System board D1156

Additional Technical Manual

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... anything you want to tell us about this manual?

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System board D1156

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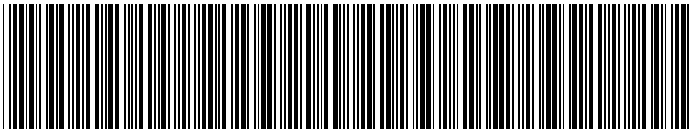


A26361-D1156-Z180-1-7619

English

System board D1156

Additional Technical Manual

September 1999 edition

Contents

Introduction

This system board is available in different configuration levels. Depending on the hardware configuration of your device, it may be that you cannot find several options in your version of the system board, even though they are described.

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

Further information to drivers is provided on the supplied drivers diskettes or on the "Drivers & Utility" 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.siemens.de/computer/service*.

Features

Function	D1156-A
Chipset	440 ZX100
DIMM sockets	2
ISA slots	2
PCI slots	4
ISA/PCI shared	- -
AGP Port	1
System monitoring	- -
Thermal Management	- -
Wake On LAN (WOL)	X (optional)
Keyboard On	- -
IrDA	- -
Chipcard Reader	- -
Save to Disk (ACPI S4)	X
Save to RAM (ACPI S3)	- -
LAN on board	- -

Computer system boards and components contain very delicate IC chips. To protect them against damage caused from electric static, you have to follow some precautions:

- Unplug your computer when you work inside.
- Hold components by the edge, don't touch their leads.
- Use a grounded wrist strap.

Place the system board and the components on a grounded antistatic pad whenever you work outside the computer.

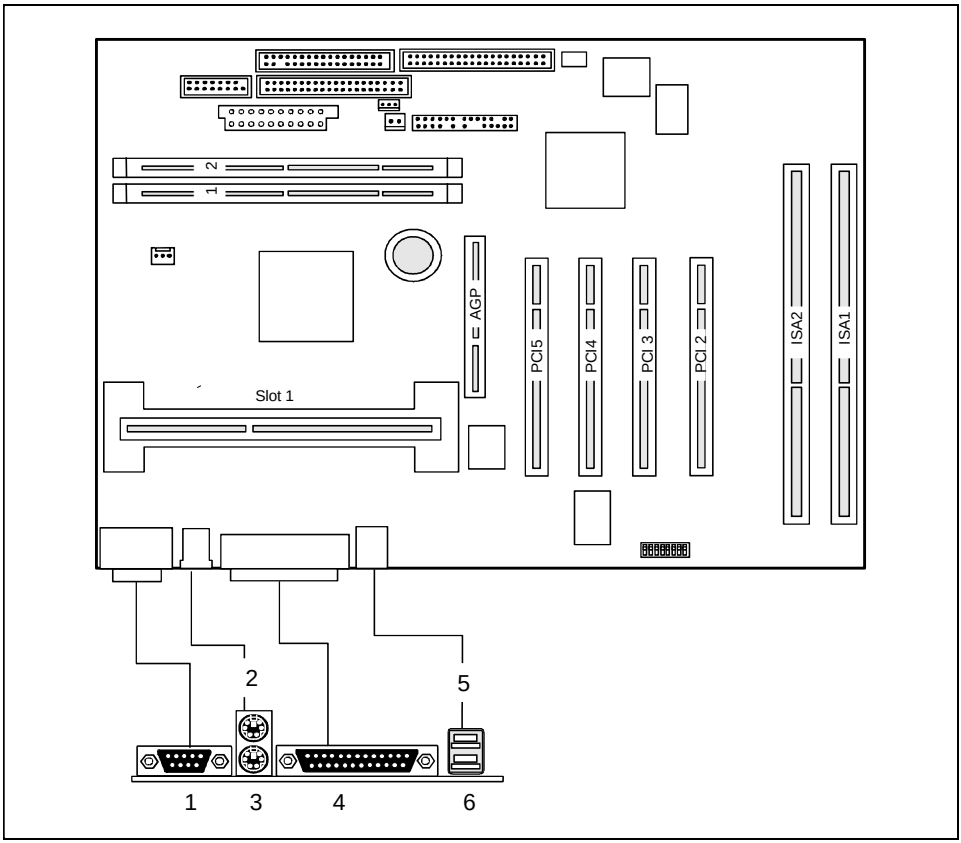
Once you have installed the system board, you should remove the battery protection (i.e. the thin plastic plate between battery and contact spring).

