

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....: Redundant Power IPC

Model Designation IPC-622 Series

Tested According to...: 73/23/EEC
IEC 950:1991 + A1:1992 + A2:1993 + A3:1995
EN 60 950:1992 + A1:1993 + A2:1993 + A3:1995

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.....: October 21, 1997

Issued Agency ..: Safety Services International Inc.
7F, No. 758, Chung-Cheng Road
Chungho City, Taipei Hsien
Taiwan, R. O. C.

Tested by *Michael Shieh*

Michael Shieh / Supervisor

Reviewed by *Wilson Wang*

Wilson Wang / Manager

Approved by *Peter Wang*

Peter Wang / Director



1. Test Report

LOW VOLTAGE DIRECTIVE TEST REPORT**IEC 950 / EN 60 950****Safety of information technology equipment including electrical business equipment**

Report Reference No. : SSI9710141

Compiled by (+ signature) : Michael Shieh
Senior Engineer*Michael Shieh*Reviewed by (+ signature) : Wilson Wang
Engineering ManagerApproved by (+ signature) : Peter S.T. Wang
Director*Peter Wang*

Date of Issue : October 21, 1997

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 950:1991 + A1:1992 + A2:1993 + A3:1995
EN 60 950:1992 + A1:1993 + A2:1993 + A3:1995

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 : Redundant Power IPC

Trademark : N/A

Model/type reference : **IPC-622 Series**Manufacturer : Advantech Co., Ltd.
4F, No. 108-3, Ming Chuan Rd.
Hsin Tien City, Taipei Hsien
Taiwan, R. O. C.

Rating : 115/230 Vac, 6/3 A, 50-60 Hz

Test item particulars:

Equipment mobility: for building-in
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. 21.5 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 - (32 pages)
2. Photos - (15 pages)
3. Bill of Material - (5 pages)
4. Power supply specification - (18 pages)
5. Test records - (5 pages)
6. Test Instrument List - (2 pages)

Brief description of the test sample:

The equipment is a redundant power Industrial Personal Computer, model IPC-622 series provided with a redundant building-in switching power supplys, which is manufactured by Etasis Inc., model EPR-230XH, where the X may be any alphanumeric character or blank, rated input 115 / 230 Vac, 50-60 Hz, 6.0 / 3.0 A; output +5 / -5 / +12 / -12 V dc, 30 / 0.5 / 12 / 0.5 A .

The Industrial Personal Computer were provided with four PC mother card to be installed in the system for maximun normal operation during the test.

The power supply has been evaluated and approved by TÜV-Product Service according to IEC 950 / EN 60950, this report does not cover the evaluation of the power supply since it is considered as an approved component.

The test sample is pre-production without serial number.

1	GENERAL	Pass
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1.5	Components		Pass
1.5.1	Comply with IEC 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	Neutral conductor insulated from earth by basic insulation. 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 50 Hz, all relevant tests specified in this report were done with the range of 103.5-122 V ac at 50 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
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1.7	Marking and instructions		Pass
1.7.1	Rated voltage (V).....	115/230 Vac	Pass
	Rated frequency (Hz)	50-60 Hz	Pass
	Rated current (A).....	6/3 A	Pass
	Manufacturer.....	Advantech Co., Ltd.	Pass
	Trademark.....	ADVANTECH	N.A.
	Type/model	IPC-622 series	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 IEC 417 symbol No. 5019-a marked adjacent to the protective earthing terminal.	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 417.....	The IEC 417 symbols No. 5010 (I inside 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	Rear enclosure/chassis.	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 only SELV circuitry accessible 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.	Control knobs are non-conductive.	Pass

2.1.8	Insulation of conductive handles, knobs etc.	Control knobs are non-conductive.	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	The capacitors are the integral part of the approved power supply.	Pass
	Measured voltage (V).....:		

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	Total 48 hours at 93% relative humidity and 25°C temperature.	Pass
2.2.4	Electric strength	Refer to 2.9, 5.1 and 5.3 for electric strength test result.	Pass
2.2.5	Insulation parameters	Both parameters are considered.	Pass
2.2.6	Categories of insulation	The adequate level of safety insulation is provided and maintained to comply with the requirements of this standard.	Pass
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.....	SELV circuit does not exceed 42.4 V peak or 60 V dc under normal operation or single fault condition. 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 83 or IEC 320 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

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	No switches or fuses provided in earthing conductor.	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 2.5.5 above.	Pass
	Test current (A)	25 A between appliance inlet ground pin and chassis, measured resistance 30 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.	Pass
2.6.9	Installation instructions	Refer to 1.7.2 and 2.6.1 above.	Pass
	Language	English.	—
2.6.11	Disconnection of group of units		N.A.
2.6.12	Marking at each disconnect device	Only one supply connection provided.	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.
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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	Refer to appended table 2.9 below.	Pass
2.9.3	Creepage distances	Refer to appended table 2.9 below.	Pass
	CTI tests.....	The CTI rating is considered min. 100 (Group IIIb) for all insulation materials.	—
2.9.4.1	Distances through insulation	All supplementary and/or reinforced insulation have min. distance through insulation of 0.4 mm. Refer to appended table 2.9.4 below.	Pass
2.9.4.2	Thin sheet material	The evaluation of the thin sheet material have already done on the approved power supply.	Pass
	Number of layers/pieces.....	3 layers.	—
	Electrical strength test (V)	3000 Vac.	Pass
2.9.4.3	Printed boards	Refer to 2.9.2 above.	Pass
	Distance (mm) through insulation	The insulation is 1.6 mm thick.	Pass
	Electric strength test at voltage (V) for thin sheet insulating material.....	Refer to 2.9.2 above.	N.A.
	Number of layers/pieces.....	Refer to 2.9.2 above.	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		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	Photocouplers are IEC approved components. No potted components provided.	Pass
2.9.8	Spacings between external terminations of components		N.A.

2.10	Connection to other equipment		N.A.
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.	N.A.
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)	Only protective earthing wire is coloured green/yellow.	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	Metal screw with a metal nut and star washer is used for protective earthing terminal, secured at least two complete threads into the metal grounding stud.	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 320, 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 VDE approved according to IEC 227, PVC insulated, type H05VV-5, cross-section area min 0.75 mm ² . Refer to appended table 1.5.1 below.	Pass
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 unit is neither permanent connected equipment nor provided with ordinary power supply cord.	N.A.

3.3	Wiring terminals for external power supply conductors		Pass
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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	Refer to 3.3.2 above.	N.A.
3.3.5	Connection of connectors	Refer to 3.2.4 above.	Pass
3.3.6	Size of terminals	Ground stud is provided with washer for grounding terminal.	Pass
	Nominal thread diameter (mm).....	3.5 mm for primary power supply conductor terminal screws. 4.0 mm for grounding screw. 3.5 mm for grounding stud.	—
3.3.7	Protection against damage of conductors	The ring terminal is properly clamped to the grounding wire conductor. The terminal is unlikely to damage the conductor, or become work.	Pass
3.3.8	Terminal location	No ordinary non-detachable power supply cord provided.	N.A.
3.3.9	Test with 8 mm stranded wire	The grounding terminal is connected directly to metal chassis, the 8 mm free wire can only touch with grounded chassis.	Pass

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 unit is a built-in type equipment.	N.A.
	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
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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	A 500 g steel sphere ball was felt freely from 1.3 m onto horizontal surface of the outer enclosure.	Pass
	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 not a hand-held or direct plug-in 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	After the tests of 4.2.2 to 4.2.6, the sample comply with the requirements of 2.1.2, 2.1, 2.5.1, 2.5.2, 2.9, 3.2.5, 4.1.2 and 6.2.2.	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 manual adjustment of accessible control device would cause a hazard.	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		N.A.
	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 terminal is provided with star washer.	Pass
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	Not located within 5° projection or below bare live parts or fire hazardous components.	N.A.
	Dimensions	2 row of 14 opening each size 3 mm by 20 mm, covering an area 108 mm by 45 mm.	—
4.3.17	Interchangeable plugs and sockets	Mismating is prevented by polarized plugs and/or sockets.	Pass
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:		N.A.
	a) temperature (°C) for 1 h b) temperature (°C) for 4 h c) temperature (°C) over 8 h		
	Day 9 / 23 / 58:		N.A.
	a) relative humidity (%) for 72 h b) temperature (°C) for 1 h c) temperature (°C) for 4 h d) temperature (°C) over 8 h		
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. The front panel is considered decorative parts, rated HB or better.	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	The air filter assembly is rated min HBF or better.	Pass
4.4.4	Flammability of outer enclosures and decorative parts	Refer to 4.4.3.2 above.	N.A.
4.4.5.1	Components which require fire enclosure	The fire enclosure is required since the equipment contains transformers, inductors, semiconductor devices, resistors, and capacitors.	Pass
4.4.6	Fire enclosure construction	There is no openings in enclosure bottom.	Pass
4.4.7	Doors and covers	The door or cover is considered decorative parts.	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.

