

**CERTIFICATE OF COMPLIANCE****Manufacturer****Advantech Co., Ltd.****Address.....****4F, No. 108-3, Ming Chuan Rd.
Hsin Tien City, Taipei Hsien
Taiwan, R. O. C.****Description of EUT ...:****Disk Array****Model Designation:****SPC-520XX**

(The XX in the model designation may be any alphanumeric character or blank to denote the input is AC type.)

Tested According to ..:**73/23/EEC****IEC 60 950:1991 + A1 + A2 + A3 + A4 + A11****EN 60 950:1992 + A1 + A2 + A3 + A4 + A11**

This evaluation was carried out to the best of our knowledge and ability, and our responsibility is limited to the exercise of reasonable care. This certification is not intended to relieve the sellers from their contractual obligations.

Issued Date.....:**November 22, 1999****Issued Agency..:****Safety Services International Inc.
7F, No. 758, Chung-Cheng Road
Chungho City, Taipei Hsien
Taiwan, R. O. C.****Tested by***Ellen Hsieh**Ellen Hsieh / Project Engineer***Reviewed by***Wilson Wang**Wilson Wang / Engineering Manager***Approved by***Peter Wang**Peter Wang / Director*

LOW VOLTAGE DIRECTIVE TEST REPORT

IEC 60 950 / EN 60 950

Safety of information technology equipment including electrical business equipment

Report Reference No.: SSI9911L098

Compiled by (+ signature): Ellen Hsieh
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Managing Director

Peter Wang

Date of Issue: November 22, 1999

Testing laboratory: **Safety Services International Inc.**

Address: 7th Floor, No. 758
Chung-Cheng Road
Chungho City, Taipei Hsien

Testing location: Taiwan, Republic of China

Applicant: **Advantech Co., Ltd.**

Address: 4F, No. 108-3, Ming Chuan Rd.
Hsin Tien City, Taipei Hsien
Taiwan, R. O. C.

Standard: IEC 60 950:1991 + A1 + A2 + A3 + A4 + A11
EN 60 950:1992 + A1 + A2 + A3 + A4 + A11

Test Report Form No.: LVD60950

Test procedure: SSI LVD type test approval

Procedure deviation: N/A

Non-standard test method: N/A

Type of test object: Disk Array

Trademark: N/A

Model/type reference: **SPC-520XX**
(The XX in the model designation may be any alphanumeric character or blank to denote the input is AC type.)

Manufacturer: Advantech Co., Ltd.
4F, No. 108-3, Ming Chuan Rd.
Hsin Tien City, Taipei Hsien
Taiwan, R. O. C.

Rating: 115 / 230 Vac, 50 / 60 Hz, 7 / 4 A

Test item particulars:

Equipment mobility..... : movable
 Operating condition..... : continuous
 Tested for IT power systems : No
 IT testing, phase-phase voltage (V)..... : N.A.
 Class of equipment..... : Class I
 Mass of equipment (kg)..... : approx. 25 kg
 Protection against ingress of water : IP 20

Possible test case verdicts:

- test case does not apply to the test object..... : N.A.
 - test object does meet the requirement..... : Pass
 - test object does not meet the requirement..... : Fail

General remarks:

"(see remark #)" refers to a remark appended to the report.
 "(see appended table)" refers to a table appended to the report.
 Throughout this report a point is used as the decimal separator.
 The test results presented in this report relate only to the object tested.
 This report shall not be reproduced except in full without the written approval of the testing laboratory.

Comments:

This test-report includes the following documents:

1. Test report - (31 pages)
2. Photos - (3 pages)
3. Test records - (3 pages)
4. Test instrument list - (3 pages)

Brief description of the test sample:

The equipment is a disk array, intended for used with PC system.

The disk array was provided with 8 HDD and link up PC system for maximum normal operation during the test.

The equipment is provided with a building-in switching power supply, which is manufactured by Power Research Technology Co., Ltd., model PRM-320-1, rated input 100-120 / 200-240 Vac, 50 / 60 Hz, 7.0 / 4.0 A; output +5 Vdc / 32 A, +12 Vdc / 11 A, -5 Vdc / 1 A, -12 Vdc / 1 A.

The power supply has been evaluated and approved by TÜV-Rheinland according to IEC 60950 / EN 60950, this report does not cover the evaluation of the power supply since it is considered as an approved component.

The equipment is provided with detachable power supply cord.

The XX in the model designation may be any alphanumeric character or blank to denote the input is AC type.

The above model was evaluated for use in a maximum air ambient of 25 °C.

The test sample is pre-production without serial number.

Clause	Requirement - Test	Result - Remark	Verdict
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1	GENERAL		Pass
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1.5	Components		Pass
1.5.1	Comply with IEC 60 950 or relevant component standard	Safety involved components comply with the requirements of this standard or within the safety aspects of the relevant IEC component standards (refer to appended table 1.5.1 below).	Pass
1.5.2	Evaluation and testing of components	Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment.	Pass
	Dimensions of mains plug for direct plug-in..... :	The equipment is not direct plug-in type unit.	N.A.
	Torque and pull test of mains plug for direct plug-in; torque (Nm); pull (N)	The equipment is not direct plug-in type unit.	N.A.
1.5.3	Transformers	The transformer is an integral part of the approved power supply.	N.A.
1.5.4	Flammability class of high voltage components ... :	No high voltage components used.	N.A.
1.5.5	Interconnecting cables	No interconnecting cable provided.	N.A.
1.5.6	Capacitors	The capacitors are the integral part of the approved power supply.	Pass

1.6	Power interface		Pass
1.6.1	Steady state input current	Refer to appended table 1.6 below for input test result.	
1.6.2	Rated voltage of hand-held equipment	This appliance is not a hand-held equipment.	N.A.
1.6.3	Neutral conductor insulated from earth	The neutral to earth components are the integral part of the approved power supply.	Pass
1.6.4	Components connected between phase and earth in equipment intended for IT power system	Equipment is not intended for the IT power system.	N.A.
1.6.5	Rated supply tolerance..... :	+6%, -10%. The marked supply rating is 115 V ac at 60 Hz, all relevant tests specified in this report were done with the range of 103-122 V ac at 60 Hz. ±10%. The marked supply rating is 230 V ac at 50 Hz, all relevant tests specified in this report were done with the range of 207-253 V ac at 50 Hz.	Pass

1.7	Marking and instructions		Pass
1.7.1	Rated voltage (V).....	115 / 230	Pass
	Rated frequency (Hz)	50 / 60	Pass
	Rated current (A).....	7 / 4	Pass
	Manufacturer	Advantech Co., Ltd.	Pass
	Trademark	Not shown	N.A.
	Type/model.....	SPC-520XX	Pass
	Symbol of Class II	The unit is a Class I equipment.	N.A.
	Certification marks	CE mark	Pass
1.7.2	Safety instructions	Operation/installation instruction is provided with each unit. The installation instruction has specified the socket-outlet shall be installed near the equipment and shall be easily accessible.	Pass
1.7.3	Short time/intermittent operation	Equipment is designed for continuous operation.	N.A.
1.7.4	Marking for voltage setting/frequency setting	115 / 230 Vac marked on or adjacent to the voltage selector switch.	Pass
1.7.5	Marking at outlets	No outlet provided.	N.A.
1.7.6	Marking at fuseholders.....	Fuse/fuseholder provided on approved power supply.	Pass
1.7.7.1	Protective earthing terminals.....	The protective earthing terminals are the integral part of the approved power supply.	Pass
1.7.7.2	Terminals for external primary power supply conductors	The equipment is using detachable power supply cord.	N.A.
1.7.8.1	Clear indications and location of switches and controls	All controls and indicators are clearly marked and indicated.	Pass
1.7.8.2	Colours of controls and indicators.....	Refer to 1.7.8.1 above.	Pass
1.7.8.3	Symbols according to IEC 60417.....	The IEC 60417 symbols No. 5007 and 5008 (I and O) are marked on or adjacent to the power switch.	Pass
1.7.8.4	Figures used for indicating positions of controls..	"O" is used for off position indication.	Pass
1.7.8.5	Location of markings and indications for switches and controls	Located on or adjacent to the switch actuator.	Pass
1.7.9	Supply when more than one power supply		N.A.
1.7.10	Instructions for installation to IT power system	Equipment is not intended for IT power system.	N.A.
1.7.11	Instructions when protection relies on building installation.	The appliance is not a pluggable equipment type B or permanent connected equipment.	N.A.
1.7.12	Marking when leakage current is more than 3.5 mA	Leakage current less than 3.5 mA.	N.A.

1.7.13	Marking at thermostats	No thermostate provided .	N.A.
1.7.14	Language of safety markings/instructions	Installation instruction and equipment markings are in English.	Pass
	Language..... :	English.	—
1.7.15	Durability and legibility	The label was subjected to the permanence of marking test. After this test there was no damaging to the label, no curling/lifting at the label edge, and the marking did not fade.	Pass
1.7.16	Placing of markings		Pass
1.7.17	Warning text for replaceable lithium batteries	The lithium battery is not user replaceable.	N.A.
	Language..... :		—
1.7.18	Operator access with a tool..... :	There is no operator accessible area inside the unit.	N.A.

