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-S175XXXXXXXX and POC-S155XXXXXXXX where X is any alphanumeric character or blank
Rating(s):	POC-S175XXXXXXXX: Power supply: 100-240 V~, 1.1-0.45 A, 47-63 Hz; Output: 24V, 3.33 A PC: 24 VDC, 3 A POC-S155XXXXXXXX: Power supply: 100-240 V~, 1.1-0.45 A, 47-63 Hz; Output: 24 V, 3.33 A or 100-240 V~, 1.35-0.8 A, 47-63 Hz; Output: 24 V, 2.08 A PC: 24 VDC, 2 A
Standards:	UL 60601-1, First Edition (2003) CAN/CSA-C22.2 No.601.1-M90 with updates 1 and 2
Applicant Name and Address:	ADVANTECH CO LTD 4TH FL 108-3 MING-CHUAN RD SHING-TIEN CITY TAIPEI HSIEN TAIWAN

This Report includes the following parts, in addition to this cover page:

1. Specific Inspection Criteria
2. Specific Technical Criteria
3. Clause Verdicts
4. Critical Components
5. Test Results
6. National Differences
7. Enclosures

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

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

Test Report By:

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SPECIFIC INSPECTION CRITERIA

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

BB1.0	**Supporting Documentation**
BB1.1	The following documents located at the beginning of this Procedure supplement the requirements of this Test Report: A. Authorization - The Authorization page may include additional Factory Identification Code markings. B. Generic Inspection Instructions - i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report. ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report. ii. Part AF details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

BC1.0	**Markings and instructions**	
BC1.1	The following markings and instructions are provided as indicated.	
BC1.2	All clause references are from UL 60601-1, First Edition (2003).	
Standard Clause	Clause Title	Marking or Instruction Details
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
	Alternating current	
	Direct current	
6.1h	Supply Frequency	Rated frequency range in hertz
6.1j	Power Input	Amps, VA, or Watts

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

BE1.0	**Sample and Test Specifics for Follow-Up Tests at UL**			
BE1.1	The following tests shall be conducted in accordance with the Generic Inspection Instructions			
	Model	Samples	Test	Test Details
	N/A	-	-	-

SPECIFIC TECHNICAL CRITERIA

TEST REPORT UL 60601-1 Medical Electrical Equipment Part 1: General requirements for safety	
Report Reference No..... :	E214164-A8-UL-1
Compiled by ..... :	Elizabeth Drew
Reviewed by ..... :	Dean Klubnik
Date of issue ..... :	2005-02-04
Standards ..... :	UL 60601-1, First Edition (2003) CAN/CSA-C22.2 No.601.1-M90 with updates 1 and 2
Test procedure ..... :	Classification
Non-standard test method ..... :	N/A
Test item description ..... :	Panel PC
Trademark ..... :	None
Model and/or type reference ..... :	POC-S175XXXXXXXX and POC-S155XXXXXXXX where X is any alphanumeric character or blank
Rating(s) ..... :	POC-S175XXXXXXXX: Power supply: 100-240 V~, 1.1-0.45 A, 47-63 Hz; Output: 24V, 3.33 A PC: 24 VDC, 3 A POC-S155XXXXXXXX: Power supply: 100-240 V~, 1.1-0.45 A, 47-63 Hz; Output: 24 V, 3.33 A or 100-240 V~, 1.35-0.8 A, 47-63 Hz; Output: 24 V, 2.08 A PC: 24 VDC, 2 A

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

General Product Information:	
CA1.0	**Report Summary**
CA1.1	N/A
CB1.0	**Product Description**
CB1.1	LCD PC for Medical use.
CC1.0	**Model Differences**
CC1.1	Models POC-S175XXXXXXXX and POC-S155XXXXXXXX where X is any alphanumeric character or blank for marketing purposes are identical except for size and ratings.
CD1.0	**Additional Information**
CD1.1	LCD PC may be mounted on an external arm.

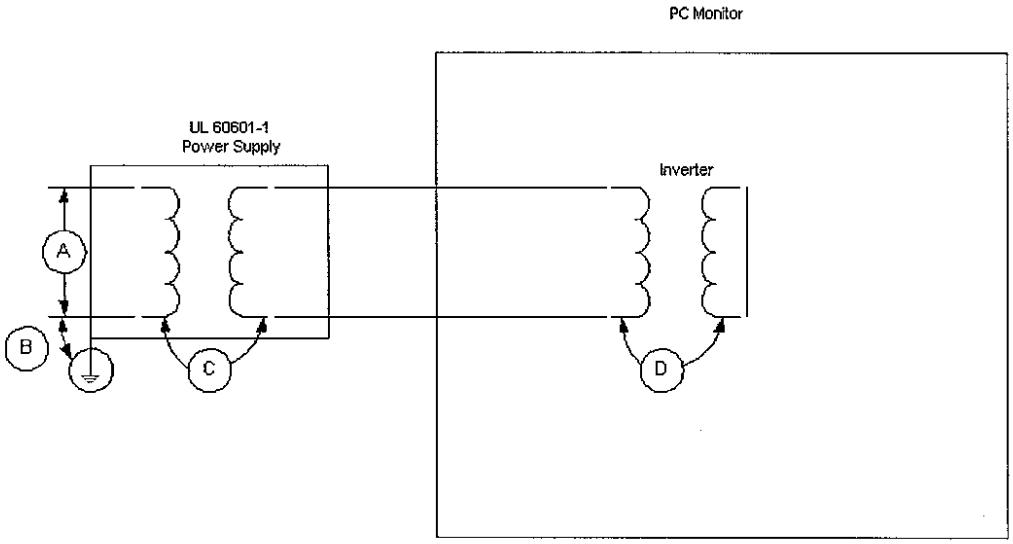
CE1.0	**Technical Considerations**	
CE1.1	The product was investigated to the following additional standards:	EN 60601-1: 1990 + A1:1993 + A2:1995 + A13:1996, CAN/CSA C22.2 No. 601.1-M90 (R1997), CAN/CSA C22.2 No. 601.1S1-94, and CAN/CSA C22.2 No. 601.1B-98 (National Differences for Canada); UL 60601-1 (National Differences for USA) (except EMC limitations, EN 60601-1-2, Biocompatibility, EN 10993-1, Programmable Electronic Systems, IEC 60601-1-4)
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
CE1.5	The following accessories were investigated for use with the product:	Stand Mount and Arm Mount
CE1.6	The mode of operation is:	Continuous
CE1.7	Software is relied upon for meeting safety requirements related to mechanical, fire and shock:	No
CE1.8	The product is suitable for use in the presence of a flammable anesthetics mixture with air or oxygen or with nitrous oxide:	No

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
3	**GENERAL REQUIREMENTS**		Pass
3.1	Equipment when transported, stored, installed, operated in normal use and maintained according to the instructions of the manufacturer, causes no safety hazard which could reasonably be foreseen and which is not connected with its intended application in normal condition (N.C.) and in single fault condition (S.F.C.)		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	**CLASSIFICATION**		Pass
5.1	Type of protection against electric shock		Pass
	Class I equipment		Pass
	Class II equipment		N/A
	Internally powered equipment		N/A
5.2	Degree of protection against electric shock		Pass
	Type B applied part		N/A
	Type BF applied part		N/A
	Type CF applied part		N/A
	Not classified - no applied parts		Pass
5.3	Classification according to the degree of protection against ingress of water as detailed in the current edition of IEC 529 (see 6.1.1) .....:	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
A	BOP	250	1.6	3.0	-	-	Previously evaluated in UL 60601-1 power supplies.
B	BI	250	2.5	4.0	-	-	Previously evaluated in UL 60601-1 power supplies.
C	DI	250	4.0	8.0	-	-	Previously evaluated in UL 60601-1 power supplies.
D	17g5	-	-	-	-	-	LCD Inverter

INSULATION DIAGRAM CONVENTIONS

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

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

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
6	**IDENTIFICATION, MARKING AND DOCUMENTS**		Pass
6.1	Marking on the outside of equipment or equipment parts		Pass
6.1c	Markings of the specific power supply affixed	Model number of power supplies are marked on the monitor.	Pass
6.1d	If marking is not practicable due to size or nature of enclosure, information is included in accompanying documents		N/A
6.1e	Name and/or trademark of the manufacturer or supplier.....:	Advantech	Pass
6.1f	Model or type reference .....:	POC-S175XXXXXXXX and POC-S155XXXXXXXX where X is any alphanumeric character or blank	Pass
6.1g	Rated supply voltages or voltage range(s)	See cover page.	Pass
	Number of phases.....:	Single phase, no marking required.	Pass
	Type of current.....:	~, DC	Pass
6.1h	Rated frequency or rated frequency range(s) (Hz) :	See cover page.	Pass
6.1j	Rated power input (VA, W or A).....:	See cover page.	Pass
6.1k	Power output of auxiliary mains socket - outlets	No such parts.	N/A
6.1l	Class II symbol		N/A
	Symbol for degree of protection against ingress of water provided.....:		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):		N/A

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
	- attention, consult accompanying documents		N/A
	- 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	No FE.	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 which have to be removed		Pass
	- Markings comply with IEC 445		Pass

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
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. Standby on/off clearly identified.	N/A
	- ON and OFF positions marked according to Symbols 15 and 16 of table D1 or indicated by an adjacent indicator light		N/A
6.3b	Indication of different positions of control devices and switches		Pass
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		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
6.5f	Additional protective earthing in multi-conductor, cords are marked green/yellow at the ends of the additional conductors		N/A

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
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
	- information regarding potential electromagnetic or other interference and advice regarding avoidance		Pass

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
	- 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 or routine maintenance		Pass
	- parts on which preventive inspection and maintenance shall be performed by other persons including the periods to be applied		Pass
	- 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 deterioration during normal use		Pass
6.8.3c	Instructions or reference information for repair of		N/A

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
	equipment parts designated by the manufacturer as repairable provided		
6.8.3d	Environmental conditions for transport and storage specified in accompanying documents and marked on packaging		Pass
7	**POWER INPUT**		Pass
	Power Input Measurements	(see appended table 7)	Pass
10	**ENVIRONMENTAL CONDITIONS**		Pass
10.1	Equipment is capable while packed for transport or storage of being exposed to the conditions stated by the manufacturer		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~	Pass
	Rated voltage not exceeding 500 V for all other equipment		N/A
	Rated input frequency not more than 1kHz	Max 63 Hz.	N/A
10.2.2b	Internal replaceable electrical power source specified	No such parts.	N/A

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

14	**REQUIREMENTS RELATED TO CLASSIFICATION**		Pass
14.4a	Class I and Class II equipment in addition to basic insulation provided with an additional protection	Class I equipment.	N/A
14.4b	Equipment supplied from external dc source of reverse polarity results in no safety hazard	Reverse polarity not possible due to shape of connector.	Pass
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

15	**LIMITATION OF VOLTAGE AND/OR ENERGY**		Pass
15b	Voltage measured one sec after disconnection of the mains plug does not exceed 60V	Previously evaluated in UL 60601-1 power supplies.	Pass
15c	For live parts accessible after equipment has been de-energized the residual voltage does not exceed 60 V nor residual energy exceed 2 mJ	Previously evaluated in UL 60601-1 power supplies.	Pass
	Marking provided for manual discharging		N/A

