

SNX 160/RS SYSTEMA (EAGLE)

CHARACTERISTICS

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Microprocessor	SNX 160/RS 100: Intel 100/66 MHz PENTIUM 100 SNX 160/RS 133, SNX 160/RS 133 W: 133/66 MHz Intel PENTIUM 133
Dualprocessor	Possibility of having a second optional PENTIUM 100 processor on the CPU board, in the ZIF socket adjacent to the one in which the primary processor is installed. With the optional processor installed the system becomes a dual-processor system.
Overdrive Processor	Possibility of replacing the primary processor installed in the ZIF socket with future OverDrive processors. In this case the system remains a monoprocessor system.
Dual bus architecture	32-bit EISA (Extended Industry Standard Architecture). 32-bit PCI (Peripheral Component Interconnect).
Expansion slots	Nine slots, six of which are free: 4 EISA, 2 PCI, 1 dual EISA/PCI, 1 reserved for the CPU board, 1 EISA or PCI for the SCSI controller.
Cache Memory	16 KB integrated in the processor plus 512 KB of second level parity-burst cache, present in every configuration.
RAM	16-256 MB using parity SIMMs; 32-256 MB using ECC SIMMs.
Cabinet	SNX 160/RS 100 and 133: SILVER Narrow box (8-bit) SNX 160/RS 133 W: SILVER Wide box (16-bit)
Onboard video controller	EGA, CGA and MDA emulation. Standard VGA with the following resolution: 640x480, 16 colors, 60/72 Hz. SVGA with the following resolutions: 640x480, 256 colors 60/72 Hz, 800x600, 16 and 256 colors, 56/60/72 Hz, 1024x768, 16 colors, 60/72/87 Hz.
Resilience system configuration	SNX 160/RS 100 and 133: with the RAID DPT SCSI Narrow controller for HDUs and the Dagger controller for removables SNX 160/RS 133 W: with the RAID DPT SCSI Wide controller for HDUs and the Dagger or GO2109 controller for removables Given the specific structure of the SILVER cabinet in combination with HDU redundancy features (RAID-1 and RAID-5), faulty HDUs can be replaced without having to power off the system (HDU hot-swapping), and the data automatically reconstructed on the new hard disk.
Non-resilience system configuration	SNX 160/RS 100 and 133: with the Dagger SCSI Narrow controller for HDUs and removables, or a Dagger for HDUs and a Dagger for removables SNX 160/RS 133 W: with the Lance GO2109 SCSI Wide controller for HDUs and removables, or the GO2109 for HDUs and a Dagger or GO2109 for removables The system can also be equipped with a non-RAID SCSI controller. In this case HDU hot swapping is not supported.
Peripheral Expansion Module PEM RS Narrow PEM RS Wide	This optional external module can only host HDUs and increases the system's mass storage capacity. The PEM derives from a SILVER Narrow or Wide box and can host up to 12 HDUs (twice as much than the system). The PEM Narrow can only be connected to the RAID DPT SCSI Narrow controller while the PEM Wide can only be connected to the RAID DPT SCSI Wide controller. In any case the hard disks can always be hot swapped. Up to four PEMs can be connected to the system. The PEM Narrow is only available for the SNX 160/RS 100 and 133.
Uninterruptible Power Supply	External, battery-equipped, UPS models are available which provide constant power supply to the system in the event of line voltage failures. To safeguard the integrity of the data stored on the hard disks in the event of line voltage failures, resilience systems and systems equipped with the SCSI RAID controller must be equipped with a UPS.

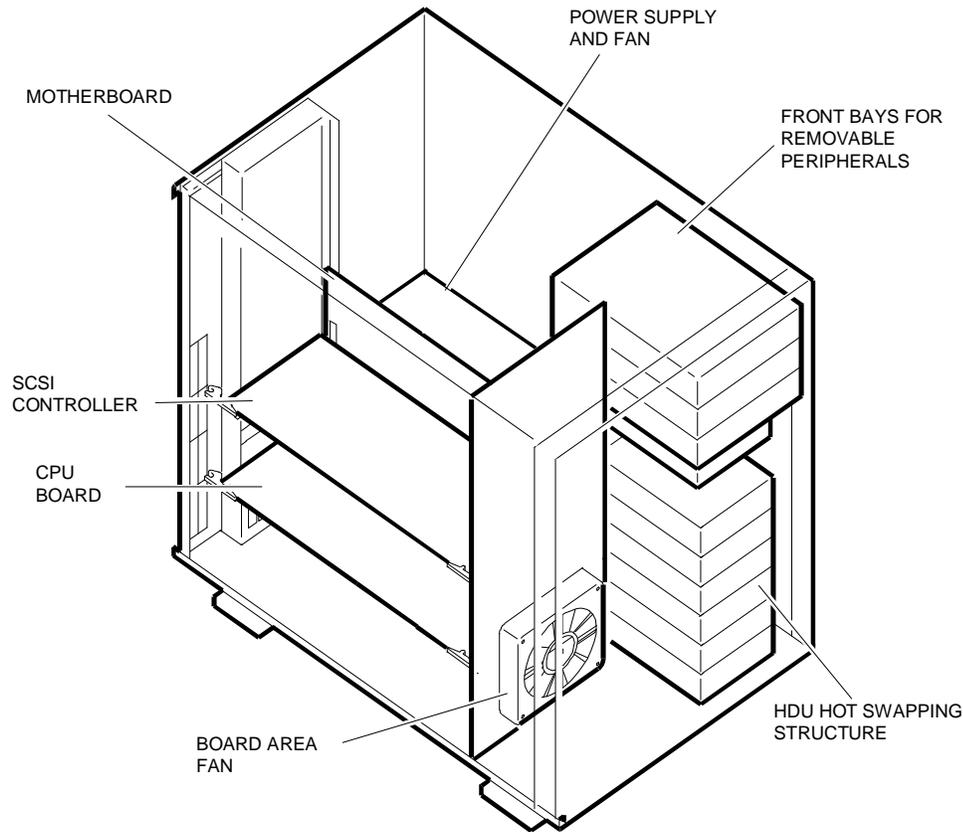
Note: The commercial name of the SNX 160/RS Systema remains unchanged for both 100 MHz Narrow and 133 Narrow and Wide versions. For simplicity and whenever necessary, this guide will distinguish between these three versions with SNX 160/RS 100, SNX 160/RS 133 and SNX 160/RS 133 W.

Note: By means of optional kit UPG APU 160/133 containing the GO2079-133 CPU board equipped with a single Pentium 133 processor, an SNX 160/RS 100 can be converted into an SNX 160/RS 133.

Note: The PdG does not offer any kit that can be used to convert a system with a Silver Narrow cabinet into one with a Silver Wide cabinet. This operation can only be performed by the field engineer who will have to proceed as follows:

- Replace the Dagger SCSI Narrow or RAID DPT GO2061 controller with the Lance SCSI Wide or RAID DPT GO2098.
- Replace the IF2019 Dagger SCSI Narrow backplane with the IF2046 SCSI Wide backplane.
- Replace the SCSI Narrow cable (code 589377A) equipped with two connectors used for connecting the SCSI controller and the SCSI Narrow backplane, with the SCSI Wide cable (code 564166V).

SNX 160/RS SYSTEMA BASIC MODULE



UPDATE LEVELS OF THE MAIN COMPONENTS ON THE FIRST SERIES SNX 160/RS 100 SYSTEMA MODELS

MOTHERBOARD BA2155 Lev. 02	CPU BOARD GO2063 Lev. Nasc	BIOS Rev. 1.08
RAID DPT SCSI CONTROLLER GO2061 Lev. Nasc FW 6C6	DAGGER SCSI CONTROLLER GO624 Lev. Nasc	POWER SUPPLY SP300T-3 Lev. 01
USER DISKETTE Config. 1.10, Diagn. 1.09	SYSTEM TEST Rel. 1.07	

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UPDATE LEVELS OF THE MAIN COMPONENTS ON THE FIRST SERIES SNX 160/RS 133 SYSTEMA MODELS

MOTHERBOARD BA2155 Lev. 01AG	CPU BOARD GO2079 Lev. Nasc	BIOS Rev. 2.02
RAID DPT SCSI CONTROLLER GO2061 Lev. 04 FW 7EE	DAGGER SCSI CONTROLLER GO624 Lev. 01	POWER SUPPLY SP300T-3 Lev. 01
USER DISKETTE Config. 1.13, Diagn. 1.11	SYSTEM TEST Rel. 1.07	

UPDATE LEVELS OF THE MAIN COMPONENTS ON THE FIRST SERIES SNX 160/RS 133 W SYSTEMA MODELS

MOTHERBOARD BA2155 Lev. 05	CPU BOARD GO2079 Lev. 01	BIOS Rev. 2.03
RAID DPT SCSI CONTROLLER GO2098 Lev. Nasc FW F74	DAGGER SCSI CONTROLLER GO2096 Lev. Nasc	LANCE SCSI CONTROLLER GO2109 Lev. Nasc
POWER SUPPLY SP300T-3 Lev. 01	USER DISKETTE Config. 1.13, Diagn. 1.11	SYSTEM TEST Rel. 1.07

Note: All the evolutions of the above components are explained in the respective sections further on.

OPERATING SYSTEMS

	Release Tested with Product Availability	Certific. for Mono Proc.	Certific. for Dualproc. Systems	Additional Software for Dualproc. Systems	Notes
DOS Windows WfW Windows 95 *	DOS 6.2 Win 3.1 WfW 3.11	Yes	Yes (on one CPU)	O.S. Included	DOS for single-user, single-task environments Windows for graphics environments
Windows NT Server	3.5	Yes	Yes	O.S. Included	For network management
Windows NT Server and Service pack 3.0 *	3.51	Yes	Yes	O.S. Included	For network management
Netware 3.x	3.12	Yes	No		For network management
Netware 4.x	4.1	Yes	No		For network management
UnixWare	2.0.1 2.02c *	Yes	Yes	O.S. Included	For multiple-user and multiple-task environments
SCO Unix and SCO Open Server	3.2.4.2 3.0.0	Yes	Yes	SCO MPX 3.0 + HAS 3.4 + patch OLI002 or SCO-UOD 393C *	For multiple-user and multiple-task environments. The two multiproc. packages are distributed by SCO, the patch by Oliservice
SCO Open Server and Supplement Release 5.0.0d *	R5.0	Yes	Yes	O.S. Included	For multiple-user and multiple-task environments. La supplement release 5.0.0d is distributed by SCO.
Olivetti Unix SVR4.0	V2.4.1	Yes	Yes	O.S. Included	For multiple-user and multiple-task environments
IBM OS/2	2.11 3.0 (Warp) *	Yes	No Yes Yes	FIX PACK98 * O.S. Included	For single-user and multiple-task environments

Note: The operating systems and releases marked by an asterisk refer to the SNX 160/RS 133 W.