Mechanics

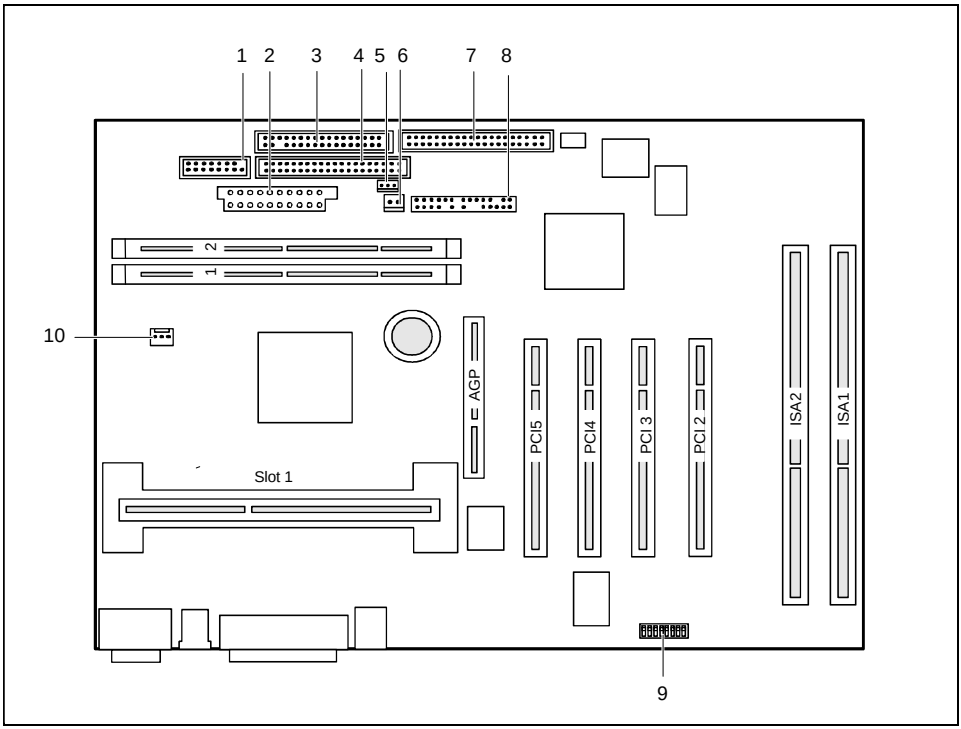
Layout

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 = Serial port 1
2 = PS/2 mouse port
3 = PS/2 keyboard port
4 = Parallel port
5 = USB connection 2
6 = USB connection 1



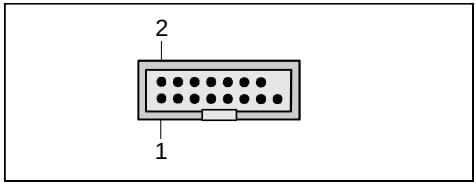
1 = Internal chipcard reader or serial port 2
2 = Power supply
3 = Floppy disk drive
4 = IDE drives 3 and 4 (secondary)
5 = Wake On LAN
6 = ON/OFF switch
7 = IDE drives 1 and 2 (primary)
8 = Front panel connector
9 = DIP switch
10 = Fan 1 (e. g. for the processor)

The components and connectors marked do not have to be present on the system board.

Connectors and Jumpers

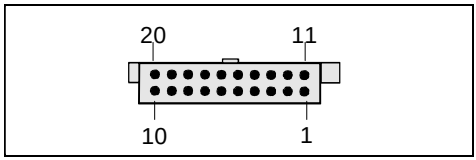
Some of the following connectors are optional!