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
16	**ENCLOSURES AND PROTECTIVE COVERS**		Pass
16a	Equipment enclosed to protect against contact with live parts, and with parts which can become live (finger, pin, hook test)		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		Pass
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	**SEPARATION**		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		N/A
	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	Plastic enclosure.	Pass
	5) by protective impedances limiting current to accessible part	LCD inverter.	Pass
	- Additional leakage current test in single fault conditions	(see appended table 19)	Pass
17h	Arrangements used to isolate defibrillation-proof applied parts so designed that:		N/A
	- no hazardous electrical energies appear during a discharge of a cardiac defibrillator	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	**PROTECTIVE EARTHING, FUNCTIONAL EARTHING AND POTENTIAL EQUALIZATION**		Pass
18a	Accessible parts of Class I equipment separated from live parts by basic insulation connected to the protective earth terminal	Previously evaluated in UL 60601-1 power supplies.	Pass
18b	Protective earth terminals suitable for connection to the protective earth conductor		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 <= 0.1 Ohm		N/A
	- For equipment with an appliance inlet, impedance between protective earth contact and any accessible metal part <= 0.1 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 <= 0.2 Ohm		N/A
18g	If the impedance of protective earth connections other than in Cl. 18 f) exceeds 0.1 Ohm, the allowable value of the enclosure leakage current is not exceeded in single fault condition		N/A
18k	Functional earth terminal not used to provide protective earthing		N/A
18l	Class II equipment with isolated internal screens		N/A
	- insulation of screens and all internal wiring connected to them is double insulation or reinforced insulation		N/A
	- functional earth terminal clearly marked		N/A
	- explanation of functional earth terminal provided in the accompanying documents		N/A

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
19	**CONTINUOUS LEAKAGE CURRENTS AND PATIENT AUXILIARY CURRENTS**		Pass
19.1b	Leakage currents		Pass
	- earth leakage current		Pass
	- enclosure leakage current		Pass
	- patient leakage current	No applied parts.	N/A
	- patient auxiliary current		N/A
20	**DIELECTRIC STRENGTH**		Pass
	Overall compliance with Clause 20	Previously evaluated in UL 60601-1 power supplies.	Pass
21	**MECHANICAL STRENGTH**		Pass
21a	Sufficient rigidity of an enclosure tested by: force of 45 N	(see appended table 21)	Pass
21b	Sufficient strength of an enclosure tested by: impact hammer	USD Ball Impact conducted in place of this test and considered worst case.	Pass
21c	On portable equipment carrying handles or grips withstand the requirements of the loading test	No such parts.	N/A
21.3	No damage to parts of patient support and/or immobilization system after the loading test	No such parts.	N/A
21.5	Hand held equipment or equipment parts are safe after drop test	Not hand held.	N/A
21.6	Portable and mobile equipment is able to withstand rough handling		N/A

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
22	**MOVING PARTS**		N/A
22.2a	Moving parts of a transportable equipment are provided with guards which form an integral part of the equipment	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	**SURFACES, CORNERS AND EDGES**		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	**STABILITY IN NORMAL USE (see appended table 24)**		N/A
24.1	Equipment does not overbalance during normal use when tilted through an angle of 10°	Equipment mounted on table or wall mounted arm.	N/A
24.3	Equipment overbalances when tilted through an angle of 10°		N/A
	- does not overbalance when tilted through an angle of 5° in any position excluding transport		N/A
	- carry a warning notice stating that transport should only be undertaken in a certain position		N/A
	- in the position specified for transport does not overbalance when tilted to an angle of 10°		N/A
24.6a	Equipment or its parts with a mass of more than 20 kg is provided with:		N/A
	- suitable handling devices (grips etc.), or		N/A
	- instructions for lifting and handling during assembly		N/A
24.6b	On portable equipment with a mass of more than 20 kg carrying handle(s) is (are) so situated that equipment may be carried by 2 or more persons		N/A
25	**EXPELLED PARTS**		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	**SUSPENDED MASSES**		Pass
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		Pass
	1) Total load does not exceed the safe working load		Pass
	2) Safety factors not less than 4 where it is unlikely that supporting characteristics will be impaired	(see appended table 21)	Pass
	3) Safety factors not less than 8 where impairment is expected		N/A
	4) Safety factors multiplied by 1.5 for metal having an elongation at break of less than 5%		N/A
	5) Sheaves, sprockets, band wheels and guides so constructed that the safety factors maintained till replacement		N/A
29	**X-RADIATION**		N/A
29.2	EQUIPMENT not intended to produce X-radiation produces an exposure <= 130 nC/kg (0.5 mR)	No such parts.	N/A
36	**ELECTROMAGNETIC COMPATIBILITY**		N/A
	Equipment complies with IEC 601-1-2	Not included in the scope of this evaluation.	N/A
37	**COMMON REQUIREMENTS FOR CATEGORY AP AND CATEGORY APG EQUIPMENT**		N/A
	Requirements for category AP and APG equipment (Cl. 37 - 41)	Not AP or APG equipment.	N/A

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
42	**EXCESSIVE TEMPERATURES**		Pass
42.1	Equipment does not attain temperatures exceeding the values given in Table Xa over the range of ambient temperatures per Clause 10.2.1	(see appended table 42)	Pass
42.2	Equipment does not attain temperatures exceeding the values given in Table Xb at 25°C ambient		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
43	**FIRE PREVENTION**		Pass
	Strength and rigidity necessary to avoid a fire hazard		Pass
44	**OVERFLOW, SPILLAGE, LEAKAGE, HUMIDITY, INGRESS OF LIQUIDS, CLEANING, STERILIZATION AND DISINFECTION**		Pass
44.2	Equipment contain a liquid reservoir:		N/A
	- the equipment is electrically safe after 15% overfill steadily over a period of 1 min	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	Previously evaluated in UL 60601-1 power supplies.	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	(see appended table 44)	Pass

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
45	**PRESSURE VESSELS AND PARTS SUBJECT TO PRESSURE**		N/A
45.2	Pressure vessel with pressure volume greater than 200 kPa x l and pressure greater than 50 kPa withstand the hydraulic test pressure	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	**BIOCOMPATIBILITY**		N/A
	Parts of equipment and accessories intended to come into contact with biological tissues, cells or body fluids are evaluated in accordance with ISO 10993-1	No applied parts.	N/A

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
49	**INTERRUPTION OF THE POWER SUPPLY**		Pass
49.1	Thermal cut-outs and over-current releases with automatic resetting not used if they may cause a safety hazard	No hazard.	Pass
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	**PROTECTION AGAINST HAZARDOUS OUTPUT**		N/A
51.4	Equipment furnishing both low-intensity and high-intensity outputs provided with means minimizing possibility of a high intensity output being selected accidentally	No hazardous output.	N/A

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
52	**ABNORMAL OPERATION AND FAULT CONDITIONS**		Pass
52.1	Equipment is so designed and manufactured that even in single fault condition no safety hazard as described under 52.4 exists (see 3.1 and Cl. 13)	Previously evaluated in UL 60601-1 power supplies.	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	**COMPONENTS AND GENERAL ASSEMBLY**		Pass
	List of critical components	(see appended table 56.1)	Pass
56.1b	Ratings of components not in conflict with the conditions of use in equipment		Pass
	Ratings of mains components are identified	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		N/A
	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		Pass

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		Pass
	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	No 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	No such parts.	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		Pass
56.7b	Incorrect polarity of connection prevented		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		N/A
56.10b	Actuating parts are adequately secured to prevent them from working loose during normal use	No such parts.	N/A
	Controls are secured to prevent the movement relative to scale marking (safety related only)		N/A
	Detachable indicating devices are prevented from		N/A

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict
	incorrect connection without the use of tool		
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	**MAINS PARTS, COMPONENTS AND LAYOUT**		Pass
57.1	Isolation from supply mains		Pass
57.1a	Equipment provides means to isolate its circuits electrically from the supply mains on all poles simultaneously		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		N/A
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		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		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		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		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.	Pass
	External to the transformer protective devices connected in such a way that failure of any component cannot render the protective devices inoperative		Pass
57.9.1a	Short-circuit of secondary windings not caused excessive temperature	Previously evaluated in UL 60601-1 power supplies.	Pass
57.9.1b	Overload of secondary windings not caused excessive temperature	Previously evaluated in UL 60601-1 power supplies.	Pass

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		Pass
	- 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		N/A
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	**PROTECTIVE EARTHING - TERMINALS AND CONNECTIONS**		Pass
58.1	Clamping means of the protective earth terminal		Pass
	Not be able to loosen without the aid of a tool	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	**CONSTRUCTION AND LAYOUT**		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	Temperatures do not exceed 70°C.	N/A
59.1d	Aluminum wires of less than 16 mm2 cross-section not used		Pass
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	(see appended table additional tests)	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		Pass
	Internal electrical power source provided with device for protection against fire hazard		Pass
	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	**TABLE: marking durability**	Pass
Marking tested	Remarks	
supplementary information: Previously evaluated by TUV-R under certificate DE 2-007622, accepted under E214164-A7.		

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

7	**TABLE: power input**				Pass
Operating condition	Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Remarks
Model POC-S155, with P/S Sinpro, Type MPL150-108	90	47	0.942	48	
	90	63	0.947	48	
	100	47	0.873	48	
	100	63	0.873	48	
	240	47	0.433	45	
	240	63	0.421	48	
	264	47	0.408	47	
	264	63	0.396	48	
Model POC-S155, with P/S XPIQ, Type PCM80PS24	90	47	0.559	50	
	90	63	0.576	50	
	100	47	0.508	50	
	100	63	0.520	50	
	240	47	0.241	53	
	240	63	0.241	53	
	264	47	0.226	53	
	264	63	0.226	54	
Model POC-S175, with P/S XPIQ, Type PCM80PS24	90	47	0.740	67	
	90	63	0.736	66	
	100	47	0.668	66	
	100	63	0.656	65	
	240	47	0.289	66	
	240	63	0.304	68	
	264	47	0.284	67	
	264	63	0.289	67	
supplementary information:					

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

15b	**TABLE: residual voltage in attachment plug**										Pass
Voltage measured between:	Measurements [V]										Remarks
	1	2	3	4	5	6	7	8	9	10	
supplementary information:											
Previously evaluated in UL 60601-1 power supplies.											

15c	**TABLE: residual voltage or energy in capacitors**					Pass
Capacitor and its location	Residual voltage (V)	Time after disconnection (s)	Capacitance value (µF)	Residual energy (mJ)	Remarks	
supplementary information:						
Previously evaluated in UL 60601-1 power supplies.						

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:					

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

18	**TABLE: protective earthing**				Pass
Test location		Test current (A)	Measured voltage (V)	Resistance (ohms)	Remarks
supplementary information: Previously evaluated in UL 60601-1 power supplies.					

