

Network and Telco Servers

Sun Netra t 1120/ Netra t 1125 ATO Ordering Flow Chart

Each step represents a line item on a Sales Order.

Step 1 - required

Order a base configuration

Choose between AC or DC system.

Either:

N03-AA - *Netra t 1125 (AC)*

N04-AA - *Netra t 1120 (DC)*



Step 2 - required

Add 1 or 2 processors

Add 300MHz processor module(s) (Max 2)

1191A - *300MHz UltraSPARC-II with 2MB L2 cache*

1197A - *440MHz UltraSPARC-II with 4MB L2 cache*



Step 3 - required

Add 2 to 8 pairs of Memory

Netra t 1120 and 1125 supports up to 2-Gbyte of memory.

Install in groups of 4 DIMMs.

(Max 16 SIMMs - 8 pairs)

7003A - *128-Mbyte Memory (2 x 64MB SIMMs)*

7004A - *256-Mbyte Memory (2 x 128MB SIMMs)*



Step 4 - required

Add 1 or 2 Storage Disk Drives (internal)

Order internal disk drive(s). (Max 2 Disks)

5237A - *18.2-Gbyte internal 10K RPM SCSI disk*



Step 5 - optional

Add Removable Media devices

Add 1 DAT Tape or 1 CD-ROM drive or 1 DAT and 1 CD-ROM. (Max 1 each)

6911A - *32x internal CD-ROM Drive*

6912A - *12-24GB 4mm DDS-3 Internal Tape Drive*



Step 6 - optional

Add Alarms Card Software

Order alarms card software. (1 version)

X6905A - *Netra t Alarms card software for use with Solaris 2.5.1 and 2.6*

For Solaris 7 supported version an electronic copy is available. See configuration guidelines.

Sun Netra t 1120/ Netra t 1125 ATO Ordering Flow Chart

(continued)

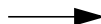
Each step represents a line item on a Sales Order.



Step 7 - optional

Add up to 4 PCI card(s)

Order either a maximum of 3 5V PCI cards plus one universal voltage card or a maximum of 4 universal cards. See configuration guidelines for further information.



1032A - PCI 10/100BASET (5V card - Max 3)
 1033A - PCI 10/100BASET NIC 2 (Universal - Max 4)
 1034A - PCI QFE WISW (Universal - Max 4)
 1155A - PCI HSI/P 2.0 (5V card - Max 3)
 1156A - PCI SAI/P (Universal - Max 4)
 1157A - PCI SUN ATM/P-155MMF W/SW
 - Solaris 2.6 and Solaris 7 only - (Universal - Max 4)
 6541A - PCI ULTRASCSI DIFF CR (Universal - Max 4)



For N03 Orders Only - Step 8 - required

Add Power Cord Kit

Order 1 power cord kit



X311L - North American Power cord
 X312L - Continental Europe Power cord
 X314L - Swiss Power cord
 X317L - UK Power cord
 X383L - Danish Power cord
 X384L - Italian Power cord
 X386L - Australian Power cord



Step 9 - optional

Add Mount Kits

Order one or two rack mount kits. Each kit contains four flanges, two handles and screws. Two 19-inch rack-mount kits with handles are included with every system order.



Either:
 X6901A - 19-inch kit (included in ship kit)
 X6902A - 23-inch kit
 X6903A - 24-inch kit
 X6904A - 600mm kit



Step 10 - optional

Add Rack-mount slide adaptor For Sun Racks only

Each kit contains 2 sliders, adapters and screws



X6914A - 2 Slides, adaptor for use in Sun Rack and screws. Common to Netra t 1120-1125, and Netra t 1400 and 1405.



Step 11 - optional

Add Software

Order the relevant Server version of Solaris



Part numbers for Solaris for servers begin with SOLS-
 Solaris 2.5.1, Solaris 2.6 and Solaris 7 are available.
 Please see options or configtool for confirmation

Sun Netra t 1120 Fixed Config Ordering Flow Chart

Each step represents a line item on a Sales Order.

Step 1 - required

Order a base configuration

Choose between single- or dual-processor system.

Either:

N04-UEC1-9S-256AT - *Netra t 1120 1 x 300MHz
18.2GB/10Krpm disk, 256MB memory*

N04-ULD1-9S-256AT - *Netra t 1120 1 x 440MHz,
18.2GB/10Krpm disk, 256MB memory*

N04-UEC2-9N-512CX - *Netra t 1120 2 x 300MHz,
18.2GB/10Krpm disk, 512MB memory*

N04-ULD2-9S-512AT - *Netra t 1120 2 x 440MHz,
18.2GB/10Krpm disk, 512MB memory*



Step 2 - optional

Add Rack Mount Kits

Order rack mount kits for alternative sized racks.
Each kit contains four flanges and two handles.
19inch rack-mount kits are included with every
system order.

Either:

X6901A - *19-inch kit (included in ship kit)*

X6902A - *23-inch kit*

X6903A - *24-inch kit*

X6904A - *600mm kit*



Step 3 - optional

Add Rack-mount slide adaptor For Sun Racks only

Each kit contains 2 sliders, adaptors and screws.

X6914A - *2 Slides, adapter for use in Sun Rack and
screws. Common to Netra t 1120-1125, and Netra t
1400 and 1405.*



Step 4 - optional

Alarms Card

Order alarms card software.

X6905A - *Netra t Alarms card software for use with
Solaris 2.5.1 and 2.6*

For Solaris 7 supported version an electronic copy is
available. See configuration guidelines.



Step 5 - optional

Storage Disk Drives (internal)

Order internal disk drive X-options. (Max 2 disks)

X5237A - *18.2-Gbyte internal 10K RPM SCSI disk*



Step 6 - optional

Add Memory

Netra t 1120 supports up to 2-Gbyte of memory. For
best performance, install in groups of 4 SIMMs.

X7003A - *128-Mbyte Memory (2 x 64MB SIMMs)*

X7004A - *256-Mbyte Memory (2 x 128MB SIMMs)*

Sun Netra t 1120 Fixed Config Ordering Flow Chart *(continued)*

Each step represents a line item on a Sales Order.



Step 7 - optional

Add 2nd processor

Add 2nd 300MHz (300MHz base system) or 440MHz (440MHz base system) processor module (applies to one processor base package only)
Processor speeds can not be mixed



X1191A - 300MHz UltraSPARC-II with 2MB L2 cache
X1197A - 440MHz UltraSPARC-II with 4MB L2 cache



Step 8 - optional

Add Removable Media devices

Add DAT Tape and/or CD-ROM drive
Max - 1 each



X6911A - 32x internal CD-ROM Drive
X6912A - 12-24GB 4mm DDS-3 Internal Tape Drive



Step 9 - optional

Add Software

Order the relevant Server version of Solaris



Part numbers for Solaris for servers begin with SOLS-
Solaris 2.5.1, Solaris 2.6 and Solaris 7 are available.
Please see pricelist or configtool for confirmation

Sun Netra t 1125 Ordering Flow Chart

Each step represents a line item on a Sales Order.

Step 1 - required

Order a base configuration

Either:

N03-UEC1-9S-256AT - *Netra t 1125 1 x 300MHz, 18.2GB/10Krpm disk, 256MB memory*
 N03-ULD1-9S-256AT - *Netra t 1125 1 x 440MHz, 18.2GB/10Krpm disk, 256MB memory*
 N03-UEC2-9N-512CX - *Netra t 1125 2 x 300MHz, 18.2GB/10Krpm disk, 512MB memory*
 N03-ULD2-9S-512AT - *Netra t 1125 2 x 440MHz, 18.2GB/10Krpm disk, 512MB memory*



Step 2 - optional

Add Rack Mount Kits

Order rack mount kits for alternative sized racks. Each kit contains four flanges and two handles. 19inch rack-mount kits are included with every system order.

Either:

X6901A - *19-inch kit (included in ship kit)*
 X6902A - *23-inch kit*
 X6903A - *24-inch kit*
 X6904A - *600mm kit*



Step 3 - optional

Add Rack-mount slide adaptor For Sun Racks only

Each kit contains 2 sliders, adaptors and screws.

X6914A - *2 Slides, adapter for use in Sun Rack and screws. Common to Netra t 1120-1125, and Netra t 1400 and 1405.*



Step 4 - optional

Alarms Card

Order alarms card software.