2	FUNDAMENTAL DESIGN REQUIREMENTS	Pass
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2.1	Protection against electric shock and energy hazards		Pass
2.1.2	Protection against electric shock	Protected by complete enclosure . The tests with test finger and test pin are used.	Pass
2.1.3.1	Internal wiring at ELV	No ELV wiring in operator accessible area.	N.A.
2.1.3.2	Operator accessible insulation of internal wiring at hazardous voltage	No hazardous voltage wiring in operator accessible area.	N.A.
2.1.4	Unintentional contact in services access area	Unintentional contact with bare live parts in is unlikely during servicing.	Pass
2.1.5	Energy hazard	Energy does not exceed 240 VA between any two points in accessible parts (o/p) connector of secondary circuit.	Pass
2.1.6	Clearances behind conductive enclosures	Refer to 4.2.3 below for steady force test result.	Pass
2.1.7	Knobs, handles etc.	Operating handles are not connected to any Hazard voltage and ELV circuit.	Pass
2.1.8	Insulation of conductive handles, knobs etc.	Operating handles are not manually moved in normal use.	N.A.
2.1.9	Insulation of capacitors conductive casings	Casings of capacitors are considered as if directly connected to the respective circuitry. None at hazardous voltage accessible.	Pass
2.1.10	Risk of electric shock from the pins of a plug	There is no capacitor connected to the mains except capacitors inside the approved power supply.	Pass

	Measured voltage (V)..... :		
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2.2	Insulation.		Pass
2.2.1	Method of insulation	The internal power supply is an approved component.	Pass
2.2.2	Insulation materials	No natural rubber, asbestos or hygroscopic materials are used.	Pass
2.2.3	Humidity treatment	Refer to 2.2.1 above.	N.A.
2.2.4	Electric strength	Refer to 2.2.1 above	N.A.
2.2.5	Insulation parameters	Refer to 2.2.1 above.	N.A.
2.2.6	Categories of insulation	Refer to 2.2.1 above.	N.A.
2.2.7	Determination of working voltages	The measurement have already been done during the evaluation of the approved power supply.	Pass
2.2.7.1	General rules for working voltages	Refer to 2.2.7 above.	N.A.
2.2.7.2	Clearances in primary circuits	Refer to 2.2.7 above.	Pass
2.2.7.3	Clearances in secondary circuits	Refer to 2.2.7 above.	Pass
2.2.7.4	Creepage distances	Refer to 2.2.7 above.	Pass
2.2.7.5	Electric strength tests	Refer to 2.2.1 above.	N.A.
2.2.8	Double or reinforced insulation bridged by components	The bridging components has been evaluated during the evaluation of the approved power supply.	Pass
2.2.8.1	Bridging capacitors	Refer to 2.2.8 above.	Pass
2.2.8.2	Bridging resistors	No bridging resistor provided.	N.A.
2.2.8.3	Accessible parts	Refer to 2.2.8 above.	Pass

2.3	Safety extra-low voltage (SELV) circuits		Pass
2.3.1	Voltage (V) of SELV circuits under normal operating conditions and after a single fault	The SELV circuits have been evaluated during the evaluation of the approved power supply.	Pass
2.3.2	Voltage (V) between any two parts of SELV circuit(s), and for Class I equipment between any part of SELV circuit and protective earthing terminal	Refer to 2.3.1 above.	Pass
2.3.3	Voltage (V) in accessible parts of SELV in the event of a single fault condition	Refer to 2.3.1 above.	Pass
	Method used for separation		
2.3.8	Construction of SELV circuits	Uninsulated parts at hazardous voltage are not likely to accidental shorted to SELV circuits. No IEC 60083 or IEC 60320 compatible connectors are used in SELV circuits.	Pass

2.3.9	SELV circuits connected to other circuits	No direct connection between SELV and any primary circuits.	Pass
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2.4	Limited current circuits		N.A.
	Test voltage (V)		
2.4.2	Measured current (mA)		N.A.
2.4.3	Measured capacitance (μ F)		N.A.
2.4.4	Measured charge (μ C)		N.A.
2.4.5	Measured energy (mJ)		N.A.

2.5	Provisions for protective earthing		Pass
2.5.1	Reliable connection	Accessible conductive parts are reliably connected to the protective earthing.	Pass
2.5.2	Earthing in Class II equipment	The unit is a Class I equipment.	N.A.
2.5.3	Switches/fuses in earthing conductors	The grounding is located inside of the approved power supply.	Pass
2.5.4	Assured earth connection in systems	The equipment does not comprise class I and class II equipment.	N.A.
2.5.5	Green/yellow insulation	The grounding is located inside of the approved power supply.	Pass
2.5.6	Continuity of earth connections	It is not possible to disconnect earth without disconnecting mains as an appliance inlet is used.	Pass
2.5.7	Operator-removable parts with earth connections	The earthing of appliance coupler connected before and disconnected after the hazardous voltage. No other operator removable parts provided.	Pass
2.5.8	Protective earth disconnection	Refer to 2.5.5 above.	Pass
2.5.9	Protective earthing terminals	Refer to 2.5.5 above.	Pass
2.5.10	Risk of corrosion	Refer to 2.5.5 above.	Pass
2.5.11	Earth connector resistance $\leq 0.1 \Omega$	Refer to table below.	Pass
	Test current (A)	25 A between appliance inlet ground pin and chassis, measured resistance 24 m Ω .	

2.6	Primary power isolation		Pass
2.6.1	Disconnect device	The appliance coupler is considered to be the disconnect device.	Pass
2.6.2	Type of disconnect device	The appliance coupler.	Pass
2.6.3	Disconnect device in permanently connected equipment	The unit is not a permanently connected equipment.	N.A.

2.6.4	Protection	There will be no remaining parts energized in the equipment when the disconnect device is disconnected.	Pass
2.6.5	Isolating switch in a flexible cord	No isolating switch provided.	N.A.
2.6.6	Disconnection of both poles simultaneously	The appliance coupler disconnects both poles simultaneously.	Pass
2.6.7	Disconnection of all phases	Single phase equipment.	N.A.
2.6.8	Marking at switch	Refer to 2.6.1 above.	N.A.
2.6.9	Installation instructions	Refer to 1.7.2 and 2.6.1 above.	Pass
	Language..... :		
2.6.11	Disconnection of group of units		N.A.
2.6.12	Marking at each disconnect device	Only one supply connection provided. Refer to 2.6.1 above.	N.A.

2.7	Overcurrent and earth fault protection in primary circuits		Pass
2.7.1	Type of protective device	Equipment relies on fuse inside the approved power supply for overcurrent protection.	Pass
2.7.2	Protection against faults not covered in 5.4		N.A.
2.7.3	Adequate breaking capacity	The building installation is considered as the short-circuit protection.	Pass
2.7.4	Number and location	One provided on phase conductor.	Pass
2.7.5	Protection by several devices	Only one protector provided.	N.A.
2.7.6	Warning to service personnel	It is considered that the plug to the mains will be disconnected during servicing, no markings are required.	N.A.

2.8	Safety interlocks		N.A.
2.8.2	Design	No operator accessible area inside the equipment, no safety interlock is provided.	N.A.
2.8.3	Protection against inadvertent reactivation	Refer to 2.8.2 above.	N.A.
2.8.4	Reliability	Refer to 2.8.2 above.	N.A.
2.8.5	Override system	Refer to 2.8.2 above.	N.A.
2.8.6.1	Contact Gap	Refer to 2.8.2 above.	N.A.
2.8.6.2	Switch performing 50 cycles	Refer to 2.8.2 above.	N.A.
2.8.6.3	Electric strength test: test voltage (V)	Refer to 2.8.2 above.	N.A.
2.8.7	Protection against overstress	Refer to 2.8.2 above.	N.A.

2.9	Clearances, creepage distances and distances through insulation		Pass
	Nominal voltage (V)..... :	115 / 230 Vac	

2.9.2	Clearances	The evaluation of the clearances have already done on the approved power supply.	N.A.
2.9.3	Creepage distances	The evaluation of the creepage distances have already done on the approved power supply.	N.A.
	CTI tests	The CTI rating is considered min. 100 (Group IIIb) for all insulation materials.	—
2.9.4.1	Distances through insulation	The evaluation of the distances through insulation have already done on the approved power supply.	N.A.
2.9.4.2	Thin sheet material	The evaluation of the thin sheet material have already done on the approved power supply.	N.A.
	Number of layers/pieces		—
	Electrical strength test (V)		N.A.
2.9.4.3	Printed boards		N.A.
	Distance (mm) through insulation		N.A.
	Electric strength test at voltage (V) for thin sheet insulating material.....		N.A.
	Number of layers/pieces		N.A.
2.9.4.4	Wound components without interleaved insulation	Refer to 2.9.4.1 above.	N.A.
	Electric strength test at voltage (V) for accessible insulation of wire.....		N.A.
	Tests for additional thin film or other insulation		N.A.
	Two wires in contact inside component; angle > 45°		N.A.
	Routine testing for finished component		N.A.
2.9.5	Distances on coated printed boards	No coated printed boards provided.	N.A.
	Routine testing for electric strength		N.A.
2.9.6	Internal creepage distances in hermetically sealed components	No hermetically sealed components.	N.A.
2.9.7	Internal distances in potted components	No potted components provided.	N.A.
2.9.8	Spacings between external terminations of components		N.A.

2.10	Connection to other equipment		Pass
2.10.1	Connection of SELV and TNV circuits	Refer to 2.10.2 and 2.10.3 below.	N.A.
2.10.2	Type of interconnection circuits.....	No ELV or TNV interconnection.	Pass
2.10.3	Connection to host equipment	No ELV or TNV interconnection.	N.A.

2.11	Limited power source	N.A.
	Use of limited power source..... :	N.A.

3	WIRING, CONNECTIONS AND SUPPLY	Pass
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3.1	General		Pass
3.1.1	Cross-sectional area and protection	All internal wire gauges for primary power distribution are suitable for the current intended to carry.	Pass
	Protection of internal wiring and interconnecting cables	All internal wires are UL recognized with PVC insulation, rated VW-1, min. 80°C, 300 V.	Pass
3.1.2	Wireways	All wires are properly dressed away from touching sharp edges, moving parts or heatsinks.	Pass
3.1.3	Fixing of internal wiring	All Internal wires are properly secured and routed away from excessive strain or damage of conductor insulation.	Pass
3.1.4	Fixing of uninsulated conductors	All uninsulated conductors are properly secured in place.	Pass
3.1.5	Suitable insulation	All internal wires are UL recognized.	Pass
3.1.6	Wires coloured green/yellow (only for protective earth connection)	The grounding is located inside of the approved power supply.	Pass
3.1.7	Fixing of beads and similar insulators	No beads or similar ceramic insulators provided.	N.A.
3.1.8	Required electrical contact pressure	The grounding is located inside of the approved power supply.	Pass
3.1.9	Reliable electrical connections		Pass
3.1.10	End of stranded conductor	No soft soldering is consolidated to stranded conductors.	Pass
3.1.11	Use of spaced thread screws	No spaced treaded or threaded-cutting screws are used.	Pass

3.2	Connection to primary power		Pass
3.2.1	Type of connection	Appliance inlet .	Pass
	Provision for permanent connection	The unit is not a permanent connected equipment.	N.A.
3.2.2	Provision for permanent connection	The unit is not a permanent connected equipment.	N.A.
3.2.3	Appliance inlet	Appliance inlet complying with IEC 60320, Refer to appended table 1.5.1 below.	Pass
3.2.4	Type and cross-sectional area (mm ²) of power supply cord	The power supply cord is not provided with this unit.	N.A.