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

19	**TABLE: leakage current**				Pass
Type of leakage current and test condition (including single faults)		Supply voltage (V)	Supply frequency (Hz)	Measured max. value (µA)	Remarks
Model POC-S175, with P/S XPIQ, Type PCM80PS24					
ER, NC, S8=1, S1=1, S2=1, S3=1, S5=N		264	63	218	MD1
ER, NC, S8=1, S1=1, S2=1, S3=1, S5=R		264	63	218	MD1
ER, SFC, S8=1, S1=0, S2=1, S3=1, S5=N		264	63	433	MD1
ER, SFC, S8=1, S1=0, S2=1, S3=1, S5=R		264	63	433	MD1
ER, SFC, S8=1, S1=1, S2/S3=0 S5=N		264	63	224	MD1
ER, SFC, S8=1, S1=1, S2/S3=0, S5=R		264	63	429	MD1
EN, NC, S1=1, S8=1, S5=N		264	63	4	MD1
EN, NC, S1=1, S8=1, S5=R		264	63	4	MD1
EN, SFC, S1=0, S8=1, S5=N		264	63	4	MD1
EN, SFC, S1=0, S8=1, S5=R		264	63	4	MD1
EN, NC, S8=1, S1=1, S2=1, S3=1, S5=N		264	63	45	MD3
EN, NC, S8=1, S1=1, S2=1, S3=1, S5=R		264	63	43	MD3
EN, SFC, S8=1, S1=0, S2=1, S3=1, S5=N		264	63	67	MD3
EN, SFC, S8=1, S1=0, S2=1, S3=1, S5=R		264	63	67	MD3
EN, SFC, S8=1, S1=1, S2/3=0, S5=N		264	63	46	MD3
EN, SFC, S8=1, S1=1, S2/3=0, S5=R		264	63	45	MD3
EN, SFC, S8=0, S1=1, S2=1, S3=1, S5=N		264	63	196	MD3
EN, SFC, S8=0, S1=1, S2=1, S3=1, S5=R		264	63	198	MD3
EN, NC, S8=1, S1=1, S2=1, S3=1, S5=N		264	63	2	MD4
EN, NC, S8=1, S1=1, S2=1, S3=1, S5=R		264	63	2	MD4
EN, NC, S8=1, S1=0, S2=1, S3=1, S5=N		264	63	2	MD4
EN, SFC, S8=1, S1=0, S2=1, S3=1, S5=R		264	63	2	MD4
EN, SFC, S8=1, S1=1, S2/3=0, S5=R		264	63	2	MD4
EN, SFC, S8=0, S1=1, S2=1, S3=1, S5=N		264	63	2	MD4
EN, SFC, S8=0, S1=1, S2=1, S3=1, S5=N		264	63	2	MD4
EN, SFC, S8=0, S1=1, S2=1, S3=1, S5=R		264	63	2	MD4
After short HV to LV of inverter					
EN, SFC, S8=1, S1=1, S2=1, S3=1, S5=N		264	63	41	MD3
EN, SFC, S8=1, S1=1, S2=1, S3=1, S5=R		264	63	40	MD3
EN, SFC, S8=1, S1=1, S2=1, S3=1, S5=N		264	63	2	MD4
EN, SFC, S8=1, S1=1, S2=1, S3=1, S5=R		264	63	3	MD4
After short HV to chassis					
EN, SFC, S8=1, S1=1, S2=1, S3=1, S5=N		264	63	42	MD3
EN, SFC, S8=1, S1=1, S2=1, S3=1, S5=R		264	63	40	MD3
EN, SFC, S8=1, S1=1, S2=1, S3=1, S5=N		264	63	2	MD4
EN, SFC, S8=1, S1=1, S2=1, S3=1, S5=R				2	MD4
Model POC-S155, with P/S XPIQ, Type PCM80PS24					
ER, NC, S8=1, S1=1, S2=1, S3=1, S5=N		264	63	187	MD1
ER, NC, S8=1, S1=1, S2=1, S3=1, S5=R		264	63	183	MD1

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

ER, SFC, S8=1, S1=0, S2=1, S3=1, S5=N	264	63	358	MD1
ER, SFC, S8=1, S1=0, S2=1, S3=1, S5=R	264	63	357	MD1
ER, SFC, S8=1, S1=1, S2/S3=0 S5=N	264	63	186	MD1
ER, SFC, S8=1, S1=1, S2/S3=0, S5=R	264	63	187	MD1
EN, NC, S1=1, S8=1, S5=N	264	63	3	MD1
EN, NC, S1=1, S8=1, S5=R	264	63	3	MD1
EN, SFC, S1=0, S8=1, S5=N	264	63	3	MD1
EN, SFC, S1=0, S8=1, S5=R	264	63	3	MD1
EN, NC, S8=1, S1=1, S2=1, S3=1, S5=N	264	63	38	MD3
EN, NC, S8=1, S1=1, S2=1, S3=1, S5=R	264	63	40	MD3
EN, SFC, S8=1, S1=0, S2=1, S3=1, S5=N	264	63	54	MD3
EN, SFC, S8=1, S1=0, S2=1, S3=1, S5=R	264	63	69	MD3
EN, SFC, S8=1, S1=1, S2/3=0, S5=N	264	63	38	MD3
EN, SFC, S8=1, S1=1, S2/3=0, S5=R	264	63	38	MD3
EN, SFC, S8=0, S1=1, S2=1, S3=1, S5=N	264	63	172	MD3
EN, SFC, S8=0, S1=1, S2=1, S3=1, S5=R	264	63	172	MD3
EN, NC, S8=1, S1=1, S2=1, S3=1, S5=N	264	63	2	MD4
EN, NC, S8=1, S1=1, S2=1, S3=1, S5=R	264	63	2	MD4
EN, NC, S8=1, S1=0, S2=1, S3=1, S5=N	264	63	2	MD4
EN, SFC, S8=1, S1=0, S2=1, S3=1, S5=R	264	63	3	MD4
EN, SFC, S8=1, S1=1, S2/3=0, S5=R	264	63	2	MD4
EN, SFC, S8=0, S1=1, S2=1, S3=1, S5=N	264	63	2	MD4
EN, SFC, S8=0, S1=1, S2=1, S3=1, S5=N	264	63	1	MD4
EN, SFC, S8=0, S1=1, S2=1, S3=1, S5=R	264	63	1	MD4
After short HV to LV of inverter				
EN, SFC, S8=1, S1=1, S2=1, S3=1, S5=N	264	63	36	MD3
EN, SFC, S8=1, S1=1, S2=1, S3=1, S5=R	264	63	41	MD3
EN, SFC, S8=1, S1=1, S2=1, S3=1, S5=N	264	63	2	MD4
EN, SFC, S8=1, S1=1, S2=1, S3=1, S5=R	264	63	2	MD4
After short HV to chassis				
EN, SFC, S8=1, S1=1, S2=1, S3=1, S5=N	264	63	36	MD3
EN, SFC, S8=1, S1=1, S2=1, S3=1, S5=R	264	63	35	MD3
EN, SFC, S8=1, S1=1, S2=1, S3=1, S5=N	264	63	2	MD4
EN, SFC, S8=1, S1=1, S2=1, S3=1, S5=R	264	63	2	MD4

supplementary information:

ER - Earth leakage current	A - After humidity conditioning
EN - Enclosure leakage current	B - Before humidity conditioning
P - Patient leakage current	1 - Switch closed or set to normal polarity
PM - Patient leakage current with mains on the applied parts	0 - Switch open or set to reversed polarity
PA - Patient auxiliary current	NC - Normal condition
Fig. 15 - refers to Fig. 15 in IEC601-1	SFC - Single fault condition
MD - Measuring device	

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

20	**TABLE: dielectric strength**			Pass
Insulation under test (area from insulation diagram)	Insulation type: (OP-operational / BI-basic / SI-supplementary / DI-double / RI-reinforced)	Reference voltage (V)	Test voltage (V)	Remarks
supplementary information: Previously evaluated in UL 60601-1 power supplies.				

21	**TABLE: mechanical strength**		Pass
Part under test	Test (impact, drop, force, handle, rough handling, mobile)	Remarks	
Monitor	USD 55, Ball Drop on Top, Side and Back of enclosure	No damage.	
Monitor on arm	USD 28.4, Arm loaded to 4 times normal (11.8kg) Total Load 47.2 kg for 1 minute.	No damage.	
supplementary information: USD Ball Drop conducted as worst case Impact Test. Mold Stress Test waived due to Previously evaluated by TUV-R under certificate DE 2-007622, accepted under E214164-A7.			

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

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

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

42	**TABLE: normal temperature**		Pass
Supply voltage: See below Ambient temperature: See below		Test Condition: See below	

Measuring location	Measured temperature (°C)	Remarks
Model POC-S175, with P/S XPIQ, Type PCM80PS24, 90 V~, 63 Hz		
Ambient	27	
P/S: L1 Coil	64	
P/S: L2 Coil	76	
P/S: L3 Coil	81	
P/S: T1 Coil	64	
P/S: T2 Coil	73	
P/S: Enclosure	46	
PCB near U1	48	
PCB near SOM1	64	
PCB near U21	64	
T1 Coil (inverter)	70	
L1 Coil (inverter)	73	
Enclosure, inside	42	
Enclosure, outside	35	
HDD Body	53	
Panel	35	
Model POC-S175, with P/S XPIQ, Type PCM80PS24, 264 V~, 47 Hz		
Ambient	22	
P/S: L1 Coil	61	
P/S: L2 Coil	69	
P/S: L3 Coil	77	
P/S: T1 Coil	63	
P/S: T2 Coil	75	
P/S: Enclosure	44	
PCB near U1	48	
PCB near SOM1	68	
PCB near U21	70	
T1 Coil (inverter)	70	
L1 Coil (inverter)	76	
Enclosure, inside	48	
Enclosure, outside	39	

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

HDD Body	51	
Panel	31	
Model POC-S155, with P/S XPIQ, Type PCM80PS24, 90 V~, 63 Hz		
Ambient	26	
P/S: L1 Coil	62	
P/S: L2 Coil	69	
P/S: L3 Coil	76	
P/S: T1 Coil	64	
P/S: T2 Coil	73	
P/S: Enclosure	47	
PCB near U1	44	
PCB near SOM1	58	
PCB near U21	56	
T1 Coil (inverter)	64	
L1 Coil (inverter)	57	
Enclosure, inside	50	
Enclosure, outside	42	
HDD Body	47	
Panel	35	
Model POC-S155, with P/S Sinpro, Type MPU50-108, 90 V~, 63 Hz		
Ambient	23	
P/S: L1 Coil	72	
P/S: L2 Coil	73	
P/S: T1 Coil	70	
P/S: Enclosure	42	
PCB near U1	41	
PCB near SOM1	55	
PCB near U21	54	
T1 Coil (inverter)	61	
L1 Coil (inverter)	57	
Enclosure, inside	48	
Enclosure, outside	43	
HDD Body	37	
Panel	32	
Blocked Vents: Model POC-S155, with P/S XPIQ, Type PCM80PS24, 90 V~, 63 Hz		
Ambient	25	
P/S: L1 Coil	61	
P/S: L2 Coil	68	

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

P/S: L3 Coil	76	
P/S: T1 Coil	63	
P/S: T2 Coil	72	
P/S: Enclosure	46	
PCB near U1	50	
PCB near SOM1	64	
PCB near U21	64	
T1 Coil (inverter)	70	
L1 Coil (inverter)	63	
Enclosure, inside	54	
Enclosure, outside	43	
HDD Body	50	
Panel	36	
COR - indicates measurements taken using change-of-resistance method		
supplementary information:		

44	**TABLE: overflow, spillage, leakage, humidity, ingress of liquids, cleaning, sterilization, desinfection**	Pass
Test type and condition	Part under test	Remarks
Cleaning, wipe with damp cloth followed by Primary to Monitor Enclosure Dielectric: 5656 VDC)	Monitor	No wetting of parts. No breakdown.
supplementary information:		

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

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

52	**TABLE: abnormal operation**		Pass
Test type, condition and clause reference		Observed results	Remarks
Impairment of Cooling, Blocked Vents		See Temperature Test for results.	
supplementary information:			

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

56.1	**TABLE: list of critical components**					Pass
Object/part No.	Manufacturer/ trademark	type/model	technical data	Product Category CCN(s)	Required Marks of Conformity	Photo ID, Item # or other sorting identifier
External Power Supply (used with for all models)	XPiQ Inc.	PCM80PS24	Input: 100-240 Vac, 11-0.45 A, 47-63 Hz. DC Output: 24 Vdc, 3.33 A max.	QQHM2	UL R/C	3-01
Alternate (only used with for model POC-S155XXXXXXXX)	Sinpro	MPU50-108	Input: 100-240 Vac, 1.35-0.8A, 47-63 Hz. DC Output: 24 Vdc, 2.08 A max.	QQHM2	UL R/C	3-01
PWB	Various	Various	V-1 or better , 105°C min.	ZPMV2	UL R/C	3-02
Enclosure material	GE Plastics	C2800	V-0, 80°C min. For model POC-S175, overall 436.5 x 376.5 x 83.6 mm, 3.1 mm thickness. For model POC-S155, overall 417.5 x 342.3 x 83.5 mm, 3.1 mm thickness. Secured to rear enclosure by screws.	QMFZ2	UL R/C	3-01
LCD Panel	AU Optronics Couporation	G150XG01	TFT type, XGA 15 inch	NWGQ2	UL R/C	3-02
Alternate	AU Optronics Couporation	M150XN07	TFT type, XGA 15 inch	NWGQ2	UL R/C	3-02
Alternate	AU Optronics Couporation	M170EG01	TFT type, SXGA 17 inch	NWGQ2	UL R/C	3-02
HDD Drive (Optional)	Various	Various	5Vdc, 0.55A max.	NWGQ2	UL R/C	3-02
Lithium Battery (BT1)	Rayovac	BR2032	3 V, 195 mAh. Max. Abnormal Charging Current 5 mA. Reverse current protection by series circuit of Diode (DD1) and resistor (R184), rated 1kOhm. Not user	BBCV2	UL R/C	3-03