MONITORS

MODEL	DESCRIPTION	SUPPLIER	PDG NAME
MDU 1441	14", VGA, flat-screen, monochrome monitor (for N. America, Canada and N. Europe, 110 V). Label: DSM 25-314/P-Y	Philips	DSM 25-314/P-Y
MDU 1441/LE	14", VGA, low emission, positive monochrome monitor. Label: MDU 1441E/PH01	Philips	DSM 26-314/LE
CDU 1438/GN	14", VGA, 0.28 dp. high resolution color monitor.	Goldstar	DSM 28-142 PS
CDU 1448G	14", VGA, multifrequency, low emission, high resolution, 0.28 dp, power saving color monitor. Label: CDU 1448G/PH	Philips	DSM 28-143/PS
CDU 1460MS	14", VGA, high resolution, multifrequency, ergonomic color monitor. Label: CDU 1460MS/HY01	Hyundai	DSM 28-144/MS
CDU 1438/SE	14", VGA, high resolution, 0.39 dp color monitor.	Lite-On	DSM 28-039
CDU 1448G/LO	14", VGA Plus, SVGA, 0.28 dp, MPR II/PS color monitor.	Lite-On	DSM 50-148
CDU 1448G/HY	14", VGA Plus, SVGA, 0.28 dp, MPR II/PS color monitor.	Hyundai	DSM 50-149
CDU 1460/MS	14", VGA Plus, SVGA, 0.28 dp, MPR II/PS/DDC1, 64 KHz, Multifunct. color monitor.	Hyundai	DSM 50-144
CDU 1564/MS	15", flat screen VGA Plus, SVGA, 0.28 dp, MPR II/O.S., FTS, Multisync color monitor.	Hyundai	DSM 50-151
CDU 1786/D	17", flat screen VGA Plus, SVGA, 0.25 dp, MPR II/PS/DDC1, 82 KHz Diamond, Tron Tub color monitor.	Mitsubishi	DSM 50-175

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Note: Basic system models can be equipped with a remote terminal instead of a monitor and keyboard. This feature is controlled by the BIOS and activated by the User Disk. The remote terminal feature is not available on resilience systems nor on any system equipped with a SCSI RAID controller. Appendix G gives information on this feature.

MAGNETIC PERIPHERALS

MODEL	TYPE	INT.	CAP.	SIZE	PDG NAME
Y-E Data YD-702D-6037D Sony MPF520-3 Mitsumi D359T3 Mitsumi D359T5 Epson SMD 1340 P-031	MFD	SA450	1.44 MB	3.5"	Under BU
Panasonic JU475-5 C08 Panasonic JU475-5 A08W	MFD	SA450	1.2 MB	5.25" HH	MFD 40-120
Wangtek 5150 ES-ACA	STU	SCSI	150/250 MB	5.25" HH	STS 26-150
Wangtek 5525 ES-ACA	STU	SCSI	320/525 MB	5.25" HH	STS 26-321
Wangtek 51000HT (standard front panel)	STU	SCSI	1/1.2 GB	5.25" HH	STS 1G-95
Hewlett Packard HP 35470A	DAT	SCSI	1.3/2 GB	3.5"	DAT 1300
Hewlett Packard HP 35480A	DAT	SCSI	2/8 GB	3.5"	DAT 4000
Hewlett Packard HP C1536A	DAT	SCSI	2/8 GB	3.5"	DAT 4000/S
Hewlett Packard HP C1536A (with mechanical adapter for 5.25" bays)	DAT	SCSI	2/8 GB	3.5"	DAT 4000/DDS
Hewlett Packard HP C1533A	DAT	SCSI	4/16 GB	3.5"	DAT DDS2-4G
Hewlett Packard HP C1533A (with mechanical adapter for 5.25" bays)	DAT	SCSI	4/16 GB	3.5"	DAT 8000DDS2
Panasonic CR-503-B (2X)	CD-ROM	SCSI	650 MB	5.25" HH	CDR TRAY 503
Sony CDU76S (4X) Panasonic CR-504-J	CD-ROM	SCSI	650 MB	5.25" HH	CDR 4S-500
Panasonic CR-506-B (8X)	CD-ROM	SCSI	650 MB	5.25" HH	CDR 8S-500
Seagate ST3620NC (SCA conn.)	HDU Narrow	SCSI	525 MB	3.5" x 1"	HDR 525 (Narrow cabinet only)
Seagate ST31200NC (SCA conn.)	HDU Narrow	SCSI	1.05 GB	3.5" x 1"	HDR 1G (Narrow cabinet only)
Seagate ST31230WC (SCA conn.) Seagate ST31051WC (SCA conn.)	HDU Wide	SCSI	1.05 GB	3.5" x 1"	HDR 1G
Seagate ST32430WC (SCA conn.) Seagate ST32151WC (SCA conn.) IBM DCAS-32160 (SCA conn.)	HDU Wide	SCSI	2.1 GB	3.5" x 1"	HDR 2G
Seagate ST32550WC (SCA conn.)	HDU Wide	SCSI	2.1 GB	3.5" x 1"	
Seagate ST15230WC (SCA conn.)	HDU Wide	SCSI	4.2 GB	3.5"	HDR 4G

Note: The HDUs compatible for the system and for the PEM are hot-swappable models fitted on an appropriate slide-in support and equipped with an 80-pin SCA (Single Connector Attachment) interface for direct connection to the system and PEM backplane.

ELECTRONIC BOARDS

BOARD NAME	DESCRIPTION	BUS	PDGNAME
BA2155	Motherboard with nine expansion slots, Super VGA video controller, floppy disk controller, two serial ports, parallel port, keyboard and mouse management.	-	Under BU
GO2063 GO2079-100	Dualprocessor CPU board for the SNX 160/RS 100 with a 100/66 MHz Pentium 100 processor installed in a ZIF socket, a second ZIF socket for the installation of a second optional Pentium 100 processor, eight sockets to host memory SIMMs (min. 16 MB parity, 32 MB ECC), 256 KB of Flash EPROM, 512 KB of second level parity-burst cache	Dedicated	Under BU
	Second optional Pentium 100 processor	-	APU SNX160/100
GO2079-133	Dualprocessor CPU board for the SNX 160/RS 133 and SNX 160/RS 133 W with a 133/66 MHz Pentium 133 processor installed in a ZIF socket, a second ZIF socket for the installation of a second optional Pentium 133 processor, eight sockets to host memory SIMMs (min. 16 MB parity, 32 MB ECC), 256 KB of Flash EPROM, 512 KB of second level parity-burst cache	Dedicated	Under BU
	Second optional Pentium 133 processor	-	APU 133 PENT
GO624 (Dagger) GO2096 (Dagger)	Single-channel SCSI-2 Single-Ended SCSI Narrow controller based on the Adaptec AIC7850 (Dagger) chip.	PCI	Under BU or SCC PCI 101
GO2124 (Dagger)	Single-channel SCSI-2 Single-Ended SCSI Narrow controller based on the Adaptec AIC7850 (Dagger) chip. Replaces the GO624/2096	PCI	Under BU or SCC PCI 101E
GO2109 (Lance)	Single-channel Single-Ended SCSI Wide controller for the SNX 160/RS 133 W. The controller is based on the Adaptec AIC7870 (Lance) chip.	PCI	Under BU or SCC PCI 114W
GO2061 (PM3224) (RAID DPT)	Single/tri-channel SCSI-2 Single-Ended SCSI controller for the SNX 160/RS 100 and 133 with RAID-0, 1, 5 arrays for hot swapping performance. The second and third channels are optional and are obtained by adding a board in the two connectors on the controller. The controller also contains four cache memory sockets; 4 MB are always installed in one socket.	PCI	Under BU or DCR PCI1/3
IF2020 (SX4000/1)	Piggy back board for a second SCSI Narrow channel (external only) on the GO2061, internal SCSI Narrow cable for the connection of this board - SCSI connectors flush with the case, EPROM firmware.	-	EXP 2NDSCSI
IF2021 (SX4000/2)	Piggy back board for a second and third SCSI Narrow channel (external only) on the GO2061, two internal SCSI Narrow cables for the connection of this board - SCSI connector flush with the case, EPROM firmware.	-	EXP 2&3SCSI
GO2098 (PM3334W) (RAID DPT)	Mono/tri-channel SCSI Wide Single-Ended SCSI controller for all systems, with RAID-0, 1, 5 performance for the hot swapping of hard disks. The second and third channel are optional and are provided by the installation of a board in the reserved slot on the controller. The controller is also equipped with four ECC cache sockets; one socket with 4 MB installed is always present. On the SNX 160/RS 100 and 133, this controller is only used for connection to the PEM Wide.	PCI	Under BU or DCR PCI1/3W

