Certificate of Compliance

Regarding the certification of products which are in the scope of the
Council Directive 73/23EEC, 93/68/EEC
the applicant

AAEON TECHNOLOGY INC.
5F, No. 135, Lane 235, Pao Chiao Rd., Hsin Tien City, Taipei Hsien, Taiwan.
has successfully demonstrated that its product

IPC
AMB-2003

is in compliance with

EN 60 950:1991+A1:1993+A2:1993+A3:1995+A4:1997+A11:1997

As described in the Technical Report 0103055
This Certificate is based on a single evaluation of one sample of the above mentioned product. It does not imply an assessment of the whole production and does not permit the use of a licensed test mark of Victronic Technology Corporation
Taipei, April 10, 2001

Arthur Lin
Certification Center

James Chang
Testing Center

EC Declaration of Conformity

Manufacturer's Name and	**AAEON TECHNOLOGY INC.**
Address:	5F, No. 135, Lane 235, Pao Chiao Rd., Hsin Tien City, Taipei Hsien, Taiwan.
Product:	IPC
Type designation:	AMB-2003

The designated product is in conformity with European Directive

73/23/EEC
including amendments

"Council Directive of 19 February 1973 on the harmonization of the laws of the Member States relating to electrical equipment designed for use within certain voltage limits"

Full compliance with the standards listed below proves the conformity of the designated product with the provisions of the above-mentioned EC Directive:

EN 60 950:1991+A1:1993+A2:1993+A3:1995+A4:1997+A11:1997
IEC 60 950:1992+A1:1993+A2:1993+A3:1995+A4:1996

CE

File Reference: 0103055
Year of CE marking: 2001

TAIWAN / 10 April, 2001
(Place, date)

(Legally binding signature of the issuer)

VICTRONIC TECHNOLOGY CORP.

TEST REPORT NO.	**0103055**	PAGE 1 OF 32
CLIENT	**AAEON Technology Inc.** 5F, No. 135, Lane 235, Pao Chiao Rd., Hsin Tien City, Taipei Hsien, Taiwan.	
TEST ITEM	Industrial Personal Computer	
IDENTIFICATION	AMB-2003	**SERIAL NO**: N/A
RECEIPT NO.:	N/A	**DATE OF RECEIPT:** N/A
TEST LOCATION:	VICTRONIC TECHNOLOGY CORPORATION 4th Fl., No. 130, Lane 235, Bao Chiao Road, Shin Dian City, Taipei Hsien, Taiwan, R.O.C.	
TEST SPECIFICATION:	EN 60 950:1991 + A1:1993 +A2:1993 +A3:1995 +A4:1997 +A11:1997	
TEST RESULT:	The a. m. test item passed	

Test by:		Reviewed by:	
10 April, 2001	Sandra Chan	10 April, 2001	Greg Liang
Signature		Signature	

Other Aspects:

The completed test report includes the following documents:

- EN 60950 report (31 pages)

1
TEST REPORT

TEST REPORT EN 60 950 SAFETY OF INFORMATION TECHNOLOGY EQUIPMENT	
Report reference	0103055
Complied by (+signature)	See cover sheet
Approved by ((+signature)	See cover sheet
Date of issue	See cover sheet
Test laboratory	Victronic Technology Corporation
Address	4th Fl., No. 130, Lane 235, Bao Chiao Road, Shin Dian City, Taipei Hsien, Taiwan, R.O.C.
Testing location	Victronic Technology Corporation 4th Fl., No. 130, Lane 235, Bao Chiao Road, Shin Dian City, Taipei Hsien, Taiwan, R.O.C.
Standard	EN 60 950:1991+A1:1993+A2:1993+A3:1995+A4:1997+A11:1997 IEC 60 950:1992+A1:1993+A2:1993+A3:1995+A4:1997+A4:1996
Test procedure	Service of CE Marking in LVD
Procedure deviation	N. A.
Non-standard test method	N. A.
Type of test object	Industrial Personal Computer
Trademark	-
Model/type reference	AMB-2003
Manufacturer	See next page for factory
Rating	100-250 V AC, 47-63 Hz, 2 A

Test item particulars:	
Equipment mobility.....	Movable equipment
Operation condition.....	Continuous
Test for IT power system	No
IT testing, phase-phase voltage (V)	N. A.
Class of equipment	Class I
Mass of equipment (kg).....	< 18 kg
Protection against ingress of water	IPX0
Possible test case verdicts:	
- test case does not apply to the test object	**N**(.A.)
- test object does meet the requirement	**P**(ass)
- test object does not meet the requirement	**F**(ail)

"(see remark #)" refers to a remark appended to the report.
"(see Annex #)" refers to an annex appended to the report.
Throughout this report a comma 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:

The equipment is the personal computer intended to transfer the digital data and signal. Provided with TÜV Certified Power supply, model MPE-8071 by Power Technology Co., Ltd.

All additional TNV circuit is not to be test in this report. The necessary test should be considered in used the TNV circuit.

The test samples is re-production without serial number.

AAEON Technology Inc.

5F, No. 135, Lane 235, Pao Chiao Rd., Hsin Tien City, Taipei Hsien, Taiwan.

Copy of marking plate

EN 60 950			
Clause	Requirement - Test	Result - Remark	Verdict
1	**GENERAL**		**P**
1.5	Components		P
1.5.1	Comply with IEC 60950 or relevant component standard	Components which were found to affect safety aspects comply with the requirements of this standard or within the safety aspects of the relevant IEC component standards. (see appended tables)	P
1.5.2	Evaluation and testing components	Components which are certified to IEC and/or national standards are used correctly within their ratings. Components not covered by IEC standards are test under the conditions present in the equipment.	P
	Dimensions (mm) of mains plug for direct plug-in		N
	Torque and pull test of mains plug for direct plug-in; torque (Nm); pull (N)		N
1.5.3	Transformers	Transformer used are suitable for their intended application and comply with the relevant requirements of the standard and particularly Annex C	P
1.5.4	High voltage components (component; manufacturer; flammability).....	DC to AC Inventor for LCD panel	P
1.5.5	Interconnecting cables	Interconnection o/p cable to other device is carrying only SELV voltage on an energy level below 240 VA. Except the insulation material, there are no further requirements to the o/p interconnection cable.	P
1.5.6	Mains Capacitors		N
1.6	Power interface		P
1.6.1	Steady state input current	Highest load according to 1.2.2.1 for this equipment is the operation under specified input/output signals	P
	Current deviation during normal operation cycle	< 10%	P
1.6.2	Voltage limit for hand-held equipment.	Not a hand-held equipment.	N
1.6.3	Neutral conductor insulated from earth and body	The neutral is not identified in the equipment. Basic insulation for rated voltage between	P

EN 60 950			
Clause	Requirement - Test	Result - Remark	Verdict
		earthed parts and primary phase	
1.6.4	Components in equipment intended for IT power system	Equipment was not applied for the IT power system.	N
1.6.5	Mains supply tolerance (V).....	+10%, -10%. Documentation specifies a rating of AC 100-250 V at 47-63 Hz. Relevant tests were done with the range of 90-275 V at 47-63 Hz	P
1.7	Marking and instructions		P
1.7.1	Rated voltage (V)	100-250 V~	P
	Symbol of nature of supply for d.c	Mains from AC source	N
	Rated current (A)	2 A	P
	Rated frequency (Hz)	47-63 Hz	P
	Manufacturer	AAEON Technology Inc.	P
	Trade mark	AAEON	P
	Type/model	AMB-2003	P
	Symbol of Class II.....	Class I equipment	N
	Certification marks	CE Marking	N
1.7.2	Safety instructions	The users manual provided	P
1.7.3	Short duty cycles	Equipment is designed for continuous operation	N
1.7.4	Marking for voltage/frequency setting	Full voltage range	P
1.7.5	Marking at power outlets	No outlet	N
1.7.6	Marking at fuseholders		N
1.7.7.1	Protective earthing terminals		P
1.7.7.2	Terminal for external primary power supply conductors	Appliance Inlet	P
1.7.8.1	Identification and location of switches and controls	O/I	P
1.7.8.2	Colors of controls and indicators		P
1.7.8.3	Symbols according IEC 60417.....		P
1.7.8.4	Figures used for marking.....	No figure used for indication	N
1.7.8.5	Location of markings and indications for switches and controls	Switch body	P
1.7.9	Marking when more than one power supply	Only one power supply from the mains	N
1.7.10	Instructions for installation to IT power system	Equipment was not applied for IT power system	N
1.7.11	Instructions when protection relies on building installation	Pluggable equipment type A	N
1.7.12	Marking when leakage current is more than 3.5 mA	Leakage current <3.5 mA	N
1.7.13	Marking at thermostats	No adjustable thermostats.	N

EN 60 950			
Clause	Requirement - Test	Result - Remark	Verdict
1.7.14	Language of safety markings/instruction	English	P
	Language	English	—
1.7.15	Durability and legibility	The marking was subjected to the permanence of marking test. The marking was rubbed with cloth for 15 second and then cloth soaked with HEXANE. After this test there was no damage to the marking. The marking on the chassis did not fade. There was no curling nor lifting of the label edge.	P
1.7.16	Placing of markings	No marking placed on removable part.	P
1.7.17	Warning text for replaceable lithium batteries	Provided	P
1.7.18	Operator access with a tool	No operator access with a tool	N
1.7.19	Equipment for restricted access locations.....	No restricted access location.	N
2	**FUNDAMENTAL DESIGN REQUIREMENTS**		**P**
2.1.1	Access to energized parts	See below	P
2.1.2	Protection in operator access area	No access with testing finger to any parts with only basic insulation to ELV or hazardous voltage. The test pin can not touch hazardous voltage through any seam within the appliance	P
	Test by inspection	Ditto	P
	Test with test finger	Ditto	P
	Test with test pin	Ditto	P
2.1.3.1	Insulation of internal wiring in an ELV circuit accessible to operator	No ELV wiring in operator accessible area	N
	Working voltage (V); distance (mm) through insulation		N
2.1.3.2	Operator accessible insulation of internal wiring at hazardous voltage	No hazardous voltage wiring in operator accessible area	N
2.1.4.1	Protection in service access areas	No maintenance work in operation mode necessary	N
2.1.4.2	Protection in restricted access locations	The unit is not intended to be used in restricted locations	N
2.1.5	Energy hazard in operator access area	Energy does not exceed 240 VA between ant two points in accessible parts (o/p) connector of secondary circuit.	P
2.1.6	Clearances behind conductive enclosures	Refer to 4.2.3.	N

EN 60 950			
Clause	Requirement - Test	Result - Remark	Verdict
2.1.7	Shafts of manual control	None at ELV or hazardous voltage	N
2.1.8	Isolation of manual controls	Control knobs are non-conductive	N
2.1.9	Conductive casing of capacitors	Casing of capacitors are considered as if directly connected to respective circuitry. None at hazardous voltage accessible.	P
2.1.10	Risk of electric shock from stored charge on capacitors connected to main circuit	No risk of electric shock, see below	P
	Time-constant (s); measured voltage (V).....	< 1 s (see attached tables)	—
2.2	Insulation		P
2.2.1	Methods of insulation	Insulating materials provided in the equipment with adequate thickness and adequate creepage distance over their surface and clearance distance through air.	P
2.2.2	Insulating materials	Natural rubber, asbestos or hygroscopic materials are not used.	P
2.2.3	Humidity treatment	Total time elapsed: 48 hours	P
	Humidity (%)	93% R.H.	—
	Temperature (°C)	25°C	—
2.2.4	Requirements for insulation	Considered	P
2.2.5	Insulation parameters	Considered	P
2.2.6	Categories of insulation	Considered	P
2.2.7	Determination of working voltages	Considered	P
2.2.7.1	General rules for working voltages	Considered	P
2.2.7.2	Clearance in primary circuits	Meet the requirement	P
2.2.7.3	Clearance in secondary circuits	Meet the requirement	P
2.2.7.4	Creepage distance	Considered	P
2.2.7.5	Electric strength tests	Refer to Table 5.3	P
2.2.8	Double or reinforced insulation bridged by components	Considered	P
2.2.8.1	Bridging capacitors		N
2.2.8.2	Bridging resistors		N
2.2.8.3	Accessible parts	See clause 2.4	P
2.3	Safety extra-low voltage (SELV) circuits		P
2.3.1	Voltage (V) of SELV circuits under normal operating conditions and after a single fault	42.4 V peak or 60 V dc are not exceeded in SELV circuit under	—

EN 60 950			
Clause	Requirement - Test	Result - Remark	Verdict
		normal operation or single fault condition.	
2.3.2	Voltage (V) between any two conductors of SELV circuit(s) and for Class I equipment between any conductor of SELV circuit and equipment protective earthing terminal under normal operating conditions	Between any SELV circuits 42.4 V peak or 60 V dc are not exceeded.	P
2.3.3	Voltage (V) of SELV in the event of a single fault of basic or supplementary insulation or of a component .....:	Single fault did not cause excessive voltage in accessible voltage circuits. see abnormal results 5.4.6	—
	Method used for separation .....:	Method 1	P
2.3.4	Additional constructional requirements	In multi-way connectors and other cable ties prevent contact hazardous parts in case of loosening of connection or conductor breakage. IEC 60 083 and IEC 60 320 connectors are not used in SELV.	P
2.3.9	Connection to SELV circuits to other circuits	See 2.3.2 and 2.3.3. Not direct connected between SELV and any primary circuits.	N
2.4	Limited current circuits		P
2.4.2	Frequency (Hz) .....:	<100 KHz	—
	Measured current (mA) .....:	<70 mA	P
2.4.3	Measured voltage (V) .....:		—
	Measured capacitance (μF) .....:		N
2.4.4	Measured voltage (V) .....:		—
	Measured charge (μC) .....:		N
2.4.5	Measured voltage (V) .....:		—
	Measured energy: mJ		N
2.4.6	Limited current circuit supplied from or connected to other circuits.....:		P
2.5	Provisions for earthing		P
2.5.1	Class I equipment	Basic insulated conductive parts touchable in operator area to earthed reliably	P
	Warning label for service personnel		N
2.5.2	Protective earthing in Class II equipment	Class I equipment	P
2.5.3	Switches/fuses in earthing conductors	No Switches or fuses in earthing conductors	N
2.5.4	Assured earthing connection for Class I equipment in systems comprising Class I and Class II equipment	This unit has its own earthing connection. Any other units connected via the	P

EN 60 950			
Clause	Requirement - Test	Result - Remark	Verdict
		interconnecting cable to other unit shall provide SELV only. The equipment does not comprise class I and class II	
2.5.5	Green/yellow insulation	Green/yellow wire used	P
2.5.6	Continuity of earth connections	Appliance Inlet	P
2.5.7	Marking and breaking of protective earthing connections	Certified appliance inlet, earthing connected before and after hazardous voltage. No other operator removable parts	P
2.5.8	Disconnection protective earthing connections	It is not necessary to disconnect earthing except for the removing the earthed parts itself	P
2.5.9	Protective earthing terminals for fixed supply conductors or for non-detachable power supply cords		N
2.5.10	Risk of corrosion	All safety earthing connections in compliance with Annex J.	P
2.5.11	Resistance (Ω) of protective earthing conductors ≤ 0.1 Ω	< 0.1 Ω	P
	Test current (A)	25 A / 30 A	—
2.6	Primary power isolation		P
2.6.1	General requirements	The appliance inlet is considered to be the disconnected device	P
2.6.2	Type of disconnect device (See comment)	Appliance inlet	P
2.6.3	Disconnect device in permanently connected equipment	Pluggable equipment type A	N
2.6.4	Parts of disconnect device which remain energized	When ac plug or inlet is disconnected on remaining parts with hazardous voltage in the equipment	P
2.6.5	Placing of isolating switch	Meet the requirement	P
2.6.6	Disconnection of both poles simultaneously	The appliance disconnect both poles simultaneously.	P
2.6.7	Disconnection of all phases for three-phase equipment	Single phase	N
2.6.8	Marking at switch (IEC 417 No. 5010).	See 1.7.8	P
2.6.9	Installation instructions	See 1.7.2	P
	Language	English	—
2.6.11	Interconnected equipment	Interconnection to other devices by secondary single cable only.	P
2.6.12	Multiple power source	Only one supply connection	N

EN 60 950			
Clause	Requirement - Test	Result - Remark	Verdict
		provided	
2.7	Overcurrent and earth fault protection in primary circuits		P
2.7.1	Basic requirements	Equipment relies on 16 A rated fuse or circuit breaker of the wall outlet installation protection of the building installation in regard to L to N short circuit. Overcurrent protection is provided by the built-in fuse of power supply.	P
2.7.2	Protection against faults not covered in 5.4	The protection devices are well dimensioned and mounted.	P
2.7.3	Short-circuit backup protection	Pluggable equipment type A, the building installation is considered as providing short circuit protection.	P
2.7.4	Number and location of protective devices	Overcurrent protection by one built-in fuse of power supply	P
2.7.5	Protection by several devices	Only one fuse	N
2.7.6	Warning to service personnel	No service work necessary	N
2.8	Safety interlock *No operator accessible areas which presents hazards in the meaning of this standard*		N
2.8.2	Design		N
2.8.3	Protection against inadvertent reactivation		N
2.8.4	Reliability		N
2.8.5	Override system		N
2.8.6.1	Contact gap (m)		N
2.8.6.2	Switch performing 50 cycles		N
2.8.6.3	Electric strength test: test voltage (V)		N
2.8.7	Protection against overstress		N
2.9	Clearance, creepage distances and distances through insulation		P
	Nominal Voltage (V)	AC 100-250 V	—
	General		P
2.9.2	Clearances	Meet the requirement	P
2.9.2.1	Clearance in primary circuits	Meet the requirement	P
2.9.2.2	Clearance in secondary circuits	Meet the requirement	P
2.9.3	Creepage distances	Meet the requirement	P
	CTI test	CTI rating for all materials of min. 100	—
2.9.4.1	Minimum distances through insulation	(see appended table 2.9.4)	P

EN 60 950			
Clause	Requirement - Test	Result - Remark	Verdict
2.9.4.2	Thin sheet material	Provided	P
	Number of layers (pcs)	3 layers	P
	Electrical strength test: Test voltage	3000 V ac applied on any combination of two layers	P
2.9.4.3	Printed boards	Not applied for	N
	Distance (mm) through insulation	(see appended table 2.9.4)	N
	Electric strength test at voltage (V) for thin sheet insulating material	(see appended table 5.3)	N
	Number of layers (pcs)		N
2.9.4.4	Wound components without interleaved insulation	No wound components without interleaved insulation (see appended table 2.9.4 and annex U)	N
	Number of layers (pcs)		N
	Two wires in contact inside component; angle between 45° and 90°		N
	Routine testing for finished component		N
2.9.5	Distances on coated printed boards	No coated printed wiring boards. (see appended table 2.9.4)	N
	Routine testing for finished component		N
2.9.6	Enclosed and sealed parts	No hermetically sealed components. (see appended table 5.3)	N
	Temperature T1 (°C)		N
	Humidity %		N
2.9.7	Spacings filled by insulating compound	Meet the requirement	P
	Temperature T1 (°C)		N
	Humidity %		N
2.9.8	component external terminations	(see appended table 2.9.2 and 2.9.3)	N
2.9.9	Insulation with varying dimensions	Insulation kept homogenous. (see appended table 2.9.2, 2.9.3 and 2.9.4)	N
2.10	Interconnection of equipment		P
2.10.1	General requirements	Equipment is not considered for connection to TNV	N
2.10.2	Type of interconnection circuits	Interconnection circuits of SELV through sec o/p cable. No ELV interconnection circuits	P
2.10.3	ELV circuits as interconnection circuits	No ELV interconnection	N
2.11	Limited power source		N

EN 60 950			
Clause	Requirement - Test	Result - Remark	Verdict
	Use of limited power source.....:	See appended table	N
3	**WIRING, CONNECTIONS AND SUPPLY**		**P**
3.1	General		P
3.1.1	Cross-sectional area of internal wiring/interconnecting cable	All internal wires are UL recognized wiring that is PVC insulated, rated VW-1, min. 80°C, 300 V. Internal wiring gauge is suitable for current intended to be carried. (see appended table 5.1)	P
	protection of internal wiring and interconnecting cable	No internal wire for primary power distribution.	N
3.1.2	Wireways	Wires do not touch sharp edges which could damage the insulation and cause hazard.	P
3.1.3	Fixing of internal wiring	Internal wires with only basic isolation are routed so that they are not close to any live bare components. The wires are secured by solder pins and quick connect terminals so that a loosening of the terminal connection is unlikely.	P
3.1.4	Fixing of un-insulated conductors	Secured held on PCB. No hazard.	P
3.1.5	Insulation of internal wiring	The insulation of the individual conductors are suitable for the application and the working voltage. For the insulation material see 3.1.1.	P
3.1.6	Wires coloured green/yellow only for protective earth connection	See 2.5.5	P
3.1.7	Fixing of beads and similar ceramic insulators	Not used	N
3.1.8	Required electrical contact pressure	Electrical connections screwed two or more complete threads into metal. No screws of insulating material for electrical connections, or where supplementary or reinforced insulation could be impaired by a metal replacement.	P
3.1.9	Reliable electrical connections	All current carrying connections are metal to metal.	P
3.1.10	End of stranded conductor	No risk of stranded conductors coming loose.	P
3.1.11	Use of spaced thread screw/thread-cutting screws	No self tapping screws are	P

EN 60 950			
Clause	Requirement - Test	Result - Remark	Verdict
		used.	
3.2	Connection to primary power		P
3.2.1	Type of connection	Appliance inlet	P
	Design of product with more than one supply connection	The appliance inlet of equipment only for one mains connection	P
3.2.2	Provision for permanent connection	See clause 3.2.1	N
	Size (mm) of cable and conduits		
3.2.3	Appliance inlet	Not provided	N
3.2.4	Type and cross-sectional area (mm^2) of power supply cord	Meet the requirement	P
3.2.5	Cord anchorage	See clause 3.2.1	N
	Test 25 times; 1 S; pull (N)	60 N	—
	Longitudinal displacement ≤ 2 mm		N
3.2.6	Protection of power supply cord	No parts under this unit likely to damage the power supply cord	P
3.2.7	Cord guard	See clause 3.2.1	N
	D (mm)		—
	Test: mass (g)		—
	Radius or curvature of the cord ≤ 1.5 D		N
3.2.8	Supply wiring space		N
3.3	Wiring terminals for external power supply conductors *Unit with detachable power supply cord, connected on appliance inlet.*		N
3.3.1	Terminals		N
3.3.2	Special non-detachable cord		N
	Type of connection		—
	Pull test at 5 N		N
3.3.3	Screws and nuts		N
3.3.4	Fixing of conductors	Refer to 3.3.1	N
3.3.5	Connection of conductors		N
3.3.6	Size of terminals		N
	Nominal thread diameter (mm)		N
3.3.7	Protection against damage of conductors		N
3.3.8	Terminal location		N
3.3.9	Test with 8 mm stranded wire		N
4	**PHYSICAL REQUIREMENTS**		**P**
4.1	Stability and mechanical hazards		P

EN 60 950			
Clause	Requirement - Test	Result - Remark	Verdict
4.1.1	Stability tests		P
	Angle of 10°	This appliance is of a stable mechanical construction and does not overbalance when tilted to an angle of 10° from its normal upright position	P
	Test: force (N)	Not floor standing.	N
4.1.2	Protection against personal injury	No moving parts	P
4.1.3	Warning and means provided for stopping the moving part	No moving parts	N
4.1.4	Edges and corners	Edges and corners of the enclosure are rounded	P
4.1.5	Enclosure of a high pressure lamp	No lamp with cold pressure of 0.2Mpa or hot pressure of 0.4Mpa	N
4.2	Mechanical strength and stress relief		P
4.2.1	General	See below.	P
4.2.2	Internal enclosures 30 N ± 3 N; 5 s	No internal enclosure	N
4.2.3	External enclosures 250 N ± 10 N; 5 s	250 N applied to outer enclosure. No energy or other hazards.	P
4.2.4	Steel sphere tests		N
	Fall test (1300 mm Vertical displacement)		N
	Swing test		N
4.2.5	Drop test	Not hand-held equipment.	N
4.2.6	Heat test for enclosure of moulded or formed thermoplastic material T = °C/7 h	Metal chassis	N
4.2.7	Compliance criteria		N
4.2.8	Mechanical strength of cathode ray tubes	No CRT	N
4.3	Construction details		P
4.3.1	Changing of setting for different power supply voltages	Full range circuit, no necessary adjustment	P
4.3.2	Adjustment of accessible control devices	None that would cause hazard	P
4.3.4	Prevention of dangerous concentration of dust, liquid and gas	Equipment in intended use not considered to be exposed to these	N
4.3.5	Fixing of knobs, grips, handles, levers		N
	Test: force(N)		N
4.3.6	Driving belts/couplings shall not ensure electrical insulation	Not used for insulation	N
4.3.7	Retaining of sleeves	Sleevings on wiring reliable kept in position by cable ties or by the use of heat shrink	P

EN 60 950			
Clause	Requirement - Test	Result - Remark	Verdict
		sleeving.	
4.3.9	Protection of loosening parts	Electrical and mechanical connections can be expected to withstand usual mechanical stress. For the protection, solder pins, cable ties and heat shrink tubing are used.	P
4.3.11	Resistance to oil and grease	Insulation not in contact with oil or grease	N
4.3.12	Protection against harmful concentration of ionizing radiation or ultraviolet light, LED laser or flammable gases (for LED and laser see IEC 60825-1)	No ionizing radiation, laser or flammable liquids presents. The energy of LED is far below the limit, no test necessary.	N
4.3.13	Securing of screw connections	No connection likely to be exposed to mechanical stress are provided in unit.	N
4.3.15	Openings in the top of enclosure	Meet the requirement	P
	Dimensions .....:	(see appended table)	—
4.3.16	Openings in the sides of enclosure	Meet the requirement	P
	Dimensions .....:	(see appended table)	—
4.3.17	Interchangeable plugs and sockets	Interchangeable plugs or connectors	N
4.3.18	Torque test on equipment with built-on plug		N
	Additional torque (Nm) .....:		N
4.3.19	Protection against excessive pressure	Equipment does not contain liquid in normal use.	N
4.3.20	Protection of heating elements in Class I equipment	No heating elements	N
4.3.21	Protection of lithium batteries	RTC battery	P
	Construction of protection circuit	Provided	P
4.3.22	Day 1: temperature (°C); time (weeks)		N
	Day 8/22/57: a) temperature (°C) for 1h b) temperature (°C) for 4h c) temperature (°C) over 1h		N
	Day 8/22/57: a) relative humidity (%) for 72 h b) b) temperature (°C) for 1h c) temperature (°C) for 4h d) temperature (°C) over 8h		N
4.4	Resistance to fire		P
4.4.1	Method of achieving resistance to fire	Use of material with the required flammability classes	P
4.4.2	Minimizing the risk of ignition	Electrical parts are not likely to	P

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Clause	Requirement - Test	Result - Remark	Verdict
		ignite nearby materials. Parts not protected against overheating under fault conditions. Temperatures see 5.1.	
	Printed board: manufacturer; flammability	See 1.5.1 appended table	P
4.4.3.2	Material and component: manufacturer; type; flammability	Internal components except small parts are V-2, HF-1 or better	P
4.4.3.3	Exemptions.....:	Considered	P
4.4.3.4	Wiring harnesses: manufacturer; flammability .....:	Insulating material consists of PVC	P
4.4.3.5	Cord anchorage bushing: manufacturer; flammability .....:	Provided, refer to table 1.5.1	P
4.4.3.6	Air filter assemble: manufacturer; flammability ...:	No air filter assemble	N
4.4.4	Enclosures and decorative parts: manufacturer; flammability .....:	Protective enclosure with no decorative parts. Enclosure of this unit (movable equipment, < 18 kg) with flammability class V-1 or better.	P
4.4.5	Conditions for fire enclosures	With having the following components: ■ components with windings ■ wiring ■ semiconductor devices, transistor, diodes, integrated circuit ■ resistors, capacitors, inductors The fire enclosure is required.	P
4.4.5.1	Components which require fire enclosure	See above	P
4.4.6	Construction of fire enclosure	Protection against emission of flame, molten metal, flaming or glowing particles or drops by fire enclosure.	P
4.4.7	Doors and covers	No door or cover.	N
4.4.8	Flammable liquids	No Flammable liquids in this unit	N
5	**THERMAL AND ELECTRICAL REQUIREMENTS**		**P**
5.1	Heating		P
	Heating tests	(see appended table)	P
5.2	Earth leakage current		P
5.2.1	General	The leakage current was	P

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Clause	Requirement - Test	Result - Remark	Verdict
		measured from primary to earthed ground.	
5.2.2	Leakage current	(see attached tables)	P
	Test voltage (V).....	(see attached table)	—
	Measured current mA).....	(see attached table)	—
	Max. allowed current (mA).....	3.5 mA	—
	Single-phase equipment	See 5.2.2	P
	Test voltage (V).....		—
	Measured current mA).....		—
	Max. allowed current (mA).....		—
5.2.4	Three-phase equipment	Single phase equipment	N
	Test voltage (V).....		—
	Measured current(mA).....		—
	Max. allowed current (mA).....		—
5.2.5	Equipment with earth leakage current exceeding 3.5 mA	< 3.5 mA	N
	Test voltage (V).....		—
	Measured current (mA).....		—
	Max. allowed current (mA).....		—
	Cross-sectional area (mm²) of internal protective earthing conductor		—
	Warning label		N

5.3	Electric strength		P
5.3.1	General	All tests voltages were applies for 1 minute in the chamber after the humidity test of 2.3.2 and in warm conditions after the heating test of 5.1. No isolation breakdown was observed (results see appended tables).	P
5.3.2	Test procedure	(see appended table)	P

5.4	Abnormal operating and fault conditions		P
5.4.2	Motor	No motor.	N
5.4.3	Transformers	Considered	P
5.4.4	Compliance of operational Insulation		P
	Method used.....	Considered	P
5.4.5	Electromechanical components in secondary circuits	No electromechanical components	N
5.4.6	Other components and circuits	The unit is protected by the following means:	N

EN 60 950			
Clause	Requirement - Test	Result - Remark	Verdict
5.4.7	Test in any expected condition and foreseeable misuse	Considered	P
5.4.8	Unattended use of equipment having thermostats, temperature limiters, etc	None of them are used	N
5.4.9	Compliance	No fire propagated beyond the equipment. No molten metal was emitted. Electric strength test primary → SELV and primary →PE were passed.	P
5.4.10	Ball pressure test of thermoplastics parts; impression shall not exceed 2 mm.	Results see 5.4.10 table.	P
6	**CONNECTION TO TELECOMMUNICATION NETWORKS** *Equipment is not intended be connected to TNV*		**N**
6.1	General		N
6.2	TNV circuits		N
6.2.1.1	Limits of the TNV circuits		N
6.2.1.1 a)	TNV-1 circuits		N
6.2.1.1 b)	TNV-2 and TNV-3 circuits		N
6.2.1.2	Separation from other circuits and from accessible parts	(see appended table 2.9.2, 2.9.3 and 2.9.4)	N
	Voltage (V) in SELV circuits, TNV-1 circuits and accessible conductive parts in event of single insulation fault or component failure.....:		N
6.2.1.3	Operating voltage generated externally		N
	Voltage (V) in SELV circuits, TNV-1 circuits and accessible conductive parts.....:		N
6.2.1.4	Separated from hazardous voltages.....:		N
	Method used .....:		N
6.2.1.5	Connection of TNV circuits to other circuits	(see appended table 5.4)	N
	TNV circuit supplied conductively from a secondary circuit.....:		N
6.2.2.1	Protection against contact with bare conductive parts of TNV-2 and TNV-3 circuits		N
6.2.2.2	Battery compartments		N
	Marking next to door/on door		N
6.3	Protection of telecommunication network service personnel, and users of other equipment connected to the telecommunication network from hazards in the equipment		N
6.3.1	Protection from hazardous voltages		N
6.3.2	Use of protective earthing		N
	Language of installation instructions .....:		N

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Clause	Requirement - Test	Result - Remark	Verdict
6.3.3.1	Insulation between TNV circuit and parts or circuitry that may be earthed	(see appended table 5.3)	N
6.3.3.2	Exclusions.....:		N
6.3.4.1	Limiation of leakage current (mA) to telecommunication network.....:		N
6.3.4.2	Summation of leakage currents from telecommunication network.....:		N
6.4	Protection of the equipment user from voltages on the telecommunication network		N
6.4.1	Separation requirements		
6.4.2	Test procedure		N
6.4.2.1	Impulse test: Separation between telecommunication network conductors and		N
6.4.2.1 a)	Unearthed conductive parts/ nonconductive parts of the equipment which are held or touched during normal use; test at 2.5kV		N
6.4.2.1 b)	Parts and circuitry that can be touched by the test finger; test at 1.5kV		N
	Circuitry which is provided for connection of other equipment: test at 1.5kV		N
6.4.2.2	Electric strength test: separation between telecommunication network conductors and		N
6.4.2.2 a)	Unearthed conductive parts/nonconductive parts of the equipment which are held or touched during normal use Test at 1.5 kV		N
6.4.2.2 b)	Parts and circuitry that can be touched by the test finger; test at 1.0kV		N
6.4.2.2 c)	Circuitry which is provided for connection of other equipment: test at 1.0kV		N
6.4.2.3	Compliance criteria		N
6.5	Protection of telecommunication wiring system from overheating		N
	Maximum continuous output current (A) .....:		N
A	**ANNEXA, TESTS FOR RESISTANCE TO HEAT AND FIRE**		**N**
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg and all stationary equipment		N
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for materials located within fire enclosures		N
A.3	High current arcing ignition test		N
A.3.6	Number of arcs .....:		N
A.4	Hot wire ignition test		N
A.4.6	Ignition time (s).....:		N

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Clause	Requirement - Test	Result - Remark	Verdict
A.5	Hot flaming oil test		N
A.6	Flammability test for classifying materials V-0, V-1 or V-2		N
A.7	Flammability test for classifying foamed materials HF-1, HF-2 or HBF		N
A.8	Flammability test for classifying materials HB		N
A.9	Flammability test for classifying materials 5V		N
A	Test Material		N
	Preconditioning: 7 days (168h); temperature (°C)		N
	Mounting of samples during test		N
	Wall thickness:		N
	Sample 1 burning time:		N
	Sample 2 burning time:		N
	Sample 3 burning time:		N
	Material: compliance with requirements		N
	Manufacturer of tested material		N
	Type of tested material		N
	Additional Information		N
B	**ANNEX B, MOTOR TEST UNDER ABNORMAL CONDITIONS**		**N**
B.1	General requirements		N
	Position.....:		—
	Manufacturer.....:		—
	Type.....:		—
	Rated voltage (V) or current (A).....:		—
B.2	Test conditions		N
B.3	Maximum Temperatures	(see appended table 5.4)	N
B.4	Running overload test		N
B.5	Locked-rotor overload test		N
	Test duration (days) .....:		—
	Electric strength test: test voltage (V) .....:		—
B.6	Running overload test for DC motor in secondary circuits		N
B.7	Locked-rotor overload test for DC motor in secondary circuits		N
B.7.2	Test time (h) .....:		N
B.7.3	Test time (h) .....:		N
B.8	Test for motor with capacitor		N
B.9	Test for three-phase motor		N
B.10	Test for series motors		N
	Test voltage (V) .....:		—

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Clause	Requirement - Test	Result - Remark	Verdict
H	**APPENDIX H IONIZING RADIATION**		**N**
	Ionizing radiation		N
	Measured radiation .....:		—
	Measured high-voltage (kV) .....:		—
	Measured focus voltage (kV) .....:		—
	CRT markings .....:		—
	Certified by .....:		—
	Standard.....:		—
U	**ANNEX U, INSULATED WINDING WIRES FOR USE AS MULTIPLE LAYER INSULATION**		**N**
	See separate test report		N

EN 60 950			
Clause	Requirement - Test	Result - Remark	Verdict

1.5.1	TABLE: list of critical component				P
Object/part No.	manufacturer/ trademark	Type/model	Technical data	standard	Mark(s) of conformity
Power Supply	Power Technology Co., Ltd.	MPE-8071	I/p:100-250 V ac, 47-63 Hz, 2 A	EN 60950	TÜV
HDD (optional)	Fujitsu	MHK2060AT	5 V / 0.55 A	EN 60950	UL
CD-ROM (optional)	Vintech	VIN—S24A	5 V /, 1.3 A maximum	EN 60950	UL
FDD (optional)	Mitsumi	D353F3	5V dc, 2A maximum	EN 60950	UL
Lithium Battery	Panasonic	CR2032	195 mAh, 3 V	—	UL
	KTS	CR2032	195 mAh, 3 V	—	UL
	Matsushita	CR2032	195 mAh, 3 V	—	UL
	Hitachi	CR2032	195 mAh, 3 V	—	UL
	FDK	CR2032	195 mAh, 3 V	—	UL
	Mitsubishi	CR2032	195 mAh, 3 V	—	UL
	Ronata SA	CR2032	195 mAh, 3 V	—	UL
	SII Micro	CR2032	195 mAh, 3 V	—	UL
	Sony	CR2032	195 mAh, 3 V	—	UL
	Toshiba	CR2032	195 mAh, 3 V	—	UL
	Varta	CR2032	195 mAh, 3 V	—	UL
Cooling fan (two provided)	Sunonwealth	KD1206PFB2-8	12 V, 1.2 W	EN 60950	TÜV
CPU Fan	Cooltium	—	DC 12 V	EN 60950	—
DC/AC Inverter	Chi Sam	CDA-085B	I/P 12 V dc, 1.95 A O/P 1160 V, 4 mA	—	—
LCD Panel	Toshiba	—	4V, 300 mA maximum	—	—
Enclosure	—	—	Metal	—	—
PCB	—	—	V-1, min. 105°C	—	UL

1.6	TABLE: electrical data (in normal conditions)					P
fuse#	Irated (A)	U (V)	P(W)	I (A)	I fuse (A)	condition/status
F1	—	90V/50Hz	44.1	0.925	0.925	Maximum normal operation

EN 60 950							
Clause	Requirement - Test				Result - Remark		Verdict
F1	—	90V/60Hz	43.9	0.879	1.012	Ditto	
F1	2	100V/50Hz	44	0.843	0.843	Ditto	
F1	2	100V/60Hz	44	0.805	0.805	Ditto	
F1	2	250V/50Hz	43.7	0.409	0.450	Ditto	
F1	2	250V/60Hz	43.8	0.397	0.397	Ditto	
F1	—	275V/50Hz	44	0.382	0.382	Ditto	
F1	—	275V/60Hz	44	0.373	0.373	Ditto	

2.5.11	TABLE: ground continue test			P
Location	Current (Amps)	Voltage Drop (Volts)	Resistance (mΩ)	
Metal chassis to ground pin	25 A / 1 min.	--	25	
Metal chassis to ground pin	30 A / 2 min.	--	24	

5.1	TABLE: temperature rise measurements					P
	Test voltage (V) ..... :	100 V-10%/250V+10%				—
	t1 (°C) ..... :					—
	t2 (°C) ..... :					—
Temperature rise dT of part/at:			DT (K)		Required dT (K)	
1. L1 coil (power supply, MPE-8071)			19.2/14.1		65	
2. T1 coil (Power supply, MPE-8071)			18.0/21.1		50	
3. L2 coil (Power supply, MPE-8071)			14.5/15.5		65	
4. L3 coil (Power supply, MPE-8071)			16.4/17.9		65	
5. L4 coil (Power supply, MPE-8071)			16.1/17.4		65	
6. HDD body			15.5/15.7		30	
7. PCB under Q7			30.0/29.9		65	
8. Chip set (SB82558B)			32.7/32.5		65	
9. L10 coil			21.2/21.0		65	
10. L2 coil			26.5/26.4		65	
11. U4 body			21.7/21.9		65	
12. Heat sink of U9			23.3/23.5		65	
13. Heat sink of U7			26.4/26.6		65	
14. Heat sink of CPU			23.8/24.0		65	
15. Ambient			27.5°C/27.2°C		—	

Temperature rise dT of winding	R_1	R_2	DT (K)	Required DT (K)	Insulation class

EN 60 950			
Clause	Requirement - Test	Result - Remark	Verdict

Comments:
The temperatures were measured under worst case normal mode defined in 1.2.2.1 and as described in 1.6.1 at voltages as described in 1.6.5
With a specified ambient temperature of 40°C, the max. temperature rise is calculated as follows:
Winding components:
- class A → dT_{max} = 75K – 10K- (40-25)K = 50 K

Electrolyte capacitor or components with:
- max. absolute temp. of 105°C → dT_{max} = (105-40) K = 65K

Inside top enclosure
max. temp. rise of 45K → dT_{max} = 45 K - (40-25)K = 30 K

5.2	TABLE: leakage current measurement			P
Condition	Current L→ accessible part (mA)	Current N→ accessible part (mA)	Comments	
System On	0.76	0.78		
System off	0.065	0.065		
Input voltage: 275 V Input frequency: 60 Hz Overall capacity: N/A				

5.4	TABLE: fault condition tests							P
	Ambient temperature (°C)					25°C		—
	Model/type of power supply.....							—
	Manufacturer of power supply							—
	Rated marking of power supply.....					see label at page		—
No.	Component No.	Fault	Test voltag(V)	test time	Fuse No.	Fuse current (A)	Result	
1.	Vents	Blocked	250 V	3 hr	—	0.398	Normal operation no hazards.	
2.	System cooling fan	Locked	250 V	2.5 hr	—	0.401	Normal operation no hazards.	
3.	Cooling fan (next to CPU)	Locked	250 V	3 hr	—	0.403	Normal operation no hazards.	
4.	D16	s-c	250 V	< 1 sec	—	—	Normal operation no hazards. Abnormal recharge current: 3.02 mA	
5.	R171	s-c	250 V	< 1 sec	—	—	Normal operation no hazards. Abnormal recharge current: 0 mA	
Note: For fuse opened condition, same result came out for each source of fuse used.								