3.2.5	Cord anchorage	The equipment is provided with detachable power supply cord.	N.A.
	Test: 25 times; 1 s; pull (N)		—
	Longitudinal displacement ≤ 2 mm		N.A.
3.2.6	Protection of power supply cord	Detachable power supply cord used, no protection needed.	N.A.
3.2.7	Cord guard opening parts		N.A.
	D (mm).....		—
	Test: mass (g)		—
	Radius of curvature of the cord ≤ 1.5 D		N.A.
3.2.8	Supply wiring space	The equipment is provided with detachable power supply cord.	N.A.

3.3	Wiring terminals for external power supply conductors		N.A.
3.3.1	Terminals	Refer to 3.2.8 above.	N.A.
3.3.2	Special non-detachable cord		N.A.
	Type of connection	Refer to 3.2.8 above.	—
	Pull test at 5 N		N.A.
3.3.3	Screws and nuts		N/A
3.3.4	Fixing of conductors		N.A.
3.3.5	Connection of connectors	No wiring terminal provided.	N.A.
3.3.6	Size of terminals	The grounding is located inside of the approved power supply.	N.A.
	Nominal thread diameter (mm).....	Refer to 3.3.6 above.	—
3.3.7	Protection against damage of conductors	No wiring terminal provided.	N.A.
3.3.8	Terminal location	No ordinary non-detachable power supply cord provided.	N.A.
3.3.9	Test with 8 mm stranded wire	No wiring terminal provided.	N.A.

4	PHYSICAL REQUIREMENTS	Pass
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4.1	Stability and mechanical hazards		Pass
4.1.1	Stability tests		Pass
	Angle of 10°	This equipment does not become physical unstable when tilted to an angle of 10° under its normal use position.	Pass
	Test: force (N)	The equipment is not a floor-standing unit.	N.A.

4.1.2	Protection against personal injury	There is no hazardous moving part inside the unit.	N.A.
4.1.3	Warning and means provided for stopping the moving part..... :	Refer to 4.1.2 above, warning wording or stopping means are not necessary.	N.A.
4.1.4	Edges and corners	All edges and corners of the exterior enclosure are properly rounded.	Pass
4.1.5	Enclosure of a high pressure lamp	No high pressure lamp provided.	N.A.

4.2	Mechanical strength and stress relief		Pass
4.2.2	Internal enclosures 30 N \pm 3 N; 5 s	No operator accessible internal enclosure provided.	N.A.
4.2.3	External enclosures 250 N \pm 10 N; 5 s	250 N force is applied on external enclosure for 5 seconds.	Pass
4.2.4	Steel sphere tests		Pass
	Fall test	Unit is provided with metal enclosure, no tests are deemed necessary.	N.A.
	Swing test	A 500 g steel sphere ball was swing as a pendulum freely from 1.3 m onto vertical surface of the outer enclosure.	Pass
4.2.5	Drop test	The unit is a table type equipment.	N.A.
4.2.6	Heat test for enclosures of moulded or formed thermoplastic: 7 h; T ($^{\circ}$ C)	Metallic enclosure, not applicable.	N.A.
4.2.7	Compliance	Metallic enclosure, not applicable.	Pass
4.2.8	Mechanical strength of cathode ray tubes	Equipment does not provided with cathode ray tube.	N.A.

4.3	Construction details		Pass
4.3.1	Changing of setting for different power supply voltages	The adjustment for different voltage requires the use of a tool.	Pass
4.3.2	Adjustment of accessible control devices	No accessible control device provided.	N.A.
4.3.4	Prevention of dangerous concentration of dust, liquid and gas	The equipment does not produce dust or employing powders, liquids or gases.	N.A.
4.3.5	Fixing of knobs, grips, handles, levers		Pass
	Test: force (N)	The handles, knobs, grips, levers and the like will not result in hazard if work loose in normal use.	—
4.3.6	Driving belts/couplings shall not ensure electrical insulation	No driving belt provided.	N.A.
4.3.7	Retaining of sleeves	No sleeving provided.	N.A.

4.3.9	Protection of loosening parts	Wire, screw, nut, washer, spring or similar part can be expected to withstand the mechanical stress, and not likely to become loose or fall out of position. Furthermore, solder pins, cable ties and used for protection.	Pass
4.3.11	Resistance to oil and grease	No oil, grease or similar substances provided inside the unit.	N.A.
4.3.12	Protection against harmful concentration of ionizing radiation, ultraviolet light, laser or flammable gases	No ionizing radiation or ultraviolet light or laser can be generated.	N.A.
4.3.13	Securing of screwed connections	The grounding is located inside of the approved power supply.	N.A.
4.3.15	Openings in the top of enclosure	No openings provided on top of enclosure.	N.A.
	Dimensions..... :		—
4.3.16	Openings in the sides of enclosure	Numerous oblong openings on rear of enclosure.	Pass
	Dimensions..... :	Openings on sides of enclosure are either not exceeded 5 mm in any dimension, or not exceeded 1 mm in width. Not located within 5° projection or below bare live parts or fire hazardous components.	—
4.3.17	Interchangeable plugs and sockets	No plugs or socket provided within the unit.	N.A.
4.3.18	Torque test of equipment with built-on plug		N.A.
	Additional torque (Nm) :	The equipment is not a direct plug-in unit.	N.A.
4.3.19	Protection against excessive pressure	Equipment does not contain liquid in normal use.	N.A.
4.3.20	Protection of heating elements in Class I equipment	Equipment does not contain heating element.	N.A.
4.3.21	Protection of lithium batteries		Pass
	Construction of protection circuit..... :	The lithium battery did not cause a fire hazard, explosion, or chemical hazard. The reverse polarity is not likely to occur due to the battery holder is polarized.	Pass
4.3.22	Ageing of barrier/screen secured with adhesive		N.A.
	Day 1: temperature (°C); time (weeks) :		N.A.
	Day 8 / 22 / 57: a) temperature (°C) for 1 h b) temperature (°C) for 4 h c) temperature (°C) over 8 h :		N.A.

	Day 9 / 23 / 58: a) relative humidity (%) for 72 h b) temperature (°C) for 1 h c) temperature (°C) for 4 h d) temperature (°C) over 8 h		N.A.
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4.4	Resistance to fire		Pass
4.4.2	Minimizing the risk of ignition	Electrical components are not likely to ignite nearby materials/parts. Components not protected against overheating under fault conditions. Refer to 5.1 below for heating test result.	Pass
4.4.3.2	Flammability of materials and components	Metal enclosure, no flammability rating required..	N.A.
4.4.3.4	Wiring harnessed	All wiring are UL Recognized with PVC insulation, and rated VW-1.	Pass
4.4.3.5	Cord anchorage bushings	No cord anchorage bushing provided.	N.A.
4.4.3.6	Air filter assemblies	No air filter assembly provided.	N.A.
4.4.4	Flammability of outer enclosures and decorative parts	The unit is metal enclosure.	N.A.
4.4.5.1	Components which require fire enclosure	Refer to 4.4.3.2 above.	N.A.
4.4.6	Fire enclosure construction	The unit is metallic enclosure and there is no opening in enclosure bottom.	N.A.
4.4.7	Doors and covers	Refer to 4.4.3.2 above.	N.A.
4.4.8	Protection against spreading of flammable liquids	No flammable liquids is used in equipment.	N.A.

5	THERMAL AND ELECTRICAL REQUIREMENTS		Pass
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5.1	Heating		Pass
	Heating tests	Refer to appended table 5.1 below for heating test result.	Pass

5.2	Earth leakage current		Pass
5.2.2	Leakage current	Earth leakage current was measured from primary to accessible conductive parts.	Pass
	Test voltage (V)	253 V ac, 60 Hz	

	Measured current (mA)	Two power switch on: 2 mA (line to chassis), 2 mA (neutral to chassis) Two power switch off: 1 mA (line to chassis), 1 mA (neutral to chassis) One power switch on: 2 mA (line to chassis), 2 mA (neutral to chassis)	—
	Max. allowed current (mA)	3.5 mA	—
5.2.4	Three-phase equipment	The equipment is single phase unit.	N.A.
	Test voltage (V)		—
	Measured current (mA)		—
	Max. allowed current (mA)		—
5.2.5	Equipment with earth leakage current exceeding 3.5 mA	Measured earth leakage current less than 3.5 mA.	N.A.
	Test voltage (V)		—
	Measured current (mA)		—
	Max. allowed current (mA)		—
	Cross-sectional area (mm ²) of internal protective earthing conductor.....		—
	Warning label		N.A.

5.3	Electric strength		Pass
	Electric strength test	Refer to appended table 5.3 below for electric strength test result.	Pass

5.4	Abnormal operating and fault conditions		Pass
5.4.2	Motors	No motor provided.	N.A.
5.4.3	Transformers	The transformer has been tested during the approval evaluation of the power supply..	N.A.
5.4.4	Compliance of operational insulation		N.A.
	Method used.....		N.A.
5.4.5	Electromechanical components in secondary circuits	No electromechanical components provided in secondary circuits.	N.A.
5.4.6	Other components and circuits	Refer to appended table 5.4 below for fault condition test result.	Pass
5.4.7	Test in any expected condition and foreseeable misuse	The equipment is so designed that no foreseeable misuse is likely to happen.	Pass
5.4.8	Unattended use of equipment having thermostats, temperature limiters etc.	The equipment is not intended for unattended use.	N.A.

5.4.9	Compliance	No fire propagated beyond the equipment, no molten, no molten metal was emitted.	Pass
5.4.10	Ball pressure test of thermoplastics	The transformer bobbin has been tested during the approval evaluation of the power supply.	N.A.