5.2	Earth leakage current	Pass
5.2.2	Leakage current	Earth leakage current was measured from primary to accessible conductive parts.
	Test voltage (V).....	230 V ac, 50 Hz
	Measured current (mA).....	3.1 mA (line to chassis), 3.1 mA (neutral to chassis) @ switch on got maximum.
	Max. allowed current (mA).....	3.5 mA
5.2.4	Three-phase equipment	The equipment is single phase unit.
	Test voltage (V).....	—

	Measured current (mA).....:		—
	Max. allowed current (mA).....:		—
5.2.5	Equipment with earth leakage current exceeding 3.5 mA	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 by TUV-Rheinland.	N.A.
5.4.4	Compliance of operational insulation		Pass
	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	Faults in primary and secondary components and operational insulation were already considered during the approval evaluation of the power supply. No other abnormal tests are considered necessary.	N.A.
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.	No thermostats or temperature limiters are used inside the equipment.	N.A.
5.4.9	Compliance		N.A.
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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6.2	TNV circuits and protection against electric shock		N.A.
6.2.1.1	Limits of the TNV circuits		N.A.
6.2.1.1 a	continuous voltages		N.A.
6.2.1.1 b	telephone ringing signals		N.A.
6.2.1.1 c	telegraph or teletypewriter signals		N.A.
6.2.1.2	Insulation between TNV circuits and unearthed operator-accessible conductive parts.....		N.A.
	Insulation between TNV circuits and unearthed SELV circuits.....		N.A.
	Voltages on accessible parts in the event of a single insulation fault or component failure.....		N.A.
6.2.1.3	TNV circuit connected to an SELV circuit that has one pole connected to earth.....		N.A.
6.2.1.4	TNV circuit separated from circuits at hazardous voltages		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 TNV circuits		N.A.
6.2.2.2	Battery compartment		N.A.

6.3	Protection of telecommunication network service personnel, and other users of 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	Particular requirements for pluggable equipment type A		N.A.
	Insulation between TNV circuit and circuitry that may be earthed		N.A.

6.4	Protection of the equipment user from voltages on the telecommunication network		N.A.
6.4.2.1	Impulse test: separation between telecommunication network conductors and:		N.A.
6.4.2.1 a	unearthed conductive parts/non-conductive parts of the equipment which are 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; 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 telecommunication network conductors and:		N.A.

6.4.2.2 a	unearthed conductive parts/non-conductive parts of the equipment which are 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; 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		N.A.

A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N.A.
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		Pass
	Position.....:		—
	Manufacturer.....:		—
	Type.....:		—
	Rated values.....:		—
	Temperatures	Refer to appended table 5.4 below for fault condition test result.	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.....:	The windings and wires for external connections are properly fixed in place by fiber glass tape, the displacement of windings and wires are not likely to happen.	Pass
	Retaining of end turns of all windings	Windings isolated from each other by placing them on separate limbs of the core with spool.	Pass
	Earthing test at 25 A	No earthed screen provided.	N.A.
C.3	Electric strength test	Refer to appended table 5.3 below for electric strength test result.	Pass

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		
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U	ANNEX U, INSULATED WINDING WIRES FOR USE AS MULTIPLE PLAYER 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⁾	
Redundant Power Supply	Etasis	EPR-230XH	i/p: 115/230 Vac 6/3 A o/p: +5 V/30 A, +12 V/12 A, -5 V/0.5 A, -12 V/0.5 A	TÜV, UL, CSA	
Rocker Switch	Arcoelectric	C1250AP	250 Vac, 6 A	VDE, FI, S, D, N	
Module Switch	Taiway	M10 series	12 Vdc, 30 mA	UL	
FDD	Teac	FD-235HF	3.5"	TÜV, UL, CSA	
HDD	Conner	CFS425A	3.5"	TÜV, UL, CSA	
DC fan	Delta/Solomen	DFB0912H	12 Vdc, 92x92x25 mm 49.79 CFM	UL, CSA, VDE	
DC fan	Symtek	AD0912HB	12 Vdc, 92x92x25 mm 48.4 CFM	UL, CSA, VDE	
DC fan	Adda	AD1212HB	12 Vdc	UL, CSA, VDE	

PWB	Orient First Industry	--	94V-0 max. 130°C	UL
PCB terminal block strip	Wango Kontakttechnik GmbH	Series 256	380 Vac	VDE, UL
* Additional testing and evaluation may be required based on auditing agency's discretion.				

1.6	TABLE: electrical data (in normal conditions)						Pass
Power #	I _{rated} (A)	U (V)	P (W)	I (mA)	I _{base} (mA)	condition/status	
-	6	103.5	105.3	1.668	1.668	Maximun Normal operation.	
-	6	115	107.3	1.567	1.567	Same as above.	
-	6	122	109.7	1.513	1.513	Same as above.	
-	3	207	104.1	0.940	0.940	Same as above.	
-	2	230	106.4	0.884	0.884	Same as above.	
-	2	253	108.8	0.841	0.841	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)	

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).....:	103.5 Vac (115 V - 10%) 122 Vac (115 V + 6%) 207 Vac (230 V - 10%) 253 Vac (230 V + 10%)		—
	t1 (°C)			—
	t2 (°C)			—

temperature rise dT of part/at:		max temperature (°K)		required dT (°K)		
1. Ambient		24.9/24.925.1/24.7		-		
Power Supply						
2. T1 coil (power 1)		4.8/4.9/3.8/4.6		65		
3. T1 core (power 1)		5.0/5.14.2/4.9		65		
4. T1 coil (power 2)		4.9/5.4/4.1/5.1		65		
5. T1 core (power 2)		5.6/5.8/4.7/5.6		65		
Mother card PCA-6155 (Pentium)						
6. Heatsink of CPU		5.6/5.6/4.6/4.9		-		
7. Bat.1 body		3.4/3.3/2.5/2.9		-		
8. Heatsink of LT1084		7.4/7.4/6.9/7.2		-		
Mother card PCA-6148 (DX4-100)						
9. PWB under CPU		5.3/5.3/4.6/4.9		-		
10. BAT1 body		1.7/1.7/1.0/1.4		-		
11. Heatsink of Q2		8.9/7.9/7.6/7.8		-		
Mother card PCA-6144S (DX-33)						
12. Heatsink of CPU		16.6/20.3/17.3/17.7		-		
13. BAT1 body		10.3/9.6/9.6/10.1		-		
14. PWB under Q1		19.2/18.6/19.9/20.3		-		
Mother card PCA-6144S (DX4-100)						
15. PWB under CPU		14.7/14.4/13.2/13.5		-		
16. BAT1 body		10.4/10.4/8.6/9.0		-		
17. Heatsink of Q1		19.9/20.2/18.8/19.2		-		
18. HDD body		6.9/7.4/5.6/6.5		-		
19. FDD body		0.5/1.1/0.1/0.2		-		
20 Enclosure outside		0.2/0.9/0.1/0.2		-		
temperature rise dT of winding:		R1 (Ω)	R2 (Ω)	dT (°K)	required dT (°K)	insulation class
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
Transformer primary windings to secondary windings	4242 Vdc	No

Transformer primary winding to core	2121 Vdc	No
Transformer secondary winding to core	2121 Vdc	No

5.4	TABLE: fault condition tests						Pass
	ambient temperature (°C)..... :	25.5					—
	model/type of power supply..... :	EPR-230XH					—
	manufacturer of power supply..... :	Etasis					—
	rated markings of power supply..... :	i/p: 230 Vac					—
No.	component No.	fault	test voltage (V)	test time	fuse No.	fuse current (A)	result
	Enclosure	blocked	230	36 min		0.884	Nothing happened, no hazard. Heatsink of CPU got max. temperature and stabilized at 45.0°C from some of thermocouple location.
supplementary information							
oc: open circuited sc: short circuited							

	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 text is added to the equipment.	N.A.
	(DE) "For IEC 950 only"	The text is added to the equipment.	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>	The separation between the mains and a SELV terminal is not relies upon connection to the safety earth.	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>	The supply cords are delivered with the plug.	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 	The power supply cords will be provided with a label with the specified characters when shipped to Great Britain.	Pass
1.7.5	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	The socket-out is VDE approved.	Pass
	D (DK): Class II appliances shall not be fitted with socket-outlets for providing power to other appliances I	The equipment is not a Class II appliance.	Pass
1.7.11	C: replace "2.7.2" by "2.7"	Replaced.	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>	The equipment is not a technical labour equipment.	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	Not replaceable 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 does not contain mercury or cadmium exceeding 0.025% by weight.	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 U_{oc} 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>	Refer to 2.11 above.	Pass
	<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 	The power supply incorporate an isolating transformer, and the open circuit voltage is not exceed 42.4 V dc, and maximum current drawn for more than two minutes does not exceed 0.2 A. Refer to 2.11 above.	Pass