X6905A - *Netra t Alarms card software for use with Solaris 2.5.1 and 2.6*

For Solaris 7 supported version an electronic copy is available. See configuration guidelines.



Step 5 - optional

Storage Disk Drives (internal)

Order internal disk drive X-options. (Max 2 disks)

X5237A - *18.2-Gbyte internal 10K RPM SCSI disk*



Step 6 - optional

Add Memory

Netra t 1120 supports up to 2-Gbyte of memory. For best performance, install in groups of 4 DIMMs.

X7003A - *128-Mbyte Memory (2 x 64MB SIMMs)*
 X7004A - *256-Mbyte Memory (2 x 128MB SIMMs)*

Sun Netra t 1125 Ordering Flow Chart *(continued)*

Each step represents a line item on a Sales Order.

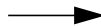


Step 7 - optional

Add 2nd processor

Add 2nd 300MHz (300MHz base system) or 440MHz (440MHz base system) processor module (applies to one processor base package only)

Processor speeds can not be mixed



X1191A - 300MHz UltraSPARC-II with 2MB L2 cache

X1197A - 440MHz UltraSPARC-II with 4MB L2 cache



Step 8 - optional

Add Removable Media devices

Add DAT Tape and/or CD-ROM drive

Max - 1 each



X6911A - 32x internal CD-ROM Drive

X6912A - 12-24GB 4mm DDS-3 Internal Tape Drive



Step 9 - optional

Add Software

Order the relevant Server version of Solaris



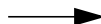
Part numbers for Solaris for servers begin with SOLS-
Solaris 2.5.1, Solaris 2.6 and Solaris 7 are available.
Please see pricelist or configtool for confirmation



Step 10 - required

Add Power cord:

Order additional power cord



The Netra t 1125 (AC version) requires an additional power cord:

X311L - North American/Asian Power cord kit

X312L - Continental Europe Power cord kit

X314L - Swiss Power cord kit

X317L - UK Power cord kit

X383L - Danish Power cord kit

X384L - Italian Power cord kit

X386L - Australian Power cord kit

Sun Netra t 1120/ Netra t 1125 Configuration Guidelines

Base Packages

- Netra t 1125 is an AC simplex telco server - Base part number N03-AA.
- Netra t 1120 is a DC simplex telco server - Base part number N04-AA.
- The base part includes the chassis, power supply (AC for N03-AA and DC for N04-AA), alarms card, 19inch rack mount kit (4 flanges and 2 handles), the full english version manual set and jump start software for Solaris. DC kit includes DC connectors.
- All X-Options can be added to fully configured systems with Fixed Configurations (eg. N03-UEC1-9N-128AE) except for Processor and memory modules. Check with ConfigTool for confirmation.
- There is a limit of 1 system per line item on the sales order.

Processor

- The Netra t 1120 supports a maximum of 2 UltraSPARC-II processor modules.

Memory

- Minimum of 4 SIMMs (bought in pairs), maximum of 16 SIMMs (eight pairs).
- Memory should be installed in like groups of four SIMMs per bank to allow interleaving.

Rack Mount Kits

- A kit for 19 inch rack mounting is automatically shipped with the base system (not fitted). The kit contains four flanges, two handles and fittings. If a different size rack mount kit is required discard the flanges from this kit. You can use up to four flanges per system on a rack with front and rear fixing points on each side. X-Option rack mount kits contain four flanges suitable for use in front, mid or rear positions. Two handles are included. Mounting locations are also provided for industry standard rails.

Disk

- A minimum of 1 Disk must be ordered. The maximum is two internal disk drives.

Removable Media - CD-ROM and DAT Tape drive

- The base configurations feature two RMM slots. One can house a CD-ROM and the other a DAT Tape Drive.
- Maximum 1 CD-ROM, or 1 DAT Tape Drive or 1 CD-ROM and 1 DAT tape.
- No floppy disk support.

PCI

- There are four slots for PCI cards.
 - Slot 1 (PCI 66 on far right) holds a Universal card operating at 33 or 66MHz, 64 or 32 bit.
 - Slots 2-4 hold either 5V or Universal cards operating at 33MHz, 64 or 32 bit.
- PCI cards which have not be tested to be NEBs certified are only available as X-Options and cannot be ordered to be assembled in the factory. These cards can be added to the system as an X-Option but further testing may be necessary to ensure they do not invalidate the NEBs certification. Only the PCI cards shown in the Order Flow Chart are NEBs certified. The extra cards, shown in the X-Option list, will be packaged separately and must be added by the customer.
- The Gigabit Ethernet PCI card has a maximum limit of two cards due to bandwidth constraints. Four of these can be fitted if two are not active and only used in a redundant pair.

Sun Netra t 1120/ Netra t 1125 Configuration Guidelines

(continued)

PCI card voltage requirements

| | | |
|--------|--|-------------|
| X1032A | OPT INT PCI 10/100BASET NIC | -5V |
| X1155A | OPT IN SUNHSVP 2.0 | -5V |
| X1152A | OPT INT SUNFDDI/P SAS 2.0 | -5V |
| X1153A | OPT INT SUNFDDI/P DAS 2.0 | -5V |
| X1033A | OPT INT PCI 10/100BASET NIC 2 | - Universal |
| X1044A | OPT INT GIGABIT PCI ADAPTER | - Universal |
| X1154A | OPT INT SUNTRI/P | - Universal |
| X1156A | OPT INT SUNSA1/P | - Universal |
| X6541A | OPT INT PCI ULTRASCSI DIFF CR | - Universal |
| X1157A | OPT PCI SUNATM/P-155MMF W/SW for Solaris 7 | - Universal |
| X1141A | OPT GIGABIT PCI Adapter | - Universal |
| X1034A | OPT QFE PCI W/SW | - Universal |

- If bandwidth constraints physically allow, a configuration may contain 4 universal voltage cards or three 5V cards and one universal card. A 5V card can only fit in any of the three 5V PCI slots. A universal voltage card can fit in any of the four slots.

AUI

- Sun Netra t 1120 has an MII connector in place of an AUI connector. Customers need to order an MII-AUI adapter if the environment requires connection to an external transceiver through an AUI connection (see the Options section).

SCSI

- The Sun Netra t 1120 and 1125 have an UltraSCSI connector (68-pin). Customers need to order an external SCSI adapter cable if external narrow SCSI devices are to be connected to the system (see the Options section).

Software

- The English version of JumpStart for Solaris will be installed on each system in the factory. Versions of Solaris 2.6 and Solaris 7 are available on CD. If these are ordered they must be installed by the customer. If Solaris 7 is used ensure X1066A and X6905A are NOT ordered.
- Alarms software for Solaris 7 is available electronically at <http://www.sun.co.uk/Netrat>

Clustering

- Clustering software is available for the Netra t 1120 and the Netra t 1125. Please see URL <http://sun-www.ebay/clusters/> or URL <http://suncluster.eng.sun.com/> for further details. Part numbers are available in the Netra t 1120/1125 Configuration tool and the X-Option list below.

Storage

- Netra st A1000 and Netra st D1000 are supported with Netra t 1120 and 1125. The Netra st A1000 is a Telecom RAID storage array for telco/ISP. The Netra st D1000 is a non-RAID (JBOD) storage array for telco/ISP. These storage units are available in AC power or DC power configurations. The connection can be made with X6541 - UD2S PCI Dual Port UltraSCSI Host Bus Adapter. See Netra st section for further details.

Sun Netra t 1120/ Netra t 1125 Configuration Guidelines

(continued)

Other notes

- Other storage devices available for the Ultra 60 can be ordered for use with the Netra t 1125 but are not NEBS certified, not DC powered and not necessarily rack-mountable.
- An English Language version of the manual set is included with every system. Installation Guide, Service Manual, System Reference Manual and the Users Guide are included.
- Electronic copies of the Manual set in .PDF format for the following languages are available on request: English, French, German, Italian, Spanish, Swedish, Cantonese, and Simplified Chinese. Go to <http://cleese.uk/DOCS> information.
- System and Memory upgrades are available from the Upgrade section.

Special configurations

- Higher availability configurations can be created including Netra st D1000 RAID Storage array or Netra st A1000 Disk array and Sun cluster 2.2 with Netra ts. Please contact Waiming Mok (x49512) for further details on Clustering and NEBS certified storage products.

