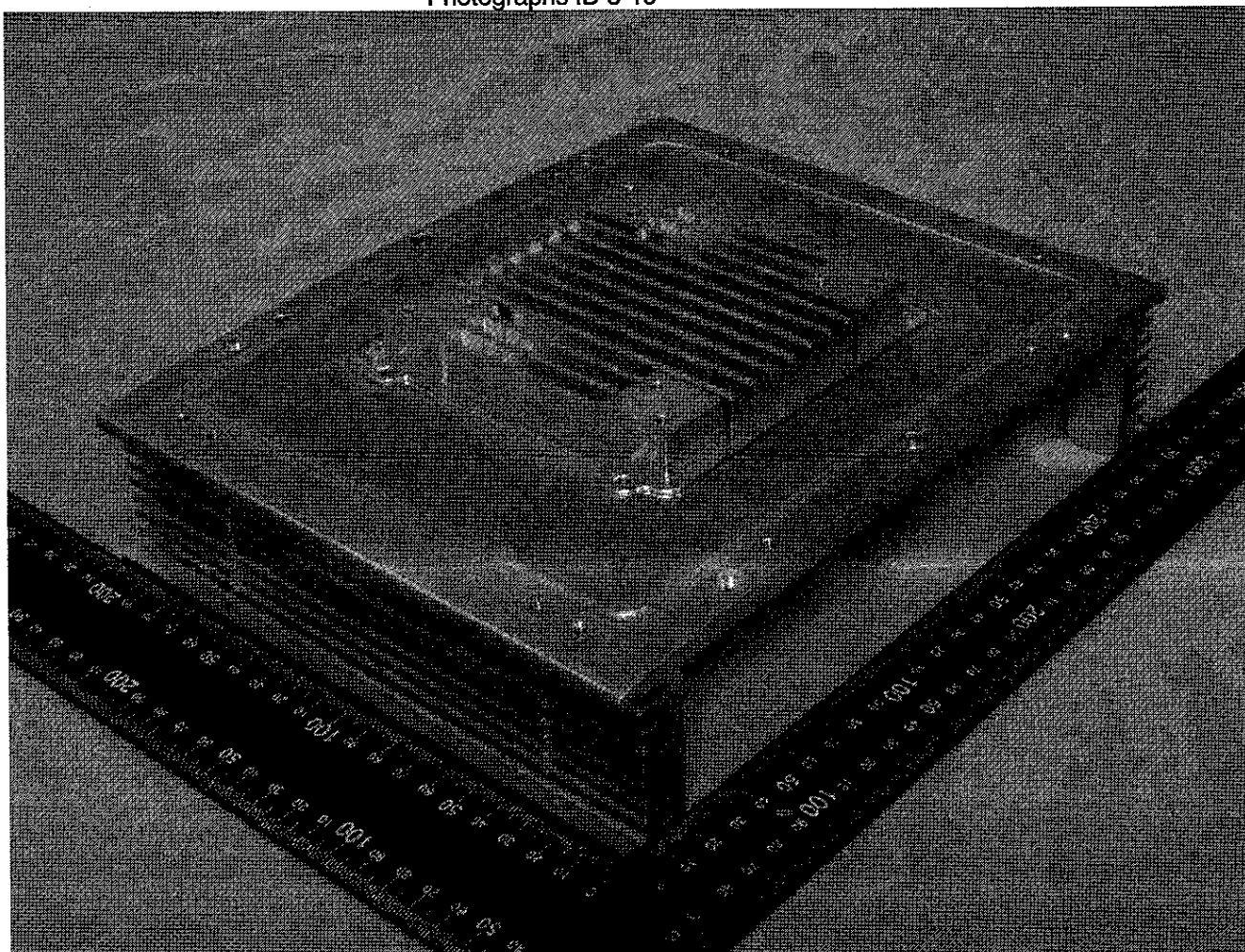




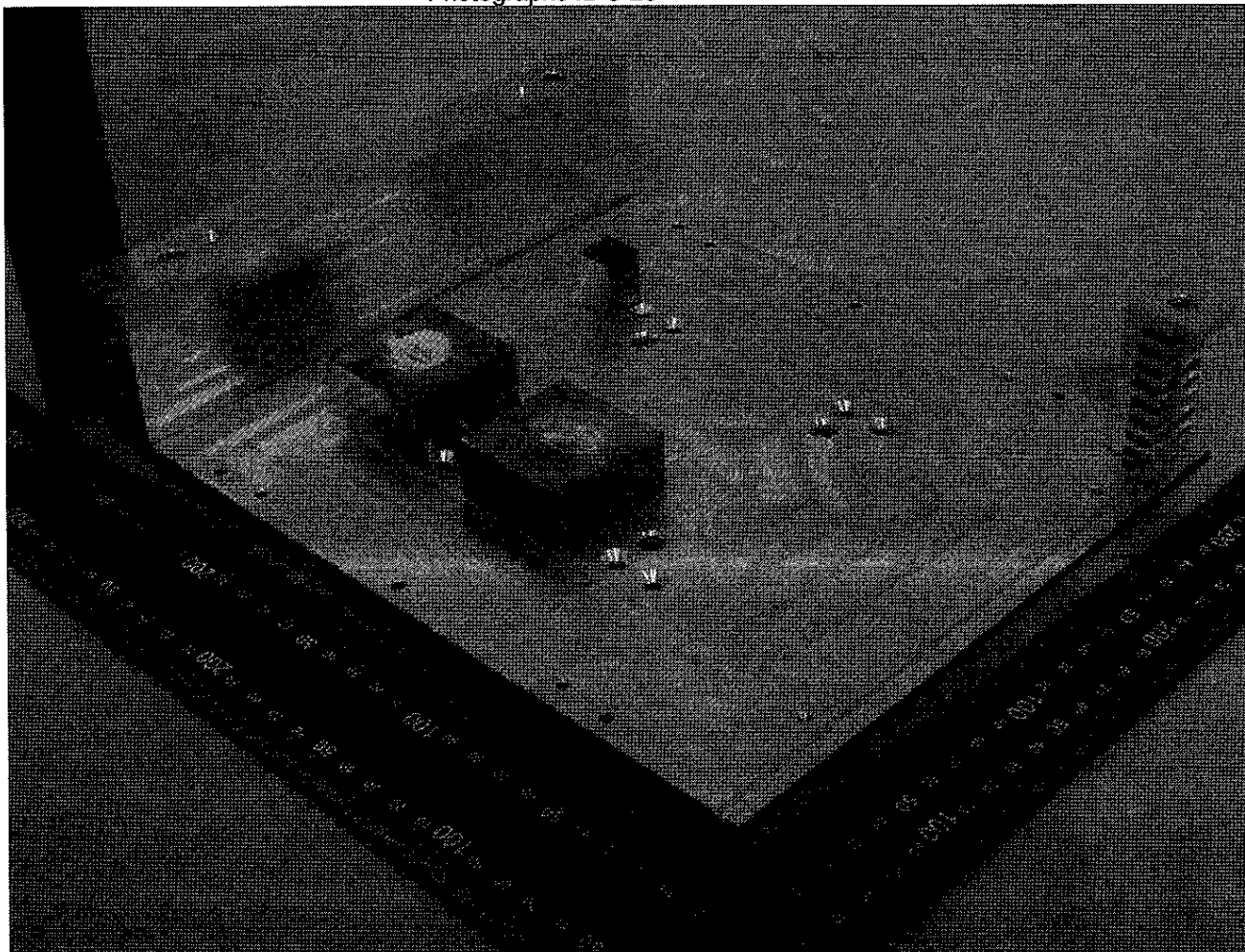