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 supply cords is VDE provided.	Pass
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>	Replaced. The power supply cord is polyvinyl chloride insulated type.	Pass
	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 power supply cord is rated less than 10 A.	Pass
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 $\mu\text{Sv/h}$ 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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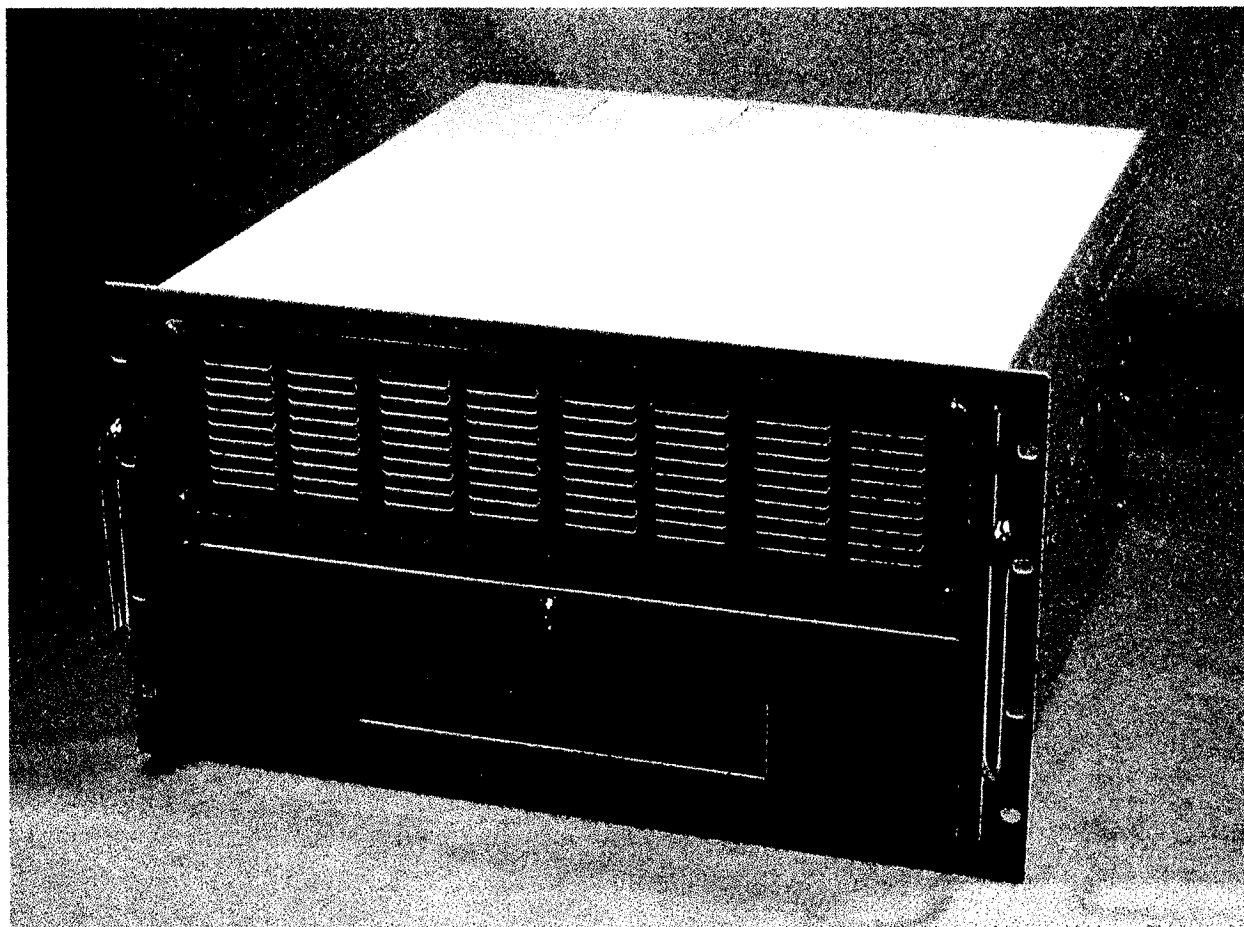
Annex Q	<p>C:</p> <p>Add for IEC 529:</p> <p>NOTE: Endorsed by EN 60 529:1991 (not modified)</p> <p>Add for IEC 707:</p> <p>NOTE: Endorsed by HD 441:1983 (not modified)</p> <p>Add for IEC 1058-1:</p> <p>NOTE: Endorsed by EN 61 058-1:1992 (not modified)</p>	Wordings added.	N.A.
	<p>F (NO): compliance 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>	<p>The equipment comply with EN 55 022 class A limits.</p>	Pass