5.3	Table: electric strength measurements	P

EN 60 950			
Clause	Requirement - Test	Result - Remark	Verdict

Test voltage applied between:	test voltage (V)	Breakdown
Primary and secondary	DC 4242 V	No
Primary and enclosure	DC 4242 V	No

EN 60 950			
Clause	Requirement - Test	Result - Remark	Verdict
APPENDIX	EN60950:1992 + A1:1993 + A2:1993 + A3:1995 + A4:1997 + A11:1997 TEST REPORT (IEC Publication 950 2nd edition, 1991 + Amd. 1, 1992 + Amd. 2, 1993 + Amd. 3, 1995 + Amd. 4, 1996) CENELEC common modification , Special National condition, National Deviation and other information		
EXPLANATION FOR ABBREVTIATIONS C = CENELEC common modification, S = Special National condition, D = National deviation, F = Other information, AT = Austria, GB = Great Britain, CH = Switzerland, DE = Germany, DK = Denmark, FI= Finland, FR = France, NO = Norway, SE = Sweden. P = Pass, F = Fail, N = Not applicable. Place in the column to the right.			
1.2.04.1 S	(DK). In Denmark certain types of Class I application (see§ 3.2.1) may be provided with plug not establishing earthing continuity when inserted into Danish socket –outlets.	Not applied for.	N
1.5.01 D	(SE). Ad the following: NOTE: Switches containing mercury such as thermostats, relay and level controllers are not allowed.	Not applied for.	N
1.7.02 S	(NO). If separation between the mains and communication system/network, other than public telecommunication networks, relies upon connection to safety earth the equipment shall have a marking stating that is must be connected to an earthed mains socket-outlet. NOTE: For requirement for equipment to be connect to a public telecommunication network: see 6.2.1.4	Not applied for.	N
1.7.02 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 network passing both unearthed and earth electrical environment. The marking text shall be in Swedish and as follows: "Apparaten skall ansluats till jordat uttag när den ansluts till ett nätverk".	Not applied for.	N
1.7.02 D	(DK). Supply cords of Class I appliance, which are delivered without a plug, must be provided with a visible tag with the following text: "Vigtigt. Lederen med grøn/gul isolation mä Kun tilsluttes en klemme mærket eller". If essential for the safety of the appliance, the tag must in addition be provided with a diagram, which shows the	Not applied for.	N

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Clause	Requirement - Test	Result - Remark	Verdict
	connection of the other conductors, or be provided with the following text: "For tilslutning af de øvrige ledere, se medfølgende installationsvejledning".		
1.7.05 S	(DK). Socket-outlets for providing power to other appliances shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a when used on appliances of Class I.	Not applied for.	N
1.7.05 D	(DK). Class II appliances shall not be fitted with socket-outlets for providing power to other appliances.	Not applied for.	N
1.7.14 D	(DE). Directions for use with rules to prevent certain hazards for (among others) maintenance of the technical labor equipment, also for imported technical labor equipment shall be written in German language. NOTE: Of this requirement, rules for use even only by services personnel are not exempted	Not applicable.	N
1.7.17 D	(CH). Annex 4.10 of SR 814.013 (ordinance on environmentally hazardous substances) applies for batteries.	Not applied for.	N
2.1.3.1 C	Table 0, first column, replace "Over 50" by "Over 350".	Replace	N
2.3.3 C	Delete Method 4 and the line in note 1 relating to this method	Delete	N
2.3.6 S	(FR). Method 3 is not acceptable.	Not applied for.	N
2.3.6 C	Delete the note	Delete	N
2.3.7 C	Replace the text of this sub-clause by Void.	Replaced	N
2.3.9 S	(NO). Marking and insulation requirements according to this annex, sub-clauses 1.7.02 and 6.2.01.4 b) apply.	Not applied for.	N
2.5.2 S	(DK, NO) add after the first paragraph: "The above exception is not acceptable in Pluggable equipment type A"	Not applied for.	N
2.7.01 C	Replace the text of this sub-clause by: Basic requirements: To protect against excess current, short-circuits and earth faults in primary circuits, protective devices shall be included ether as integral parts of the equipment or as a part of the building installation, subject to all of the following a), b) and c) (a) Except as detailed in (b) and (c), protective devices necessary to comply with the requirement of Sub-clause 5.4 shall be included as integral parts of the equipment. (b) For components in series with the mains input	Not applied for.	N

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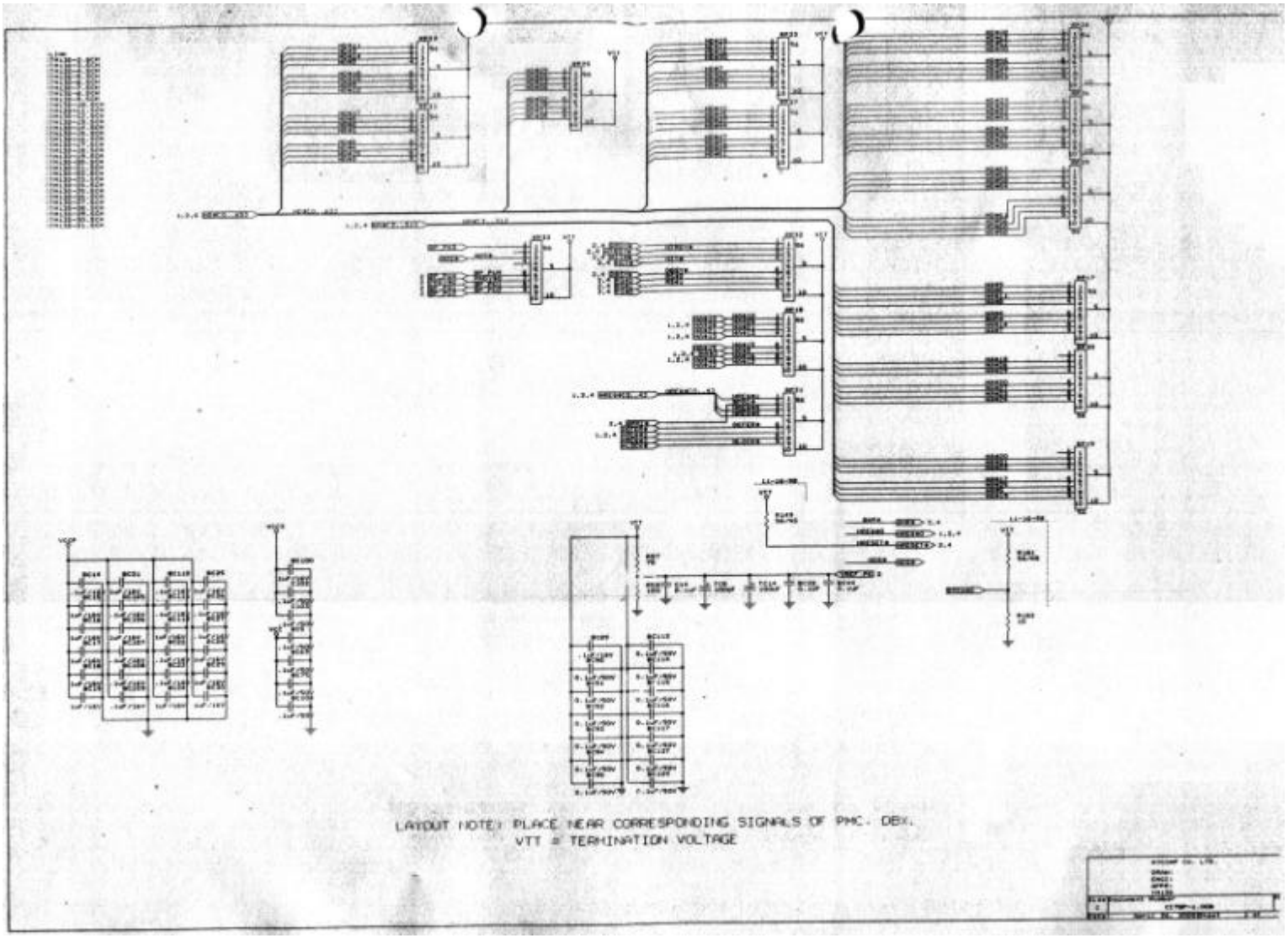
Clause	Requirement - Test	Result - Remark	Verdict
	to the equipment such as the supply cord, appliance coupler, RFI filter and switch, short circuit and earth fault protection may be provided with protective devices in the installation (c) It is permitted for equipment with rated current exceeding 16A, which is pluggable equipment or permanently connected, to rely on dedicated overcurrent and short circuit protection in the building installation, provided that the means of protection, e.g. fuse or circuit breaker, is fully specified in the installation instruction. (d) If reliance is based on protection in the building installation, the installation instructions shall comply with sub-clause 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 wall outlet and Sub-clause 1.7.11 does not apply.		
2.7.2 C	Replace the text of this sub-clause by : Void	Replace	N
2.8.4 C	Delete the note	Delete	N
2.9.1 S	(NO). Due to the IT Power systems used, the mains supply voltage is considered to be equal to the phase-to-phase voltage.	Not applied for.	N
2.11C	Delete notes 1,2 and 3	Delete	N
3.2.1 S	(DK). Supply cords of single phase appliances having a rated current not exceeding 10 A shall be provided with a plug according to the Heavy Current Regulations section 107-2-D1 Class I Equipment provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a 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 Heavy Current Regulations Section 107-1-d1 or EN 60309-2	Not applied for.	N
3.2.01 S	(CH). Supply cords of equipment having a rated current not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 884-1 and one of the following dimension sheets SEV 6532-2, 1991 Plug type 15 3P+N+PE 250/400 V, 10A	Not applied for.	N

EN 60 950			
Clause	Requirement - Test	Result - Remark	Verdict
	SEV 6533-2, 1991 Plug type 11 L+N 250 V, 10 A SEV 6534-2, 1991 Plug type 12L+N+PE 250 V, 10A EN 60 309 applies for plugs for currents exceeding 10A		
3.2.01 S	(GB). Apparatus which is fitted with a flexible cord and 9is designed to connected to a mains socket conforming to BS1363 by means of that flexible cable or cord and plug, shall be fitted with a "standard" plug in accordance with Statury Instrument 1786:1994 - The Plugs and Sockets etc. (safety) Regulation 1994, unless exempted by those regulations.	Not applied for.	N
3.2.2 C	Delete the note and in table 10, delete the value in parentheses.	Delete	N
3.2.4 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	Not applied for	N
3.2.4 C	Replace "245 IEC 53" by "H05 RR-F" "227 IEC 52" by "H03 VV-F or H03 VVH2-F" and "227 IEC 60053" by "HO5 VV-F or H05 VVH2-F" In table 11, replace the first four lines by the following: UP to and including 6 0.75. Over 6 up to and including 10 1.0. Over 10 up to and including 16 1.5 (1.0)" In the conditions applicable to table 11, delete the words "in some countries" 1). In the note delete the second sentence.	Not applied for.	N
3.3.5 S	(GB). The range of conductor sized of flexible cords to be accepted by terminals or equipment with a rated current of over 10A and up to and including 13 A is: 1.25 mm^2 to 1.5 mm^2 nominal cross-sectional area.	Not applied for.	N
3.3.5 C	In table 13, replace the fourth and fifth lines by "Over 10 up to and including 16:1.5 to 2.5 1.5 to by 4"	Replace	N
4.3.12	Amend the third compliance paragraph as follows: For equipment using LEDs or lasers, compliance is checked according to EN 60825-1. Add a note; NOTE: If equipment falling within the scope of EN 60950 is inherently a class 1 laser product i.e. it contains no embedded laser or LED of a higher class bumber, then a laser warning label or other laser warning statement is not required (see 1.1 of	Considered, see IEC 60950 report	P

EN 60 950			
Clause	Requirement - Test	Result - Remark	Verdict
	EN 60825-1)		
4.3.18 S	(GB). This test should be performed using an appropriate socketoutlet with a earthing contact.	Not applied for.	N
4.4.4 C	Delete note 2.	Delete	N
5.4.9 S	(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.	Not applied for.	N
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. 245V.)	Not applied for.	N
6.2.1.2 C 6.2.1.3 C	Add at the end of each sub-clause: This sub-clause only applies to TNV circuits normally operating in excess of the limits of SELV circuits.	NO TNV.	N
6.2.1.4b S	(NO). Insulation between parts conductively connected to the supply mains and parts connected a public telecommunication network shall comply with the requirements for double or reinforced insulation.	Not applied for.	N
6.2.1.4b S	(FI). This method is only permitted for permanently connected equipment or for pluggable equipment type B.	Not applied for.	N
6.2.1.4 C	Delete notes		N
6.2.1.5 S	(NO). Requirements in 6.2.1.4, note 2 apply	Not applied for.	N
6.3.3 S	(NO). 6.3.3 is applicable for pluggable equipment type A and B and for permanently connected equipment	Not applied for.	N
6.4.1 C	Delete note 2.		N
6.4.2.1 C	Delete note 2.		N
6.4.02.1 D	(AT) Equipment shall comply with Uc = 2.0 KV in case b) and c)..	Not applied for.	N
Annex H. D	(DE) a) A license is requied by those who operate an X-ray emission source. b) A license 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 1) The local does rate at a distance of 0.1 m from the surface does not exceed 1æSv/h and 2) it is adequately indicated on the X-ray emission source that i) X-rays aregenerated and	No CRT	N

EN 60 950			
Clause	Requirement - Test	Result - Remark	Verdict
	ii) The electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer. c) A license in accordance with clause 1 is also not required by persons who operate an X-ray emission source on which the electron acceleration voltage exceed 20 kV, if 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 i) X-rays aregenerated and ii) the device stipulated by the manufacturer or importer guarantees that the maximum permissible local does rate in accordance with the type approval is not exceed and iii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer. d) Furthermore, a license 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 1) The X-ray are generated only intrinsically safety CRTs complying with Enclosure III, No.6, 2) The values stipulated in accordance with Enclosure III, by, 6.2 are limited by technical measured and specified in the device and it is adequately indicated on the X-ray emission source that the X-ray generated are adequately screened by the intrinsically safe CRT.		
Annex P C	Replace the text of this annex by: See annex ZA	Replaced	N
Annex Q C	Add for IEC 60529: Note Endorsed by EN 60529:1991 (not modified) Add for IEC 60707 Note: Endorsed by HD441:1983 (not modified) Add for IEC 61058-1: Note: Endorsed by EN 61058:1992 (not modified).	Added	N

2
DESIGN AND TECHNICAL CONSTRUCTION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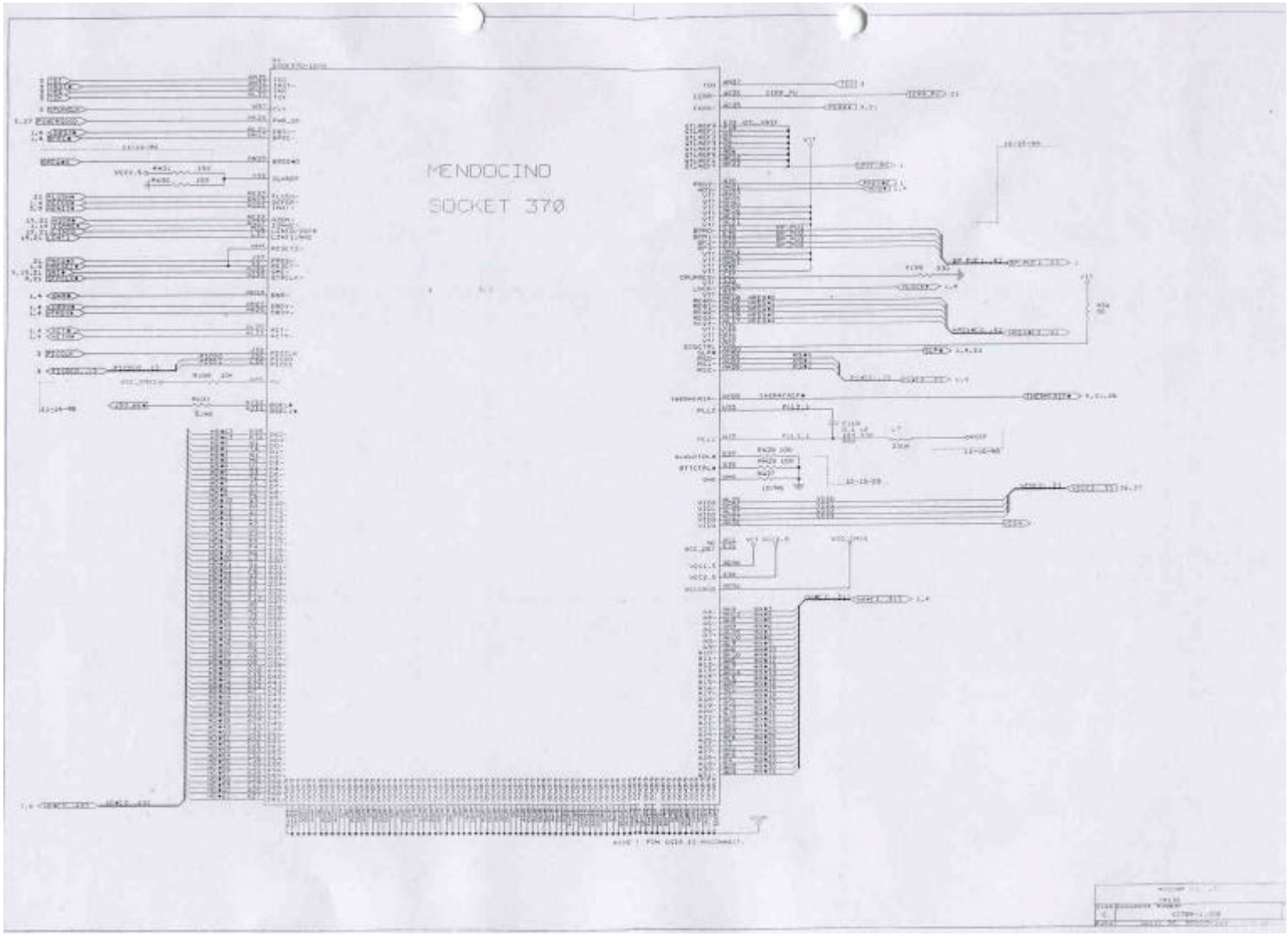
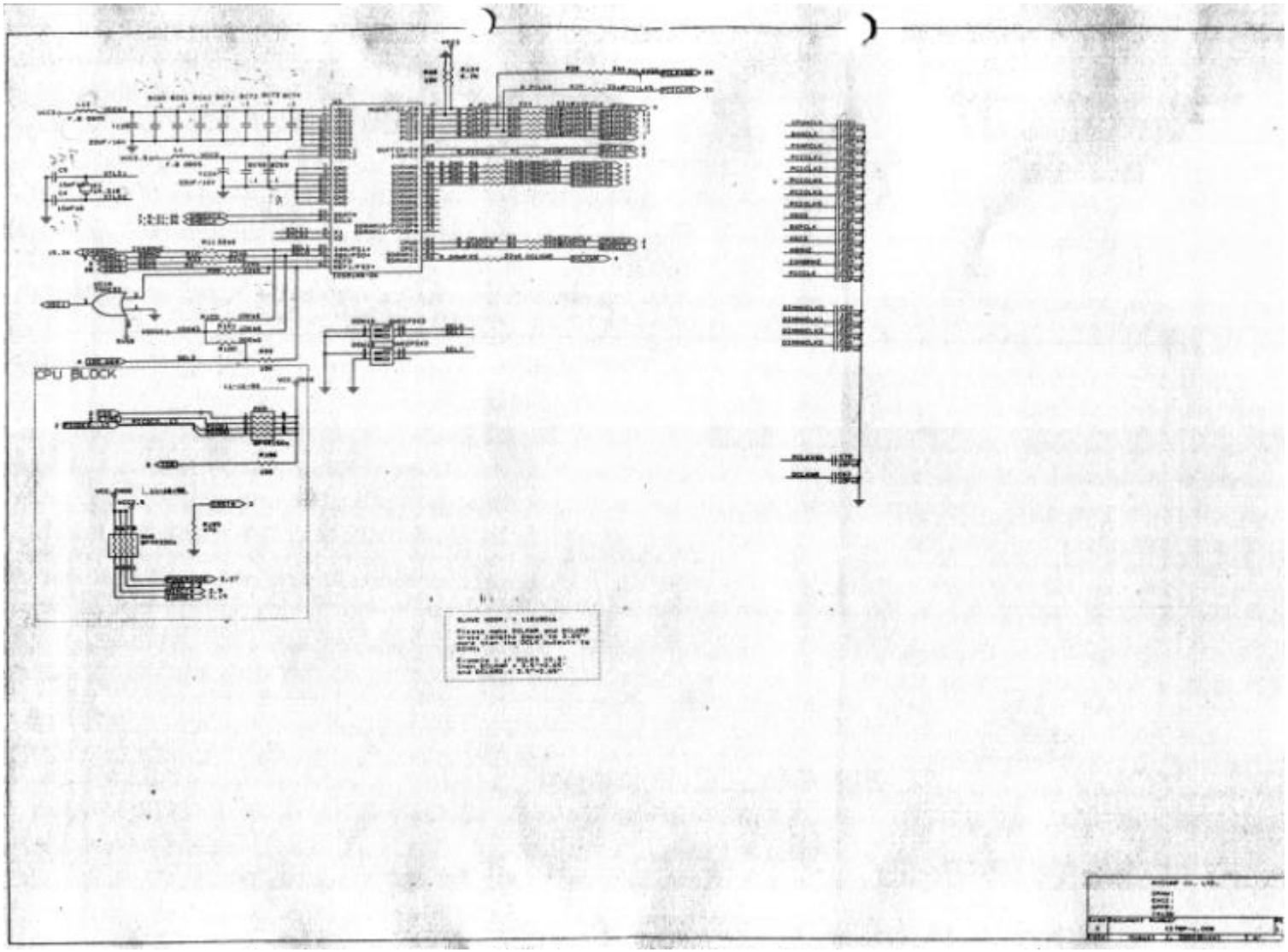
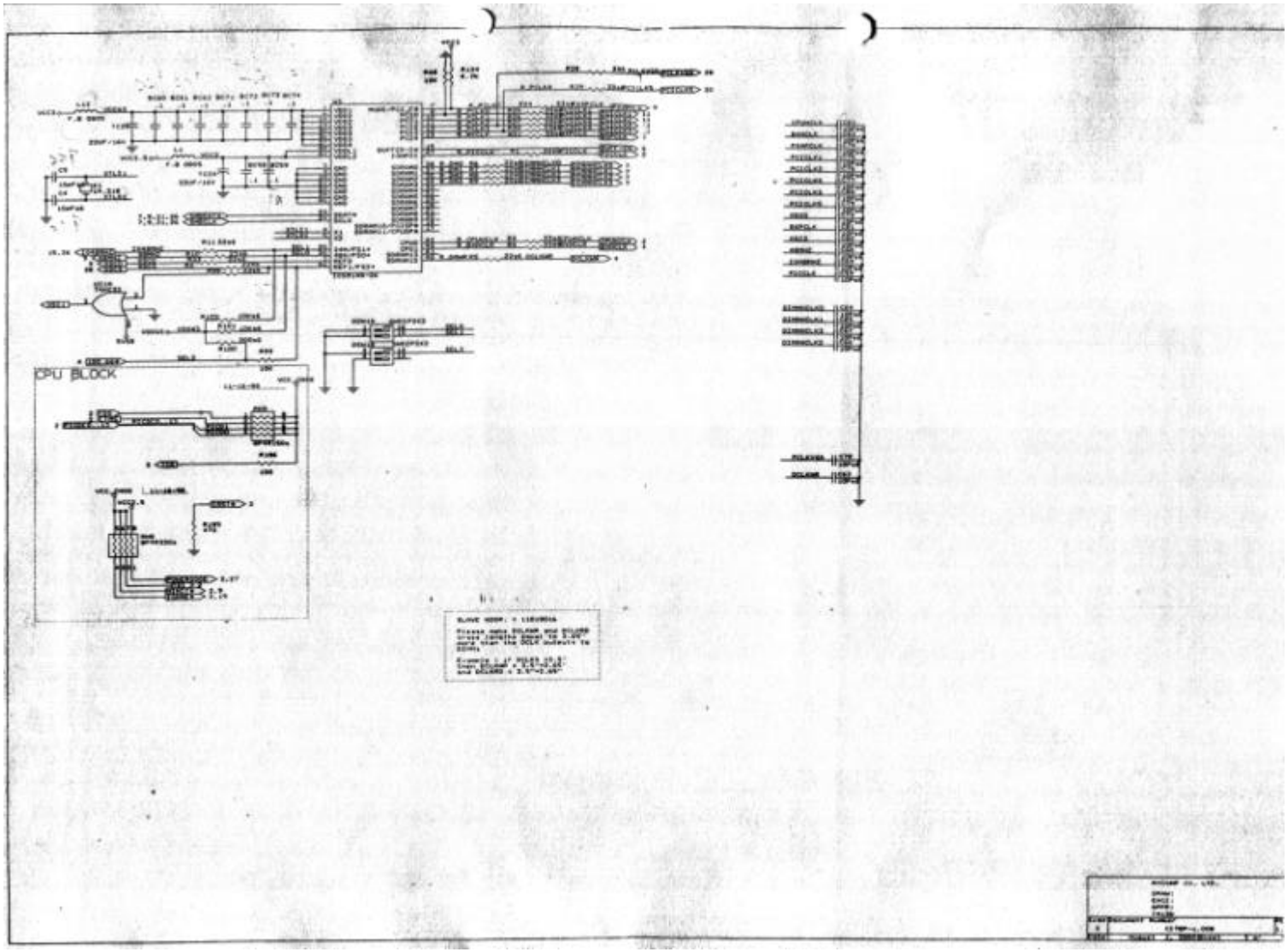
VTT = TERMINATION VOLTAGE


MENDOCINO
SOCKET 370


CPU BLOCK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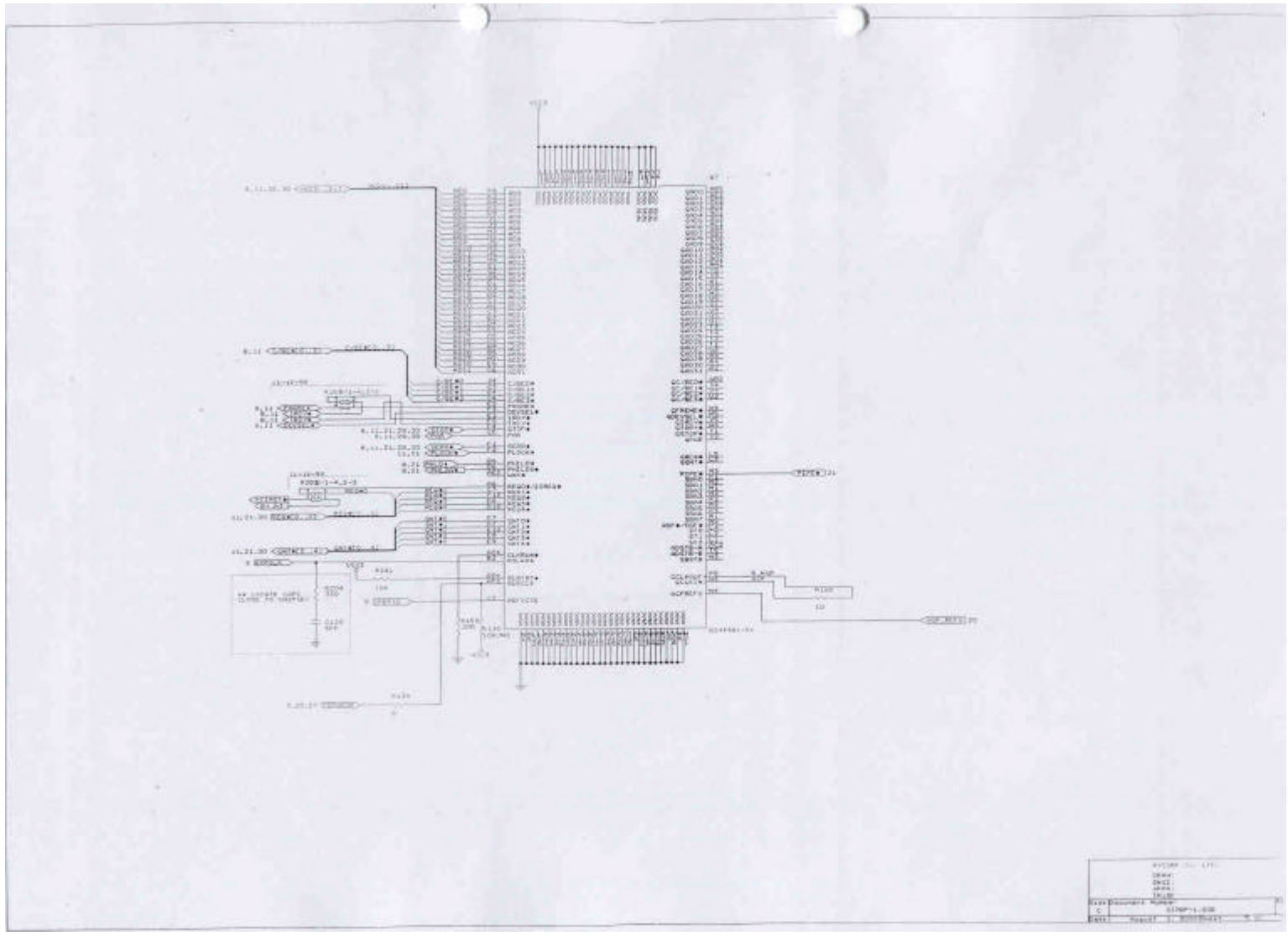