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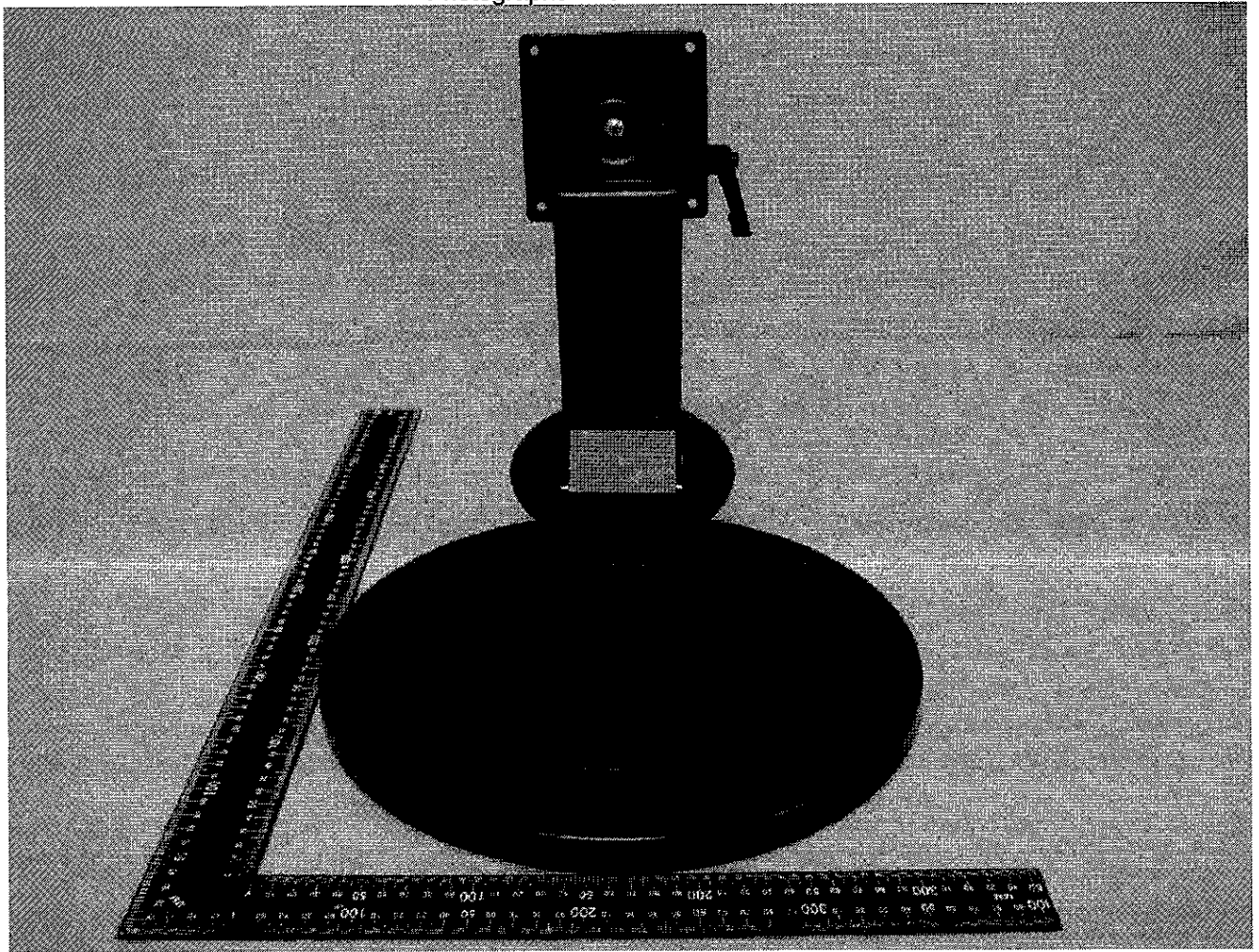
Photographs ID 3-19



