

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-174xxxxxxxxxx and POC-154xxxxxxxxxx (x = 0-9, A-Z or any alphanumeric character or blank, for marketing purposes). POC-175xxxxxxxxxx and POC-155xxxxxxxxxx (x = 0-9, A-Z or any alphanumeric character or blank for marketing purposes). POC-195xxxxxxxxxx (x = 0-9, A-Z or any alphanumeric character or blank for marketing purposes).
Rating(s):	100-240 Vac, 50-60 Hz, 4-2 A Max
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 1 ALLEY 20 LANE 26 RUEIGUANG RD NEIHU DISTRICT TAIPEI 114 TAIWAN
This Report includes the following parts, in addition to this cover page:	
<ol style="list-style-type: none">1. Specific Inspection Criteria2. Specific Technical Criteria3. Clause Verdicts4. Critical Components5. Test Results6. National Differences7. Enclosures	

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

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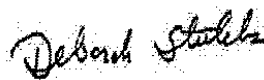
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Test Report By:



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Reviewed By:



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SPECIFIC INSPECTION CRITERIA

BA1.0	Special Instructions to UL Representative
BA1.1	Please verify that symbols 15 and 16 of Table DI in the Section General do NOT appear on the reset switch
BB1.0	Supporting Documentation
BB1.1	<p>The following documents located at the beginning of this Procedure supplement the requirements of this Test Report:</p> <p>A. Authorization - The Authorization page may include additional Factory Identification Code markings.</p> <p>B. Generic Inspection Instructions -</p> <ol style="list-style-type: none">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.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.Part AF details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

BC1.0	Markings and instructions	
BC1.1	The following markings and instructions are provided as indicated.	
BC1.2	All clause references are from UL 60601-1, First Edition (2003).	
Standard Clause	Clause Title	Marking or Instruction Details
	US Hospital Grade Marking	"Grounding Reliability Can Only Be Achieved When The Equipment Is Connected To An Equivalent Receptacle Marked 'Hospital Only' Or 'Hospital Grade'." (located on product or power supply)
6.1e	Company identification	Classified or Recognized company's name, Trade name, Trademark or File
6.1f	Model	Model number
6.1g	Supply Connection	Voltage range, ac/dc, phases if more than single phase
	Alternating current	
6.1h	Supply Frequency	Rated frequency range in hertz
6.1j	Power Input	Amps, VA, or Watts
6.1q	Attention, consult accompanying documents	
6.3a	Off (power disconnection from the mains)	
	On (power connection to the mains)	

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
	POC-174	Test Required	Test Required	Exempt
	POC-154	Test Required	Test Required	Exempt
	POC-195	Test Required	Test Required	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	N/A	N/A	N/A

SPECIFIC TECHNICAL CRITERIA

TEST REPORT UL 60601-1 Medical Electrical Equipment Part 1: General requirements for safety	
Report Reference No	E214164-A4-UL-2
Compiled by	Ahmad Daoudi
Reviewed by	Deborah Stubbs
Date of issue	2006-12-14
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-174xxxxxxxxxx and POC-154xxxxxxxxxx (x = 0-9, A-Z or any alphanumeric character or blank, for marketing purposes). POC-175xxxxxxxxxx and POC-155xxxxxxxxxx (x = 0-9, A-Z or any alphanumeric character or blank for marketing purposes). POC-195xxxxxxxxxx (x = 0-9, A-Z or any alphanumeric character or blank for marketing purposes).
Rating(s)	100-240 Vac, 50-60 Hz, 4-2 A Max

GENERAL INFORMATION**Test item particulars (see also clause 5):**

Classification of installation and use: Stationary
 Supply connection: Appliance coupler
 Accessories and detachable parts included in the
 evaluation: None
 Options included: None

Possible test case verdicts:

- test case does not apply to the test object: N / A
 - test object does meet the requirement: P(Pass)
 - test object does not meet the requirement: F(Fail) (acceptable only if a corresponding, less
 stringent national requirement is "Pass")

Abbreviations used in the report:

- normal condition: N.C. - single fault condition: S.F.C.
 - operational insulation: OP - basic insulation: BI
 - basic insulation between parts of opposite polarity: BOP - supplementary insulation: SI
 - double insulation: DI - reinforced insulation: RI

General remarks:

- "(see Enclosure #)" refers to additional information appended to the Test Report
 - "(see appended table)" refers to a table appended to the Test Report
 - Throughout the Test Report a point is used as the decimal separator

General Product Information:

CA1.0	Report Summary
CA1.1	N/A
CB1.0	Product Description
CB1.1	Panel PC intended for use in medical electrical equipment.
CC1.0	Model Differences
CC1.1	<p>In the model name "x" and be any alphanumeric character of blank and is used for marketing purposes only. Model POC-174xxxxxxxxxx is identical to POC-154xxxxxxxxxx , except panel, inverter and model designation.</p> <p>Models POC-155xxxxxxxxxx and POC-175xxxxxxxxxx are the same as POC-154xxxxxxxxxx and POC-174xxxxxxxxxx, respectively, with an additional 1394 connector and two USB ports. Mother board is the same iust extended for 1394 port and USB port from mother board to rear</p>

	side of chassis. Model POC-195xxxxxxxxxx is identical to models POC-155xxxxxxxxxx and POC-175xxxxxxxxxx except inverter, panel and enclosure shape difference.	
CD1.0	Additional Information	
CD1.1	This report is based on a CB Report from TUV, CB Certificate DE 2-006872, Report reference 21110540 001. The equipment was not evaluated as a suspended mass.	
CE1.0	Technical Considerations	
CE1.1	The product was investigated to the following additional standards:	UL 60601-1, 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), (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:	Shock, Fire, Casualty
CE1.4	The degree of protection against harmful ingress of water is:	Ordinary
CE1.6	The mode of operation is:	Continuous
CE1.7	Software is relied upon for meeting safety requirements related to mechanical, fire and shock:	No
CE1.8	The product is suitable for use in the presence of a flammable anesthetics mixture with air or oxygen or with nitrous oxide:	No

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

The list of clauses, verdicts and results can be found in the original CB Test Report that serves as the basis for this UL Test Report.

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

6.1	TABLE: marking durability		N/A
Marking tested		Remarks	
supplementary information:			
See Enclosure - Test Record			

7	TABLE: power input					Pass
Operating condition		Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Remarks
Model POC-175 with FSP180-50MP Power supply.		90	50	1.04	91	Max Normal load: HDD and CD Rom seeking, USB ports loaded, 5V, 0.5A
		90	60	1.03	91	
		100	50	0.94	91	
		100	60	0.92	90	
		240	50	0.40	90	
		240	60	0.40	89	
		264	50	0.37	89	
		264	60	0.38	89	
Model POC-195 with P/S FSP Group Inc., type FSP180-50MP Power supply.		90	50	1.78	159	Max Normal load: HDD and CD Rom seeking, IEEE 1394 ports: each load 12 V/1 A, USB ports loaded, 5V, 0.5A
		90	60	1.77	160	
		100	50	1.58	158	
		100	60	1.57	158	
		240	50	0.64	150	
		240	60	0.65	150	
		264	50	0.59	151	
		264	60	0.60	151	
supplementary information: Testing represents POC-175, POC-155 and POC-195 series						

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

15b	TABLE: residual voltage in attachment plug										N/A	
Voltage measured between:		Measurements [V]									Remarks	
		1	2	3	4	5	6	7	8	9		10
Supply pins (pin 1 & pin 2)		8	8	8	4	4	-	-	-	-	-	Observed peak voltage
Pin 1 and earth pin		4	8	4	8	8	-	-	-	-	-	Observed peak voltage
Pin 2 and earth pin		0	0	0	0	0	-	-	-	-	-	Observed peak voltage
supplementary information:												
Storage oscilloscope was used to catch the peak voltage. This was a test witnessed by UL that was not covered by the TUV CB report.												

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

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

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

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

18	TABLE: protective earthing				Pass
Test location		Test current (A)	Measured voltage (V)	Resistance (ohms)	Remarks
Ground pin to furthest point of interior metal frame		30 A	0.10 V	0.003	
Earth terminal to chssis		40 A	0.386 V	9.7 m	Test conducted for two minutes.
supplementary information:					
Conducted at 30A for two minutes to satisfy Canadian Difference. This is a test that was witnessed by UL to verify/clarify data on the TUV CB report. Protective earthing test at 40 A was witnessed by UL.					