2. Photos

Appendix - Photo

1. Front View

Model: IPC-622 Series

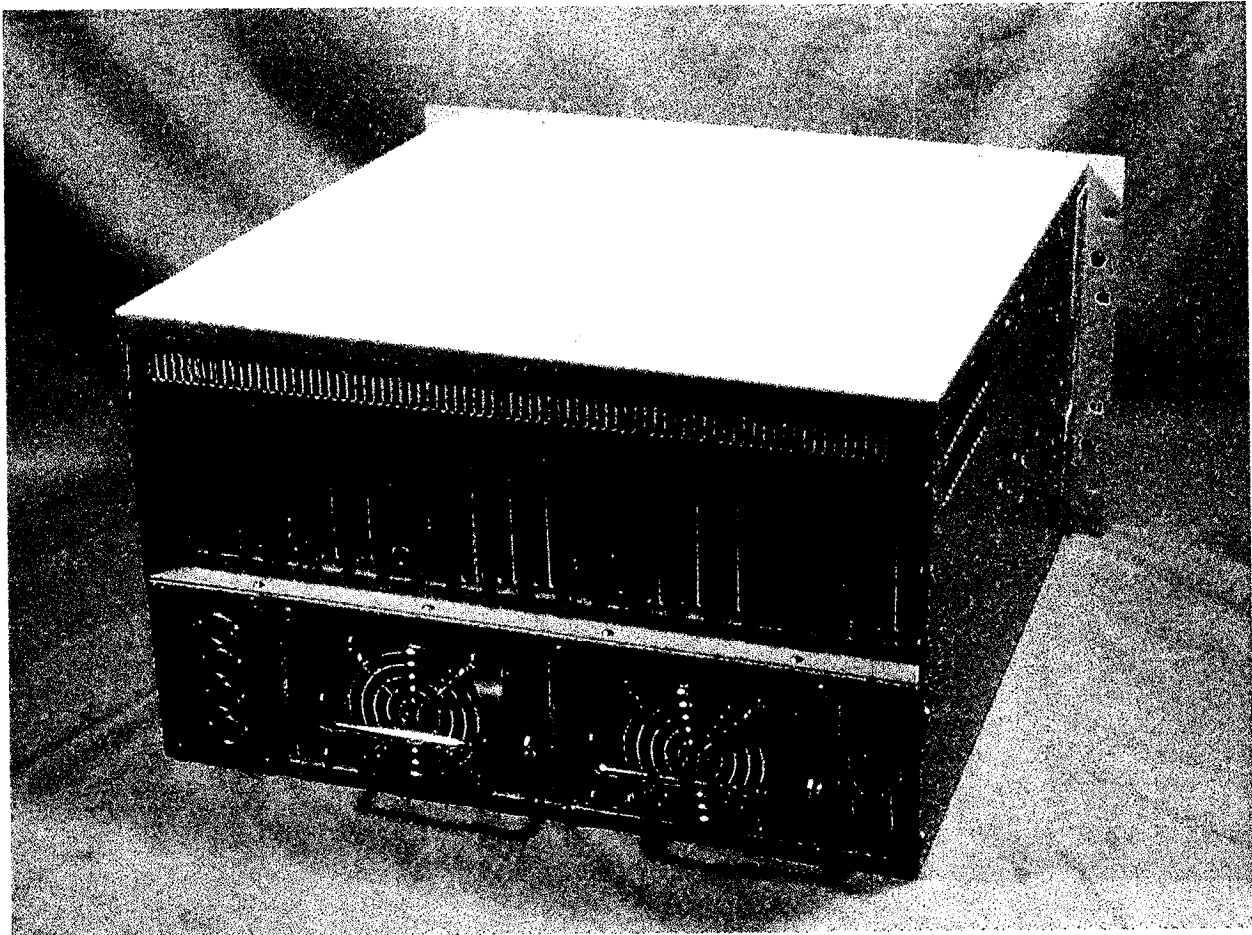


IPC-622 Series

Appendix - Photo

2. Rear View

Model: IPC-622 Series

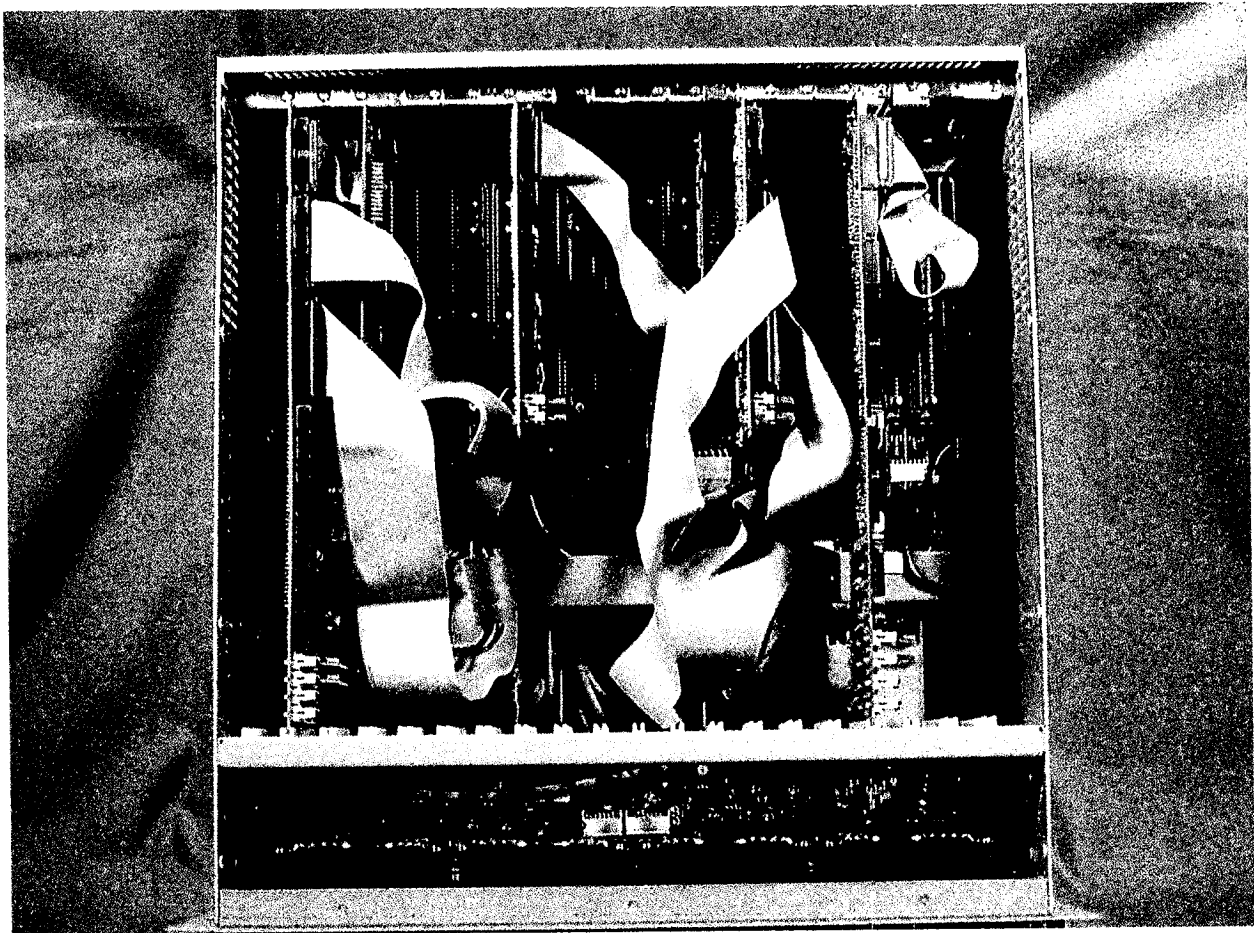


IPC-622 Series

Appendix - Photo

3. Inside View

Model: IPC-622 Series

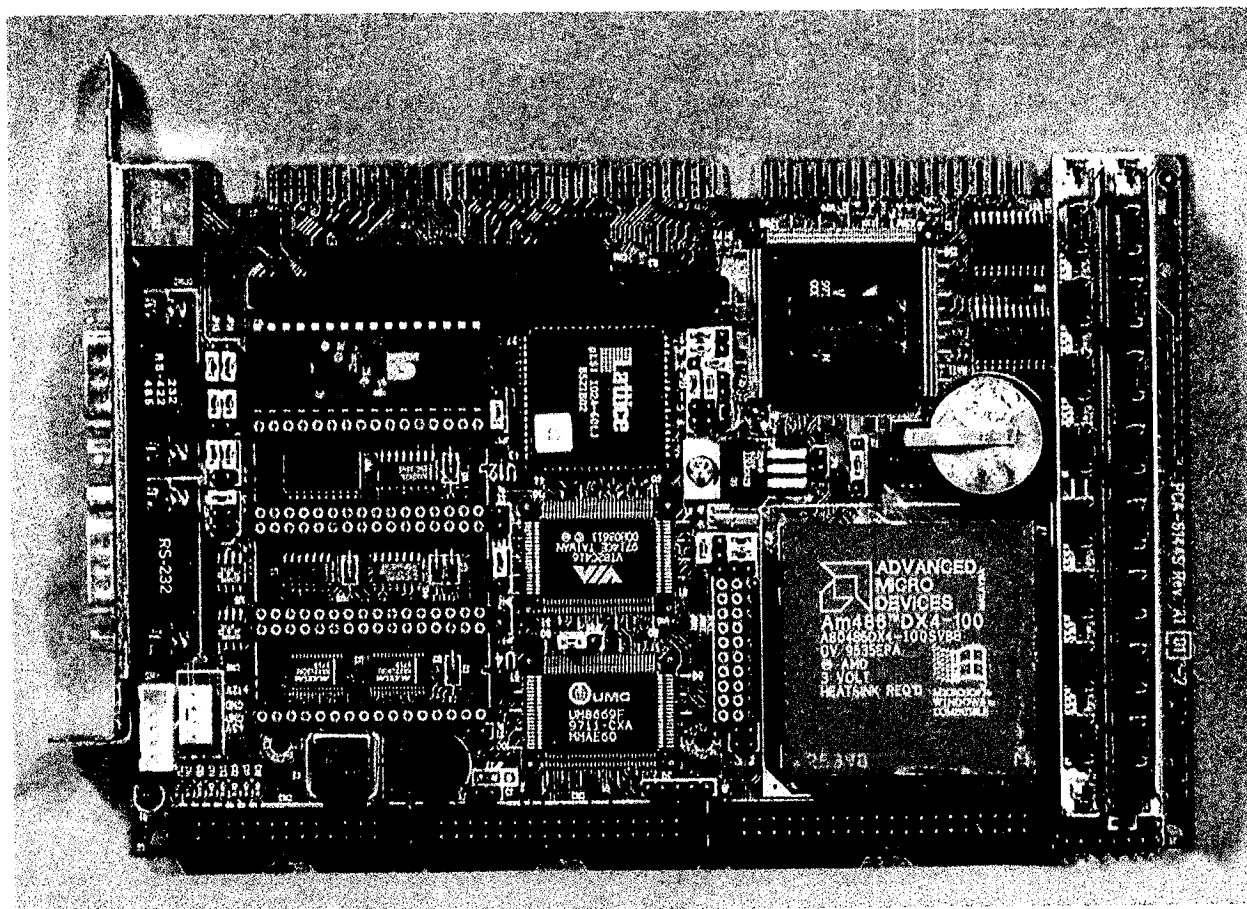


IPC-622 Series

Appendix - Photo

