SYSTEM BOARD D1194

ADDITIONAL TECHNICAL MANUAL

FUJITSU COMPUTERS SIEMENS

Are there ...

... any technical problems or other questions you need clarified?

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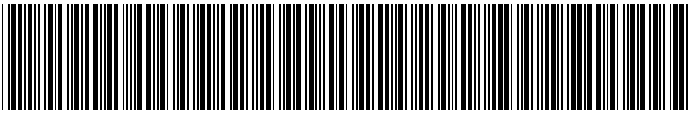

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System Board D1194

Additional Technical Manual

April 2000 edition

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Contents

Introduction

Depending on the configuration of your system board, some of the hardware components described may not be available.

You may find further information e. g. in the complete Technical Manual for the system board and in the description "BIOS Setup".

Further information to drivers is provided on the supplied drivers diskettes or on the "Drivers & Utilities" or "ServerStart" CD. For detailed information please look at chapter "Installing drivers". The latest BIOS version or drivers can be found on the internet under *http://www.fujitsu-siemens.com/en/service*.

Features

Function	Version D1194-C1X	Function	Version D1194-C1X
Processor socket	PGA 423	System monitoring	-
Processor	Pentium 4	Thermal Management	-
Formfactor	ATX	AOL with onboard LAN	-
Front Side Bus in MHz	100	Wake On LAN	x
Chipset	i850	Chipcard reader	-
Memory sockets	4 RIMM	Save to Disk (ACPI S4)	x
PCI slots	5	Save to RAM(ACPI S3)	x
AGP slot	1	LAN onboard	-
CNR slot	1	Audio onboard	AD1885

Computer system boards and components contain very delicate IC chips. To protect them against damage caused by static electricity, you must follow these precautions:

- Use a grounded wrist strap.
- Unplug your computer before you remove any part of the casing.
- Place the system board and the components on a grounded antistatic pad whenever you remove them from the computer.

Hold components by the edge, do not touch any pins or connectors on them.

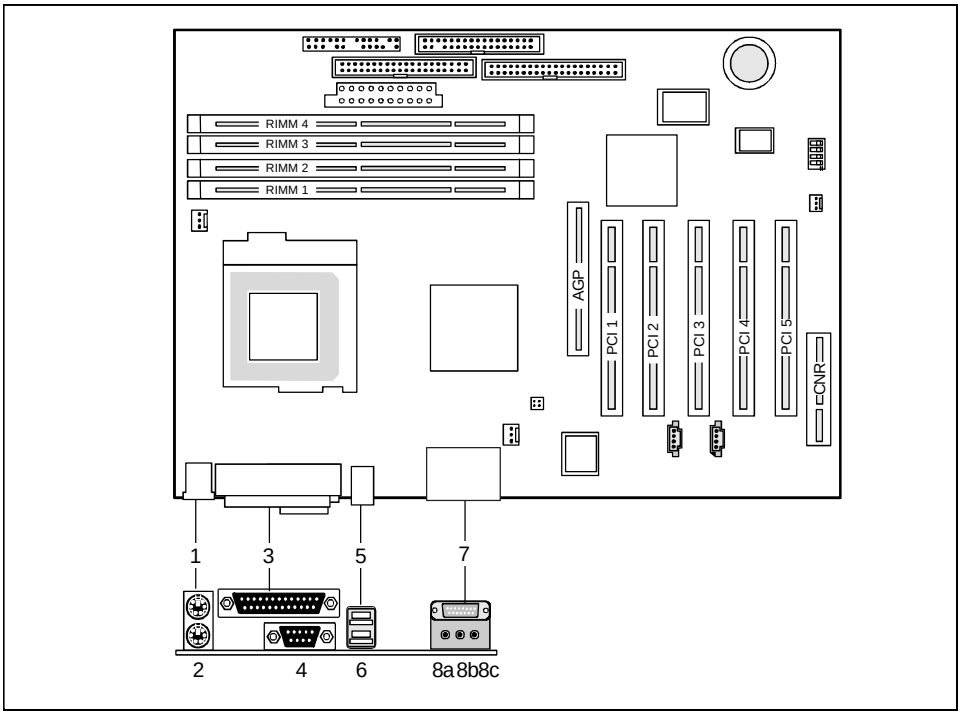
Once you have installed the system board, you should remove the battery protection (i.e. the thin plastic plate between battery and contact spring).