BOARD NAME	DESCRIPTION	BUS	PDGNAME
IF2048 (SX4030/1W)	Piggy back board for a second SCSI Wide channel (external only) on the GO2098, internal SCSI Wide cable for the connection of this board - SCSI connector flush with the case, EPROM firmware.	-	EXP 2NDSCSIW
IF2049 (SX4030/2W)	Piggy back board for a second and third SCSI Wide channel (external only) on the GO2098, two internal SCSI Wide cables for the connection of this board - SCSI connectors flush with the case, EPROM firmware.	-	EXP 2&3SCSIW
MEM 2027 (SM4000/4)	One 4 MB ECC SIMM for expanding the memory on the GO2061 and GO2098 controllers. The maximum expansion of 16 MB is obtained by using three kits. Only 4 MB and 16 MB configurations are supported.	-	RACME 04
IF2019	SCSI Narrow backplane on the SNX 160/RS 100 and 133, for the connection of an HDU to the SCSI controller and to the power supply.	-	Under BU and PEM Narrow
IF2046	SCSI Wide backplane on the SNX 160/RS 133 W, for the connection of an HDU to the SCSI controller and to the power supply.	-	Under BU and PEM Wide
IF557	Swap Board for the system console LED interface.	-	Under BU
IF2022	Jumper Board for joining the backplane SCSI bus.	-	Under BU and PEM
IF2012	Swap board for the PEM console LED interface.	-	Under PEM
GO2057 (Stallion)	Multiport board with 32 RS232D channels. The kit also contains the DBOX connection cable.	EISA	C-MUX8-32E
BOX 800	8-way RS232D distribution box for Stallion (max 4).	-	DBOX 800
BOX 1600	16-way RS232D distribution box for Stallion (Max 2).	-	DBOX 1600
GO530C+IF412C	Ethernet/Cheapernet LAN controller.	AT	NCU 9141-II
GO527+IF412	Ethernet/Cheapernet intelligent LAN controller.	AT	NPU 9145
GO539+IF412C	Ethernet/Cheapernet LAN controller.	EISA	NCU 9180
GO530C+IF411/S	Ethernet 10BT LAN controller.	AT	NCU 9143/S
GO539+IF411/S	Ethernet 10BT LAN controller.	EISA	NCU 9181/S
	Token Ring 16/4 Mbps LAN controller.	AT	NCU9172
	Token Ring LAN controller.	EISA	NCU9183
	Ethernet 10BT intelligent LAN controller.	AT	NPU 9147/S
(Supplier Olicom)	Ethernet/Cheapernet (ex NCU 9141-II) LAN controller.	AT	OC 2121/II
(Supplier Olicom)	Ethernet 10BT (ex NCU 9143/S) LAN controller.	AT	OC 2122/II
(Supplier Olicom)	Ethernet 10B2, 10B5, 10BT LAN controller.	AT	OC 2123/II
(Supplier Olicom)	Ethernet 10B5, 10BT LAN controller.	AT	OC 2125/II
(Supplier Olicom)	Token Ring 16/4 Mbps LAN controller (ex NCU 9172).	AT	OC 3117
(Supplier Olicom)	Token Ring LAN controller.	EISA	OC 3135
(Supplier Z'NYX)	Ethernet 10B2, 10BT LAN controller.	PCI	ZX312
(Supplier 3Com)	Ethernet 10B2, 10B5 LAN controller.	EISA	3C579
(Supplier 3Com)	Ethernet 10B5, 10BT LAN controller.	EISA	3C579-TP
GO573A+IF479	2V24 intelligent WAN controller.	AT	LPU 2400
GO573A+IF482	X21 intelligent WAN controller.	AT	LPU 2100
GO573	V24 intelligent WAN controller.	AT	LPU 24
GO573A+IF480	V35 intelligent WAN controller.	AT	LPU 3500
GO573A+IF481	V36 intelligent WAN controller.	AT	LPU 3600

POWER SUPPLIES AND SPS

POWER SUPPLY	OUTPUT VOLT.	TOLERANCE	MAX. CURR.	TOT. POW.	INPUT VOLT.	FREQ.	CABINET
SP300T-3	+5.1 V	+5% -4%	32 A	300 W	100-120 Vac 200-240 Vac	50/60 Hz	Base
	+12 V	+5% -4%	10 A				
	-12 V	+10% -10%	1 A				
	-5 V	+5% -5%	1 A				
	+3.3 V	+5% -4%	15 A				
PS45	+5 V	+5% -4%	52 A	450 W	100-120 Vac 200-240 Vac	50/60 Hz	PEM
	+12 V	+5% -4%	11 A				
	-12 V	+10% -10%	0.5 A				
	-5 V	+5% -5%	0.2 A				
	+5 Aux	+5% -5%	0,6 A				
	+3.43 V	+5% -4%	36.4 A				
	Fan Out.	-6.4 V / -13.5 V	1.6 /3.6				

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Note: The Fan Output voltage is controlled by a temperature sensor which detects the air temperature inside the power supply.

UPS	TOT. POW.	VER.	INPUT VOLT.	OUTPUT VOLT.	CAB.
APC - SMART UPS 900 VA	630 W	100/120 Vac	100/120 Vac 50/60 Hz	100/115 Vac 50/60 Hz	External
APC - SMART UPS 1250 VA	900 W				
APC - SMART UPS 2000 VA	1500 W				
APC - SMART UPS 1000 VA (*)	670 W	220/240 Vac	220/240 Vac 50/60 Hz	225/240 Vac 50/60 Hz	
APC - SMART UPS 1400 VA (*)	950 W				
APC - SMART UPS 2200 VA (*)	1600 W				
APC - SMART UPS 3000 VA (*)	2250 W				

(*) = New APC models that replace the previous versions.

Note: By connecting the UPS and system by means of the RS232 serial interface and with the support of the PowerChute Plus software, specific for each operating system and available on diskette, a complete setting of the UPS hardware can be made. This program displays the status of the UPS on the system monitor, but its main feature is to perform a programmed system shutdown in the event of extended line voltage failures. In addition, it is also runs a number of personalized operations and functions.

Note: Besides having different power ratings, the main differences between the older and newer models are the following:

- On the newer models, the possibility of installing a LAN board in the appropriate slot so that the UPS can be connected in a network.
- On the newer models, the possibility for the operator to replace the batteries without needing to remove the power supply from the load.

Note: The UPS model is selected according to the power required by the system, and must be backed up by any external module connected to it such as, for example, a PEM.

SERIAL AND PARALLEL CONNECTION CABLES

PDG	VAR.	DESCRIPTION	LENGTH (m)	CONNECTORS
CBL 2934	-	Cross-wired serial cable for DBOX to printer connections	3	RJ45 - Cannon 8 M - 25 M
CBL 2935	-	Straight serial cable for DBOX to printer connections	3	RJ45 - Cannon 8 M - 25 M
CBL 2938	-	Cross-wired serial cable for DBOX to WS or printer connections	3	RJ45 - Cannon 8 M - 25 F
CBL 5360	-	Cross-wired serial cable for serial port to printer connections	3	Cannon D-shell 25 M - 9 F
CBL 5361	-	Straight serial cable for serial port to modem connections	3	Cannon D-Shell 25 M - 9 F
CBL 5362	-	Cross-wired serial for serial port to WS or printer connections	3	Cannon D-shell 25 M - 9 F
CBL 2491	CAV145	Parallel cable for parallel port to peripheral connections	1.5	Cannon - Centronics 25 M - 36 M
	CAV146		3	
CBL 2858	CAV 143	Straight serial extension cable for modem or printer connections. Used as an extension for cables CBL 5360, CBL 2934, CBL 5361 and CBL 2935.	3	Cannon - Cannon 25 F - 25 M
	CAV 144		6	

INTERRUPT LEVELS

Refer to the related section in Chapter 1 (SNX 140 / 140/R / 160 / 160E / 160/R Systema).

SYSTEM MEMORY MAP

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Refer to the related section in Chapter 1 (SNX 140 / 140/R / 160 / 160E / 160/R Systema).

I/O ADDRESS MAP

Refer to the related section in Chapter 1 (SNX 140 / 140/R / 160 / 160E / 160/R Systema).

DMA CHANNELS

Refer to the related section in Chapter 1 (SNX 140 / 140/R / 160 / 160E / 160/R Systema).

POWER ON DIAGNOSTICS MESSAGES

Refer to the related section in Chapter 1 (SNX 140 / 140/R / 160 / 160E / 160/R Systema).

NOTES ON SYSTEM CONFIGURATION WHEN MORE THAN ONE SCSI CONTROLLER IS INSTALLED

ADDITIONAL SCSI GO624/2096/2124 (DAGGER) CONTROLLER

- The system BIOS is structured in a way that the scan sequence during system bootup is firstly performed on the EISA slots from slot 7 to slot 3, then on the PCI slots from slot 3 to slot 1 (from bottom to top). The following rules are to be followed to connect bootable HDUs when more than one SCSI controller is installed:
 - If the system already configures a PCI Dagger (slot 1) controller and an additional Dagger controller is added, the bootable HDU must be disconnected from the controller installed in slot 1 and connected to the new controller (slot 2 or 3) since these slots are priority over slot 1.
 - If the system already configures a PCI RAID DPT or Lance controller (slot 1) and a Dagger controller is added (slot 2 or 3), the bootable HDU remains connected to the controller in slot 1 since only removable peripherals are connected to the additional Dagger controller even though this board is installed in a priority slot.

In brief, the SCSI controller which can only connect removable peripherals can be installed in any slot, while the controller which connects the bootable HDU must be installed in a priority slot according to the above specified rules.

ADDITIONAL SCSI GO2109 (LANCE) CONTROLLER

- The system BIOS is structured in a way that the scan sequence during system bootup is firstly performed on the EISA slots from slot 7 to slot 3, then on the PCI slots from slot 3 to slot 1 (from bottom to top). The following rules are to be followed to connect bootable HDUs when more than one SCSI controller is installed:
 - If the system already configures a PCI RAID DPT or Lance controller (slot 1) and a Lance controller is added (slot 2 or 3), the bootable HDU remains connected to the controller in slot 1 since only removable peripherals are connected to the additional Lance controller even though this board is installed in a priority slot.

In brief, the SCSI controller which can only connect removable peripherals can be installed in any slot, while the controller which connects the bootable HDU must be installed in a priority slot according to the above specified rules.

ADDITIONAL GO2061 SCSI RAID DPT CONTROLLER

- The system BIOS is structured in a way that the scan sequence during system bootup is firstly performed on the EISA slots from slot 7 to slot 3, then on the PCI slots from slot 3 to slot 1 (from bottom to top). The following rules are to be followed to connect bootable HDUs when more than one SCSI controller is installed:
 - If the system is already configured with a PCI Dagger controller (slot 1) and the PCI GO2061 controller is added to connect only HDUs, disconnect all the HDUs from the Dagger controller and connect them to the GO2061 (slot 2 or 3). Bear in mind, however, that this operation will result with the loss of all the data stored on the HDUs that are moved. This is because by changing the type of controller, the HDUs are no longer compatible due to the different geometry assigned to them by the new controller. The HDUs must therefore be cancelled (see the CLEANHDU Utility, Appendix M) and the operating system reinstalled.
 - If the system is already equipped with a PCI GO2061 controller (slot 1) and a second GO2061 controller is added, move the first controller from slot 1 to the next priority slot and insert the new controller in slot 1, otherwise disconnect all the HDUs from the controller in slot 1 and reconnect them to the new controller installed in a slot (in slot 2 or 3) which has priority over slot 1. Configure then this controller with the same parameters assigned to the first.

In brief, the SCSI controller which can only connect removable peripherals can be installed in any slot, while the controller which connects the bootable HDU must be installed in a priority slot according to the above specified rules.