Photographs ID 3-20

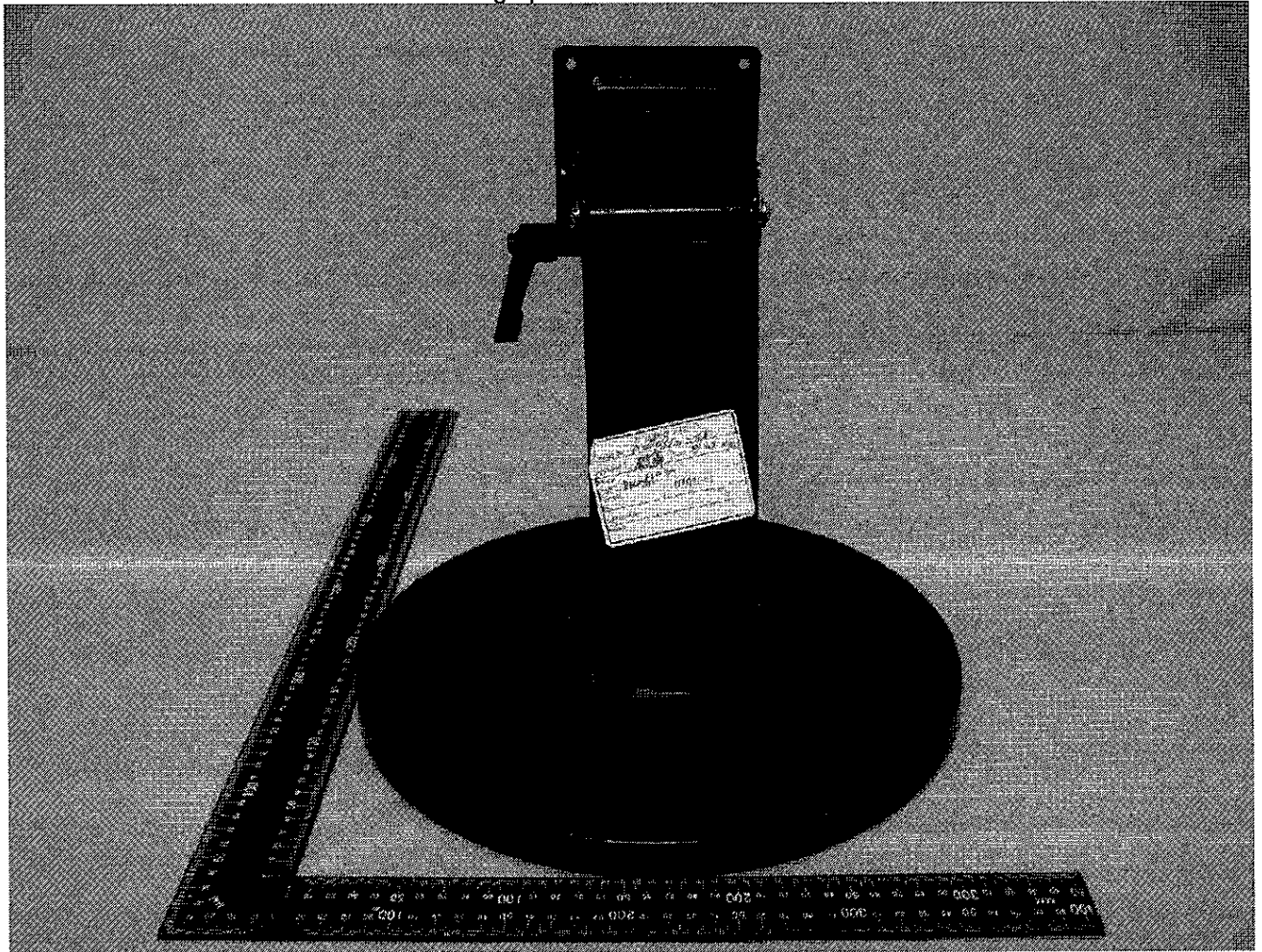


Photographs ID 3-21





Photographs ID 3-22



Photographs ID 3-23



**Enclosure**  
**Diagrams**

Supplement Id	Description
4-01	Inverter dimension
4-02	Inverter Transformer Spec

## Diagrams ID 4-01

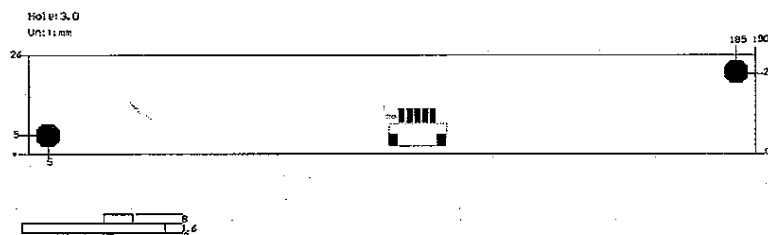


P6

LV-1501-PLC G Outline Dimansion

Unit: mm

Hole:3.0mmx2

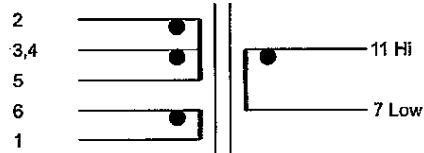


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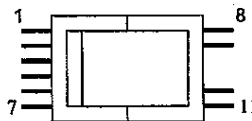


P23

## TRANSFORMER SPECIFICATION(X09-A)



X09-A



TOP VIEW

## WINDING SPECIFICATION

Coil	Terminal	Winding spec.	Remarks
W1	2~3,4	2UEW 0.4	11 Ts
W2	3,4~5	2UEW 0.4	11 Ts
W3	6~1	2UEW 0.4	2 Ts
W4	7~11	2UEW 0.09	1600 Ts

## Diagrams ID 4-02



P24

## Electrical Characteristics

Item	Terminal	Inductance	D.C.R	Condition
W1	2~3,4	6uh	50mΩ	F=1 khz
W2	3,4~5	6uh	50mΩ	
W3	6~1	0.5uh	30mΩ	Ta=25°C
W4	7~11	120~200uh	1900mΩ	

## Diagrams ID 4-02



P25

## Transformer Parts List

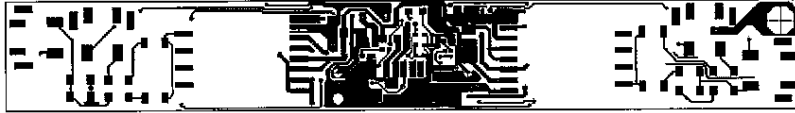
Item	Part Name	Material	Manufacturer	Safety	Remark
1	Core	U-core	NICERA		
2	Bobbin	L.C.P	HO GIN	U/L	
3	Coil wire Pri.(初級)	Polyurethane	RIKEN	UL	
4	Coil wire Second(次級)	Polyurethane	RIKEN	UL	
5	Tape	Polyester	3M	UL	1350

**Enclosure**  
**Schematics + PWB**

Supplement Id	Description
5-01	Inverter_component and trace layout



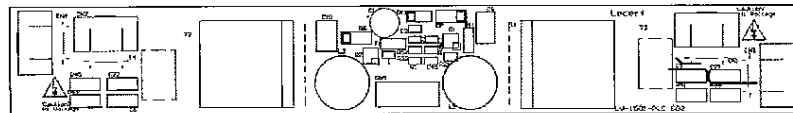
## Schematics ID 5-01



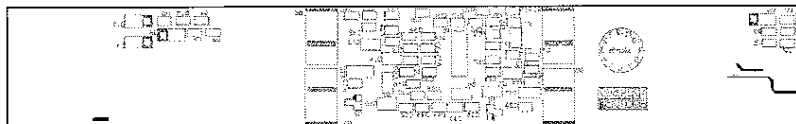
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Bottom Layer



Top Text



Bottom Text

**Enclosure**  
**Manuals**

Supplement Id	Description
6-01	User's Manual

Manuals ID 6-01

**POC- 195 DC  
POC-S195**

**Panel PC**

**User's Manual**

## Manuals ID 6-01

**FCC Class B**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses and can radiate radio frequency energy. If not installed and used in accordance with this user's manual, it may cause harmful interference to radio communications.