Mechanics

Layout

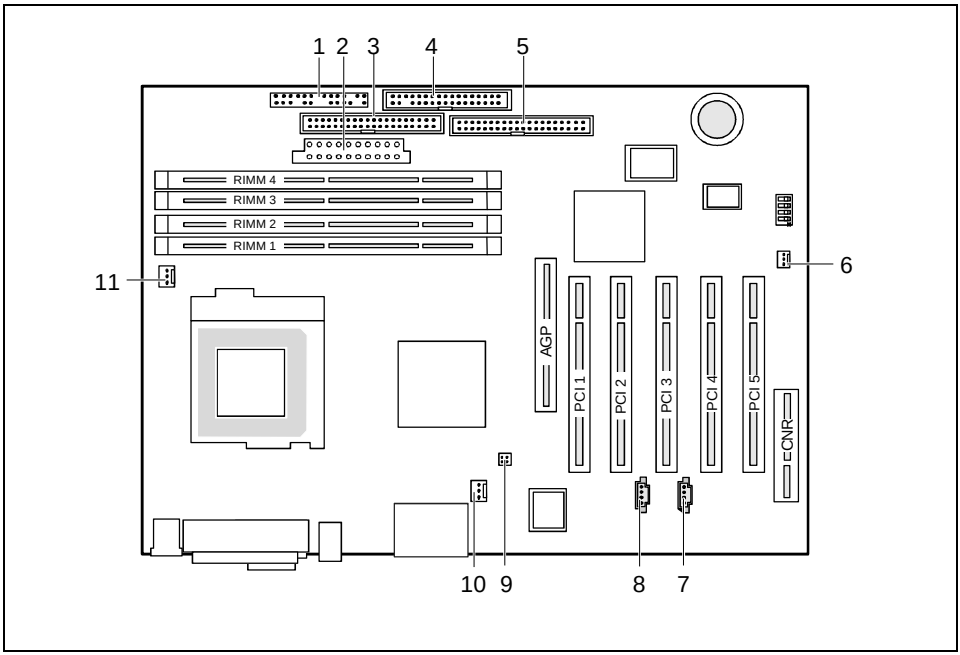
ATX 12" x 8'' (304.8 mm x 203.2 mm)

Some of the following connectors are optional and may therefore not be included on your system board.



1 = PS/2 mouse port
2 = PS/2 keyboard port
3 = Parallel port
4 = Serial port 1
5 = USB port 2
6 = USB port 1
7 = Game/Midi port
8a = Audio Line-Out
8b = Audio Line-In
8c = Audio Micro-In

The components and connectors marked are not necessarily present on the system board.



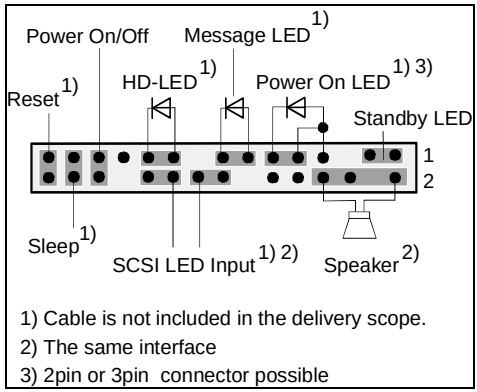
1 = Connector for control panel and loudspeaker
2 = Power supply
3 = IDE drives 3 and 4 (secondary)
4 = Floppy disk drive
5 = IDE drives 1 and 2 (primary)
6 = Wake On LAN (WOL)
7 = CD audio input
8 = AUX audio input
9 = Power supply +12 V
10 = Fan 2 (system)
11 = Fan 1 (for the processor)

The components and connectors marked are not necessarily present on the system board.

Connectors

Some of the following connectors are optional!