6	CONNECTION TO TELECOMMUNICATION NETWORKS		N.A.
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6.1	General		N.A.
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6.2	TNV circuits		N.A.
6.2.1.1	Limits of the TNV circuits		N.A.
6.2.1.1 a)	TNV-1 circuits		N.A.
6.2.1.1 b)	TNV-2 and TNV-3 circuits		N.A.
6.2.1.2	Separation from other circuits and from accessible parts		N.A.
	Voltage (V) in SELV circuits, TNV-1 circuits and accessible conductive parts in event of single insulation fault or component failure		N.A.
6.2.1.3	Operating voltages generated externally		N.A.
	Voltage (V) in SELV circuit, TNV-1 circuit or accessible conductive part		N.A.
6.2.1.4	Separation from hazardous voltages		N.A.
	Insulation between TNV circuit and circuit at hazardous voltage		N.A.
	Method used		N.A.
6.2.1.5	Connection of TNV circuits to other circuits		N.A.
6.2.1.5	TNV circuit supplied conductively from a secondary circuit		N.A.
6.2.2.1	Protection against contact with bare conductive parts of TNV-2 and TNV-3 circuits		N.A.
	Test with test finger		N.A.
	Test with test probe		N.A.
6.2.2.2	Battery compartment		N.A.
	Marking next to door/on door		

6.3	Protection of telecommunication network service personnel, and other users of other equipment connected to the telecommunication network, from hazards in the equipment		N.A.
6.3.1	Protection from hazardous voltages		N.A.

6.3.2	Use of protective earthing	N.A.
	Language of installation instructions..... :	N.A.
6.3.3	Separation of the telecommunication network from earth	N.A.
6.3.3.1	Insulation between TNV circuit and parts or circuitry that may be earthed	N.A.
6.3.3.2	Exclusions	N.A.
6.3.4.1	Limitation of leakage current (mA) to telecommunication network	N.A.
6.3.4.2	Summation of leakage currents from telecommunication network	N.A.

6.4	Protection of the equipment user from voltages on the telecommunication network	N.A.
6.4.1	Separation requirements	N.A.
6.4.2	Test procedure	N.A.
6.4.2.1	Impulse test: separation between TNV-1 circuits/TNV-3 circuits and:	N.A.
6.4.2.1 a)	unearthed conductive parts/non-conductive parts of the equipment expected to be held or touched during normal use; test at 2,5 kV	N.A.
6.4.2.1 b)	parts and circuitry that can be touched by the test finger except contacts of connectors that cannot be touched by test probe; test at 1,5 kV	N.A.
6.4.2.1 c)	circuitry which is provided for connection of other equipment; test at 1.5 kV	N.A.
6.4.2.2	Electric strength test: separation between TNV-1 circuits/TNV-3 circuits and:	N.A.
6.4.2.2 a)	unearthed conductive parts/non-conductive parts of the equipment expected to be held or touched during normal use; test at 1,5 kV	N.A.
6.4.2.2 b)	parts and circuitry that can be touched by the test finger except contacts of connectors that cannot be touched by test probe; test at 1,0 kV	N.A.
6.4.2.2 c)	circuitry which is provided for connection of other equipment; test at 1.0 kV	N.A.
6.4.2.3	Compliance criteria	Pass

6.5	Protection of telecommunication wiring system from overheating	N.A.
	Maximum continuous output current (A)..... :	N.A.

A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE	Pass
	Equipment is provided with metal enclosure.	
A.1	Flammability test for fire enclosures of moveable equipment having a total mass exceeding 18 kg, and of stationary equipment	N.A.

A.2	Flammability test for fire enclosures of moveable equipment having a total mass not exceeding 18 kg, and for materials located within fire enclosures	N.A.
A	Preconditioning: 7 days (168 h); temperature (°C)	—
	Mounting of samples during test	—
	Wall thickness	—
	Sample 1 burning time	N.A.
	Sample 2 burning time	N.A.
	Sample 3 burning time	N.A.
	Material: compliance with the requirements	N.A.
	Information about the tested material:	N.A.
	Manufacturer	—
	Type	—
	Additional information	—

B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS	N.A.
	Position	—
	Manufacturer	—
	Type	—
	Rated voltage (V) or current (A)	—
B.2	Temperatures	N.A.
B.4	Running overload test	N.A.
B.5	Locked-rotor overload test	N.A.
	Test duration (days)	—
	Electric strength test: test voltage (V)	—
B.6	Running overload test for DC motors in secondary circuits	N.A.
B.7	Locked-rotor overload test for DC motor in secondary circuits	N.A.
B.7.2	Test time (h)	N.A.
B.7.3	Test time (h)	N.A.
B.8	Test for motors with capacitor	N.A.
B.9	Test for three-phase motors	N.A.
B.10	Test for series motors	N.A.

C	ANNEX C, TRANSFORMERS	N.A.
	Position	—
	Manufacturer	—

	Type.....:		—
	Rated values.....:		—
	Temperatures		N.A.
C.1	Overload test		N.A.
	Conventional transformer		N.A.
	Safety isolating transformer		N.A.
	Ferro-resonant transformer		N.A.
	Type of thermal cut-out.....:		—
C.2	Safety isolating transformers		N.A.
	Precautions.....:		N.A.
	Retaining of end turns of all windings		N.A.
	Earthing test at 25 A		N.A.
C.3	Electric strength test		N.A.

H	ANNEX H, IONIZING RADIATION		N.A.
	Ionizing radiation		N.A.
	Measured radiation.....:		—
	Measured high-voltage.....:		—
	Measured focus voltage.....:		—
	CRT markings.....:		—
	Approved by.....:		—
	Publication used.....:		—

U	ANNEX U, INSULATED WINDING WIRES FOR USE AS MULTIPLE LAYER INSULATION		N.A.
U.1	Wire construction		N.A.
	Number of spirally wrapped layers of polyimide tape.....:		—
U.2	Conformance tests		N.A.
	Temperature (°C); humidity (%).....:		—
U.2.1	Electric strength		N.A.
	Test voltage (V).....:		—
U.2.2	Adherence and flexibility		N.A.
	Electric strength test: test voltage (V); temperature (°C).....:		—
U.2.3	Heat shock		N.A.
	Electric strength test: test voltage (V).....:		—

U.2.4	Retention of electric strength after bending		—
	Electric strength test: test voltage (V)		—
U.2.5	Resistance to abrasion		N.A.
U.3	Production line test		N.A.
	Routine testing for electric strength: test voltage (V)		—

1.5.1	TABLE: list of critical components				Pass
object/part No.	manufacturer/trade mark	type/model	technical data	mark(s) of conformity ¹⁾	
Power Supply	Power Research Technology Co., Ltd.	PRM320-1	i/p: 100-120 / 200-240 Vac 50 / 60 Hz, 7 / 4 A o/p: +5 Vdc / 32 A, -5 Vdc / 1 A +12 Vdc / 11 A, -12 Vdc / 1 A	TUV	
Battery (RTC)	DALLAS	DS1225Y-150	--	UL	
Hard Disk Drive	Seagate	ST3 or ST5 Series	5Vdc/0.5A, 12Vdc/0.5A	TÜV	
Enclosure	--	--	Sheet Metal	--	
* Additional testing and evaluation may be required based on auditing agency's discretion.					

1.6	TABLE: electrical data (in normal conditions)						Pass
fuse #	I _{rated} (A)	U (V)	P (W)	I (A)	I _{fuse} (A)	condition/status	
--	--	103 V / 50 Hz	80.4	1.3	--	Maximum normal operation.	
--	--	103 V / 60 Hz	80.8	1.3	--	Same as above.	
--	7	115 V / 50 Hz	83.4	1.3	--	Same as above.	
--	7	115 V / 60 Hz	83.1	1.2	--	Same as above.	
--	--	122 V / 50 Hz	84.3	1.2	--	Same as above.	
--	--	122 V / 60 Hz	83.7	1.2	--	Same as above.	
--	--	207 V / 50 Hz	79.2	0.7	--	Same as above.	
--	--	207 V / 60 Hz	78.9	0.7	--	Same as above.	
--	4	230 V / 50 Hz	80.9	0.7	--	Same as above.	
--	4	230 V / 60 Hz	81.4	0.7	--	Same as above.	
--	--	253 V / 50 Hz	83.6	0.7	--	Same as above.	
--	--	253 V / 60 Hz	82.6	0.6	--	Same as above.	
Comments:							

2.9	TABLE: clearance and creepage distance measurements						N.A.
clearance cl and creepage distance dcr at/of:	U _p (V)	U r.m.s. (V)	required cl (mm)	cl (mm)	required dcr (mm)	dcr (mm)	

Note: Creepage distances and clearances between primary and secondary are all in approved switching power supply.

2.9.4	TABLE: distance through insulation measurements				N.A.
distance through insulation di at/of:	U r.m.s. (V)	test voltage (V)	required di (mm)	di (mm)	

5.1	TABLE: temperature rise measurements				Pass
	test voltage (V).....:	103 V ac (115 V - 10%) 122 V ac (115 V + 6%) 207 Vac (230 V - 10%) 253 Vac (230 V + 10%) 230 Vac (Locked Fan)			---
	t1 (°C).....:				---
	t2 (°C).....:				---
temperature rise dT of part/at:		dT (°K)		required dT (°K)	
Ambient		26.6/26.2/26.1/26.3/26.6(°C)		--	
NF1 coil (power supply)		3.4/3.3/2.9/3.0/4.7		80	
T1 coil (power supply)		6.4/6.4/6.2/6.5/8.4		65	
L4 coil (power supply)		8.2/8.9/8.0/9.2/11.5		80	
U8 body		8.1/7.7/7.5/7.3/13.8		80	
Heatsink of U11		15.1/14.7/14.7/14.5/23.1		80	
U10 body		12.9/12.5/12.6/12.5/17.5		80	
U4 body		14.7/14.3/14.2/13.7/19.0		80	
Top of C11		3.5/3.0/3.1/3.0/7.2		80	
U1 body		5.3/4.7/4.8/4.7/11.3		80	
H.D.D. body		2.7/2.0/2.0/1.8/4.1		--	
Outside Enclosure		1.7/1.2/1.2/0.9/2.5		45	
temperature rise dT of winding:		R1 (Ω)	R2 (Ω)	dT (°K)	required dT (°K)
Comments:					