4. Main Board (Top View) 1

Model: IPC-622 Series

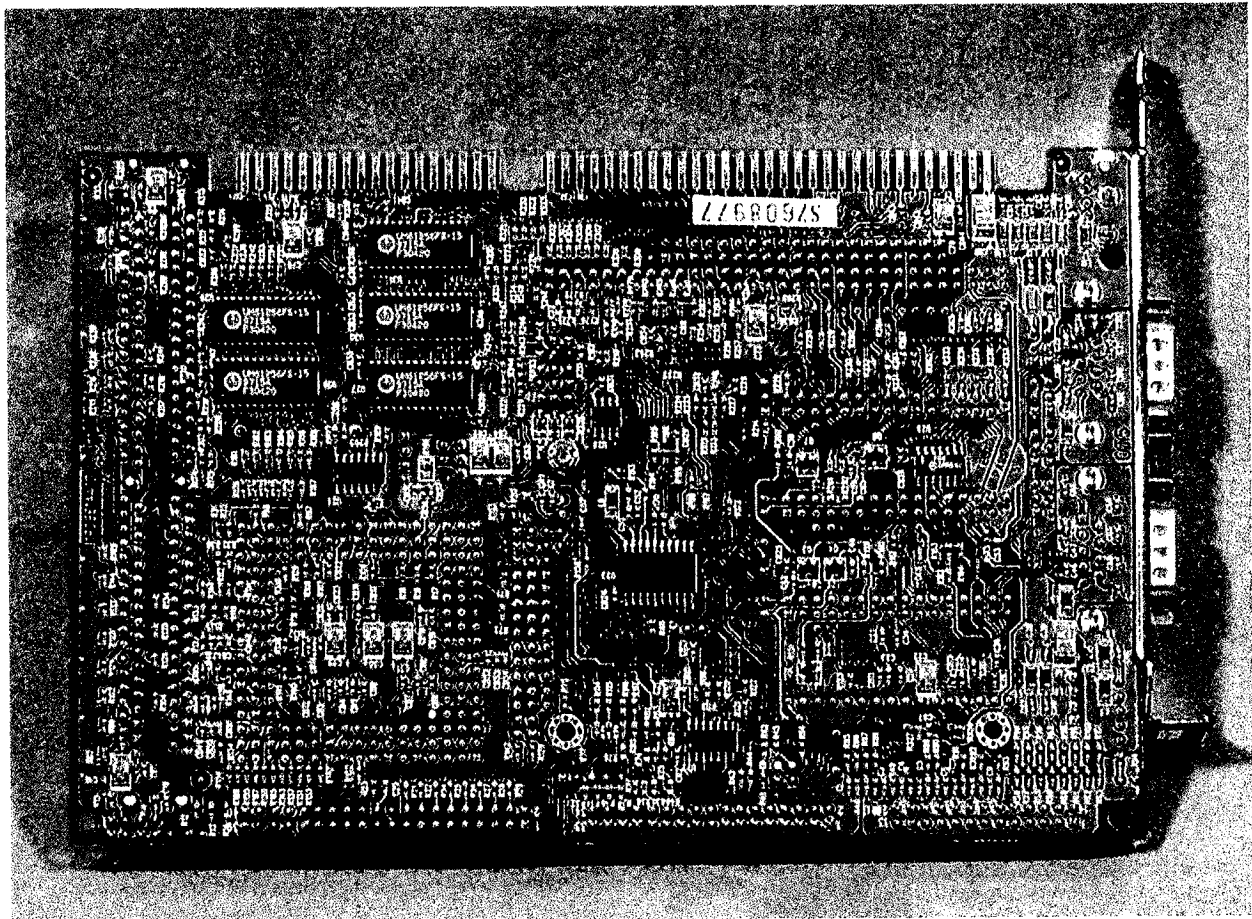


IPC-622 Series

Appendix - Photo

5. Main Board (Bottom View) 1

Model: IPC-622 Series

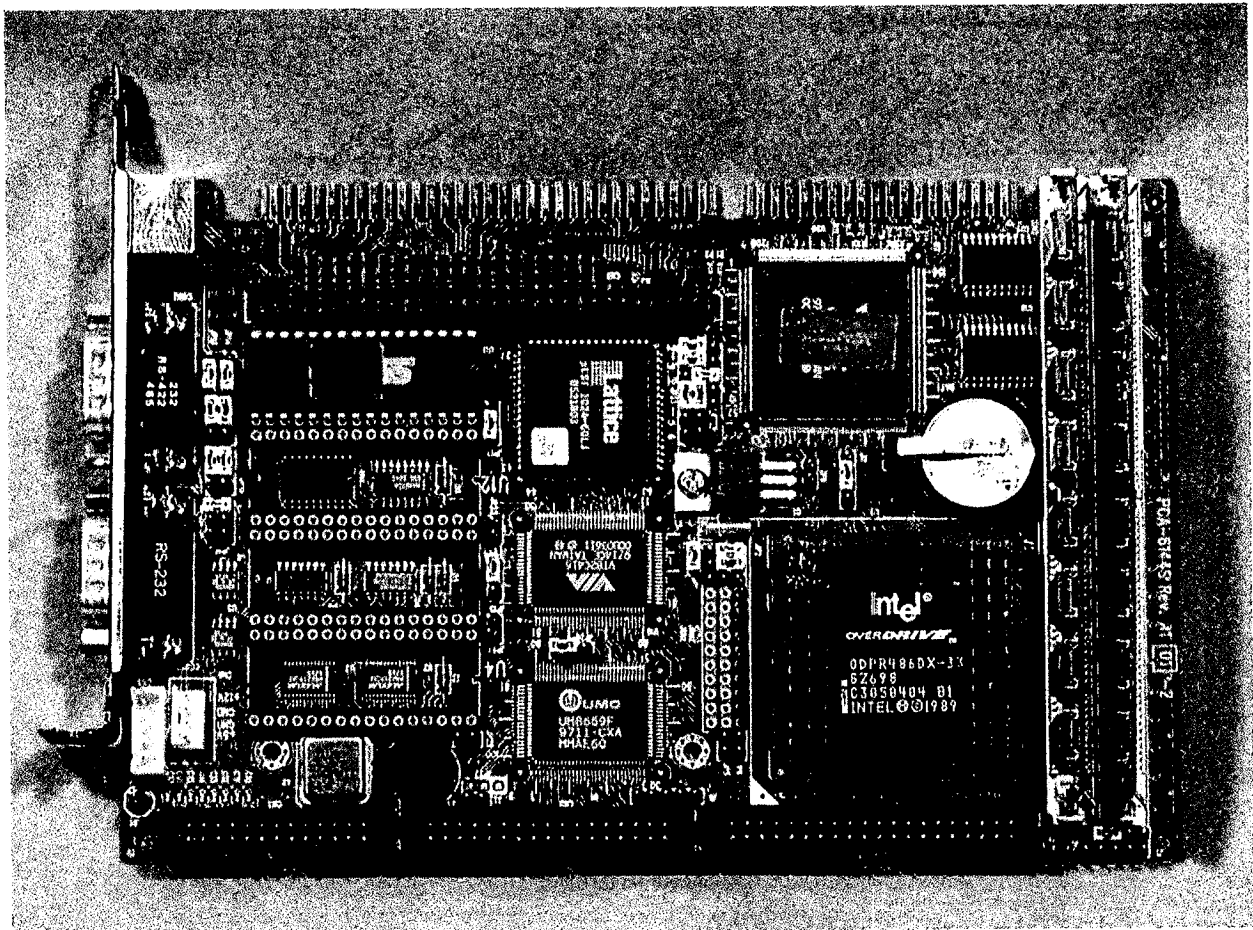


IPC-622 Series

Appendix - Photo

6. Main Board (Top View) 2

Model: IPC-622 Series

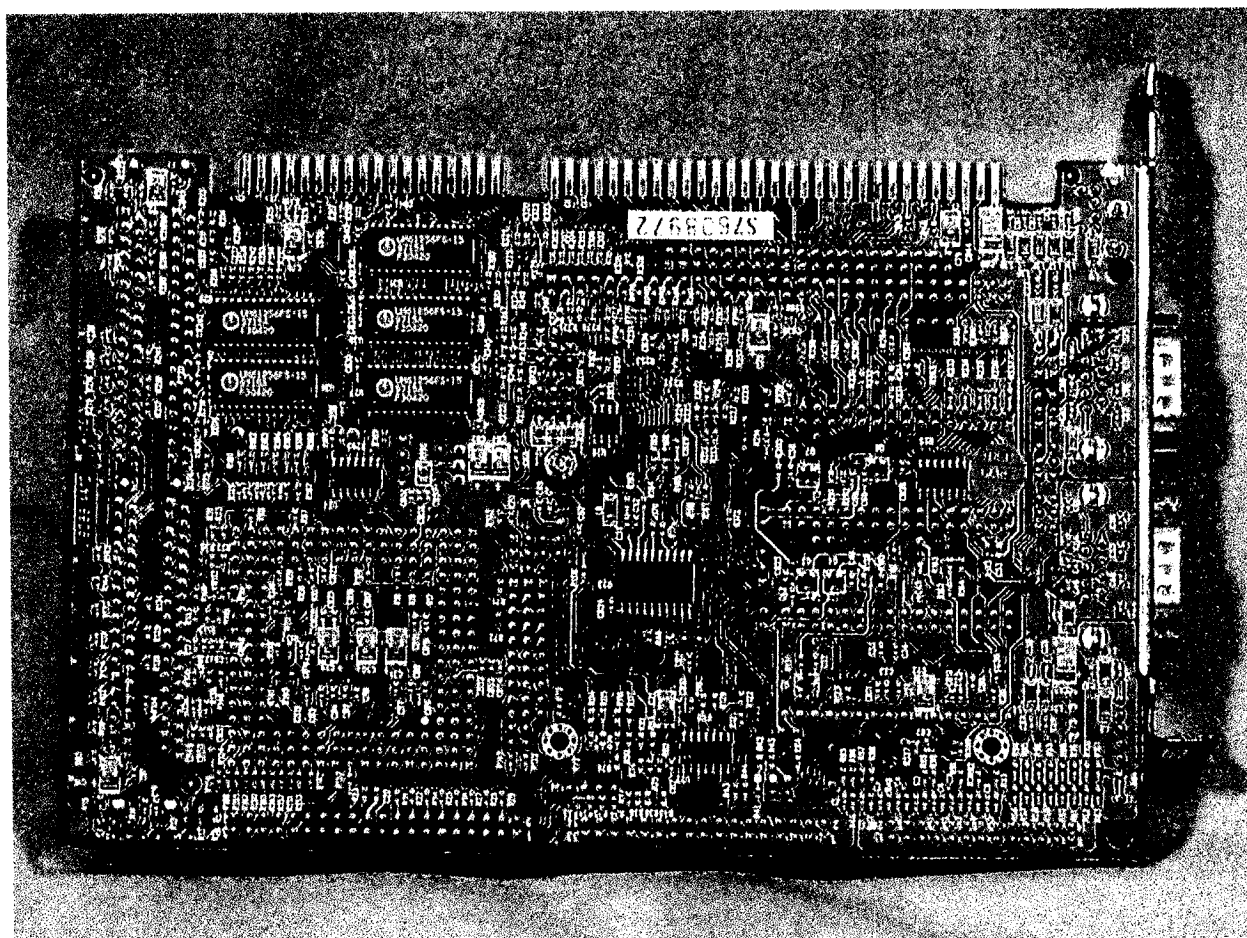


IPC-622 Series