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

			replacable.			
Alternate	Matsushita Electric Industrial Co Ltd. Panasonic Corp Of North America	BR2032	Same as above	BBCV2	UL R/C	3-03
Inverter	Lecerf Technology Co., Ltd	LV-1701LC-A	I/P: 12V, 1.8A, Output: 680Vrms, 13mA.	--	--	3-03
Transformer (T1, T2)	Lecerf Technology Co., Ltd	X08-C-1	105°C	-	--	3-03
Inverter	Lecerf Technology Co., Ltd	LV-1201-D	13V, 1300mA, max. O/P volt: 750Vrms max. open Volt: 1400Vrms	--	--	3-03
Transformer(T1, T2)	Lecerf Technology Co., Ltd	X03	105°C	--	--	3-03
Polyswitch (F1, F2 for USB connector, FS5 for PS2 connector)	Polytronics Technology Corp.	SMD1812P110TTS	6 Vdc max. , 1.1 A	XGPU2	UL R/C	3-03
Alternate	Polytronics Technology Corp.	SMD1812P260TS	6 Vdc max. , 2.6 A	XGPU2	UL R/C	3-03
Speaker	Various	Various	4 ohm, 1 W	--	--	3-01
Label	LI YI Industrial Co. Ltd.	LY-101	-	PGDU2	UL R/C	3-01
Corrosion Protection	-	-	All ferrous metal parts are protected against corrosion by painting, plating or equivalent means.	-	-	
Internal Wiring	-	-	Except where noted, all internal wiring is R/C (AVLV2), and rated minimum 300 V, 80°C. All wiring is routed away from sharp edges and/or moving parts and/or parts operating at elevated temperatures.	-	-	
Electrical Connections	-	-	Except as noted, internal wiring	-	-	

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

			terminates in Listed or R/C (ZMVV2), crimped on closed loop or spade with upward or inward turned end type connectors for securing under screw terminals or Listed or R/C (ZMVV2), quick disconnect type connectors with positive detent.			
Connectors	-	-	Except where noted, all connectors in primary circuits are R/C (RTRT2).	-	-	
Printed Wiring Boards (PWB)	-	-	Except where noted, all printed wiring boards are R/C (ZPMV2) and/or R/C (ZPXK2). Any Recognized board can be used as long as the operating temperature rating is a minimum 105°C and the pattern limits are satisfied.	-	-	
Insulating Tubing and Sleeving	-	-	Unless otherwise noted all insulating tubing is R/C (YDPU2), or (YDQS2), or sleeving (UZCW2), rated minimum 300 V, 80°C.	-	-	
Solder Connections	-	-	All solder connections are made mechanically secure before soldering.	-	-	
Wire Positioning Devices	-	-	Unless otherwise noted, all wire positioning devices are R/C (ZODZ2), rated minimum 60°C. (Examples: cable ties, wire positioning mounts and bundling straps.) Adhesive-	-	-	

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

			backed types shall be suitable for application to the surface involved.			
Accompanying Documents	-	-	Each unit is shipped with operating instructions, a technical description and an address to which the user can refer. Accompanying documents contain all applicable classifications of the product, all warning statements and explanation of warning symbols.	-	-	
Markings	-	-	Except where noted, required markings on the product shall be located where visible after installation without the use of a tool. Good contrast is maintained between the lettering and the background material. The signal word such as "WARNING, "CAUTION" or "DANGER" must be in capital letters, minimum 2.8 mm (7/64 in.) high. The rest of the marking shall consist of upper and lower case letters not less than 1.6 mm (1/16 in.) high based on upper case letters.	-	-	

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

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

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

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

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

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

57.9.1a	**TABLE: transformer short circuit**						Pass
Winding under test	Protection	Measured temperatures (°C)			Test duration	Remarks	
		Primary	Secondary	Ambient			
supplementary information: Previously evaluated in UL 60601-1 power supplies.							

57.9.1b	**TABLE: overload**							Pass
Winding under test	Protection	Measured temperatures (°C)			Test duration	Test current or thermal cutout temp.	Remarks	
		Primary	Secondary	Ambient				
supplementary information: Previously evaluated in UL 60601-1 power supplies.								

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

	TABLE: additional tests		Pass
Clause	Test type and condition	Remarks and observed results	Verdict
49	Interruption of Supply	Equipment shut down when power was removed and operated normally when it was restored.	Pass
supplementary information:			

Enclosure

National Differences

(Total 8 Pages including this Cover Page)

Canada
USA

IEC 60601			
SubClause	Difference + Test	Result - Remark	Verdict
Canada - Differences to IEC 60601-1:1988 + A1:1991 + A2:1995			
6	Where written safety warnings appear as equipment markings, they should appear in French and English	Obsolete requirement.	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 - 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	No hazard.	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		Pass
57.3b	- minimum serviceability of Type SJ for mobile equipment or Type SV for other		Pass
57.9	Switching power supplies conform to CSA Electrical Bulletin 1402C	Obsolete requirement.	N/A

IEC 60601			
SubClause	Difference + Test	Result - Remark	Verdict
58.2	Protective earth connections comply with CSA C22.2 No. 0.4	Obsolete requirement.	N/A
59.1	Connecting cables comply with Canadian Electrical Code, Part I		Pass
60	Creepage distances or clearances of at least 4 mm are maintained between defibrillation-proof applied parts and other parts.		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 in "CAUTION", WARNING", and "DANGER" markings at least 1.6 mm (1/16 inch) high	Symbols used.	N/A
6	b) Signal words "CAUTION", WARNING", and "DANGER" at least 2.8 mm (7/64 inch)		N/A
6	c) Letters in contrast color to the background		N/A
6	Equipment capable of emitting ionizing radiation provided with warning statement	No such parts.	N/A
6	If equipment produced in more than one factory, factory identification marked on the equipment	One factory.	N/A
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~	Pass
10.2.2a	Rated voltage not exceeding 600 V for all other equipment		N/A
14	Fixed equipment and permanent equipment is Class I		Pass
18m	Earthing of X-ray equipment: All parts operating at over 600 V ac, 850 V dc, or 850 V peak are enclosed in protectively earthed enclosures	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	(see appended table 21)	Pass
42	Insulation systems with measured temperatures exceeding Class A 105°C (based on 40°C ambient) comply with UL1446		N/A
55	Polymeric enclosures and external combustible surfaces		Pass
55	Polymeric enclosures comply with: Conductive coatings applied to nonmetallic surfaces comply with UL 746C		N/A
55	External combustible surface of more than 9.47 m2 or single dimension of 3.7 m have flame spread rating not exceeding 75 (Steiner Tunnel Test)		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		N/A
55	Polymeric enclosures for fixed or stationary equipment rated 94V-0 or better		Pass
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 21)	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		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

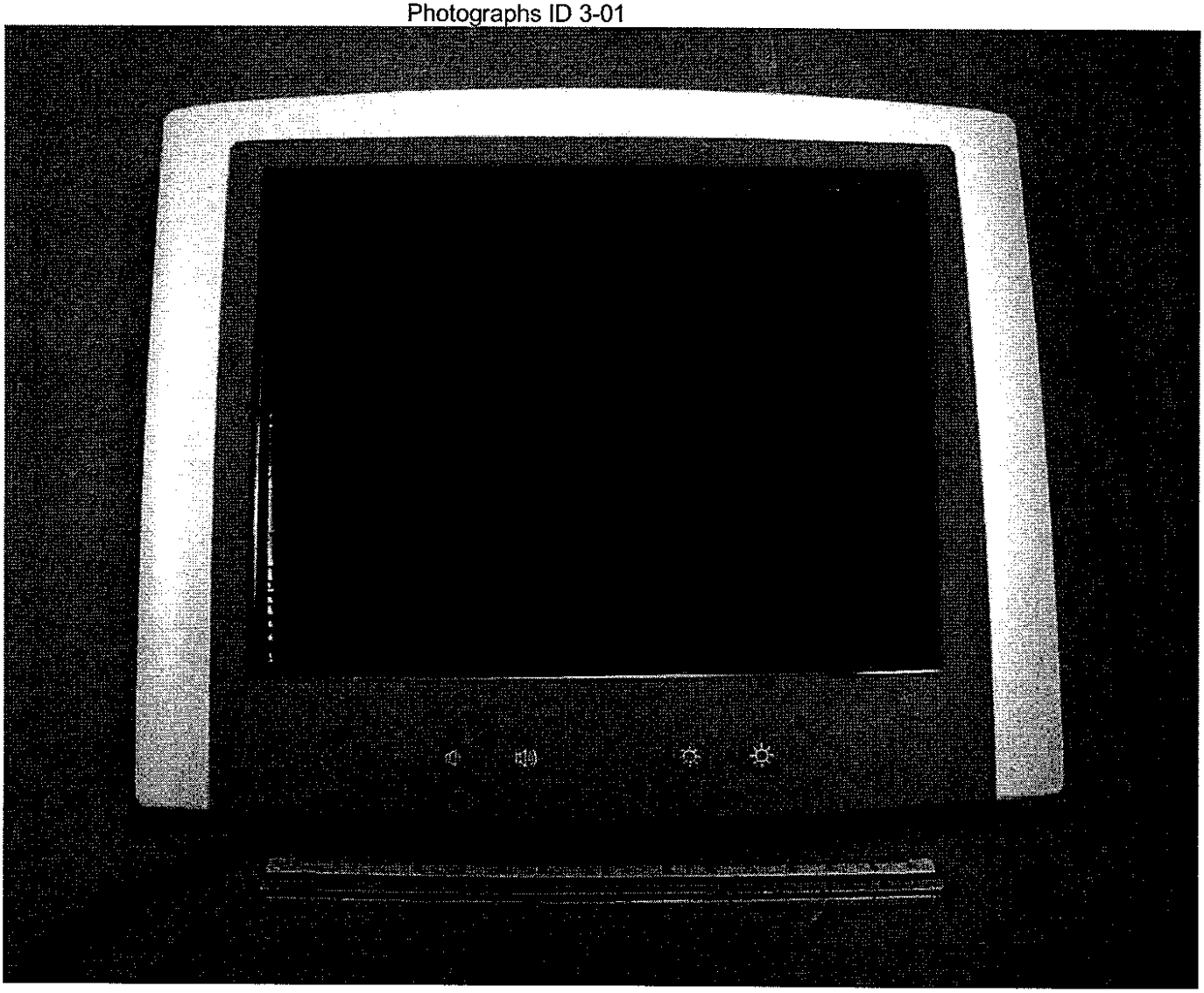
IEC 60601			
SubClause	Difference + Test	Result - Remark	Verdict
400.3	Ventilation required by 400.1 is such that oxygen content does not exceed 4% above ambient		N/A
400.4	Under N.C. and S.F.C. the product of the value of no load rms voltage and short circuit rms current less than 10 VA		N/A
400.4	Surface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