Note that even when this equipment is installed and used in accordance with this user's manual, there is still no guarantee that interference will not occur. If this equipment is believed to be causing harmful interference to radio or television reception, this can be determined by turning the equipment on and off. If interference is occurring, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and the receiver
- Connect the equipment to a power outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

<b>Warning</b>	<i>Any changes or modifications made to the equipment which are not expressly approved by the relevant standards authority could void your authority to operate the equipment.</i>
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<b>Caution</b>	<i>Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.</i>
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**Packing List**

Before installing your Point of Care Terminal, ensure that the following materials have been received:

- POC-195 and POC-S195 series Point of Care Terminal
- User's manual
- Power Adapter (Sinpro, Model no. MPU100-108)  
(Input: 100-240 Vac, 1.25-0.5 A, 47-63 Hz; DC Output: 21-27 Vdc, 4.8-3.7 A)
- Accessories for POC-195 and POC-S195 series
  - Y-shaped adapter for PS/2 mouse and keyboard
  - Power cord (1.8 m) - USA type (UK, German types are available on request)
  - "Drivers and Utilities" CD-ROM disc

<b>Warning</b>	<i>To prevent electric shock, Do not remove cover. No user serviceable parts inside, refer servicing to qualified personnel.</i>
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**Additional Information and Assistance**

1. Visit the Advantech websites at [www.advantech.com](http://www.advantech.com) or [www.advantech.com.tw](http://www.advantech.com.tw) where you can find the latest information about the product.

2. Contact your distributor, sales representative, or Advantech's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:

- Product name and serial number
- Description of your peripheral attachments
- Description of your software (operating system, version, application software, etc.)
- A complete description of the problem
- The exact wording of any error messages
- This equipment is a source of electromagnetic waves. Before use please, make sure that there are not EMI sensitive devices in its surrounding which may malfunction therefore.

## Manuals ID 6-01

Warning	<ol style="list-style-type: none"><li>1. Input voltage rated 24 V<sub>DC</sub>, 4.16 A max. (DC Mode)</li><li>2. Use a 3 V @ 195 mA lithium battery (Model No. BR2032)</li><li>3. Packing: please carry the unit with both hands, handle with care</li><li>4. Our European representative: Advantech Europe GmbH Kolberger Straße 7 D-40599 Düsseldorf, Germany Tel: 49-211-97477350 Fax: 49-211-97477300</li><li>5. Maintenance: to properly maintain and clean the surfaces, use only approved products or clean with a dry applicator</li></ol>
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### Safety Instructions

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. Use a dry cloth. Do not use liquid or spray detergents for cleaning.
4. For plug-in equipment, the power outlet socket must be located 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 may 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 overvoltage.
12. Never pour any liquid into an opening. This may cause fire or electrical shock.
13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
14. If one of the following situations arises, get the equipment checked by service personnel:
  - a. The power cord or plug is damaged.
  - b. Liquid has penetrated into the equipment.
  - c. The equipment has been exposed to moisture.
  - d. The equipment does not work well, or you cannot get it to work according to the user's manual.
  - e. The equipment has been dropped and damaged.
  - f. 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 55° C (131° F). THIS MAY DAMAGE THE EQUIPMENT.**
16. If your computer is losing dramatic time or the BIOS configuration reset to default, the battery has no power.

Caution	<ol style="list-style-type: none"><li>1. Do not replace battery yourself. Please contact a qualified technician or your retail.</li><li>2. The computer is provided with a battery-powered real-time clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacture. Discard used batteries according to the manufacturer's instructions</li></ol>
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## Manuals ID 6-01

## 17. CLASSIFICATION:

- Supply by Class I adapter
- No applied part
- IPX0
- Continuous Operation
- Not AP or APG category

18. Disconnect device: Appliance inlet.

19. Follow the national requirement to dispose unit.

20. Maintenance: to properly maintain and clean the surfaces, use only the approved products or clean with a dry cloth.

## 21. Contact information:

No.1, Alley 20, Lane 26, Reuiguang Road Neihu District, Taipei,  
Taiwan 114, R.O.C.  
TEL: (02)27927818

22.



**Medical Equipment**  
**With Respect to Electric Shock,**  
**Fire, and Mechanical Hazards Only,**  
**In Accordance with UL 60601-1,**  
**CAN/CSA C22.2 No. 601.1**

23. This equipment shall not be used for life support system.

24. Accessory equipment connected to the analog and digital interfaces must be in compliance with the respective nationally harmonized IEC standards (i.e. IEC 60950 for data processing equipment, IEC 60065 for video equipment, IEC 61010-1 for laboratory equipment, and IEC 60601-1 for medical equipment.) Furthermore all configurations shall comply with the system standard IEC 60601-1-1. Everybody who connects additional equipment to the signal input part or signal output part configures a medical system, and is therefore, responsible that the system complies with the requirements of the system standard IEC 60601-1-1. The unit is for exclusive interconnection with IEC 60601-1 certified equipment in the patient environment and IEC 60XXX certified equipment outside of the patient environment. If in doubt, consult the technical services department or your local representative.

25. User not to contact SIP/SOPs and the patient at the same time.

26. The sound pressure level at the operator's position according to IEC 704-1:1982 is no more than 70dB (A).

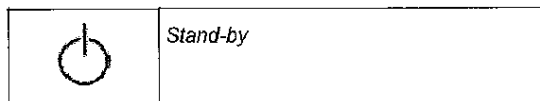
DISCLAIMER	<i>This set of instructions is given according to IEC 704-1. Advantech disclaims all responsibility for the accuracy of any statements contained herein</i>
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27.