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
ER, NC S1 = 1, S5 = 0		264 vac	60 Hz	152 uA	
ER, NC S1 = 1, S5 = 1		264 vac	60 Hz	154 uA	
ER, SFC (Neutral Open) S1 = 0, S5 = 0		264 vac	60 Hz	303 uA	
ER, SFC (Neutral Open) S1 = 0, S5 = 1		264 vac	60 Hz	303 uA	
EN, NC S1 = 1, S5 = 0, S7 = 1,		264 vac	60 Hz	0.8 uA	
EN, NC S1 = 1, S5 = 1, S7 = 1		264 vac	60 Hz	0.45 uA	
EN, SFC (Neutral Open) S1 = 0, S5 = 0, S7 = 1		264 vac	60 Hz	0.88 uA	
EN, SFC (Neutral Open) S1 = 0, S5 = 1, S7 = 1		264 vac	60 Hz	0.62 uA	
EN, SFC (Ground Open) S1 = 1, S5 = 0, S7 = 0		264 vac	60 Hz	156 uA	
EN, SFC (Ground Open) S1 = 1, S5 = 1, S7 = 0		264 vac	60 Hz	155 uA	
Additional SFC, 17.g 5 Short HV to LV backlight xfmr		See	Below	--	Model POC-174-xx
ER, NC S1=1, S5=0		264 vac	60 Hz	183 uA	
ER, NC1 S1=1, S5=1		264 vac	60 Hz	166 uA	
EN, NC S1=1, S5=0, S7 = 1,		264 vac	60 Hz	1.22 uA	
EN, NC S1=1, S5=1, S7=1		264 vac	60 Hz	1.13 uA	
Additional SFC, 17.g 5 Short HV to Gnd backlight xfmr		See	Below	--	Model POC-174-xx
ER, NC S1=1, S5=0		264 vac	60 Hz	182 uA	
ER, NC1 S1=1, S5=1		264 vac	60 Hz	167 uA	
EN, NC S1=1, S5=0, S7=1,		264 vac	60 Hz	1.24 uA	
EN, NC S1=1, S5=1, S7=1		264 vac	60 Hz	1.05 uA	
Additional SFC, 17g.5 Short high voltage to low on backlight xfmr.					POC-154-xx, with Model G150XG01 LCD and LV-1201-D

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

				Inverter Board
ER, NC S1 = 1, S5 = 0	264	60	159	
ER, NC S1 = 1, S5 = 1	264	60	156	
EN, NC S1 = 1, S5 = 0, S7=1	264	60	2.7	
EN, NC S1 = 1, S5 = 1, S7=1	264	60	2.2	
Additional SFC, 17g.5 Short HV to Gnd backlight xfmr				POC-154-xx, with Model G150XG01 LCD and LV-1201-D Inverter Board
ER, NC S1 = 1, S5 = 0	264	60	158	
ER, NC S1 = 1, S5 = 1	264	60	155	
EN, NC S1 = 1, S5 = 0, S7=1	264	60	2.5	
EN, NC S1 = 1, S5 = 1, S7=1	264	60	2.6	
Additional SFC, 17g.5 Short high voltage to low on backlight xfmr.				POC-154-xx, with Model CLAA150XE01 LCD and LV-1401-k Inverter Board
ER, NC S1 = 1, S5 = 0	264	60	164	
ER, NC S1 = 1, S5 = 1	264	60	161	
EN, NC S1 = 1, S5 = 0, S7=1	264	60	2.3	
EN, NC S1 = 1, S5 = 1, S7=1	264	60	2.5	
Additional SFC, 17g.5 Short HV to Gnd backlight xfmr				POC-154-xx, with Model CLAA150XE01 LCD and LV-1401-k Inverter Board
ER, NC S1 = 1, S5 = 0	264	60	165	
ER, NC S1 = 1, S5 = 1	264	60	163	
EN, NC S1 = 1, S5 = 0, S7=1	264	60	1.8	
EN, NC S1 = 1, S5 = 1, S7=1	264	60	0.5	
Additional SFC, 17g.5				POC-174-xx, with

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

Short HV to Gnd backlight xfmr				Model M170EG01 LCD Panel and LV-1801-CA Inverter board
ER, NC S1 = 1, S5 = 0	264	60	145	
ER, NC S1 = 1, S5 = 1	264	60	144	
EN, NC S1 = 1, S5 = 0, S7=1	264	60	140	
EN, NC S1 = 1, S5 = 1, S7=1	264	60	144	
Additional SFC, 17g.5 Short high voltage to low on backlight xfmr.				POC-174-xx, with Model M170EG01 LCD Panel and LV-1801-CA Inverter board
ER, NC S1 = 1, S5 = 0	264	60	2.14	
ER, NC S1 = 1, S5 = 1	264	60	1.30	
EN, NC S1 = 1, S5 = 0, S7=1	264	60	1.46	
EN, NC S1 = 1, S5 = 1, S7=1	264	60	1.64	
EN, NC S1 = 1, S5 = 1, S7 = 1	264	60	7.2/3.3	POC-195-xx, MD1 between plastic enclosure and Earth (Foil on plastic enclosure). Before Humidity/After Humidity
ER, NC S1 = 1, S5 = 0, S7 = 1	264	60	7.3/3.7	
ER, SFC S1 = 0, S5 = 1, S7 = 1	264	60	6.8/1.7	
EN, SFC S1 = 0, S5 = 0, S7=1	264	60	6.8/2.2	
EN, SFC S1 = 1, S5 = 1, S7 = 0, S9 = 1, S12 = 0	264	60	181/176	
EN, SFC S1 = 1, S5 = 0, S7 = 0, S9 = 0, S12 = 0	264	60	191/177	

supplementary information:

This is a test that was witnessed by UL to verify/clarify data on the TUV CB report. Results of POC-154-xx, with Model G150XG01 LCD and LV-1201-D Inverter Board also represent M150XN07 which uses the same inverter board. Additional testing conducted to add alternate LCD Panel, M170EG01 with inverter board LV-1801-CA,

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

to model POC174-xx-xx-xx. Testing of POCX-195-xxx was witnessed by UL.

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	

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	
Primary to Earth Ground	BI	250	1500	Pass	
Primary to Enclosure	DI	250	4000	Pass	
Primary to Sip/Sop	DI	250	4000	Pass	
Primary to Earth Ground (POC-195-xxx)	BI	250	1500 ac	Pass	
Primary to Enclosure POC-195-xxx)	DI	250	5656 dc	Pass	
Primary to Sip/Sop (POC-195-xxx)	DI	250	5656 dc	Pass	
supplementary information:					
This was a test witnessed by UL that was not covered by the TUV CB report. Test conducted on Model POC-195-xxx was witnessed by UL.					

21	TABLE: mechanical strength		N/A
Part under test	Test (impact, drop, force, handle, rough handling, mobile)	Remarks	
supplementary information:			

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

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
POC-175 with model M170EN07 LCD Panel and LV-1701-C-A inverter board. Battery cells fully discharged at beginning of test		90V/50 Hz	Max Normal load: HDD and CD Rom seeking, USB ports loaded, 5V, 0.5A
Ambient		25	
PCB near U41		60	
PCB near U38		65	
PCB near U40		65	
PCB near U70		55	
HDD Body		51	
CD Rom Body		46	
L2 coil		74	
T2 coil		72	
Enclosure inside near power supply		40	
Enclosure outside near power supply		34	
LCD Panel		37	
POC-175 with model M170EN07 LCD Panel and LV-1701-C-A inverter board. Battery cells fully discharged at beginning of test		264V, 50Hz	Max Normal load: HDD and CD Rom seeking, USB ports loaded, 5V, 0.5A
Ambient		23	
PCB near U41		76	
PCB near U38		81	
PCB near U40		72	
PCB near U70		55	
HDD Body		48	
CD Rom Body		48	
L2 coil		74	
T2 coil		73	
Enclosure inside near power supply		41	
Enclosure outside near power supply		35	
LCD Panel		36	
POC-195 with model M190EG01 LCD Panel and LV-1501-PLC G1 inverter board.		90V, 60Hz	Max Normal load: HDD and CD Rom seeking, IEEE 1394 ports loaded, 12 V, 1A, USB ports loaded, 5V, 0.5A
Ambient		22 / 40	

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

PCB near U41	54 / 72	
PCB near U38	56 / 74	
PCB near U46	57 / 75	
PCB near U70	53 / 71	
HDD Body	47 / 65	
CD Rom Body	47 / 65	
L2 coil	73 / 91	
T2 coil	68 / 86	
Enclosure inside near power supply	45 / 63	
Enclosure outside near power supply	35 / 53	
LCD Panel	31 / 49	
POC-195 with model M190EG01 LCD Panel and LV-1501-PLC G1 inverter board.	90V, 60Hz	Impairment of Cooling, Blocked Vents. Max Normal load: HDD and CD Rom seeking, IEEE 1394 ports loaded, 12 V, 1A, USB ports loaded, 5V, 0.5A
Ambient	23 / 40	
PCB near U41	60 / 77	
PCB near U38	63 / 80	
PCB near U46	61 / 78	
PCB near U70	57 / 74	
HDD Body	52 / 69	
CD Rom Body	50 / 67	
L2 coil	74 / 91	
T2 coil	70 / 87	
Enclosure inside near power supply	48 / 65	
Enclosure outside near power supply	37 / 54	
LCD Panel	32 / 49	
POC-195 with model M190EG01 LCD Panel and LV-1501-PLC G1 inverter board.	90V, 60Hz	Impairment of Cooling, Locked Fan. Max Normal load: HDD and CD Rom seeking, IEEE 1394 ports loaded, 12 V, 1A, USB ports loaded, 5V, 0.5A
Ambient	22 / 40	
PCB near U41	78 / 96	
PCB near U38	79 / 97	
PCB near U46	72 / 90	
PCB near U70	58 / 76	
HDD Body	48 / 66	
CD Rom Body	47 / 65	
L2 coil	70 / 88	