5.3	TABLE: electric strength measurements		Pass
test voltage applied between:		test voltage (V)	breakdown
Primary to body (chassis)		2121 V dc	No
Primary to secondary		4242 V dc	No

5.4	TABLE: fault condition tests						Pass
	ambient temperature (°C).....:					26.6	—
	model/type of power supply.....:						—
	manufacturer of power supply.....:						—
	rated markings of power supply.....:						—
No.	component No.	fault	test voltage (V)	test time	fuse No.	fuse current (A)	result
1	Fan	Locked	230	2.5 hr.	--	0.6	Refer to temperature rise measurements. No damage, no hazard.
supplementary information							
oc: open circuited							
sc: short circuited							

5.4.10	TABLE: ball pressure test of thermoplastics		N.A.
	required impression diameter (mm).....:	≤ 2 mm	—
part:		test temperature (°C)	impression diameter (mm)

	SPECIAL NATIONAL CONDITIONS AND NATIONAL DEVIATIONS		Pass
	S = Special National Condition D = National Deviation C = CENELEC Common Modification F = other information AT=Austria, GB=Great Britain, CH=Switzerland, DE=Germany, DK=Denmark, FI=Finland, FR=France, NO=Norway, SE=Sweden.		
1.1.3	D (CH): this standard applies to all equipment designed and intended to be connected to a telecommunication network terminal	Not intended to be connected to a telecommunication network terminal.	N.A.
1.2.4.1	S (DK): certain types of Class I appliances (see 3.2.1) may be provided with a plug not establishing earthing continuity when inserted into Danish socket-outlets	Not applied for.	N.A.
1.5.1	F: mains plugs used in different countries		Pass
	D (SE): add the following: NOTE: Switches containing mercury such as thermostats, relays and level controllers are not allowed	No switch contains mercury provided.	Pass
1.7	F: certification mark used on certified product		N.A.
	F (SE, DE): the following text shall be added to a separate power supply unit:		N.A.
	(SE) "Endast för kontorsmaskin"	The equipment is not a separate power supply unit.	N.A.
	(DE) "For IEC 60 950 only"	Equipment is not a separate power supply unit.	N.A.
1.7.1	S (GB): marking shall refer to 240 V or 415 V, these being the voltages of the public supply system	240 V is not considered applicable on this equipment.	N.A.
1.7.2	C: delete note 4	deleted.	Pass
	S (NO): add the following to Note 4: If separation between the mains and a communication system/network, other than public telecommunication networks, relies upon connection to safety earth, the equipment shall have a marking stating that it must be connected to an earthed mains socket-outlet. NOTE: For requirements for equipment to be connected to a public telecommunication network see 6.2.1.4. Text is:		N.A.
	"Apparatet må kun tilkoples jordet stikkontakt" or	Not intended to be connected to a communication system/network.	N.A.
	"Jordet stikkontakt skal benyttes når apparatet tilkoples datanett"	Same as above.	N.A.

	<p>S (SE): if the separation between the mains and a SELV terminal relies upon connection to the safety earth, the apparatus shall have a marking stating that it must be connected to an earthed mains socket-outlet when a SELV circuit is connected to a network passing both unearthed and earthed electrical environment.</p> <p>The marking text shall be in Swedish and as follows:</p> <p>"Apparaten skall anslutas till jordat uttag när den ansluts till ett nätverk."</p>	<p>The separation between the mains and a SELV terminal is not relies upon connection to the safety earth.</p>	N.A.
	<p>D (DK): supply cords of Class I appliances, which are delivered without a plug must be provided with a visible tag with the following text:</p> <p>"Vigtigt! Lederen med grøn/gul isolation må kun tilsluttes en klemme mærket [earth symbol] eller [earth symbol in circle]."</p> <p>If essential for the safety of the appliance, the tag must in addition be provided with a diagram, which shows the connection of the other conductors, or be provided with the following text:</p> <p>"For tilslutning af de øvrige ledere, se medfølgende installationsvejledning."</p>		N.A.
	<p>D (GB): power supply cords of Class I equipment must be provided with a label with the following text in legible characters:</p> <p>IMPORTANT</p> <p>The cores in this mains lead are coloured in accordance with the following code:</p> <ul style="list-style-type: none"> - green and yellow: earth - blue: neutral - brown: live 		N.A.
1.7.5	<p>S (DK): socket-outlets for providing power to other appliances shall be in accordance with the Heavy Current Regulations, Section 107-2-DI, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on appliances of Class I</p>	<p>The socket-out is VDE approved.</p>	Pass
	<p>D (DK): Class II appliances shall not be fitted with socket-outlets for providing power to other appliances I</p>	<p>The equipment is not a Class II appliance.</p>	N.A.
1.7.11	<p>C: replace "2.7.2" by "2.7"</p>	<p>Replaced.</p>	Pass
1.7.14	<p>D (DE): directions for use with rules to prevent certain hazards for (among others) maintenance of the technical labour equipment, also for imported technical labour equipment shall be written in the German language.</p> <p>NOTE: Of this requirement, rules for use even only by service personnel are not exempted</p>	<p>The equipment is not a technical labour equipment.</p>	N.A.

1.7.17	D (CH): annex 4.10 of SR 814.013 (Ordinance on environmentally hazardous substances) applies for batteries	Not applied for.	N.A.
	F: warning texts for lithium batteries	No lithium battery provided.	N.A.
	Languages.....		—
1.7.18	D (SE): equipment provided with built-in batteries, not replaceable by the user, shall be marked with the recycling symbol if the batteries have a content of mercury or cadmium exceeding 0.025% by weight.	The built-in battery is marked with the recycling symbol adjacent to the battery.	Pass
2.3.3	C: delete method 4 and the line in note 1 relating to this method	Method 4 is not used.	Pass
2.3.6	C: delete the note	Deleted.	Pass
	S (DK, FR): method 3 is not acceptable	Method 3 is not used.	Pass
2.3.7	C: replace the text of this subclause by: Void	Replaced.	Pass
2.3.9	S (NO): marking and insulation requirements according to this annex, 1.7.2 and 6.2.1.4 b) apply	Not applied for.	N.A.
2.5.2	C: delete the note	Deleted.	Pass
	S (DK): replace the first sentence by the following: Class II equipment shall have no provision for protective earthing, except that permanently connected equipment may be provided with a means for maintaining the continuity of protective earthing circuits to other equipment in a system, if the earth connection is separated from parts at hazardous voltages by double or reinforced insulation	Replaced. The equipment is not a Class II unit.	Pass

2.7.1	<p>C: replace the text of this subclause by:</p> <p>Basic requirements:</p> <p>To protect against excess current, short-circuits and earth faults in primary circuits, protective devices shall be included either as integral parts of the equipment or as a part the building installation, subject to all of the following, a), b) and c):</p> <p>a) Except as detailed in b), protective devices necessary to comply with the requirements of 5.4 shall be included as integral parts of the equipment.</p> <p>b) For components in series with the mains input to the equipment such as the supply cord, appliance coupler, RFI filter and switch, short circuit and earth fault protection may be provided by protective devices in the installation.</p> <p>c) If reliance is placed on protection in the building installation, the installation instructions shall comply with 1.7.11 except that for pluggable equipment Type A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet and 1.7.11 does not apply.</p>	Replaced. Replace requirements are considered, refer to 2.7.1 above.	Pass
2.7.2	C: replace the text of this subclause by: Void	Replaced.	Pass
2.8.4	C: delete the note	Deleted.	Pass
2.9.1	S (NO): due to the IT power systems used, mains supply voltage is considered to be equal to phase-phase voltage	The equipment is not considered for use with IT power system.	N.A.
2.11	C: delete notes 1, 2 and 3	Deleted.	Pass
	<p>D (NO): Table 8 - Limits of inherently limited power sources</p> <p>In Norway, the maximum value of VA for values of Uoc exceeding 10 V is 50.</p> <p>Table 9 - Limits for power sources not inherently limited (overcurrent protective device required)</p> <p>In Norway, the maximum value of VA is 50</p>		N.A.
	<p>D (DK, FI): a limited power source shall incorporate an isolating transformer and shall comply with the following:</p> <ul style="list-style-type: none"> - the open circuit voltage shall not exceed 42.4 V peak or d.c. and shall not generate voltages above that value; - the current which may be drawn for more than two minutes at any load, including short-circuits, shall not exceed 0.2 A 		N.A.

3.2.1	<p>S (DK): supply cords of single phase appliances having a rated current not exceeding 10 A shall be provided with a plug according to [EN 60 950:92, page 8, 1st table].</p> <p>If poly-phase appliances and single-phase appliances having a rated current exceeding 10 A are provided with a supply cord with a plug, this plug shall be in accordance with [EN 60 950:92, page 8, 2nd table]</p>	The equipment does not provided with power supply cord.	N.A.
3.2.2	C: delete the note and in table 10, delete the values in parentheses	Deleted.	Pass
3.2.4	<p>C: replace "245 IEC 53" by "H05 RR-F", "227 IEC 52" by "H03 VV-F or H03 VVH2-F" and "227 IEC 53" by "H05 VV-F or H05 VVH2-F".</p> <p>In Table 11, replace the first four lines by the following:</p> <p>Up to and including 6; 0.75 1) Over 6; up to and including 10; 1.0 Over 10; up to and including 16; 1.5</p> <p>In the conditions applicable to table 11, delete the words "in some countries" in condition 1 and delete conditions 2 and 3.</p> <p>Delete the note</p>	The equipment does not provided with socket-outlet.	N.A.
	S (GB): a power supply cord with conductor of 1.25 mm ² is allowed for equipment with rated current over 10 A and up to and including 13 A.	The equipment does not provided with socket-outlet.	N.A.
3.3.5	<p>C: in table 13, replace the fourth and the fifth lines by:</p> <p>Over 10; up to and including 16; 1.5 to 2.5; 1.5 to 4</p>	Replaced. The rated current of equipment is less than 10 A.	N.A.
	<p>S (GB): the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current of over 10 A and up to and including 13 A is:</p> <p>- 1.24 mm² to 1.5 mm² nominal cross-sectional area</p>	The rated current of equipment is less than 10 A.	N.A.
5.1	<p>S (NO): to prevent fire risk, temperature rise limits for wooden support shall be taken into account.</p> <p>The temperature rise limit is 65 K for equipment in general and 60 K for equipment for continuous operation</p>	The equipment does not provided with socket-outlet.	N.A.
5.4.9	D (NO): the electric strength test after the tests of 5.4.4, 5.4.5, 5.4.6, 5.4.7 and 5.4.8 includes testing of basic insulation in Class I equipment	Electric strength test conducted after each specified tests.	Pass