Attention, consult ACCOMPANYING DOCUMENTS

28. Stand-by switch:



## Manuals ID 6-01

## Chapter 1 General Information

### 1.1 Introduction

The Panel PC is a multimedia Pentium® Mobile processor-based computer that is designed to serve as a Point of Care terminal (POC.) It is a PC-based system with 19" color TFT LCD display, on-board PCI express Ethernet controller, multi-COM port interfaces and 18-bit stereo audio controller. With a built-in CD-ROM drive and mini PCI expansion slot, the POC-195 is as compact and user-friendly as a notebook computer. For system integrators, this simple, complete and highly integrated multimedia system lets you easily build a Point of Care Terminal into your applications. Common industrial applications include factory automation systems, precision machinery, and production process control. It is also suitable for many non-industrial applications, including interactive kiosk systems, entertainment management, and car park automation. The Panel PC is a reliable, cost-effective solution to your application's processing requirements.

### 1.2 Specifications

#### General

**Dimensions (W x H x D):**

POC-195 DC : 471.5 x 416.2 x 123.6 mm (18.56" x 16.38" x 4.86")

POC-S195 : 470 x 415 x 129 mm (18.50" x 16.34" x 5.08")

**Weight:** 12 kg (26.5 lb) max.**Power supply:****DC model: 100 watts max**

External DC Adapter- (Manufacturer: SINPRO Model no.: MPU100-108) Input voltage:

100-240 V<sub>AC</sub>, 47-63 Hz, 1.25-0.5 AOutput voltage: +21-27 V<sub>DC</sub>, 4.8-3.7 A**Disk drive housing:** Space for one 2.5" HDD, one 12.7 mm.

Compact CD-ROM drive (Optional, for POC-195 DC used only)

**Whole System:** IPX0 compliant

#### Standard PC functions

**CPU:** Socket 478 Intel® Pentium® Mobile up to 1.6 GHz**BIOS:** Award 512 KB Flash BIOS, supports Plug & Play, APM**Chipset:** Intel® 915GM GMCH, 82801FBM (ICH6-M)**Front side Bus:** FSB 533/400MHz**RAM:** 240 pins DDR2 DIMM slots x 2, supports unbuffered 400/533 MHz DDR2-SDRAM (Non ECC)**IDE interface:** ATA/100 x1. Supports one IDE devices.**SATA interface:** SATA x1. Support one SATA device.**Parallel port:** Parallel port x 1, supports SPP/BPP/EPP/ECP parallel mode.**Serial ports:** RS232 port x 3, they are all compatible with 16C550 UARTs. COM2 has optical isolation and support RS422/RS485 by jumper selection; COM1/COM2/COM3 support +5 by jumper selection**Universal serial bus (USB) port:** USB2.0 port x 6 (for POC-195 DC); USB2.0 port x 2 (for POC-S195)**IEEE 1394 port:** IEEE 1394a port x 3 (for POC-195 DC)**Expansion slot:** PCI/33MHz slot x1**Watchdog timer:** 62-level, interval 1 ~ 62 seconds. Automatically generates system reset when the system stops due to a program error or EMI.**CMOS Battery (BIOS):** 3.0 V @ 195 mA lithium battery

#### Flat panel interface

**SDVO interface:** Chrontek 7308A Single/ Dual LVDS transmitter**Display resolution:** Supports LVDS LCD panel resolutions up to 1280 x 1024**Graphic Chipset:** Intel® Graphics Media Accelerator (GMA) 900**Shared memory:** Dynamic Video Memory Technology (DVMT) 3.0 to dynamically allocate up to 128 MB of system memory for graphics usage.**Display type:** Simultaneously supports CRT

#### Audio function

**Chipset:** Realtek ALC202, compliant with AC'97 rev 2.2

## Manuals ID 6-01

**Audio controller:** 18-bit codec, full-duplex stereo codec  
**Audio interface:** Microphone-in, Line-in, Line-out  
**Internal Speaker:** 1W speaker x 2, Full alarm volume > 70 dB(A) 1 meter

**Ethernet interface**

**Chipset:** Marvell 88E8053 PCI express high performance Gigabit Ethernet controller  
**Ethernet interface:** Gigabit Ethernet port x 2, full integrated Gigabit Ethernet Media Access Control (MAC) and Physical Layer (PHY) functions, and each provides a standard IEEE 803.3 Ethernet interface for 1000BASE-T, 100BASE-TX and 10BASE-T application.

**Optional modules**

**CPU:** Intel® Pentium® M 1.4GHz, 1.6GHz.  
**Memory:** DDR2-400/533MHz SDRAM  
**HDD:** 2.5", 40GB/60GB/80GB, 4200rpm, PATA HDD or 40GB/80GB, 5400rpm, SATA HDD  
**Touchscreen:** Analog resistive  
**CD-ROM drive:** Compact 24X CD-ROM or above (for POC-195 DC)  
**COMBO drive:** Compact 8X DVD-ROM, 24X CD-ROM, 24X CD-R, 24X CD-RW (for POC-195 DC)  
**DVD-RW drive:** Compact 8X DVD-ROM, 24X CD-ROM, 24X CD-R, 10X CD-RW, 4X DVD-RW (for POC-195 DC)  
**Mini PCI WLAN module:** 802.11b/g WLAN

Touch screen (optional)

Type	Analog Resistive
Resolution	Continuous
Light Transmission	75%
Controller	RS-232 interface (uses COM4)
Power Consumption	+5V@200 Ma
Software Driver	Supports Windows 2000, Windows XP
Durability (touches in a lifetime)	30 million

Table 1.1: Touch screen specification

Note	The Point of Care Terminal with the optionally installed touchscreen will share COM4. Once the touch screen is installed, COM4 cannot be used for other purposes.
------	---

**Environment**

**Operating Temperature:** 10 to 40°C  
**Operating Humidity:** 30% to 75% (No Condensation)  
**Operating Atmospheric Pressure:** 700 to 1060hPa.  
**Storage Temperature:** -20 °C to 55 °C  
**Storage Humidity:** 10% to 90% (No Condensation)  
**Storage Atmospheric Pressure:** 700 to 1060hPa.  
**Transportation temperature:** -20 °C to 55 °C  
**Transportation humidity:** 10% to 90% (No Condensation)  
**Transportation Atmospheric Pressure:** 700 to 1060hPa.  
**Shock:** 30G, half sine, 11 msec duration  
**Vibration:** 0.047 double amplitude displacement (5~32Hz) 2G Peak (32 -500 Hz)  
**Power MTBF:** 100,000 hrs  
**Altitudes:** Operational: 6,000 feet; Shipping : 40,000 feet  
**Certifications:**  
EMC: CE, FCC approved  
Safety: UL60601-1 and EN60601-1 approved.  
This device bears the CE label in accordance with the provisions of the EMC Directive 89/336/EMC.