Sun Netra t 1120 Telco Servers

| Description | Order Number |
|---|--------------------------------|
| Base Packages Netra t 1120 - Fixed Configuration | |
| Netra t 1120, Single processor 300MHz, 256MB RAM, 18.2GB/10Krpm ,Rackmountable, Telco Alarm Card; 19inch Rack Mount kit. DC Internal Power Supply. NEBS certification Level 3 for Central Office, 4 PCI Slot, No graphics, no audio. | N04-UEC1-9S-256AT ¹ |
| Netra t 1120, Single processor 440MHz, 256MB RAM, 18GB Int Disk 2 slots for removable media devices ,Rackmountable, Telco Alarm Card:- minor,major,critical. -48/60VDC Power Supply dual input NEBS certification Level 3 for Central Office 4 PCI Slots, No graphics, no audio. 19 inch Rack Mount Kit. | N04-ULD1-9S-256AT ¹ |
| Netra t 1120, Dual processor BB+ 300MHz, 512MB RAM, 18.2GB/10K Rackmountable, Telco Alarm Card; 19inch Rackmount Kit. DC Internal Power Supply NEBS certification Level 3 for Central Office, 4 PCI Slot, No graphics, no audio. | N04-UEC2-9N-512CX |
| Netra t 1120, Dual processor BB+ 440MHz, 512MB RAM, 18GB Disk 2 slots for removable media devices Rackmountable, Telco Alarm Card:- minor,major,critical -48/60VDC Power Supply dual input NEBS certification Level 3 for Central Office 4 PCI Slots, No graphics, no audio. 19 inch Rack Mount Kit. FAST AVAILABILTY | N04-ULD2-9S-512AT ¹ |
| Base Packages Netra t 1125 - Fixed Configuration | |
| Netra t 1125, Single processor 300MHz, 256MB RAM, 18.2GB/10Krpm ,Rackmountable, Telco Alarm Card; 19inch Rack Mount kit. AC Internal Power Supply. NEBS certification Level 3 for Central Office, 4 PCI Slot, No graphics, no audio. | N03-UEC1-9S-256AT ¹ |
| Netra t 1125 (AC) Single processor 440MHz, 256MB RAM, 18GB Disk 2 slots for removable media devices Rackmountable, Telco Alarm Card:- minor,major,critical AC Power Supply dual input NEBS certification Level 3 for Central Office 4 PCI Slots, No graphics, no audio. 19 inch Rack Mount Kit. FAST AVAILABILTY | N03-ULD1-9S-256AT ¹ |
| Netra t 1125, Dual processor BB+ 300MHz, 512MB RAM, 18.2GB/10K Rackmountable, Telco Alarm Card; 19inch Rackmount Kit. AC Internal Power Supply NEBS certification Level 3 for Central Office, 4 PCI Slot, No graphics, no audio. | N03-UEC2-9N-512CX |
| Netra t 1125, Dual processor BB+ 440MHz, 512MB RAM, 18GB DisK Rackmountable, Telco Alarm Card; 19inch Rackmount Kit. AC Internal Power Supply NEBS certification Level 3 for Central Office, 4 PCI Slot, No graphics, no audio. FAST AVAILABILTY (Standard Configuration) | N03-ULD2-9S-512AT ¹ |
| <i>Note: Packages are delivered with Jumpstart Software based on Solaris 2.5.1. The alarm card software components are supplied separately on a CD-ROM and need to be installed.</i> | |

Footnote

1. Standard Configurations are Sun's recommended configurations.

Sun Netra t 1125 Telco Servers

| Description | Order Number |
|---|--------------|
| ATO Base for Netra t 1120 - Assemble to Order Base | |
| Netra t 1120, Base enclosure for Assemble to order configuration (chassis/motherboard/Alarms/ AC PSU) + DOCS + Rack Kit (4 flanges/2 handles/2 screws) -48/60VDC Power Supply dual input NEBS certification Level 3 for Central Office Includes 4 19inch rackmount flanges with handles. | N04-AA |
| ATO Base for Netra t 1125 - Assemble to Order Base | |
| Netra t 1125, Base Enclosure (chassis/motherboard/Alarms/DC PSU) + DOCS + Rack Kit (4 flanges/ 2 handles/2 screws) AC Internal Power Supply NEBS certification Level 3 for Central Office, 4 PCI Slot, No graphics, no audio. Includes 4 19inch rackmount flanges with handles. | N03-AA |

Sun Netra t 1120/Netra t 1125 Options

| Description | Order Number |
|--|---------------------|
| Processor | |
| UltraSPARC-II 300MHz processor module w/ 2MB cache | X1191A |
| 440MHz UltraSPARC-II/4MB ecache | X1197A |
| Memory | |
| Sun Ultra Systems Memory 128-Mbyte Memory Expansion (2 x 64-Mbyte DIMMs) OEM ready - 04/97 | X7003A ¹ |
| Sun Ultra Systems Memory 256-Mbyte Memory Expansion (2 x 128-Mbyte DIMMs) OEM ready - 04/97 | X7004A ¹ |
| <i>Note: Additional memory must be installed in groups of 4 same-sized SIMMs.</i> | |
| Internal Disk Drives | |
| Internal 18.2-Gbyte, 10000 RPM UltraSCSI disk drive, 1" high | X5237A ¹ |
| Internal Removable Media Drives | |
| 32x internal CD-ROM drive ATO Option, medium server grey | X6911A ¹ |
| 12GB 4mm DDS-3 internal tape drive | X6912A ¹ |
| Alarms Software CD | |
| Netra t 1100 and 1120 Alarms Card software driver, media (fully internationalized) OEM ready - 05/98 | X6905A ¹ |

Footnote

1. This product is OEM-Ready, please refer to the "Ordering Policies and Guidelines" section page 1-1.

Sun Netra t 1120/Netra t 1125 Options *(continued)*

| Description | Order Number |
|--|---------------------|
| Rackmount Kits | |
| 19 inch rack mount kit for Netra t 1125 or 1120 The kit contains four flanges, two handles & flange fixing screws that can be fitted at the front mid or rear section of the chassis and enables the system to be fitted into a 19 inch rack or frame. OEM ready - 10/97 | X6901A ¹ |
| 23 inch rack mount kit for Netra t 1125 or 1120 The kit contains four flanges, two handles and flange fixing screws that can be fitted to the front, mid or rear of the chassis and enables the system to be fitted into a 23 inch rack or frame. OEM ready - 10/97 | X6902A ¹ |
| 24 inch rack mount kit for Netra t 1125 or 1120. Kit contains four flanges, two handles & flange fixing screws to fit at the front, mid or rear section of the chassis and enables the system to be fitted into a 24 inch rack or frame. OEM ready - 10/97 | X6903A ¹ |
| 600mm rack mount kit for Netra t 1125 or 1120. Kit contains four flanges, two handles & flange fixing screws that can be fitted to front, mid or rear of the chassis and enables the system to be fitted into a 600mm rack or frame. OEM ready - 10/97 | X6904A ¹ |
| Two slide kits for fitting into 19-inches Sun racks, including an adaptor and screws. Common to Netra t 1120 - 1125, and Netra t 1400 and 1405. | X6914A ¹ |
| <i>Note: Base configurations are not fitted with 19inch rackmount flanges. Kits contain four vertical flanges for fitting in front, mid or rear locations. Mounting locations are also provided for industry standard rails.</i> | |
| Consumables | |
| Pack of 10 replacement air-filters for Netra t 1120/1125 servers. | X6913A |

Footnote

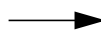
1. This product is OEM-Ready, please refer to the "Ordering Policies and Guidelines" section page 1-1.

Sun Netra t 1400/ Netra t 1405 ATO Ordering Flow Chart

Each step represents a line item on a Sales Order.