Internal chipcard reader or serial port 2 (COM2) (external via wire)



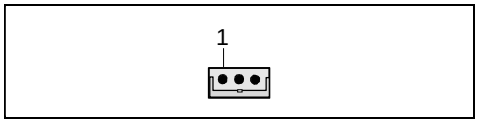
Pin	Signal	Pin	Signal
1	DCD 2 (low asserted)	2	DSR 2 (low asserted)
3	SIN 2 (high asserted)	4	RTS 2 (low asserted)
5	SOUT 2 (high asserted)	6	CTS 2 (low asserted)
7	DTR 2 (low asserted)	8	PC_ON_Strobe
9	GND	10	VCC Auxiliary
11	EXT SMI (low asserted)	12	VCC
13	RESETDRV (high asserted)	14	GND
15	GND	16	Key

Power supply ATX connector



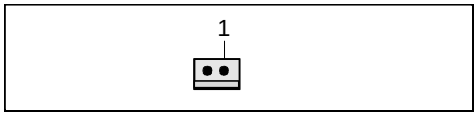
Pin	Signal	Pin	Signal
1	+3.3 V	2	+3.3 V
3	GND	4	+5 V
5	GND	6	+5 V
7	GND	8	Powergood (high asserted)
9	+5 V Auxiliary	10	+12 V
11	+3.3 V	12	-12 V
13	GND	14	PS on (low asserted)
15	GND	16	GND
17	GND	18	-5 V
19	+5 V	20	+5 V

Wake on LAN (WOL) connector



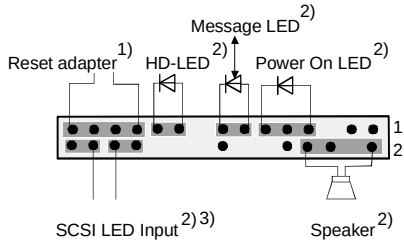
Pin	Signal
1	+5 V Auxiliary
2	GND
3	Wake pulse (high asserted)

Power on switch connector (ON/OFF switch)



Pin	Signal
1	GND
2	Power on pulse (low asserted)

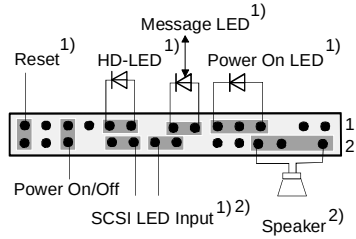
Front panel connector (version 1)



1) Reset adapter from 4pin female to 2pin male.
2) Cable is not included in the delivery scope.
3) The same interface.

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

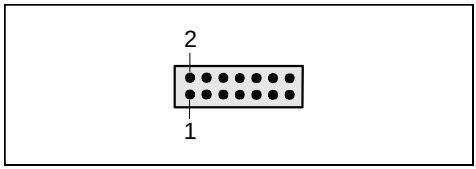
Front panel connector (version 2)



1) Cable is not included in the delivery scope.
2) The same interface.

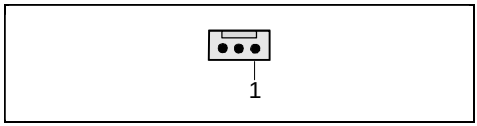
Pin	Signal	Pin	Signal
1	Reserved	2	Speaker
3	Anode Standby LED	4	Key
5	Key	6	GND
7	Anode PON_LED	8	VCC
9	Not connected	10	Key pin
11	Cathode PON_LED (GND)	12	Key pin
13	Anode Message LED	14	Key
15	Cathode Message LED	16	Not connected
17	Key	18	SCSI LED Input
19	Anode HD_LED	20	SCSI LED Input
21	Cathode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

USB chipcard reader connector



Pin	Signal	Pin	Signal
1	P3V3P_DUAL	2	VCC
3	Data negative output up	4	Data positive up
5	Data negative	6	Data positive down
7	GND	8	GND
9	Chipcard present (high asserted)	10	VCC Auxiliary
11	P3V3P	12	Power OK (low asserted)
13	Chipcard reader On (low pulse)	14	Key

Fan 1 connector for CPU fan or system fan (if external temperature sensor is in use)



Pin	Signal
1	GND
2	6 - 12 V; 0 V
3	Fan sense

Configuration

Clock frequency

The switches may only be set as specified in the tables below for the particular processor used.