Appendix - Photo

7. Main Board (Bottom View) 2

Model: IPC-622 Series

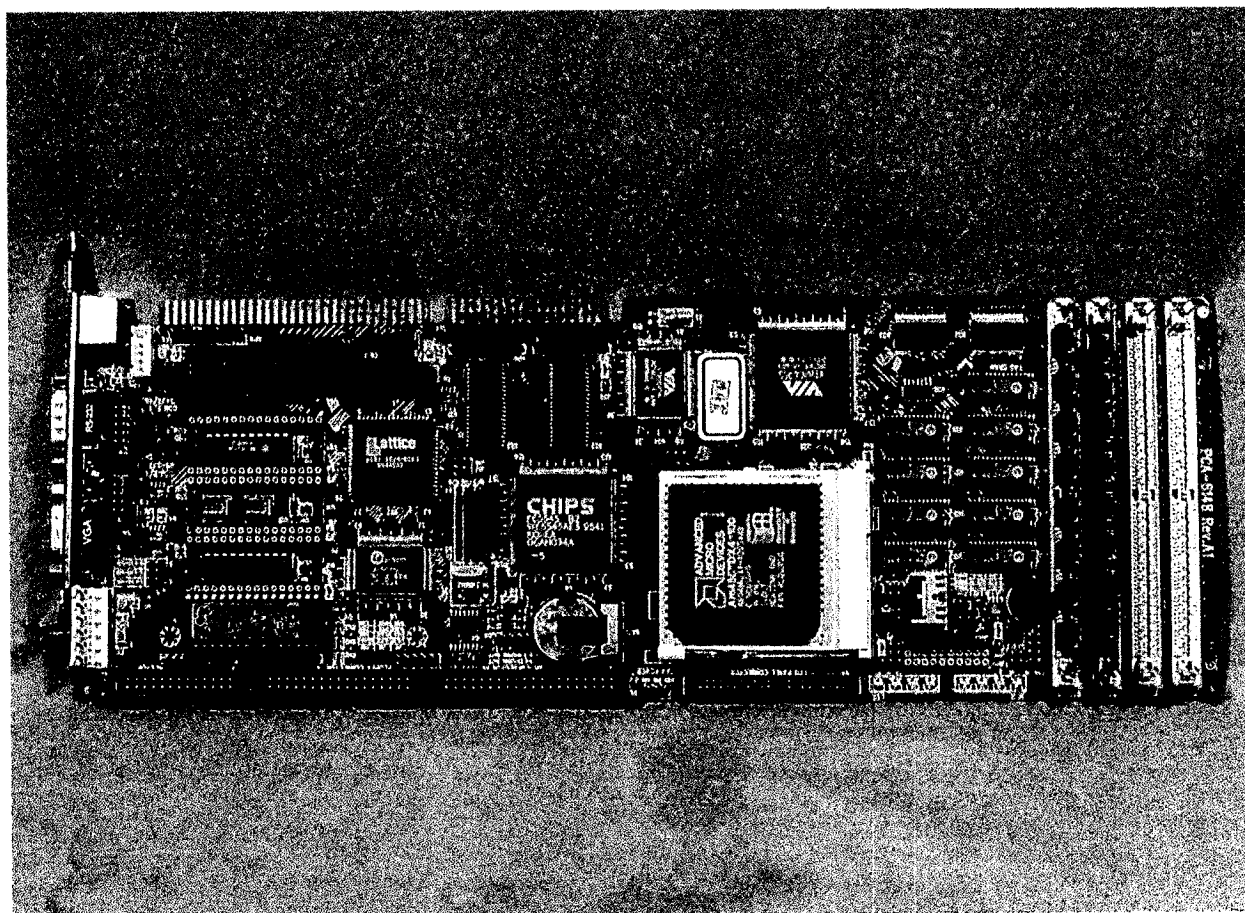


IPC-622 Series

Appendix - Photo

8. Main Board (Top View) 3

Model: IPC-622 Series

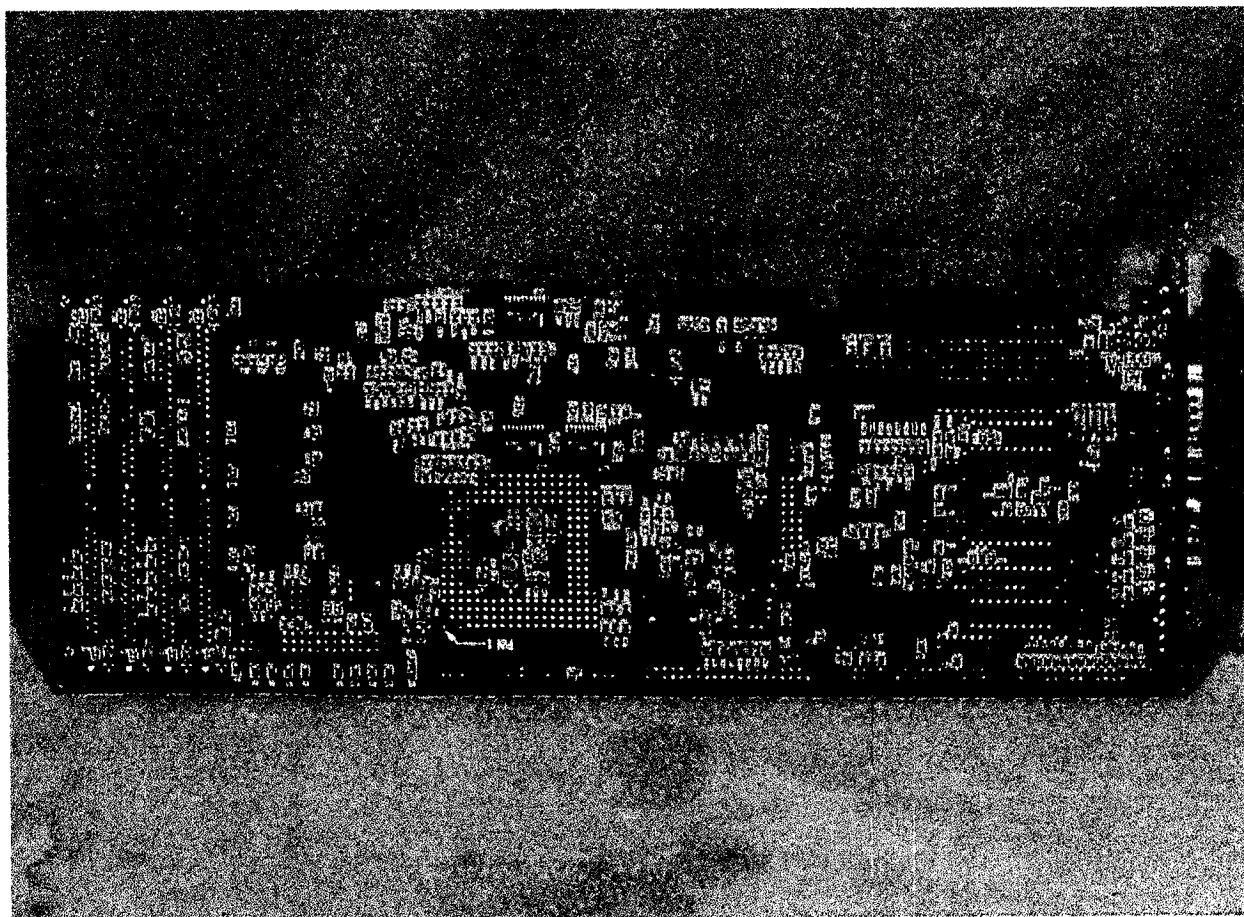


IPC-622 Series

Appendix - Photo

9. Main Board (Bottom View) 3

Model: IPC-622 Series

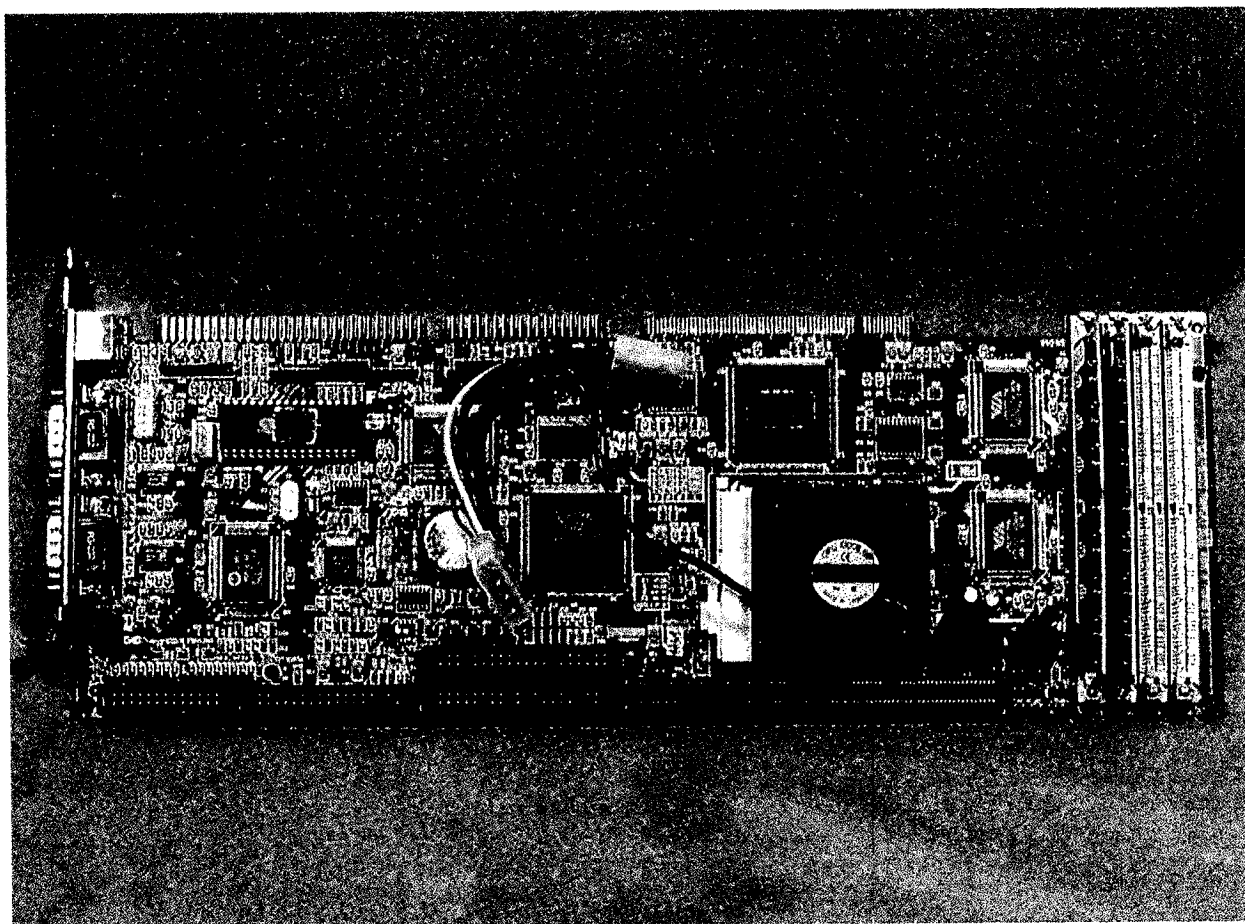