ADDITIONAL GO2098 SCSI RAID DPT CONTROLLER

The system BIOS is structured in a way that the scan sequence during system bootup is firstly performed on the EISA slots from slot 7 to slot 3, then on the PCI slots from slot 3 to slot 1 (from bottom to top). The following rules are to be followed to connect bootable HDUs when more than one SCSI controller is installed:

- If the system is already configured with a PCI Lance controller (slot 1) and the PCI GO2098 controller is added to connect only HDUs, disconnect all the HDUs from the Lance controller and connect them to the GO2098 (slot 2 or 3). Bear in mind, however, that this operation will result with the loss of all the data stored on the HDUs that are moved. This is because by changing the type of controller, the HDUs are no longer compatible due to the different geometry assigned to them by the new controller. The HDUs must therefore be cancelled (see the CLEANHDU Utility, Appendix M) and the operating system reinstalled.
- If the system is already equipped with a PCI GO2098 controller (slot 1) and a second GO2098 controller is added, move the first controller from slot 1 to the next priority slot and insert the new controller in slot 1, otherwise disconnect all the HDUs from the controller in slot 1 and reconnect them to the new controller installed in a slot (in slot 2 or 3) which has priority over slot 1. Configure then this controller with the same parameters assigned to the first.
- If the system is already equipped with a PCI Dagger or GO2061 controller (slot 1) and a GO2098 controller is added, the bootable HDU remains connected to the controller in slot 1 since the GO2098 controller can only connect to the external PEM Wide.

In brief, the SCSI controller which can only connect removable peripherals can be installed in any slot, while the controller which connects the bootable HDU must be installed in a priority slot.

SYSTEM CONFIGURATION UTILITIES

The system configuration utilities consist of three or five programs depending on whether the system is equipped with the RAID SCSI controller or not. The first program, called Built-In ROM Setup, resides in the system BIOS EPROM and can therefore be activated directly from the keyboard. The second, third and fourth programs called EISA Configuration Utility (ECU), Configuration Manager (CM) and Storage Manager, respectively, are provided in the Starter Kit. The fifth program called DPT Configuration Utility resides in the firmware of the RAID GO2061 controller and can therefore be activated directly from the keyboard. The Built-IN ROM Setup program is described in Appendix E, the Storage Manager in Appendix F, while general information on the composition of the Starter Kit as far as the configuration software is concerned is provided below.

DISKETTES PROVIDED IN THE STARTER KIT

There are a total of six 3.5" 1.44 MB diskettes available for systems that are not equipped with the RAID DPT SCSI controller. These diskettes are divided as follows: 3 User Disks, 1 Video Driver, 2 SCSI Drivers for the Dagger board. The same six User Disks are also used on systems equipped with the RAID DPT SCSI controller with the only exception of an additional four 3.5" 1.44 MB diskettes, two of which containing the Storage Manager Utility and drivers for the supported operating systems and two for temperature sensor control.

- **User Disk - System Configuration.** One disk available in English only:
 - Automatically configures EISA boards and provides information on the configuration of ISA boards by means of the EISA Configuration Utility
 - Contains the Plug and Play Configuration Manager Utility to display the configuration of PCI and ISA Plug and Play boards
 - Supports the ISA Configuration File Library disk which provides the jumper settings of the more renowned optional ISA boards
 - Supports system Setup and personalization
 - Supports the diagnostics disk in the appropriate language.
- **User Disk - Diagnostics.** The Diagnostics disk gives the choice between five languages. It runs a set of low level tests on the hardware modules installed in the system. It is suggested that the Service Engineer use the System Test disk so that more complete tests can be run.
- **User Disk - ISA Configuration (CFG) File Library.** Includes the *.CFG files for the different ISA expansion boards that can be added to the system. Since this disk only contains /US directories and .CFG data files, it can be used in any language.
- **Storage Manager.** This utility is only available for system equipped with the RAID SCSI controller. It checks the hardware configuration of the RAID controller and of all connected devices, configures the disk arrays and runs SCSI subsystem diagnostics.
- **SCSI Drivers.** Two diskettes contain the SCSI drivers for the Dagger controller.
- **EVD Drivers.** One diskette contains the video drivers for DOS and Windows.

- **Resilience Support Drivers.** Available for resilience system versions only, these drivers manage high temperature indications. Thermal sensors on the swap board detect the temperature in the board and disk areas and signal any faults through the SYS FAULT LED on the console. In case of high temperatures in the board or disk area, the drivers will act as follows:
 - Issue overtemperature messages to the user
 - Store this faulty condition in an error log file
 - Shut down the system automatically.

If the system is also equipped with an external UPS and has the PowerChute Plus 4.2 software (or later releases) installed, in addition to being shutdown the system is also powered off as a safeguard against damage. Resilience Support drivers are available for the following operating systems:

- Microsoft Windows NT version 3.x
- Novell NetWare version 3.1x and 4.xx
- SCO Unix 3.2 version 4.2
- SCO Open Server Network System 3.0.0
- SCO Open Server Enterprise System 3.0.0.

Note: *The Olivetti UNIX SVR4.0 ver. 2.4.1 operating system already includes thermal sensors.*

Note: *From June 1996 the Resilience Support disks are no longer included in the Starter Kit since they will be part of Server View from release 2.01.*

CONFIGURATION OF OPTIONAL BOARDS

Refer to the related section in Chapter 1 (SNX 140 / 140/R / 160 / 160E / 160/R Systema).

NOTES ON THE CONFIGURATION OF AT LINE BOARDS

The Multiport and LAN/WAN boards with AT interface can usually be mapped in the first megabyte and in megabyte F. The first megabyte as seen from the memory map, is mainly occupied by system memory and it is not possible to install boards mapped to addresses already occupied by this memory. However there are two memory blocks available which are 128 KB (from 80000h to 9FFFFh, 512 to 640 KB) and 96 KB (from C8000 to DFFFFh, 800 to 896 KB). The LAN WAN AT boards must be jumpered for mapping within the 96 KB block (with a 32 KB buffer, 3 can be installed, with a 16 KB buffer, up to 6), whereas the Multiport AT boards (not available for this system), if installed within the first MB, can only be mapped in the 128 KB block.

If an AT Multiport board is installed in the first megabyte on these systems, the memory segment between 512 KB and 640 KB is automatically disabled (this cannot be disabled manually with the ROM Setup utility or by User Disk). However, the AT boards can also be mapped in megabyte F. In fact the system chipset can open the memory spaces in megabyte F to insert external memory.

The installation of EISA boards does not require the opening of system memory spaces as they can be mapped beyond the maximum memory that can be installed in the system.

Note: *AT boards installed in the 128 KB area of the first MB restricts the base memory to 512 KB which is incompatible with some utilities and operating systems, such as SCO, which require a 640 KB base memory.*

The following table gives examples of the assignment of system resources.

TYPE OF BOARD	MAX. NR.	SLOT	IRQ	EX. OF DPM BASIC ADD.	BUFFER SIZE	CFG FILE	NOTES
Motherboard Keyboard Floppy disk COM1 COM2 LPT1 RTC PS/2 mouse	1	-	1 6 4 3 7 8 12			!OLI0609	
CPU board Timer Coprocessor	1	CPU	0 13			!OLI12C1	
GO624 GO2096 GO2124 GO2109	3	1-3	5, 10, 11, 15				The same IRQ can be shared among several boards
GO2061 GO2098	3	1-3	11, 14, 15				The same IRQ can be shared among several boards
Multiport EISA STALLION	4	3-7	3, 4, 5, 7, 10, 11, 12, 15,	Below the 1 st MB, in MB F (16 th) in the 3 rd GB	64 KB	!STL0400	The same IRQ can be shared among several boards
NPU 9145 NPU 9147S AT Ethernet	4	3-7	3, 9	from C A000 to F 4000 F4 0000 (MB F) F8 0000	8 KB	!OLIF031 Ver. 1.03 !OLIF061 Ver. 1.03	The same IRQ cannot be shared among several boards
NCU 91411I NCU 9143/S AT Ethernet	4	3-7	9, 10, 12, 3, 5, 7, 15	C 0000 (1 st MB) C 4000 C 8000 C C000 D 0000 D 4000 D 8000 D C000 F2 0000 (MB F) F4 0000 F6 0000 F8 0000	16/32/64 KB 128 KB	!OLIF012 Ver. 1.01 !OLIF052 Ver. 1.01	The same IRQ cannot be shared among several boards
OC 2123 AT Ethernet	4	3-7	3, 4, 5, 7, 9, 10, 11, 15	from C 0000 to E C000	8 KB	!ISA1063 Ver. 1.01	The same IRQ cannot be shared among several boards
NCU 9180 NCU 9181S EISA Ethernet	4	3-7	9, 10, 11, 15	No DPM		!OLI1031 Ver. 1.04 !OLI1041 Ver. 1.02	The same IRQ can be shared among several boards
NCU 9172 AT Token Ring	4	3-7	9, 10, 11, 3	with RPL EPROM: from C 0000 to F E000 or see Notes	8 KB	!OLIF1C1 Ver. 1.00	The same IRQ can be shared among several boards

TYPE OF BOARD	MAX. NR.	SLOT	IRQ	EX. OF DPM BASIC ADD.	BUFFER SIZE	CFG FILE	NOTES
LPU 24	4	3-7	2, 3, 5, 10, 11, 12, 15	C 0000 C 4000 C 8000 C C000	16/32/64 KB	!OLIF221 Ver. 1.01 !OLIF241 Ver. 1.01	The same IRQ can be shared among several boards (except for IRQ 2)
LPU 2100			D 0000 D 4000		!OLIF231 Ver. 1.01		
LPU 2400			D 8000 D C000		!OLIF251 Ver 1.01		
LPU 3500			E 0000 E 4000 E 8000 E C000		!OLIF261 Ver. 1.01		
LPU 3600 AT WAN							

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Note: If not equipped with an RPL EPROM, the AT Token Ring board can interface the system through DMA channels 5, 6, 7 or through the following I/O ports:

- 1st board: 0A20-0A23 & 0A30-0A3F
- 2nd board: 0A24-0A27 & 0A40-0A4F
- 3rd board: 0A50-0A53 & 0A60-0A6F
- 4th board: 0A54-0A57 & 0A70-0A7F