Front panel connector

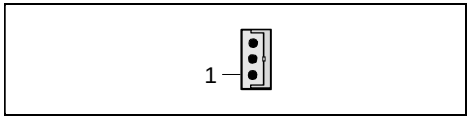


1) Cable is not included in the delivery scope.
2) The same interface
3) 2pin or 3pin connector possible

Pin	Signal	Pin	Signal
1	GND	2	Speaker
3	Standby LED (Anode)	4	Key
5	Key	6	GND
7	PON_LED (Anode)	8[1)]	VCC or GND
9	PON_LED (Anode)	10	Key pin
11	PON_LED (Cathode/GND) Standby LED (Cathode/GND)	12	Key pin
13	Message LED (Anode)	14	Key
15	Message LED (Cathode)	16	Not connected
17	Key	18	SCSI LED input (low asserted)
19	HD_LED (Anode)	20	SCSI LED input (low asserted)
21	HD_LED (Cathode)	22	Not connected
23	GND	24	Key
25	Power button (low asserted)	26	GND
27[2)]	reserved	28	GND
29	Reset button (low asserted)	30	GND

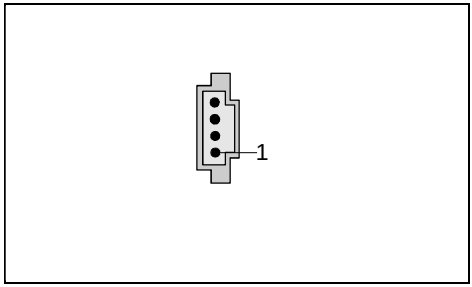
1) Pin 8 is connected to VCC if audio is not onboard.
Pin 8 is connected to GND if audio is onboard.

Wake On LAN (WOL) connector



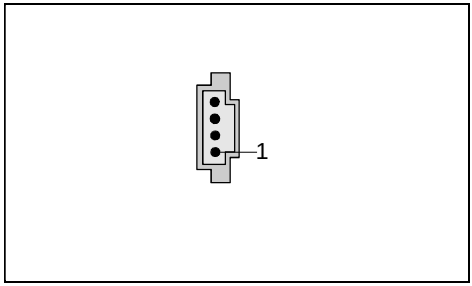
Pin	Signal
1	VCC Auxiliary
2	GND
3	Wake pulse (high asserted)

Auxiliary (MPEG, TV) audio connector (internal)



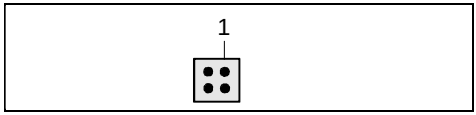
Pin	Signal
1	Left AUX audio input
2	Analog GND
3	Analog GND
4	Right AUX audio input

CD-ROM audio connector (internal)



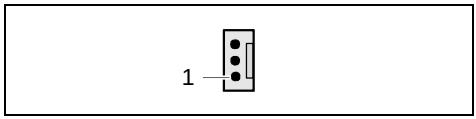
Pin	Signal
1	Left CD audio input
2	CD GND
3	CD GND
4	Right CD audio input

Power supply +12 V



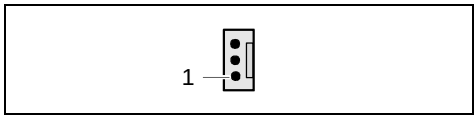
Pin	Signal
1	GND
2	GND
3	+12 V
4	+12 V

Fan 2 connector (system)



Pin	Signal
1	GND
2	12 V
3	Fan sense

Fan 1 connector (processor)



Pin	Signal
1	GND
2	12 V
3	Fan sense

Configuration

Functions controlled by the configuration switch

Function	SKP	RCV	FWP	AUX
Password skip	on	X	X	X
Off	off	X	X	X
Recovery BIOS	X	on	X	X
Off	X	off	X	X
Floppy write protect	X	X	on	X
Off	X	X	off	X
Auxiliary Current low (0.7 A)	X	X	X	on
Auxiliary Current (2 A)	X	X	X	off

Power

Power requirement

Source	Voltage	Maximum variation	Maximum current	Comment
Main power supply	+5.0 V	±5 %	8.0 A	
Main power supply	+12 V	±10 %	9.0 A	
Main power supply	-12 V	±10 %	0.5 A	
Main power supply	+3.3 V	±5 %	3.0 A	
Auxiliary power supply	+5.0 V	±5 %	2 A	

For systemboard with processor and memory. Without AGP and PCI cards.