6.1	S (CH): protective means in the equipment shall not prevent transient surge protection in the telecommunication network from operating properly (d.c. spark-over voltage of the surge suppressor installed in the telecommunication network: approx. 245 V)		N.A.
6.2.1.1	C: add at the end of the subclause: In the event of a single insulation fault or component failure TNV circuits shall not exceed the limits of figure 15		N.A.
6.2.1.2 and 6.2.1.3	C: add at the end of each subclause: This subclause only applies to TNV circuits normally operating in excess of the limits of SELV circuits		N.A.
6.2.1.4	C: delete the notes		N.A.
6.2.1.4 b	S (FI): this method is only permitted for permanently connected equipment or for pluggable equipment type B		N.A.
	S (NO): insulation between parts conductively connected to the supply mains and parts connected to a public telecommunication network shall comply with the requirements for double or reinforced insulation		N.A.
6.3.3	C: in the second paragraph, replace "for functional reasons" by "to enable the equipment to function"		N.A.
6.4.1	C: delete note 2		N.A.
	S (FI): for pluggable equipment it is forbidden to use surge suppressors between telecommunication network and conductive metallic parts which are permitted to be accessible		N.A.
6.4.2.1	C: delete note 2		N.A.
	D (AT): equipment shall comply with $U_c = 2.0 \text{ kV}$ in cases b) and c)		N.A.

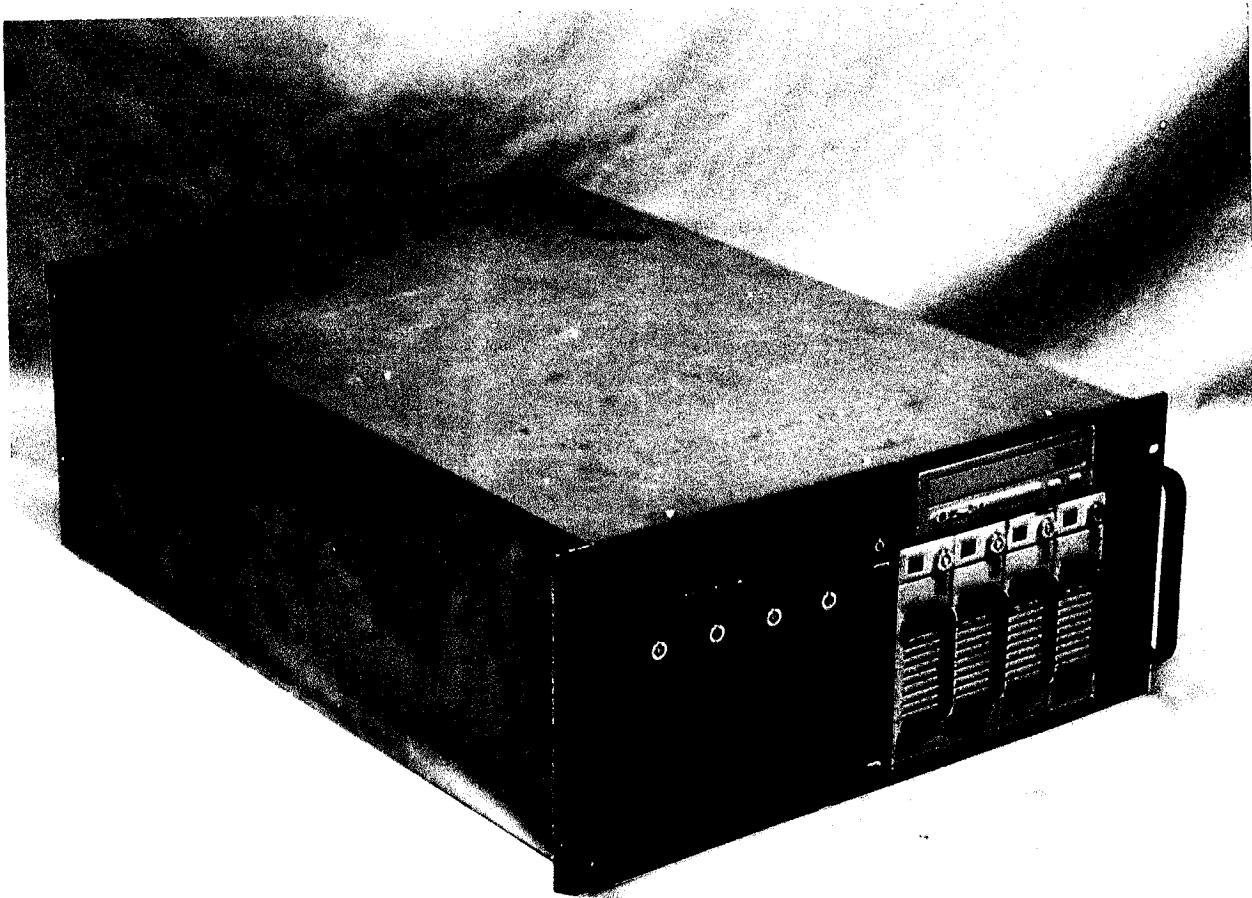
Annex H	<p>D (DE):</p> <p>a) A licence is required by those who operate an X-ray emission source.</p> <p>b) A licence in accordance with clause 1 is not required by those who operate an X-ray emission source on which the electron acceleration voltage does not exceed 20 kV if</p> <ol style="list-style-type: none"> 1) the local dose rate at a distance of 0.1 m from the surface does not exceed 1 μSv/h and 2) it is adequately indicated on the X-ray emission source that <ol style="list-style-type: none"> i) X-rays are generated and ii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer. <p>c) A licence in accordance with clause 1 is also not required by persons who operate an X-ray emission source on which the electron acceleration voltage exceeds 20 kV if</p> <ol style="list-style-type: none"> 1) the X-ray emission source has been granted a type approval and 2) it is adequately indicated on the X-ray emission source that <ol style="list-style-type: none"> i) X-rays are generated ii) the device stipulated by the manufacturer or importer guarantees that the maximum permissible local dose rate in accordance with the type approval is not exceeded and iii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer. <p>d) Furthermore, a licence in accordance with clause 1 is also not required by persons who operate X-ray emission sources on which the electron acceleration voltage does not exceed 30 kV if</p> <ol style="list-style-type: none"> 1) the X-rays are generated only by intrinsically safe CRTs complying with Enclosure III, No. 6, 2) the values stipulated in accordance with Enclosure III, No. 6.2 are limited by technical measures and specified in the device and 3) it is adequately indicated on the X-ray emission source that the X-rays generated are adequately screened by the intrinsically safe CRT. 	This unit does not employ a CRT.	N.A.
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Annex Q	<p>C:</p> <p>Add for IEC 529:</p> <p>NOTE: Endorsed by EN 60 529:1991 (not modified)</p> <p>Add for IEC 707:</p> <p>NOTE: Endorsed by HD 441:1983 (not modified)</p> <p>Add for IEC 1058-1:</p> <p>NOTE: Endorsed by EN 61 058-1:1992 (not modified)</p>	Wordings added.	N.A.
	<p>F (NO): compliance with the standard for radio interference suppression is necessary for achieving type approvals. The appliance shall comply with EN 55 022 Class B limits or EN 55 014 depending on the appliance</p>	The equipment comply with EN 55 022 class B limits.	Pass

Appendix - Photo

1. Front View

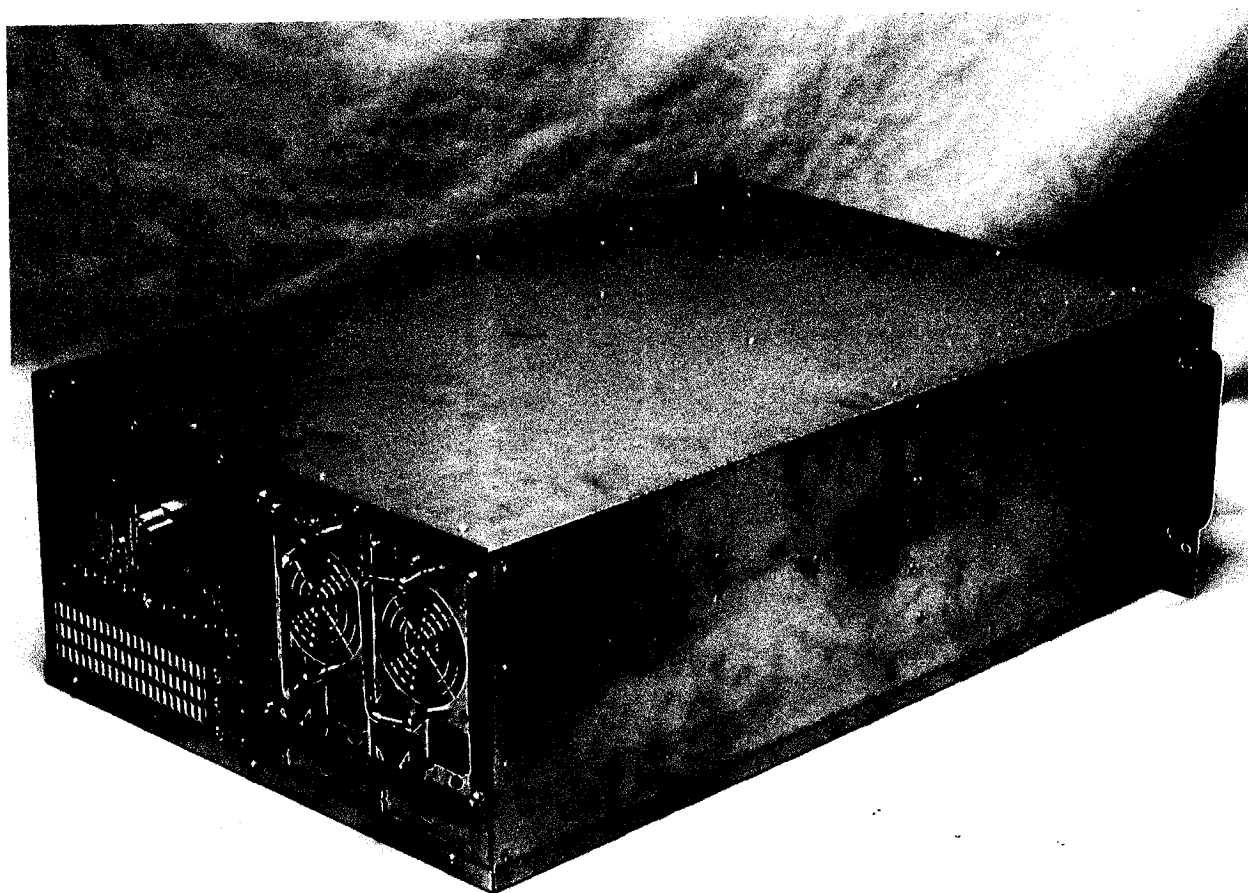
Model: SPC-520XX



Appendix - Photo

2. Rear View

Model: SPC-520XX



Appendix - Photo

3. Inside View

Model: SPC-520XX



(b) (5) DPP, (c)