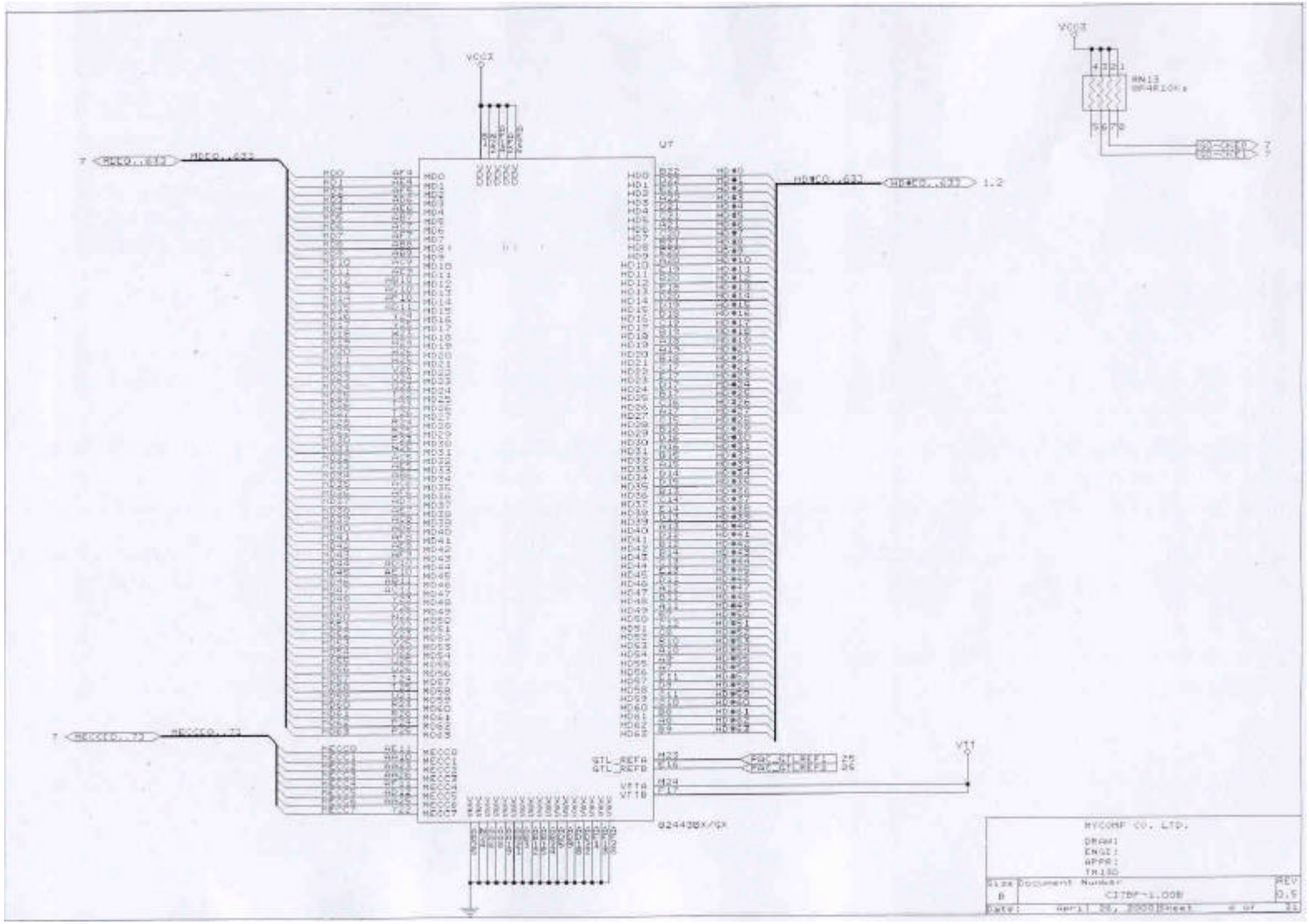
VCC3
U7
82443BX/GX
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VTTA
VTTB
VTT
RN13
MYCONF CO., LTD.
Size
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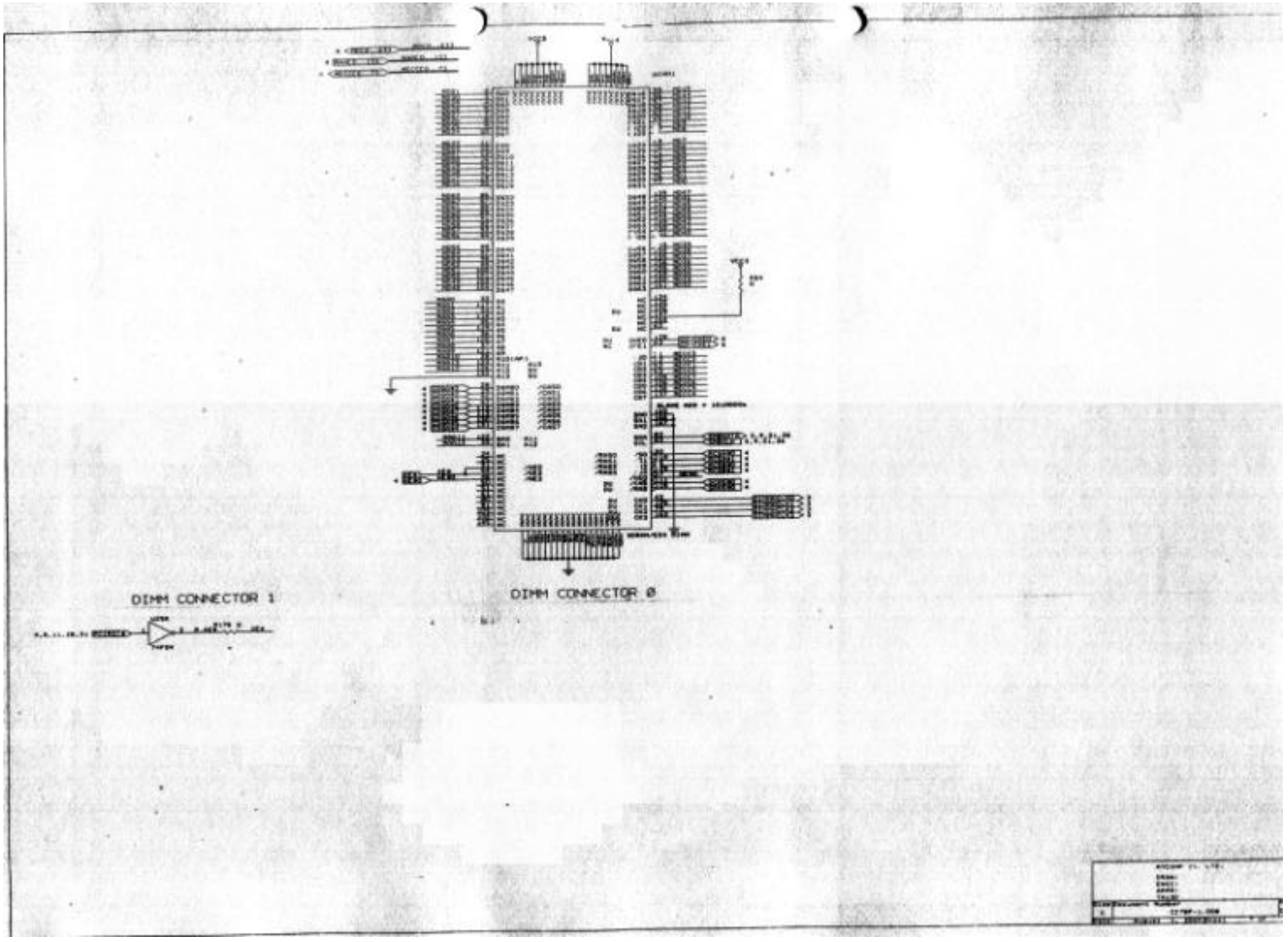
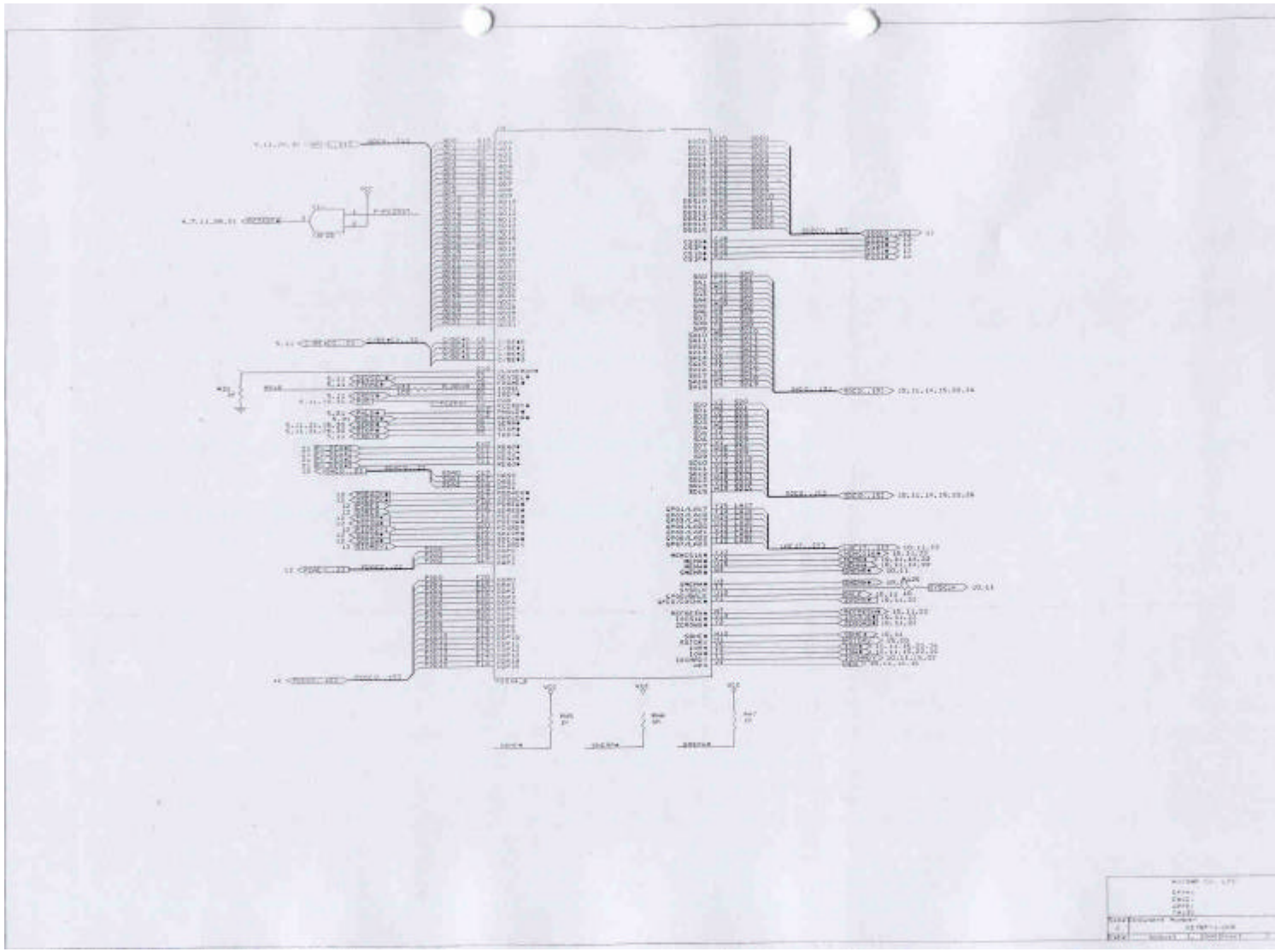
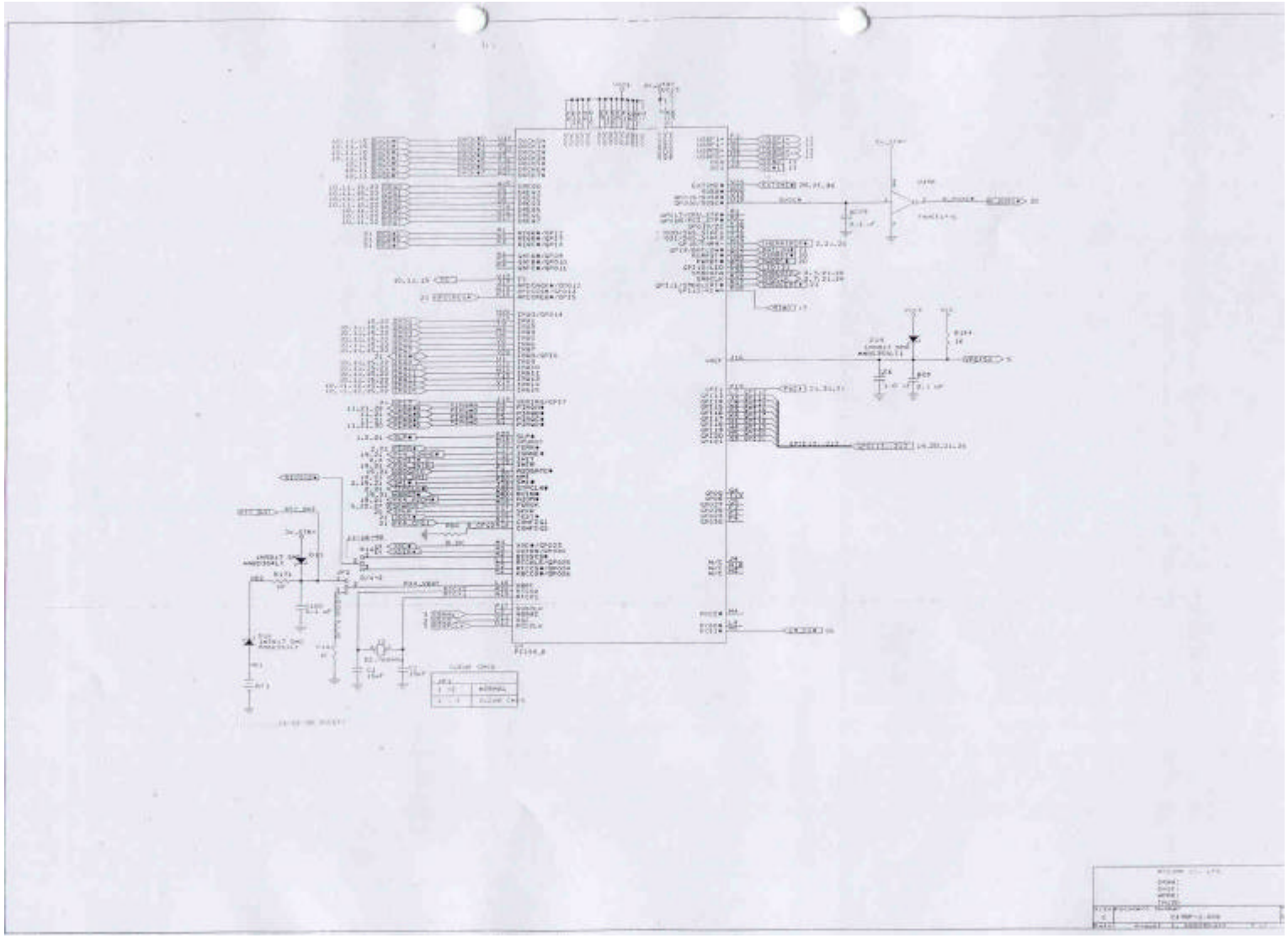
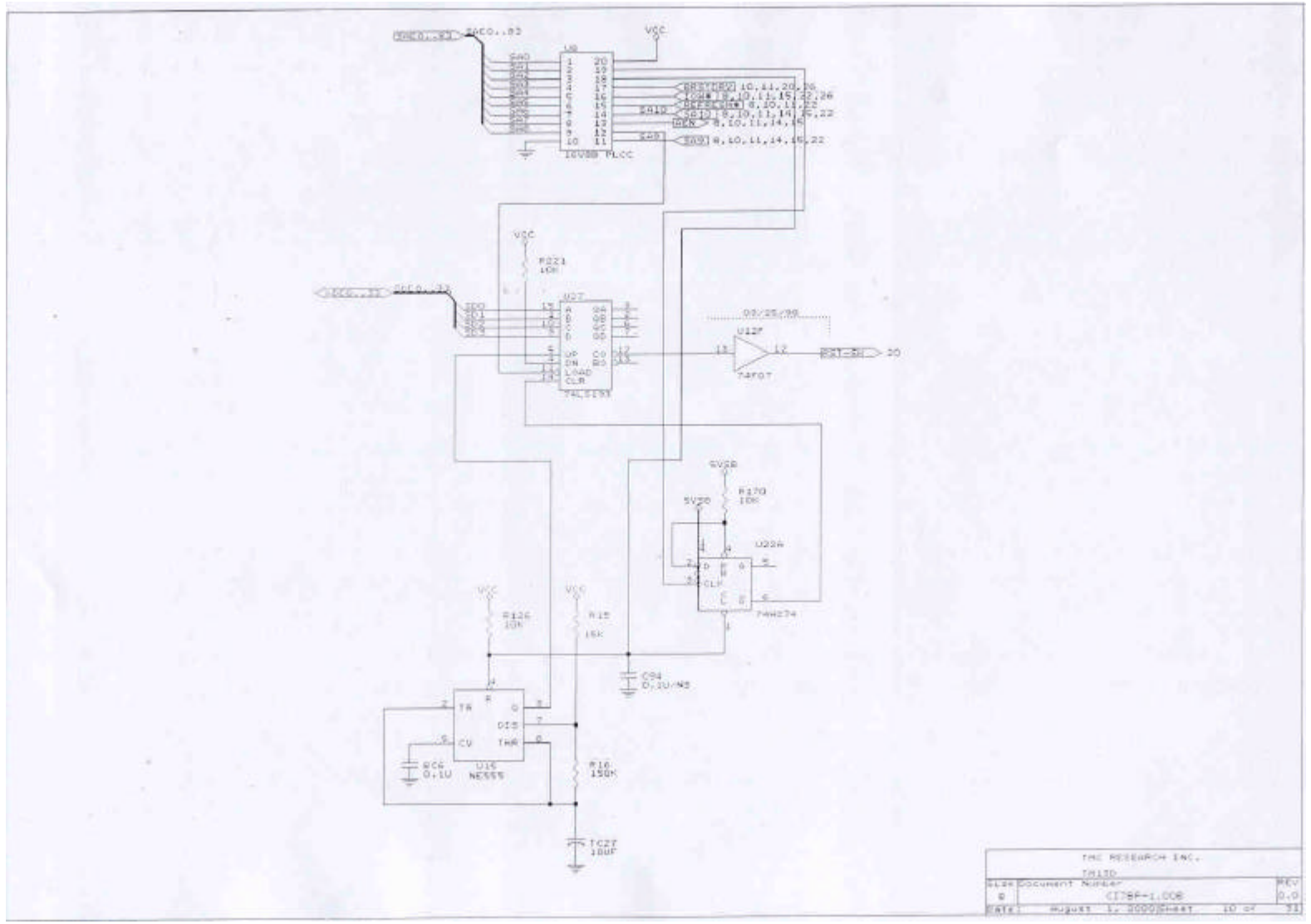
of


DIMM CONNECTOR 1
DIMM CONNECTOR 0



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U8
16V8B PLCC
VCC
R221
10K
U27
74LS193
U12F
74F07
U22A
74HC74
5V2R
R170
10K
R126
10K
R15
15K
C94
0.1U/N5
U15
NE555
R16
150K
TC27
100F
TMC RESEARCH INC.
TM13D
Document Number
C1788-1.008
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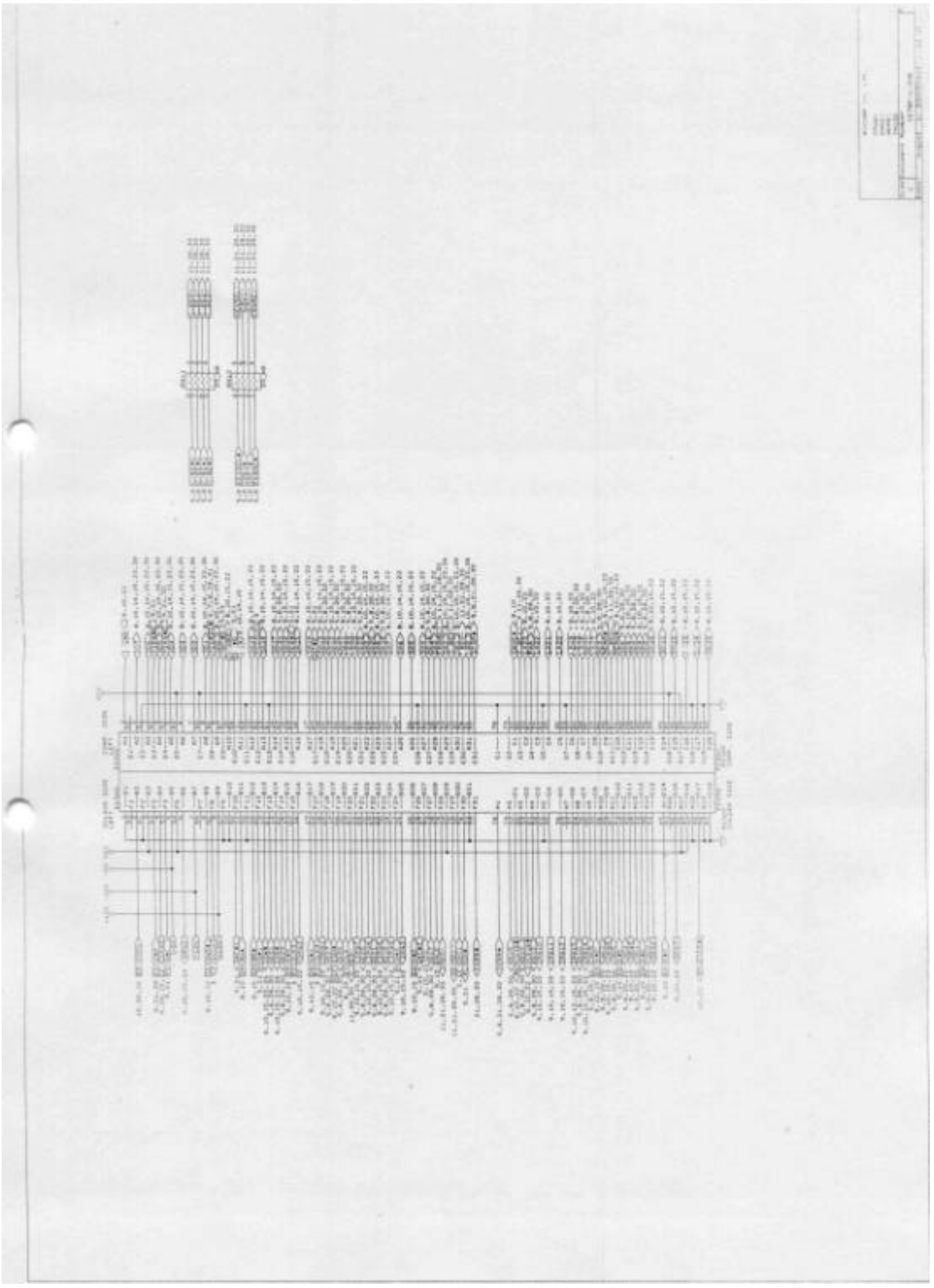
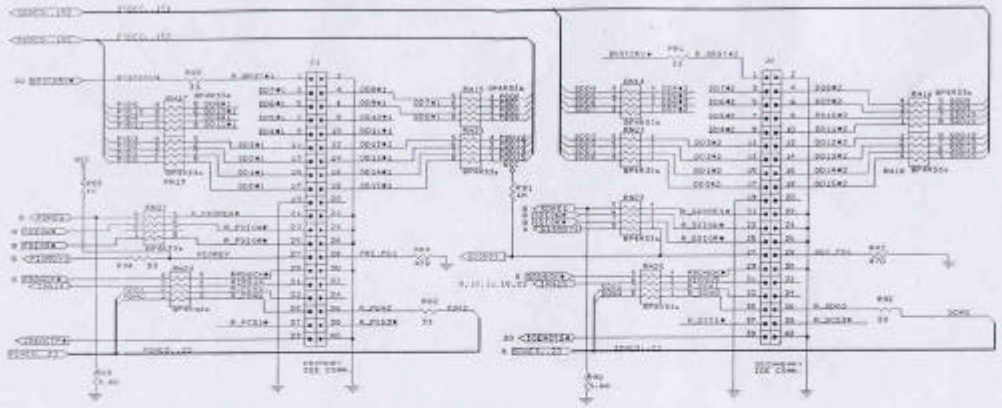
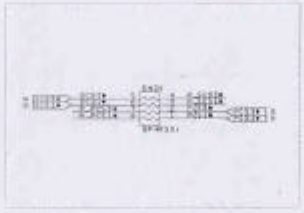
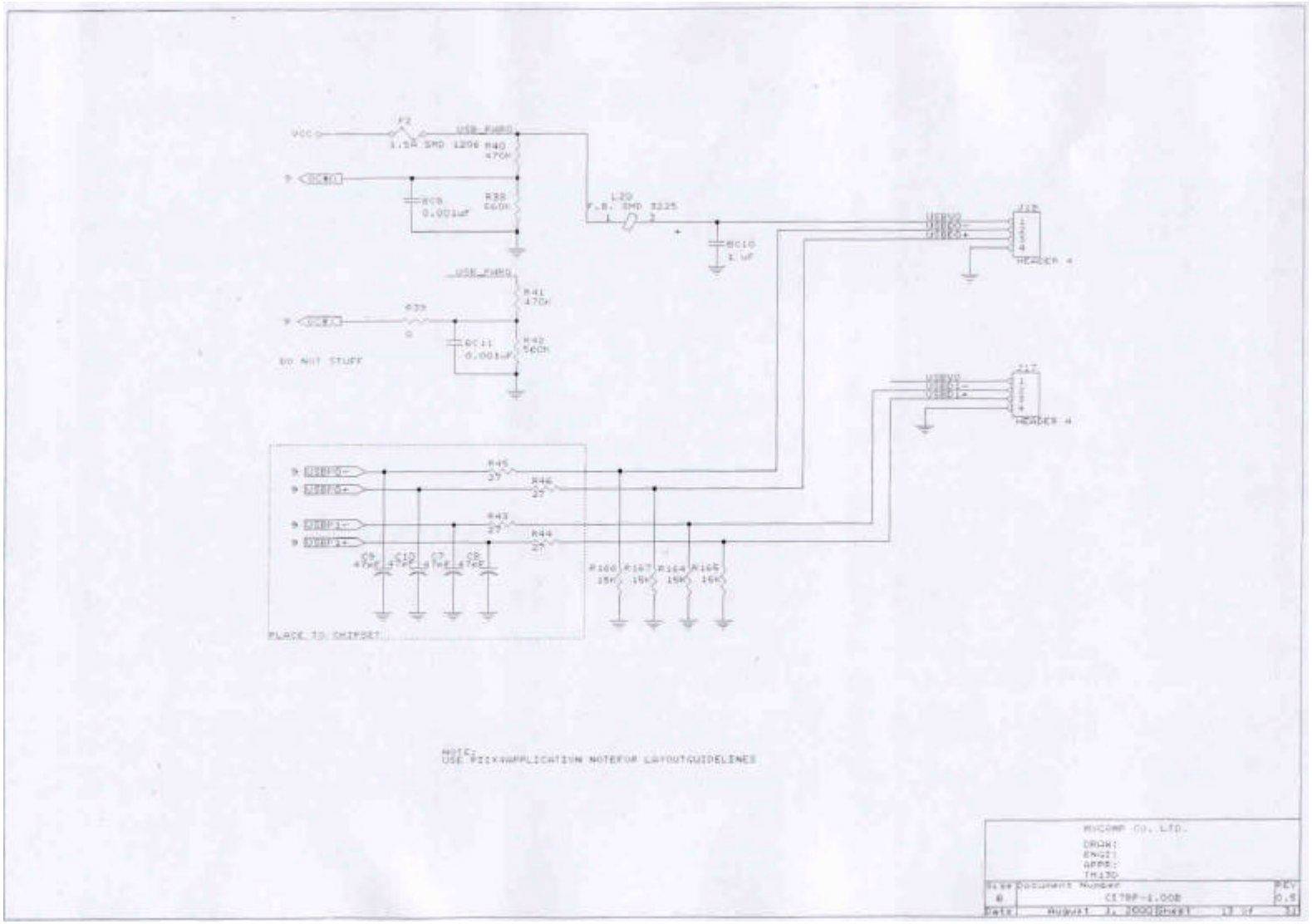


IDE CONNECTORS



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F2
1.5A SMD 1206
USB_PWR0
R40
47OH
C69
0.001uF
R38
0OH
L20
F.B. SMD 3225
C610
1uF
USB_PWR0
R41
47OH
R39
0
C611
0.001uF
R42
0OH
DO NOT STUFF
J18
HEADER 4
J17
HEADER 4
R45
27
R46
27
R43
27
R44
27
C9
C10
C7
C8
R166
15K
R167
15K
R164
15K
R165
15K
PLACE TO CHIPSET
NOTE:
USE PIIX4APPLICATION NOTEFOR LAYOUTGUIDELINES
MICOMP CO., LTD.
DRAN:
ENGR:
APPR:
THESD:
Size
B
Document Number
C178P-1.00B
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0.9
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August 1, 2000
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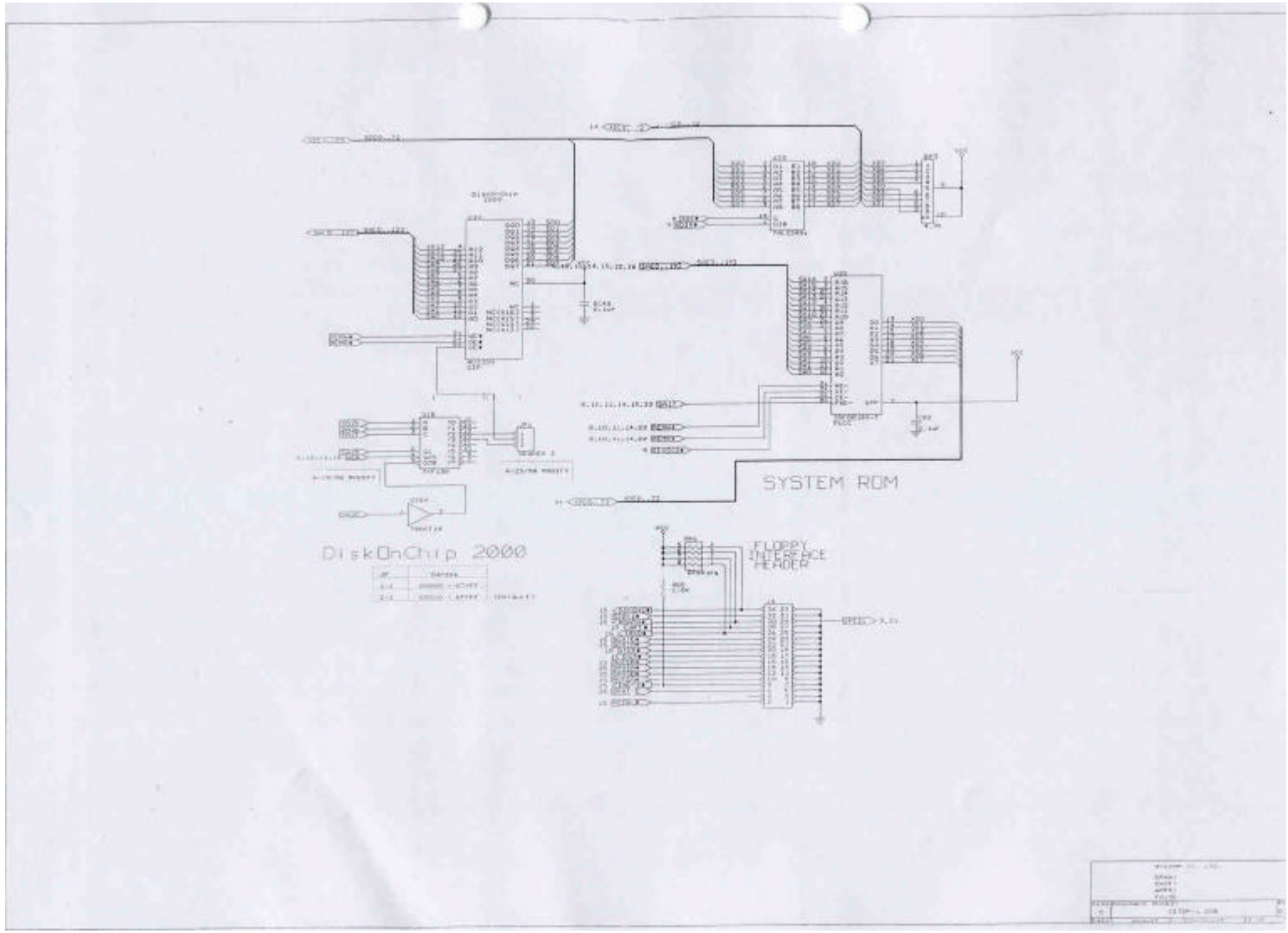
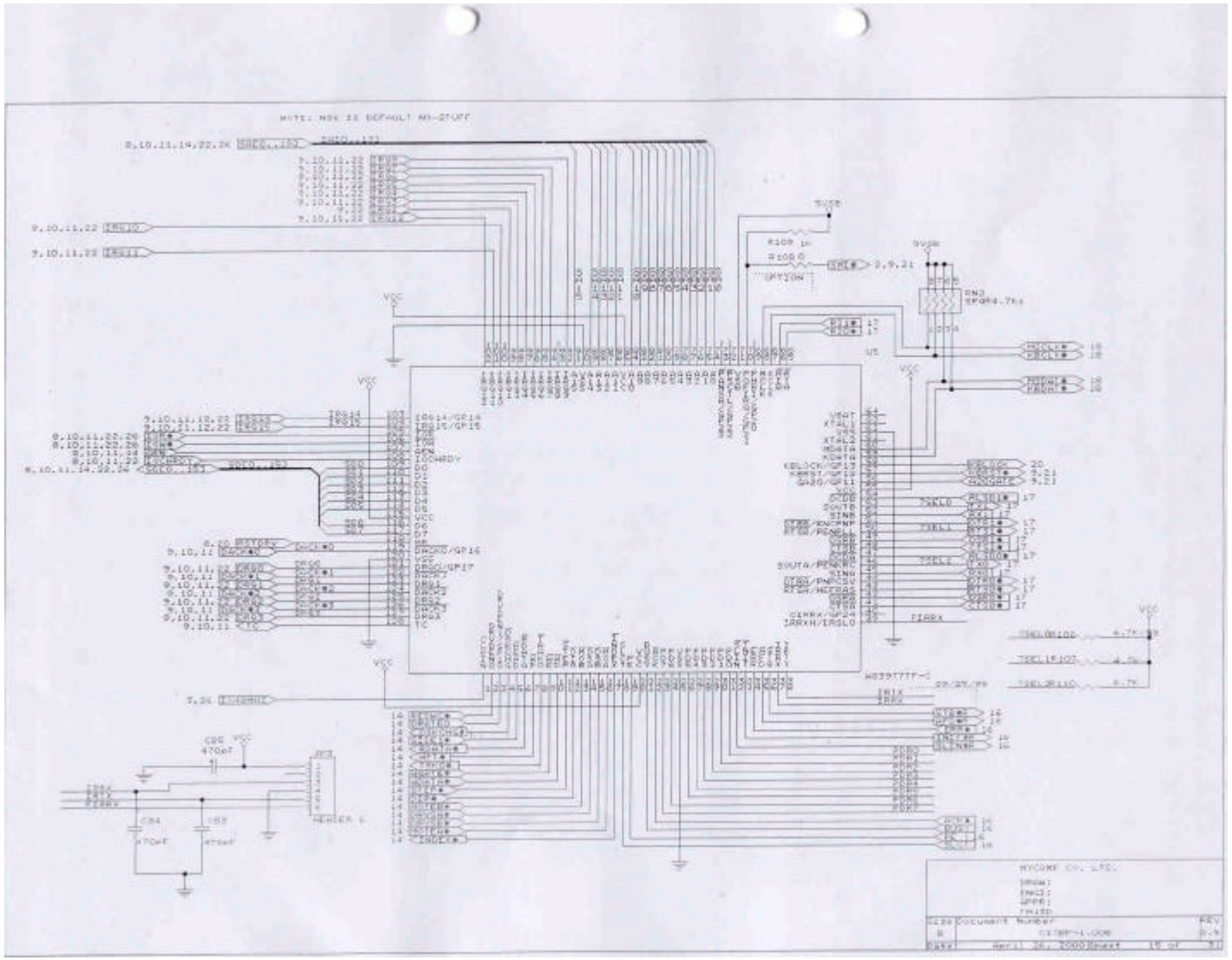
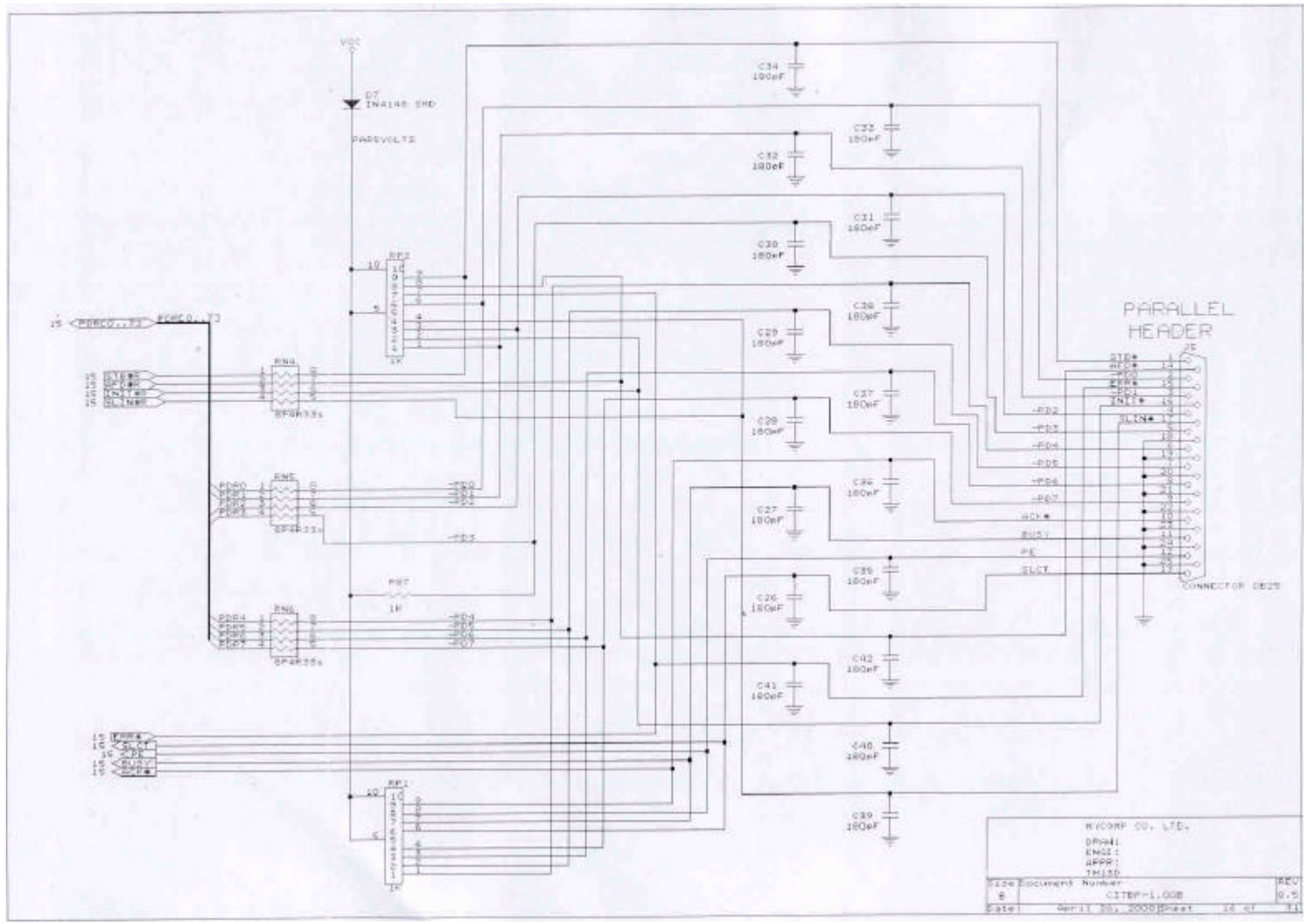

SYSTEM ROM
DiskOnChip 2000
FLOPPY
INTERFACE
HEADER




PARALLEL
HEADER
CONNECTOR DB25
PARVOLTS
VCC
D7
1N4148 SMD
RP3
RP4
RP2
RP1
R87
1K
C34
180pF
C33
180pF
C32
180pF
C31
180pF
C30
180pF
C38
180pF
C29
180pF
C37
180pF
C28
180pF
C36
180pF
C27
180pF
C35
180pF
C26
180pF
C42
180pF
C41
180pF
C40
180pF
C39
180pF
-PD2
-PD3
-PD4
-PD5
-PD6
-PD7
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BUSY
PE
SLCT
SLIN*
M-CORP CO., LTD.
DRAWN:
ENGR:
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Size
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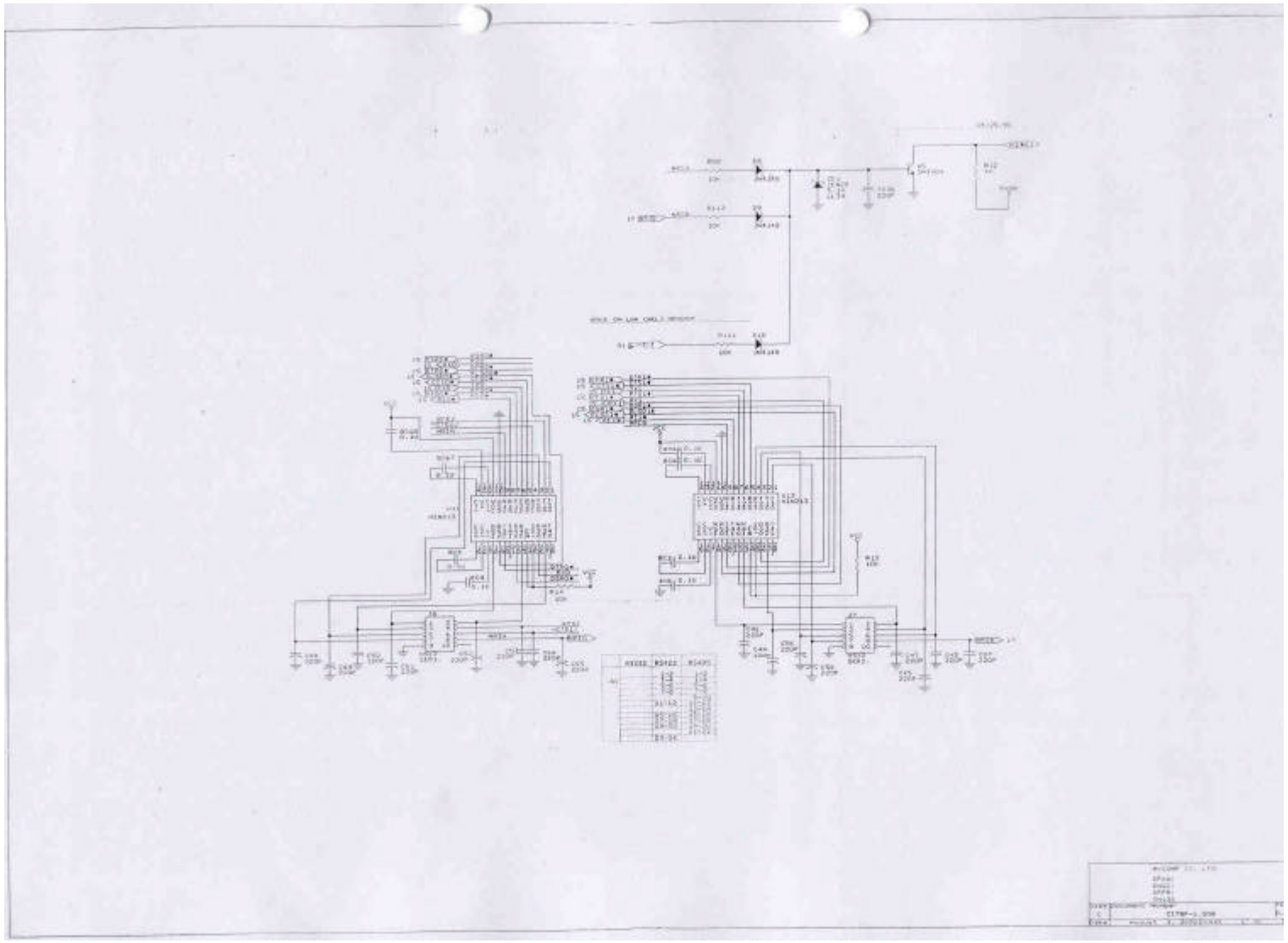