IPC-622 Series

Appendix - Photo

10. Main Board (Top View) 4

Model: IPC-622 Series

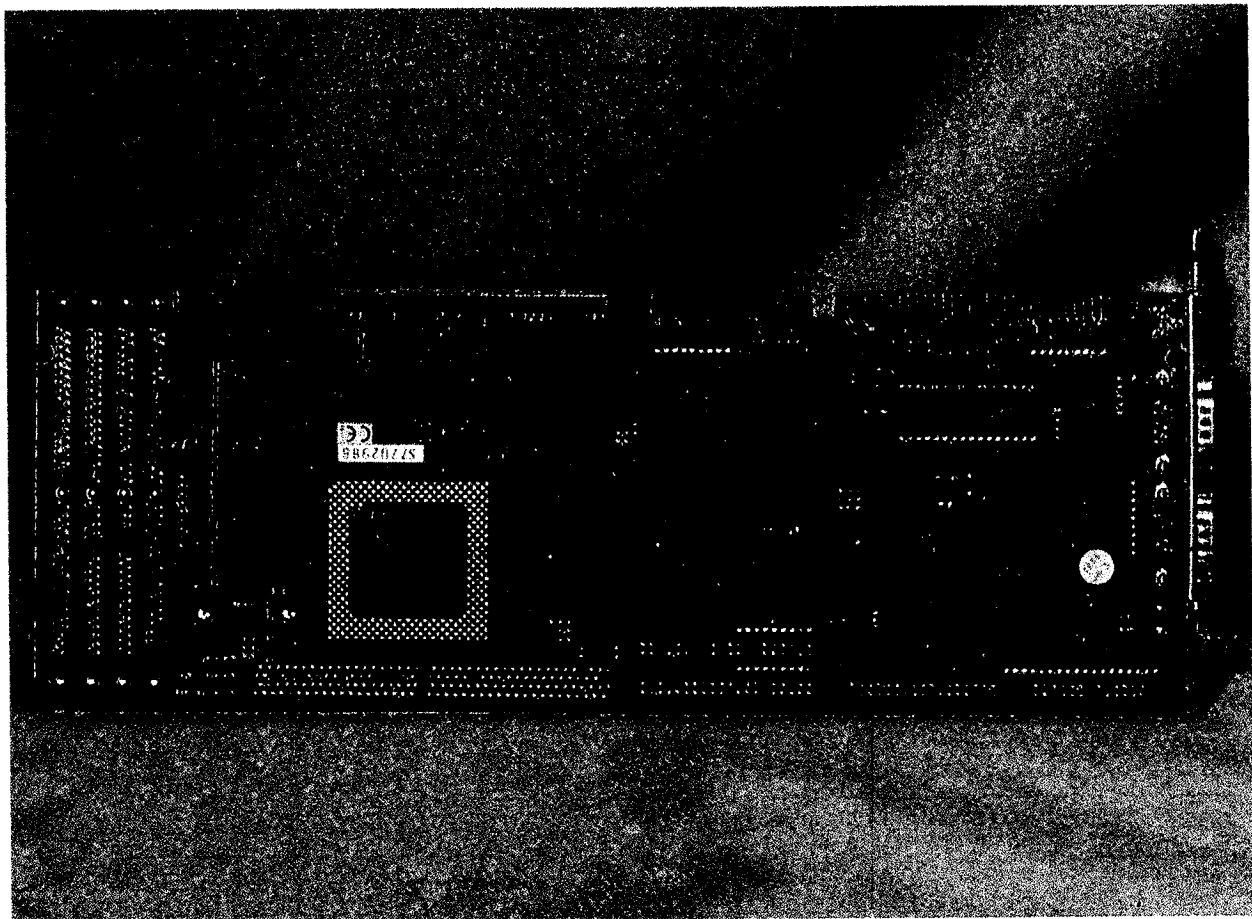


IPC-622 Series

Appendix - Photo

11. Main Board (Bottom View) 4

Model: IPC-622 Series

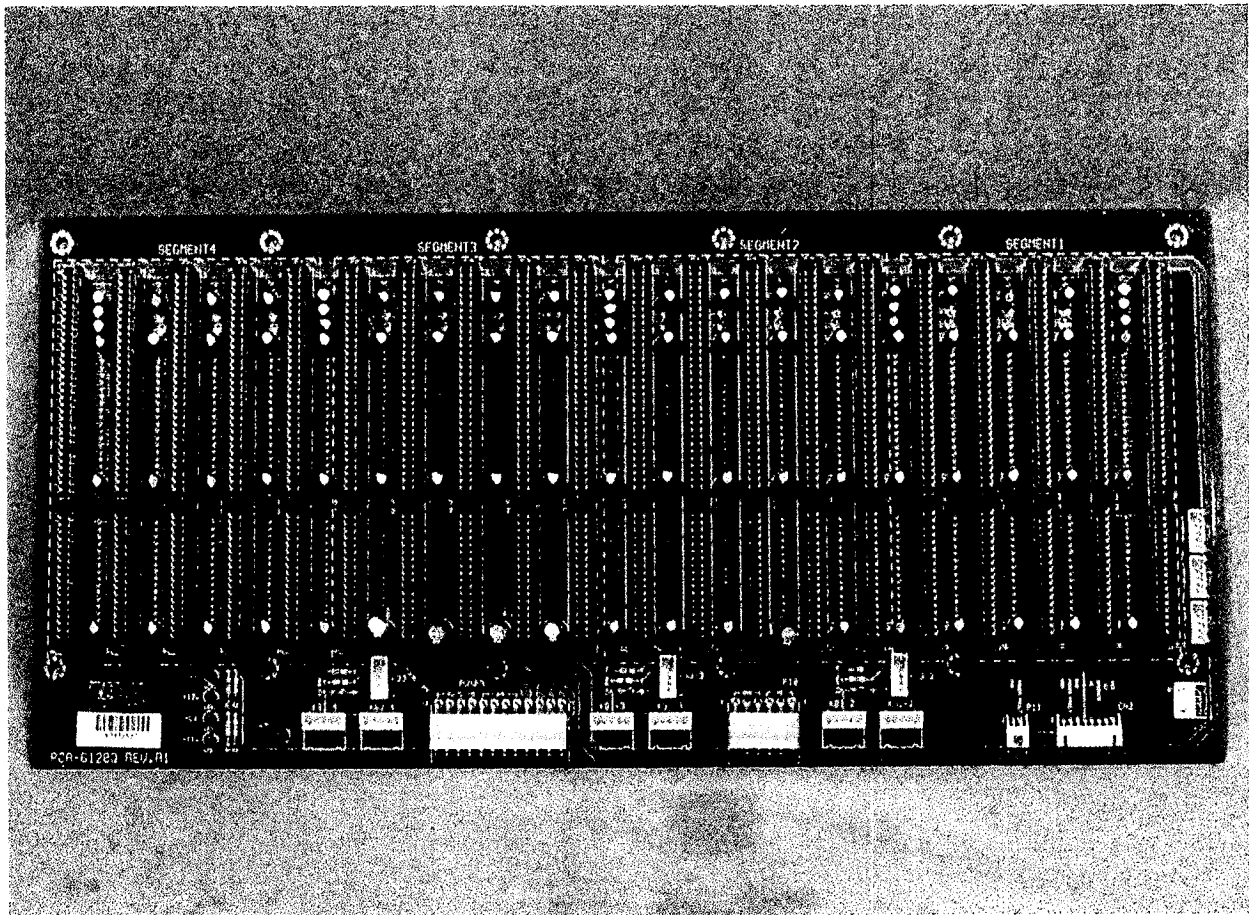


IPC-622 Series

Appendix - Photo

12. Main Board (Top View) 5

Model: IPC-622 Series

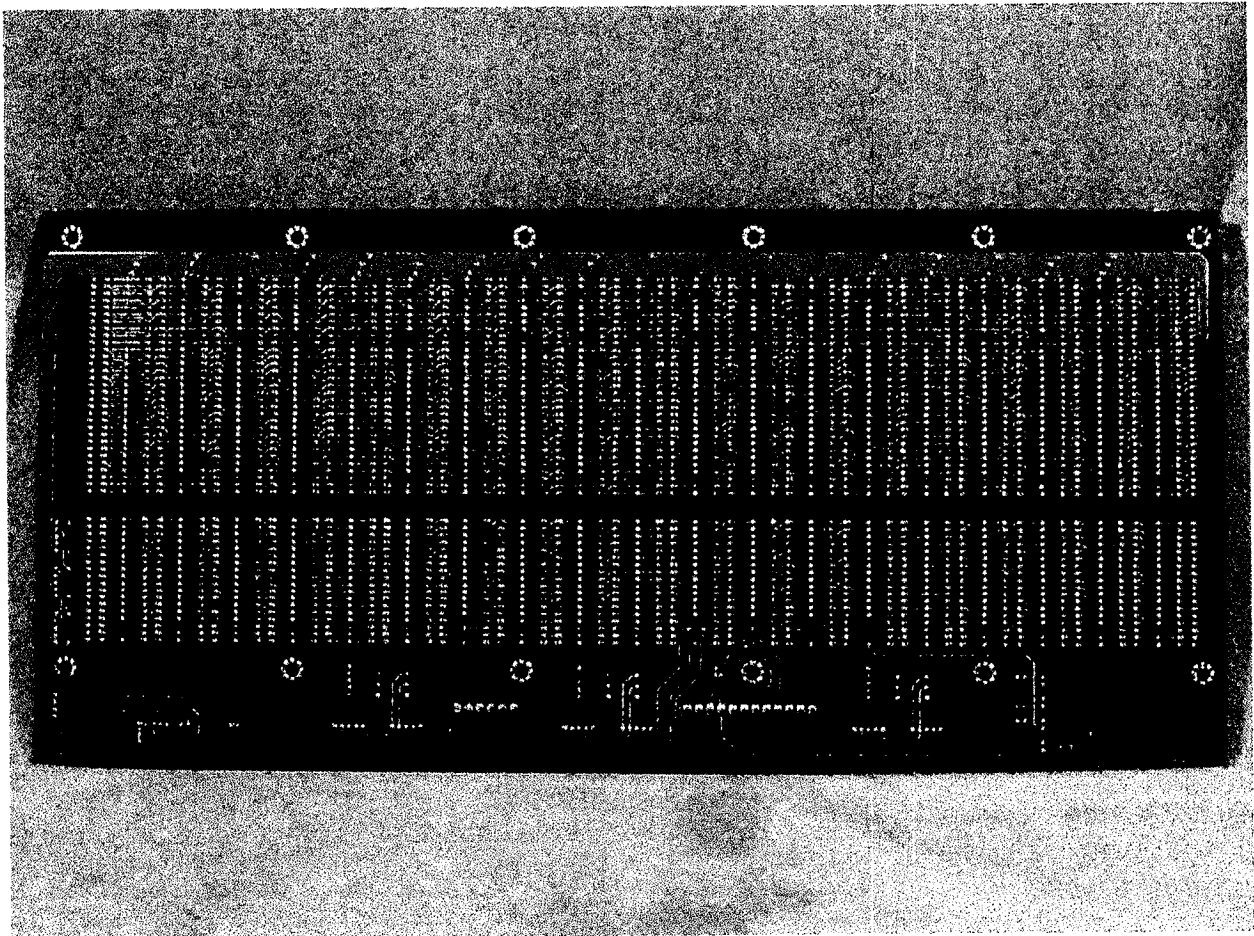