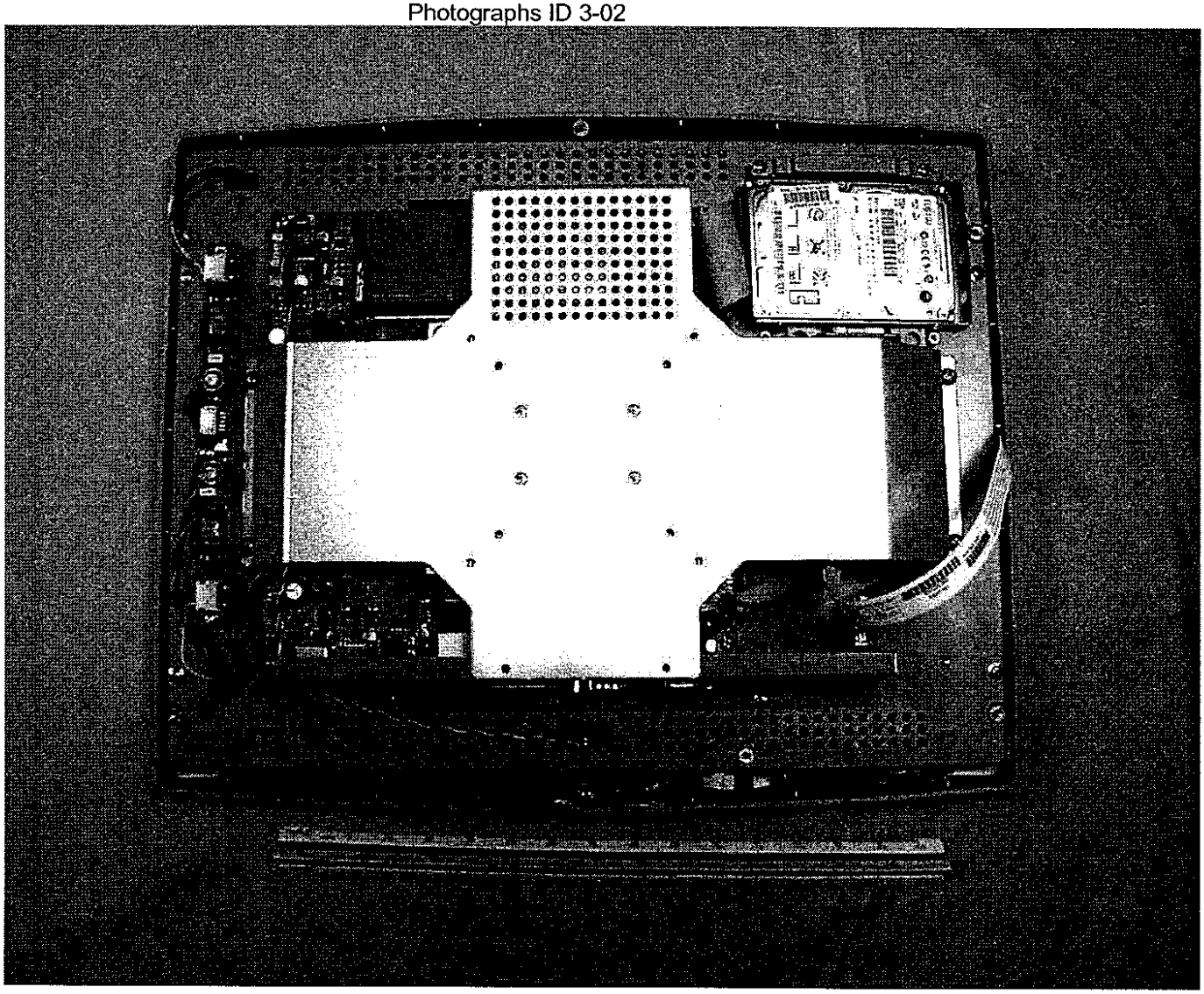
Photographs

Supplement Id	Description
3-01	External View
3-02	Internal View without Cover
3-03	Internal View without Cover or Chassis

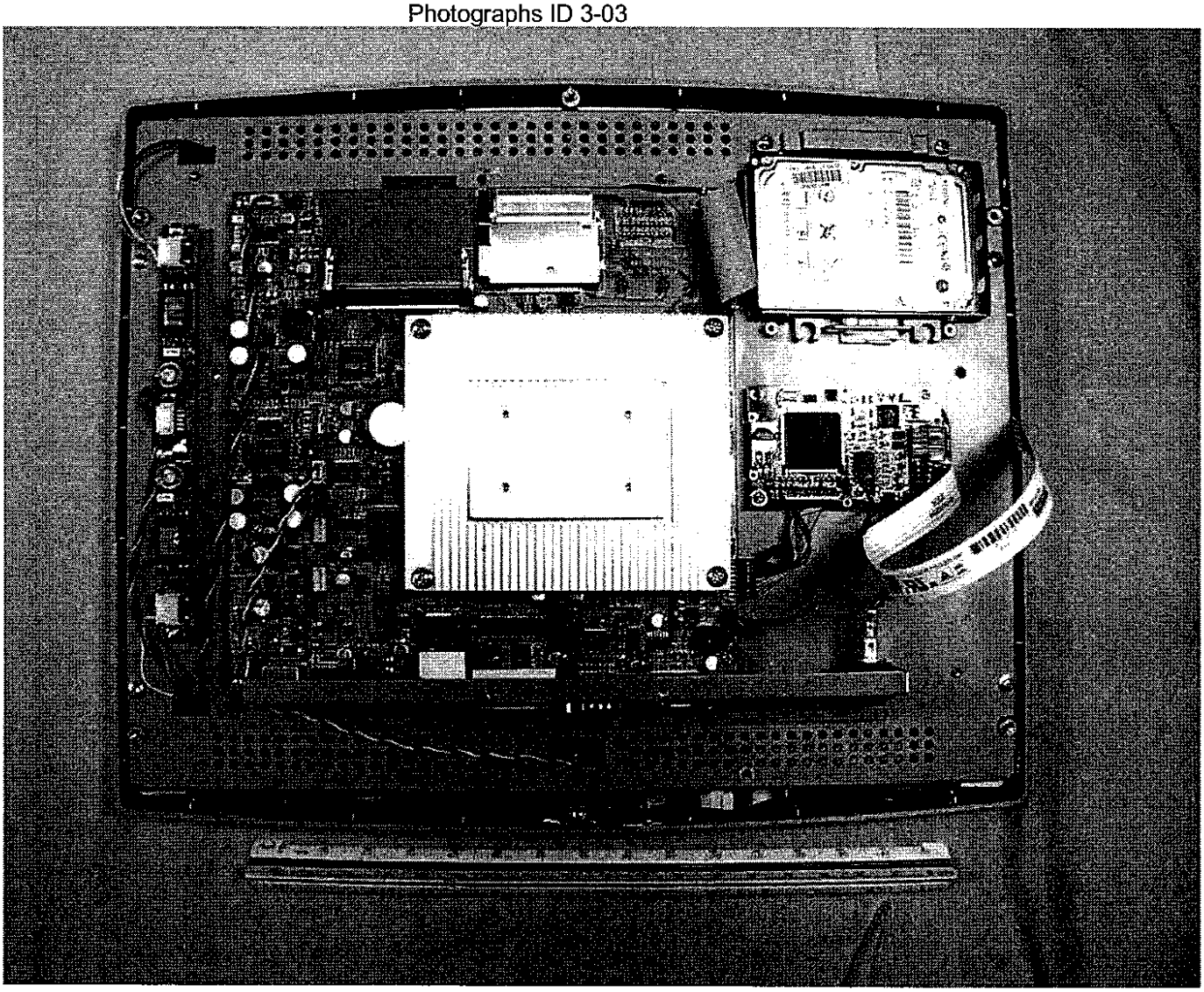
Photographs ID 3-01



Photographs ID 3-02



Photographs ID 3-03



Enclosure

Manuals

Supplement Id	Description
6-01	Manual, Representative of All Models

Manuals ID 6-01

POC-S155

Pentium® M processor-based Slim Point of Care Terminal with 15" TFT LCD

User's Manual

Manuals ID 6-01

1st. Edition
Printed in Taiwan Dec. 2004

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

Warning	*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.*

Caution	*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.*

Packing List

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

- POC-S155 series Point of Care Terminal
- User's manual
- Accessories for POC-S155

- 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
- Mounting kits and packet of screws

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

Additional Information and Assistance

1. Visit the Advantech websites at **www.advantech.com** or **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.

Warning	*1.Power adapter (XPiQ Inc., Model no. PCM80PS24)* *Input voltage rated 100-240 V_{AC}, 47-63 Hz, 1.1-0.45 A max*

Manuals ID 6-01

	Output voltage rated 24 V_{DC},3.33 A *Power adapter (Sinpro, Model no. MPU50-108)* *Input voltage rated 100-240 V_{AC}, 47-63 Hz, 1.35-0.8 A* *Output voltage rated 24 V_{DC}, 2.08 A max* *2. Use a 3 V @ 195 mA lithium battery (Model No. BR2032)* *3. Packing: please carry the unit with both hands, handle with care* *4. Our European representative:* *Advantech Europe GmbH* *Kolberger Straße 7* *D-40599 Düsseldorf, Germany* *Tel: 49-211-97477350* *Fax: 49-211-97477300* *5. Maintenance: to properly maintain and clean the surfaces, use only approved products or clean with a dry applicator*

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 damp 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 60° C (140° 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	*1. Do not replace battery yourself. Please contact a qualified technician or your retail.* *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*

Manuals ID 6-01

17. IMPROPER INSTALLATION OF VESA MOUNTING CAN RESULT IN SERIOUS PERSONAL INJURY! VESA mount installation should be operated by professional technician, please contact the service technician or your retail if you need this service.
18. CLASSIFICATION:
- Supply by class I adaptor
- No applied part
- IPXO
- Continuous Operation
- Not AP or APG category

19. Disconnect device: Appliance inlet.
20. Follow the national requirement to dispose unit.
21. Maintenance: to properly maintain and clean the surfaces, use only the approved products or clean with a dry applicator.
22. Contact information:
No.1, Alley 20, Lane 26, Ruiguang Road Neihu District, Taipei,
Taiwan 114, R.O.C.
TEL: (02)27927818

23.

CLASSIFIED C UL US XXXX

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, and IEC 60601-1

24. This equipment shall not be used for life support system.
25. 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. If in doubt, consult the technical services department or your local representative.
26. The sound pressure level at the operator's position according to IEC 704-1:1982 is no more than 70dB(A).
27. User not to contact SIP/SOPs and the patient at the same time.

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

Manuals ID 6-01

Chapter 1 General Information

1.1 Introduction

The POC-S155 is a multimedia Pentium® Mobility processor-based computer that is designed to serve as a Point of Care terminal (POC.) It is a PC-based system with 15" color TFT LCD display, on-board PCI Ethernet controller, dual COM port interfaces and a 16-bit stereo audio controller. With a built-in 2.5" HDD drive, and CF card sockets, the POC-S155 is as slim and user-friendly as a notebook computer and low audible noise. For system integrators, this silent, compact, mobility 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 POC-S155 is a reliable solution to your application's processing requirements.

1.2 Specifications

General

- **Dimensions (W x H x D):** 417.5 x 342.3 x 83.5 mm (16.43" x 13.47" x 3.28")
- **Weight:** [illegible]
- **Power supply:**

DC model: 80 watts max
External DC Adapter- (Manufacturer: XPIQ Inc., Model no.: PCM80PS24) used within POC-S155XXXXXXXX

Input voltage: 100-240 V_{AC}, 47-63 Hz, 1.1-0.45 A
Output voltage: +24 V_{DC}, 3.33 A max.

External DC Adapter- (Manufacturer: Sinpro, Model no.: MPU50-108) used within POC-S155XXXXXXXX

Input voltage: 100-240 V_{AC}, 47-63 Hz, 1.35-0.8 A
Output voltage: +24 Vdc, 2.08 A max.