3000

[illegible]

Company: Advantech	
Model: SPC-520XX	
Power Supply Input: 122Vac	
Heating Test	
No	Thermocoupler Location
1	Ambient
2	NF1 coil (Power supply)
3	T1 coil (Power supply)
4	L4 coil (Power supply)
5	U8 body
6	Heat Sink of U11
7	U10 body
8	U4 body
9	Top of C11
10	U1 body
11	H.D.D. body
12	Outside Enclosure

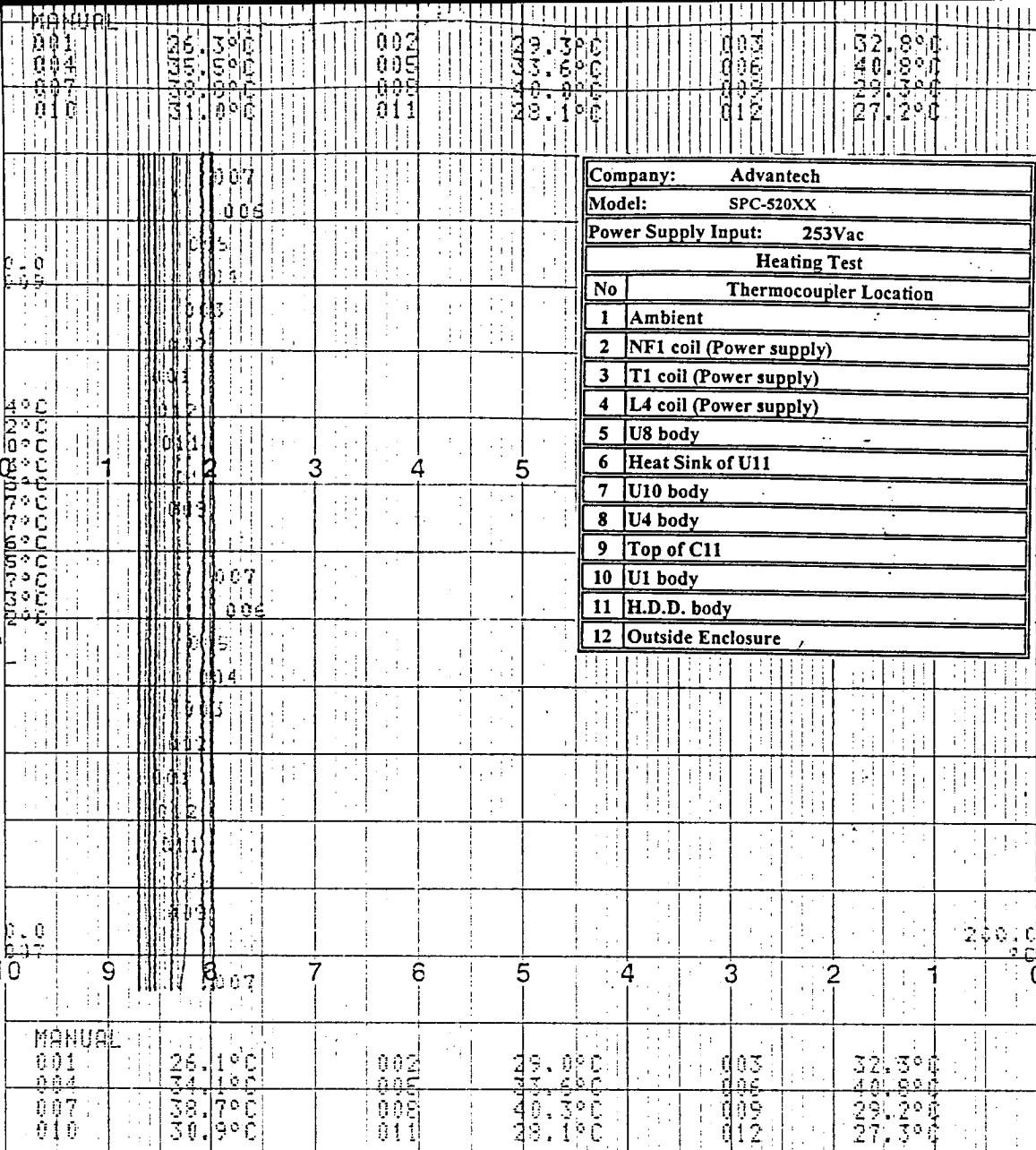
MANUAL										
10	001	9	26.8°C	7	003	59.0°C	4	003	2	33.0°C
	004		34.8°C		005	34.7°C		006		41.7°C
	007		39.5°C		008	41.3°C		009		36.1°C
	010		31.9°C		011	29.3°C		012		28.3°C

Company: Advantech	
Model: SPC-520XX	
Power Supply Input: 103Vac	
Heating Test	
No	Thermocoupler Location
1	Ambient
2	NF1 coil (Power supply)
3	T1 coil (Power supply)
4	L4 coil (Power supply)
5	U8 body
6	Heat Sink of U11
7	U10 body
8	U4 body
9	Top of C11
10	U1 body
11	H.D.D. body
12	Outside Enclosure

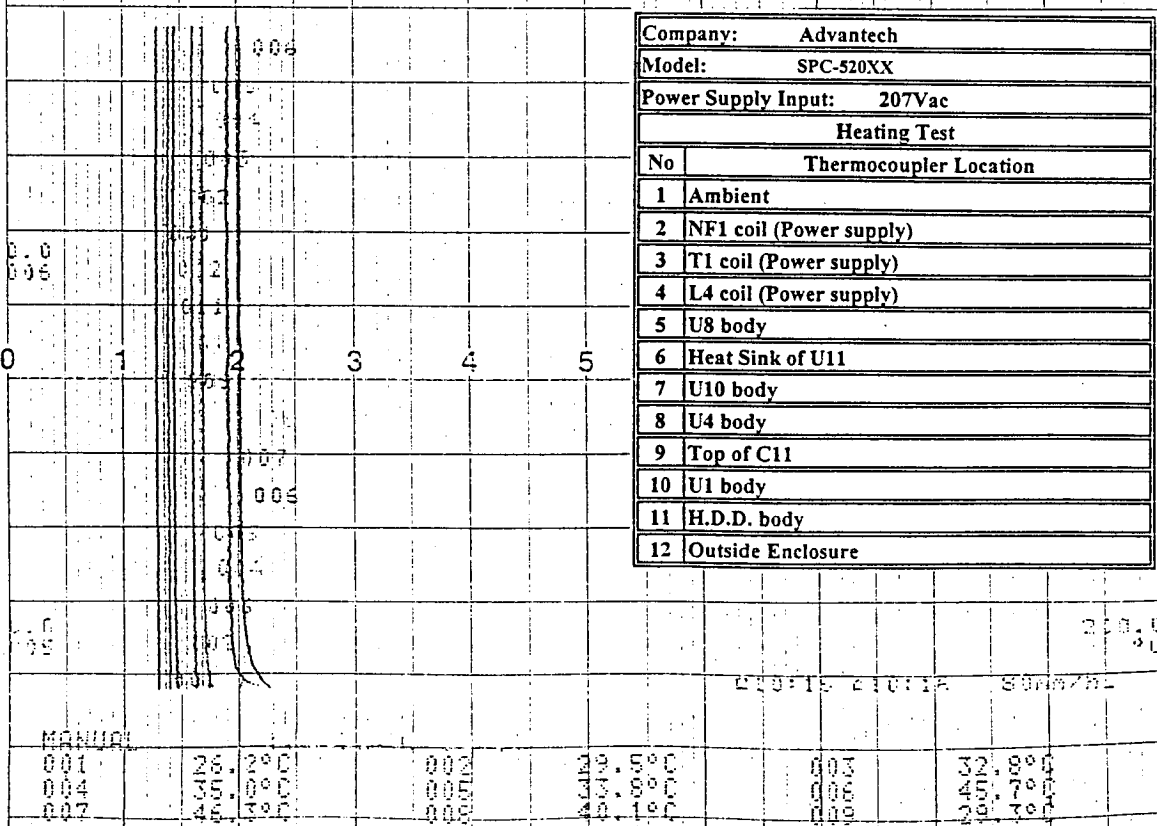
MANUAL		AUTO		AUTO	
001	25.5°C	002	25.3°C	003	25.2°C
004	26.7°C	005	26.1°C	006	31.4°C
007	34.7°C	008	26.7°C	009	26.1°C
010	27.0°C	011	25.0°C	012	25.9°C

0112
0111
0110
0009
0008
0007
0006
0005
0004
0003
0002
0001

80mm/h



Company: Advantech	
Model: SPC-520XX	
Power Supply Input: 253Vac	
Heating Test	
No	Thermocoupler Location
1	Ambient
2	NF1 coil (Power supply)
3	T1 coil (Power supply)
4	L4 coil (Power supply)
5	U8 body
6	Heat Sink of U11
7	U10 body
8	U4 body
9	Top of C11
10	U1 body
11	H.D.D. body
12	Outside Enclosure