## Manuals ID 6-01

**Cleaning/Disinfecting**

During normal use of the Panel PC may become soiled and should, therefore, be cleaned regularly. Wipe the Panel PC with a clean dry cloth.

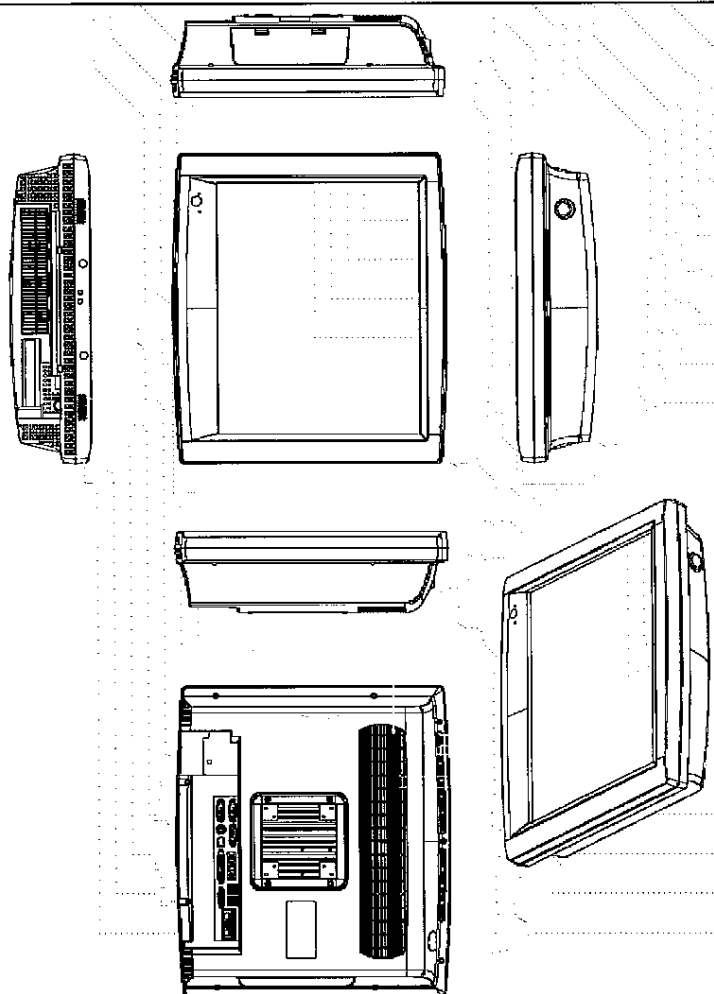
<b>Cautions</b>	<i>Do not immerse or rinse the Panel PC and its peripherals. If you accidentally spill liquid on the device, disconnect the unit from the power source. Contact your Biomed regarding the continued safety of the unit before placing it back in operation. Do not spray cleaning agent on the chassis. Do not use disinfectants that contain phenol. Do not autoclave or clean the Panel PC or its peripherals with strong aromatic, chlorinated, ketone, ether, or Esther solvents, sharp tools or abrasives. Never immerse electrical connectors in water or other liquids.</i>
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**1.3 LCD Specifications**

**Display type:** 19" TFT LCD.  
**Resolution:** 1280 x 1024  
**Colors:** 16.7M (8 bits+ FRC color)  
**Dot size (mm):** 0.264 x 0.264  
**Viewing angle:** 178°/178°  
**Luminance:** 300 cd/m2  
**Contrast ratio:** 1300:1  
**LCD MTBF:** 50,000 hours  
**Backlight lifetime:** 50,000 hours

## Manuals ID 6-01

## 1.4 Dimensions

*Figure 1-1: Dimensions of the POC-195 DC*

## Manuals ID 6-01

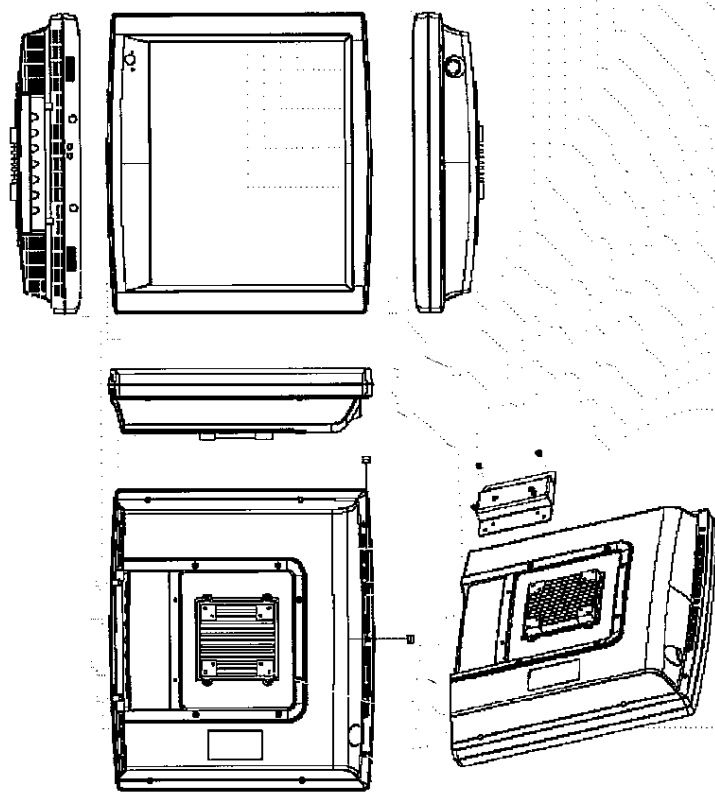


Figure 1-1: Dimensions of the POC-S195

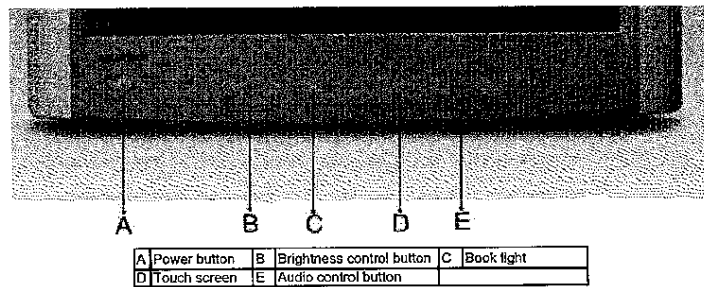
## Manuals ID 6-01

## Chapter 2 System Setup

### 2.1 A Quick Tour of the Panel PC

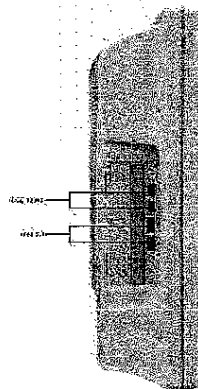
Before you start to set up the Panel PC, take a moment to become familiar with the locations and purposes of the controls, drives, connections and ports, which are illustrated in the figures below.