IPC-622 Series

Appendix - Photo

13. Main Board (Bottom View) 5

Model: IPC-622 Series

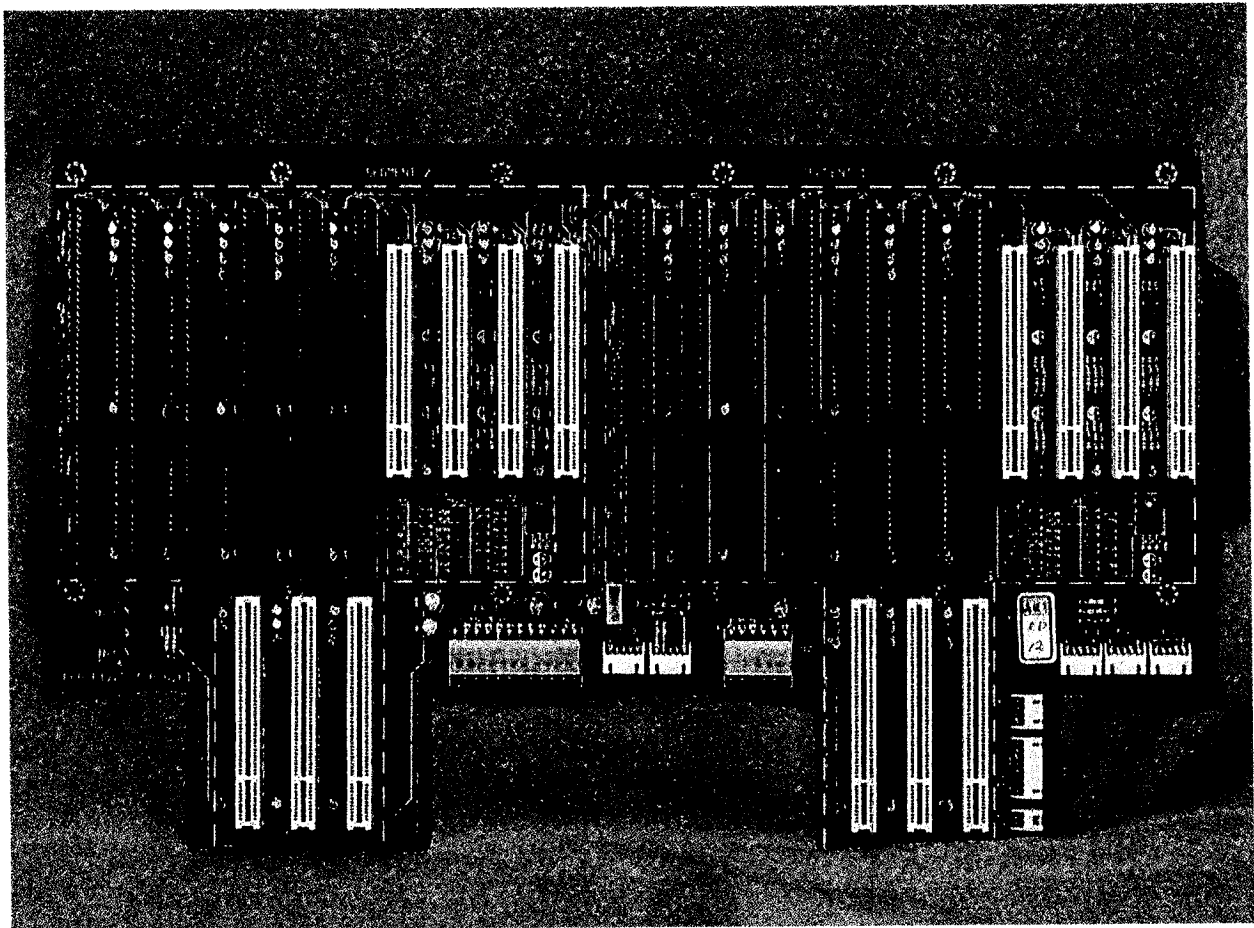


IPC-622 Series

Appendix - Photo

14. Main Board (Top View) 6

Model: IPC-622 Series

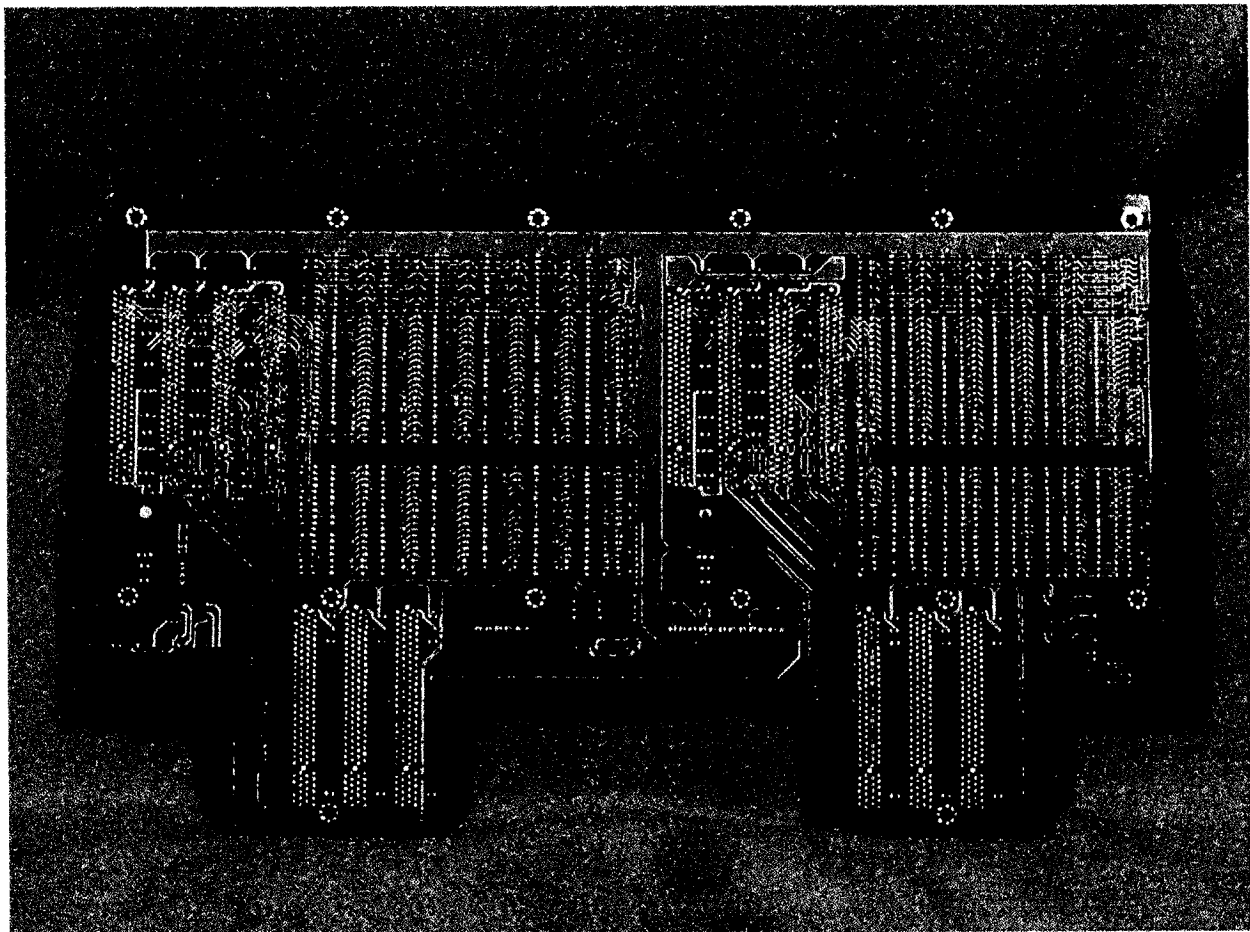


IPC-622 Series

Appendix - Photo

15. Main Board (Bottom View) 6

Model: IPC-622 Series



IPC-622 Series