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

T2 coil	65 / 83	
Enclosure inside near power supply	45 / 63	
Enclosure outside near power supply	35 / 53	
LCD Panel	32 / 50	
COR - indicates measurements taken using change-of-resistance method		
supplementary information:		
Temperature test on Model POC-195 conducted at input voltage of 90 volts/60 Hz only, and was considered the worst case. See Enclosure - Test Record		

44	TABLE: overflow, spillage, leakage, humidity, ingress of liquids, cleaning, sterilization, disinfection		N/A
Test type and condition	Part under test	Remarks	
supplementary information:			

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

52	TABLE: abnormal operation			N/A
Test type, condition and clause reference	Observed results	Remarks		
supplementary information:				

IEC 60601		
Clause	Requirement + Test	Verdict

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	
POC-174xxxxxxxxxx	See Below	--	--	--	See Below	3-01	
Printed Wiring Board	Various	Various	V-1 or better 105C	ZPMV2	UL R/C	3-04	
Enclosure Material	GE Plastics	C2800	V-1 or better, 80C, min 3.0 mm thick. Overall approx. 16 x 14 inches.	QMFZ2	UL R/C	3-02	
LCD Panel	AU Optonics Corporation	M170EN07	TFT type, SVGA 17 inch., 12 Vdc, 3.75A	NWGGQ2, 8	UL R/C, CN	3-01	
Alternate LCD Panel	AU Optonics Corporation	M170EG01	TFT type, SXGA 17 inch., 5 Vdc, 6W	NWGGQ2, 8	UL R/C, CN	3-01	
HDD Drive (optional)	Fujitsu	MHT2020AT	5 Vdc, 0.55A max.	NWGGQ2, 8	UL R/C, CN	3-02	
FDD Drive (optional)	NEC	FD3238T	5 Vdc, 1.5A max.	NWGGQ2, 8	UL R/C, CN	3-02	
CD/DVD-Rom/CD-RW Drive (optional)	Quanta Storage Inc.	SCR-242	5Vdc, 1.5A, Class 1 Laser product	NWGGQ2, 8	UL R/C, CN	3-02	
Alternate	Toshiba Corp.	XM-7004Bxx, XM-1902Bxx	5Vdc, 1.5A, Class 1 Laser product	NWGGQ2, 8	UL R/C, CN	3-02	
Alternate	Quanta Storage Inc.	SDR-XXXX	5Vdc, 1.5A, Class 1 Laser product	NWGGQ, 8	UL R/C, CN	3-02	
Alternate	Matsushita	SR-8175-C, SR-8176-C	5Vdc, 1.5A, Class 1 Laser product	NWGGQ2, 8	UL R/C, CN	3-02	
Lithium Battery	Toshiba	CR2032	3V, max abnormal charging current 10 mA, protected by R421, 1kohm resistor and diode D7 in series	BBCV2	UL R/C	3-04	
Alternate	Rayovac	CR2032	3V, max abnormal charging current 5 mA, protected by R421, 1kohm resistor and diode D7 in series	BBCV2	UL R/C	3-04	
Alternate	Sony	CR2032	3V, max abnormal charging current 10 mA, protected by	BBCV2	UL R/C	3-04	

IEC 60601		
Clause	Requirement + Test	Verdict

			R421, 1kohm resistor and diode D7 in series				
Alternate	Vic-Dawn Enterprise Co. Ltd	CR2032	3V, max abnormal charging current 10 mA, protected by R421, 1kohm resistor and diode D7 in series	BBCV2	UL R/C	3-04	
Alternate	Mitsubishi Electric Corp	CR2032	3V, max abnormal charging current 10 mA, protected by R421, 1kohm resistor and diode D7 in series	BBCV2	UL R/C	3-04	
Alternate	Matsushita	CR2032	3V, max abnormal charging current 5 mA, protected by R421, 1kohm resistor and diode D7 in series	BBCV2	UL R/C	3-04	
Alternate	Panasonic	CR2032	3V, max abnormal charging current 5 mA, protected by R421, 1kohm resistor and diode D7 in series	BBCV2	UL R/C	3-04	
System Fan	Various (ADDA)	Various (AD0612MB-G76)	12 Vdc, 0.13A max, min 11.7 CFM	GPWV2, 8	UL R/C, CN	3-04	
Inverter Board for use with M170EN07 LCD Panel	Lecerf Technology Co., Ltd.	LV-1701LC-A	Input: 12V, 1.8A.	N/A	None	3-04	
Transformer (T1, T2 fore use with LV-1701LC-A Inverter Board)	Lecerf Technology Co., Ltd.	X08-C-1	Output: 680Vrms, 13 mA	N/A	None	3-04	
Inverter Board for use with M170EG01 LCD Panel	Lecerf Technology Co., Ltd.	LV-1801-CA	Input: 12V, 1.8A.	N/A	None	3-04	
Transformer (T1, T2 fore use with LV-1801-CA Inverter Board)	Lecerf Technology Co., Ltd.	1-X09A	Output: 700 Vrms, 6.5 mA. See Enclosure Miscellaneous, 7-02, for transformer construction	N/A	Evaluated to the requirements of IEC 60601-1	3-04	

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

Inverter Board for use with CLAA150XE01 LCD Panel	Lecerf Technology Co., Ltd	LV-1401-K	Input: 12V, 1.4A	N/A	during this evaluation.	3-04
Transformer (T1, T2 LV-1401-K Inverter Board)	Lecerf Technology Co., Ltd	X08	Output: 600Vrms, 13 mA. See Enclosure Miscellaneous, 7-01, for transformer construction.	N/A	Evaluated to the requirements of IEC 60601-1 during this evaluation.	3-04
POC-175xxxxxxxxxx and POC-155xxxxxxxxxxxx	Same as POC-174xxxxxxxxxx and POC-154xxxxxxxxxx above except:	--	--	--	--	3-01
USB Port	Various	Various	Two provided	N/A	None	3-02
Connector	Various	1394 Type	One provided	N/A	None	3-02
POC-195xxxxxxxxxx	Same as POC-175xxxxxxxxxx and POC-155xxxxxxxxxx above except:	--	--	--	See Below	3-05
Enclosure Material	GE Plastics	C2800	V-1 or better, 80°C, min 3.0 mm thick. Overall approx. 470 x 415 x 129 mm.	QMFZ2	UL R/C	3-05
LCD Panel	AU Optonics Corporation	M190EG01	TFT type, SXGA 19 inch, 5Vdc, 1.5 A	NWQG2, 8	UL R/C, CN	3-05
Transformer (T1, T2)	Lecerf Technology Co., Ltd	X09-A	Output: 740Vrms, 6.8 mA. See Enclosure Miscellaneous, 7-01, for transformer construction.	N/A	Evaluated to the requirements of IEC 60601-1	3-08

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

							during this evaluation.	
Fuse	Various	Various	Input: 125V, 2A			N/A	None	3-08
System Fan	Various (ADDA)	Various (AD5012LX-D76)	12 Vdc, 0.08A max, min 10.4 CFM			GPWW2, 8	UL R/C, CN	3-04

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					N/A
Winding under test	Protection	Measured temperatures (°C)			Test duration	Remarks
		Primary	Secondary	Ambient		
supplementary information:						

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

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

IEC 60601			
Clause	Requirement + Test	Result - Remark	Verdict

	TABLE: additional tests		Pass
Clause	Test type and condition	Remarks and observed results	Verdict
55	Mold Stress, 70°C, 7 hours	No damage	Pass
55	Mechanical Abuse, Ball Drop Test	Rear Enclosure at Vent openings and at fan guard. No damage	Pass
59.2	Ball Pressure, 75°C, 1 hour	Less than 0.5 mm impression	Pass
55	Mechanical Abuse, Ball Drop Test	Rear Enclosure above Ventilation and Panel side above inverter (material GE Plastic, Type C2800). No damage	Pass
55	Mold Stress, 75°C, 7 hours	Enclosure material GE Plastic, Type C2800). No damage	Pass

supplementary information:

Tests for Clause 55 were conducted to satisfy United States Differences.