Step 1 - required

Order a base configuration:
Choose between AC or DC system.
Note - all base units contain 3 power supplies



Either:
N14-AA - *Netra t 1405 (AC)*
N15-AA - *Netra t 1400 (DC)*



Step 2 - required

Add 1 or 2 or 3 or 4 processors
Add 440MHz processor module(s) (Max 4)

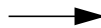


1197A - *440MHz UltraSPARC-II with 4MB L2 cache*



Step 3 - required

Add 2 to 8 pairs of Memory
From 256MB up to 4-GB of memory. Must install in groups of 4 DIMMs. Must be at least two pairs. (Max 16 DIMMs - 8 pairs)

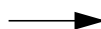


7043A - *128-Mbyte Memory (2 x 64MB SIMMs)*
7005A - *512-Mbyte Memory (2 x 256MB SIMMs)*



Step 4 - required

Add 1 or 4 Storage Disk Drives (internal)
Order internal disk drive(s). (Max 4 Disks)

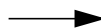


5237A - *18.2-Gbyte internal 10K RPM SCSI disk*



Step 5 - optional

Add Removable Media devices
Add 1 DAT Tape and/or 1 CD-ROM drive (Max 1 each)

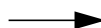


6911A - *32x internal CD-ROM Drive*
6912A - *12-24GB 4mm DDS-3 Internal Tape Drive*



Step 6 - optional

Add Alarms Card Software
Order alarms card software (LOMlite CD). (1 version)



X7077A - *Netra t Alarms card software*
CD that contains the alarms driver/utilities and VTS for Solaris 2.6 and Solaris 7. See configuration guidelines.

Sun Netra t 1400/ Netra t 1405 ATO Ordering Flow Chart

(continued)

Each step represents a line item on a Sales Order.



Step 7 - optional

Add up to 4 PCI card(s)

Maximum of 3 5V PCI cards (one further Universal voltage card can be added) or Max 4 Universal voltage cards. See configuration guidelines for further info.

1032A - PCI 10/100BASET (5V card - Max 3)
 1033A - PCI 10/100BASET NIC 2 (Universal - Max 4)
 1034A - PCI QFE W/SW (Universal - Max 4)
 1155A - PCI HSI/P 2.0 (5V card - Max 3)
 1156A - PCI SA1/P (Universal - Max 4)
 1157A - PCI SUN ATM/P-155MMF W/SW
 - Solaris 2.6 and Solaris 7 only - (Universal - Max 4)
 6541A - PCI ULTRASCSI DIFF CR (Universal - Max 4)



Step 8 - required for N14 Only

Add Power Cord Kit

Order 3 power cords

Either:

X311L - North American Power cord
 X312L - Continental Europe Power cord
 X314L - Swiss Power cord
 X317L - UK Power cord
 X383L - Danish Power cord
 X384L - Italian Power cord
 X386L - Australian Power cord



Step 9 - optional

Add Mount Kits

Each kit contains four flanges, two handles and screws. A 19-inch rackmount kit is included with every system order.

Either:

X7071A - four 19-inch kit flanges two handles and screws (included in ship kit)
 X7072A - four 23-inch kit flanges two handles and screws
 X7073A - four 24-inch kit flanges two handles and screws
 X7074A - four 600mm kit flanges two handles and screws



Step 10 - optional

Add Rack-mount slide adaptor For Sun Racks only

Each kit contains 2 sliders, adapters and screws

X6914A - 2 Slides, adaptor for use in Sun Rack and screws. Common to Netra t 1120-1125, and Netra t 1400 and 1405.



Step 11 - optional

Add Software

Order the relevant Server version of Solaris

Part numbers for Solaris for servers begin with SOLS-
 Solaris 7 is available.
 Please see options or configtool for confirmation

Sun Netra t 1400 Fixed Config Ordering Flow Chart

Each step represents a line item on a Sales Order.

Step 1 - required

Order a base configuration

Choose between single,dual, or quad-processor system.

Note - all base units contain 3 power supplies.

Either:

N15-ULD1-9S-256AT:Netra t 1400, 1P,256MB, 1 disk
N15-ULD2-9S-512AT:Netra t 1400,2P,512MB, 2 disks
N15-ULD2-9S-1024AT:Netra t 1400,2P,1GB, 2 disks
N15-ULD4-9S-1024AT:Netra t 1400, 4P,1GB, 2 disks



Step 2 - optional

Add Rack Mount Flange Kits

Each kit contains four flanges and two handles and screws. A 19inch rack-mount kit is included with every system order.

Either:

X7071A - four 19-inch kit flanges two handles and screws (included in ship kit)
X7072A - four 23-inch kit flanges two handles and screws
X7073A - four 24-inch kit flanges two handles and screws
X7074A - four 600mm kit flanges two handles and screws



Step 3 - optional

Add Rack-mount slide adaptor kit

Only for 19-inch Sun racks.

X6914A - Two slide kits for fitting into 19-inch Sun racks, including an adaptor and screws.



Step 4 - optional

Alarms Card Software

Order alarms card software (LOMlite CD) (1 version).

X7077A - Netra t Alarms card software

CD that contains the alarms driver/utilities and VTS for Solaris 2.6 and Solaris 7. See configuration guidelines.



Step 5 - optional

Storage Disk Drives (internal)

Add 1 to 4

Order internal disk drive(s). (Max 4 disks)

X5237A - 18.2-Gbyte internal 10K RPM SCSI disk



Step 6 - optional

Add Memory

Add 2 to 8 pairs

From 256MB up to 4GB of memory. Must install in groups of 4 DIMMs. Must be at least two pairs (Max 16 DIMMS - 8 pairs).

X7043A - 128-Mbyte Memory (2 x 64MB SIMMs)

X7005A - 512-Mbyte Memory (2 x 256MB SIMMs)

Sun Netra t 1400 Fixed Config Ordering Flow Chart *(continued)*

Each step represents a line item on a Sales Order.



Step 7 - optional

Add 1 or 2 or 3 or 4 processor

Add 440MHz processor module(s) (Max 4 processors)



X1197A - 440MHz UltraSPARC-II with 4MB L2 cache



Step 8 - optional

Add Removable Media devices

Add 1 DAT Tape and/or CD-ROM drive (Max 1 each)



X6911A - 32x internal CD-ROM Drive
X6912A - 12-24GB 4mm DDS-3 Internal Tape Drive

Sun Netra t 1405 Fixed Config Ordering Flow Chart

Each step represents a line item on a Sales Order.

Step 1 - required

Order a base configuration

Choose between single, dual or quad processor system.

Note - all base units contain 3 power supplies.

Either:

N14-ULD1-9S-256AT: *Netra t 1405, 1P, 256MB, 1 disk*
 N14-ULD2-9S-512AT: *Netra t 1405, 2P, 512MB, 2 disks*
 N14-ULD2-9S-1024AT: *Netra t 1405, 2P, 1GB, 2 disks*
 N14-ULD4-9S-1024AT: *Netra t 1405, 4P, 1GB, 2 disks*



Step 2 - optional

Add Rack Mount Flange Kits

Each kit contains four flanges and two handles and screws. A 19inch rack-mount kit is included with every system order.

Either:

X7071A - *four 19-inch kit flanges two handles and screws (included in ship kit)*
 X7072A - *four 23-inch kit flanges two handles and screws*
 X7073A - *four 24-inch kit flanges two handles and screws*
 X7074A - *four 600mm kit flanges two handles and screws*



Step 3 - optional

Add Rack-mount slide adaptor kit

Only for 19-inch Sun racks.

X6914A - *Two slide kits for fitting into 19-inch Sun racks, including an adaptor and screws.*



Step 4 - optional

Alarms Card Software

Order alarms card software (LOMlite CD) (1 version).

X7077A - *Netra t Alarms card software*

CD that contains the alarms driver/utilities and VTS for Solaris 2.6 and Solaris 7. See configuration guidelines.



Step 5 - optional

Storage Disk Drives (internal)

Add 1 to 4

Order internal disk drive(s). (Max 4 disks)

X5237A - *18.2-Gbyte internal 10K RPM SCSI disk*



Step 6 - optional

Add Memory

Add 2 to 8 pairs

From 256MB up to 4GB of memory. Must install in groups of 4 DIMMs. Must be at least two pairs (Max 16 DIMMS - 8 pairs).

X7043A - *128-Mbyte Memory (2 x 64MB SIMMs)*

X7005A - *512-Mbyte Memory (2 x 256MB SIMMs)*

Sun Netra t 1405 Fixed Config Ordering Flow Chart *(continued)*

Each step represents a line item on a Sales Order.