- **Disk drive housing:** Space for one 2.5" HDD
- **Front panel:** IPX0/NEMA compliant
- **Whole System:** IPX0 compliant

Standard PC functions

- **CPU:** Intel® Embedded Intel® Pentium® M or Celeron® M processor w/64KB primary cache memory
- **Memory:** 1 x 200 pin SO-DIMM sockets, support ECC Double DataRate (DDR)128 MB to 512 MB, accept 128/256/512 MB DR200/266/333 DRAM.
- **System chipset:** Intel 855GME GMCH/ ICH4 Chipset 400 MHz PSB
- **BIOS:** Award 256 KB Flash BIOS, supports Plug & Play, APM
- **Serial ports:** Two RS-232 ports with optical isolation. All ports are compatible with 16C550 UARTs
- **Universal serial bus (USB) port:** Supports up to two USB ports
- **Watchdog timer:** 62-level, interval 1 ~ 62 seconds. Automatically generates system reset or IRQ11 when the system stops due to a program error or EMI.
- **CMOS Battery (BIOS):** 3.0 V @ 195 mA lithium battery

Flat panel interface

- **Chipset:** Intel 855GME
- **Memory Size:** Optimized shared memory architecture, supports 1 MB/8 MB frame buffer using system memory
- **Display type:** Simultaneously supports CRT and flat panel displays (EL, LCD and gas plasma)
- **Display resolution:** Supports non-interlaced CRT and TFT LCD displays up to 1280 x 1024 @ 16 M colors

Audio function

Manuals ID 6-01

- **Chipset:** Realtek ALC202
- **Audio controller:** 16-bit codec, Full-Duplex stereo single-chip PCI audio solution
- **Speaker:** Full alarm volume > 70 dB(A) 1 meter
- **Stereo sound:** 100% DOS GAME compatible (Sound Blaster or Sound Blaster Pro)
- **Audio interface:** Microphone-in, Line-in, Line-out and Game ports (MPU-401)

PCI bus Ethernet interface

- **Ethernet interface:** Full compliance with IEEE 802.3u 100Base-T and 10 Base-T specifications. Includes software drivers and boot ROM
- **100/10Base-T auto-sensing capability**

Touchscreen (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:Touhscreen specification

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

Optional modules

- **Memory:** 128/256/512 MB DR200/266/333 DRAM
- **HDD:** 2.5" HDD
- **Touchscreen:** Analog resistive

Environment

- **Temperature:** 0 ~ 40°C (32 ~ 104 °F)
- **Relative humidity:** 10 °C to 40 °C / 20% RH to 90% RH operating -20 °C to 60 °C/ 10% RH to 95% RH Storage (Non-condensing)
- **Shock:** 30 G, 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, VCCI, BSMI 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 and the Low Voltage Directive 73/23/EEC.

Cleaning/Disinfecting

During normal use of the POC-S155 may become soiled and should, therefore, be cleaned regularly. Agents: Green tinctured soap and Enzymatic detergents
Steps:
1. Wipe the POC-S155 with a clean cloth that has been moistened in the cleaning solution.
2. Prepare agent per manufacturer's instructions or hospital protocol.
3. Wipe thoroughly with a clean cloth

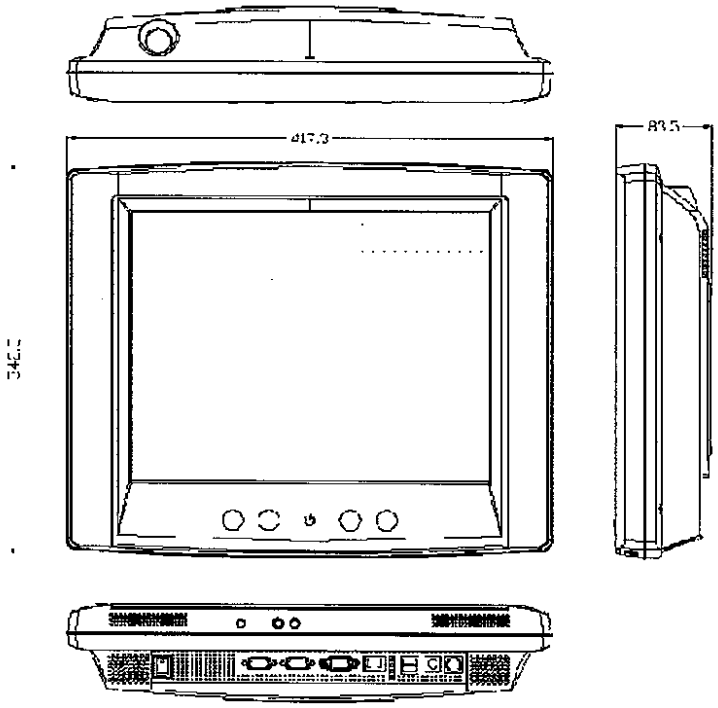
Cautions	*Do not immerse or rinse the POC-S155 and its peripherals. If you accidentally spill liquid on the device, disconnect the unit from the power source. Contact your Biomed regarding the continued safety of the unit before placing it back in operation.* *Do not spray cleaning agent on the chassis.* *Do not use disinfectants that contain phenol. Do not autoclave or clean the POC-S155 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.*

Manuals ID 6-01

1.3 LCD Specifications

- **Display type:** 15" TFT LCD.
- **Resolution:** 1024 x 768
- **Colors:** 262,144 (6 bits/color)
- **Dot size (mm):** 0.264 x 0.264
- **Viewing angle:** 120°
- **Luminance:** 350 cd/m2
- **Contrast ratio:** 400 : 1
- **LCD MTBF:** 50,000 hours
- **Backlight lifetime:** 50,000 hours @ Standard current 6.5 ± 0.5 mA

1.4 Dimensions



Unit:mm

Figure 1-1: Dimensions of the POC-S155

Manuals ID 6-01

Chapter 2 System Setup

2.1 A Quick Tour of the POC-S155

Before you start to set up the POC-S155, 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 POC-S155 upright on the desktop, its front panel appears as shown in Figure 2-1.

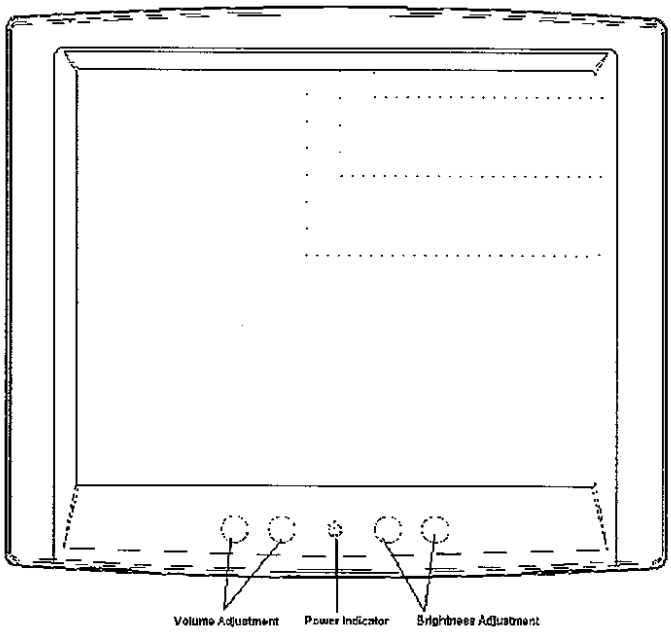


Figure 2-1: Front View of the Point of Care Terminal

When you turn the Point of Care Terminal around and look at its rear cover, the sunken I/O section is at the bottom of the panel PC, as shown in Figure 2-2. (The I/O section includes various I/O ports, including serial ports, VGA port, the Ethernet port, USB ports, the microphone jack, and so on.)

Manuals ID 6-01

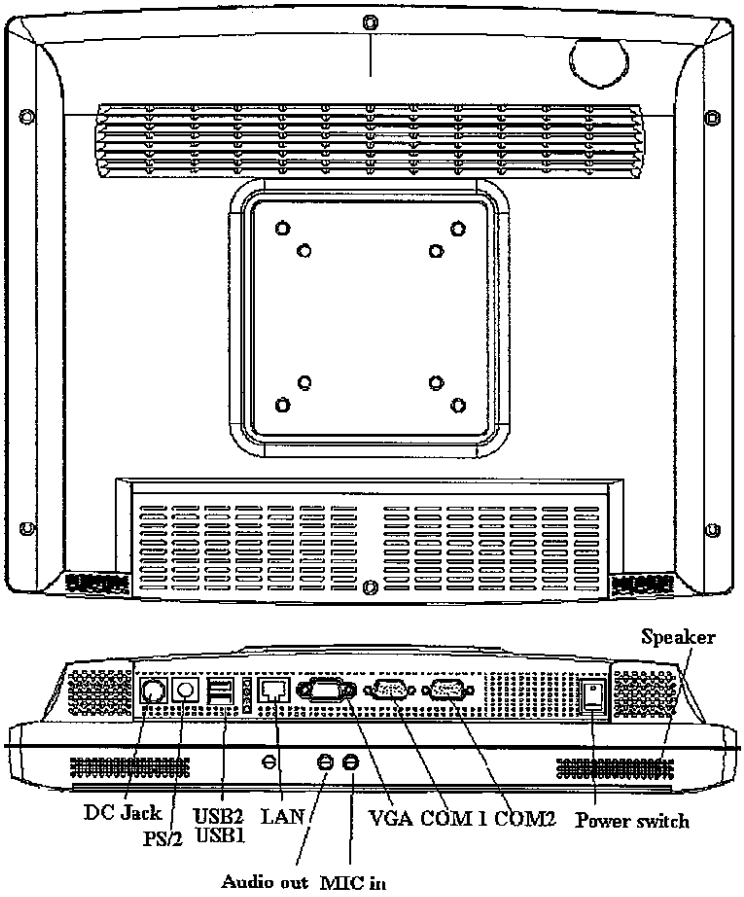


Figure 2-2: Rear view of the Point of Care Terminal

2.2 Installation Procedures

2.2.1 Connecting the power cord

The POC-S155 could only be powered by a DC power adapter (XPiQ Inc., Model no. PCM80PS24 and Sinpro, Model no. MPU50-108). 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 adapter to the DC jack of the panel PC. (See Figure 2-3.)
2. Connect the female end of the power cord to the DC power adapter.
3. Connect the 3-pin male plug of the power cord to an electrical outlet.

Manuals ID 6-01

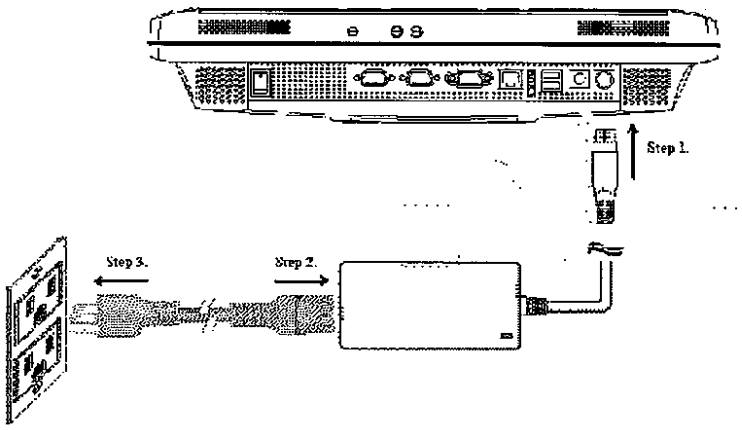


Figure 2-3: Connecting the power cord

3. After finish all above installation, please jump to section 2.2.2 and continue your installation procedure

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 of the POC-S155. (See Figure 2-4.)
2. Connect the PS/2 mouse and keyboard to the Y-shaped adapter. (See Figure 2-4.)

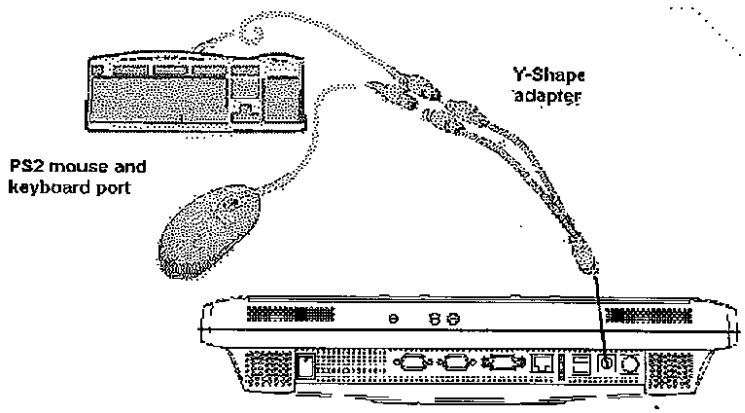


Figure 2-4: Connecting the mouse and keyboard

2.2.3 Switching on the power

Switch on the power switch on the rear cover. (See Figure 2-5.)