Enclosure
National Differences

Canada
United States

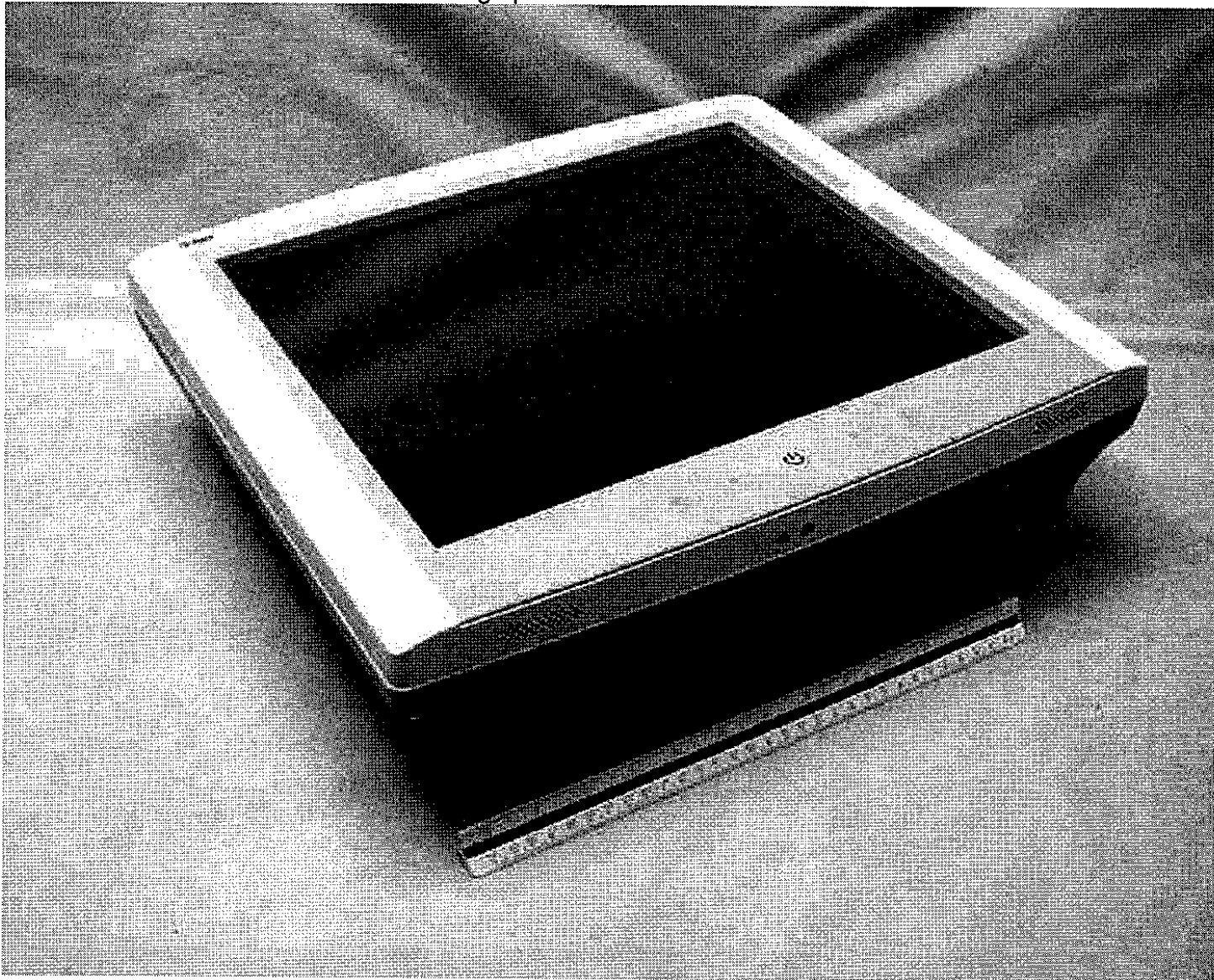
IEC 60601			
SubClause	Difference + Test	Result - Remark	Verdict

The list of clauses, verdicts and results can be found in the original CB Test Report that serves as the basis for this UL Test Report.

Enclosure
Photographs

Supplement Id	Description
3-01	External View Front
3-02	External View Rear
3-03	External View Bottom
3-04	Internal View
3-05	External View Front POC-195xxxxxxxxxx
3-06	External View Rear POC-195xxxxxxxxxx
3-07	Internal View, Cover Removed POC-195xxxxxxxxxx
3-08	Internal View, Open Chassis POC-195xxxxxxxxxx