Step 7 - optional

Add 1 or 2 or 3 or 4 processor

Add 440MHz processor module(s) (Max 4 processors)



X1197A - 440MHz UltraSPARC-II with 4MB L2 cache



Step 8 - optional

Add Removable Media devices

Add 1 DAT Tape and/or CD-ROM drive (Max 1 each)



X6911A - 32x internal CD-ROM Drive

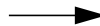
X6912A - 12-24GB 4mm DDS-3 Internal Tape Drive



Step 9 - Order Power Cord Kit (required)

Add power cord kit

Order three power cord



X311L - N.American Power Cord

X312L - Continental Europe Power cord

X314L - Swiss Power cord

X317L - UK Power cord

X383L - Danish Power Cord

X384L - Italian Power cord

Sun Netra t 1400/ Netra t 1405 Configuration Guidelines

Base Packages

- Netra t 1405 is an AC simplex telco server - Base part number N14-AA.
- Netra t 1400 is a DC simplex telco server - Base part number N15-AA.
- The base part includes the chassis, three power supplies (AC for N14-AA and DC for N15-AA), alarms card, 19-inch rack mount kit (4 flanges and 2 handles), the full English version manual set and JumpStart software for Solaris.

Processor

- The Netra t 1400 and 1405 support a maximum of 4 UltraSPARC-II processor modules.

Memory

- Minimum of 4 DIMMs (two pairs). Maximum of 16 DIMMs (eight pairs).
- Memory must be installed in groups of four DIMMs per bank to allow interleaving.

Rack Mount Flange Kits

- A kit for 19-inch rack mounting is automatically shipped with the base system (not fitted). The kit contains two pairs of flanges, two handles and fittings. If a different size rack mount kit is required discard the flanges from this kit. The rack mounting kit X-option also contains two pairs of flanges, two handle and fittings. The system can be mounted at front and rear, or at mid-side location. Mounting locations are also provided for other size industry standard rails.

Rack Mount Slide Adaptor Kit

- A slide kit for fitting into 19-inches rack including an adaptor for Sun racks.

Facia Kit

- Plastic facia kit to replace front facias which have been accidently damaged. The Netra t 1400/1405 badges are included to be added by customers as appropriate.

Air Filter Pack

- Contains 10 foam filter to replace used filters in the system.

Disk

- A minimum of 1 Disk must be ordered. The maximum is four internal disk drives.

Removable Media - CD-ROM and DAT Tape drive

- The base configurations feature two RMM slots. One can house a CD-ROM and the other a DAT Tape Drive.
- No floppy disk support.

PCI

- There are four slots for PCI cards.
 - The first slot is 64-bit, 33/66 MHz and support 5V/3.3V, 3.3 signalling.
 - The second and third slot are 32/64-bit, 33 MHz and support 5V/3.3V, 5V signalling.
 - The fourth slot is 32-bit, 33 MHz, and support support 5V/3.3V, 5V signalling.
- Slot 1 on the right hand side when viewed from the back, holds the 5 volt/universal voltage, 33 MHz, 32 bit PCI card. Slots 2 and 3, in the middle, hold the 3.3V/universal voltage 33MHz/66MHz 32or 64 PCI cards. Slot 4 is on the left of the other three slots when viewed from the back of the system and holds the 32bit 5V PCI card.
- PCI cards which have not be tested to be NEBS certified are only available as X-Options and cannot be ordered to be assembled in the factory. These cards can be added to the system as an X-Option but further testing to the whole system may be necessary to ensure they do not invalidate the NEBS certification. Only the PCI cards shown in the order flow chart have been NEBS certified with the system. The extra cards, shown in the X-Option list, will be packaged separately and must be added by the customer.
- Netra t 1400/1405 Performance details: 33/66-MHz clock / 64bit wide 133-MB/sec bandwidth (peak).
- The Gigabit Ethernet PCI card and the ATM 622 PCI cards both have a maximum limit of two cards due to bandwidth constraints. Four of these can be fitted if two are not active and only used in a redundant pair.

Sun Netra t 1400/ Netra t 1405 Configuration Guidelines

(continued)

PCI card voltage requirements

| | | |
|--------|--|----------------------|
| X1032A | OPT INT PCI 10/100BASET NIC | -5V Note - MAXIMUM 3 |
| X1155A | OPT IN SUNHSVP 2.0 | -5V |
| X1152A | OPT INT SUNFDDI/P SAS 2.0 | -5V |
| X1153A | OPT INT SUNFDDI/P DAS 2.0 | -5V |
| X1033A | OPT INT PCI 10/100BASET NIC 2 | - Universal |
| X1044A | OPT INT GIGABIT PCI ADAPTER | - Universal |
| X1154A | OPT INT SUNTRI/P | - Universal |
| X1156A | OPT INT SUNSA1/P | - Universal |
| X6541A | OPT INT PCI ULTRASCSI DIFF CR | - Universal |
| X1157A | OPT PCI SUNATM/P-155MMF W/SW for Solaris 7 | - Universal |
| X1141A | OPT GIGABIT PCI Adapter | - Universal |
| X1034A | OPT QFE PCI W/SW | - Universal |

- If bandwidth constraints physically allow, a configuration may contain 4 universal voltage cards or three 5V cards and one universal card. A 5V card can only fit in any of the three 5V PCI slots. A universal voltage card can fit in any of the four slots.

Ethernet

- Sun Netra t 1400/1405 only has an Ethernet connector.

SCSI

- The Sun Netra t 1400/1405 has an UltraSCSI connector (68-pin). Customers need to order an external SCSI adapter cable if external narrow SCSI devices are to be connected to the system (see the Options section).

Software

- The English version of Jumpstart for Solaris 7 will be installed on each system in the factory. Versions of Solaris 7 are available on CD. If these are ordered they must be installed by the customer.

Clustering

- Clustering software is available for the Netra t 1400 and the Netra t 1405. Please see URL <http://www.sun.com/clusters/> or URL <http://sunccluster.eng.sun.com/> for further details. Part numbers are available in the Netra t 1400/1405 Configuration tool and the X-Option list below.

Storage

- Netra st A1000 and Netra st D1000 are supported with Netra t 1400 and 1405. The Netra st A1000 is a Telecom RAID storage array for telco/ISP. The Netra st D1000 is a non-RAID (JBOD) storage array for telco/ISP. These storage units are available in AC power or DC power configurations. The connection can be made with X6541 - UD2S PCI Dual Port UltraSCSI Host Bus Adapter. See Netra st price book for further details.

Other notes

- Power cords are not supplied on the Netra t 1400 because this equipment uses DC power inputs for -48/60 volt. Connectors are included in the installation pack.
- An English Language version of the manual set is included with every system. Installation and User Guide, Service and System Reference Manual, and the Complaints and Safety are included.
- Electronic copies of the Manual set for the following languages are available on request: English, French, German, Italian, Spanish, Swedish, Cantonese, Korean and Simplified Chinese. Go to <http://cleese.uk/DOCS>.
- Compliance and Safety Manual is localized in English, French, German, Italian, Spanish, Swedish, Cantonese, Korean and Simplified Chinese.
- System and Memory upgrades are available from the Upgrade price book.

Sun Netra t 1400 Telco Server

| Description | Order Number |
|--|---------------------------------|
| Base Packages Netra t 1400 - Fixed Configuration | |
| Netra t 1400 (DC) Single processor 440MHz, 256MB RAM, 18GB Disk 2 slots for removable media devices Rackmountable, Telco Alarm Card:- minor,major,critical -48/60VDC Power Supply dual input NEBS compliant Level 3 for Central Office 4 PCI Slots, No graphics, no audio. 19 inch Rack Mount Kit. | N15-ULD1-9S-256AT ¹ |
| Netra t 1400 (DC) Dual processor 440MHz, 512MB RAM, two 18GB Disks 2 slots for removable media devices Rackmountable, Telco Alarm Card:- minor,major,critical -48/60VDC Power Supply dual input NEBS compliant Level 3 for Central Office 4 PCI Slots, No graphics, no audio. 19 inch Rack Mount Kit. FAST AVAILABLITY | N15-ULD2-9S-512AT ¹ |
| Netra t 1400 (DC) Dual processor 440MHz, 1GB RAM, two 18GB Disks 2 slots for removable media devices Rackmountable, Telco Alarm Card:- minor,major,critical -48/60VDC Power Supply dual input NEBS compliant Level 3 for Central Office 4 PCI Slots, No graphics, no audio. 19 inch Rack Mount Kit. | N15-ULD2-9S-1024AT |
| Netra t 1400 (DC) Quad processor 440MHz, 1GB RAM, two 18GB Disks 2 slots for removable media devices Rackmountable, Telco Alarm Card:- minor,major,critical -48/60VDC Power Supply dual input NEBS compliant Level 3 for Central Office 4 PCI Slots, No graphics, no audio. 19 inch Rack Mount Kit. | N15-ULD4-9S-1024AT ¹ |
| ATO Base for Netra t 1400 - Assemble to Order Base | |
| Netra t 1400, Base enclosure for Assemble to order configuration (chassis/motherboard/Alarms/ 3x DC PSU's) +DOCS +Rack Kit (4 x flanges/2 handles/2 screws) 3 x -48/60VDC PSU dual input NEBS compliant Level 3 for Central Office | N15-AA |