2.2.4 Connecting the COM ports (COM 1,2)

Manuals ID 6-01

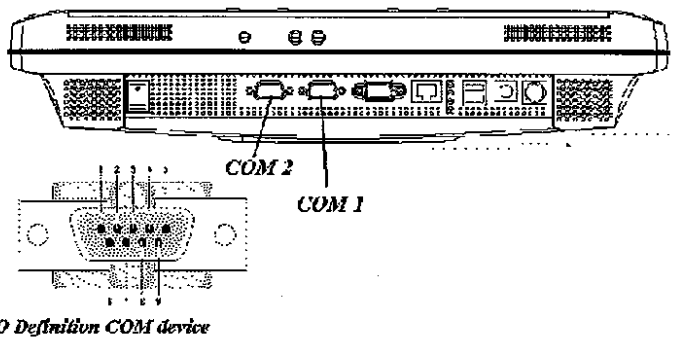


Figure 2-5: Connecting the device to COM ports

2.3 Running the BIOS Setup Program

Your POC-S155 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 " Crtl+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.

Note	*Some distributors and system integrators may have already pre-installed system software prior to shipment of your panel PC.*

If required, insert your operating system's installation or setup diskette into the external diskette 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 your external 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, VGA, audio and touchscreen functions by your own external CD-ROM drive. All the drivers except the CD-ROM drive driver are stored in a CD-ROM disc entitled "Drivers and Utilities."

Manuals ID 6-01

The standard procedures for installing the Ethernet, VGA, audio, and touchscreen drivers are described in Chapters 3, 4, 5, and 6 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:

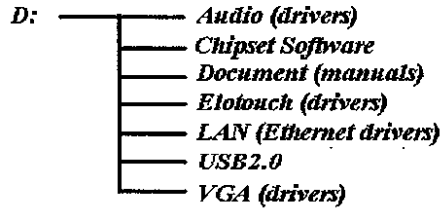


Figure 2-6: The file directory on "Drivers and Utilities" CD-ROM

Note	*The drivers and utilities used for the POC-S155 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.*

Manuals ID 6-01

Chapter 3 PCI BUS Ethernet Interface

3.1 Introduction

The POC-S155 is equipped with a high-performance 32-bit Ethernet chipset which is fully compliant with IEEE 802.3 100 Mbps CSMA/CD standards. It is supported by major network operating systems. It is also both 100Base-T and 10Base-T compatible.

3.2 Installation of Ethernet Driver

3.2.1 Installation for Windows 2000/XP

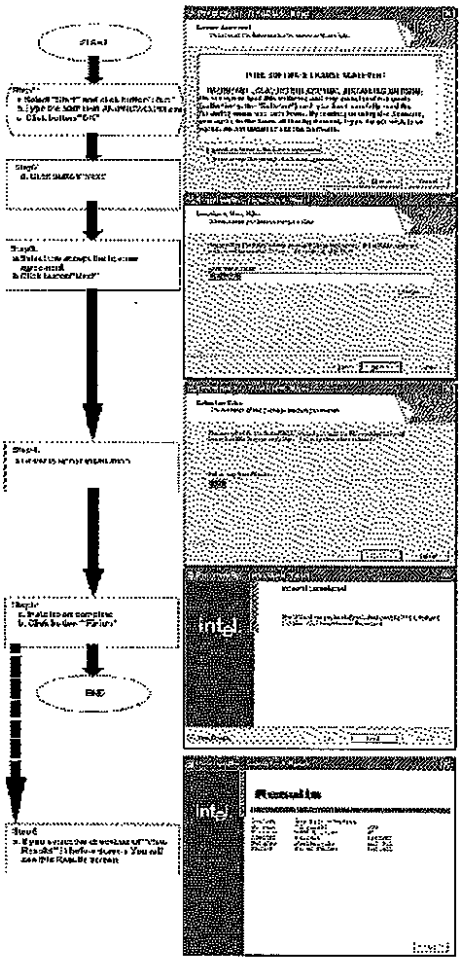
Complete the following steps to install the LAN driver. Follow the procedures in the flow chart that apply to the operating system that you are using within your POC-S155.

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.*

Note1	*The external CD-ROM drive is designated as "D" throughout this chapter.*

Note2	*<Enter> means pressing the "Enter" key on the keyboard.*

Manuals ID 6-01



3.3 Further information

For further information about the Ethernet installation in your POC-S155, included Driver updates, troubleshooting guides and FAQ lists please visit the following web resources.
Realtek website: **www.intel.com.tw**
Advantech websites: **www.advantech.com**
www.advantech.com.tw

Manuals ID 6-01

Chapter 4 PCI Graphic Setup

4.1 Introduction

The POC-S155 has an onboard PCI/AGP flat panel/VGA interface. The specifications and features are described as follows:.

4.1.1 Chipset

The POC-S155 uses a Intel 855GME for its graphic controller. It supports LVDS LCD displays, and CRT monitors.

4.1.2 Display memory

The 855GME chip can support up to 8MB dynamic frame buffer shared with system memory; the VGA controller can drive CRT displays up to 1600 x 1200 at 85-Hz and 2048 x 1536 at 75-Hz, color panel displays in LVDS model with resolutions up to UXGA panel resolution with frequency range from 25 MHz to 112 MHz..

4.1.3 Display types

CRT and panel displays can be used simultaneously. The POC-S155 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 (LDVS).

4.2 Installation of PCI Graphic Driver

Complete the following steps to install the VGA driver. Follow the procedures in the flow chart that apply to the operating system that you are using within your POC-S155.

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.*

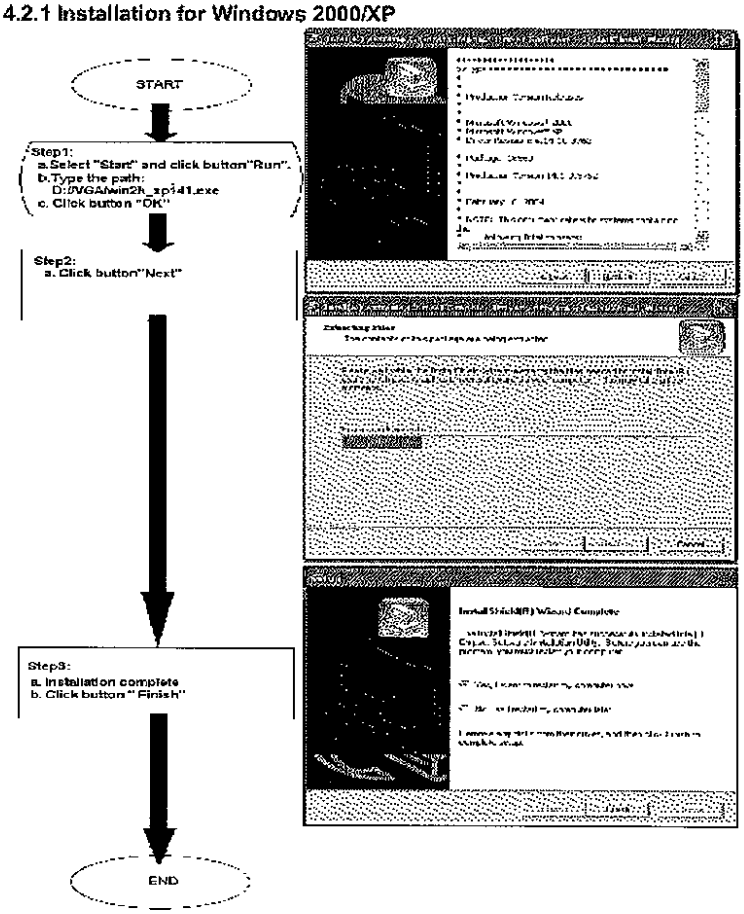
Note1	*The CD-ROM drive is designated as "D" throughout this chapter.*

Note2	*<Enter> means pressing the "Enter" key on the keyboard.*

Note3	*Before you install the graphic driver of POC-S155, please ensure you have installed the INF driver of the Intel 855GME chipset. You can find this driver in the Utility CD-ROM.*

Manuals ID 6-01

4.2.1 Installation for Windows 2000/XP



4.3 Further information

For further information about the VGA installation in your POC-S155, included Driver updates, troubleshooting guides and FAQ lists please visit the following web resources.
Intel website: **www.intel.com.tw**
Advantech websites: **www.advantech.com**
www.advantech.com.tw

Manuals ID 6-01

Chapter 5 Audio Interface

5.1 Introduction

The POC-S155's onboard audio interface provides high-quality stereo sound and FM music synthesis (ESFM) by using the ALC202 audio controller from Realtek. The audio interface can record, compress, and play back voice, sound, and music with a built-in mixer control. The POC-S155's onboard audio interface also supports the Plug and Play (PnP) standard and provides PnP configuration for audio, FM, and MPU-104 logical devices. It is compatible with Sound Blaster, Sound Blaster Pro version 3.01, voice, and music functions. The ESFM synthesizer is register compatible with the OPL3 and has extended capabilities.

5.2 Installation of Audio Driver

Before installing the audio driver, please take note of the procedures detailed below. You must know which operating system you are using in your POC-S155, and then refer to the corresponding installation flow chart. Just follow the steps in the flow chart. You can quickly and successfully complete the installation, even though you are not familiar with instructions for Windows.

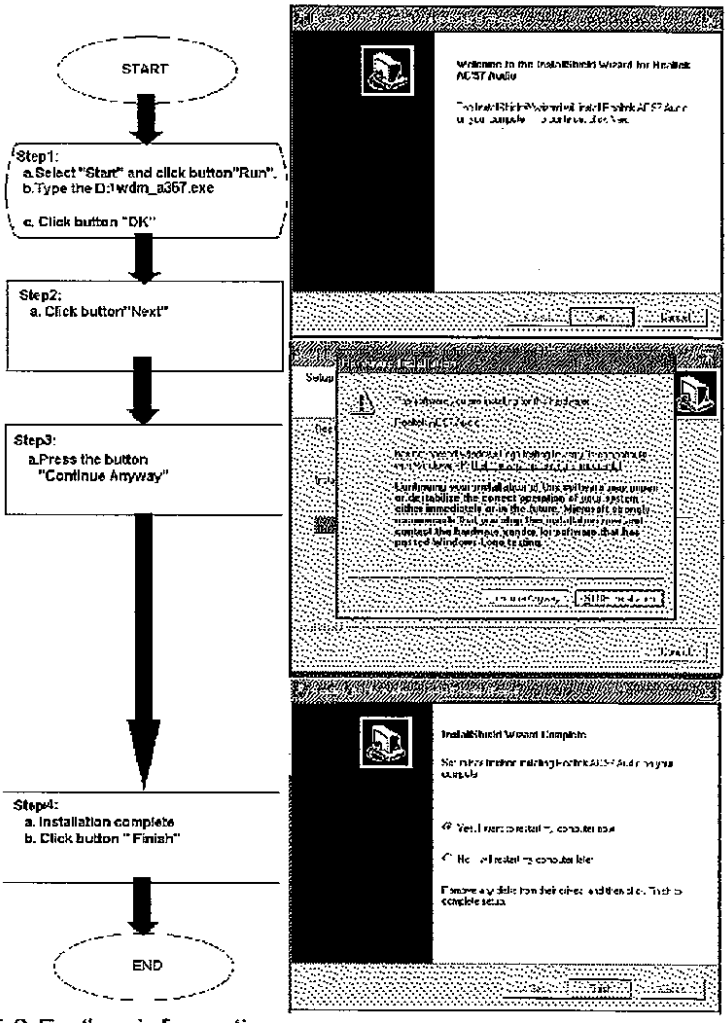
Important	*The following windows illustrations are examples only. You must follow the flow chart instructions and pay attention to the instructions which appear on your screen.*

Note1	*The external CD-ROM drive is designated as "D" throughout this chapter.*

Note2	*<Enter> means pressing the "Enter" key on the keyboard.*

Manuals ID 6-01

5.2.1 Installation for Windows 2000/XP



5.3 Further information

For further information about the Audio interface installation in your POC-S155, included Driver updates, troubleshooting guides and FAQ lists please visit the following web resources.
Realtek website: www.realtek.com.tw
Advantech websites: www.advantech.com
www.advantech.com.tw

Manuals ID 6-01

Chapter 6 Touchscreen Interface

6.1 Introduction

6.1.1 General Information

The POC-S155's optional touchscreen incorporates advanced second-generation 5-wire resistive technology. They allow 75% light transmission respectively. The resistive and capacitive models have an antiglare surface. All models provide greatly enhanced visual resolution. They also have new improved scratch-resistant features.
The touchscreen is manufactured from UL-recognized components. When properly installed, the touchscreen's ball impact resistance meets the UL 1950 standard. Its fire resistance meets the UL-746C, 19 mm (0.75") flame test standard. Systems incorporating the touchscreen, controllers, and cables have been approved to FCC Class A and Class B standards.