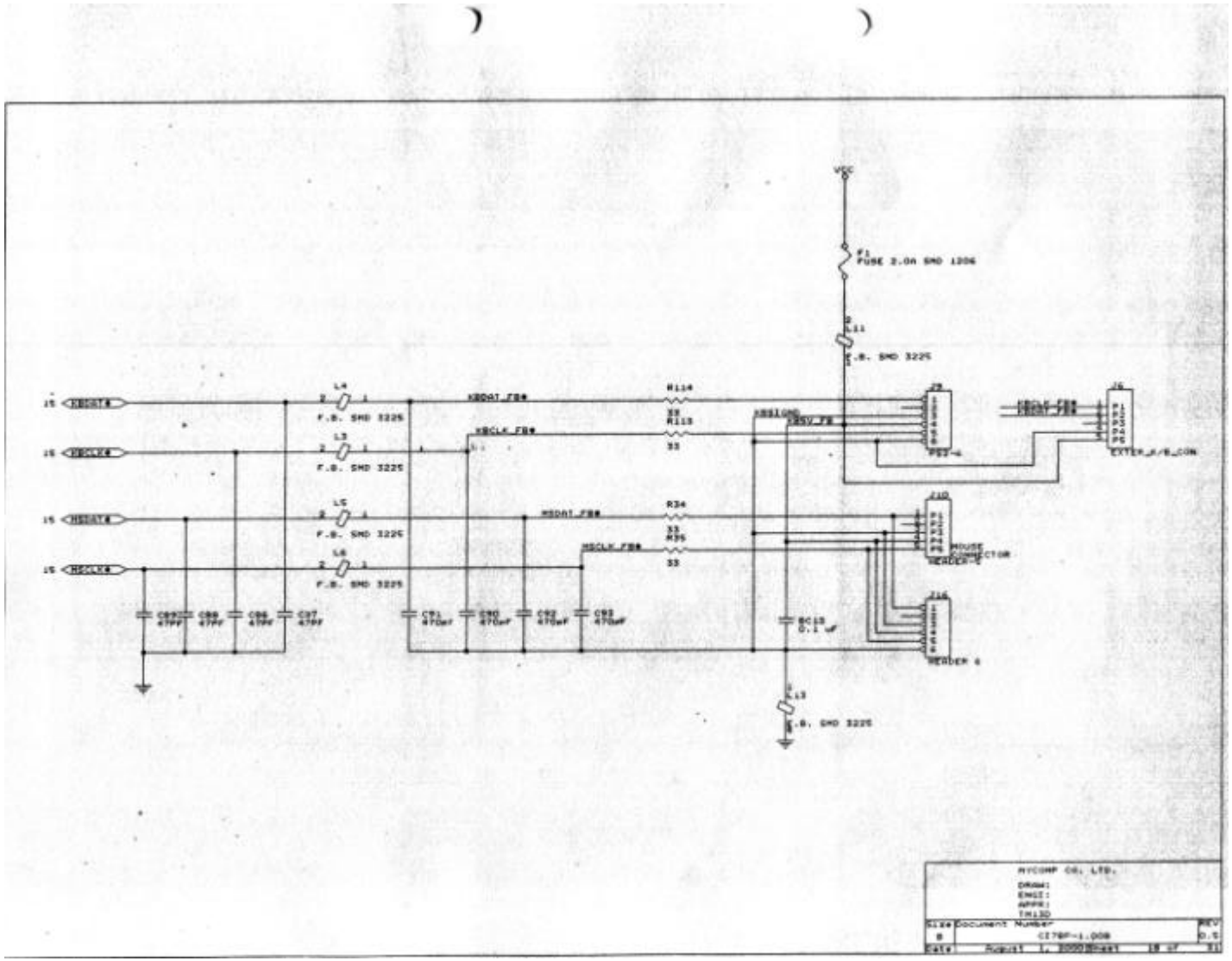
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F1
FUSE 2.0A SMD 1206
C11
0.1uF SMD 3225
KBDAT
KBCLK
MSDAT
MSCLK
L4
L3
L5
L6
F.B. SMD 3225
KBDAT_FB#
KBCLK_FB#
MSDAT_FB#
MSCLK_FB#
R114
R33
R34
R35
33
KBGND
+5V_FB
J9
PS2-4
J6
EXTER_K/B_CON
J10
MOUSE CONNECTOR
HEADER 5
J16
HEADER 4
C89 470pF
C86 470pF
C87 470pF
C91 470uF
C90 470uF
C92 470uF
C93 470uF
BC15 0.1uF
L2
F.B. SMD 3225
MYCOMP CO., LTD.
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Date:
August 1, 2000
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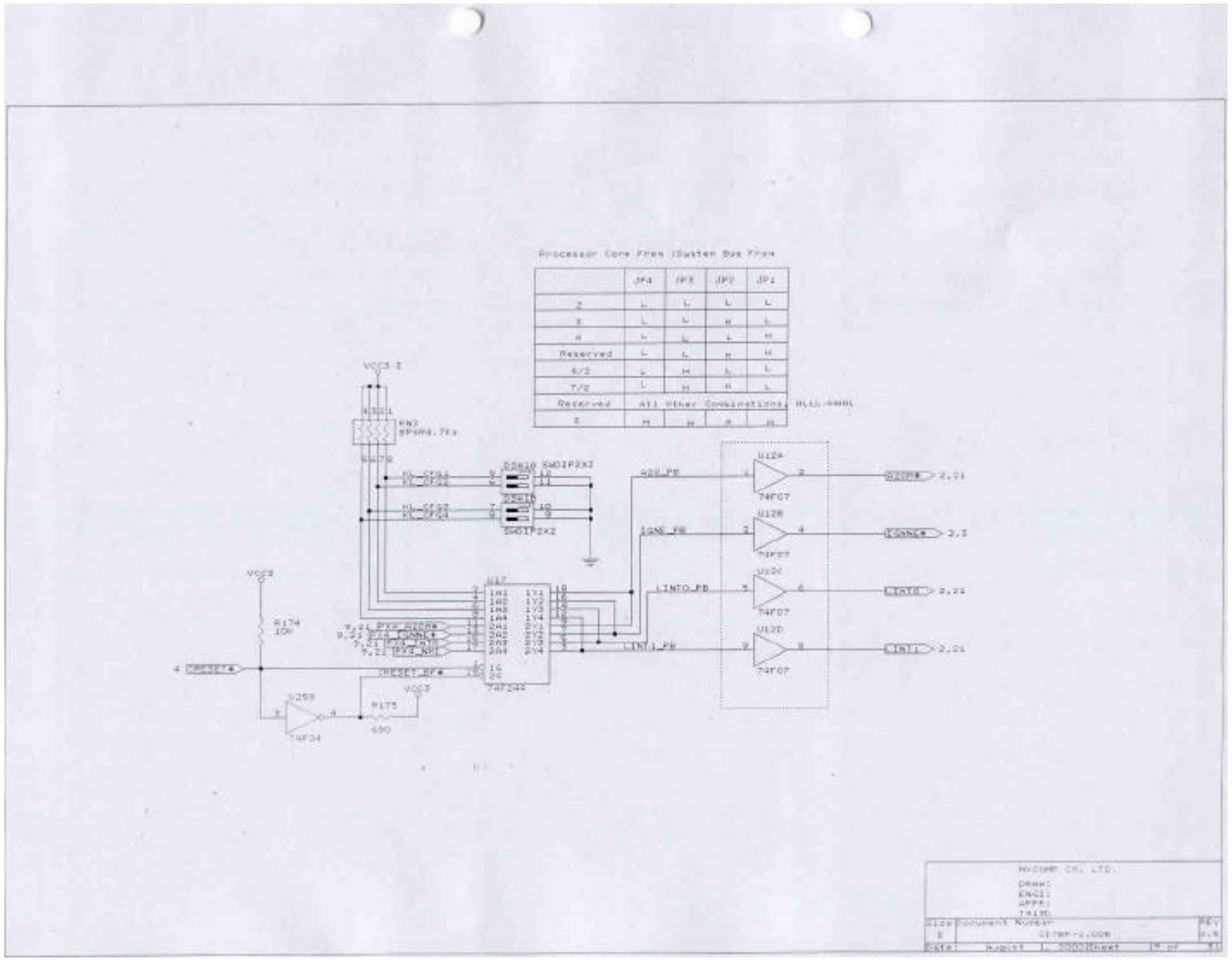
Processor Core Freq /System Bus Freq
JP4 JP3 JP2 JP1
2 L L L L
3 L L H L
4 L L L H
Reserved L L H H
5/2 L H L L
7/2 L H H L
Reserved All Other Combinations H:L L:GND
2 H H H H
VCC3.3
RN2
8P4R4.7K
SW10
SW01P2X2
SW11
SW01P2X2
U17
74F244
R174
10K
R175
680
U25B
74F04
U12A
74F07
U12B
74F07
U12C
74F07
U12D
74F07
A20_PB
IGNE_PB
LINT0_PB
LINT1_PB
A20M#
IGNNE#
INTO
INT1
RESET#
RESET_BF#
HA20_CNTL
HIGNE_CNTL
HA20_M#
HPIX_CLK
HPIX_DATA
HPIX_INT
HPIX_NMI
MYCOMP CO., LTD.
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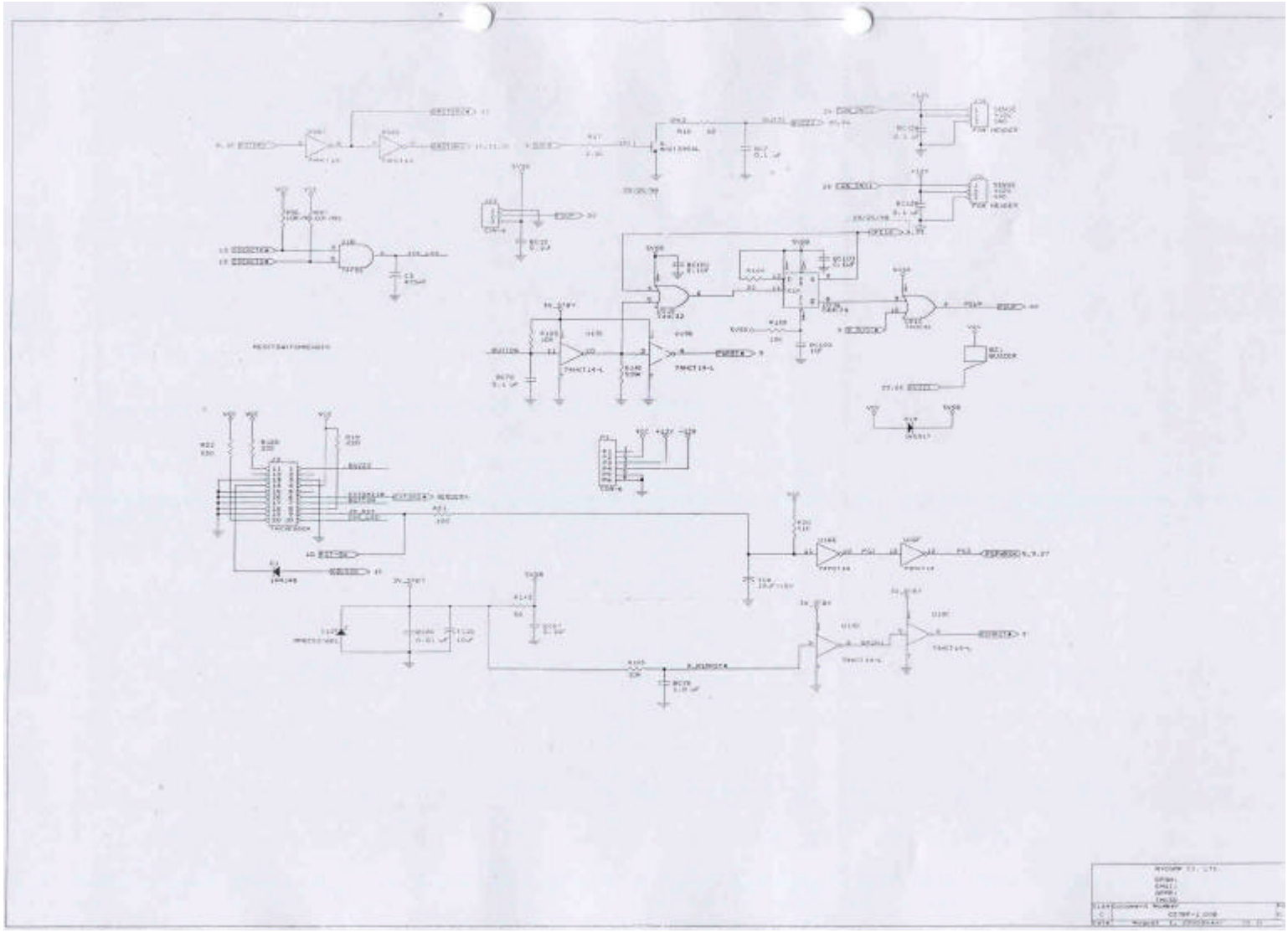

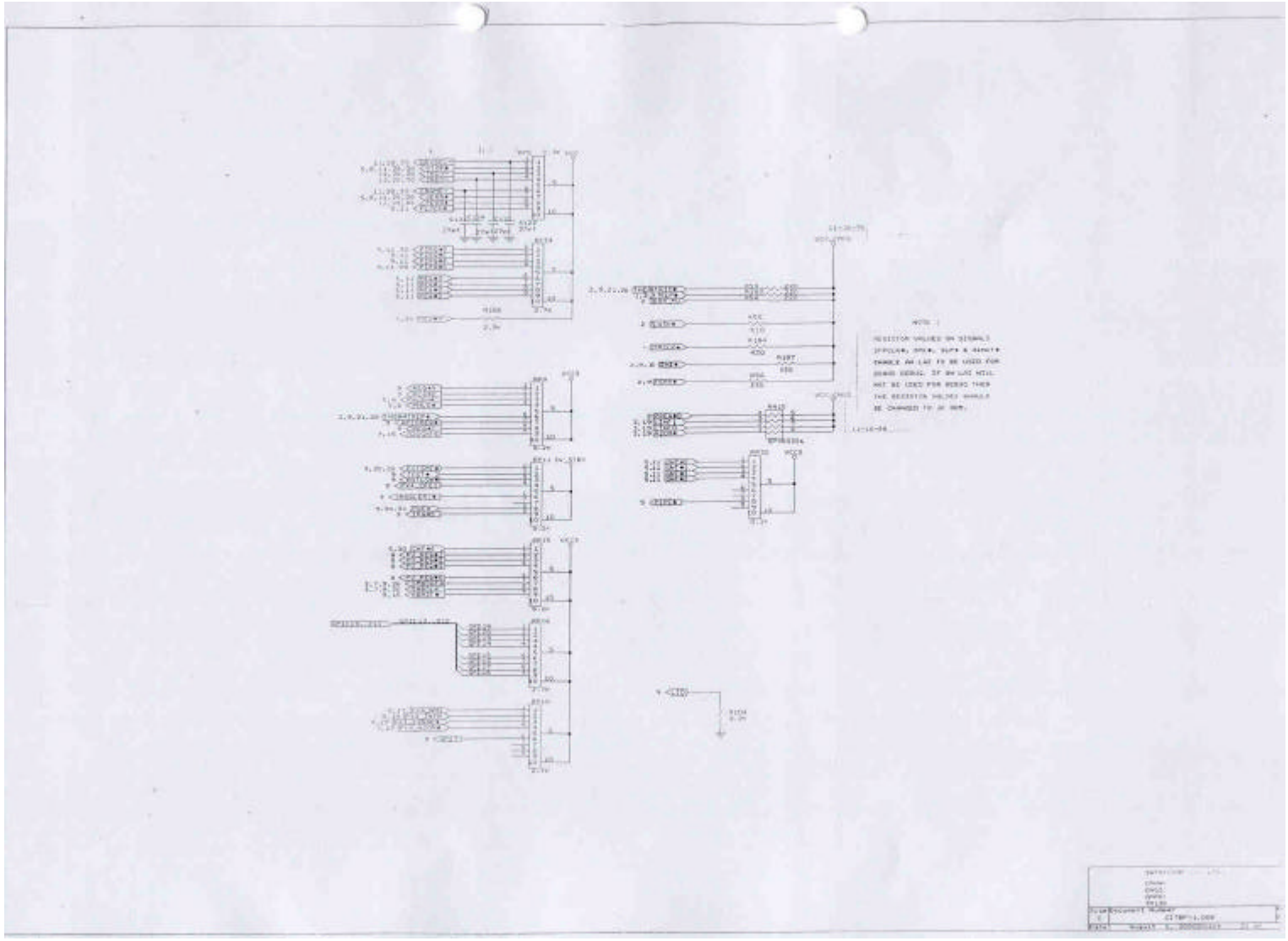

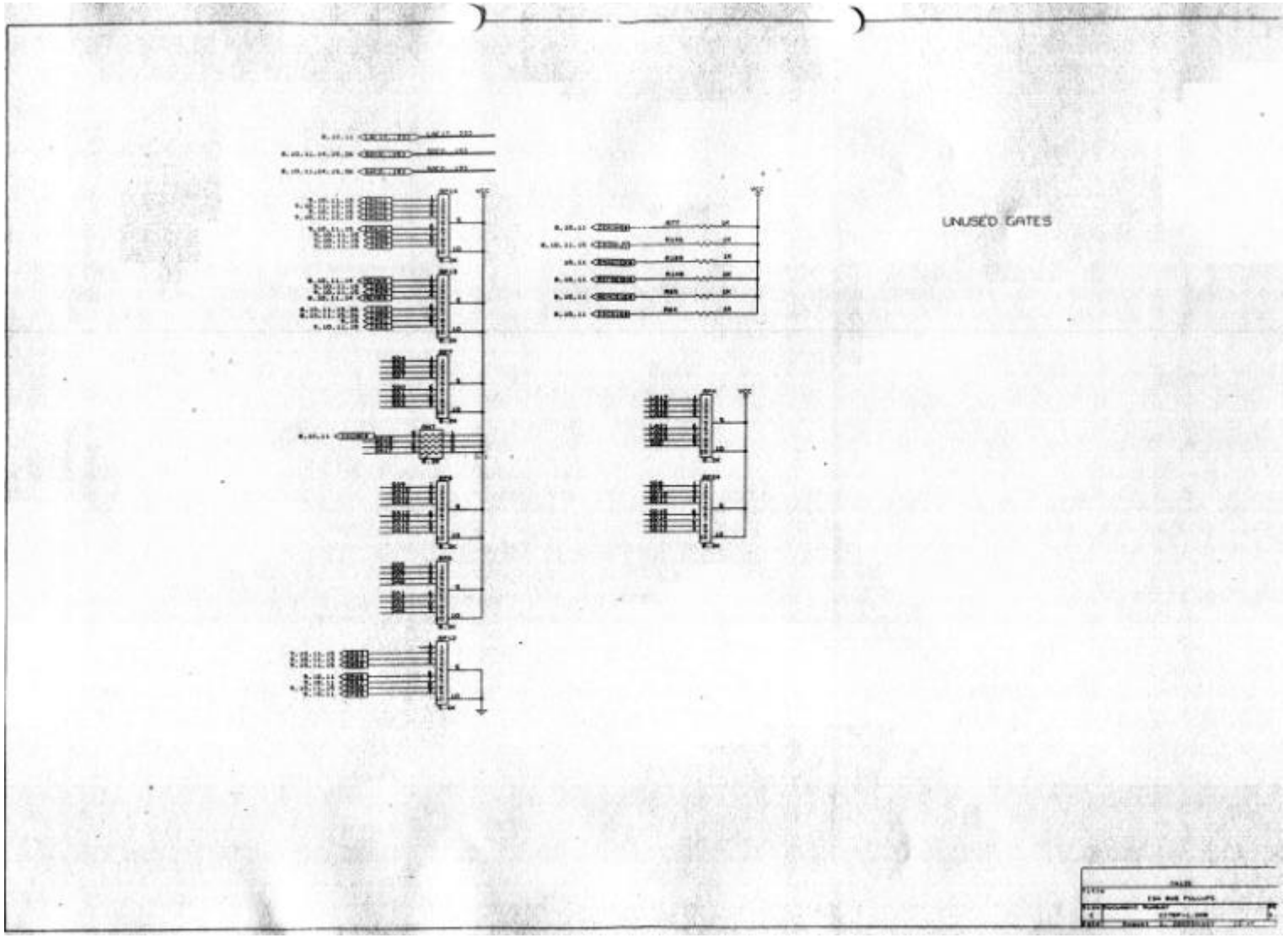
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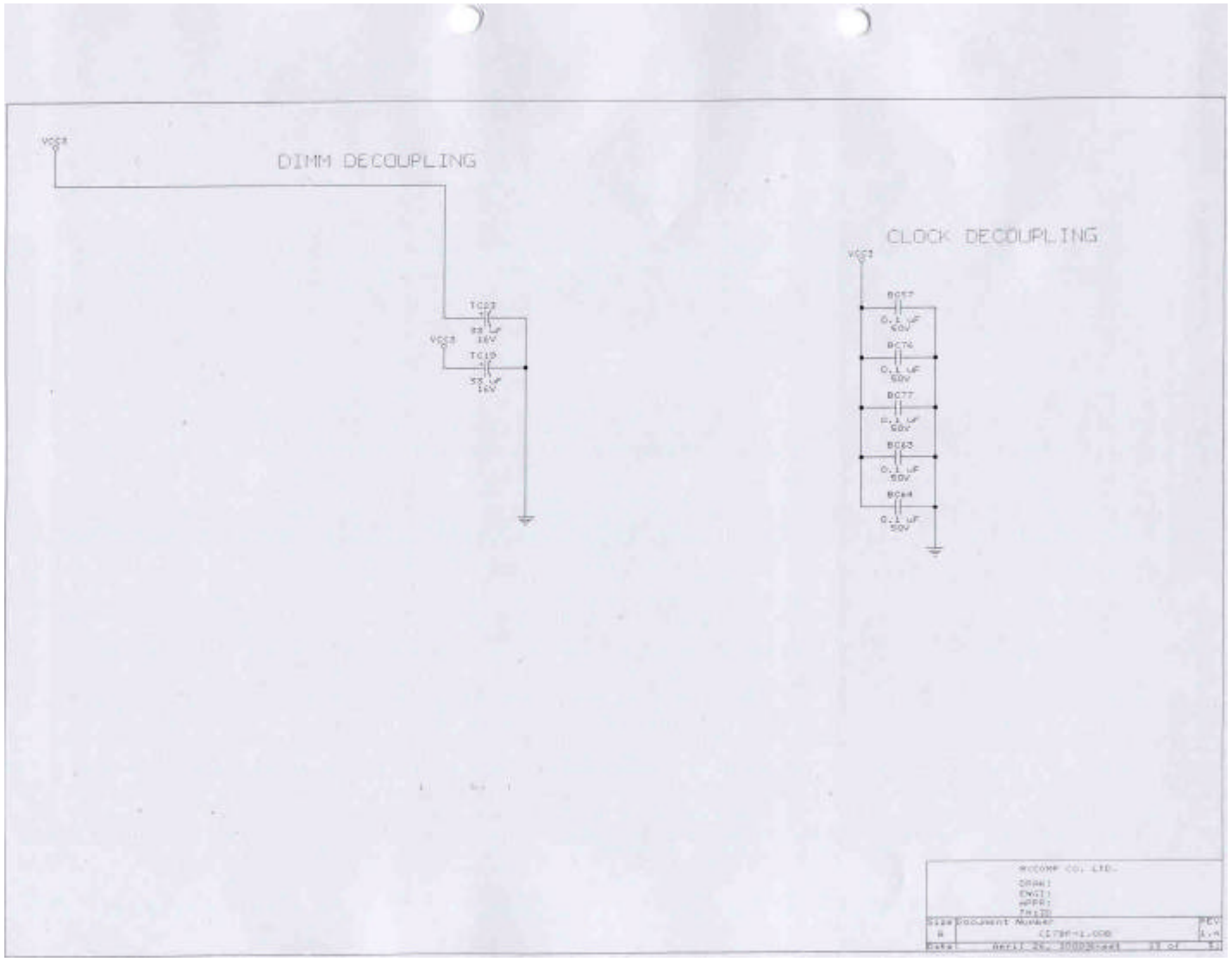
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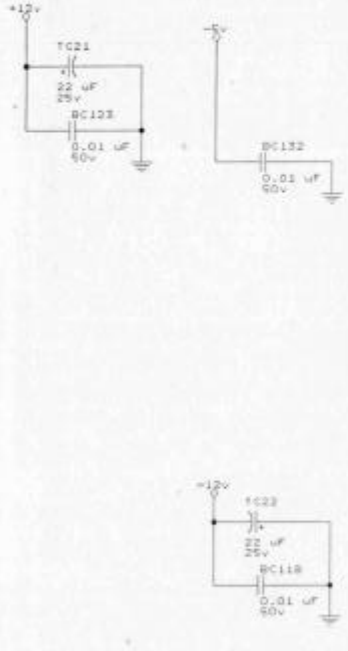
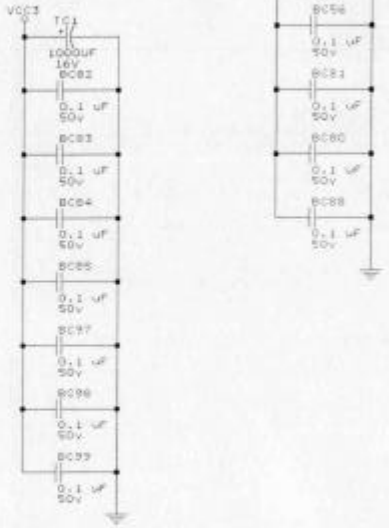
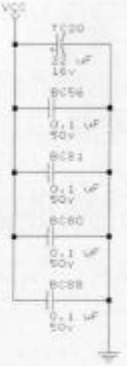
VCC3
TC23
33 uF
16V
TC19
33 uF
16V
CLOCK DECOUPLING
VCC3
BC67
0.1 uF
50V
BC76
0.1 uF
50V
BC77
0.1 uF
50V
BC63
0.1 uF
50V
BC64
0.1 uF
50V

BULK DECOUPLING



3 VOLT DECOUPLING





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APPR:		
TM130		
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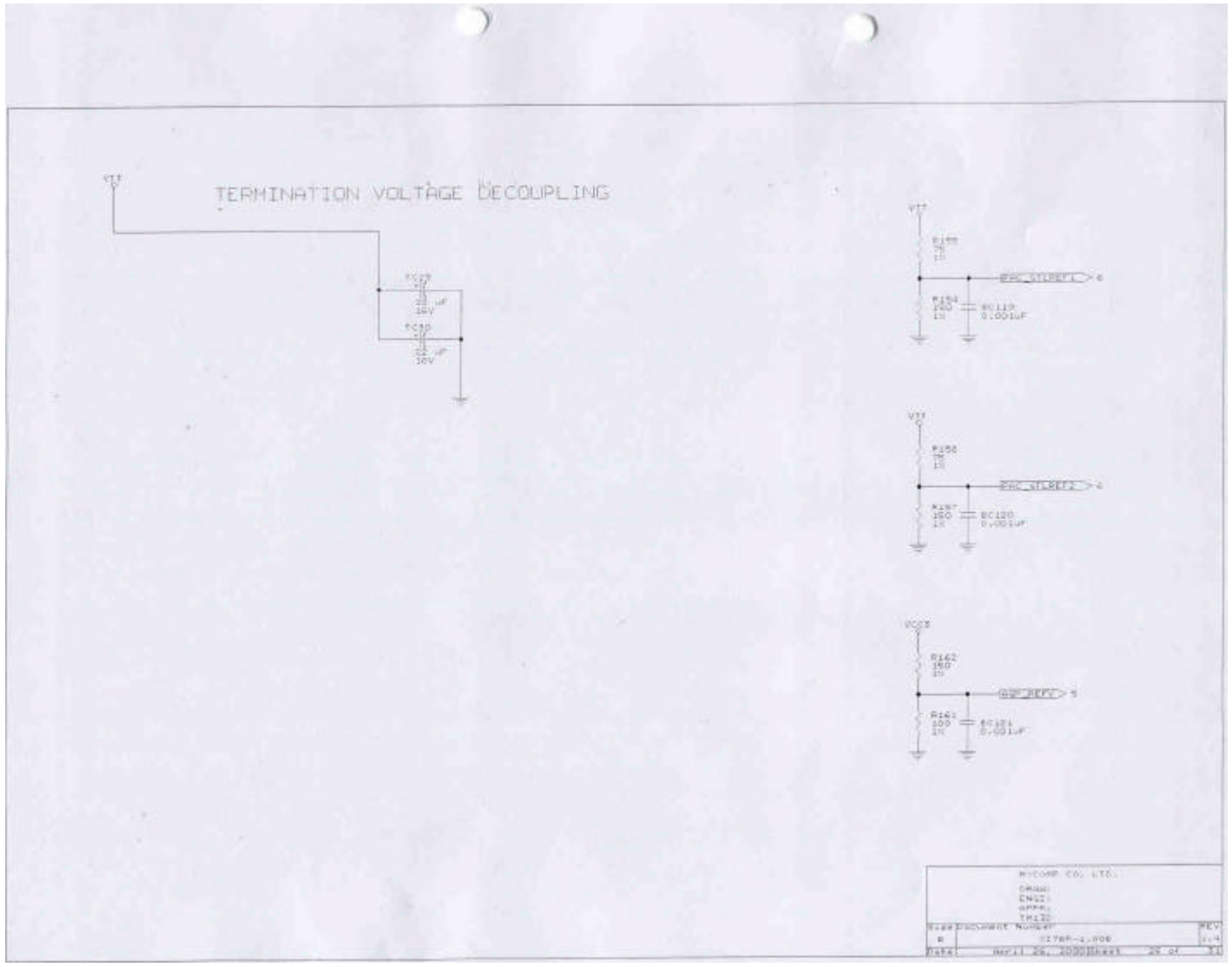
TERMINATION VOLTAGE DECOUPLING
VTT
VCC3
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CHKD:
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TM120
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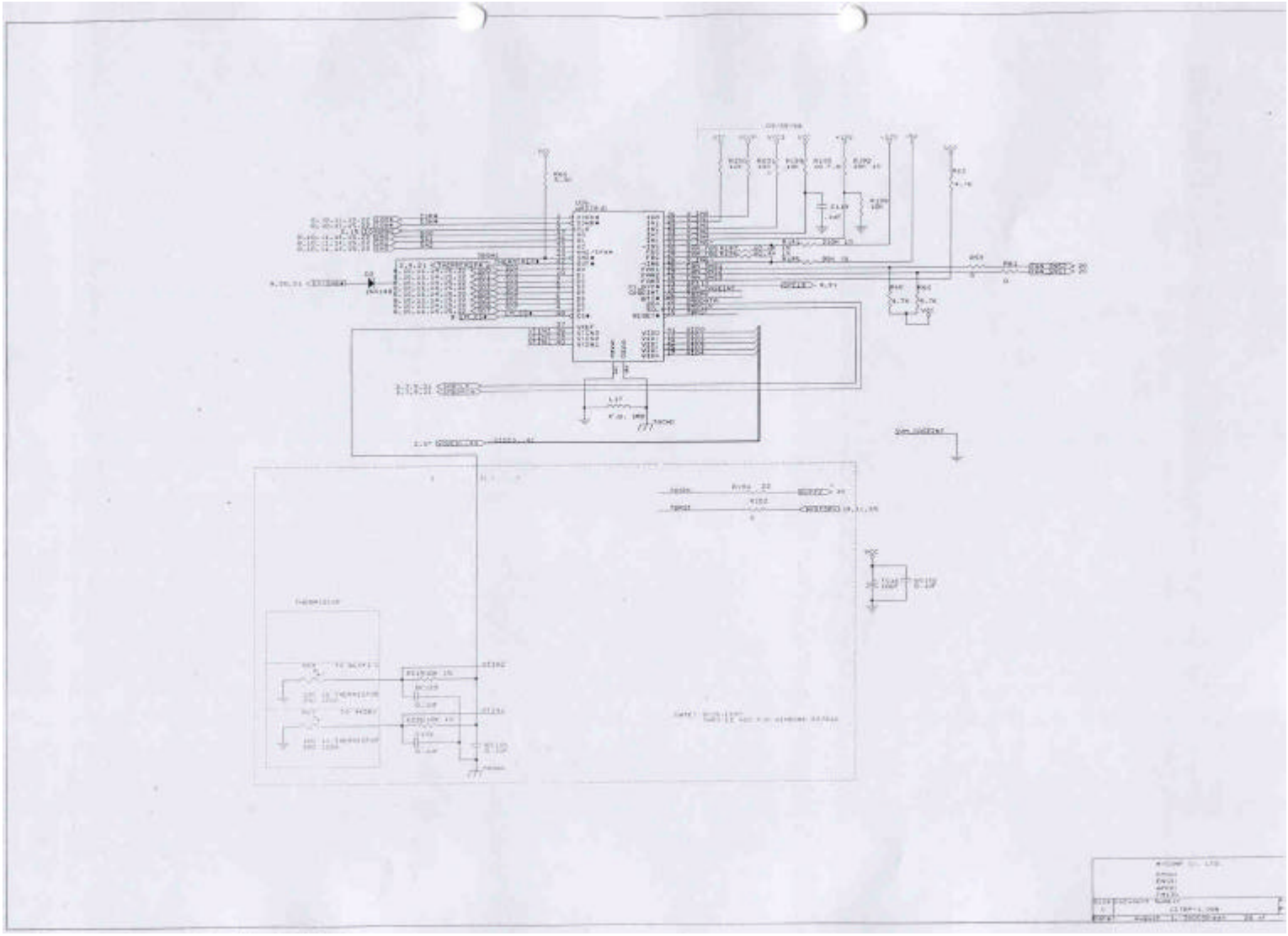