Footnote

1. Standard Configurations are Sun's recommended configurations.

Sun Netra t 1405 Telco Server

| Description | Order Number |
|---|---------------------------------|
| Base Packages Netra t 1400 - Fixed Configuration | |
| Netra t 1405 (AC) Single processor 440MHz, 256MB RAM, 18GB Disk 2 slots for removable media devices Rackmountable, Telco Alarm Card:- minor,major,critical, three 100-240VAC Power Supplies NEBS certification Level 3 for Central Office 4 PCI Slots, No graphics, no audio. 19 inch Rack Mount Kit. | N14-ULD1-9S-256AT ¹ |
| Netra t 1405 (AC) Dual processor 440MHz, 512MB RAM, two 18GB Disks 2 slots for removable media devices Rackmountable, Telco Alarm Card:- minor,major,critical, three 100-240VAC Power Supplies NEBS certification Level 3 for Central Office 4 PCI Slots, No graphics, no audio. 19 inch Rack Mount Kit. FAST AVAILABILITY | N14-ULD2-9S-512AT ¹ |
| Netra t 1405 (AC) Dual processor 440MHz, 1GB RAM, two 18GB Disks 2 slots for removable media devices Rackmountable, Telco Alarm Card:- minor,major,critical, three 100-240VAC Power Supplies NEBS certification Level 3 for Central Office 4 PCI Slots, No graphics, no audio. 19 inch Rack Mount Kit. | N14-ULD2-9S-1024AT |
| Netra t 1405 (AC) Quad processor 440MHz, 1GB RAM, two 18GB Disks 2 slots for removable media devices Rackmountable, Telco Alarm Card:- minor,major,critical, three 100-240VAC Power Supplies NEBS certification Level 3 for Central Office 4 PCI Slots, No graphics, no audio. 19 inch Rack Mount Kit. FAST AVAILABILITY (Standard Configuration) | N14-ULD4-9S-1024AT ¹ |
| ATO Base for Netra t 1400 - Assemble to Order Base | |
| Netra t 1405, Base Enclosure for Assemble to order configuration (chassis/motherboard/Alarms/3 x AC PSU's) +DOCs +Rack Kit(4 flanges 2 handles/screws) 3 x AC Internal Power Supplies NEBS certification Level 3 for Central Office, 4 PCI Slot, No graphics, no audio. | N14-AA |

Footnote

1. Standard Configurations are Sun's recommended configurations.

Sun Netra t 1400/Netra t 1405 Options

| Description | Order Number |
|--|---------------------|
| Processor | |
| 440MHz UltraSPARC-II/4MB ecache | X1197A |
| Memory | |
| Sun Ultra 5V Memory 128-Mbyte Memory Expansion (2 x 64-Mbyte DIMMs) | X7043A |
| 512-Mbyte Memory Expansion (2 x 256-Mbyte DIMMs) for Enterprise 450 Only | X7005A |
| <i>Note: Additional memory must be installed in groups of 4 same-sized SIMMs.</i> | |
| Internal Disk Drives | |
| Internal 18.2-Gbyte, 10000 RPM UltraSCSI disk drive, 1" high | X5237A ¹ |
| Internal Removable Media Drives | |
| 32x internal CD-ROM drive ATO Option, medium server grey | X6911A ¹ |
| 12GB 4mm DDS-3 internal tape drive | X6912A ¹ |
| Alarms Software CD | |
| Lights out management software driver for alarms card for Netra t 1400 & Netra t 1405 and Netra t1 model 100 & Netra t1 model 105 | X7077A ¹ |
| Rack Mount Flange Kits | |
| 19 inch rack mount kit for Netra t 1405 or 1400 The kit contains four flanges, two handles & flange fixing screws that can be fitted at the front mid or rear section of the chassis and enables the system to be fitted into a 19 inch rack or frame. | X7071A |
| 23 inch rack mount kit for Netra t 1405 or 1400 The kit contains four flanges, two handles & flange fixing screws that can be fitted at the front mid or rear section of the chassis and enables the system to be fitted into a 23 inch rack or frame. | X7072A |
| 24 inch rack mount kit for Netra t 1405 or 1400 The kit contains four flanges, two handles & flange fixing screws that can be fitted at the front mid or rear section of the chassis and enables the system to be fitted into a 23 inch rack or frame. | X7073A |
| 600mm rack mount kit for Netra t 1405 or 1400 The kit contains four flanges, two handles & flange fixing screws that can be fitted at the front mid or rear section of the chassis and enables the system to be fitted into a 600mm rack or frame. | X7074A |
| <i>Note: Kits contain four vertical flanges for fitting in front, mid size or rear locations.</i> | |

Footnote

1. This product is OEM-Ready, please refer to the "Ordering Policies and Guidelines" section page 1-1.

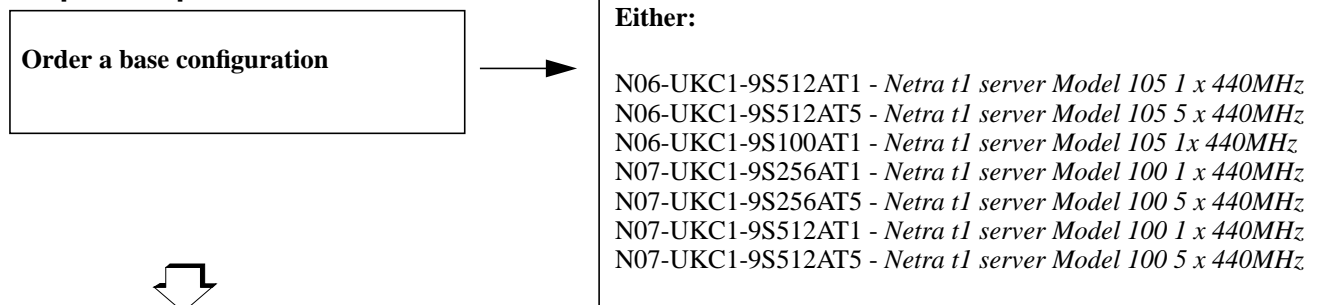
Sun Netra t 1400/Netra t 1405 Options *(continued)*

| Description | Order Number |
|---|--------------|
| Rack Mount Slide Adaptor Kit | |
| Two slide kits for fitting into 19-inches Sun racks, including an adaptor and screws. Common to Netra t 1120 - 1125, and Netra t 1400 and 1405. | X6914A |
| Facia Kit | |
| Plastic Facia Kit for Netra t 1400 and Netra t 1405. Replacement Facia to be used where front facias are accidently damaged. Ac and DC badges are included to be added by customer. | X7076A |
| Air Filter Pack | |
| Air filter pack for Netra t 1400 and Netra t 1405. Contains 10 foam filters to replace used filters in the system. | X7075A |
| PCI Cards | |
| <i>Note: See Options section for full listing.</i> | |
| Operating System | |
| <i>Note: See Operating Envorinments and Platforms section for full listing.</i> | |
| Other Options | |
| <i>Note: See Options section for full listing.</i> | |
| Enterprise Volume Manager/VERITAS Software | |
| <i>Note: See Storage Software section for full listing.</i> | |
| Cluster Software, Documentation and Licenses | |
| <i>Note: See Server Performance Software section for full listing.</i> | |

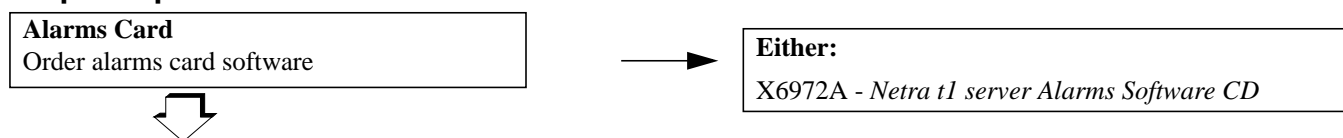
Sun Netra t1 Ordering Flow Chart

Each step represents a line item on a Sales Order.