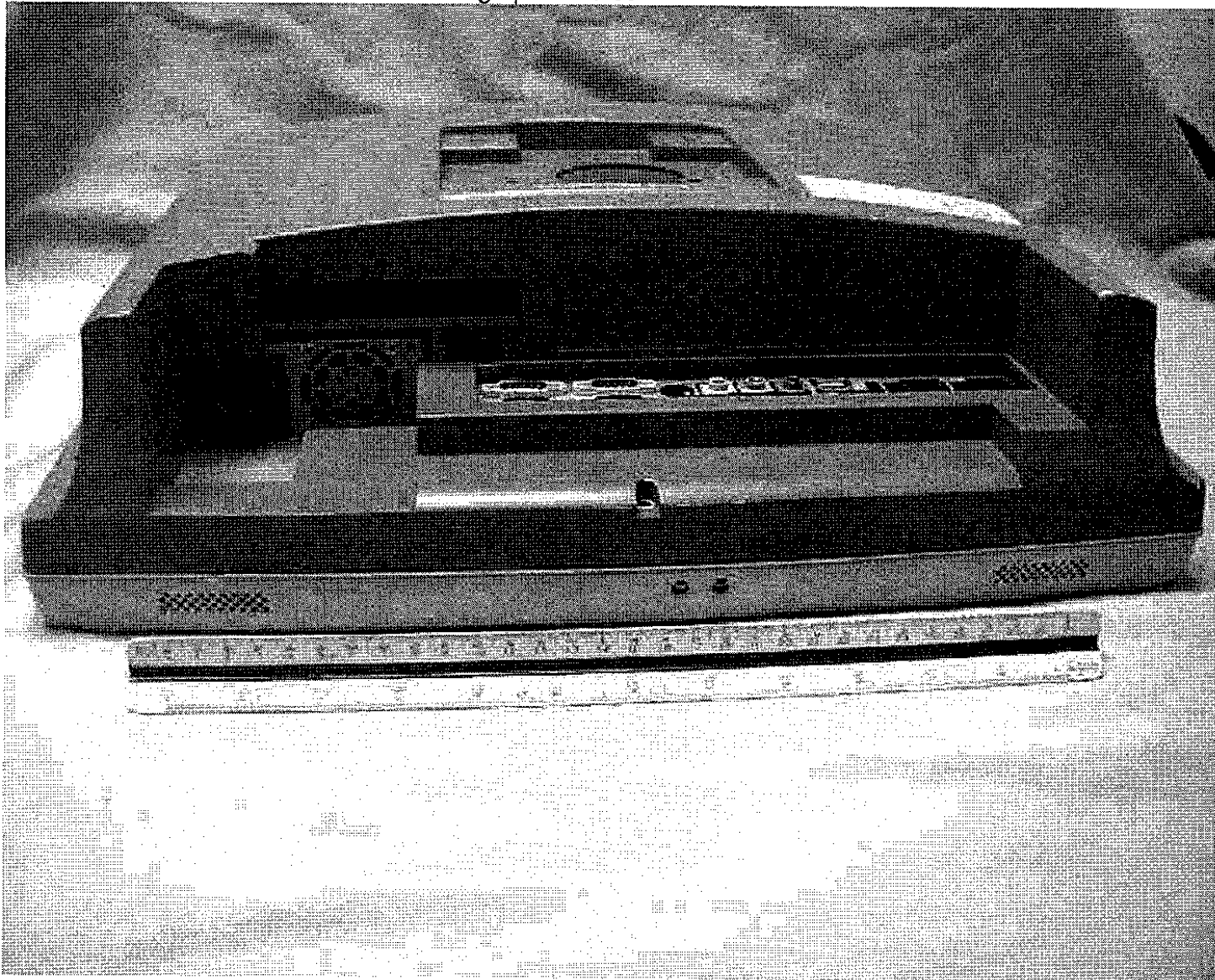
Photographs ID 3-01



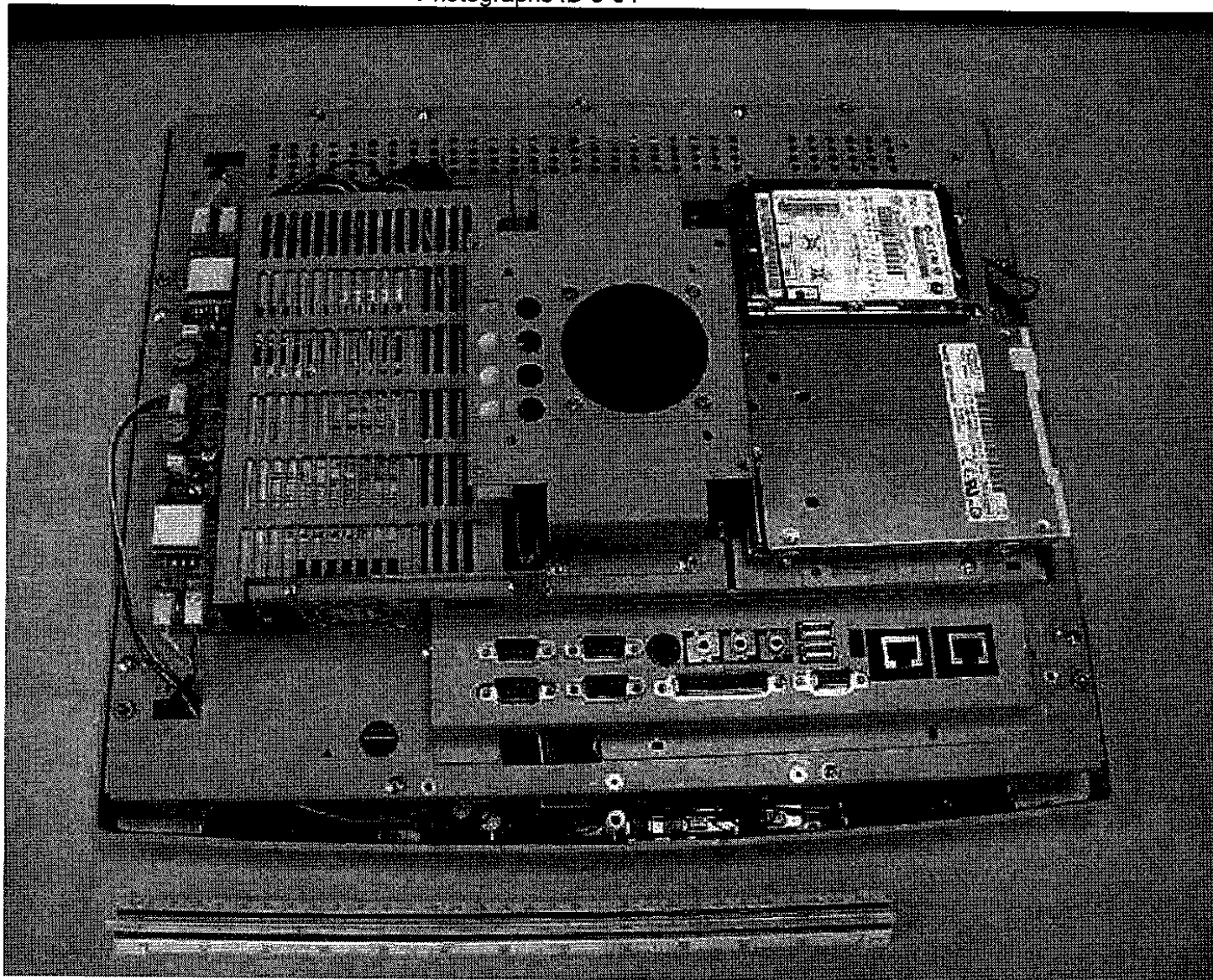
Photographs ID 3-02



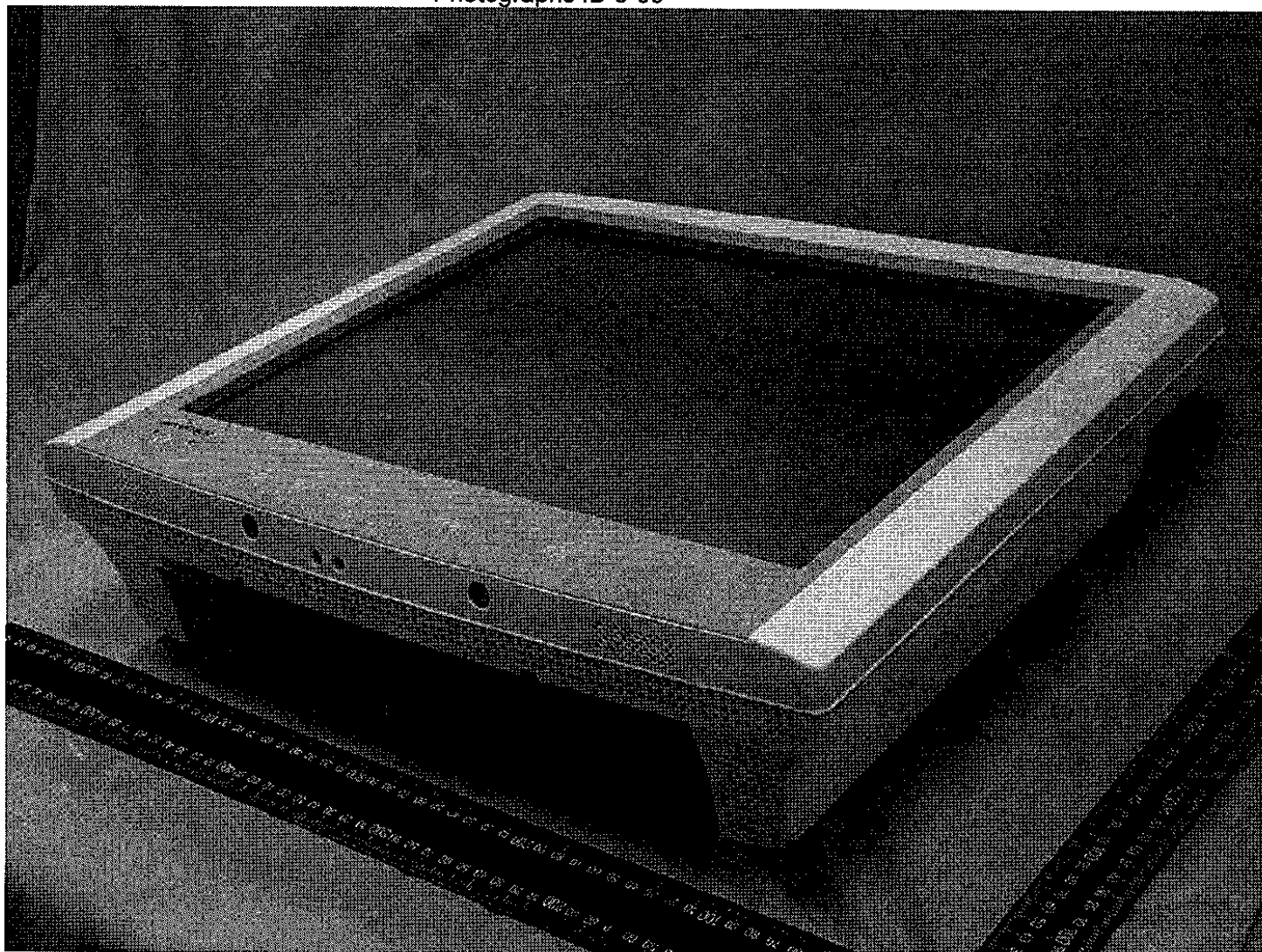
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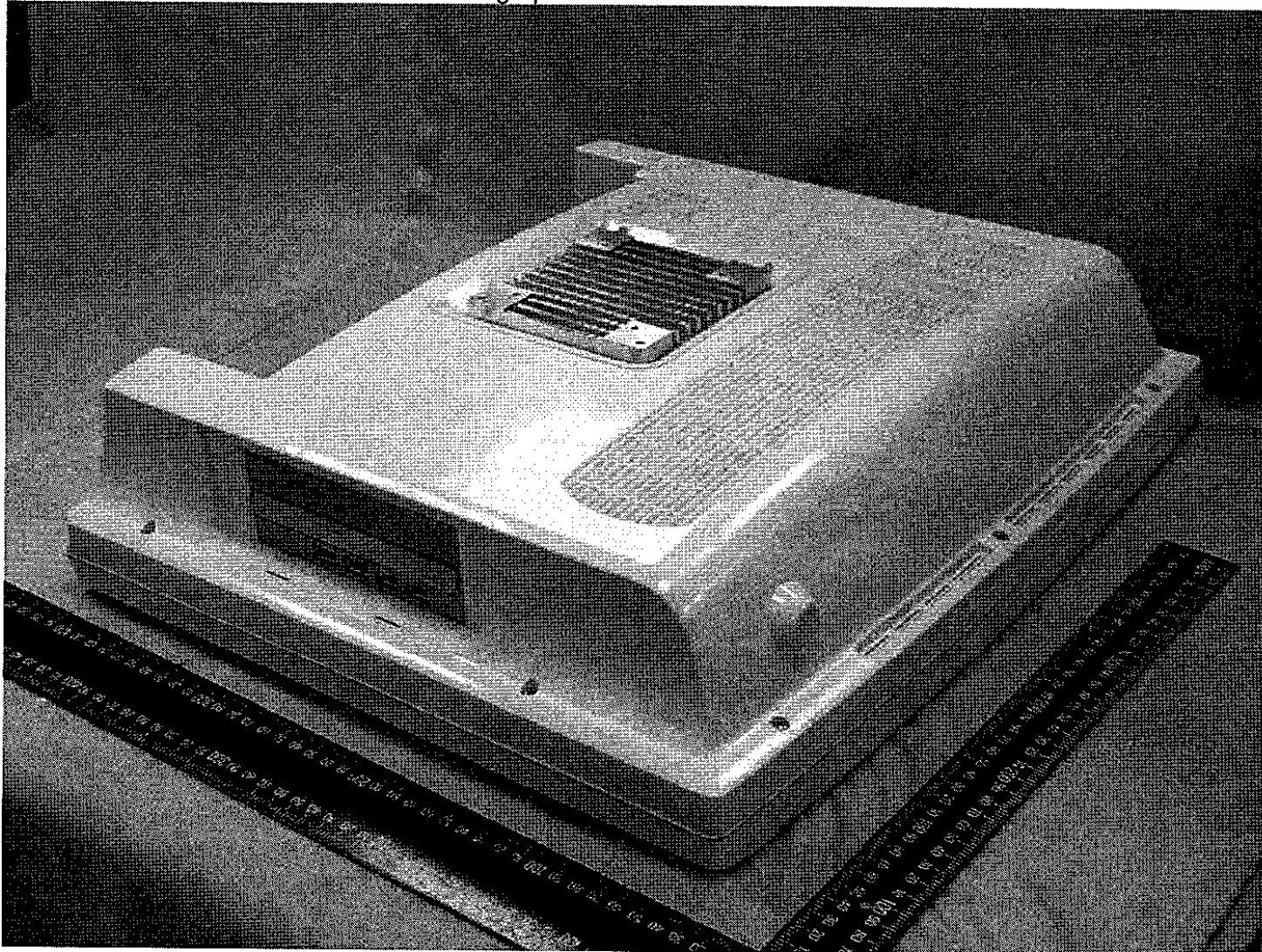