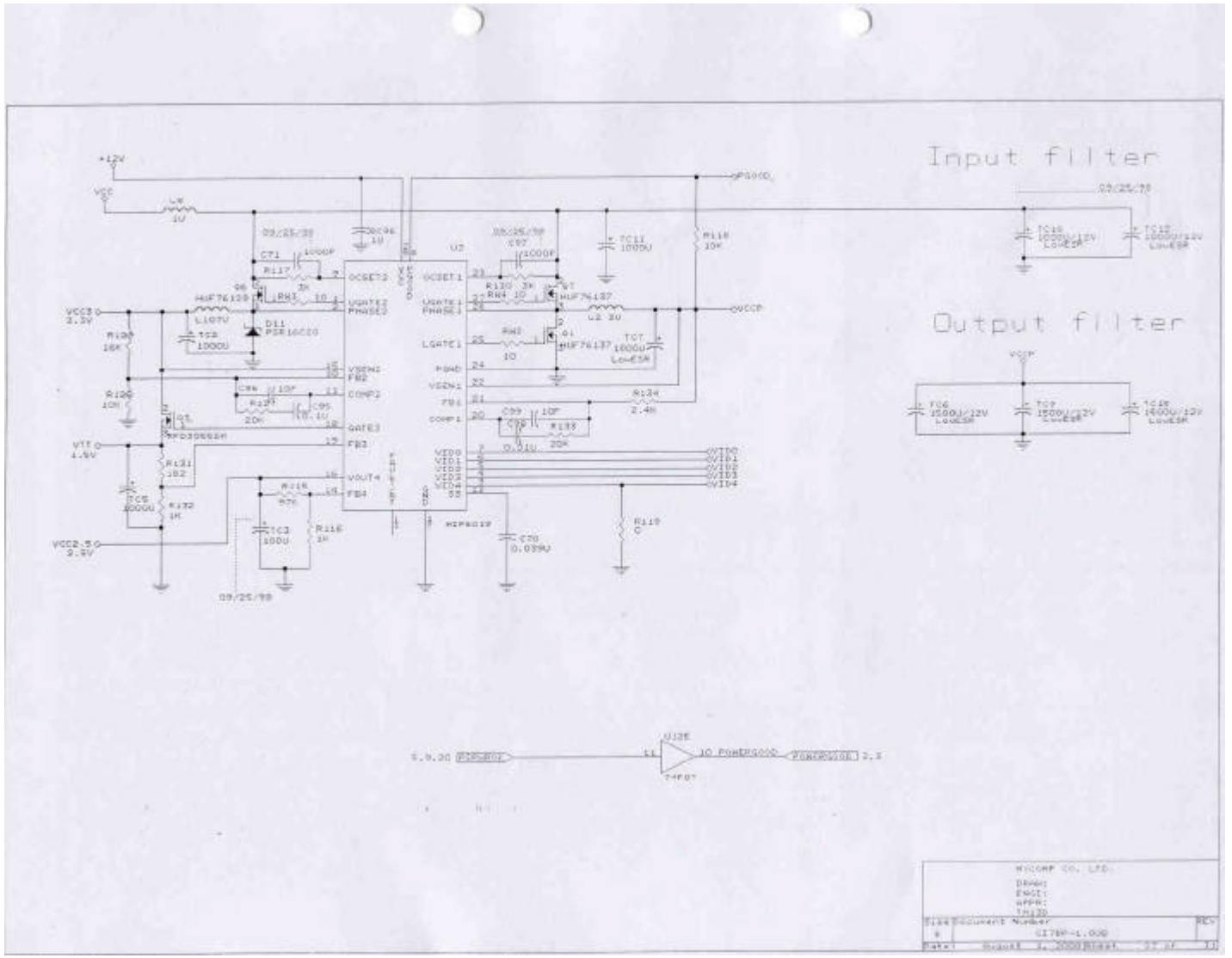
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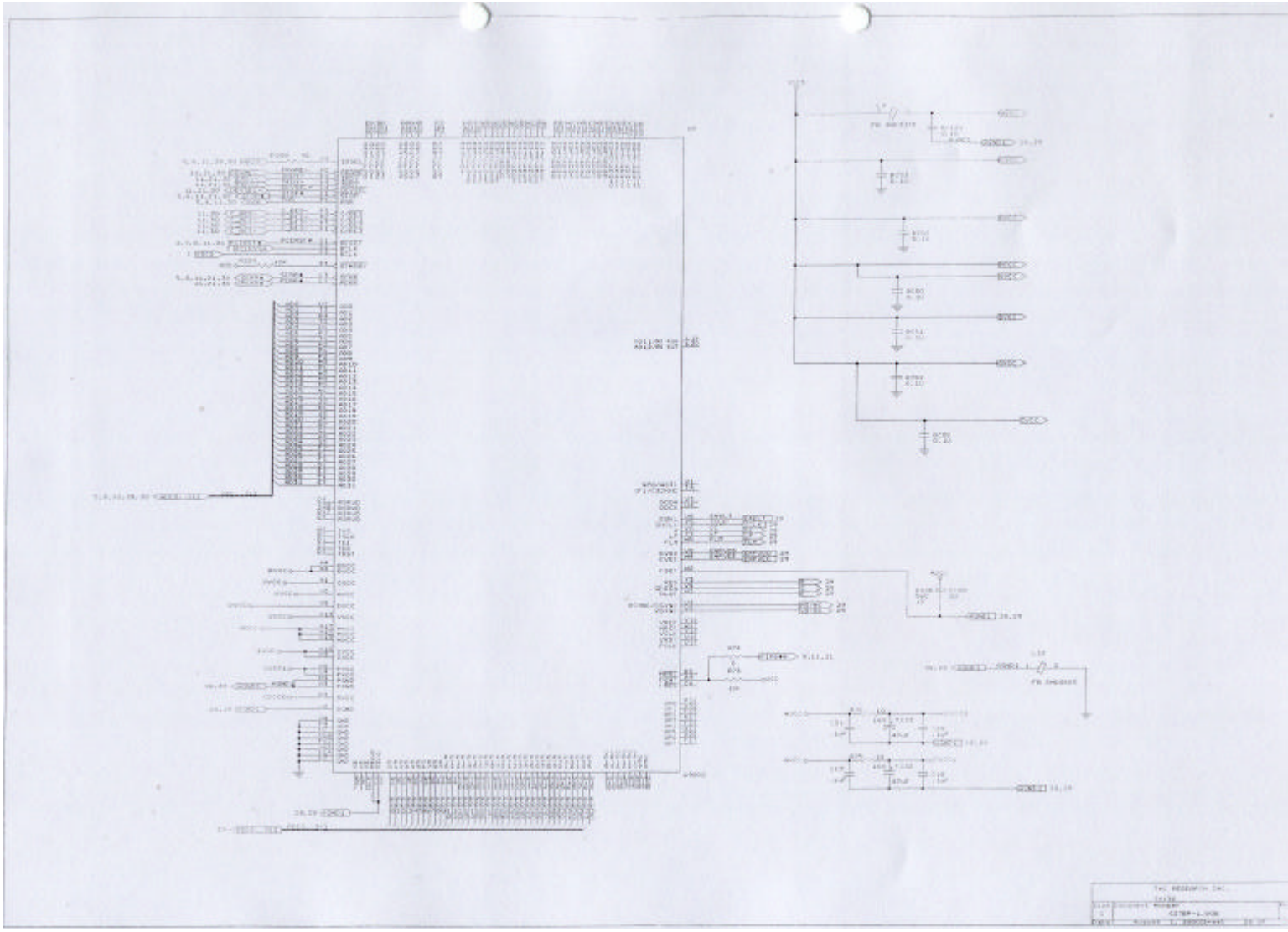
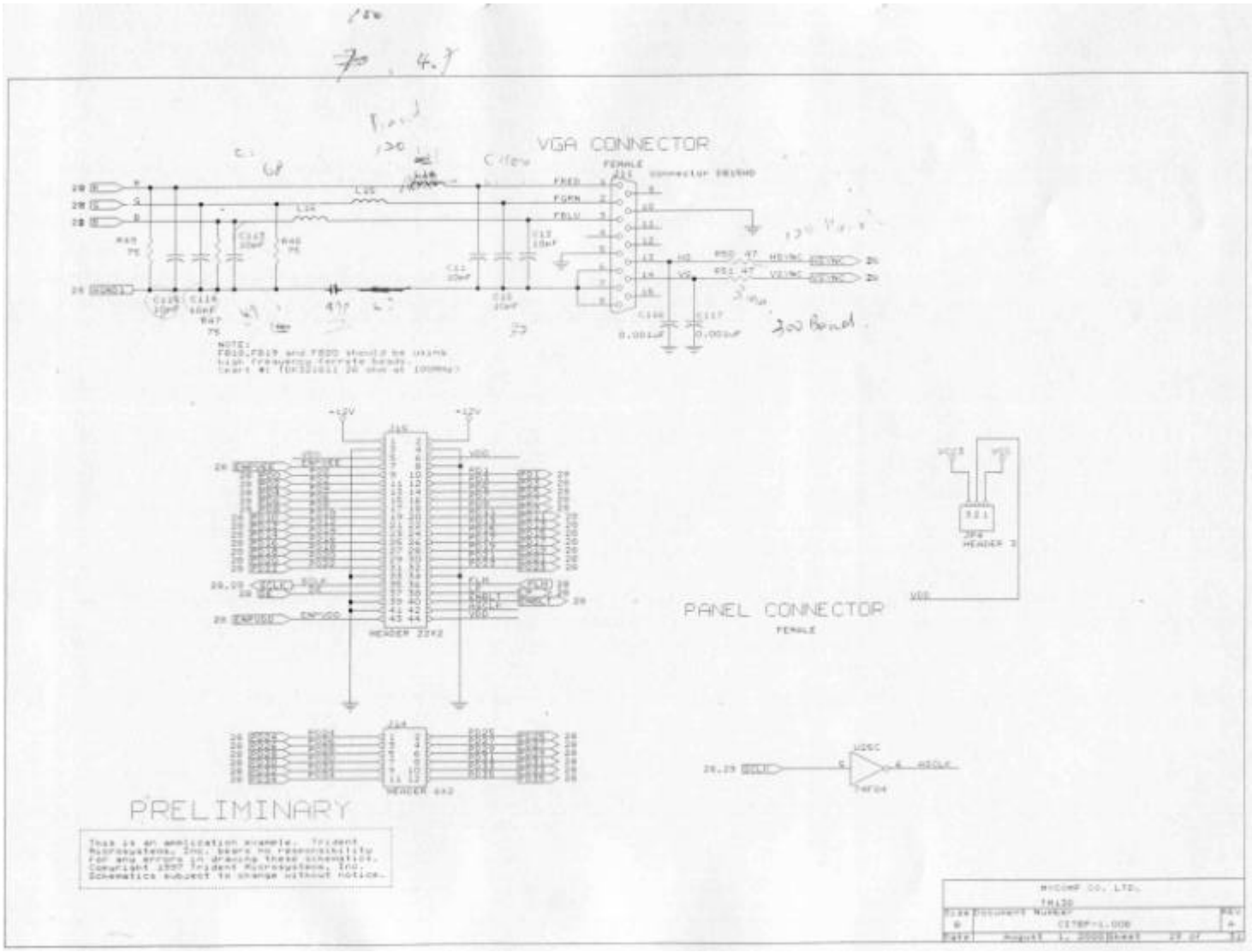
Output filter
+12V
VCC
VCC3
3.3V
VTT
1.5V
VCC2.5
2.5V
PGOOD
OVCP
U2
HIP6019
HUF76139
HUF76137
D11
PSR160S0
VID0
VID1
VID2
VID3
VID4
09/25/99
U12E
74F07
PGOODOUT
POWERGOOD
MYCOMP CO., LTD.




VGA CONNECTOR
FEMALE
PANEL CONNECTOR
FEMALE
HEADER 22X2
HEADER 6X2
PRELIMINARY
This is an application example. Trident Microsystems, Inc. bears no responsibility for any errors in drawing these schematics.
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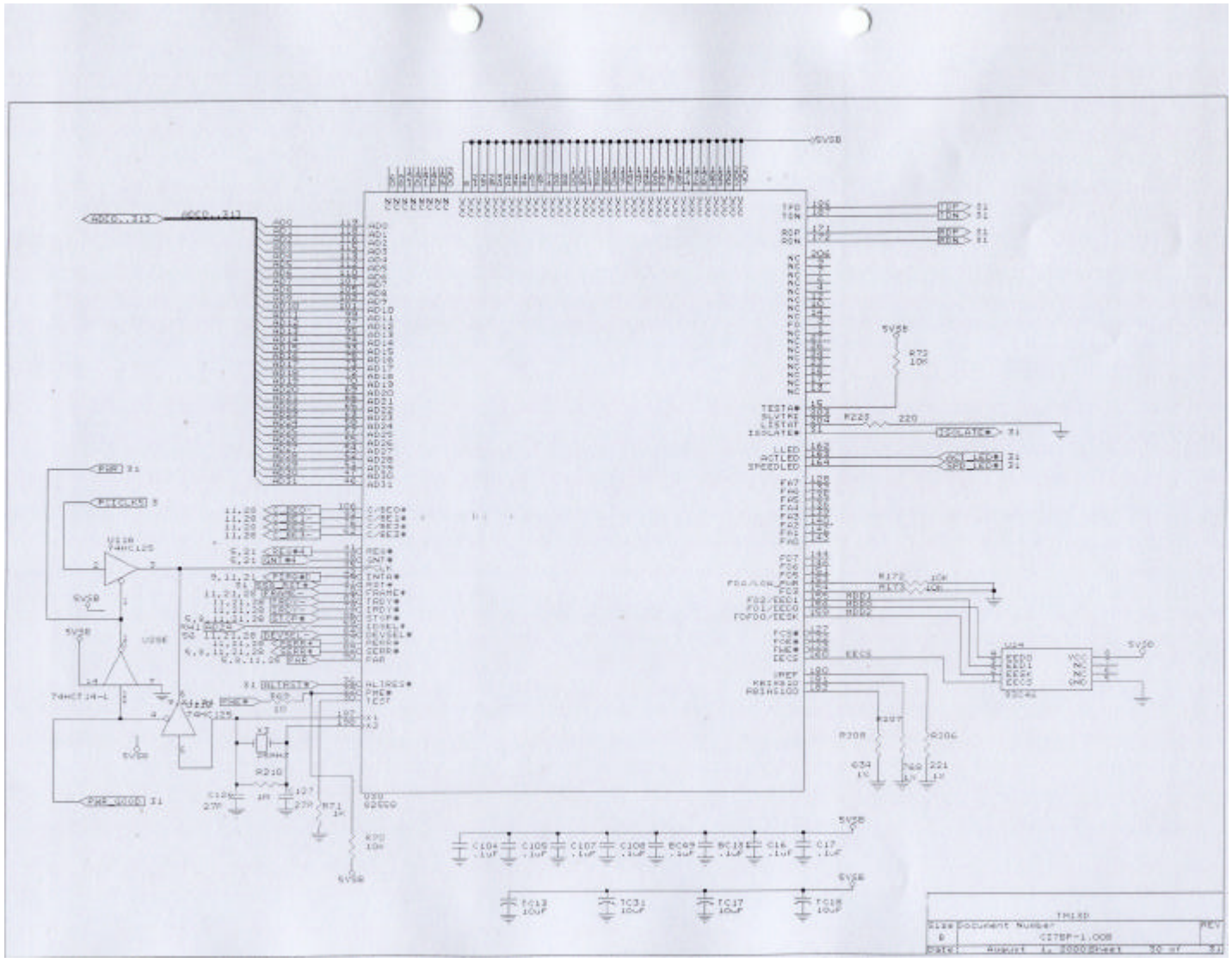
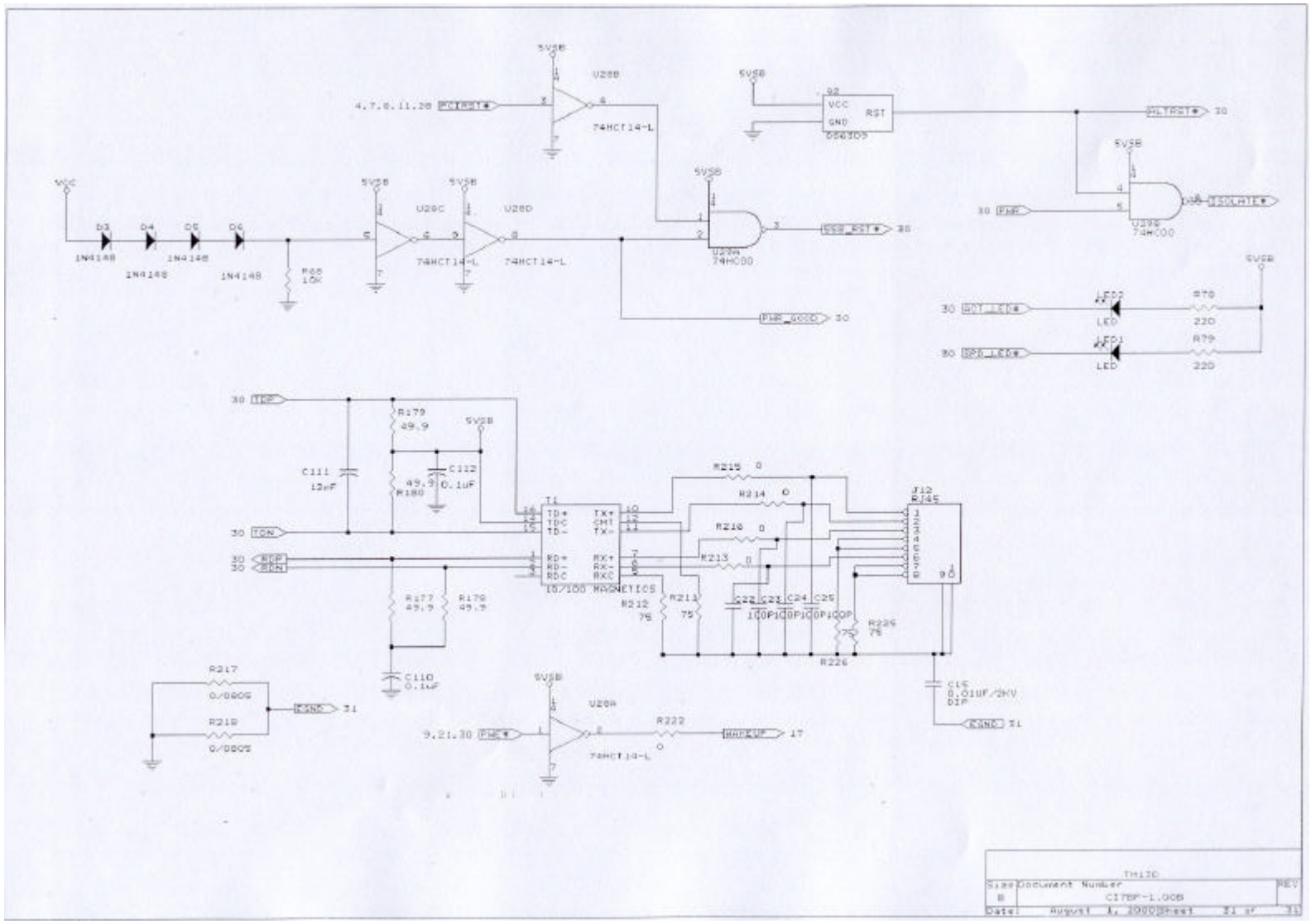
Schematics subject to change without notice.

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GND
RST
PLTRST# 30
U29B 74HC00
PWR 30
D3 1N4148
D4 1N4148
D5 1N4148
D6 1N4148
R66 10K
U28C 74HCT14-L
U28D 74HCT14-L
U28A 74HC00
SUS_RST# 30
PWR_GOOD 30
SYS_LED# 30
SPD_LED# 30
LED2 LED
LED1 LED
R78 220
R79 220
TD2 30
TDN 30
RXP 30
RXN 30
R179 49.9
C111 12uF
C112 0.1uF
R180 49.9
T1
10/100 MAGNETICS
R215 0
R214 0
R216 0
R213 0
J12 RJ45
R212 75
R211 75
C22 C23 C24 C25 100P
R226 75
C16 0.01UF/2KV DIP
R177 49.9
R178 49.9
C110 0.1uF
R217 0/0805
R218 0/0805
KGND 31
9.21.30 PWR#
R222 0
PWRGUP 17
Title
Size B
Document Number C17BF-1.00B
REV
Date: August 1, 2000 Sheet 21 of 31

Zertifikat *Certificate*

TÜV

tifikat Nr. *Certificate No.*	Blatt *Page*
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Zeichen *Client Reference*	Unser Zeichen *Our Reference*	Ausstellungsdatum *Date of Issue (day/mo/yr)*
	00037-DHA/YCY E2054346E01	10.03.2009

nehmigungsinhaber *License Holder*

gic Power Technology Co., Ltd.
146-1, Yung Tung Rd.
ung Ho City, Taipei 235
WAN

Fertigungsstätte *Manufacturing Plant*

00141-DHA/YSH E98658366

fzeichen *Test Mark*

BAUART GEPRÜFT
TYPE APPROVED
TÜV Rheinland Product Safety

Geprüft nach *Tested acc. to*

EN 60950:1992+A1+A2+A3+A4+A11

tifiziertes Produkt (Geräteidentifikation) *ified Product (Product Identification)*

Lizenzentgelte - Einheit *License Fee - Unit*

NBAU-SCHALTNETZTEIL (Switching Power Supply)

Zeichnung	: MPS-8071	5
ype Designation		
nspannung	: AC 100-250V 47-63Hz	
ated Voltage)		
ms m	: 2A	
ated Current		
A Umgebungstemperatur	: 50°C	
ax. Ambient Temperature)		
hutzklasse	: I	
otection Class)		
chmutzungsgrad	: 2	
llution Degree)		

rtsetzung Blatt (continued on page) 02

ANG (Appendix) : 1

TÜV Rheinland Product Safety GmbH
TÜV Rheinland
Zertifizierungsstelle

Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde. Produkt entspricht den o.g. Anforderungen, die Herstellung wird überwacht certificate is based on our Testing and Certification Regulation The product lls above mentioned requirements; the production is subject to surveillance

Zertifizierungsstelle

麒正電子企業股份有限公司
CHI SAM ELECTRONIC ENTERPRISE CO., LTD.

圖面技術資料目錄

麒正編號	C	D	A	-	0	8	5	B											品名	LCD INVERTER			
客戶料號																			規格	Vin= 12v, f= 40 ~ 60KHz			

物件名稱	發行內容	頁數	備註
1. Inverter :			
	SPECIFICATIONS	3	1/3 ~ 3/3
	BOM	4	1/4 ~ 4/4
	LAYOUT	1	1
	CIRCUIT CHART	1	1

發文單位	工程部資料中心	發行章：
核　准	工程部 03.1.9 黃文程	
校　對	工程部 03.1.9 詹政毅	
發　文	03.1.9 王倩	

麒正電子企業股份有限公司
CHI SAM ELECTRONIC ENTERPRISE CO.,LTD.

PART NO	CDA-085B	DATE	2000.01.13	PAGE	1/3

SPECIFICATIONS

1.CENERAL

These specifications are applied to CDA-085B as a low noise driver for CCFT

2.INPUT CHARACTERISTICS

PARAMETER	SYMBOL	MIN.	NOM.	MAX.	UNIT	REMARKS
INPUT VOLTAGE	Vin	10.8	12	13.2	V	12V± 10%
INPUT CURRENT	Iin	1.85	1.95	2.10	A	Vin=12V,Vcc=5V,Vcon=0V
INPUT POWER	Pin	18	23	27	W	Vin=12V,Vcc=5V,Vcon=0V
INPUT VOLTAGE	Vcc	---	5	---	V	
INPUT CURRENT	Icc	---	---	---	mA	
INPUT VOLTAGE	Vcon	0	---	3.5	V	
INPUT CURRENT	Icon	0.80	0.88	0.95	mA	Vcon=5V

3.OUTPUT CHARACTERISTICS

PARAMETER	SYMBOL	MIN.	NOM.	MAX.	UNIT	REMARKS
OUTPUT CURRENT	Io1/Io2	13	14	15	mA	Vin=12V,Vcc=5V,Vcon=0V
OUTPUT CURRENT	Io1/Io2	3.5	4	4.5	mA	Vin=12V,Vcc=5V, Vcon=3.5V
FREQUENCY	FL1/FL2	40	50	60	KHz	Vin=12V,Vcc=5V,Vcon=0V
OUTPUT OPEN VOLTAGE	Vs1/Vs2	1160	---	---	Vrms (V)	Vin=12V,Vcc=5V RL1=RL2=∞

NOTE: 1.All conditions are at 25°C ambient unless otherwise specified.

APPROVED BY:	CHECKED BY:	PREPARED BY:

CHI SAM ELECTRONIC ENTERPRISE CO.,LTD.

PART NO	CDA-085B	DATE	2000.01.13	PAGE	2/3

4.OUTPUT CHARACTERISTICS

TEMPERATURE	Operating	:	0 ~ 40°C
	Storage	:	-25~ 70°C
HUMIDITY	Operating	:	10%~95% RH
	Storage	:	10%~95% RH
DIMENSIONS	L x W x H = 170(max.) x 30.0(max.) x 12(max.)		

5.PIN ASSIGNMENTS

INPUT : JP1
MODEL NO . : 53398 ~ 0890
SUPPLIER : MOLEX

PIN NO.	NAME	DESCRIPTION
1.2	VIN	12V
3.4	GND	GND
5	ON/OFF	ENAABLE(ON):5V,DISABLE(OFF):0V
7	Bri-adj	- - -
6.8	NC	Dimming control(0v ~ 3.5V adj)

OUTPUT : JP2,JP4
MODEL NO . : SM04(4.0)B-BHS-1-TB
SUPPLIER : JST

PIN NO.	NAME	DESCRIPTION
1	H.V.I	HIGH VOLTAGE OUTPUT
2	H.V.I	HIGH VOLTAGE OUTPUT
3	N.C	---
4	RETURE	RETURN PIN

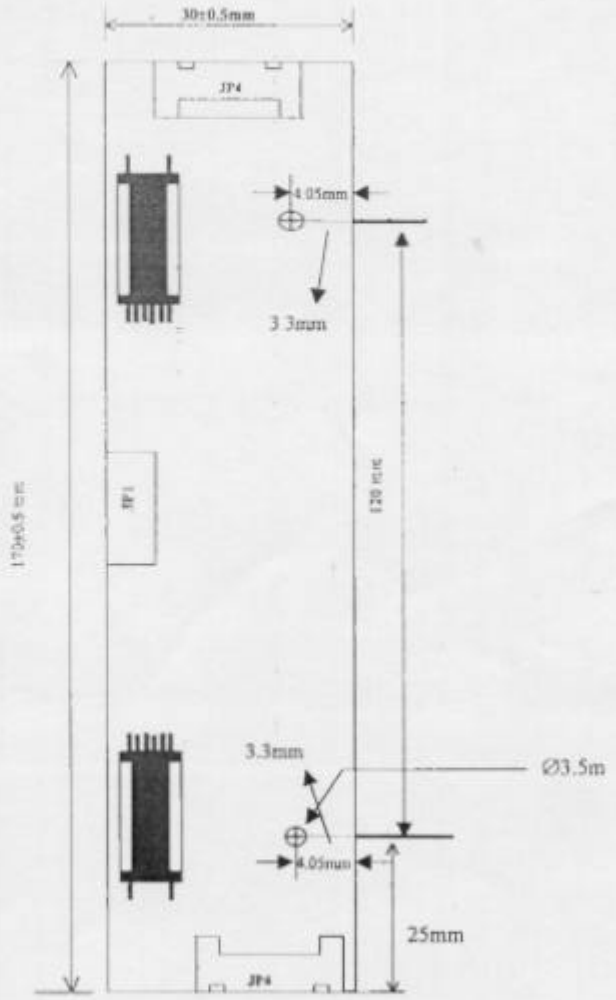
麒正電子企業股份有限公司
CHI SAM ELECTRONIC ENTERPRISE CO.,LTD.

PART NO	CDA-085B	DATE	2000.01.13	PAGE	3/3

6.OUTLINE DIMENSIONS (UNIT:mm)

TO : 三上 - 何炎裘 先生

From : 麒正 - 陳俊吉



(TOP LAYER)

麒正電子企業股份有限公司
CHI SAM ELECTRONIC ENTERPRISE CO.,LTD.
INVERTER BOM

PART NO	CDA-085B	DATE	2000.01.13	PAGE	1/4	
PART NUMBER		PART NAME	DESCRIPTION	TYPE	QTY	SUPPLIER
U1,U2	3650104940	KIA494F SMT	IC	FLD-16	1 EA.	K E C/T.I
U2	3650104940	KIA494F SMT	IC	FLD-16	1EA.	K E C/T.I
U3	N/A					
Q1	3640200030	DTA 144WK(76)Hfe56 以上	TRANSISTOR	SOT-23	1EA.	ROHM/ST
Q2	3640200040	K T N 3 9 0 4 S S M T	TRANSISTOR	SOT-23	1EA.	K E C/T.I
Q3	3640100070	2 S B 1 2 0 4 S S M T	TRANSISTOR	SOT-89	1EA.	ROHM/ST
Q4	3640100080	2 S C 5 1 0 3 S M T	TRANSISTOR	SOT-89	1EA.	ROHM/ST
Q5	3640100080	2 S C 5 1 0 3 S M T	TRANSISTOR	SOT-89	1EA.	ROHM/ST
Q6	3640100070	2 S B 1 2 0 4 S S M T	TRANSISTOR	SOT-89	1EA.	ROHM/ST
Q7	3640100080	2 S C 5 1 0 3 S M T	TRANSISTOR	SOT-89	1EA.	ROHM/ST
Q8	3640100080	2 S C 5 1 0 3 S M T	TRANSISTOR	SOT-89	1EA.	ROHM/ST
Q9	N/A					
Q10	3640200040	K T N 3 9 0 4 S S M T	TRANSISTOR	SOT-23	1EA.	K E C/T.I
Q11	3640200040	K T N 3 9 0 4 S S M T	TRANSISTOR	SOT-23	1EA.	K E C/T.I
Q12	3640200040	K T N 3 9 0 4 S S M T	TRANSISTOR	SOT-23	1EA.	K E C/T.I
Q13	N/A					
Q14	N/A					
Q15	3640200040	K T N 3 9 0 4 S S M T	TRANSISTOR	SOT-23	1EA.	K E C/T.I
Q16	3640200040	K T N 3 9 0 4 S S M T	TRANSISTOR	SOT-23	1EA.	K E C/T.I
Q17	3640200040	K T N 3 9 0 4 S S M T	TRANSISTOR	SOT-23	1EA.	K E C/T.I
D1	3630200020	M S 2 2 S M T	DIODE		1EA.	MOSPEC/DACO
D2	N/A					
D3	3640200050	D A N 2 1 7 S M T	DIODE	SOT-23	1EA.	ROHM/ST
D4	3630200020	M S 2 2 S M T	DIODE		1EA.	MOSPEC/DACO
D5	N/A					
D6	3640200050	D A N 2 1 7 S M T	DIODE	SOT-23	1EA.	ROHM/ST
D7~D9	N/A					
D10	3630100021	L L 4 1 4 8 S M T	DIODE		1EA.	MOSPEC/DACO
D11	3630100021	L L 4 1 4 8 S M T	DIODE		1EA.	MOSPEC/DACO
D12~D39	N/A					
D40	3630100021	L L 4 1 4 8 S M T	DIODE		1EA.	MOSPEC/DACO
D41	3630100021	L L 4 1 4 8 S M T	DIODE		1EA.	MOSPEC/DACO
T1	STC-258A10I4	250x5 10x3 UI-25	TRANSFORMER		1EA.	C H I

APPROVED BY:	CHECKED BY:	PREPARED BY:
工程部	工程部	89. 1. 18

CHI SAM ELECTRONIC ENTERPRISE CO.,LTD.

INVERTER BOM

PART NO	CDA-085B	DATE	2000.01.13	PAGE	2/4

PART NUMBER		PART NAME	DESCRIPTION	TYPE	QTY	SUPPLIER
T2	STC-258A1014	250x5 10x3 UI-25	TRANSFORMER		1EA.	CHI
L1	TR-5095-165	0.45Øx50Ts DCR:0.15 max	CHOKE	DIP	1EA.	CHI
L2	TR-5095-165	0.45Øx50Ts DCR:0.15 max	CHOKE	DIP	1EA.	CHI
R1	3610304710	470Ω 5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R2A	3610401020	1KΩ5% 1/4W SMT	RESISTOR	1206	1EA.	SYNTO/OHM
R2	3610401020	1KΩ5% 1/4W SMT	RESISTOR	1206	1EA.	SYNTO/OHM
R3	3610302210	220Ω5% 1/4W SMT	RESISTOR	1206	1EA.	SYNTO/OHM
R4	3610301030	10KΩ5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R5	3610305610	560Ω5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R6	3610304710	470Ω5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R7A	N/A					
R7	3610305610	560Ω5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R8	3610301030	10KΩ5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R9	3610301830	18KΩ5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R10A	3610403920	3.9KΩ5% 1/4W SMT	RESISTOR	1206	1EA.	SYNTO/OHM
R10	3610403920	3.9KΩ5% 1/4W SMT	RESISTOR	1206	1EA.	SYNTO/OHM
R11	3610301030	10KΩ5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R12	3610301520	1.5KΩ5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R13	3610301030	10KΩ5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R14	3610302720	2.7KΩ5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R15A	3610403920	3.9KΩ5% 1/4W SMT	RESISTOR	1206	1EA.	SYNTO/OHM
R15	3610403920	3.9KΩ5% 1/4W SMT	RESISTOR	1206	1EA.	SYNTO/OHM
R16	3610301230	12KΩ5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R17	3610304710	470Ω5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R18A	3610401020	1KΩ5% 1/4W SMT	RESISTOR	1206	1EA.	SYNTO/OHM
R18	3610401020	1KΩ5% 1/4W SMT	RESISTOR	1206	1EA.	SYNTO/OHM
R19	3610302210	220Ω5% 1/4W SMT	RESISTOR	1206	1EA.	SYNTO/OHM
R20	3610301030	10KΩ5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R21	3610305610	560Ω5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R22	3610304710	470Ω5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R23A	N/A					
R23	3610305610	560Ω5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R24	3610301830	10KΩ5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R25	3610301030	18KΩ5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R26A	3610403920	3.9KΩ5% 1/4W SMT	RESISTOR	1206	1EA.	SYNTO/OHM
R26	3610403920	3.9KΩ5% 1/4W SMT	RESISTOR	1206	1EA.	SYNTO/OHM
R27	3610301030	10KΩ5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R28	3610301520	1.5KΩ5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R29	3610301030	10KΩ5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R30	3610304740	470KΩ5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R31A	3610403920	3.9KΩ5% 1/4W SMT	RESISTOR	1206	1EA.	SYNTO/OHM
R31	3610403920	3.9KΩ5% 1/4W SMT	RESISTOR	1206	1EA.	SYNTO/OHM
R32	3610302720	2.7KΩ5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R33-R49	N/A					

CHI SAM ELECTRONIC ENTERPRISE CO.,LTD.

INVERTER BOM

PART NO	CDA-085B	DATE	2000.01.13	PAGE	3/4

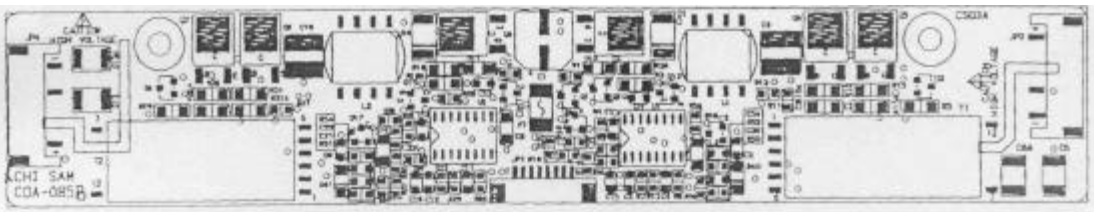
PART NUMBER		PART NAME	DESCRIPTION	TYPE	QTY	SUPPLIER
R50	3610301030	10KΩ 5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R57~R58	N/A					
R59	3610301230	12KΩ5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R60	3610301230	12KΩ5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R56	3610306840	680KΩ5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R52	3610303330	33KΩ5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R51	3610301030	10KΩ5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R53	3610306840	680KΩ5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R54	3610303320	33KΩ5% 1/8W SMT	RESISTOR	0805	1EA.	SYNTO/OHM
R66	N/A					
C1		100μF/35V SMT	Al Solid Capacitor	8*9	1EA.	PANASONIC/YAKI
C1B	N/A					
C2	3620301041	0.1μF/50V SMT	Ceramic Capacitor	0805	1EA.	MITSUBISHI/T.S
C3		0.15μF/100V SMT	PPS Capacitor		1EA.	HS/YAKI
C4	3620301020	0.001μF/50V SMT	Ceramic Capacitor	0805	1EA.	MITSUBISHI/T.S
C5	3620301050	1uF/16V SMT	Ceramic Capacitor	0805	1EA	MITSUBISHI/T.S
C6A	3620502702	27PF/3KV SMT	Ceramic Capacitor	1808	1EA.	UNIVERSE/T.S
C6	3620502702	27PF/3KV SMT	Ceramic Capacitor	1808	1EA.	UNIVERSE/T.S
C7	3620301041	0.1μF/50V SMT	Ceramic Capacitor	0805	1EA.	MITSUBISHI/T.S
C8	N/A					
C9	3620301041	0.1μF/50V SMT	Ceramic Capacitor	0805	1EA.	MITSUBISH/T.S
C10		0.15μF/100V SMT	PPS Capacitor		1EA.	HS/T.S
C11	3620301020	0.001μF/50V SMT	Ceramic Capacitor	0805	1EA.	MITSUBISHI/T.S
C12	3620301050	1uF/16V SMT	Ceramic Capacitor	0805	1EA	MITSUBISHI/T.S
C13A	3620502702	27PF/3KV SMT	Ceramic Capacitor	1808	1EA.	UNIVERSE/T.S
C13	3620502702	27PF/3KV SMT	Ceramic Capacitor	1808	1EA.	UNIVERSE/T.S
C14	3620301041	0.1μF/50V SMT	Ceramic Capacitor	0805	1EA.	MITSUBISHI/T.S
C15~C16	N/A					
C51	3620301041	0.1μF/50V SMT	Ceramic Capacitor	0805	1EA.	MITSUBISHI/T.S
C52	N/A					
C53	3620301041	0.1μF/50V SMT	Ceramic Capacitor	0805	1EA.	MITSUBISHI/T.S
C20	3620301050	1μF/16V SMT	Ceramic Capacitor	0805	1EA.	MITSUBISHI/T.S
C21	3620301050	1μF/16V SMT	Ceramic Capacitor	0805	1EA.	MITSUBISHI/T.S
C56~C59	N/A					
C50	3620702220	2.2μF/16V SMT	Ceramic Capacitor	1206	1EA.	UP TEKS/YAKI
C54	3620301050	1μF/16V SMT	Ceramic Capacitor	0805	1EA.	MITSUBISHI/T.S
C52	3620702220	2.2μF/16V SMT	Ceramic Capacitor	1206	1EA.	UP TEKS/YAKI
C55	3620301050	1μF/16V SMT	Ceramic Capacitor	0805	1EA.	MITSUBISHI/T.S

CHI SAM ELECTRONIC ENTERPRISE CO.,LTD.