USER DISK EVOLUTION

DATE	REL.	REASON FOR CHANGE
05/95	1.10	<p>The User Disk is introduced for the SNX 140, 160, 140/R, 160/R, 160E and 160/RS. Configuration Utility rel. 2.07, Plug & Play Configuration Manager 1.21. The compatible levels are: motherboard P2.1 Rev. F or P2.2 Rev A and later revisions, CPU GO896 P2.0 Rev A with BIOS 1.09 and later, CPU GO898 P1.0 Rev F with BIOS 1.06 and later, CPU GO2063 Nasc Lev. with BIOS 1.08 and later.</p> <ul style="list-style-type: none"> - The selection of the IRQ for the Dagger board is made through the SCI file. If the IRQ in the SCI file is wrong, the information is taken from NVRAM during the POD. This new configuration method cannot, therefore, be used the first time the controller is installed. The Configuration Utility must thus be activated twice: the first time to store the slot number of the new board, the second time to run Setup with the SCI file. Obviously the PCI slot stored in the SCI file must coincide with the physical slot in which the Dagger is installed. - To avoid problems during the POD, it is suggested to avoid using the LOCK feature with the GO2061 controller.
09/95	1.13	<p>This release is also compatible with the SNX 160/RS 133 MHz and SNX 140 75 MHz; compatible levels are: motherboard P2.1 Rev. F or P2.2 Rev A and later, CPU GO896 P2.0 Rev A with BIOS 1.09 and later, CPU GO898 P1.0 Rev F with BIOS 2.00 and later, CPU GO2063 Lev. Nasc with BIOS 2.00 and later, GO2076 Lev Nasc with BIOS 2.00.</p> <ul style="list-style-type: none"> - Support for the 133 MHz Pentium 133 (file !OLI12C1.CFG added). - Support for the 75 MHz Pentium 75 (file !OLI12B1.CFG added). - The !!CFG.NDX contained on the ISA Configuration File Library has been updated to solve the problem with the long wait times requested during the generation of the index of .CFG files when the diskette is write-protected. - Updated overlay code for the Dagger controller to avoid the message "PCI Configuration Error" at the POD, when all the system resources are in Lock. - "Write Through" selection for second level cache is only available for the SNX 140 66 MHz (Mercury chipset). - Updated motherboard configuration file !OLI0609.CFG to reduce the space requested in NVRAM. In the previous versions, with the 15th Mega disabled and more than 64 MB of total memory, it was not possible to store the configuration. - Removal of the following .CFG files since the related boards are not in the PdG: <ul style="list-style-type: none"> !OLI1011.CFG "Olivetti EISA Video Controller (EVC-1)" !OLI1021.CFG "Olivetti EISA SCSI Controller (ESC-1)" !OLI1023.CFG "Olivetti EISA SCSI Controller (ESC-2P)" !OLI1024.CFG "Olivetti EISA SCSI Controller (ESC-2P/FDU)" !OLI1051.CFG "Olivetti EISA Dual SCSI Controller (EFP2/EFP2E)" !OLIF1A1.CFG "Olivetti Video Controller (OVC)" !OLIF201.CFG "Diagnostic subsystem for remote diagnostics".

USER DIAGNOSTIC DISK EVOLUTION

DATE	REL.	REASON FOR CHANGE
02/95	1.09	Introduction of the User Diagnostic diskette for the SNX 140, 160, 140/R, 160/R, 160E, 160/RS. Compatible levels are: motherboard P2.1 Rev. F or P2.2 Rev A and later revisions, CPU P5 P2.0 Rev A with BIOS 1.07 and later, CPU P54C P1.0 Rev F with BIOS 1.02 and later, SCSI Library version 0.26.
12/95	1.11	This release is compatible with motherboard P2.1 Rev. F or P2.2 Rev A and later, CPU P5 P2.0 Rev A with BIOS 1.07 and later, CPU P54C P1.0 Rev F with BIOS 1.02 and later. <ul style="list-style-type: none"> - Solved the problem with Report.TXT of HDU_DIA with HDUs greater than 2 GB. - Addition of the 1 GB Wangtek 51000HT STU in the STR_DIA test - Solved the problem with the read/write buffer test of DAG_DIA - Addition of the Sony 76S CD-ROM in the CDR_DIA test - Addition of the 2 GB HP C1534A, 4 GB HP C1536A, 8 GB HP C1533A, 48 GB HP C1533A (autoloader) models in the DAT_DIA test. On this last drive the diagnostic does not support the Media Changer - Solved the problem on cartridge with CDR_DIA - Solved the problem on the Retension subtest of STR_DIA - Linking of tests DAG_DIA, ARW_DIA with SCSI Library ver. 0.27 - Linking of tests CDR_DIA, STR_DIA, DAT_DIA, HDU_DIA with SCSI Lib. ver. 0.28.

EVD DRIVERS EVOLUTION

DATE	REL.	REASON FOR CHANGE
05/95	1.01	Introduction of the video driver for DOS and Windows. This disk is labelled as follows: SNX 1xx, 1xx/E, 1xx/R, 1xx/RS (cirrus 5422) EVD code 2691034 Q.

SCSI DRIVERS EVOLUTION

DATE	REL.	REASON FOR CHANGE
05/95	1.1	Introduction of the Resilience Support. The following diskettes are available: <ul style="list-style-type: none"> - SNX xxx/RS - SCSI Drivers EZ SCSI - NetWare - OS/2 Disk. #1 code 2691025 K - SNX xxx/RS - SCSI Drivers UnixWare 2.0x - SCO Diskette #2 code 2691026 X

RESILIENCE SUPPORT DRIVER EVOLUTION

DATE	REL.	REASON FOR CHANGE
05/95	1.0	Introduction of the Resilience Support driver. The following disks are available: - SNX 1xx, /E, /R, /RS Resilience Support disk 1/2 code 2691032 X - SNX 1xx, /E, /R, /RS Resilience Support disk 2/2 code 2691033 T.
07/95	2.01	New release for compatibility with the Server View installation. This driver release must be combined with Storage Manager release 2.00 or later. The following disks are available: - Resilience Support disk 1/2 code 2691121 B - Resilience Support disk 2/2 code 2691122 P.
11/95	2.1	New release for Server View 1.1 support. The following disks are available: - Resilience Support disk 1/2 code 2691249 H - Resilience Support disk 2/2 code 2691250 F.

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SERVER VIEW EVOLUTION

DATE	REL.	REASON FOR CHANGE
10/95	1.0	Server View software introduction. Server View Starter Kit code 2754560 H.
11/95	1.1	New release that solves some of the problems with release 1.0, SCO Open Server 5.0 and UnixWare support. Server View Starter Kit code 2757950 D-01.
5/96	2.01	New Server View release which also contains the Resilience Support drivers that are no longer available on disks provided with the Starter Kit. The new Server View release has code 211996 L and is distributed on CD-ROM.

SYSTEM TEST EVOLUTION

DATA	REL.	REASON FOR CHANGE	CODE
02/95	1.07	The System Test disk is introduced for the SNX 140, 160, 140/R, 160/R, 160E, 160/RS. Compatible levels are: motherboard P2.1 Rev. F or P2.2 Rev A and later revisions, CPU GO896 P2.0 Rev A with BIOS 1.07 and later, CPU GO898 P1.0 Rev F with BIOS 1.02 and later, CPU GO2063 Nasc Level with BIOS 1.08 and later.	H06188

SEQUENCE OF BOARDS INSTALLED IN THE MOTHERBOARD SLOTS

BOARD NAME	MAX. NO. OF BOARDS	SLOT	BUS MASTER
PCI BUS			
Primary PCI SCSI controller (Dagger, Lance, DPT)	1	1	YES
Additional PCI SCSI controller (Dagger, Lance, DPT)	3	1, 2, 3	YES
Line controllers with a PCI bus	2	2, 3	YES
EISA BUS			
Line controllers with an EISA bus (Stallion, etc.)	4	3, 4, 5, 6, 7	YES
Line controllers with an AT bus (ISA)	4	3, 4, 5, 6, 7	YES
DEDICATED BUS			
CPU board	1	CPU SLOT	-

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Note:

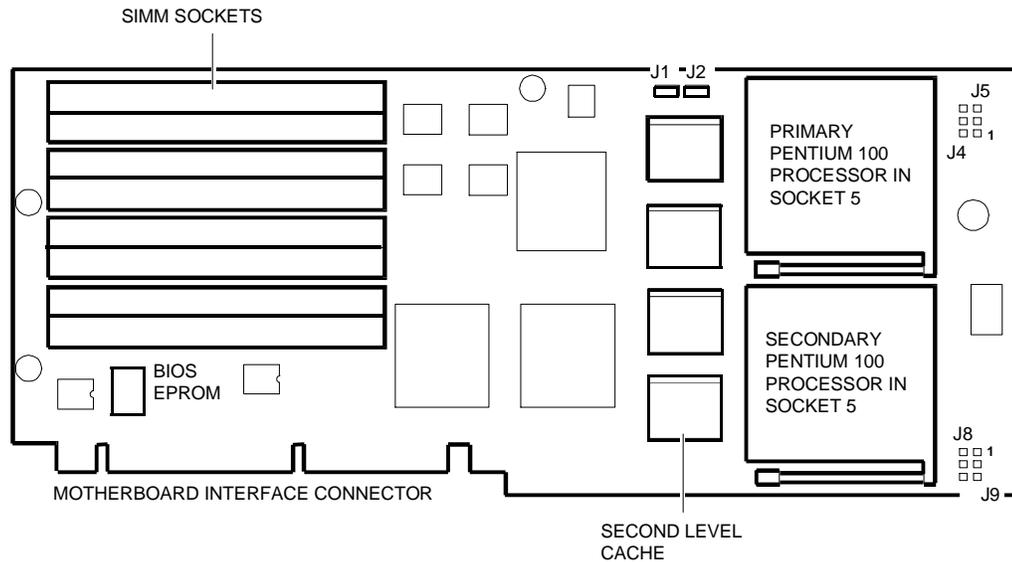
- *The primary SCSI controller is always inserted in PCI slot 1.*
- *Slot 3 physically consists of 2 slots: 1 PCI and 1 EISA. These two slots however, are logically considered as a single, shareable, slot since only one board can be fitted as both slots are physically very close to each other. A PCI board will be installed in the upper PCI slot, while an EISA, ISA or ISA Plug & Play board will be installed in the lower EISA slot.*
- *There are no priorities to take into account as far as free PCI or EISA slots are concerned unless additional SCSI controllers are installed. In this case the bootable HDU must be connected to the HDU controller installed in the priority slot (see the section entitled "Notes on the Configuration of a System with more than one SCSI Controller").*