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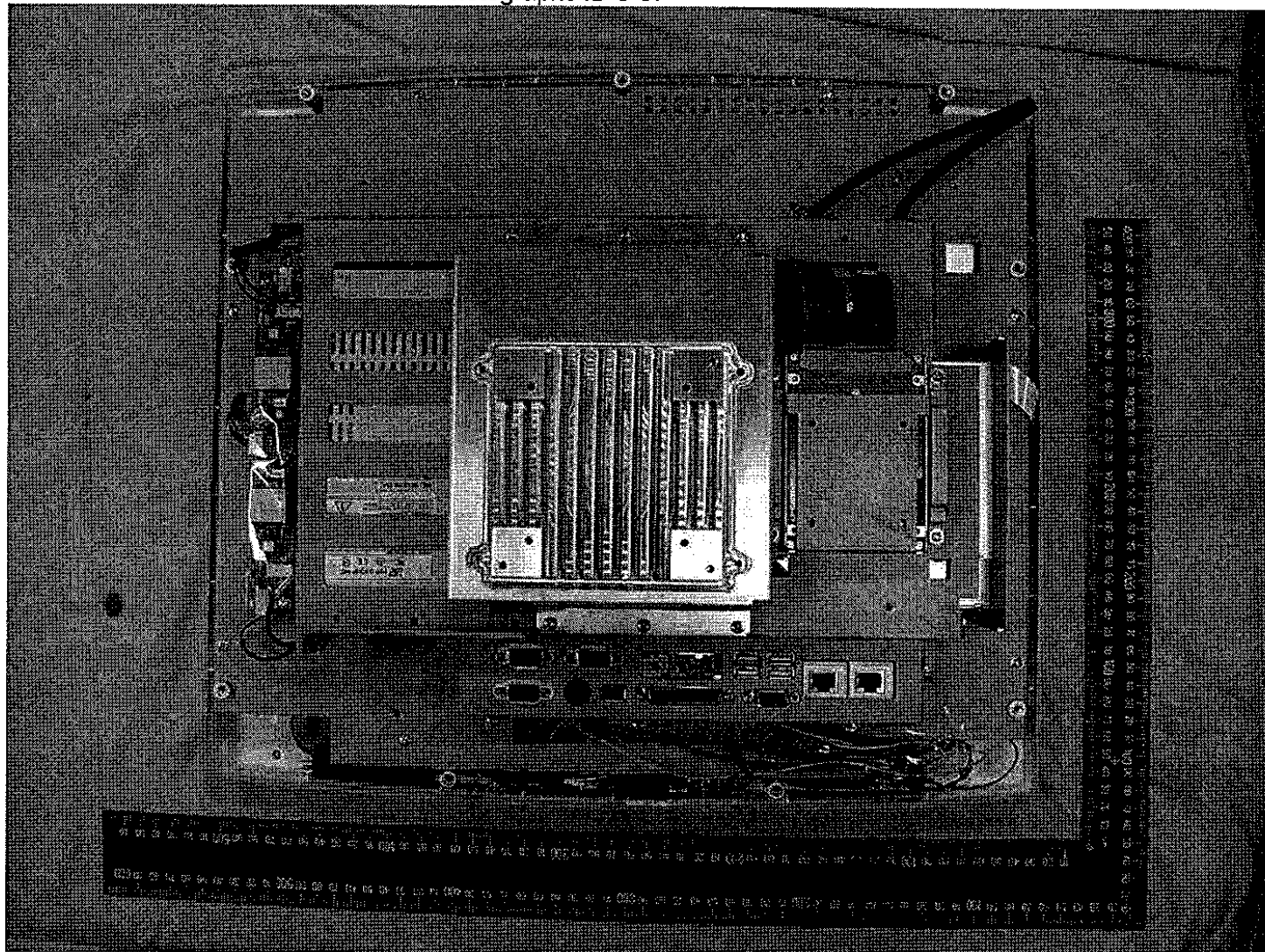
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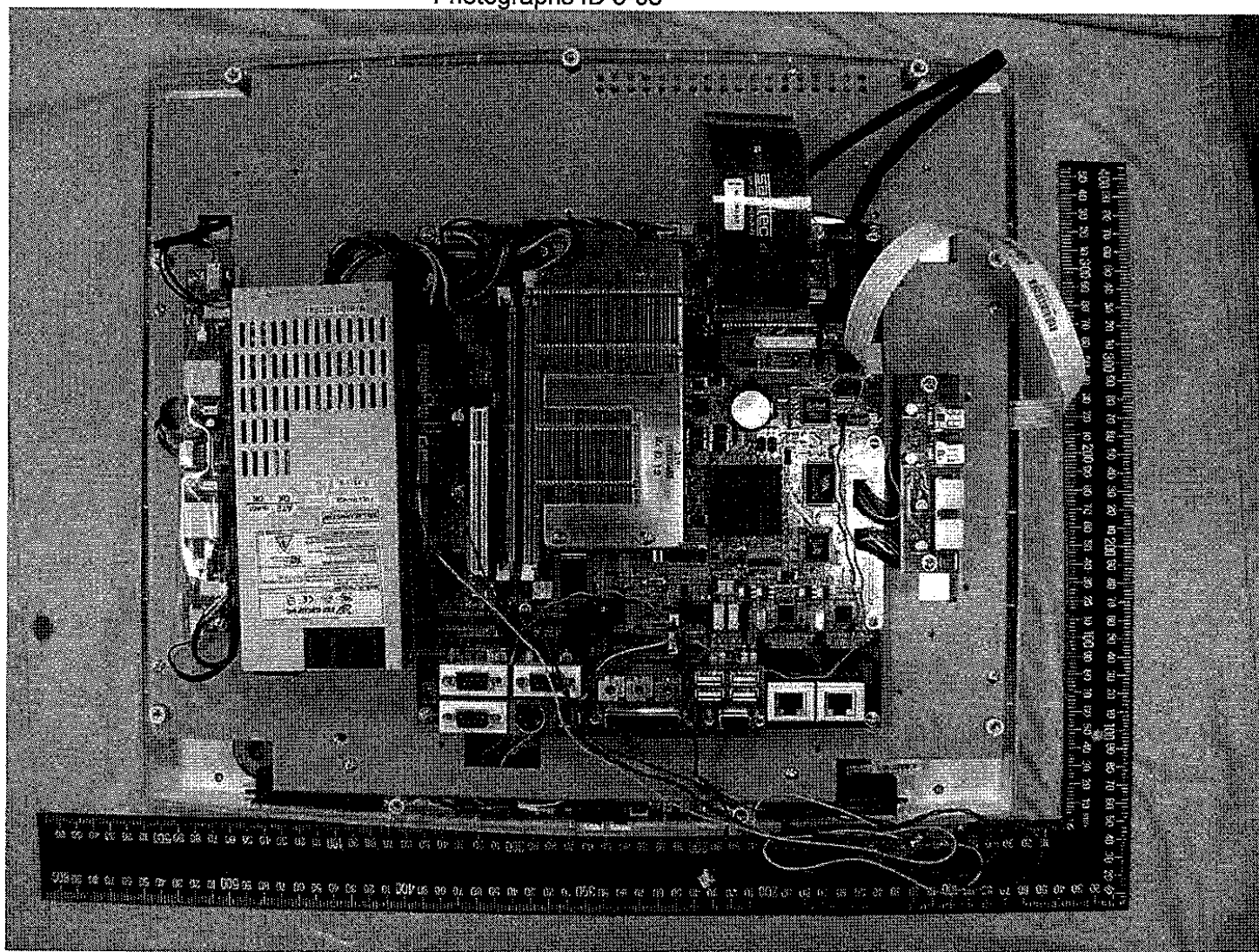
Photographs ID 3-06