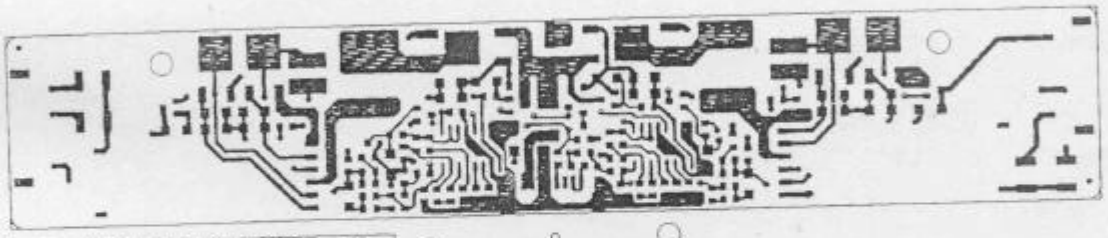
FUSE &CONNECTOR&PCB BOM

PART NO	CDA-085B	DATE	2000.01.13	PAGE	4/4	
PARTNUMBER		PART NAME	UL	TYPE	QTY	SUPPLIER
F1		3A/125V SLOBLO	E10480(N)	SMT	1EA.	LITTELFUSE/ATC
PCB		CDA-085B	E164715(S)			CADACES
JP1		53398-0890		SMT	1EA.	MOLEX/FCN
JP2	3680104011	SM04(4.0)B-BHS-1-TB	E60389(M)	SMT	1EA.	JST/FCN
JP4	3680104011	SM04(4.0)B-BHS-1-TB	E60389(M)	SMT	1EA.	JST/FCN

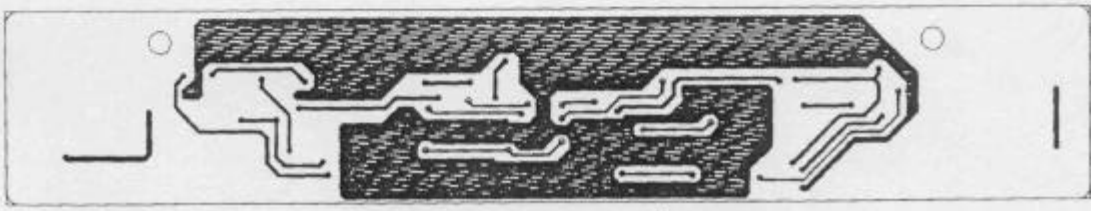
APPROVED BY:	CHECKED BY:	PREPARED BY:
	工程部	林 玉佩



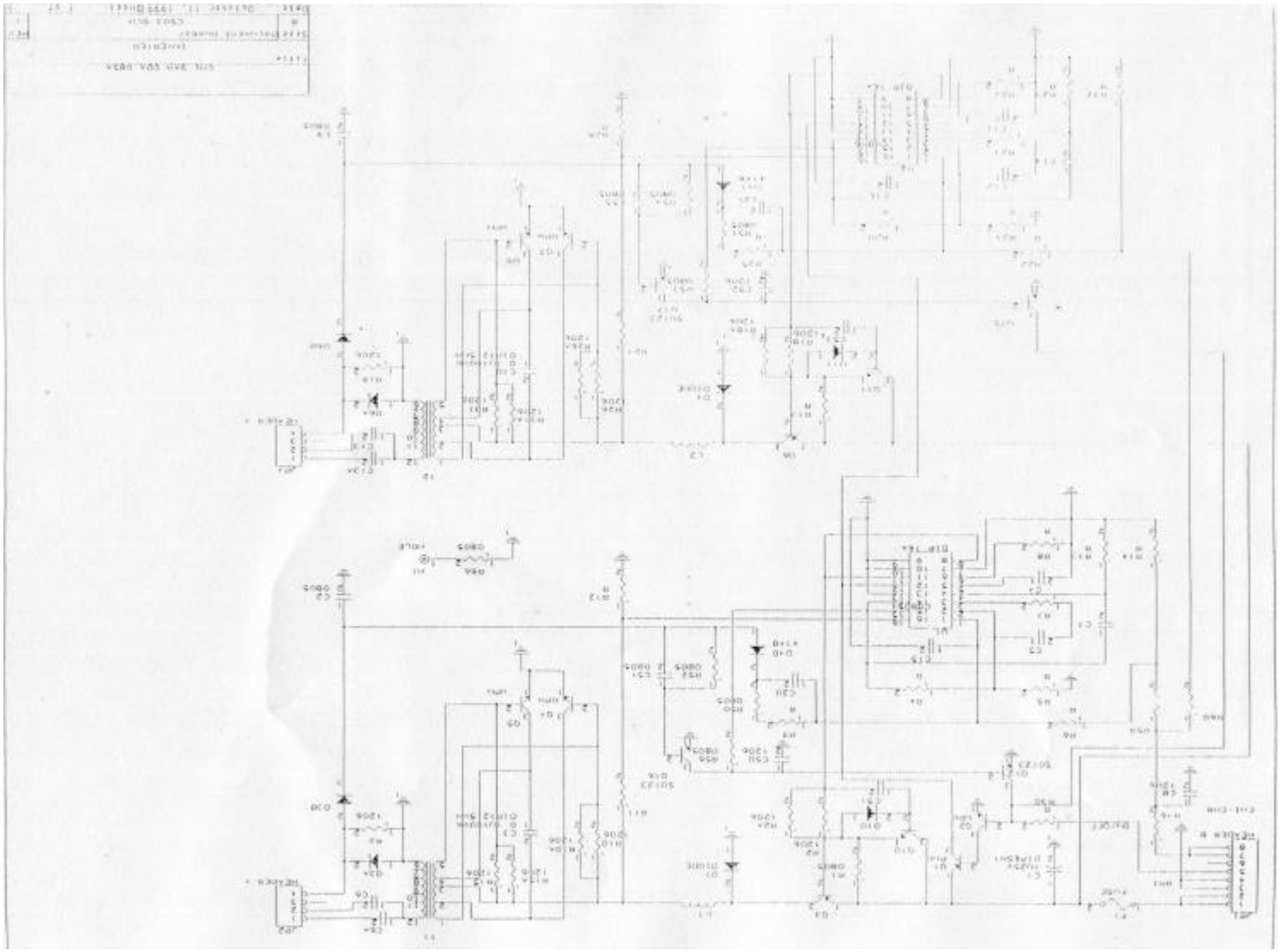
PINSTAR TECHNOLOGY CO .,LTD TEL:29038175 FAX:29039952	
SILK SCREEN	NO. CS03A
PINTOP	01 / 05 / 2000



PINSTAR TECHNOLOGY CO .,LTD TEL:29038175 FAX:29039952	
COMPONENT SIDE	NO. CS03A
PINTOP	01 / 05 / 2000



PINSTAR TECHNOLOGY CO .,LTD TEL:29038175 FAX:29039952	
3DI2 R3D.J02	NO. CS03A
T08N19	01 / 05 / 2000



QMFZ2 August 16, 1996
Component - Plastics

TORAY INDUSTRIES INC FILM DIV E86511 (M)
2 2-CHOME NIHONBASHI-MUROMACHI CHUO-KU, TOKYO 1032 (A card)
JAPAN

Ref Des	Col	Min Thk mm	UL94 Flame Class	Elec	RTI Mech with Imp	RTI Mech w/o Imp	HWI	HAI	HVTR	D495	CTI
Polyethylene terephthalate (PET) film, furnished in the form of film.											
Lumirror X66	NC	0.030	94HB	105	105	105	—	—	—	—	—
Polyethylene terephthalate (PET) film, furnished in the form of sheets.											
Lumirror	NC	0.023-0.23	94VTM-2	105	105	105	—	—	—	—	—
		—	—	105	105	105	—	—	—	—	—

Reports: October 13, 1983; October 12, 1983.

Replaces E86511A dated May 26, 1993.

(Cont. on B cr

To : AMB-2051 / AMB-2053

PRELIMINARY

Specification of FUJITSU TFT-LCD module

FLC38XGC6V-04

Approval
Date :
By :

Specification No. : Tech Bes 98/27972

Issue Date : Aug. 18. 1998

Issued by : T. Naka

T. Naka

Director
LCD Design Dep.
LCD Technology Div.
LCD Group

FUJITSU LIMITED

Revision history

Revision	Date	Prepared	Checked	Approved	Summary
2 1 H	Aug. 18. 1998	T. Nishimura		T. Tsuka	Characteristic improvement

DOCUMENT CONTROL SECTION

DATE

DR.	DATE	DESIG	CHECK	DESCRIPTION	APPR
DESIG	980818	T. Nishimura	CHECK		

TITLE FLC38XGC6V-04

DRAW NO. Tech Bes 98/27972

CUST.

FUJITSU LIMITED

1 /30

TABLE OF CONTENTS

DOCUMENT CONTROL SECTION

DATE

BY	DATE	DESIG.	CHECK	DESCRIPTION
DESIG			CHECK	APPR

TITLE FLC38XGC6V-04

DRAW NO. Tech Res 98/27972

CUST

FUJITSU LIMITED

1. APPLICATIONS

This specification is applied to the 15.0 in. XGA supported TFT-LCD module.

2. PRODUCT NAME AND MODEL NUMBER

2-1 Product Name : LCD Module

2-2 Model Number : FLC38XGC6V-04

3. OVERVIEW

This LCD module has a TFT active matrix type liquid crystal panel 1024x768 pixels, and diagonal size of 38cm(15.0-inch). This module supports 1024x768 XGA mode(Non-interlace). This LCD has a digital RGB interface and can display 262, 144 colors.

In addition to "Horizontal synchronize signal:Hsync" and "Vertical synchronize signal:Vsync", this module can be controled by "Data enable signal:ENAB", which is able to suitablely control video signal timing without Hsync and Vsync.
(Data enable mode)

Even and odd data are transmitted at the same timing in the interface, so data lines are 36.(R,G,B each 6 bit x2) The signal level of this interface is +3.3V C-MOC level or 5V TTL level.

The power supply of this LCD module is +5V DC single.

This module has the characteristics for applying TCO'95.

4. CONFIGURATION

This LCD module consists of a color TFT-LCD panel that is mounted with TFT driver ICs, a cold-cathode florecent tube back-light, and a RGB digital interface board. The inverter for the back-light is not included.
Figure 4-1 shows a block diagram of this LCD module.

DOCUMENT CONTROL SECTION

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6. ABSOLUTE MAXIMUM RATING

Table 6-1 shows the absolute maximum reting of this LCD module.

Table 6-1 Absolute Maximum Rating

Item	Symbol	Condition	MIN.	TYP.	MAX.	Unit
Supply Voltage	V_{CC}	Ta=25℃	-0.3	—	6.0	V
Input Voltage	V_{IN}	Ta=25℃	-0.3	—	V_{CC}+0.3	V

7. ELECTRICAL SPECIFICATIONS

Table 7-1 shows the recommended operating conditions of this LCD module.

Table 7-1 Recommended Operating Conditions

Item		Symbol	MIN.	TYP.	MAX.	Unit
Supply Voltage (Logic)		V_{CC}	4.75	5.0	5.25	V
Ripple Voltage	Vcc	V_{RP}	—	—	100	mV

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8. ELECTRICAL SPECIFICATIONS

Table 8-1 shows the electrical specifications of this LCD module. Figure 8-1 shows the measurement circuit. Figuer 8-2(A) shows the equivarent circuit of the logic signal input area. Figuer 8-2(B) shoks the equivalent circuit of the supply voltage input area.

Table 8-1 Electrecal Specifications

Item		Symbol	Condition	MIN.	TYP.	MAX.	Unit	Remark
Supply Current		I_{CC}	V_{CC}=+5.0±0.25V	—	(450)	1000	mA	*1
"H" Level Logic Input Voltage		V_{IH}	V_{SS}=0V DCLK=32.505MHz	2.3	—	Vcc	V	
"L" Level Logic Input Voltage		V_{IL}		V_{SS}	—	0.9	V	
Supply Rush Current		I_{SCC}		—	—	(5.5)	A	*2
Supply Rush Current Duration(1A excess)		T_{SCC}		—	—	(0.4)	ms	*2
Contrast Regulation VR		R_{VR}		0	—	100	kΩ	
BACK LIGHT *4	CCFL Turn on Voltage	V_S	f_L=50kHz, Ta=25℃	—	(1324)	1500	V_{rms}	
			f_L=50kHz, Ta= 0℃	—	—	(1500)		
	Lighting Voltage	V_L	f_L=50kHz I_L= 7mA	TBD	(580)	TBD	V_{rms}	
	Lighting Frequency	f_L	V_L=580Vrms	40	50	60	kHz	
	Tube Current	I_L	f_L=50kHz V_L=580Vrms	(6)	(7)	(8)	mA	*4

(*1) Typical current situation: Color bar pattern. V_{CC}=5.0V
Maximum current situation: 2-pixel checkered pattern. V_{CC}=5.25V
Without rush current.

(*2) These items prescrebe the rush current for starting internal DC/DC.
Charging current to capacitors of Vcc is not prescribed.

(*3) Back-light specifications are showed with using a suitable inverter such as the "HIU-239" of HARISON ELECTRIC CO.,LTD.

(*4) Tube Current (I_L) shoks the value of the current that is consumed at one lamp.
This LCD module has 4 lamps.

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Measurement circuit is based on Figure 8-1.

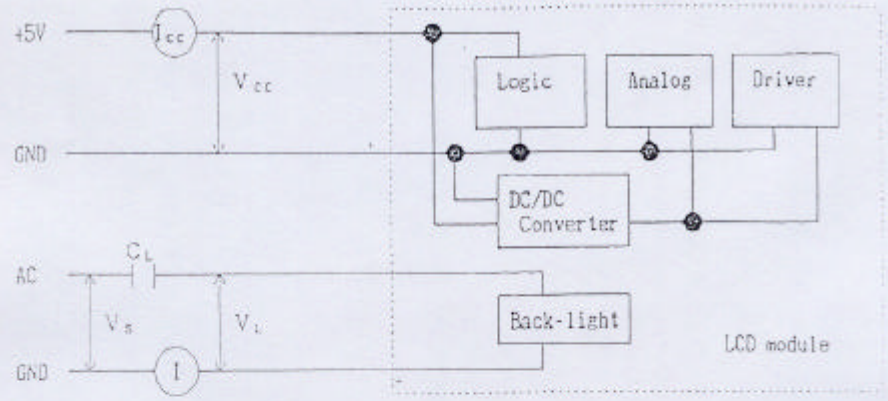


Figure 8-1 Mesurement circuit

Input signals

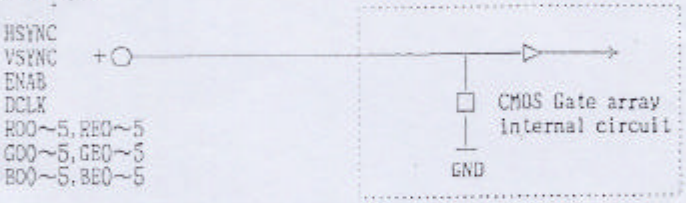
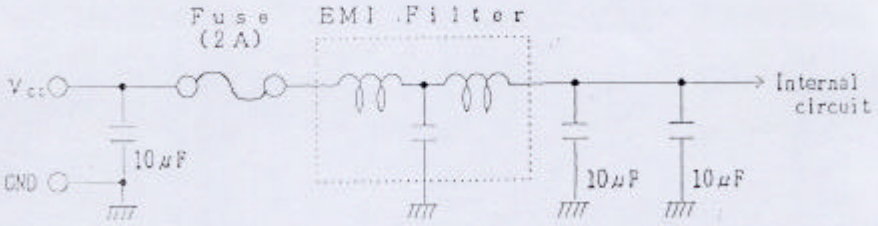


Figure 8-2(A) Equivalent circuit of logic signal input



FG (Frame ground)

Fuse ..... F08052R00FWTR (KYOCERA CORPORATION)
EMI Filter ... SGM32C1E332-2A (SUMITOMO METAL IND.,LTD.)

Figure 8-2(B) Equivalent circuit of power supply

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9. OPTICAL SPECIFICATIONS

Table 9-1 shows the optical specifications of this LCD Module.

Table 9-1 Optical Specifications Ta=25℃

Item		Symbol	Condition		Specifications MIN.	TYP.	MAX.	Unit	Remark	Note
Visual Angle	Horizontal	$\theta_{L,R}$	CR≧10	$\theta_{U,D}$=0°	70	80	–	deg		(1)(2)(3)(5)(6)
	Vertical	$\theta_{U,D}$		$\theta_{L,R}$=0°	70	80	–	deg		
Contrast Ratio		CR	$\theta_{L,R,U,D}$=0°		TBD	300	–	–	White/Black	(1)(2)(3)(5)
Response Time (ON) (B→W)		t_{on}	$\theta_{L,R,U,D}$=0°	Ta=25℃	–	15	30	ms		(1)(4)(5)
				Ta= 0℃	–	50	100	ms		
Response Time (OFF) (W→B)		t_{off}	$\theta_{L,R,U,D}$=0°	Ta=25℃	–	10	25	ms		
				Ta= 0℃	–	50	100	ms		
Brightness		I	$\theta_{L,R,U,D}$=0° V_{CC}=5V, I_L=7mA (@ Maximum Brightness)		TBD	250	–	cd/m²	White *1	(1)(5)
Brightness Unifomity		ΔI			80	–	–	%		(1)(5)(7)
Chromaticity	W	x			0.283	0.313	0.343	–		(1)(5)
		y			0.299	0.329	0.359	–		
LCD Panel Type					TFT Color					
Display Mode					Normally Black VA					
Wide Viewing Angle Technology					MVA					
Optimum Viewing Angle					– (symmetry)					(6)
Display Color					262,144 (6-bit color)					
Color of non-display area					Black					
Surface Treatment					Anti-glare (Haze value:30%, 2H)					

(*1) Value at 15~20 minutes after lighting on.

(Note) CS-1000 (MINOLTA Co.,Ltd.), BM-5A (Topcon) and the like should be used as a luminance colorimeter. Field=2°, L=500mm

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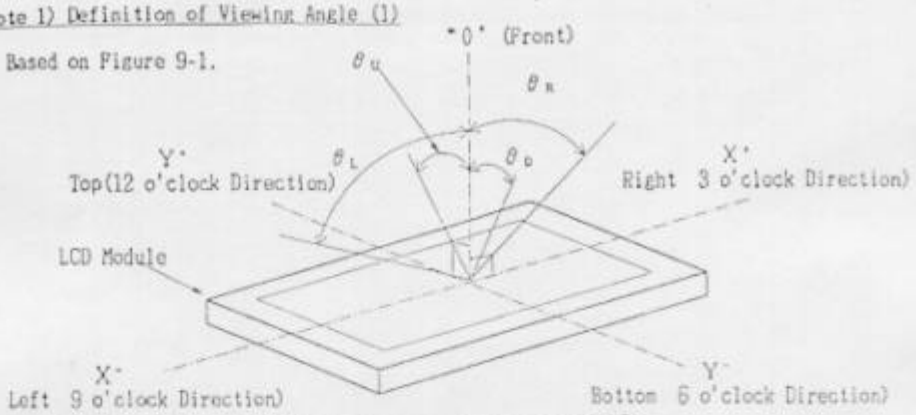
Note 1) Definition of Viewing Angle (1)

Based on Figure 9-1.



*→ $\theta_U = 0°$, $\theta_D = 0°$, $\theta_L = 0°$, $\theta_R = 0°$

Figure 9-1 Definition of Viewing Angle (1)

Note 2) Definition of Viewing Angle (2)

Based on Figure 9-2.

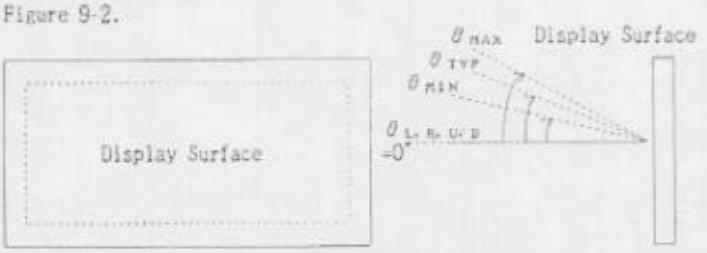


Figure 9-2 Definition of Viewing Angle (2)

Note 3) Definition of Contrast Ratio(CR)

Determined by Formula(1) based on Figure 9-3 Voltage-Brightness Characteristics

$$= \frac{L_W \text{ (Brightness at white)}}{L_B \text{ (Brightness at black)}} \quad \cdots\cdots (1)$$

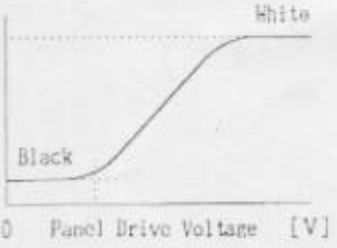


Figure 9-3 Voltage-Brightness Characteristics

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Note 6) Definition of Optimum Viewing Angle

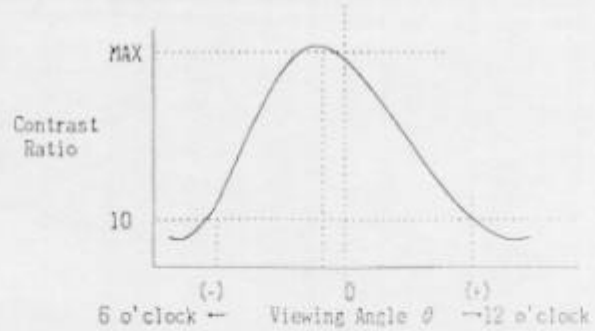
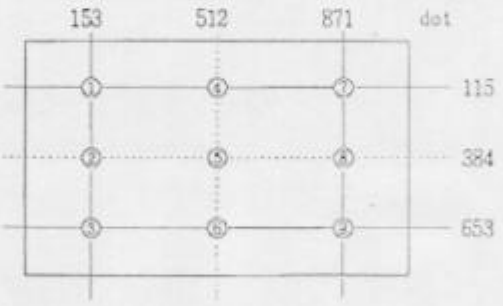


Figure 9-6 Definition of Optimum Viewing Angle

Note 7) Definition of Brightness Uniformity

Brightness uniformity is defined by the following formula.
Brightness (I1~I9) are measured at the following 9 points (①~⑨) on the display area that is shown in Figure 9-7.

$$\text{Brightness Uniformity}(\Delta L) = \frac{|\text{Min. In}|}{|\text{Max. In}|} \times 100\ (\%),\quad n=1 \text{ to } 9$$



Note) Each measurement point (①~⑨) defines the center spot of view of Brightness Meter. The tolerance of measurement position is ±3 mm.

Figure 9-7 Measurement Points

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10. INTERFACE SPECIFICATIONS

10-1 Signal descriptions

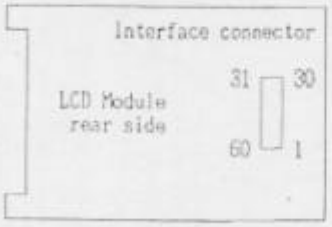
Table 10-1 shows the description and configuration of interface signals(CN1).

Table 10-1 Interface signals(CN3)

Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	GND	—	Ground	31	GO1	I	Green odd data 1
2	RE0	I	Red even data 0	32	GO2	I	Green odd data 2
3	RE1	I	Red even data 1	33	GO3	I	Green odd data 3
4	RE2	I	Red even data 2	34	GO4	I	Green odd data 4
5	RE3	I	Red even data 3	35	GO5	I	Green odd data 5
6	RE4	I	Red even data 4	36	GND	—	Ground
7	RE5	I	Red even data 5	37	BO0	I	Blue odd data 0
8	GND	—	Ground	38	BO1	I	Blue odd data 1
9	GE0	I	Green even data 0	39	BO2	I	Blue odd data 2
10	GE1	I	Green even data 1	40	BO3	I	Blue odd data 3
11	GE2	I	Green even data 2	41	BO4	I	Blue odd data 4
12	GE3	I	Green even data 3	42	BO5	I	Blue odd data 5
13	GE4	I	Green even data 4	43	GND	—	Ground
14	GE5	I	Green even data 5	44	VSYNC	I	Vertical Synchronizing signal
15	GND	—	Ground	45	HSYNC	I	Horizontal Synchronizing signal
16	BE0	I	Blue even data 0	46	ENAB	I	Data enable signal
17	BE1	I	Blue even data 1	47	GND	—	Ground
18	BE2	I	Blue even data 2	48	GND	—	Ground
19	BE3	I	Blue even data 3	49	DCLK	I	Dot clock signal
20	BE4	I	Blue even data 4	50	GND	—	Ground
21	BE5	I	Blue even data 5	51	GND	—	Ground
22	GND	—	Ground	52	VR1	—	Contrast regulating VR1
23	RO0	I	Red odd data 0	53	VR2	—	Contrast regulating VR1
24	RO1	I	Red odd data 1	54	GND	—	Ground
25	RO2	I	Red odd data 2	55	GND	—	Ground
26	RO3	I	Red odd data 3	56	GND	—	Ground
27	RO4	I	Red odd data 4	57	VDD	—	+5v Power supply
28	RO5	I	Red odd data 5	58	VDD	—	+5v Power supply
29	GND	—	Ground	59	VDD	—	+5v Power supply
30	GO0	I	Green odd data 0	60	VDD	—	+5v Power supply

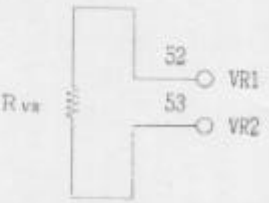
Connector : 52760-0600(Molex) User's connector : 53475-0600(Molex)

Upper side



Lower side

Contrast regulating VR: R_{VR} (100kΩ)



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10-2 Color Data Assignment

Table 10-2 shows the Color Data Assignment.

Table 10-2 Color Data Assignment

Color		R input data						G input data						B input data					
	Odd / Even	RO5 / RE5	RO4 / RE4	RO3 / RE3	RO2 / RE2	RO1 / RE1	RO0 / RE0	GO5 / GE5	GO4 / GE4	GO3 / GE3	GO2 / GE2	GO1 / GE1	GO0 / GE0	BO5 / BE5	BO4 / BE4	BO3 / BE3	BO2 / BE2	BO1 / BE1	BO0 / BE0
Basic color	Black	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Blue	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
	Green	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0
	Cyan	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1
	Red	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
	Magenta	1	1	1	1	1	1	0	0	0	0	0	0	1	1	1	1	1	1
	Yellow	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
	White	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Red	Black 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	⇧ 1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	⇧ :	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
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	⇩ :	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
	brighter 61	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	⇩ 62	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	Red 63	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Green	Black 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	⇧ 1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
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	brighter 61	0	0	0	0	0	0	1	1	1	1	0	1	0	0	0	0	0	0
	⇩ 62	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0
	Green 63	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0
Blue	Black 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	⇧ 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	⇧ :	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
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	⇩ :	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
	brighter 61	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	1
	⇩ 62	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0
	Blue 63	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1

Note.1) Definition of gray scale: Color(n)···· n indicates gray scale level.
Larger number n means brighter level.

2) Data: 1:High, 0:Low

3) Color data consist of 6 bit red, green and blue data of odd and even number pixel data. Total data number is 36 signals. this module is able to display 262, 144 colors because each red, green and blue data is independently controlled.

10-3 Input Signal Timing

Table 10-3 and Figure 10-2 show the Input Signal Timing.

Table 10-3 Timing Characteristics (T=0-50℃, V_{cc}=5±0.25V)

Item		Simbol	Min.	Typ.	Max.	Unit	Remark
DCLK signal (Clock)	Period	Tc	40.000	30.764	25.000	ns	
	Frequency	1/Tc	25.000	32.505	40.000	MHz	
	Duty	Tch/Tc	40	50	60	%	
DCLK-Data timing	Set up time	Tset	4.5	—	—	ns	40MHz
	Hold time	Thold	6.5	—	—	ns	40MHz
Hsync signal	Period	Th1	660*2	672	1566 *2	DCLK	ENAB Invalid
	Period	Th2	565*2	672	1566 *2	DCLK	ENAB Valid
	Pulse width	Thp	2*2	68	—	DCLK	*1,2
	Back-porch	Thb	0	80	Th-Thp-512	DCLK	*1,2
	Display period	Thd	—	512	—	DCLK	*3
	Front-porch	Thf	—	12	—	DCLK	*1,2
Vsync signal	Period	Tv	772*2	806	868 *2	Th	16.67 ms
	Frequency	1/Tv	—	59.998	—	Hz	
	Pulse width	Tvp	4*2	6	—	Th	*1,2
	Back-porch	Tvb	0	29	Tv-Tvp-768	Th	*1,2
	Display period	Tvd	—	768	—	Th	*3
	Front-porch	Tvf	—	3	—	Th	*1,2
	Hsync-Vsync timing	Tvh	1	Thp	Th-Thp	DCLK	
ENAB signal	Hsync-ENAB timing	—	—	—	—	DCLK	*1
	Data-ENAB timing	Tdn	—	0	—	DCLK	*4

*1) ・When ENAB(Data Enable Signal) is valid, holizontal display position is specified by the rise of ENAB. The data latched at falling edge of DCLK after rise of ENAB is displayed at the left edge of the display area.
・Vertical display position is specified by the rise of ENAB after low level continuation or 4 Hsync period. The data latched at the rise of ENAB is displayed at the top line of the display area.
※When ENAB alternates between "High" and "Low" level with valid period, "Data enable mode" is available. In this mode, Hsync and Vsync is completely ignored, and ENAB makes display position fit to the display area.

*2) ・When ENAB signal stays "Low" or "High" level, the data latched at the 149 (Thp+Thb+1)-th falling edge of DCLK after falling of Hsync is fixedly displayed at the left edge of the display area for holizontal direction.

・For vertical direction, the data latched in the 36(Tvp+Tvb+1)-th "High" level period of Hsync after falling of Vsync is fixedly displayed at the top line of the display area.

*3) ・If the "High" level peiod of ENAB is less than 512 DCLK or the number of ENAB in a frame period(Tv) is less than 768, black color is displayed at the rest of the display area.

*4) ・If ENAB does not synchronize with the effective display data, the display position is not fitted to the display area.

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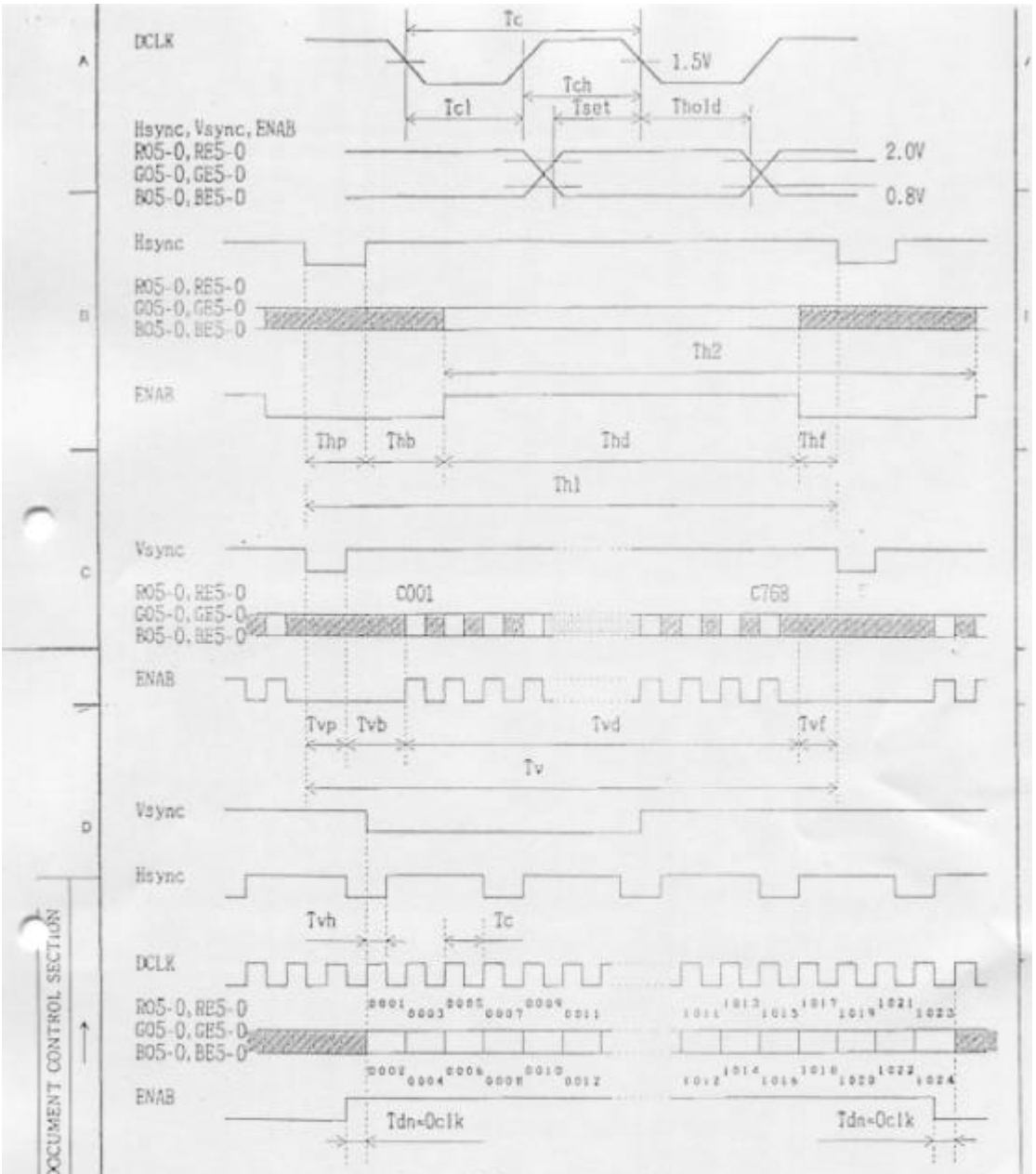

Figure 10-2 Input Signal Timing Chart

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DESIG.		CHECK		APPR.	

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10-4 Correspondence between Data and Display Position

Figure 10-3 shows the Correspondence between Data and Display Position.

	S0001	S0002	S0003	S0004	S0005	S0006	S0007	S0008	----------	S3071	S3072
C001	R0 0001	G0 0001	B0 0001	R2 0002	G2 0002	B2 0002	R0 0003	G0 0003		G2 1024	B2 1024
C768	R0 0001	G0 0001	B0 0001	R2 0002	G2 0002	B2 0002	R0 0003	G0 0003		G2 1024	B2 1024

Figure 10-3 Correspondence Data and Display Position

10-5 Power Supply Sequence

The sequence of input signals and On/Off of the power supply of this LCD modul should be in the specification shown in Figure 10-4 to prevent Latch-up of the driver ICs and DC driving of the LCD panel.

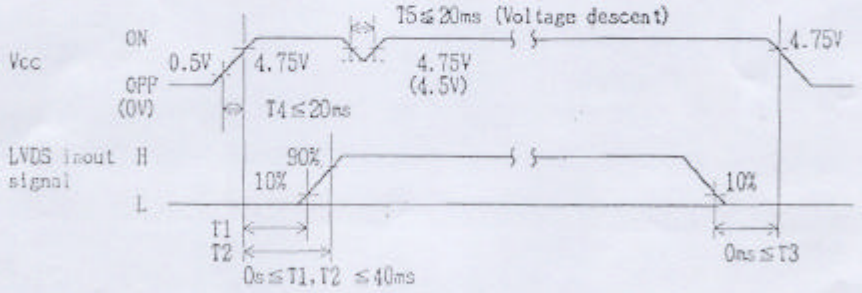

Figure 10-4 Power Supply Sequence

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DESIG.			CHECK	APPR.	FUJITSU LIMITED

11. BACK-LIGHT SPECIFICATIONS

11-1 Pin configuration for Back-light

Table 11-1 and 11-2 show the description and Pin assignment of the connectors (CN-A and B) for the backlight of this LCD module.

Table 11-1 Pin Assignment of CN-A

Pin No.	Signal	Function	Cable Color
1	GND	Ground (for V_L 1,2)	White
2	NC	—	
3	NC	—	
4	NC	—	
5	V_L1	Power supply for CCFL 1	Pink
6	NC	—	
7	V_L2	Power supply for CCFL 2	Pink

Table 11-2 Pin Assignment of CN-B

Pin No.	Signal	Function	Cable Color
1	GND	Ground (for V_L 3,4)	White
2	NC	—	
3	NC	—	
4	NC	—	
5	V_L3	Power supply for CCFL 3	Pink
6	NC	—	
7	V_L4	Power supply for CCFL 4	Pink

Connector: Housing : XHP-7
Contact : SXH-002T-P0.6
User's Connector : Post with base : B7B-XH-A (Top type) or S7B-XH-A (Side type)
Supplier: Japan Solderless Terminal Trading Company LTD. (J.S.T.)

11-2 CCFL

Supplier: KOWA ELECTRIC CO.,LTD Part No. (T.B.D)

11-3 Life

The life of the back-light is a minimum of 25,000 hours at the following conditions.

(1) Working conditions
① Ambient temperature : 25± 5 ℃
② Tube current (I_L) : (7 mA or less)

(2) Definition of life
① Brightness becomes 50% or less than the minimum brightness value shown in Table 9-1.
② The lamp cannot be lit by the minimum value of the breakdown voltage (1500 Vrms) shown in Table 8-1.
③ Flashing

DOCUMENT CONTROL SECTION

DATE	DESIG.	CHECK	DESCRIPTION	DESIG.	CHECK	APPR.

TITLE: FLC38XGC6V-04
DRAW. NO. Tech Bes 98/27972
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89.8 FDXA 4902-6

12. APPEARANCE SPECIFICATIONS

12-1 Appearance

Length: L [mm]
Width: W [mm]
Average diameter: D [mm]

No.	Item		Judgement method and standard	Remarks
1	Foreign article	Black particle	0.5>D N≦4	Recognized in the cell with lighting
		fiber	3.0>L N≦4	
2	Scratch	Scratch on polarizer film	10.0>L N≦6	
3	Nick	Nick on polarizer film	0.5>D N≦6	

Note

- Foreign article and scratch that do not affect display image, such as foreign article between glass and polarizer film out of the display area, scratch on metal vessel, back-light module or polarizer film out of the display area, etc. are not counted.
- These items apply to defects in the cell when the backlight is on, and defects on the surface of polarizer film inside the display area.
- Visually inspect appearance with keeping your eyes 35cm or more from the panel, using one 20W fluorescent light illumination at 50cm above the work table. At this time, the illuminance in the vertical direction to the fluorescent light is 400 to 600 lux(reference value).

12-2 Dot defects (Bright spots, Dark spots)

12-2-1 Zone

Inside display dot area (304.1 x 228.1 mm)
Display dot area means active area.
One pixel consists of 3 dots (red, green and blue).

12-2-2 Bright spots

(1) Bright spots classification (based on brightness samples)
- Visible with 2% ND filter --- High Bright spot R・G
- Visible with 5% ND filter but not visible with 2% ND filter --- Low Bright spot R・G・B
- Not visible with 5% ND filter --- not counted

(2) Defects of color filter
- Larger than one half of a dot
- Same or smaller than one half of a dot

(3) Defects of chrome mask
- Larger than $\phi 50\mu m$ --- High Bright spot
- Same or smaller than $\phi 50\mu m$ --- not counted

DOCUMENT CONTROL SEC.
DATE

DWT	DATE	DESIG	CHECK	DESCRIPTION
DESIG		CHECK		APPR

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12-2-3 Number of luminescent dark spots standard

Item	Entire Screen	
Brightness classification	High Bright Spots	High and Low Bright Spots
Number of defects	9 or less	15 or less

NOTES:
1. Display should be all black when luminescent spot is counted.
2. Number of high Bright spots of green(G) is up to 7.
3. Number of two low Bright spot connections is up to 7.
4. Number of three Bright spot connections and two high Bright spot connections is 0.
5. Number of high Bright spot and a low Bright spot connections is up to 4.

12-2-4 Distance between Bright spots

- High Bright spots R and G ------ 15 mm or more
- High Bright spots and low Bright spot ------ 5 mm or more
  (Except one or two of two bright spot connections)

12-2-5 Number of Dark spots standard

Item	Entire Screen
Number of defects	15 or less (When display is all white)

NOTES:
1. Display should be all white when dark spot is counted.
2. Number of two dark spot connections is up to 5.
3. Distance between defects is 5 mm or more.
4. If dark spot is smaller than one dot size, convert with following role and sum up.
   (a) $A < 1/3$: Not count.
   (Only one of 4 dark connection is allowed.)
   (b) $1/3 \leq A < 2/3$: Considered as 0.5 dot.
   (c) $2/3 \leq A$: Considered as 1 dot.
   (A = Dark spot size/dot size)

DOCUMENT CONTROL SHEET NO.
DATE

LTR	DATE	DESIG	CHECK	DESCRIPTION								
DESIG			CHECK			APPR.						