6.1.2 General specifications

Please refer to Chapter 1, Section 1.2 of this manual.

6.1.3 Environmental specifications

Temperature:
-0° ~ 50° C (operating)
-20° ~ 60° C (storage)
Relative humidity:
90 RH at 35° C (operating)
90 RH at 35° C for 240 hours, non-condensing (storage)
Chemical resistance: The active area of the touchscreen is resistant to the following chemicals when exposed for a period of one hour at a temperature of 21° C (71° F):
- Acetone
- Methylene chloride
- Methyl ethyl ketone
- Isopropyl alcohol
- Hexane
- Ammonia-based glass cleaners
- Turpentine
- Mineral spirits
- Foods and beverages

6.2 Installation of Driver for Touchscreen

To facilitate installation of the touchscreen driver, you should read the instructions in this section carefully before you attempt installation.

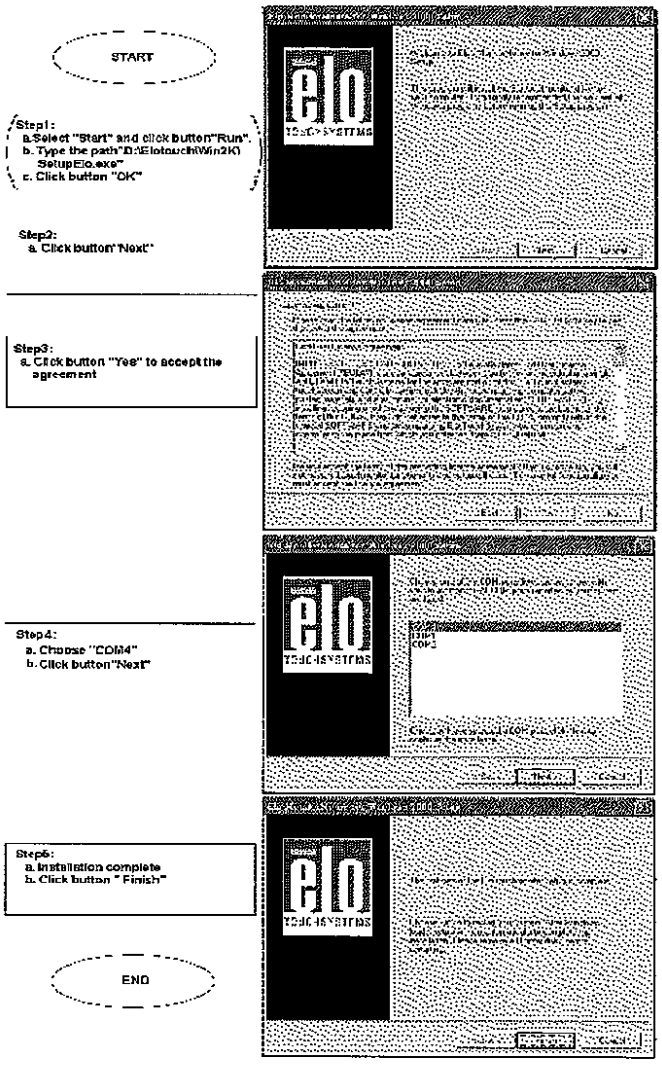
Important	*The following windows illustrations are examples only. You must follow the flow chart instructions and pay attention to the instructions which appear on your screen.*

Note1	*The external CD-ROM drive is designated as "D" throughout this chapter.*

Note2	*<Enter> means pressing the "Enter" key on the keyboard.*

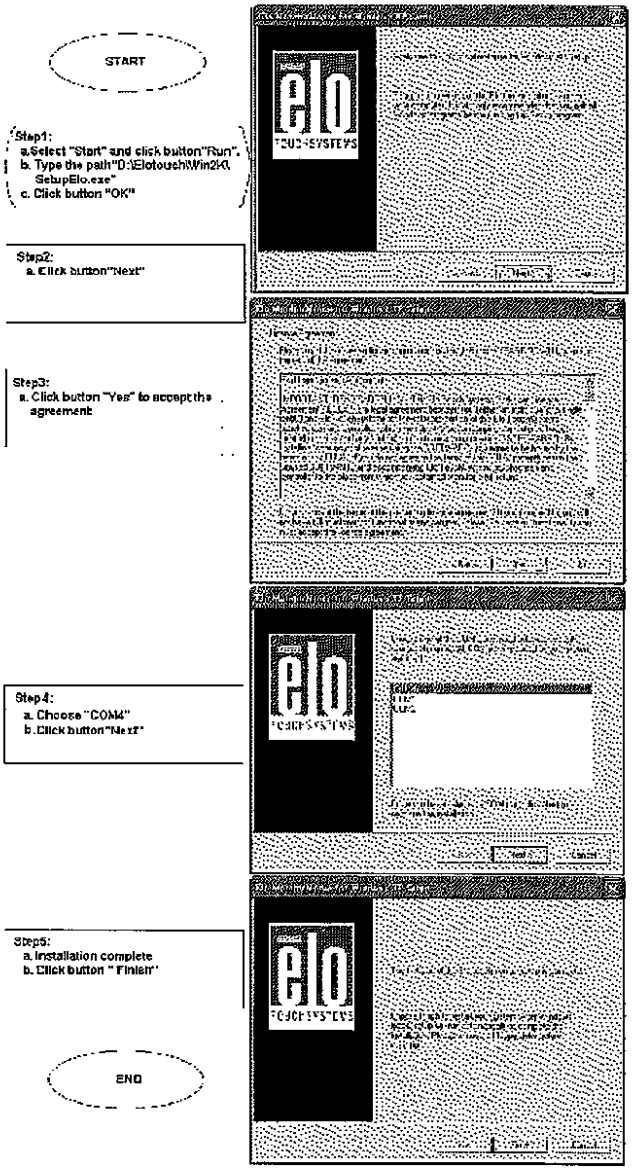
Manuals ID 6-01

6.2.1 Installation for Windows 2000



Manuals ID 6-01

6.2.2 Installation for Windows XP



Manuals ID 6-01

6.3 Further information

For further information about the Touchscreen installation in your POC-S156, included Driver updates, troubleshooting guides and FAQ lists please visit the following web resources.
Elo website: **www.elotouch.com**
Advantech websites: **www.advantech.com**
www.advantech.com.tw

Manuals ID 6-01

Appendix A VESA Mounting

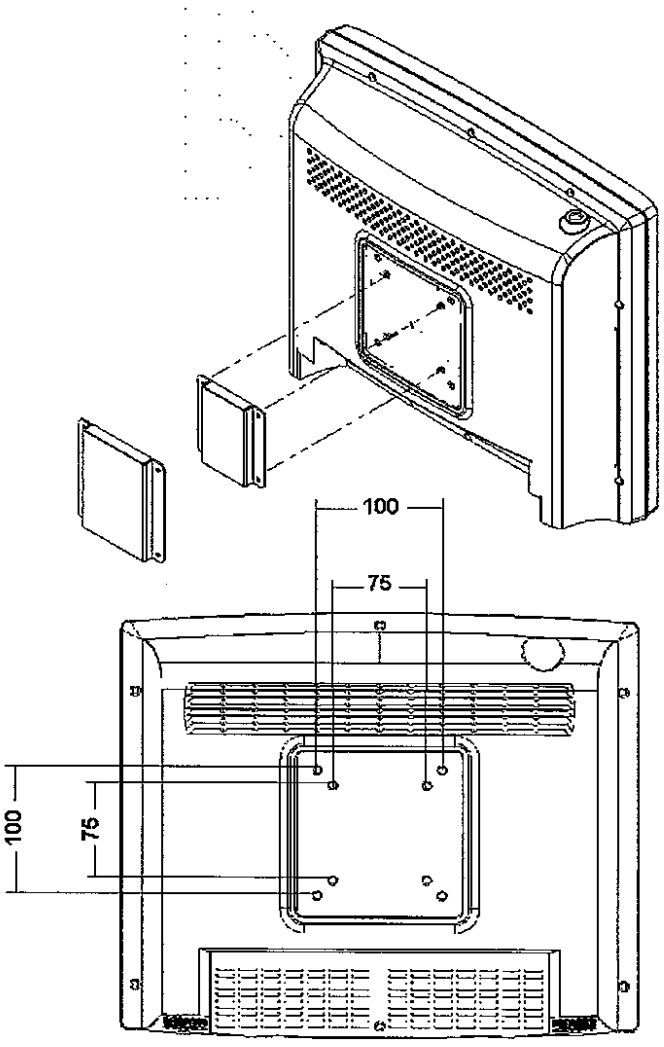
A.1 Install VESA Mounting

The POC-S155 also provides standard VESA mounting to help system integrators conveniently integrate the panel PC into their system.
Never use the mounting brackets except for providing by Advantech to prevent the unreliable fixing of POC-S155. VESA mount installation should be operated by professional technician, please contact the service technician or your retail if you need this service.

Installation instructions follow:
1. The wall-mounting attachment is comprised of two parts: one back bracket, and one mounting bracket.
2. First attach the back bracket to the rear cover of the POC-S155, securing it in place with four of the philips-head screws provided.
3. Mount the mounting bracket on the wall or other flat surface. The back bracket slides vertically from the top into the mounting bracket. It can be secured to the mounting bracket by screwing four of the philips-head screws provided through the corresponding holes at the tops of the mounting bracket.

Warning	*Be sure to secure the screws of the mounting bracket tightly. Loose jointed between POC-S155 and mounting bracket could be damaged to human life.*

Manuals ID 6-01



Unit : mm

Figure A-1: VESA mounting dimension diagram (75 x 75 mm, 100 x 100 mm)

Enclosure

Test Record

Description
Test Record 1
Data sheets
Portion of SPC Data

Test Record No. 1

The following tests were conducted:

Test	Comments
Power Input (7.1)	
Leakage Current (19)	
Suspension System without Safety Device Loading (28.4)	
Temperature (42)	Conducted by SPC
Overflow, Spillage, Leakage, Cleaning, Sterilization and Disinfection, Harmful Ingress of Liquids (44)	
Abnormal Operation and Fault Conditions (52)	Blocked Vents Test conducted by SPC.
Mechanical Abuse - Ball Drop (55)	
Interruption of Power Supply (49)	

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.

Due to similarity to Model POC-174 for this manufacturer, only the tests listed above were considered necessary. The following tests were not conducted and were considered covered by File E214164, Test Reference E214164-A7:
Marking Durability, 6.1
Mold Stress, USD 55

Since SPC is currently a COMPASS client for UL 60950 and considering the similarity between the Temperature and Blocked Vents tests in UL 60601-1 to UL 60950, this data was accepted without witnessing.