BOARD BA2155 (P.c.b. Code 654305 K) EVOLUTION

DATE	LEV.	VIMO CODE	REASON FOR CHANGE	APPLIC.
01/95	Nasc	562156 Z	New board replacing the BA904 to recover the wirings.	Factory
01/95	01		No connection between GND and logic ground (video area): 1 inductor and 3 resistors removed, one resistor replaced.	Factory
04/95	02		Cost reduction: 1 oscillator, 15 resistors, 1 RX/TX, 1 transistor, 1 capacitor, 3 connectors (J25, J27, J2), 5 buffers and 1 LED removed.	Factory
05/95	03		Super I/O component FDC37C665 step G replaced with the new FDC37C665 rev. A mask E.	Factory
07/95	04		Video controller GD5422 no longer manufactured by Cirrus Logic; this component is replaced by the pin-to-pin equivalent and software-compatible GD5424.	Factory
10/95	05	- Within the frame of time in which the system is powered off and the printer still on (connected to the parallel interface), random characters are generated which the printer interprets as being valid; this results with undesired printouts or paper skips. This cause has been detected in the sizing of the pull-up resistors of some of the signals of the subject interface: replace the 1 KOhm resistors R186, R191, R192, R194 with 4.7 KOhm resistors. - A failure has been detected of component GD5422 on systems that use the DSM 40091 monitor. The cause has been found to be the imperfect loopback between logic ground and GD5422 ground: attach pin 1 (cathode) of diode D2 to pin 2 of capacitor C50, and add three 0 Ohm resistors in positions 267, 288, 302.	Factory	
1/96	01AG	Solved the loss of the DPT board configuration in the power on/power off transistors in a system connected via parallel interface to a printer which is always on. This cause has been detected in the sizing of the pull-up resistors of some of the signals of the subject interface: replace the 1 KOhm resistors R187, R191, R192, R194 with 4.7 KOhm resistors. Modifiction in field is mandatory with the retrofiting for Leeds/Halifax (UK), and at first return for all other systems. Due to the unavailability of the 85C244-66 type PAL fitted in pos. U45 (GKWA), the alternative GAL22V10 will be used which when programmed becomes WP64.	Factory	
1/96	02AG	New Step-B0 masks for components ESC and PCEB: replace ESC (U26) from step A1/2 to step B0, N.F: GA0Y; replace PCEB (U39) from step A1/2 to step B0, N.F: GA0X. Replacement of phased-out RTC component DS1287 with the alternative RTC DS1287A.	Factory	
3/96	07	Problem solved with the TRICOM 3C592 - 3C597 network boards. The system would crash after board configuration due to the delayed generation of the AENx signals. Replace the PAL GKW5 in pos. U23 with PAL WP69 (new program); make four wirings: from U26 pin 120 to U23 pin 11, from U26 pin 119 to U23 pin 12, from U26 pin 118 to U23 pin 1, from U26 pin 117 to U23 pin 8; trim from U23 pin 8 and its path.	Factory	

DUALPROCESSOR CPU BOARD GO2063 FOR THE SNX 160/RS SYSTEMA 100 MHz

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Notes:

- Since a processor-fitted passive heatsink (without fan) is fully capable of cooling the processors, connectors J1 and J2 which connect the fans of the heatsinks are not used.
- There are no jumper settings to be made on the board: additional memory expansion SIMMs are automatically recognized by the system through the activation of the ECU or the BIOS Setup Utility.
- The primary processor can be optionally replaced by future Intel OverDrive processors.

PROCESSOR POWER SUPPLY VOLTAGE SELECTION JUMPER

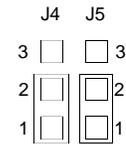
This board is set to host processors operating in either the VRE or Standard modes. Processors operating in the VRE mode require a +3.45 V power supply while those operating the Standard mode require +3.3 V. A DC/DC Converter circuitry and jumper block for each of the two processors are fitted on the CPU board so that the specific power supply for each processor can be selected. This enables a single board to host two processors operating in different modes. The +3.3 V are supplied by the power supply, while the +3.45 V are taken directly from the +5 V by the DC/DC Converter.

Listed below are the Pentium 100 processors (primary or secondary) operating in the VRE or Standard modes:

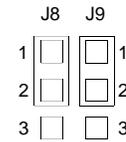
- Pentium 100 step B5 VRE (identifier marked on the chip: 100 SX970).
- Pentium 100 step C2 VRE (identifier marked on the chip: 100 SX962).
- Pentium 100 step C2 Standard (identifier marked on the chip: 100 SX963).

The above processors are always jumpered for the VRE mode of operation since standard voltage step C2 can work within the limits of the VRE voltage (3.135 V - 3.6 V). The OverDrive processors currently in use, however, can only work in the standard mode. The next tables show the different jumper settings.

VOLTAGE SELECTION FOR THE PRIMARY PROCESSOR			
MODE	PROCESSOR	JUMPER J4	JUMPER J5
VRE (+3.45 V)	All Pentium 100 processors	Pins 1-2	Pins 1-2
STD (+3.3 V)	OverDrive Processor	Pins 2-3	Pins 2-3

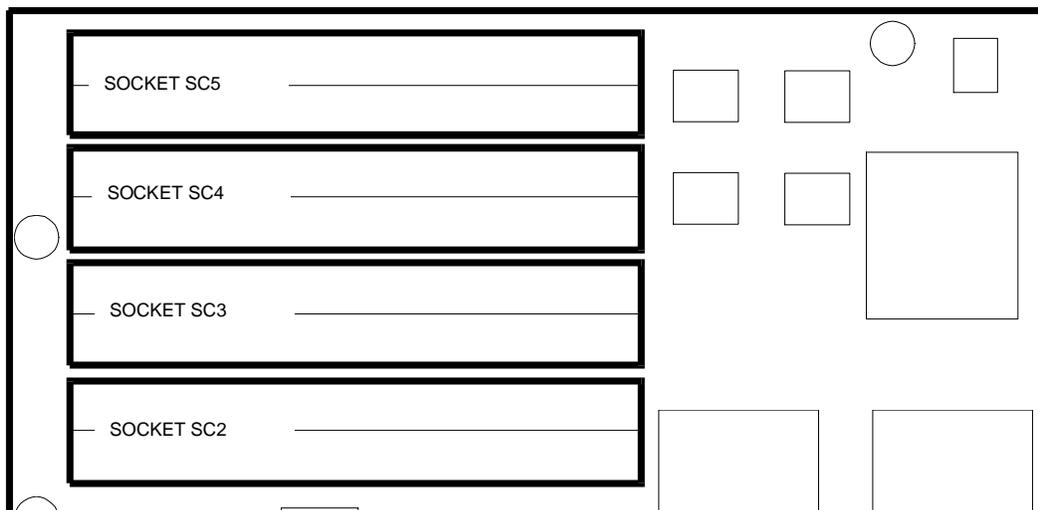


VOLTAGE SELECTION FOR THE SECONDARY PROCESSOR			
MODE	PROCESSOR	JUMPER J8	JUMPER J9
VRE (+3.45 V)	All Pentium 100 processors	Pins 1-2	Pins 1-2
STD (+3.3 V)	Not used	Pins 2-3	Pins 2-3



Note: Even though the second processor is not installed, jumpers must be inserted on pins J8 and J9 and must be set as on J4 and J5.

MEMORY EXPANSION



Listed below are the rules for configuring system memory using parity and ECC SIMMs:

- As a general rule it is unadvised, even though possible, to mix parity and ECC SIMM configurations on the same board since the data in memory would only be partly protected with ECC protection. It is therefore suggested to only use parity SIMM or ECC SIMM configurations.
- The system sees the memory as being divided into 4 banks (1, 2, 3 and 4). Each bank occupies two sockets on the CPU board. Bank 1: dual socket SC2, bank 2: dual socket SC3, bank 3: dual socket SC4, bank 4: dual socket SC5.
- SIMMs must always be installed in pairs to fill the entire memory bank. Each pair consists of two SIMMs of the same capacity and density.
- SIMMs of different capacities can be installed in the same system, but not in the same memory bank.
- Install the SIMMs starting always from bank 1.
- Double-sided (DS) SIMMs must always be installed before the single-sided (SS) SIMMs, in other words they must be installed in the lower banks (starting from bank 1). When new SIMMs are added, make sure that this rule is followed and, if necessary, move the SS SIMMs into the upper banks and the DS SIMMs into the lower ones.

- If the system is configured with parity SIMMs, the minimum system memory capacity is 16 MB expandible to 256 MB. If ECC SIMMs are used instead, the minimum system memory capacity is 32 MB expandible to 256 MB.

The following SIMMs can be used:

PDG NAME	CAP.	MEMORY EXPANSION KIT
EXM 28-004	4 MB	One SS 4 MB 70 ns (1 Mbit x 36) SIMM. 2 kits must be ordered.
EXM 28-008	8 MB	One DS 8 MB 70 ns (2 Mbit x 36) SIMM. 2 kits must be ordered
EXM 28-008/B	8 MB	One DS 8 MB 70 ns (2 Mbit x 36) 1" H SIMM. 2 kits must be ordered.
EXM 28-016	16 MB	One SS 16 MB 70 ns (4 Mbit x 36) SIMM. 2 kits must be ordered.
EXM 29-032	32 MB	One DS 32 MB 70 ns (8 Mbit x 36) SIMM. 2 kits must be ordered.
EXM 40-032	32 MB	One DS 32 MB 70 ns (8 Mbit x 36) 1" H SIMM. 2 kits must be ordered.

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Note: 1" high SIMMs will replace the standard height versions.

The following table shows some possible memory configuration combinations using parity SIMMs.

TOTAL MEMORY	BANK 1		BANK 2		BANK 3		BANK 4	
	SOCKET SC2		SOCKET SC3		SOCKET SC4		SOCKET SC5	
16 MB	4 MB	4 MB	4 MB	4 MB				
24 MB	4 MB	4 MB	4 MB	4 MB	4 MB	4 MB		
32 MB	4 MB	4 MB	4 MB	4 MB	4 MB	4 MB	4 MB	4 MB
40 MB	4 MB	4 MB	4 MB	4 MB	4 MB	4 MB	8 MB	8 MB
56 MB	4 MB	4 MB	4 MB	4 MB	4 MB	4 MB	16 MB	16 MB
88 MB	4 MB	4 MB	4 MB	4 MB	4 MB	4 MB	32 MB	32 MB
24 MB	4 MB	4 MB	8 MB	8 MB				
40 MB	4 MB	4 MB	8 MB	8 MB	8 MB	8 MB		
56 MB	4 MB	4 MB	8 MB	8 MB	8 MB	8 MB	8 MB	8 MB
72 MB	4 MB	4 MB	8 MB	8 MB	8 MB	8 MB	16 MB	16 MB
104 MB	4 MB	4 MB	8 MB	8 MB	8 MB	8 MB	32 MB	32 MB
40 MB	4 MB	4 MB	16 MB	16 MB				
72 MB	4 MB	4 MB	16 MB	16 MB	16 MB	16 MB		
104 MB	4 MB	4 MB	16 MB	16 MB	16 MB	16 MB	16 MB	16 MB
136 MB	4 MB	4 MB	16 MB	16 MB	16 MB	16 MB	32 MB	32 MB
72 MB	4 MB	4 MB	32 MB	32 MB				
136 MB	4 MB	4 MB	32 MB	32 MB	32 MB	32 MB		
200 MB	4 MB	4 MB	32 MB	32 MB	32 MB	32 MB	32 MB	32 MB
16 MB	8 MB	8 MB						
32 MB	8 MB	8 MB	8 MB	8 MB				
48 MB	8 MB	8 MB	8 MB	8 MB	8 MB	8 MB		
64 MB	8 MB	8 MB	8 MB	8 MB	8 MB	8 MB	8 MB	8 MB
80 MB	8 MB	8 MB	8 MB	8 MB	8 MB	8 MB	16 MB	16 MB
112 MB	8 MB	8 MB	8 MB	8 MB	8 MB	8 MB	32 MB	32 MB
48 MB	8 MB	8 MB	16 MB	16 MB				
80 MB	8 MB	8 MB	16 MB	16 MB	16 MB	16 MB		
112 MB	8 MB	8 MB	16 MB	16 MB	16 MB	16 MB	16 MB	16 MB
144 MB	8 MB	8 MB	16 MB	16 MB	16 MB	16 MB	32 MB	32 MB