Photographs ID 3-07



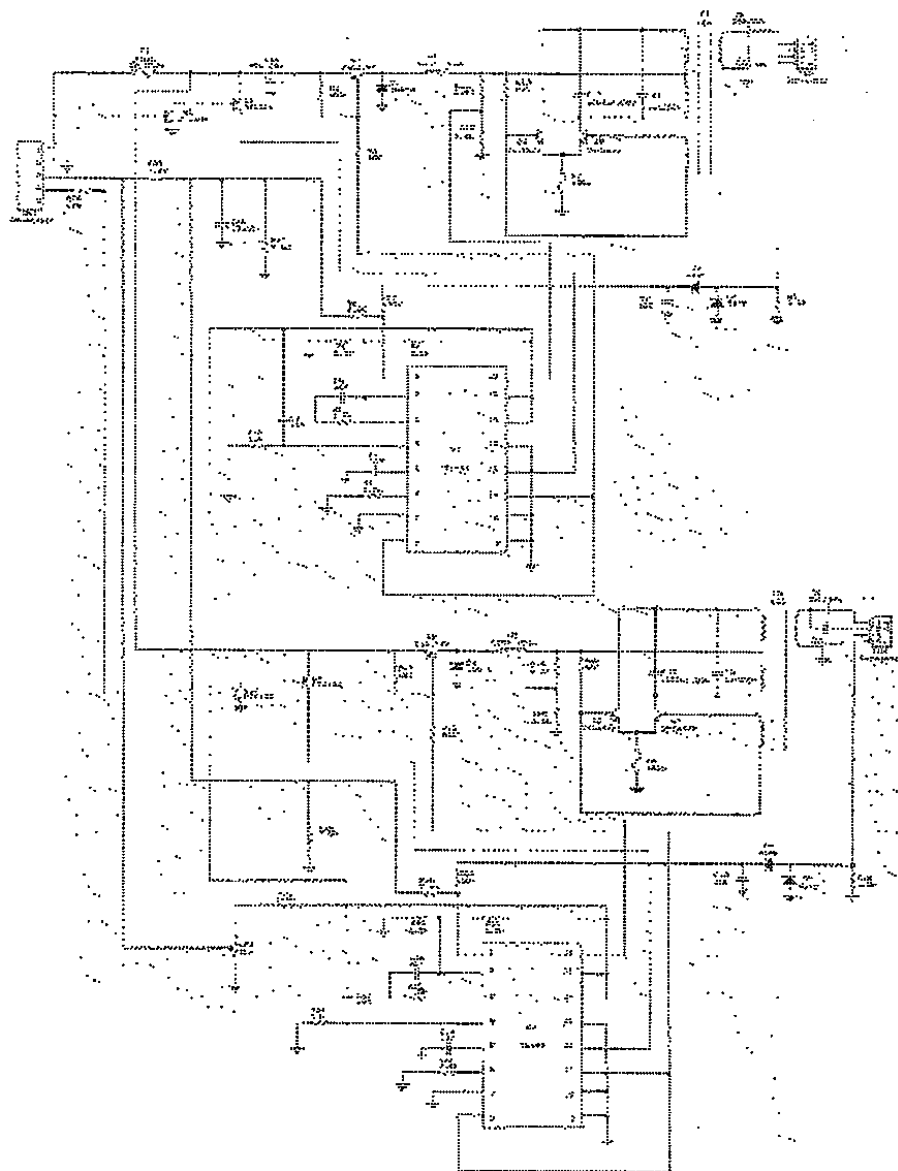
Photographs ID 3-08



Enclosure
Schematics + PWB

Supplement Id	Description
5-01	Backlight Transformer Schematic
5-02	Backlight Inverter Schematic

Schematics ID 5-02



Enclosure
Manuals

Supplement Id	Description
6-01	POC 174 Manual Requirements

Manuals ID 6-01

17. CLASSIFICATION:

- Class I Equipment
- No applied part
- IPX0
- Continuous Operation
- Not AP or APG category

18. Disconnect device: Appliance inlet.

19. Follow the national requirement to dispose unit.

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

21. Contact information:

No.1, Alley 20, Lane 26, Rueiguang Road Neihu District, Taipei,

Taiwan 114, R.O.C.

TEL: (02)27927818

22. Do not leave this equipment in an environment where the storage temperature may go below -20 deg C (-4 deg F) or above 60 deg C (140 deg F)

23



MEDICAL EQUIPMENT
WITH RESPECT TO ELECTRIC SHOCK,
FIRE AND MECHANICAL HAZARDS ONLY
IN ACCORDANCE WITH UL 60601-1, AND
CAN/CSA C22.2 NO. 601.1

XXXX

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

25. The following devices can be replaceable by user

- HDD
- CPU
- DVD-ROM
- Floppy
- RAM Module

2.6. Clause 6.8.2a, 6.8.2c (Accessories, SIP/SOP connections)

Accessories equipment connected to the analog and digital interfaces must be certified to the respective IEC standards (i.e. IEC 950 for data processing 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.

Manuals ID 6-01

FCC Class B

1. 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

Before use, make sure that the accessories with the same specified technical date in "Packing List",

Any replacement of the accessories in "Packing List" may result in increased EMISSIONS or decreased IMMUNITY of the EQUIPMENT or SYSTEM.

Manuals ID 6-01

Guidance and manufacturer's declaration – electromagnetic emissions		
The EQUIPMENT is intended for use in the electromagnetic environment specified below. The customer or the user of the [EQUIPMENT or SYSTEM] should assure that it is used in such an environment.		
Emissions test	Compliance	Electromagnetic environment – guidance
RF emissions CISPR 11	Group 1	The equipment uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	
Harmonic emissions IEC 61000-3-2	Class D	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	The equipment is suitable for use in all establishments other than domestic and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.

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.



Manuals ID 6-01

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. **CAUTION:** 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

Optional modules

- **CPU:** Intel® Pentium®4 Mobile and Celeron™ up to 2.2GHz
- **Memory:** 256/512 MB DDR333 DRAM
- **HDD:** 2.5" HDD
- **Touchscreen:** Analog resistive
- **CD-ROM drive:** Compact 24X CD-ROM or above
- **DVD-ROM drive:** Compact 6X DVD-ROM or above
- **CD-RW drive:** Compact 8X/4X/24X CD_RW or above
- **PCMCIA interface:** Complies with 1995 PCMCIA card standard. Supports two PCMCIA card/CardBus slots. Two sockets support both a 16-bit PCMCIA card and a 32-bit CardBus simultaneously. Hot insertion and removal

Note 1: The PCMCIA driver of Windows 95 which includes a PCMCIA interface is available on the "Drivers and Utilities" CD-ROM of your POC-153 package.

Environment

- **Temperature:** 0~40° C (32~104° F)
- **Relative humidity:**
10 degree° C to 40 degree° C / 20%RH to 90%RH operating
-20 degree° C to 50 degree° C / 10%RH to 95%RH Storage
(Non-condensing)
- **Shock:** 50 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

Manuals ID 6-01

• Certifications:

EMC: CE, FCC, VCCI, BSMI approved

Safety: UL1950, UL2601-1, EN60950 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-174 may become soiled and should, therefore, be cleaned regularly.

Agents: Green tintured soap and Enzymatic detergents

Steps:

1. Wipe the POC-174 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-174 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-174 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: 17" TFTLCD

Max. resolution: 1280 x 1024

Colors: 16.7 M (8 bits/color)

Dot size (mm): 0.264 x 0.264

Viewing angle: 140°

Luminance: 250 cd/m2

Contrast ratio: 400 : 1

LCD MTBF: 50,000 hours

Backlight lifetime: 50,000 hours

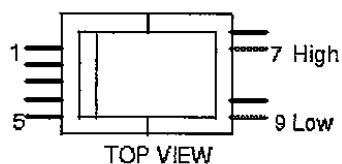
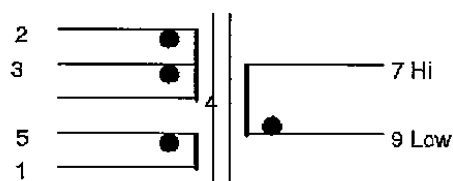
*The VR control is defined by hot key in DOS or BIOS mode as below:
Ctrl-Alt-F3, CTRL-Alt-F4.

Enclosure
Miscellaneous

Supplement Id	Description
7-01	LCD Backlight Transformer Construction
7-02	Backlight Inverter Alternate LCD

Misc ID 7-01

Transformer Specification(X03)



Winding specification

Coil	Terminal	Winding spc.	Remarks
W1	1~2	2UEW 0.26	11TS
W2	3~4	2UEW 0.26	11Ts
W3	5~1	2UEW 0.26	2Ts
W4	7~9	2UEW 0.05	1600 Ts

Misc ID 7-01

Electrical Characteristics

Pltem	Terminal	Inductance	D.C.R	Condition
W1	2~3	6uH	50mO	F 1Khz
W2	3~4	6uh	50mO	Ta 25?
W3	5~1	0.5uH	30mO	
W4	7~9	185~225 mH	190mO	

Hi pot

Pin	Pri. to Sec.	Sec to Sec	Pri to core	Sec to Core
	500VAC/5mA/1Min		1500VAC/5mA/1Min	

Temperature

Item	Temp.	Remark
Storage	-25? ~ 130?	
Operation	-10? ~120? (Max)	

Misc ID 7-01

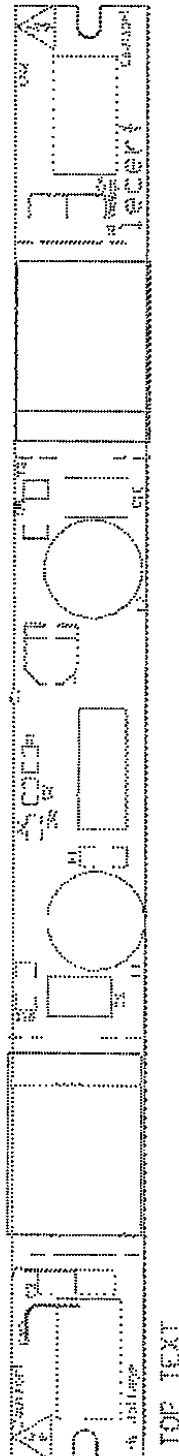
Transformer Parts List

Item	Part Name	Material	Manufacture	Safety	Remark
1	Core	U-core	NICERA		
2	Bobbin	L.C.P	HOGIN	UL	
3	Coil wire Primary	Polyurethane	RIKEN	UL	
4	Coil wire Second	Polyurethane	RIKEN	UL	
5	Tape	Polyester	3M	UL	
6	Tape	Polyester	NITO	UL	