When you place the Panel PC upright on the desktop, its front panel appears as shown in Figure 2-1.



*Figure 2-1: Front View of the Point of Care Terminal*

When you look at the left side of the panel PC (POC-195 DC), you will see the CD-ROM drive, as shown in Figure 2-2.



*Figure 2-2: Left side view of the Point of Care Terminal*

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## 2.2 Installation Procedures

### 2.2.1 Connecting the power cord

Be sure to always handle the power cords by holding the plug ends only.

Follow these procedures in order:

1. Connect the female end of the power cord to the AC inlet of the panel PC. (See Figure 2-3.)
2. Connect the 3-pin male plug of the power cord to an electrical outlet.

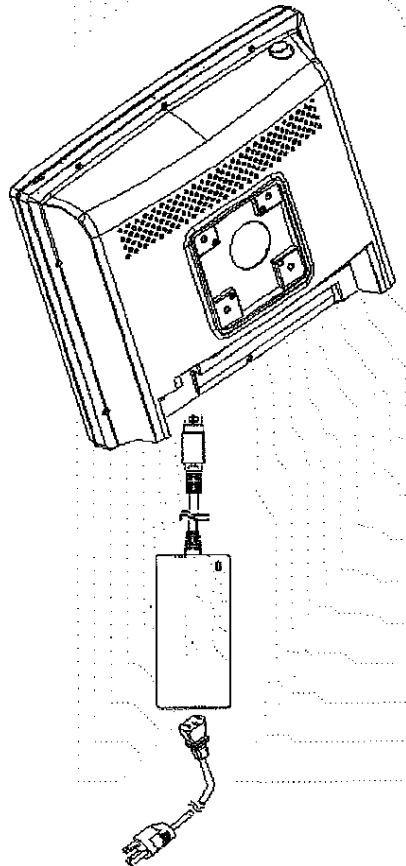


Figure 2-3: Connecting the power cord

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**2.2.2 Connecting the keyboard and mouse**

1. Connect the Y-shaped adapter to the PS/2 mouse and keyboard port on the I/O section.
  2. Connect the PS/2 mouse and keyboard to the Y-shaped adapter.
- If you use a serial mouse, you can connect the mouse to any COM port in the I/O section.

**2.2.3 Switching on the power**

Switch on the power switch on the front of panel.

**2.3 Running the BIOS Setup Program**

Your Panel PC is likely to have been properly set up and configured by your dealer prior to delivery. You may still find it necessary to use the BIOS (Basic Input-Output System) setup program to change system configuration information, such as the current date and time or your type of hard drive. The setup program is stored in read-only memory. It can be accessed either when you turn on or reset the panel PC, by pressing the "Ctrl+Alt+Del" key on your keyboard immediately after powering on the computer.

The settings you specify with the setup program are recorded in a special area of memory called CMOS RAM. This memory is backed up by a battery so that it will not be erased when you turn off or reset the system. Whenever you turn on the power, the system reads the settings stored in CMOS RAM and compares them to the equipment check conducted during the power on self-test (POST). If an error occurs, an error message will be displayed on screen, and you will be prompted to run the setup program.

**2.4 Installing System Software**

Recent releases of operating systems from major vendors include setup programs which load automatically and guide you through hard disk preparation and operating system installation. The guidelines below will help you determine the steps necessary to install your operating system on the panel PC hard drive.

<b>Note</b>	<i>Some distributors and system integrators may have already pre-installed system software prior to shipment of your panel PC.</i>
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If required, insert your operating system's installation or setup diskette into the optical drive until the release button pops out.

The BIOS supports system boot-up directly from the CD-ROM drive. You may also insert your system installation CD-ROM disk into the CD-ROM drive..

Power on or reset the system by pressing the "Ctrl"+"Alt"+"Del" keys simultaneously. The Point of Care Terminal will automatically load the operating system from the diskette or CD-ROM.

If you are presented with the opening screen of a setup or installation program, follow the instructions on screen. The setup program will guide you through preparation of your hard drive, and installation of the operating system.

**2.5 Installing the Drivers**

After installing your system software, you will be able to set up the Ethernet, SVGA, audio and touch screen functions. All the drivers except the CD-ROM drive driver are stored in a CD-ROM disc entitled "Drivers and Utilities" which can be found in your accessory box.

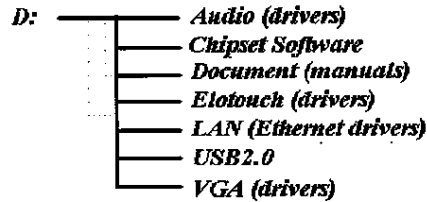
The standard procedures for installing the Ethernet, SVGA, audio and touch screen drivers are described in Chapters 3, 4, 5, 6 and 7 respectively.

The utility directory includes multimedia programs. Refer to the README.TXT file inside the VGA folders for more detailed information.

The various drivers and utilities in the CD-ROM disc have their own text files which help users install the drivers and understand their functions. These files are a very useful supplement to the information in this manual.

For your reference, the directory of drivers on the "Drivers and Utilities" CD-ROM is:

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Note	The drivers and utilities used for the Panel PC DC panel PCs are subject to change without notice. If in doubt, check Advantech's website or contact our application engineers for the latest information regarding drivers and utilities.
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## Chapter 3 Graphic chipset Setup

### 3.1 Introduction

The Panel PC has an onboard VGA interface. The specifications and features are described as follows:

#### 3.1.1 Chipset

The Panel PC uses Mobile Intel® 915GM Express chipset for its graphic controller. It supports SDVO device, and CRT monitors. The Mobile Intel® 915GM Express chipset is a component of the Intel® Centrino® mobile technology. Featuring the Intel® Graphics Media Accelerator 900, the 915GM chipset enables 2x the graphics performance of the previous generation of platforms based on the Intel® 885GME chipset.

#### 3.1.2 Display memory

Max memory allocation support based on total system memory 1-MB or 8 MB of pre-allocated memory supported.