TOTAL MEMORY	BANK 1		BANK 2		BANK 3		BANK 4	
	SOCKET SC2		SOCKET SC3		SOCKET SC4		SOCKET SC5	
80 MB	8 MB	8 MB	32 MB	32 MB				
144 MB	8 MB	8 MB	32 MB	32 MB	32 MB	32 MB		
208 MB	8 MB	8 MB	32 MB	32 MB	32 MB	32 MB	32 MB	32 MB
32 MB	16 MB	16 MB						
64 MB	16 MB	16 MB	16 MB	16 MB				
96 MB	16 MB	16 MB	16 MB	16 MB	16 MB	16 MB		
128 MB	16 MB	16 MB	16 MB	16 MB	16 MB	16 MB	16 MB	16 MB
160 MB	16 MB	16 MB	16 MB	16 MB	16 MB	16 MB	32 MB	32 MB
96 MB	16 MB	16 MB	32 MB	32 MB				
160 MB	16 MB	16 MB	32 MB	32 MB	32 MB	32 MB		
224 MB	16 MB	16 MB	32 MB	32 MB	32 MB	32 MB	32 MB	32 MB
64 MB	32 MB	32 MB						
128 MB	32 MB	32 MB	32 MB	32 MB				
192 MB	32 MB	32 MB	32 MB	32 MB	32 MB	32 MB		
256 MB	32 MB	32 MB	32 MB	32 MB	32 MB	32 MB	32 MB	32 MB

The following ECC SIMMs can be used:

PDG NAME	CAPACITY	MEMORY EXPANSION KIT
EXM ECC032	32 MB	Two 16 MB (4 Mbit x 36) 70 ns ECC SIMMs
EXM ECC064	64 MB	Two 32 MB (8 Mbit x 36) 70 ns ECC SIMMs

Note: The new generation IBM SIMMs with ECC checking are called ECC On-SIMMs since the ECC function is integrated in the SIMM itself and provides complete Single Error Correct (SEC) and Error Correcting Code (ECC) functions.

The following table shows some possible memory configuration combinations using ECC SIMMs.

TOTAL MEMORY	BANK 1		BANK 2		BANK 3		BANK 4	
	SOCKET SC2		SOCKET SC3		SOCKET SC4		SOCKET SC5	
32 MB	16 MB	16 MB						
64 MB	16 MB	16 MB	16 MB	16 MB				
96 MB	16 MB	16 MB	16 MB	16 MB	16 MB	16 MB		
128 MB	16 MB	16 MB	16 MB	16 MB	16 MB	16 MB	16 MB	16 MB
160 MB	16 MB	16 MB	16 MB	16 MB	16 MB	16 MB	32 MB	32 MB
192 MB	16 MB	16 MB	16 MB	16 MB	32 MB	32 MB	32 MB	32 MB
96 MB	16 MB	16 MB	32 MB	32 MB				
160 MB	16 MB	16 MB	32 MB	32 MB	32 MB	32 MB		
224 MB	16 MB	16 MB	32 MB	32 MB	32 MB	32 MB	32 MB	32 MB
64 MB	32 MB	32 MB						
128 MB	32 MB	32 MB	32 MB	32 MB				
192 MB	32 MB	32 MB	32 MB	32 MB	32 MB	32 MB		
256 MB	32 MB	32 MB	32 MB	32 MB	32 MB	32 MB	32 MB	32 MB

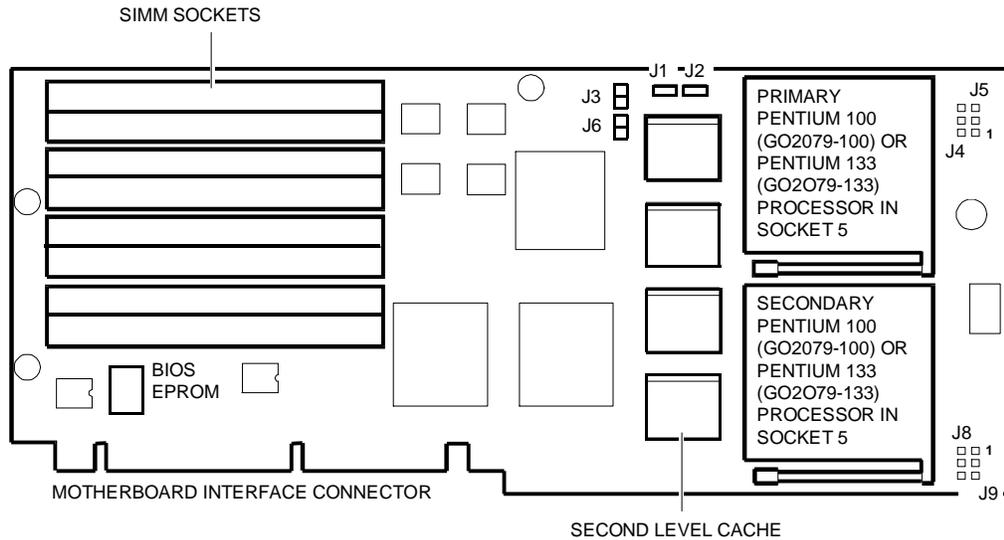
BOARD GO2063 (P.c.b. Code 654348 V) EVOLUTION

DATE	LIV.	VIMO CODE	REASON FOR CHANGE	APPLIC.
5/95	Nasc	562262 B	New board. The compatible BIOS is labelled WE12. The first BIOS release is 1.08 code 562382U lev. Nasc. The BIOS evolutions are described further on.	Factory
9/95	01		Cost reduction: replace the components 74AC244 in pos. U2, U3, U4, U5, U8, U9 with 74F244 components; remove resistors R32, R33, R35, R61, R62, R63; remove the component 74AC244 in pos. U13 and the component DS1620 (digital thermometer) in pos. TH1.	Factory
12/95	02		Improved board functional margins in view of the new Intel masks for the P54C processor: replace the 12 6.3 V 100 uF capacitors C26-C32-C33-C40-C59-C65-C182-C191-C194-C202-C218-C229 with 220 uF 10 V capacitors; replace the 220 uF 10 V radial capacitor C81 with a 2200 uF 10 V capacitor.	Factory

2

Note: From September 1995, the 66/100 MHz P54C - step C2 - VRE (3.45-3.6 V) code 4893151U CPU has been replaced by the 66/100 MHz P54C - Step C2 - STD (3.1-3.6 V) code 4893113G CPU.

DUALPROCESSOR CPU BOARDS GO2079-100 (FOR THE SNX 160/RS 100), GO2079-133 (FOR THE SNX 160/RS 133 AND SNX 160/RS 133 W)



Notes:

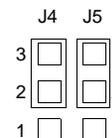
- Board GO2079 can use Pentium 100 or Pentium 133 processors and its name does not change. To distinguish between these two versions in this guide, the names GO2079-100 and GO2079-133 are used.
- The 66/100 MHz GO2079-100 board is identical to the 66/133 MHz GO2079-133 with the only exception of the processor installed (Pentium 100 or Pentium 133) and of the location of the processor clock selection jumpers.
- To cool down the processors it is sufficient that a passive heatsink (without fan) higher than the one for the Pentium 100 (25 mm instead of 16 mm) be fitted on the chip. Active heatsink connectors J1 and J2 are therefore not used.
- There are no jumper settings to be made on the board: additional memory expansion SIMMs are automatically recognized by the system through the activation of the ECU or the BIOS Setup Utility.
- The primary processor can be optionally replaced by future Intel OverDrive processors.

PROCESSOR POWER SUPPLY VOLTAGE SELECTION JUMPER

This board is set to host processors operating in either the VRE or Standard modes. Processors operating in the VRE mode require a +3.45 V power supply while those operating the Standard mode require +3.3 V. A DC/DC Converter circuitry and jumper block for each of the two processors are fitted on the CPU board so that the specific power supply for each processor can be selected. This enables a single board to host two processors operating in different modes. The +3.3 V are supplied by the power supply, while the +3.45 V are drawn directly from the +5 V by the DC/DC Converter.

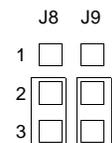
The Pentium 100 and Pentium 133 processors currently in use work in the standard mode and their jumper settings are indicated in the following table.

VOLTAGE SELECTION FOR THE PRIMARY PROCESSOR			
MODE	TIPO PROCESSORE	JUMPER J4	JUMPER J5
VRE (+3.45 V)	Currently not used	Pins 1-2	Pins 1-2
STD (+3.3 V)	All current Pentium 100, Pentium 133 and OverDrives	Pins 2-3	Pins 2-3



2

VOLTAGE SELECTION FOR THE SECONDARY PROCESSOR			
MODE	TIPO PROCESSORE	JUMPER J8	JUMPER J9
VRE (+3.45 V)	Not used	Pins 1-2	Pins 1-2
STD (+3.3 V)	All Pentium 100 and Pentium 133	Pins 2-3	Pins 2-3



Note: Even though the second processor is not installed, the jumpers must be inserted on J8 and J9 and must be set as on J4 and J5.

Note: All the processor VRE selection DC/DC converter circuits have been removed from board GO2079 Lev. 01 since Standard type processors are compatible. The related selection jumpers remain and their setting does not change: J4, J5 and J8, J9 on pins 2-3 (STD 3.3V).

PROCESSOR CLOCK SELECTION JUMPERS

On this board there is also the possibility of selecting a 2/3, 1/2 and 2/5 ratio between the bus and core clocks of the primary and secondary processors. With this feature it is possible to define the clocks of the processors and to therefore adapt the board to the type of processor installed. Selection is made by means of the two 2-pin jumpers J3 and J6.