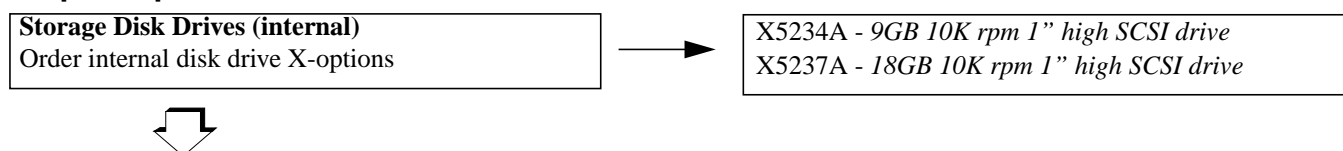
Step 1 - required



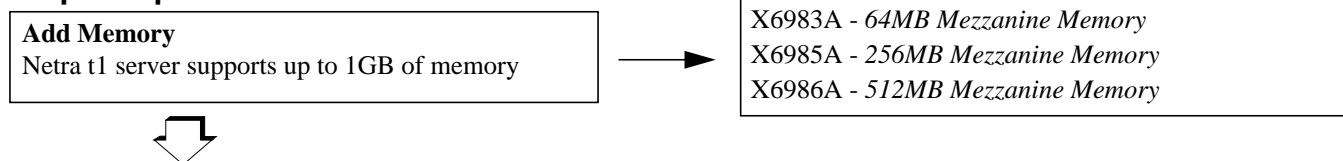
Step 2 - optional



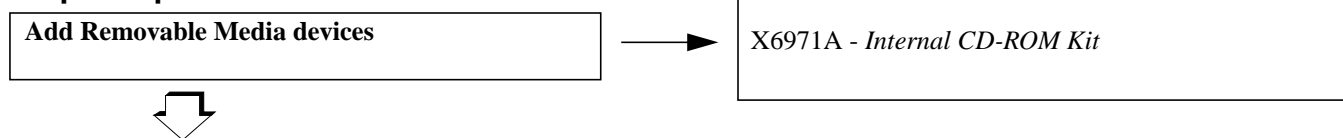
Step 3 - optional



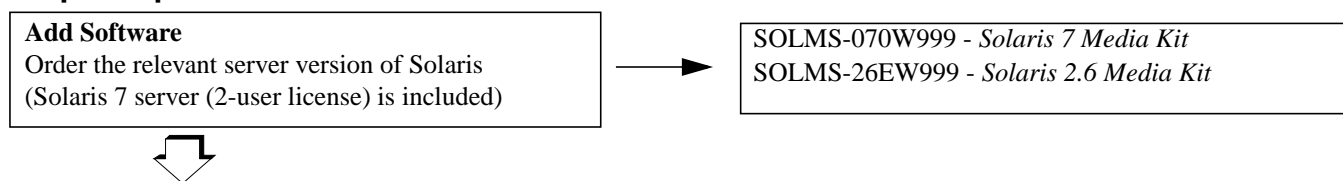
Step 4 - optional



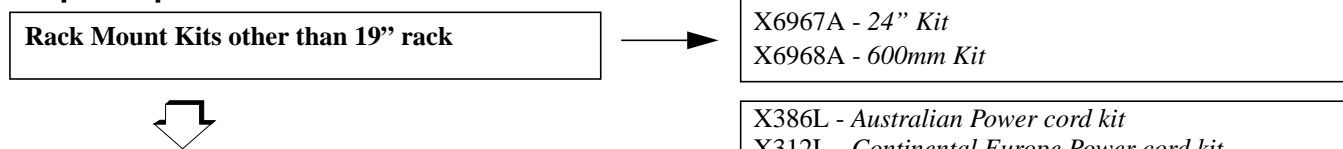
Step 5 - optional



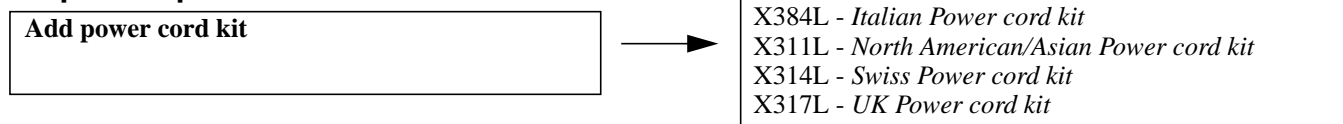
Step 6 - optional



Step 7 - optional



Step 8 - required



Sun Netra t1 Configuration Guidelines

Base Packages

- Netra t1 server is an AC server. Base part number N06
- The base part includes the chassis, power supply, a single disk drive (up to two are supported), a 19-inch rack mount kit, and multilingual installation reference guide.
- X-options can be added to Fixed Configurations. Check with Config Tool for confirmation. e.g. N06-UKC1-9S256AH1.
- Solaris 7 Foundation Server (2-user license) is included pre-installed.

Processor

- The Netra t1 server supports 1 UltraSPARC Ili processor.
- May not upgrade processor from 360MHz to 440MHz.

Memory

- Minimum of 1 Sun Mezzanine card.
- Maximum of 2 Sun Mezzanine cards.
- Any size (64MB, 256MB, 512MB) can be mixed.

Rack Mount Kits

- A kit for 19inch rack mounting is included with the base system (not fitted). The kit contains two pairs of adjustable slides that can accomodate different rack depths, a pair of front flanges to attach to the Netra t1 server. X-option rack kits are available in other than 19inch rack sizes. If a different size rack mount kit is required discard this kit.

Disk

- Depending on the configuration, either a single 9GB 7200 RPM or 18GB 10K RPM disk is included. A maximum of up to two X-option drives can be ordered with the system.

Removable Media - CD-ROM and DAT Tape drive

- No floppy disk support.
- The base configuration accomodates a single CD-ROM (X6971A) which is unique to the Netra t1 server.
- External SCSI devices such as CD-ROM and DAT tape drives can be connected to the rear U/W SCSI connector.

PCI

- There is one 1/2 length PCI slot.
- The PCI slot is a 5 Volt slot (33MHz, 32 bit). Either a 5 Volt PCI card or Universal Voltage PCI card will work in this slot.

SCSI

- The Sun Netra t1 server has an UltraSCSI connector (68-pin). Customers need to order an external SCSI adapter cable if external narrow SCSI devices are to be connected to the system.

Software

- The English version of Solaris 7 will be installed on each system in the factory. Version 2.6 of Solaris if ordered must be installed by the customer.

Clustering

- Clustering software is not currently supported by the Netra t1 server.

Storage

- Any U/W SCSI storage device is supported.
- FCAL devices are also supported.
- Differential SCSI storage devices are supported.