#### 3.1.3 LVDS Transmitter

The Panel PC uses Chronitel CH7308A for driving its LCD panel. The CH7308A is a display controller device, which accepts digital graphics input signals, upscales, encodes, and transmits data through an LVDS transmitter to a LCD panel. The CH7308A operates at pixel rates of up to 140MHz, and support 18-bit/24-bit LCD panels.

#### 3.1.4 Display types

CRT and panel displays can be used simultaneously. The Panel PC can be set in one of three configurations: CRT only, LVDS only, both CRT and LFP (LVDS). The system is initially set to simultaneous display mode - CRT and LFP (BIOS default setting).

Analog CRT DAC interface supports max DAC frequency up to 400 MHz, 24-bit RAMDAC, DDC2B compliant, and resolution up to 2048 x 1536.

### 3.2 Installation of Graphic Driver

Complete the following steps to install the SVGA driver. Follow the procedures in the flow chart that apply to the operating system that you are using within your Panel PC.

Important	The following windows illustrations are examples only. You must follow the flow chart instructions and pay attention to the instructions which appear on your screen.
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Note1	The CD-ROM drive is designated as "D" throughout this chapter.
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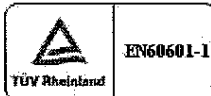
Note2	<Enter> means pressing the "Enter" key on the keyboard.
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**Enclosure**  
**Miscellaneous**

Supplement Id	Description
7-01	Label_POC195
7-02	Label_POC-S195
7-03	POC-195 and POC-S195, Transportation/Storage information



Misc ID 7-01

**ADVANTECH**No.1, Alley 20, Lane 26, Rueiguang Road  
Neihu District, Taipei, Taiwan 114**MADE IN TAIWAN****Panel PC****MODEL: POC-195XXXDCXXXXXXX****INPUT: DC 24V  4.16A max.****Factory: T1****SN:**

Medical Equipment  
With Respect to Electric Shock,  
Fire, and Mechanical Hazards Only.  
In Accordance With UL 60601-1.  
CAN/CSA C22.2 No. 601.1




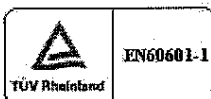
This device complies with the requirements in part 15 of the FCC Rules.  
Operation is subject to the following two conditions: (1) This device  
may not cause harmful interference, and (2) This device must accept  
any interference received, including interference that may cause  
undesired operation.

**Caution:**

To prevent electric shock, Do not remove cover. No user serviceable  
parts inside. Refer servicing to qualified personnel.

Use only with Power Adapter: SHPRO MP0100-108 24-27VDC/4.8-3.7A

Misc ID 7-02

**ADVANTECH**No.1, Alley 20, Lane 26, Rueiguang Road  
Neihu District, Taipei, Taiwan 114**MADE IN TAIWAN****Panel PC****MODEL: POC-S195XXXXXXXXXX****INPUT: DC 24V  4.16A max.****Factory: T1****SN:****Medical Equipment**  
With Respect to Electric Shock,  
Fire, and Mechanical Hazards Only.  
In Accordance With UL 60601-1,  
CAN/CSA C22.2 No. 601.1**This device complies with the requirements in part 15 of the 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.**Caution:****To prevent electric shock. Do not remove cover. No user serviceable  
parts inside. Refer servicing to qualified personnel****Use only with Power Adapter: SINPRO MPU100-108 21-27VDC/4.8-3.7A**

## Misc ID 7-03

## 環境条件

## Environmental conditions

温度	10~40℃(動作時)	-20~55℃(保存時)
Temperature	10~40℃(Operation)	-20~55℃(Storage / Transportation)
湿度	30~75%(動作時)	10~90%(保存時)
Humidity	30~75%(Operation)	10~90%(Storage / Transportation)
気圧	700~1060 hpa (動作時)	700~1060 hpa(保存時)
Pressure	700~1060 hpa (Operation)	700~1060 hpa(Storage/ Transportation)

**Enclosure**  
**Test Record**

Description
Test Record 1
CRD
Datasheet

## Test Record No. 1

Manufacturer submitted representative production samples of Panel PC, Models POC-195XXXDCXXXXXXX and POC-S195XXXXXXXXXX were subjected to the following tests. Marking durability test can be waived due to the same Label source was previously evaluated under report E214164-A7. Limited Current Circuit Measurements(clause2.4.1, 2.4.2), Limited Power Source Measurements(clause2.5) and Lithium Battery Reverse Current Measurement Test(clause4.3.8) are conducted based on UL 60950-1, and for reference only. All the tests were conducted by Prodigy Technology Consultant Co Ltd, located at Linkou Township, Taipei, TW, and witnessed by a member of UL staff under the UL Witnessed Test Data Program. The results of this investigation, including construction review and testing, indicate that the products evaluated comply with the applicable requirements in the standard for Medical Electrical Equipment, Part 1 : General Requirements for Safety, UL 60601-1, First Edition, including revisions through revision date April 26, 2006, which includes the Second Amendment of IEC60601-1, and Canadian Standard for Medical Electrical Equipment, CAN/CSA C22.2, No. 60601.1-M90, including Update No. 2 through revision date November, 2003.

The following tests were conducted:

Test	Testing Location/Comments
Power Input (7.1)	Conducted by PTC under WTDP
Leakage Current (19)	Conducted by PTC under WTDP
Dielectric Voltage Withstand (20.4)	Conducted by PTC under WTDP
Enclosure Mechanical Strength (21A, B)	Conducted by PTC under WTDP
Rough Handling - Drop (21.6)	Conducted by PTC under WTDP
Stability and Transportability (24)	Conducted by PTC under WTDP
Temperature (42)	Conducted by PTC under WTDP
Humidity Preconditioning Treatment (44.5)	Conducted by PTC under WTDP
Abnormal Operation and Fault Conditions (52)	Conducted by PTC under WTDP
Mechanical Abuse - Ball Drop (55)	Conducted by PTC under WTDP
Mold Stress Relief (55)	Conducted by PTC under WTDP
Interruption of Power Supply (49)	Conducted by PTC under WTDP
Reversed Battery Connection (56.7)	Conducted by PTC under WTDP
Ball Pressure (59.2)	Conducted by PTC under WTDP

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(s) referenced at the beginning of this Test Report.

The following tests were waived:

Test	Rationale for Waiving
Marking Durability (6.1)	Same label source was previously evaluated under E214164-A7.