There are also processors, which automatically always operate at the proper frequency, regardless of the switch position.
As these new processors do not differ externally from the previous processors, we recommend always setting the switches in accordance with the processor.

This system board you may use with Pentium II processors with 100 MHz Front Side Bus or with Pentium III processors with 100 MHz Front Side Bus or with Celeron processors with 66 MHz Front Side Bus.

Information on which processors can be used is available from your sales office or the customer service center.

Celeron with 66 MHz Front Side Bus:

Processor	Switch 5	Switch 6	Switch 7	Switch 8
233 MHz	off	off	on	on
266 MHz	on	on	off	on
300 MHz	off	on	off	on
333 MHz	on	off	off	on
366 MHz	off	off	off	on
400 MHz	on	on	on	off
433 MHz	off	on	on	off

Pentium II with 100 MHz Front Side Bus:

Processor	Switch 5	Switch 6	Switch 7	Switch 8
350 MHz	off	off	on	on
400 MHz	on	on	off	on
450 MHz	off	on	off	on

Pentium III with 100 MHz Front Side Bus:

Processor	Switch 5	Switch 6	Switch 7	Switch 8
450 MHz	off	on	off	on
500 MHz	on	off	off	on
550 MHz	off	off	off	on

Functions controlled by the switch block

Function	SW1 PWS	SW2 RCV	SW3 FWP	SW4 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

Switch 4 (SW4) is reserved!

Power

Power requirement

Source	Voltage	Maximum variation	Maximum current	Comment
Main power supply	+5.1 V	±5 %	15 A	
Main power supply	+12 V	±10 %	300 mA	
Main power supply	-12 V	±10 %	100 mA	
Main power supply	+3.3 V	±5 %	4 A	
Auxiliary power supply	+5.0 V	±5 %	50 mA	without Wake On LAN and PCI bus auxiliary power support
Auxiliary power supply			1 A	with Wake On LAN and PCI bus auxiliary power support
Onboard power supply	1.8 - 3.5 V	±5 %	14 A	

Power loadability

Fuse number	Maximum Fuse current	Function	Maximum function current
1	750 mA	Universal serial bus (USB) Port A	500 mA
		Keyboard	Not specified
		Mouse	Not specified
2	750 mA	Universal serial bus (USB) Port B	500 mA

Documentation

- Insert the "Drivers & Utilities" CD.
- When the *DeskStart* window appears, select *SCENIC Pro*.
- Select the language in which you want to operate the user interface.
- Select *Documentation* and then select e. g. *Windows 95*.
- 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.
- When the *DeskStart* window appears, select *SCENIC Pro*.
- Select the language in which you want to operate the user interface.
- Select *Operating System used*.
- Go back to page after item *Operating System used*.
- Select *Updates*.

Upgrades

Main memory

Support:	The system needs at least one module and can manage at most three SDRAM modules. PC100 modules must have an SPD-EEPROM*. It is not possible to mix SDRAM and EDO modules.
Size:	From 16 Mbytes up to 512 Mbytes SDRAM
Technology:	100 MHz unbuffered DIMM modules. 168 pin, 3.3V, 100 MHz SDRAM 2M, 4M, 8M, 16M and 32M x 64 bit
Granularity:	For one socket 16, 32, 64, 128 or 256 Mbyte

* The EEPROM of PC100 modules contains a number of critical timing parameters and data regarding the chip and the module vendor. Due to this the system board will properly recognize the module by reading all important timing parameters specified in the EEPROM via the **S**erial **P**resence **D**etect interface.

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.

If this error message occur, refer for further information to the description "BIOS Setup" which is delivered on the "Drivers & Utilities" CD.

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 S4 (Save-to-Disk) doesn't work

This system board is fully compliant for ACPI S4. Therefore it is PC98 certified by Microsoft.

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

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