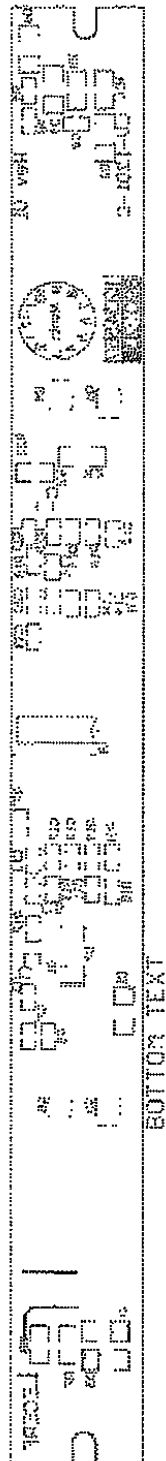
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Misc ID 7-01



Misc ID 7-01

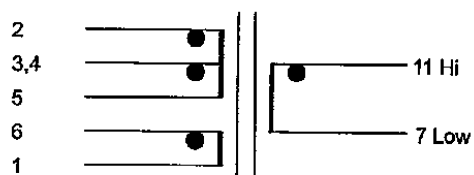


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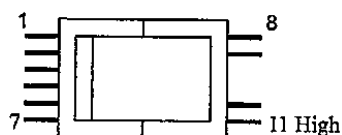
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TRANSFORMER SPECIFICATION(X08-C-1)



X08-C



TOP VIEW

WINDING SPECIFICATION

Coil	Terminal	Winding spec.	Remarks
W1	2~3,4	2UEW 0.4	10 Ts
W2	3,4~5	2UEW 0.34	10 Ts
W3	6~1	2UEW 0.34	3Ts
W4	7~11	2UEW 0.06	1600 Ts

Misc ID 7-02

lecerf

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Electrical Characteristics

Item	Terminal	Inductance	D.C.R	Condition
W1	2~3,4	6uH	50mΩ	F 1Khz
W2	3,4~5	6uh	50mΩ	Ta 25°C
W3	6~1	0.5uH	30mΩ	
W4	7~12	120~160mH	190mΩ	

Misc ID 7-02

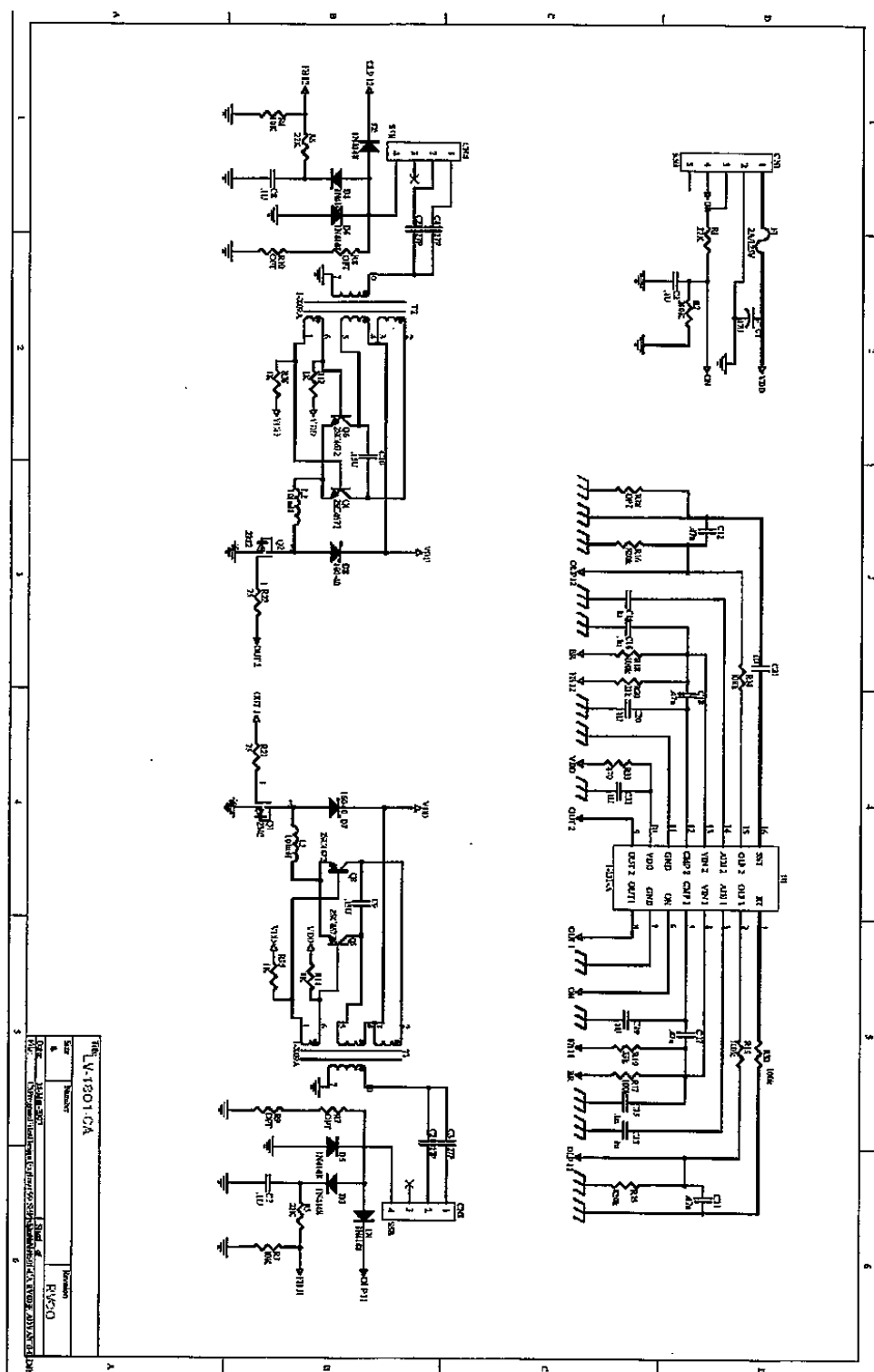
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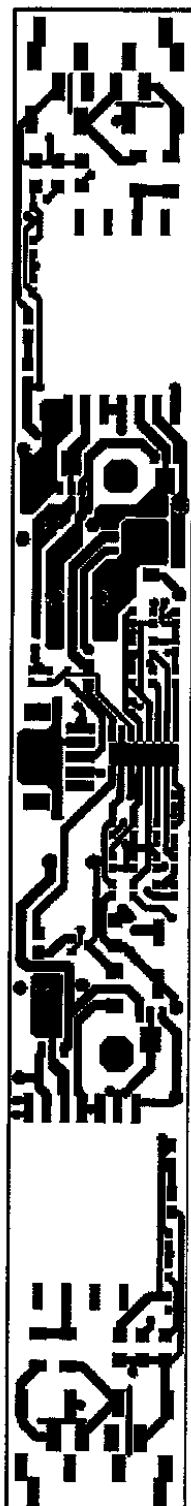
Transformer Parts List

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

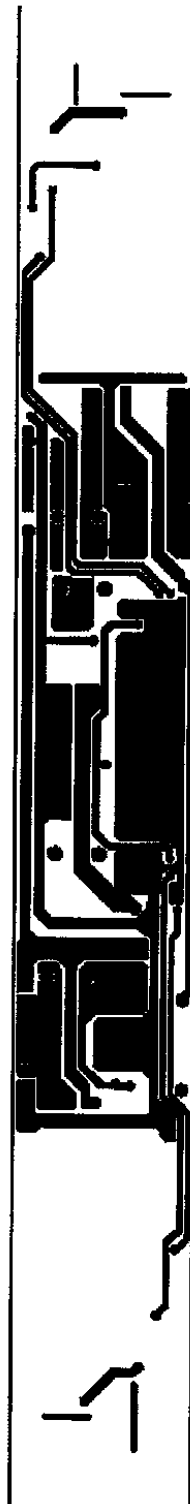
Misc ID 7-02



Misc ID 7-02



Misc ID 7-02



Enclosure
Test Record

Description
Test Record 1
POC-195xxxxxxxxxx Data

Test Record No. 1

Samples of model POC-195xxxxxxxxxx were submitted for testing. Only the above testing was considered necessary based on similarity to models within this report, E214164-A4. No measurements were taken.

The following tests were conducted:

Test	Testing Location/Comments
Power Input (7.1)	Witness testing conducted by UL.
Earthing and Potential Equalization (18F)	Witness testing conducted by UL.
Leakage Current (19)	Witness testing conducted by UL.
Dielectric Voltage Withstand (20.4)	Witness testing conducted by UL.
Temperature (42)	Witness testing conducted by UL.
Abnormal Operation and Fault Conditions (52)	Witness testing conducted by UL.
Mechanical Abuse - Ball Drop (55)	Witness testing conducted by UL.
Mold Stress Relief (55)	

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

The following tests were waived:

Test	Rationale for Waiving
Enclosure Mechanical Strength (21A, B)	USD 55, Ball Impact considered worst case.