TITLE: FLC38XGC6V-04
DRAW NO: Tech Bes 98/27972
CUST
FUJITSU LIMITED
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89.8 FDXA-4902-6

13. ENVIRONMENTAL SPECIFICATIONS

Table 13-1 shows the environmental specifications.

Table 13-1 The environmental specifications

Item	Condition		Remark
Temperature	Operation	0 ~ 50℃	Temperature on surface of LCD panel (display are).
	Storage	−20 ~ 60℃	
Humidity	Operation	20 ~ 85%RH	Maximum wet-bulb temperature should not exceed 29℃. No condensation.
	Storage	5 ~ 85%RH	
Vibration	Non-operation	10~500Hz, 1 octave / 20 minute, 2G, 1.5mm max, 1 hour each X,Y and Z directions	For single module without package.
Shock	Non-operation	50G, 6ms, 3 times each ±X, ±Y and ±Z directions.	

NOTE: Table 13-2 and Figure 13-1 show the shock resistance standard when module is packaged.

Table 13-2 Shock resistance standard when module is packaged

Dropping location	Dropping height	Count
A ~ J	60cm	1 time

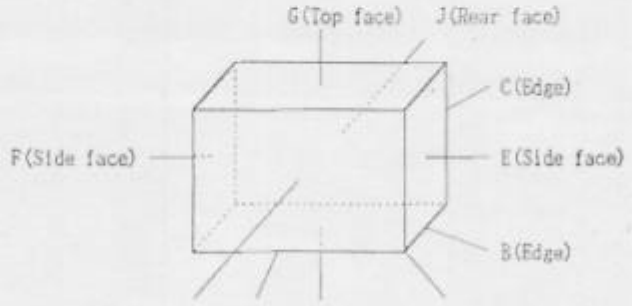

Figure 13-1 Direction to apply shock to package

DOCUMENT CONTROL SECTION

DATE

DF	DATE	DESIG	CHECK	DESCRIPTION
DESIG.			CHECK	APPR.

TITLE FLC38XGC6V-04

DRAW. NO. Tech Bos 98/27972

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14. INDICATIONS

This module has the following indications.

(1) Product name : LCDユニット

(2) Model Number : FLC38XGC6V-04

(3) Product Drawing Number : (T. B. D.)

(4) Manufacturing Number : 8 Y 0 0 0 0 1

- 8 — Last digit of manufacturing year
- Y — Manufacturing month (Oct.=X, Nov.=Y, Dec.=Z)
- 0 0 0 0 1 — Serial number (To be reset every month on 21.)

(5) Version number : 0 1 A (Example)
- 1st 2 digits "01" means operational version.
- 3rd alphabet means functional version.

(6) Manufacturer Country Name : MADE IN JAPAN

(7) Company Name : FUJITSU LIMITED

(8) Disposal method of cold-cathode tubes.

(9) Caution when chenging cold-cathode tubes.

15. PACKAGING

Separately specified in packaging specifications.

15-1 Packing specifications

(1) 5 LCD modules / 1 package.

(2) Weight : approximately 12kg / 1 package.

(3) Outline dimensions : 371 mm(W) × 423 mm(D) × 439 mm(H)

15-2 Packing method

Figure 15-1.2 show the packing method.

DOCUMENT CONTROL SECTION

DATE

DESIG.	DATE	DESIG.	CHECK	DESCRIPTION	APPR.
DESIG.			CHECK		

TITLE: FLC38XGC6V-04

DRAW NO: Tech Res 98/27972

CUST.

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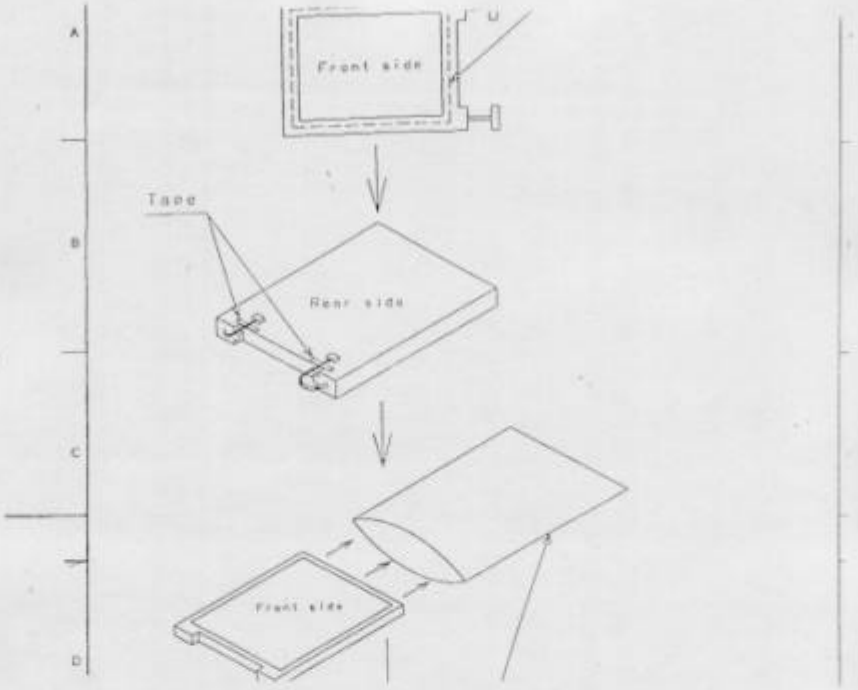
A
B
C
D
Front side
Tape
Rear side
Front side

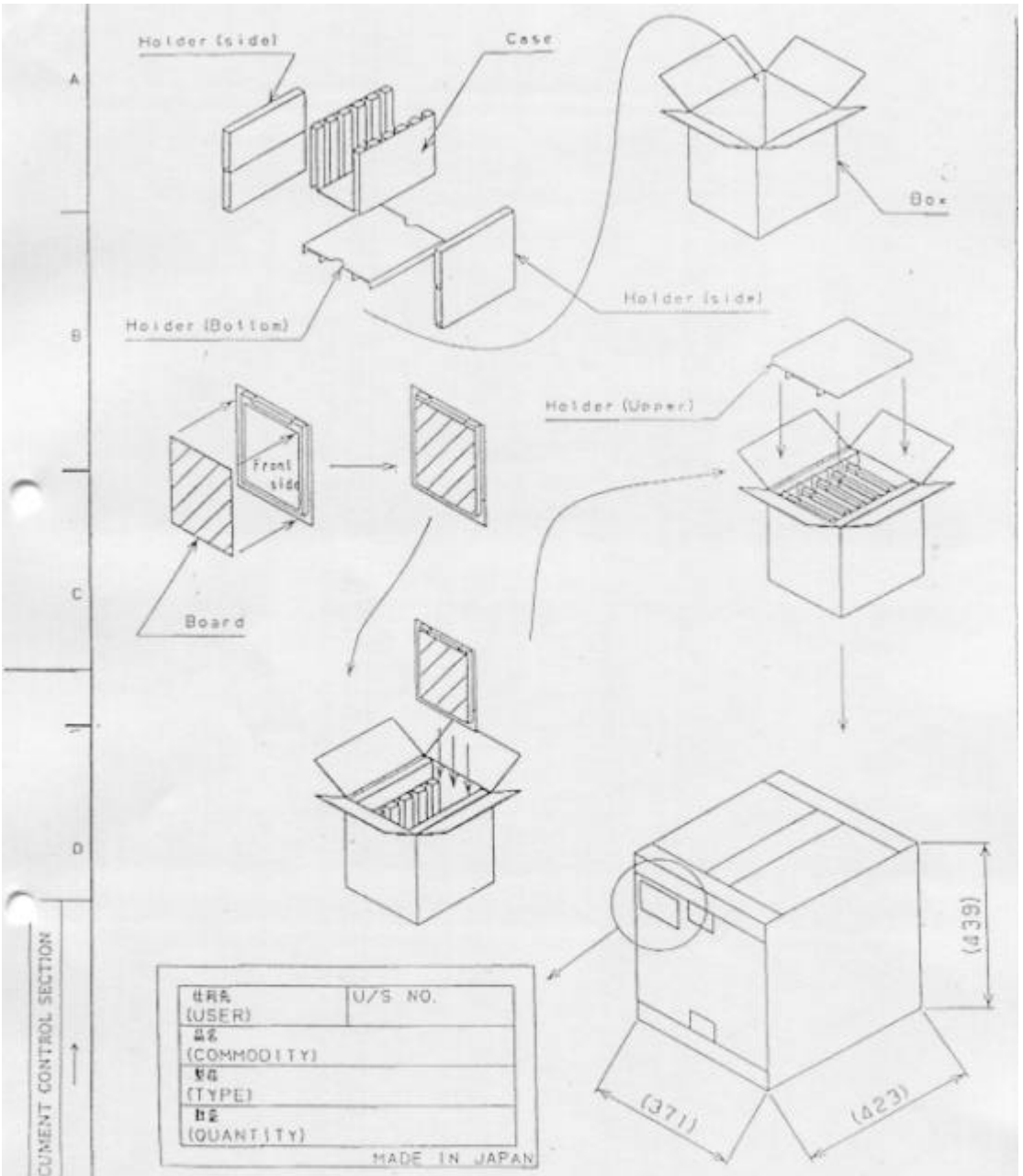

Figure 15-2 Packing method

					TITLE	FLC38XGC6V-04
					DRAW. NO.	Tech Bas 98/27972
INT	DATE	DESIG.	CHECK	DESCRIPTION		
DESIG			CHECK	APPR.	FUJITSU LIMITED	23 /

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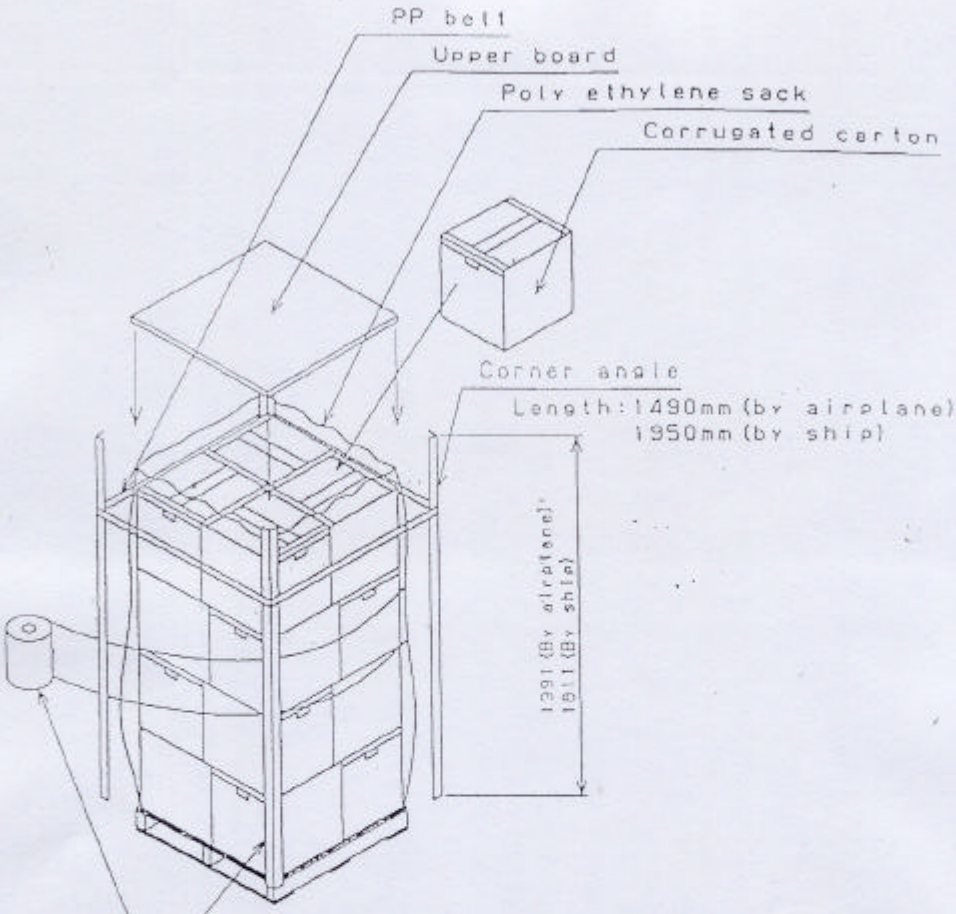

NOTE:
1) 4boxes×4layers (maximum 16boxes) :by ship
   4boxes×3layers (maximum 12boxes) :by airplaine
2) This drawing shows marine transportation specification.

Figure.15-3 Packing method

DOCUMENT CONTROL SECTION

DATE

	DATE	DESIG.	CHECK	DESCRIPTION
DESIG			CHECK	APPR

TITLE FLC38XGC6V-04

DRAW. NO. Tech Bes 98/27972

CUST.

FUJITSU LIMITED

89.8 FDXA 4902-6

④ Do not place or contact objects on the display surface for a long period of time. That's because this may made some parts of the LCD module distorted and the display quality may decline.

(3) Handling of LCD module

① Do not pull the cold-cathode tube cable strongly.
If the cable is pulled with a 2 Kg or stronger force, the cable may be damaged or reliability may decrease.

② Assemble the module into user's system in a dust free environment.
If conductive foreign matter adheres to the module, failures may occur.

③ Take anti-static measures for assembling the module.
Since the LCD module uses a CMOS-IC, the following consideration are necessary.

- For assembling the module, operator should be grounded and wear cotton or conductive gloves.
- For the area to assemble the device, place an earth mat on the floor and wor table, and discharge static electricity via an earth wire.
- If necessary, ground operation tools(soldering iron, radio pliers, pincet, etc.)

- Do not take the module out of the conductive bag until the time when the module is assembled.
- Assemble the module in a humidity controlled environment (50~60%). Do not work in an environment where humidity is extremely low(50% RH or less).

④ Do not strongly pull the connecting cable on the rear face of the LCD module.

⑤ Do not disassemble or remodel the LCD module.
If this LCD module is disassembled or remodeled, it may have some trouble, or the display quality and reliability may not be assured.

(4) Precautions for operating the LCD module

① Adhere to the specified power supply sequence.
If not followed, the CMOS-IC may cause a latchup, or the DC voltage may be appliedo the liquid crystal, and a failure or serious display quality deterioration may occur.

② Do not operate the LCD module when condensation is present.
If the LCD module is operated when condensation is present on the output terminals of the LCD panel, the terminals cause electro-chemical reaction, which may cause a disconnection. Condensation easily occurs especailly when the module is moved from a cold environment to a warm environment.

③ Trouble that occurs when the LCD module is used at not recommended temperature.
- Operation at high temperature (>50℃) : Display colors shift to blue.
- Storage at high temperature (>60℃) : The polarizer film deteriorates and contrast decreases.
- Operation at low temperature (< 0℃) : The response speed decreases considerably.
- Storage at low temperature (<-20℃) : The liquid crystal may solidify and become damaged.

DOCUMENT CONTROL SECTION

DATE

					TITLE	FLC38XGC6V-04
					DRAW. NO.	Tech Res 98/27972
NO.	DATE	DESIG.	CHECK	DESCRIPTION		
DESIG			CHECK	APPR	FUJITSU LIMITED	26 /

④ Do not place or contact objects on the display surface for a long period of time. That's because this may made some parts of the LCD module distorted and the display quality may decline.

(3) Handling of LCD module

① Do not pull the cold-cathode tube cable strongly.
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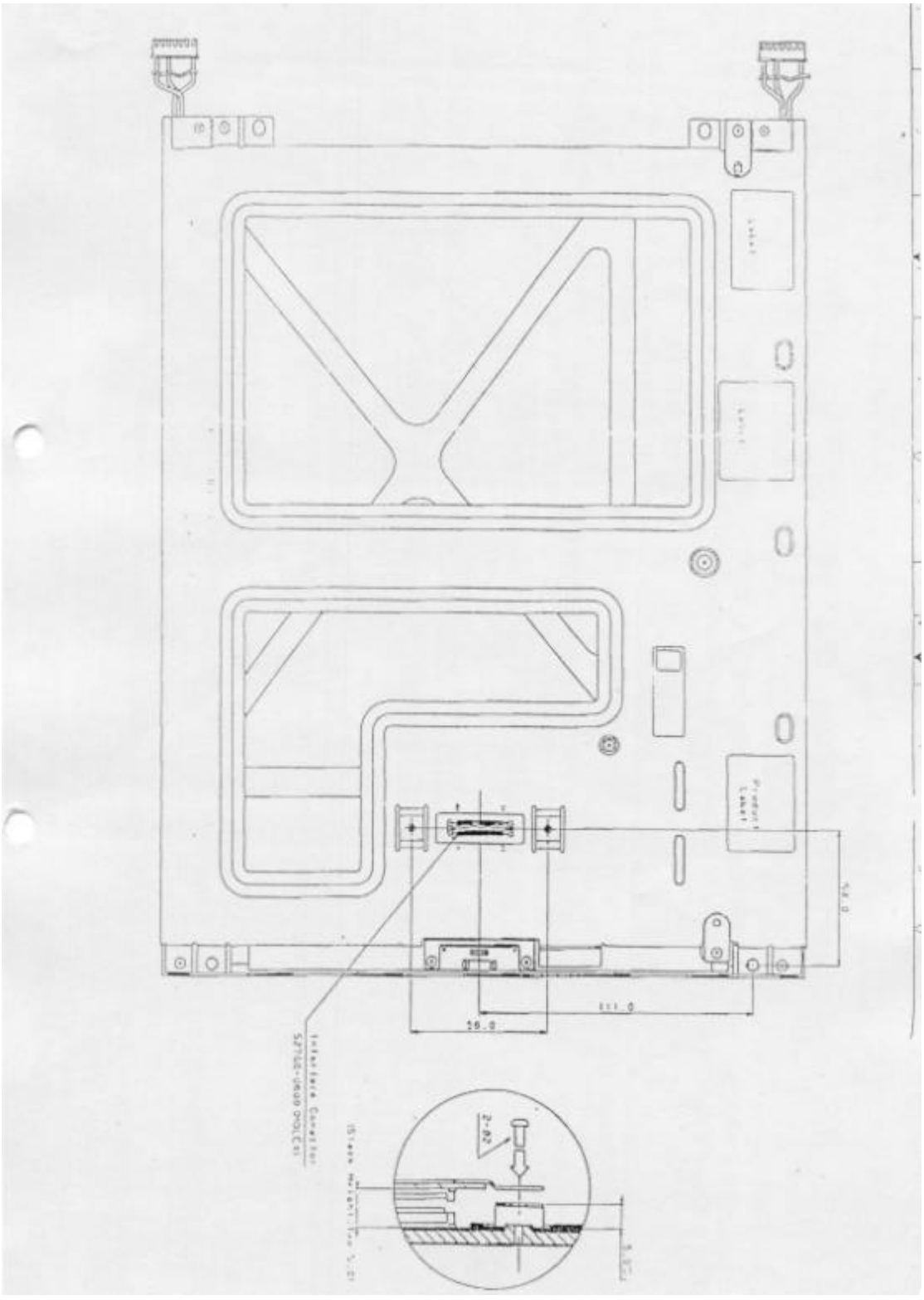
- Storage at low temperature (<-20℃) : The liquid crystal may solidify and become damaged.

DOCUMENT CONTROL SECTION

DATE

					TITLE	FLC38XGC6V-04
					DRAW. NO.	Tech Res 98/27972
NO.	DATE	DESIG.	CHECK	DESCRIPTION		
DESIG			CHECK	APPR	FUJITSU LIMITED	26 /



3
TEST RESULT AND CALCULATIONS

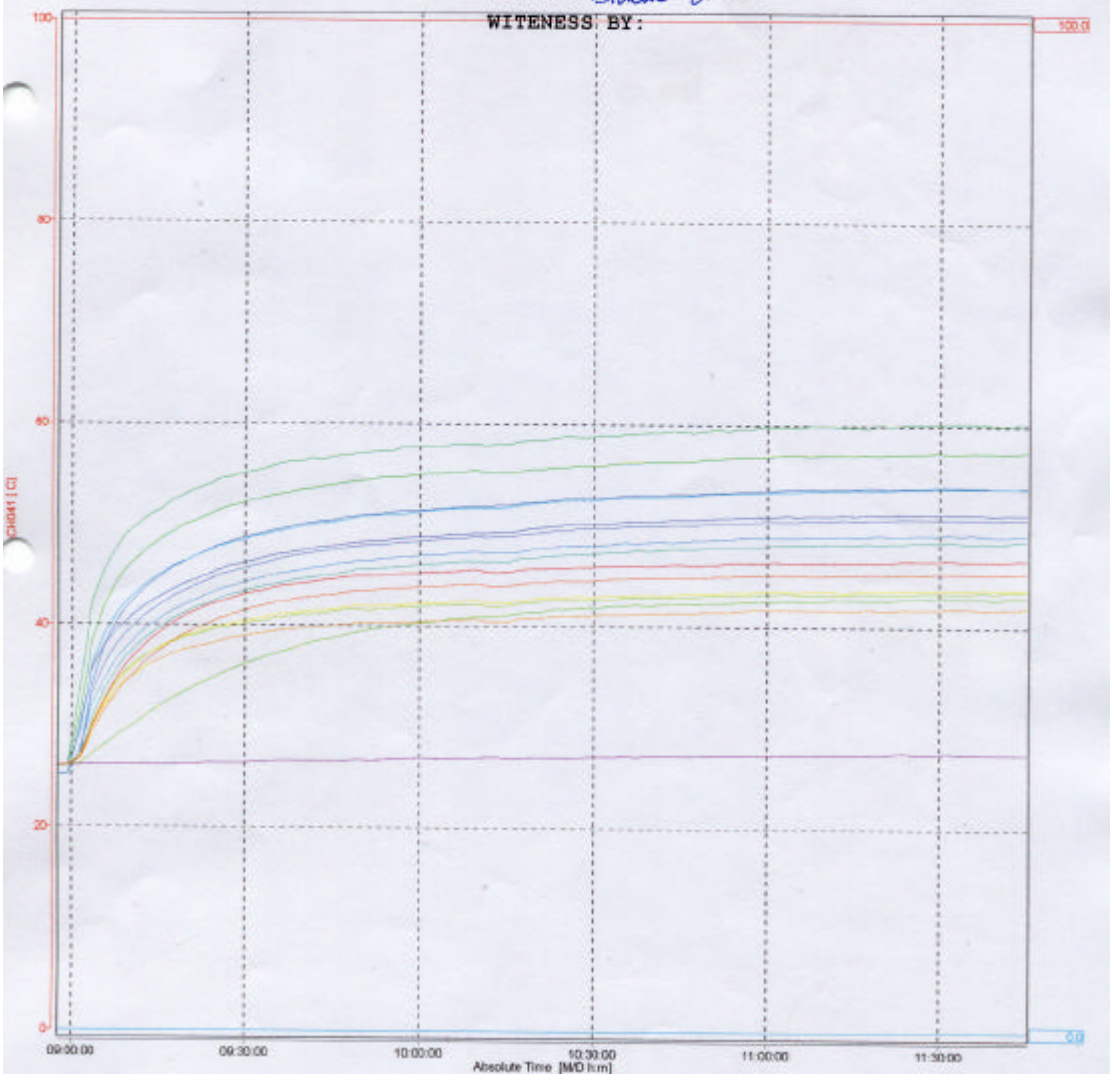
AMB-2003 90V/63Hz Heating
File Name : 20010407-0000.BFD Device Type : DA100 Expandable
Data Count : 161 Group : Group04 Channel Count : 15 Sampling Interval : 120.000 sec
Start Time : 2001/04/07 08:51:33 End Time : 2001/04/07 14:11:33

	Cursor A	Cursor B	Difference
Data Number	3	87	84
Absolute Time	2001/04/07 08:57:33.0	2001/04/07 11:45:33.0	02:48:00.0
Channel	Value A	Value B	Value B-A
W01 CH041[C]	26.0	46.7	20.7
W02 CH042[C]	26.1	45.5	19.4
W03 CH043[C]	26.0	42.0	16.0
W04 CH044[C]	26.1	43.9	17.8
W05 CH045[C]	26.1	43.6	17.5
W06 CH046[C]	26.0	43.0	17.0
W07 CH047[C]	26.1	57.5	31.4
W08 CH048[C]	26.1	60.2	34.1
W09 CH049[C]	26.1	48.6	22.5
W10 CH050[C]	26.1	54.0	27.9
W11 CH051[C]	25.2	49.2	24.0
W12 CH052[C]	25.2	50.8	25.6
W13 CH053[C]	25.2	53.9	28.7
W14 CH054[C]	25.2	51.3	26.1
W15 CH040[C]	26.0	27.5	1.5

MODEL: AMB-2003 SAMPLE NO: #1
PROJECT NO: 0103055
INPUT RATING: 90V/63Hz
OPERATING CONDITION: Maximum normal load

CH	T.C.	°C
1	L1 coil (Power supply:MPE-8071)	46.7
2	T1 coil (Power supply:MPE-8071)	45.5
3	L2 coil (Power supply:MPE-8071)	42.0
4	L3 coil (Power supply:MPE-8071)	43.9
5	L4 coil (Power supply:MPE-8071)	43.6
6	Hard disk body	43.0
7	PCB under Q7 (Mainboard:C17BP-1.0)	57.5
8	SB82558B body (Mainboard:C17BP-1.0)	60.2
9	L10 coil (Mainboard:C17BP-1.0)	48.6
10	L2 coil (Mainboard:C17BP-1.0)	54.0
11	U4 body (Mainboard:C17BP-1.0)	49.2
12	HS of U9 (Mainboard:C17BP-1.0)	50.8
13	HS of U7 (Mainboard:C17BP-1.0)	53.9
14	HS of CPU (Mainboard:C17BP-1.0)	51.3
15	Ambient	27.5

TEST BY: Brian Chen
WITENESS BY:



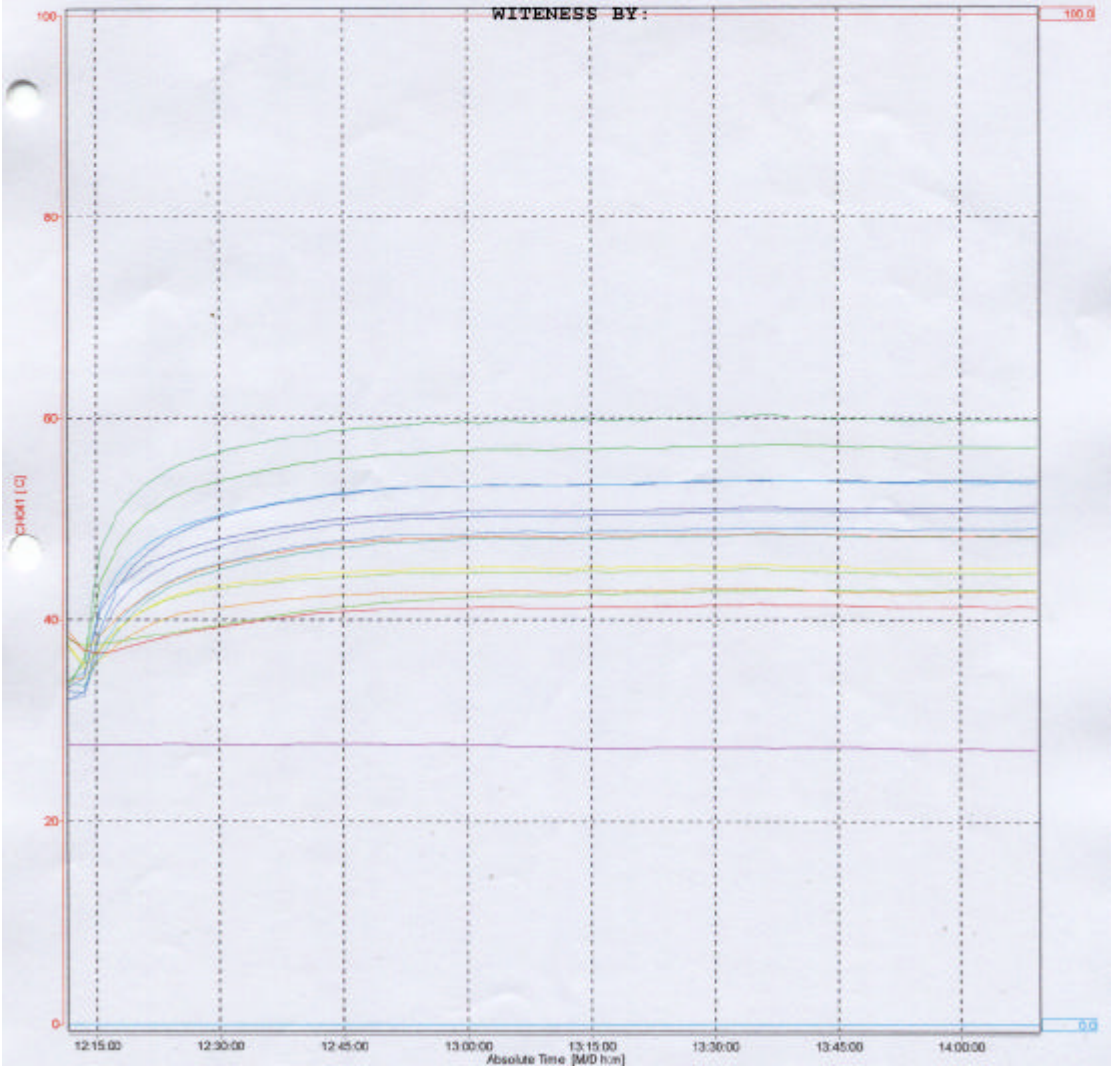
AMB-2003 275V/47Hz Heating
File Name : 20010407-0000.BFD Device Type : DA100 Expandable
Data Count : 161 Group : Group04 Channel Count : 15 Sampling Interval : 120.000 sec
Start Time : 2001/04/07 08:51:33 End Time : 2001/04/07 14:11:33

	Cursor A	Cursor B	Difference
Data Number	160	159	59
Absolute Time	2001/04/07 12:11:33.0	2001/04/07 14:09:33.0	01:58:00.0
Channel	Value A	Value B	Value B-A
W01:CH041[C]	38.4	41.3	2.9
W02:CH042[C]	39.0	48.3	9.3
W03:CH043[C]	34.0	42.7	8.7
W04:CH044[C]	37.6	45.1	7.5
W05:CH045[C]	37.6	44.6	7.0
W06:CH046[C]	38.1	42.9	4.8
W07:CH047[C]	33.7	57.1	23.4
W08:CH048[C]	33.1	59.7	26.6
W09:CH049[C]	33.8	48.2	14.4
W10:CH050[C]	34.0	53.6	19.6
W11:CH051[C]	32.0	49.1	17.1
W12:CH052[C]	32.2	50.7	18.5
W13:CH053[C]	32.9	53.8	20.9
W14:CH054[C]	33.2	51.2	18.0
W15:CH040[C]	27.6	27.2	-0.4

MODEL: AMB-2003 SAMPLE NO:#1
PROJECT NO: 0103055
INPUT RATING: 275V/47Hz
OPERATING CONDITION: Maximum normal load

CH	T.C.	°C
1	L1 coil (Power supply:MPE-8071)	41.3
2	T1 coil (Power supply:MPE-8071)	48.3
3	L2 coil (Power supply:MPE-8071)	42.7
4	L3 coil (Power supply:MPE-8071)	45.1
5	L4 coil (Power supply:MPE-8071)	44.6
6	Hard disk body	42.9
7	PCB under Q7 (Mainboard:C17BP-1.0)	57.1
8	SB82558B body (Mainboard:C17BP-1.0)	59.7
9	L10 coil (Mainboard:C17BP-1.0)	48.2
10	L2 coil (Mainboard:C17BP-1.0)	53.6
11	U4 body (Mainboard:C17BP-1.0)	49.1
12	HS of U9 (Mainboard:C17BP-1.0)	50.7
13	HS of U7 (Mainboard:C17BP-1.0)	53.8
14	HS of CPU (Mainboard:C17BP-1.0)	51.2
15	Ambient	27.2

TEST BY: Brian Chen
WITENESS BY:



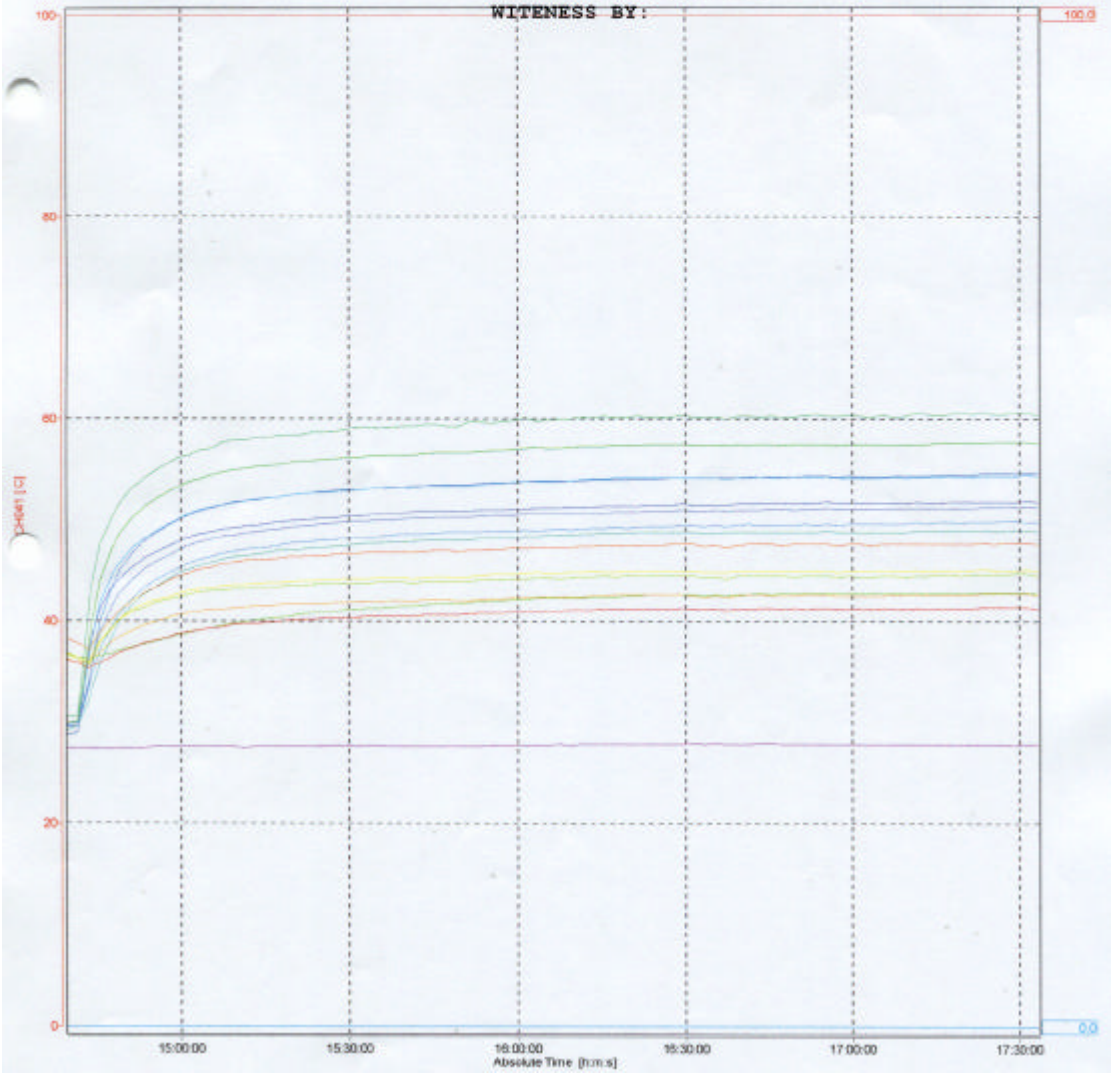
AMB-2003 250V/63Hz Blocked vents
File Name : 20010407-0000.BFD Device Type : DA100 Expandable
Data Count : 267 Group : Group04 Channel Count : 15 Sampling Interval : 120.000 sec
Start Time : 2001/04/07 08:51:33 End Time : 2001/04/07 17:43:33

	Cursor A	Cursor B	Difference
Data Number	114	381	87
Absolute Time	2001/04/07 14:39:33.0	2001/04/07 17:33:33.0	02:54:00.0
Channel	Value A	Value B	Value B-A
W01:CH041[C]	36.2	41.3	5.1
W02:CH042[C]	38.3	47.6	9.3
W03:CH043[C]	36.3	42.6	6.3
W04:CH044[C]	36.9	44.9	8.0
W05:CH045[C]	36.7	44.5	7.8
W06:CH046[C]	36.8	42.7	5.9
W07:CH047[C]	29.9	57.6	27.7
W08:CH048[C]	30.5	60.4	29.8
W09:CH049[C]	29.2	48.9	19.7
W10:CH050[C]	29.9	54.4	24.6
W11:CH051[C]	29.5	49.8	20.3
W12:CH052[C]	29.9	51.3	21.4
W13:CH053[C]	29.6	54.6	25.0
W14:CH054[C]	28.8	51.8	23.0
W15:CH040[C]	27.5	27.8	0.3

MODEL: AMB-2003 SAMPLE NO: #1
PROJECT NO: 0103055
INPUT RATING: 250V/63Hz
OPERATING CONDITION: Blocked vents

CH	T.C.	°C
1	L1 coil (Power supply:MPE-8071)	41.3
2	T1 coil (Power supply:MPE-8071)	47.6
3	L2 coil (Power supply:MPE-8071)	42.6
4	L3 coil (Power supply:MPE-8071)	44.9
5	L4 coil (Power supply:MPE-8071)	44.5
6	Hard disk body	42.7
7	PCB under Q7 (Mainboard:C17BP-1.0)	57.6
8	SB82558B body (Mainboard:C17BP-1.0)	60.4
9	L10 coil (Mainboard:C17BP-1.0)	48.9
10	L2 coil (Mainboard:C17BP-1.0)	54.4
11	U4 body (Mainboard:C17BP-1.0)	49.8
12	HS of U9 (Mainboard:C17BP-1.0)	51.3
13	HS of U7 (Mainboard:C17BP-1.0)	54.6
14	HS of CPU (Mainboard:C17BP-1.0)	51.8
15	Ambient	27.8

TEST BY: Brian Chen
WITENESS BY:



AMB-2003 Fan(near power) locked
File Name : 20010409-0000.BFD Device Type : DA100 Expandable
Data Count : 95 Group : Group04 Channel Count : 15 Sampling Interval : 120.000 sec
Start Time : 2001/04/09 08:45:30 End Time : 2001/04/09 11:53:30

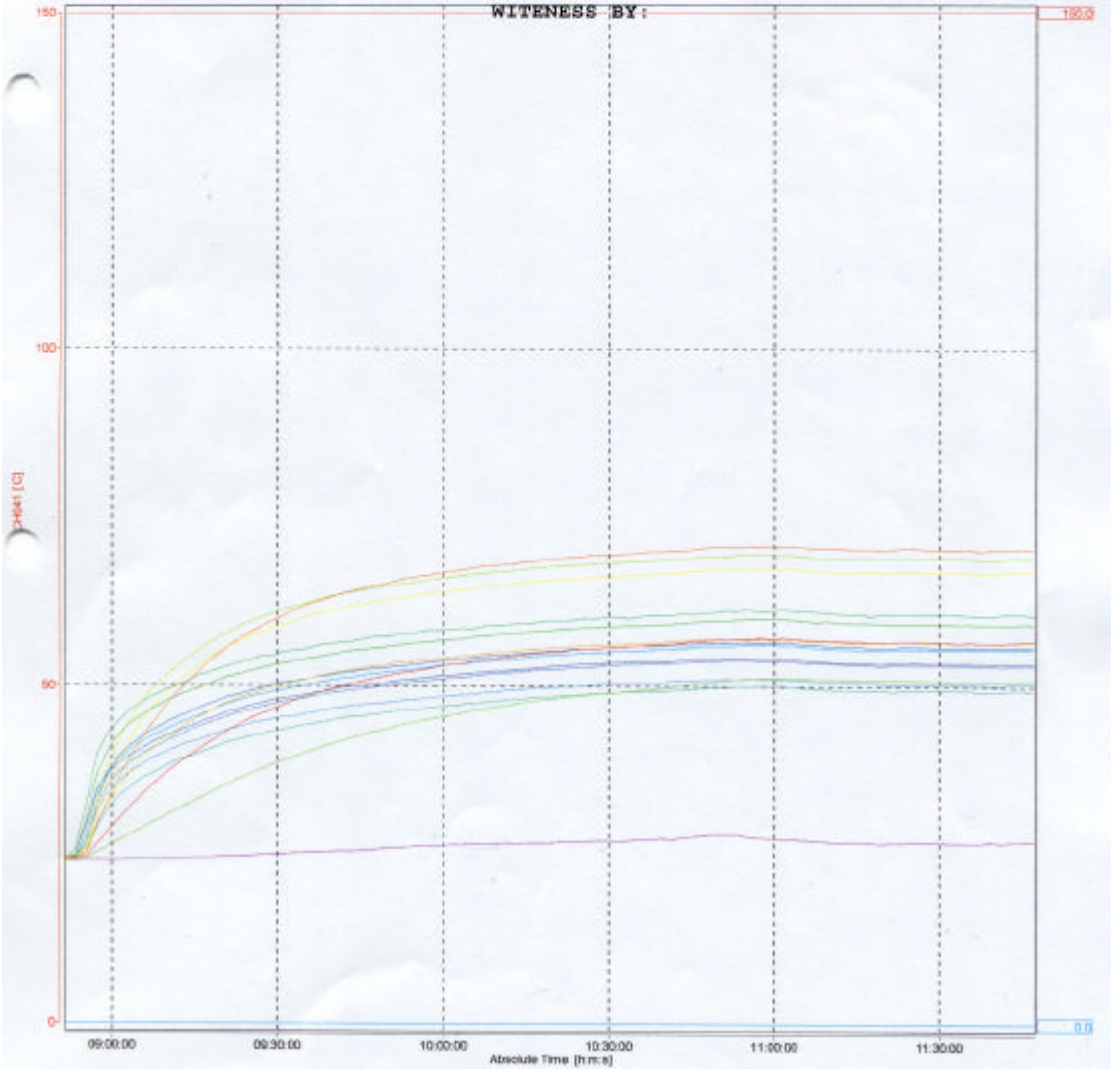
	Cursor A	Cursor B	Difference
Data Number	1	91	88
Absolute Time	2001/04/09 08:51:30.0	2001/04/09 11:47:30.0	02:56:00.0
Channel	Value A	Value B	Value B-A
W01:CH041[C]	24.2	56.7	32.5
W02:CH042[C]	24.7	70.2	45.5
W03:CH043[C]	24.2	56.7	32.5
W04:CH044[C]	24.2	67.0	42.8
W05:CH045[C]	24.3	69.0	44.7
W06:CH046[C]	24.0	50.9	26.9
W07:CH047[C]	24.1	59.2	35.1
W08:CH048[C]	24.0	60.4	36.4
W09:CH049[C]	24.0	49.3	25.3
W10:CH050[C]	24.0	55.5	31.5
W11:CH051[C]	24.0	50.4	26.4
W12:CH052[C]	24.0	53.2	29.2
W13:CH053[C]	24.0	55.8	31.8
W14:CH054[C]	24.0	53.5	29.5
W15:CH040[C]	24.0	27.0	3.0

MODEL: AMB-2003 SAMPLE NO:#1
PROJECT NO: 0103055
INPUT RATING: 250V/63Hz
OPERATING CONDITION: Fan(near power) locked

CH	T.C.	°C
1	L1 coil (Power supply:MPE-8071)	56.7
2	T1 coil (Power supply:MPE-8071)	70.2
3	L2 coil (Power supply:MPE-8071)	56.7
4	L3 coil (Power supply:MPE-8071)	67.0
5	L4 coil (Power supply:MPE-8071)	69.0
6	Hard disk body	50.9
7	PCB under Q7 (Mainboard:C17BP-1.0)	59.2
8	SB82558B body (Mainboard:C17BP-1.0)	60.4
9	L10 coil (Mainboard:C17BP-1.0)	49.3
10	L2 coil (Mainboard:C17BP-1.0)	55.5
11	U4 body (Mainboard:C17BP-1.0)	50.4
12	HS of U9 (Mainboard:C17BP-1.0)	53.2
13	HS of U7 (Mainboard:C17BP-1.0)	55.8
14	HS of CPU (Mainboard:C17BP-1.0)	53.5
15	Ambient	27.0

TEST BY: Brian Chen

WITENESS BY:



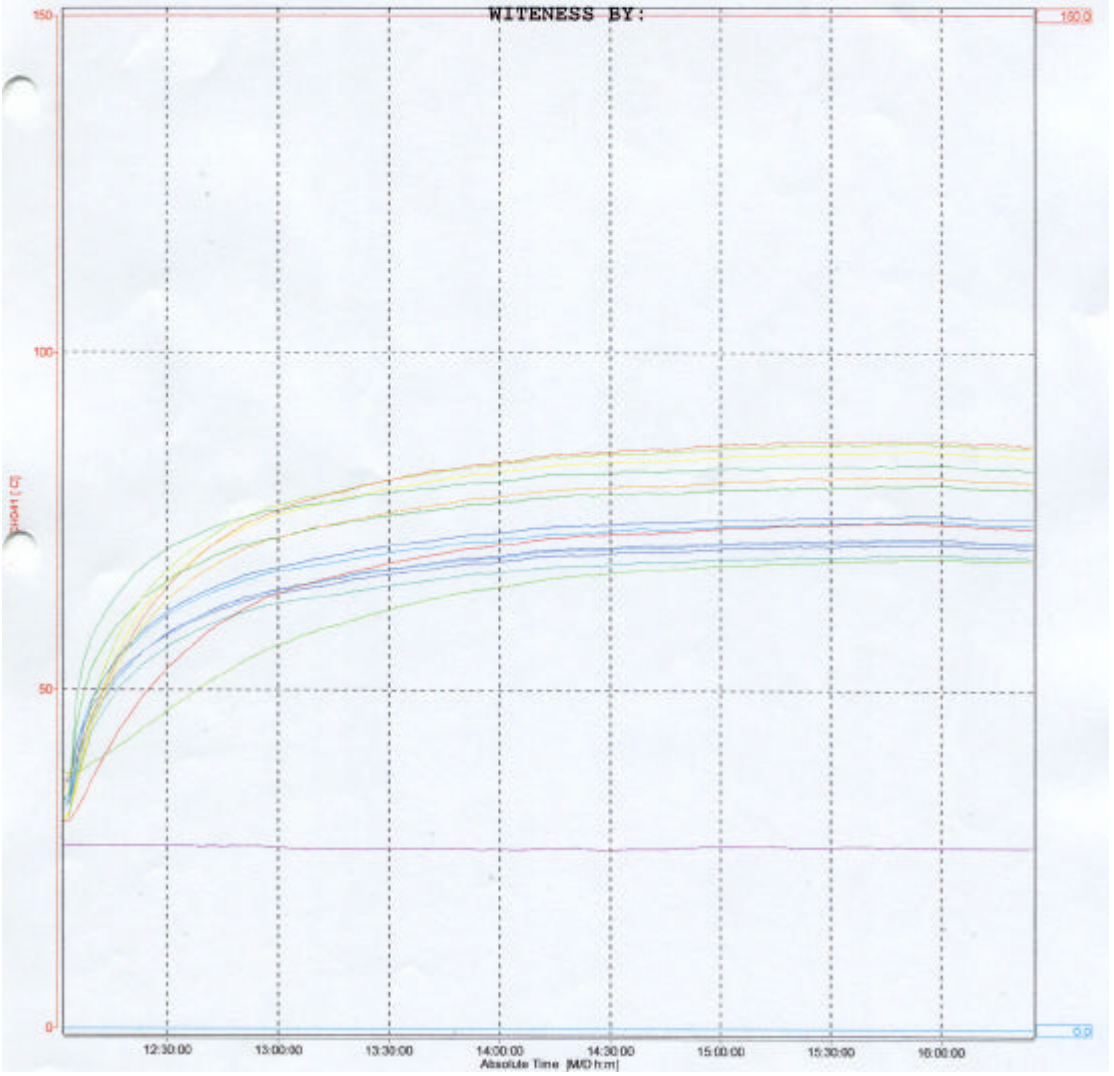
AMB-2003 Fan(near CPU) locked
File Name : 20010409-0000.BFD Device Type : DA100 Expandable
Data Count : 258 Group : Group04 Channel Count : 15 Sampling Interval : 120.000 sec
Start Time : 2001/04/09 08:45:30 End Time : 2001/04/09 17:19:30

	Cursor A	Cursor B	Difference
Data Number	98	230	132
Absolute Time	2001/04/09 12:01:30.0	2001/04/09 16:25:30.0	04:24:00.0
Channel	Value A	Value B	Value B-A
W01:CH041[C]	30.5	73.9	43.4
W02:CH042[C]	34.4	86.3	51.9
W03:CH043[C]	31.1	80.7	49.6
W04:CH044[C]	31.0	84.6	53.6
W05:CH045[C]	30.6	85.7	55.1
W06:CH046[C]	38.1	69.1	31.0
W07:CH047[C]	33.9	79.8	45.9
W08:CH048[C]	32.9	82.6	49.7
W09:CH049[C]	32.9	69.6	36.7
W10:CH050[C]	33.5	74.4	40.9
W11:CH051[C]	31.1	71.6	40.5
W12:CH052[C]	32.1	71.8	39.7
W13:CH053[C]	34.0	75.4	41.4
W14:CH054[C]	36.7	71.0	34.3
W15:CH043[C]	27.0	26.8	-0.2

MODEL: AMB-2003 SAMPLE NO:#1
PROJECT NO: 0103055
INPUT RATING: 250W/63Hz
OPERATING CONDITION: Fan(near CPU) locked

CH	T.C.	°C
1	L1 coil (Power supply:MPE-8071)	73.9
2	T1 coil (Power supply:MPE-8071)	86.3
3	L2 coil (Power supply:MPE-8071)	80.7
4	L3 coil (Power supply:MPE-8071)	84.6
5	L4 coil (Power supply:MPE-8071)	85.7
6	Hard disk body	69.1
7	PCB under Q7 (Mainboard:C17BP-1.0)	79.8
8	SB82558B body (Mainboard:C17BP-1.0)	82.6
9	L10 coil (Mainboard:C17BP-1.0)	69.6
10	L2 coil (Mainboard:C17BP-1.0)	74.4
11	U4 body (Mainboard:C17BP-1.0)	71.6
12	HS of U9 (Mainboard:C17BP-1.0)	71.8
13	HS of U7 (Mainboard:C17BP-1.0)	75.4
14	HS of CPU (Mainboard:C17BP-1.0)	71.0
15	Ambient	26.8

TEST BY: Brian Chen
WITENESS BY:



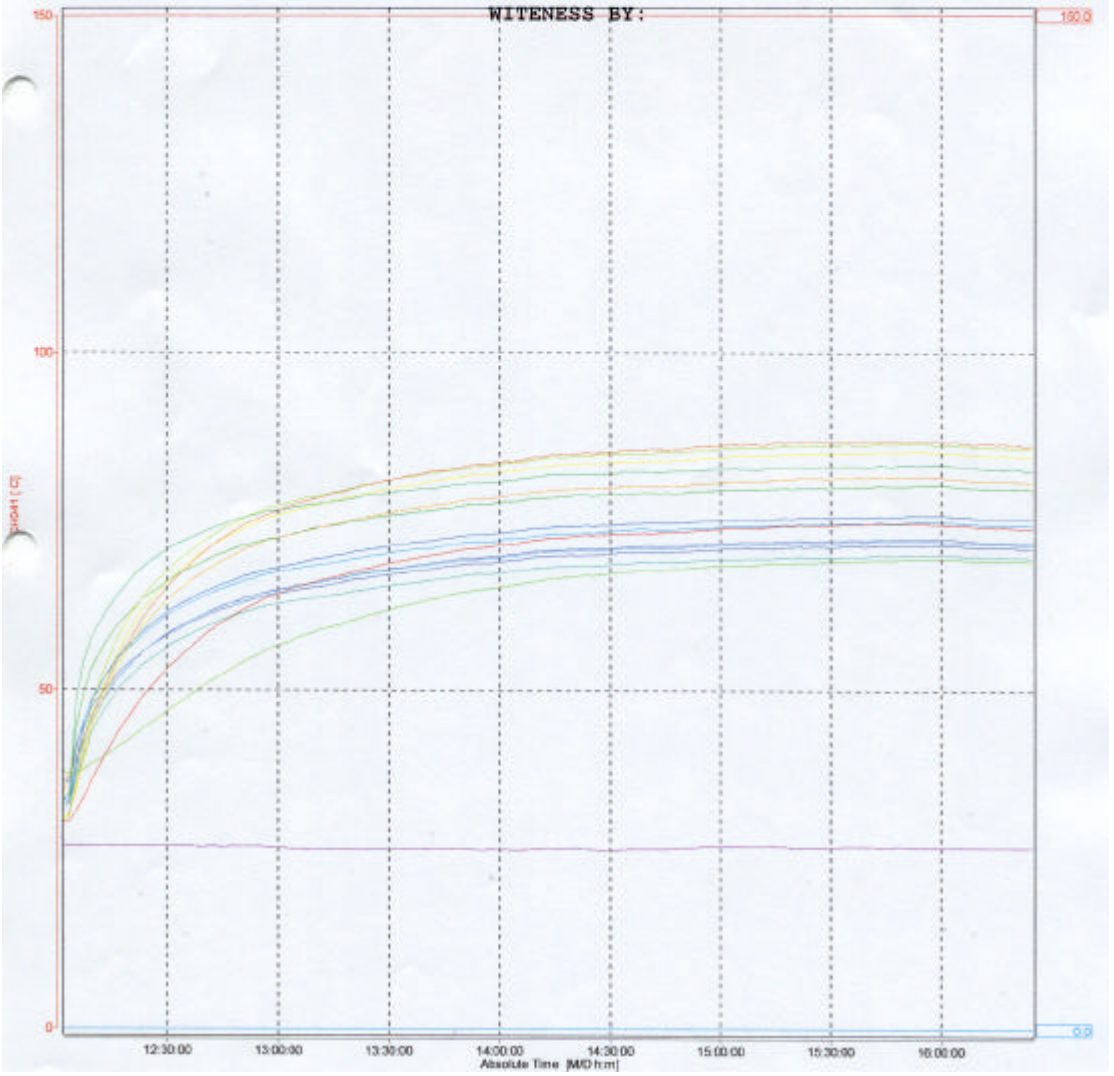
AMB-2003 Fan(near CPU) locked
File Name : 20010409-0000.BFD Device Type : DA100 Expandable
Data Count : 258 Group : Group04 Channel Count : 15 Sampling Interval : 120.000 sec
Start Time : 2001/04/09 08:45:30 End Time : 2001/04/09 17:19:30

	Cursor A	Cursor B	Difference
Data Number	98	230	132
Absolute Time	2001/04/09 12:01:30.0	2001/04/09 16:25:30.0	04:24:00.0
Channel	Value A	Value B	Value B-A
W01:CH041[C]	30.5	73.9	43.4
W02:CH042[C]	34.4	86.3	51.9
W03:CH043[C]	31.1	80.7	49.6
W04:CH044[C]	31.0	84.6	53.6
W05:CH045[C]	30.6	85.7	55.1
W06:CH046[C]	38.1	69.1	31.0
W07:CH047[C]	33.9	79.8	45.9
W08:CH048[C]	32.9	82.6	49.7
W09:CH049[C]	32.9	69.6	36.7
W10:CH050[C]	33.5	74.4	40.9
W11:CH051[C]	31.1	71.6	40.5
W12:CH052[C]	32.1	71.8	39.7
W13:CH053[C]	34.0	75.4	41.4
W14:CH054[C]	36.7	71.0	34.3
W15:CH043[C]	27.0	26.8	-0.2

MODEL: AMB-2003 SAMPLE NO:#1
PROJECT NO: 0103055
INPUT RATING: 250W/63Hz
OPERATING CONDITION: Fan(near CPU) locked

CH	T.C.	°C
1	L1 coil (Power supply:MPE-8071)	73.9
2	T1 coil (Power supply:MPE-8071)	86.3
3	L2 coil (Power supply:MPE-8071)	80.7
4	L3 coil (Power supply:MPE-8071)	84.6
5	L4 coil (Power supply:MPE-8071)	85.7
6	Hard disk body	69.1
7	PCB under Q7 (Mainboard:C17BP-1.0)	79.8
8	SB82558B body (Mainboard:C17BP-1.0)	82.6
9	L10 coil (Mainboard:C17BP-1.0)	69.6
10	L2 coil (Mainboard:C17BP-1.0)	74.4
11	U4 body (Mainboard:C17BP-1.0)	71.6
12	HS of U9 (Mainboard:C17BP-1.0)	71.8
13	HS of U7 (Mainboard:C17BP-1.0)	75.4
14	HS of CPU (Mainboard:C17BP-1.0)	71.0
15	Ambient	26.8

TEST BY: Brian Chen
WITENESS BY:



宏燁科技股份有限公司
VICTRONIC TECHNOLOGY CORP.

Measuring and Test Instruments

Applied For LVD Report Inspection

Company/Test Institute: Victronic Technology Corp.

Address of Test Site: 4th F, 130, Lane 235, Bao Chiao Rd., Hsin Dien City, Taipei Hsien, Taiwan, R.O.C.

Person responsible for Maintenance & Calibration: James Chang

Division/Department: Manager/Engineering Services

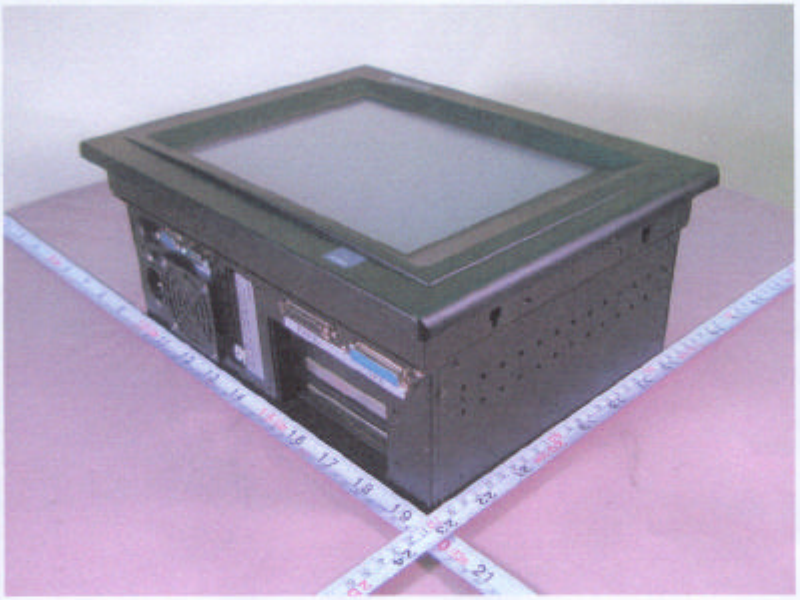
Date and Signature:

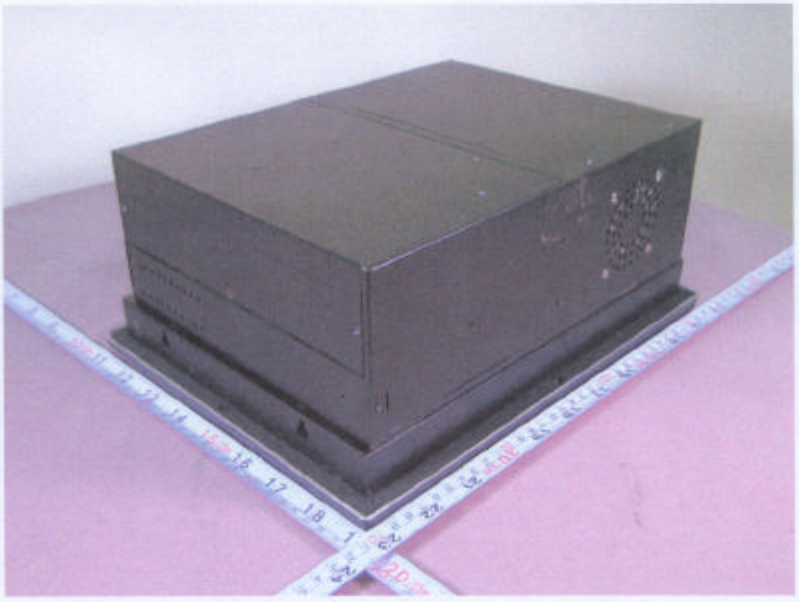
Item	Kind of Instrument Precision Class	Manufacturer	Model Serial No.	Range Use & Function	Calibration Date Recall Date
22	CALIPER	MITUTOYO	CD-6"CS	15 cm	30, DEC, 2001
			0059175		31, DEC, 1999
23	PUSH/PULL GAUGE	JAPAN INSTR. SYSTEM CO., LTD	AK-30	30Kgf	21, DEC, 2001
			260417		22, DEC, 2000
24	POWER METER	PRODIGIT	4011	0 - 20 A (Auto range)	05, DEC, 2001
			974011051		06, DEC, 2000
25	DIGITAL POWER METER	CHYNG HONG	CP-350	0 – 600 V AC 0-50 A	17, OCT, 2001
			355833		18, OCT, 2000
26	DC ELECTRONIC LOAD	PRODIGIT	3301A	60 V/ 60 A	16, JUL, 2001
			00701A021		17, JUL, 2000
27	DC ELECTRONIC LOAD	PRODIGIT	3301A	60 V/ 60 A	16, JUL, 2001
			00701A024		17, JUL, 2000
28	DC ELECTRONIC LOAD	PRODIGIT	3301A	60 V/ 60 A	24, JUL, 2001
			00701A023		25, JUL, 2000
29	STOPWATCH	CASIO	HS-10W	9:59'59"99	01, JUN, 2001
			87060305-2		02, JUN, 2000
30	IEC TEST PIN	VTC	N/A	N/A	N/A
31	IEC TEST FINGER	UL	N/A	N/A	N/A
32	DC ELECTRONIC LOAD	PRODIGIT	3302A-01-21A	60 V/ 60 A	24, JUL, 2001
			007020085		25, JUL, 2000
33	FUNCTION GENERATOR	GOOD WILL	GFG-8016G	0 - 2MHz	10, AUG, 2001
			9640053		11, AUG, 2000
34	FUNCTION GENERATOR	TOPWARD	8110	0 - 2MHz	02, OCT, 2001
			676554		03, OCT, 2000
35	AC POWER SOURCE	EXTECH	CFW-110	0 - 300 V AC 1000 VA	N/A
			E000248		
36	AC POWER SOURCE	EXTECH	CEW-110	0 – 300 V AC 1000 VA	N/A
			E000373		
37	AC POWER SOURCE	EXTECH	CEW-130	0 – 300 V AC 3000 VA	N/A
			E990989		
38	MILLIOHMMETER	ZENTECH	502A	20m Ω–2M Ω (Auto Range)	04, OCT, 2001
			950210023		05, OCT, 2000
39	DC POWER SUPPLY	GOOD WILL	GPR-35H20D	0-368 V DC 0.01- 2.11 A	27, SEP, 2001
			8090469		28, SEP, 2000
40	DC POWER SUPPLY	TOPWARD	6306D	0-60 V DC 0-12 A	27, SEP, 2001
			677160		28, SEP, 2000
41	DC ELECTRONIC LOAD	PRODIGIT	3302A-01-21A	60 V/ 60 A	24, JUL, 2001
			007020084		25, JUL, 2000
42	DC ELECTRONIC LOAD	PRODIGIT	3302A-01-21A	60 V/ 60 A	24, JUL, 2001
			007020083		25, JUL, 2000

臺北縣新店市寶橋路 235 巷 130 號 4 樓 4th F, 130, Lane 235, Bao Chiao Rd., Hsin Dien City, Taipei Hsien, Taiwan, R.O.C.
TEL: 886-2-8912-1249 FAX: 886-2-8912-1250 E-mail: victroni@ms25.hinet.net

4
USER'S INSTRUCTION AND PHOTOS

Type Designation: AMB-2003
Report Number: **0103055**





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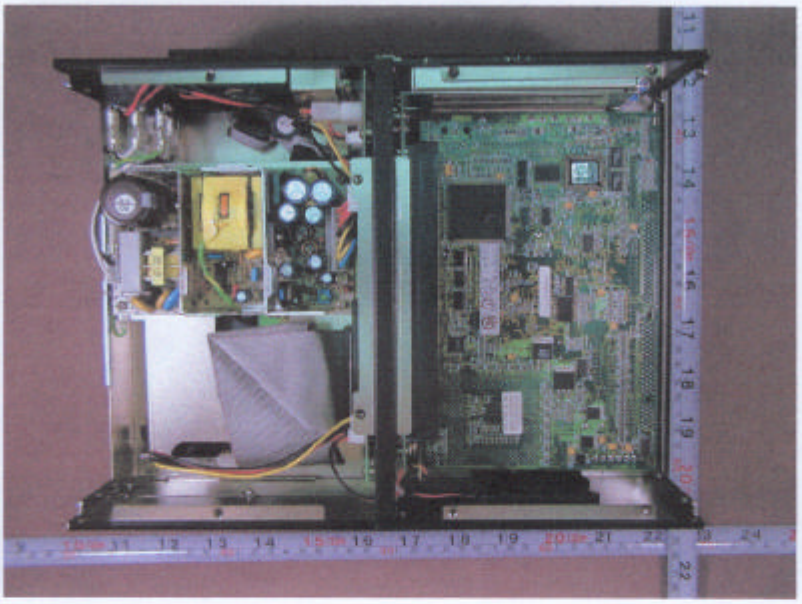

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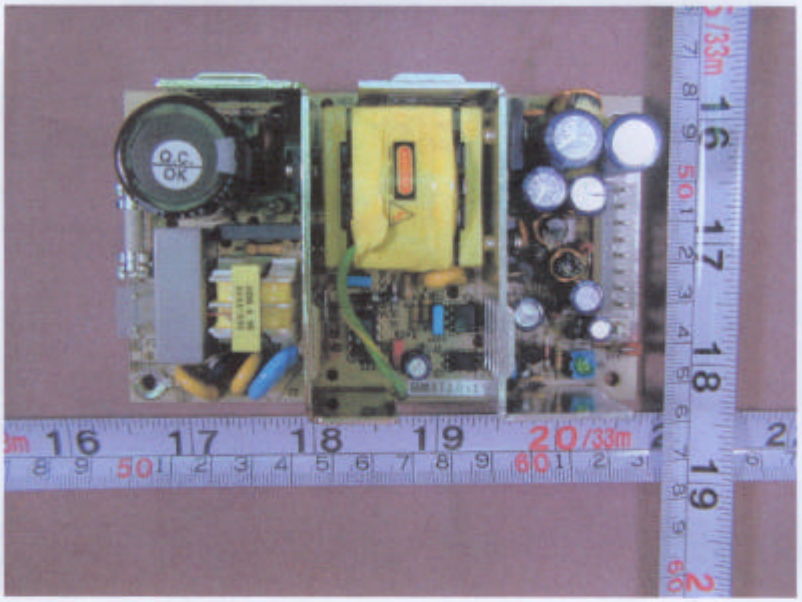
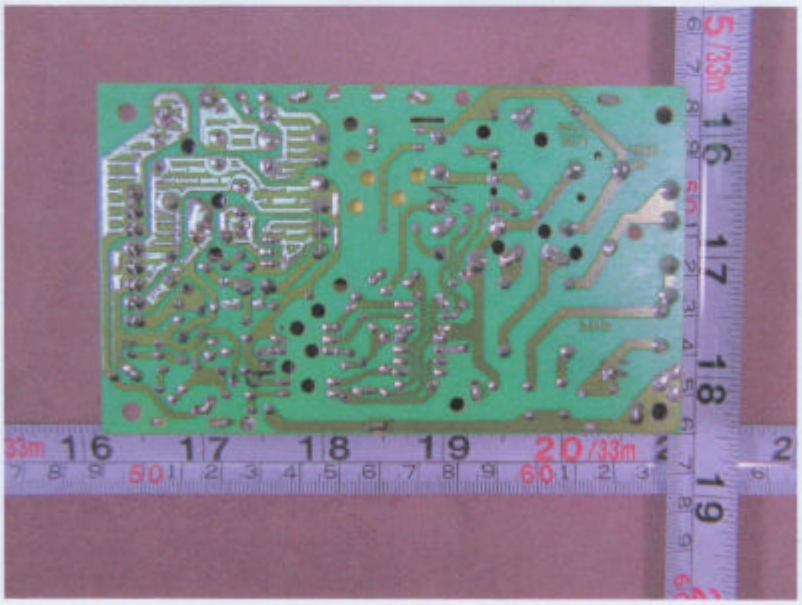
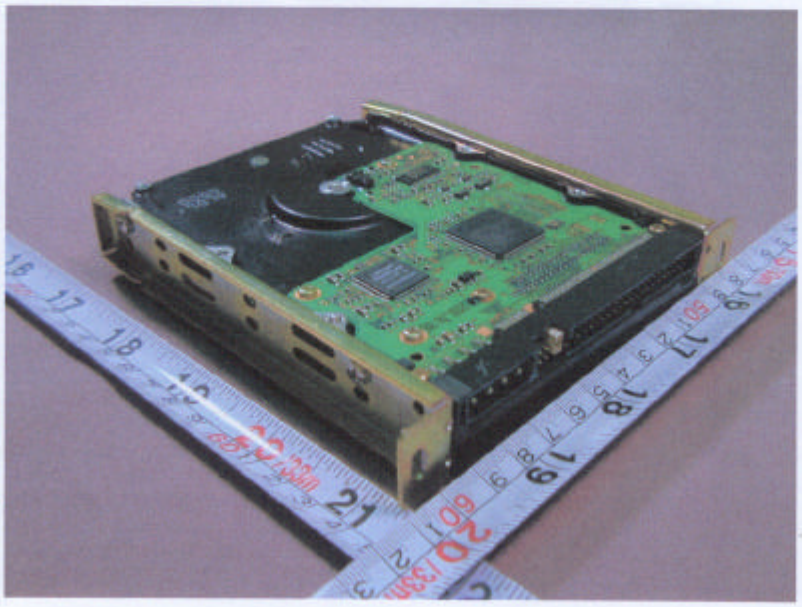




Type Designation: AMB-2003
Report Number: **0103055**



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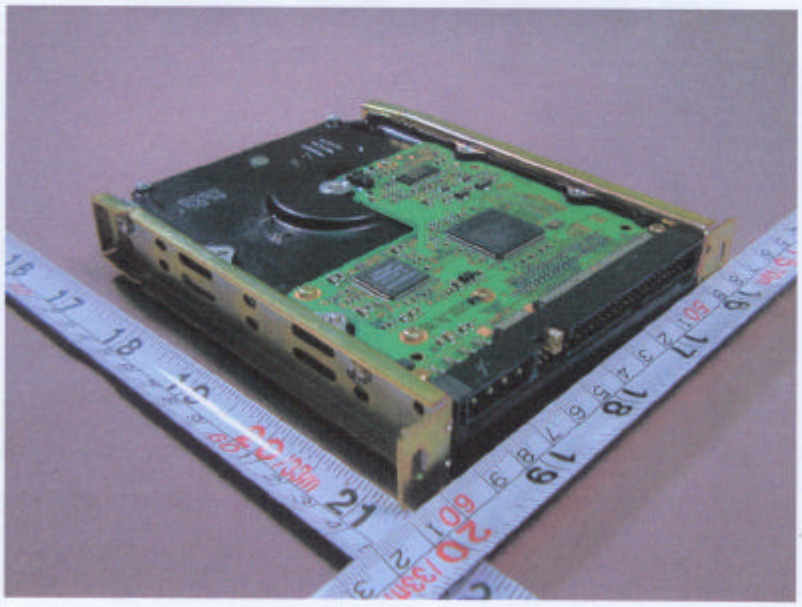

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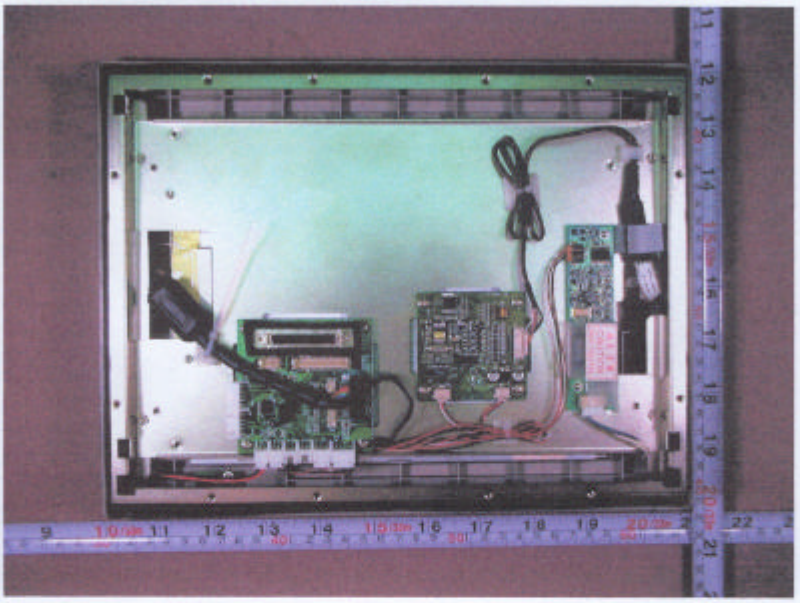

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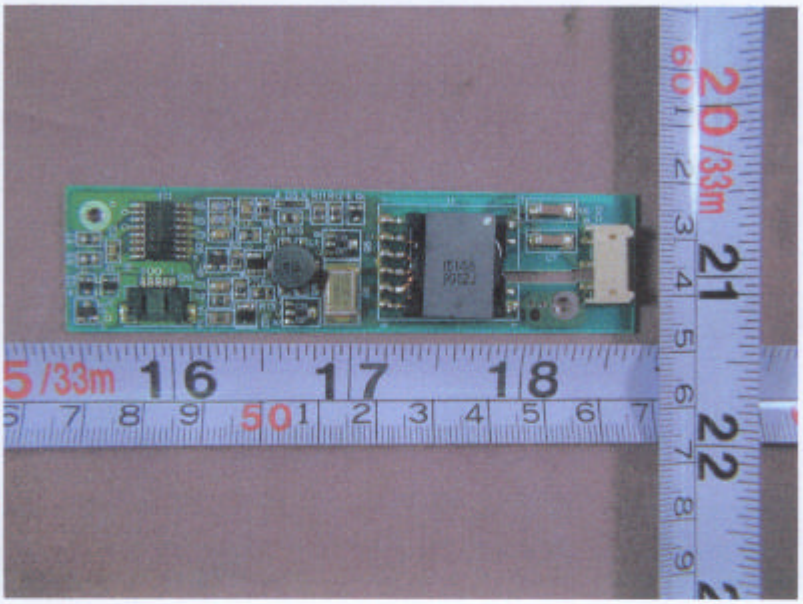

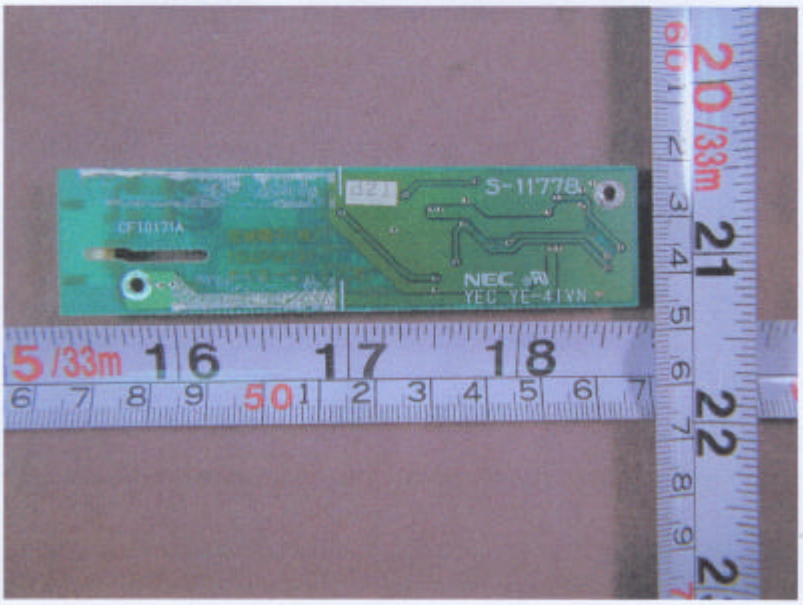

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