Company: Advantech	
Model: SPC-520XX	
Power Supply Input: 207Vac	
Heating Test	
No	Thermocoupler Location
1	Ambient
2	NF1 coil (Power supply)
3	T1 coil (Power supply)
4	L4 coil (Power supply)
5	U8 body
6	Heat Sink of U11
7	U10 body
8	U4 body
9	Top of C11
10	U1 body
11	H.D.D. body
12	Outside Enclosure

4. Test Instrument List

Appendix - Instrument List

The product was evaluated/tested with the SSI laboratory test equipments listed below:

ID						Last	Cal.
<u>Code</u>	<u>Equipment Name</u>	<u>Specification</u>	<u>Manufacturer</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Cal. Date</u>	<u>Due Date</u>
A1	Caliper	8 inch / 20 cm	METR.	ISO-G	n/a	19990512	20000511
A2	Flexible Test Finger Probe		ED&D	TFP-01	n/a	19990429	20010428
A3	Unjointed Finger Probe		ED&D	UFP-01	n/a	19990429	20010428
A4	Impact Test Ball		ED&D	ITB-01	n/a	19990420	20010419
A5	Ball Pressure Apparatus		ED&D	BPT-01	n/a	19990420	20010419
A6	Test Pin Probe		ED&D	TPP-01	n/a	19990420	20010419
A8	Micrometer	0-25 mm			367306	19990817	20000816
A9	Stop Watch				86102411-2	19981202	19991201
A10	Caliper	8 inch / 20 cm	METR.	ISO-G	n/a	19990907	20000906
A12	Caliper	8 inch / 20 cm	METR.	ISO-G	n/a	19990512	20000511
A13	Caliper	6 inch / 15 cm	METR.	ISO-G	n/a	19990512	20000511
B1	DC Power Supply	3A/50V	MRL	TH-009	n/a	n/a	n/a
B2	DC Power Supply	3A/300V	Good Will	GPR-25H30	3041198	n/a	n/a
B3	DC Power Supply	60 KVdc, 5mA	Spellman	RMP60PN300	C13764-009	n/a	n/a
B4	DC Power Supply	3A/50V	MRL	TH-009	n/a	n/a	n/a
B5	DC Power Supply	10A/30V	Hola	3010	n/a	n/a	n/a
C1	Dielectric Tester	5000 V ac/dc	Good Will	GPT-515AD	3060994	19990608	20000607
C2	Dielectric Tester	5000 V ac/dc	Extech	7021	831957	19990713	20000712
C4	Dielectric Tester	5000 V ac/dc	Good Will	GPT-515AD	9080678	19990128	20000127
D1	Digital Multi-Meter	Portable	Appa	96	00116852	19990713	20000712
D2	Digital Multi-Meter	Portable	Appa	96	00219262	19990713	20000712
D3	Digital Multi-Meter	Portable	Appa	101	06500926	19990713	20000712
D4	Digital Multi-Meter	4.5digit	Fluke	8842A	5665271	19990713	20000712
D7	Digital Multi-Meter	Portable	Appa	97	71906249	19981202	19991201
D9	Digital Multi-Meter	portable	Appa	97	71906256	19981202	19991201

ID						Last	Cal.
<u>Code</u>	<u>Equipment Name</u>	<u>Specification</u>	<u>Manufacturer</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Cal. Date</u>	<u>Due Date</u>
E1	Electronic Load	150 Wx1	Kikusui	PLZ150W	28072705	19990111	20000110
E2	Electronic Load	150 Wx1	Kikusui	PLZ150W	28022519	19990608	20000607
E4	Electronic Load	4 channels	Prodigit	MPAL-700	87248	19990608	20000607
E5	Electronic Load	4 channels	Prodigit	MPAL-3311	88354	19990713	20000712
E6	Electronic Load	4 channels	Prodigit	MPAL-3322	91272	19990713	20000712
E7	Electronic Load	4 channels	Prodigit	MPAL-600	87135	19990112	20000111
E8	Electronic Load	4 channels	Prodigit	3301A	70601A026	19990916	20000915
E9	Electronic Load	4 channels	Prodigit	3301A	70601A019	19990916	20000915
E10	Electronic Load	1 channels	Prodigit	3302	710020281	19990916	20000915
E11	Electronic Load	1 channels	Prodigit	3302	710020282	19981202	19991201
E12	Electronic Load	4 channels	Prodigit	3301A	70601A021	19990907	20000906
E13	Electronic Load	4 channels	Prodigit	3301A	71001A030	19981214	19991213
F1	Frequency Converter	500 VA	AC Power	AMP-105W	862014	19990713	20000712
F2	Frequency Converter	500 VA	AC Power	AMP-105W	862032	19990701	20000630
F3	Frequency Converter	500 VA	Extech	CFW-105	821537	19990713	20000712
F4	Frequency Converter	3000 VA	Extech	CFW-130	821676	19990119	20000118
F5	Frequency Converter	1000 VA	Extech	CFW-110	E000054	19990420	20000419
F6	Frequency Converter	1000 VA	Extech	CFW-110	850585	19990420	20000419
F7	Frequency Converter	5000 VA	Extech	CFW-150	E990653	19990917	20000916
F8	Frequency Converter	1000 VA	Extech	CFW-110	E000242	19990907	20000906
F9	Frequency Converter	1000 VA	Extech	CFW-110	E000243	19981202	19991201
F10	Frequency Converter	1000 VA	Extech	CFW-110	E000244	19981202	19991201
G1	Grounding Tester	30 A	Good Will	GCT-630	2110593	19990701	20000630
G3	Grounding Tester	30 A	Extech	5030T	5030DT	19981202	19991201
H1	Humidity Chamber		Kson	THS-C3L-100	612	19990817	20000816
H2	Oven		Shiny	S0-B1-S	P965005	19990817	20000816
H3	Thermo Hygrograph		Isuzu	3-3122	71260637	19990205	20000204
H4	Thermo Hygrograph		Isuzu	3-3122	71260640	19990205	20000204
I1	HV Probe	1000:1, 40 kV	YEW	7511	93AC0104	n/a	n/a
J1	Leakage Current Meter		Yokogawa	3226	67NJ0259	19990608	20000607
J2	Leakage Current Meter		Yokogawa	3226	63NJ0213	19990602	20000601
J3	Leakage Current Meter		Simpson	228	20751	19990907	20000906
J4	Leakage Current Meter		E.D.& D.	LT-601	G07300139	n/a	20000719

ID						Last	Cal.
<u>Code</u>	<u>Equipment Name</u>	<u>Specification</u>	<u>Manufacturer</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Cal. Date</u>	<u>Due Date</u>
K1	Oscilloscope	Portable	Fluke	93	DM5540290	19990701	20000630
K2	Oscilloscope	Storage	Kenwood	CS-5170	4100089	19990701	20000630
K3	Oscilloscope	Storage	Topward	9040	943105	19990608	20000607
K4	Oscilloscope Probe	100:1	Stack	CP-241	n/a	n/a	n/a
K5	Oscilloscope Probe	10:1	Philips	PM-8918	n/a	n/a	n/a
K6	Oscilloscope Probe		Tekfronix	THS730A	B012179	19981202	19991201
M1	Power (V-A-W) Meter		Topward	1301	948874	19990608	20000607
M2	Power (V-A-W) Meter		Topward	1301	967186	19990226	20000225
M3	Power (V-A-W) Meter		Protronix	1201	903253	19990111	20000110
M4	Power (V-A-W) Meter		IDRC	CP-210A	226374	19990717	20000716
N1	Push-Pull Scale	0-50 KG	Imada	FB	411126	19990226	20000225
O1	Radiation Meter		Victoreen	440RF/D	230	19991014	20001013
P1	Signal Generator	10 Hz-1 MHz	TRIO	AG-203	1110019	n/a	n/a
P2	Signal Generator	10 Hz-1 MHz	Good Will	GAG-809	7650938	n/a	n/a
P3	Signal Generator	10 Hz-1 MHz	Good Will	GAG-809	7721631	n/a	n/a
P4	Signal Generator	10 Hz-1 MHz	Good Will	GAG-809	8651048	n/a	n/a
Q1	Temperature Recorder	2 channels	Yokogawa	2455	72JV0027	19990713	20000712
Q2	Temperature Recorder	20 channels	Yokogawa	HR1300	43VH0429	19990608	20000607
Q3	Temperature Recorder	20 channels	Yokogawa	HR1300	43VH0430	19990701	20000630
Q4	Temperature Recorder	30 channels	Yokogawa	388056	49VA0747	19990701	20000630
Q5	Temperature Recorder	20 channels	Yokogawa	DR130	47JE0094	19990511	20000510
Q6	Temperature Recorder	20 channels	Yokogawa	DR130	47JE0184	19990511	20000510
Q7	Temperature Recorder	6 channels	Yokogawa	μR1000	47XE0757	19990925	20000924
Q8	Temperature Recorder	6 channels	Yokogawa	μR1000	47XE0756	19990925	20000924
Q9	Temperature Recorder	20 channels	Yokogawa	DR130	47JE0451	19981202	19991201
Q10	Temperature Recorder	30 channels	Yokogawa	DR230	47JA0286	19991103	20001102
Q11	Temperature Recorder	6 channels	Yokogawa	μR1000	47XE0755	19981127	19991126
Q12	Temperature Recorder	6 channels	Yokogawa	μR1000	47XE0758	19990907	20000906
Q13	Temperature Recorder	20 channels	Yokogawa	DR130	47JE0447	19990907	20000906
Q14	Temperature Recorder	20 channels	Yokogawa	DR130	47JE0449	19981127	19991126
Q15	Temperature Recorder	20 channels	Yokogawa	DR130	7700GE845	19990817	20000816
Q16	Temperature Recorder	20 channels	Yokogawa	DR130	7700GE847	19990817	20000816
R1	Isulation Resistance Meter		Zentech	702A	804586	19981124	19991123
S1	Electrical Steelyard	0-30Kg	Jadever	Lspn-30K	2054403	19990713	20000712