JUMPER J3	JUMPER J6	BUS/CORE RATIO	PROCESSOR CLOCK
IN	IN	2/5	166 MHz
OUT	IN	1/2	133 MHz (For GO2079-133 - on SNX 160/RS 133, W MHz)
OUT	OUT	2/3	100 MHz (For GO2079-100 - on SNX 160/RS 100 MHz)
IN	OUT	-	Reserved

Note: It is important to correctly set these jumpers otherwise the processor rates differ (for example, the Pentium 133 with jumpers set for 100 MHz will have a clock reduced to 100 MHz, while setting a clock which is higher than the processor's specified value will make the processor work out of its own specifications). The jumpers are factory set and their setting must not be changed. The secondary processor must be identical to the primary processor; configurations with processors working at different speeds are not allowed.

MEMORY EXPANSION

The SIMM sockets, their location, the supported SIMMs (standard and ECC), the memory configuration rules and table of possible combinations are identical to those described for the GO2063 board so refer to the related section for information.

Note: 4 MB SIMMs are no longer being produced.

BOARD GO2079 (P.c.b. Code 654431 Z) EVOLUTION

DATE	LEV.	VIMO CODE	REASON FOR CHANGE	APPLIC.
1/96	Nasc	210710 K	New GO2079-133 CPU board with a 133 MHz Pentium 133 processor for the SNX 160/RS 133 MHz. With a 100 MHz Pentium 100 processor, this board replaces the GO2063 for process quality improvement purposes. The GO2063 will be replaced once it is no longer in stock. The compatible BIOS is labelled WE12. The first BIOS release is 2.02 code 562382 U lev. 02. The BIOS evolutions are described further on.	Factory
2/96	01		Elimination of the components of the DC/DC converter that generates the processor VRE supply. The board is only jumpered in the STD mode (3.3 V). The following components are to be removed: TF9433 (U14-16), LTC1148 (U15), C120, C195, C49, L1, C147, C148, R68, R103, R60, R81, TF9410 (U21), L1431 (U18), C196, C88, C89, C146, D1, R71, R73, R101, R102, C81, C208, C230, C243, C256.	Factory

BIOS WE12 EVOLUTION FOR THE GO2063, GO2079

DATE	LEV.	BIOS	CODE	REASON FOR CHANGE
5/95	Nasc	1.08 WE12	562382 U	New BIOS WE12, compatible with the SNX 140, 160, 140/R, 160/R, 160E, 160/RS. Differs from release 1.07 (PZD5) for the following reasons: - Support for the 100 MHz CPU board. - Support for PCI ACFG version 1.21U.
6/95	01AG	1.09 WE12		BIOS replaced to: - Support the PNS5162, the serial test is eliminated when "Embedded special serial port" is enabled.
1/96	02	2.02 WE12		BIOS replaced to: - Support for the following systems that are based on the Neptune chipset: SNX 160 - 66/100 MHz, SNX 160 - 60/90 MHz, SNX 160 - 66/133 MHz, SNX 140 - 50/75 MHz. - Solve the malfunction under NT 3.51 which signalled "PCI TARGET ABORT ERROR" when rebooting after a shutdown. The memory resources for PCI devices have been invalidated within the 0FFFC0000h to 0C0000000h address range and I/O resources within the 0FFFFh and 0F000h address range. The address space is now allocated under 3 GB for the buffers and under 0EFFFh for the I/O ports. - Solve the problem with OS2 and Dagger controllers with an I/O space mapped at z805h. - Solve configuration problems with some LAN boards.
4/96	03	2.03 WE12		BIOS replaced to: - Enable the 0-Active RAS Mode when memory configuration is obtained by using more than four SIMMs; otherwise the 0-Active RAS Mode is disabled.

NOTES AND LIMITATIONS

SYSTEM CONFIGURATION

- Full support for the Configuration Manager and resolution of resource conflicts for PCI and Plug and Play ISA boards is available from ECU release 3.0. The ECU version for these systems is 2.07, which has the following limitations:
 - During the POD, the BIOS configures the PCI and ISA Plug and Play boards avoiding conflicts with the motherboard resources and with the ISA/EISA boards. The BIOS stores the PCI/ISA Plug and Play configuration in NVRAM, as virtual slots. This information cannot be modified since it is cancelled each time the configurator or the ROM Setup is used to configure the system, and then automatically rewritten to NVRAM by the BIOS at the next POD. The user must therefore make sure that the IRQ selected by the configurator for the virtual slot matches the one selected for the physical PCI slot.
 - When a configuration error occurs during the POD (corrupt NVRAM, invalid system configuration or bypass jumper installed), the Configuration Manager driver is not installed and error code FFFFFFFh is displayed. Under these conditions it is impossible to determine the configuration of the PCI boards since the resources assigned to these boards are not displayed. To have the Configurator display the assigned PCI resources, first solve all NVRAM errors so that the CM driver can be correctly installed. It is suggested to therefore activate the Configuration Program twice: once to clear any error from NVRAM, the second to display the complete PCI/EISA/ISA configuration. This procedure is also suggested when inserting or removing a PCI board.
- When a Plug & Play board is removed from the system, the related information is not cleared from NVRAM until the Configuration Manager driver is loaded.
- The BIOS code which automatically configured the PCI boards does not allow a PCI device to share an interrupt with a level-triggered EISA device if another interrupt is available. The interrupt can be shared if there are non available.
- When the user decides not to use some of the HDUs present in the system and removes them from the rank, these hard disks must be completely removed to avoid that the HDU rails cause the loss of the Hot Swapping feature.
- Double-sided SIMMs must be installed on the CPU board starting from the lower banks.
- The first series SNX 160/RS 133 W is released in monoprocessor version only due to problems with the F74 firmware of the DPT GO2098 controller which have been encountered during the installation of UnixWare 2.03 and SCO 3.2.4.2 in dualprocessor configurations.

2

SERVER VIEW

- The Power Net Agents are not activated automatically in the NT environment. To have them start automatically, set the "Automatic" attribute as "Usual" on the Control Panel.

RESILIENCE SUPPORT

- The OLIECC software package is not supported by this system. Therefore during the loading of the Resilience Support disk under UnixWare 2.01, do not proceed with its installation.

OPERATING SYSTEMS

- The system hangs when booting from floppy disk with the AT&T UNIX operating system, an active remote terminal and motherboard SVGA enabled. This is a problem with the operating system that, during system boot, gives priority to the video controller instead of to the remote terminal attached to the serial port.
- Patch#5 V2.4.1 is required in order to be able to use the CDR 4S-500 under Unix SVR4 rel. 2.4.1.
- IRQ 15 cannot be used for the RAID DPT Narrow and Wide controllers when using the NetWare 3.12 and 4.1 operating system.
- With Windows NT 3.5 and only on monoprocessor systems, after a software shutdown the system needs to be powered off before it can be rebooted. To avoid this problem, install NT 3.5 with the "Custom" Setup procedure and select the "Computer = Standard PC" option.
- With the Windows NT or Novell NetWare (3.1x and 4.x) operating systems, the "Extended Memory 16 MB Limit" option must be Enabled on systems with more than 64 MB of memory. This function can be enabled from Built-In ROM Setup or from the Configurator.
- With the Windows NT 3.5 operating system, there may be problems with the DPT engine on systems with 32 MB of memory, a PCI RAID SCSI controller and a high load of disks. Increase the amount of "NonPagedPool" reserved memory in the WIN NT register.

Register default value (0)

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SessionManager\MemoryManagement\NonPagedPoolSize

must be changed to 2097152 (2 MB)

- With the UnixWare 2.0x with USF file system and Windows NT 3.5 and 3.51 operating systems, when there are disks with a capacity greater than 1 GB connected to the Dagger SCSI controller, use the Configurator to select the SCSI controller's "BIOS and Device Configuration" option and set the "Extended Translation for Drives > 1 GByte" parameter of the "BIOS Configuration" submenu to Disabled.
- With the SCO Unix 3.2.4.2 operating system and the PCI RAID SCSI controller in RAID1 (mirroring) configuration, the "SCSI Cmd Queuing" option of the board Configuration Utility must be Disabled. The configuration utility can be activated at the POD by pressing CTRL-D. This limitation will be solved from the PCI RAID SCSI controller firmware release later than 6CX.
- The following message may be displayed when using the UnixWare and SCO Open Server 5.0 operating systems and with a high disk load:

```
INTERNAL ERROR M=3D T=3
MESSAGE TIMEOUT M=3D T=6
ERROR: returned from Engine, Program Terminated!!
```

Immediately perform the logging procedure by using the following command:
/usr/dpt/dptelog &.

- With the OS/2 2.11 operating system and the PCI RAID SCSI controller, proceed as follows to install the Supplemental Disk generated by the Storage Manager:
 - Open "OS/2 System Folder", then "System Setup Folder".
 - Select "Device Driver Install".
 - Insert the Supplemental Disk in the drive.
 - Select "Install". A status message is displayed upon completion of this command: an error is indicated if the controller is not found.

This limitation is currently solved.

- With the SCO Open Server 5.0 operating system it is not possible to configure two Dagger controllers together since the driver can only recognize one controller. The second Dagger controller can be updated successively once the singledagger is installed.
- With the UnixWare 2.0x operating system and when using RAID DPT Narrow or Wide controllers connected to hard disks with capacities greater than 1 GB, problems could occur during the creation of the UFS file system. In this case use the VXFS file system.
- With the NetWare 3.12 and 4.1 operating system and when using the workstation in a VLM connection (instead of NETX), with a high degree of I/O subsystem operation (during a RAID reconstruction) it could rarely happen that one or more workstations hang. When this occurs the workstation needs to be reinitialized. The problem is corrected by adequately configuring the clients when the VLM connection mode is used.
- With the Windows NT 3.51 operating system, the messages ERROR 9 and/or ERROR 11 may be displayed in the Event Viewer. These errors do not effect system operation and must therefore be ignored.
- With the Windows NT 3.51 operating system, after a logoff and successive logon the DPTSRV function must be deactivated and then reactivated again.
- With the OS/2 2.11 or OS/2 3.0 (WARP) operating system, the FAT file system must be used instead of an HPFS.
- To configure the Sony CDU76S (4X) CD-ROM with the OS/2 2.11 or OS/2 3.0 (WARP) operating system, select:
SONY CDU 541,561,6211,7211,7811
from the "CD ROM DEVICE SUPPORT" window.
- With the NetWare 3.12 or 4.1 operating system, during a bootstrap with the CD-ROM connected to a RAID DPT PCI SCSI controller, the following message may be displayed which case it must be ignored:

WARNING: SCSI BIOS ROM Version is later than this driver version. Drive not installed.

The CD-ROM will still work correctly.