Power loadability

Fuse number	Maximum fuse current	Function	Maximum function current
1	750 mA	Keyboard port	Not specified
		Mouse port	Not specified
		Game port	Not specified
2	750 mA	Universal serial bus (USB) Port A	500 mA
3	750 mA	Universal serial bus (USB) Port B	500 mA
4	750 mA	Universal serial bus (USB) Port C	500 mA
5	750 mA	Universal serial bus (USB) Port D	500 mA

Documentation

- ► Insert the "Drivers & Utilities" CD.
- ► If the CD does not start automatically, run the *START.EXE* file in the main directory of the CD.
- ► Select your system board or your device.
- ► Select *Documentation*.
- ► Select - *Technical Manuals*
- ► Select - *Technical Manuals (BIOS)*

i

You may have to install the Acrobat Reader - Software on the CD-ROM (path: utls/acrobat) before reading!

For more details please read the according readme.txt files.

Installing drivers

- ► Insert the "Drivers & Utilities" CD.
- ► If the CD doesn't start automatically call the *START.EXE* file in the main directory of the CD.
- ► If the system board list is displayed select the system board or select under *Driver* the operating system used and the audio and video drivers.

Upgrading main memory

Support: The system needs at least two modules and can manage at most four RDRAM modules.

Size: From 128 Mbytes up to 2 Gbytes RDRAM

Technology: 184 Pin, 2.5V, 16/18Bit, PC800/PC600 RDRAM
8M, 16M and 32M x 64Bit
8M, 16M and 32M x 72Bit (with ECC)

Granularity: For two sockets 128, 256, 512 Mbyte or 1 Gbyte

You must not combine memory modules from different manufacturer, different types of modules, or modules of different capacities in the same bank. Different memory capacities are permitted in the various banks. Example: 2 x 128 MB in bank 0 and 2 x 64 MB in bank 1 are permissible; 64 MB + 128 MB in bank 0 are not permissible.

All locations must always be occupied. Missing memory modules must be replaced with a C-RIMM. This C-RIMM must then be installed in the order of the locations **behind** the RIMM:
Location bank 0 = RIMM
Location bank 1 = C-RIMM.

Steckplatz / Slot	Bestückung 1/ Occupation 1	Bestückung 2 / Occupation 2
RIMM1	RIMM	RIMM
RIMM2	C-RIMM	RIMM
RIMM3	RIMM	RIMM
RIMM4	C-RIMM	RIMM

Technology [Mbit]	Memory			Number of RDRAM Chips per channel
	Net memory [Mbyte]	Gross memory without ECC [Mbyte]	Gross memory with ECC [Mbyte]	
64	64	64	72	8
	128	128	144	16
128	64	64	72	4
	128	128	144	8
	256	256	288	16
256	128	128	144	4
	256	256	288	8
	512	512	576	16

Troubleshooting

Message BIOS update

The System BIOS provides optimum support for the processor you have chosen. If the message

`BIOS update for installed CPU failed`

appears the microcode required for the processor inserted must still be loaded. Further information on this is available in the "BIOS Setup" manual on the "Drivers & Utilities" CD provided.

The screen stays blank

If your screen stays blank this may have the following cause:

The wrong RAM memory module has been inserted

► See the chapter "Main Memory" for information which memory modules can be used.

ACPI S3 (Save-to-RAM) and/or ACPI S4 (Save-to-Disk) doesn't work

This system board is fully compliant for ACPI S3 and S4. Therefore it is PC99 certified by Microsoft.

If you have any problems with ACPI please ensure that all of your components are supporting ACPI S3 and S4.

- Operating system
- Hardware and drivers of controllers (e. g. VGA, audio, LAN, SCSI controllers).

For further information please refer to *http://developer.intel.com/technology/iapc/involve.htm* .