Sun Netra t1 Model 105 Network Servers

| Description | Order Number |
|--|--------------------------------|
| Base Packages Netra t1 Model 105, 360MHz, AC | |
| Netra t1 model 105 One pack 360 Mhz, 1 MB eCache, 64 MB Memory 1 18GB 10K RPM SCSI Drive 2 Ethernet 10/100 ports Internal AC Power Supply 1 PCI Slot No keyboard or mouse port No graphics, no audio. Includes 19inch rackmount kit | N06-UGB1-9S064AT1 ¹ |
| Netra t1 model 105 Five pack 360 Mhz, 1 MB eCache, 64 MB Memory 1 18GB SCSI 10K RPM Drive 2 Ethernet 10/100 ports Internal AC Power Supply 1 PCI Slot No keyboard or mouse port No graphics, no audio. Includes 19inch rackmount kit | N06-UGB1-9S064AT5 |
| Netra t1 m105 One pack 360 Mhz, 1 MB eCache, 512MB Memory 18GB, 10Krpm SCSI Drive (can take 2 2 Ethernet 10/100 ports Internal AC Power Supply 1 PCI Slot No keyboard or mouse port No graphics, no audio. Includes 19inch rackmount kit | N06-UGB1-9S512AT1 |
| Netra t1 m105 Five pack 360 Mhz, 1 MB eCache, 512MB Memory 18GB, 10Krpm SCSI Drive (can take 2 2 Ethernet 10/100 ports Internal AC Power Supply 1 PCI Slot No keyboard or mouse port No graphics, no audio. Includes 19inch rackmount kit | N06-UGB1-9S512AT5 |
| Base Packages Netra t1 Model 105, 440MHz, AC | |
| Netra t1 model 105 One pack 440 Mhz, 2 MB eCache, 256 MB Memory 1 18GB SCSI 10K RPM Drive 2 Ethernet 10/100 ports Internal AC Power Supply 1 PCI Slot No keyboard or mouse port No graphics, no audio. Includes 19inch rackmount kit | N06-UKC1-9S256AT1 ¹ |
| Netra t1 model 105 Five pack 440 Mhz, 2 MB eCache, 256 MB Memory 1 18GB SCSI 10K RPM Drive 2 Ethernet 10/100 ports Internal AC Power Supply 1 PCI Slot No keyboard or mouse port No graphics, no audio. Includes 19inch rackmount kit | N06-UKC1-9S256AT5 |
| Netra t1 m105 One pack 440 Mhz, 2 MB eCache, 512 MB Memory 1 18GB 10KRPM SCSI Drive 2 Ethernet 10/100 ports Internal AC Power Supply 1 PCI Slot No keyboard or mouse port No graphics, no audio. Includes 19inch rackmount kit Solaris 7 Pre-installed | N06-UKC1-9S512AT1 |
| Netra t1 m105 Five pack 440 Mhz, 2 MB eCache, 512 MB Memory 1 18GB 10KRPM SCSI Drive 2 Ethernet 10/100 ports Internal AC Power Supply 1 PCI Slot No keyboard or mouse port No graphics, no audio. Includes 19inch rackmount kit Solaris 7 Pre-installed | N06-UKC1-9S512AT5 |
| Netra t1 Model 105 one pack 440 Mhz, 2 MB Ecache, 1GB Memory 1x 18GB 10K RPM SCSI Drive 2 Ethernet 10/100 ports No Internal CD ROM Internal AC Power Supply 1 PCI Slot (32 bit/33 MHz) No keyboard or mouse port No graphics, no audio. Includes 19inch rackmount kit (Standard Configuration) | N06-UKC1-9S100AT1 |

Footnote

1. Standard Configurations are Sun's recommended configurations.

Sun Netra t1 Model 100 Network Servers

| Description | Order Number |
|---|--------------------------------|
| Base Packages Netra t1 Model 100, 440MHz, DC | |
| Netra t1 model 100 One pack 440 Mhz, 2 MB eCache, 256 MB Memory 1 18GB SCSI 10K RPM Drive 2 Ethernet 10/100 ports Internal DC Power Supply 1 PCI Slot No keyboard or mouse port No graphics, no audio. Includes 19inch rackmount kit | N07-UKC1-9S256AT1 ¹ |
| Netra t1 model 100 Five pack 440 Mhz, 2 MB eCache, 256 MB Memory 1 18GB SCSI 10K RPM Drive 2 Ethernet 10/100 ports Internal DC Power Supply 1 PCI Slot No keyboard or mouse port No graphics, no audio. Includes 19inch rackmount kit | N07-UKC1-9S256AT5 |
| Netra t1 Model 100 one pack 440 Mhz, 2 MB Ecache, 512 MB Memory 1 18GB 10K RPM SCSI Drive 2 Ethernet 10/100 ports Internal DC Power Supply 1 PCI Slot (32 bit/33 MHz) No keyboard or mouse port No graphics, no audio. Includes 19inch rackmount kit | N07-UKC1-9S512AT1 |
| Netra t1 Model 100 five pack 440 Mhz, 2 MB Ecache, 512 MB Memory 1 18GB 10K RPM SCSI Drive 2 Ethernet 10/100 ports Internal DC Power Supply 1 PCI Slot (32 bit/33 MHz) No keyboard or mouse port No graphics, no audio. Includes 19inch rackmount kit | N07-UKC1-9S512AT5 |

Footnote

1. *Standard Configurations are Sun's recommended configurations.*

Sun Netra t1 Model 105/100 Network Servers Options

| Description | Order Number |
|--|--------------|
| Memory | |
| 64MB Mezzanine Memory Board | X6983A |
| 256MB Mezzanine Memory Board | X6985A |
| 512MB Mezzanine Memory Card | X6986A |
| Internal Removeable Media Drive | |
| Netra t 1 Internal CDROM Kit | X6971A |
| Alarms Software CD | |
| Netra t 1 Alarms Software CD | X6972A |
| Rackmount Kits | |
| Netra t 1 23" Rack-Mount Kit | X6966A |
| 24-in. Rack-Mount Kit For use with Netra t1 & Netra st D130 | X6967A |
| 600mm Rack-Mount Kit For use with Netra t1 and Netra st D130 | X6968A |
| Serial Adapters | |
| Netra t 1 Serial port adapters 5 pack | X6973A |

Sun Netra st D130

| Description | Order Number |
|--|--------------------------------|
| Netra st D130, rack mount ready, AC | |
| Rackable thin storage 1U high, rackmount-ready disk pack with 1x18GB, 10Krpm hot-swap drives UltraSCSI SE to host, AC powered 19" fixed mount included. 19" rail mount (t1 mount) available separately. | NS-XDSKD130-18GAC ¹ |
| Rackable thin storage 1U high, rackmount-ready disk pack with 2x18GB, 10Krpm hot-swap drives UltraSCSI SE to host, AC powered 19" fixed mount included. 19" rail mount (t1 mount) available separately. (Standard Configuration) | NS-XDSKD130-36GAC |
| Rackable thin storage, 54GB 1U high, rackmount-ready disk pack with 3x18GB, 10Krpm hot-swap drives UltraSCSI SE to host, AC powered 19" fixed rack mount included. 19" rail mount (t1 mount) available separately. | NS-XDSKD130-54GAC ¹ |
| Netra st D130, rack mount ready, DC | |
| Rackable thin storage 1U high, rackmount-ready disk pack with 2x18GB, 10Krpm hot-swap drives UltraSCSI SE to host, DC powered 19" fixed mount included. 19" rail mount (t1 mount) available separately. (Standard Configuration) | NS-XDSKD130-36GDC |
| Rackable thin storage, 54GB 1U high, rackmount-ready disk pack with 3x18GB, 10Krpm hot-swap drives UltraSCSI SE to host, DC powered 19" fixed rack mount included. 19" rail mount (t1 mount) available separately. | NS-XDSKD130-54GDC ¹ |
| SCSI Cable | |
| .5 meter external SCSI cable Netra st D130, with right angle connector | X6917A |
| 0.8-meter 68-pin External SCSI Cable | X901A |
| Rack Mount Kit | |
| 19" Rack Mount Kit Works with Netra t1, Netra st D130 Includes front or center fixed mount brackets and front & rear mount rail system Accomodates up to 36" depth racks | X6919A |
| Replacement Bezel | |
| Replacement Front Bezel (removable) Netra st D130 | X6918A |

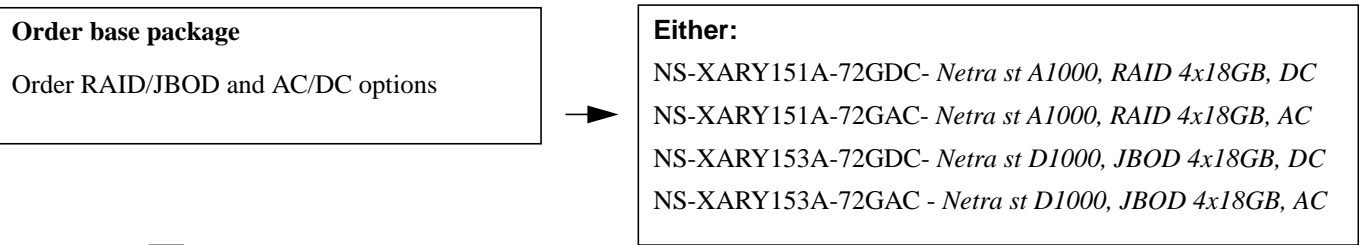
Footnote

1. Standard Configurations are Sun's recommended configurations.

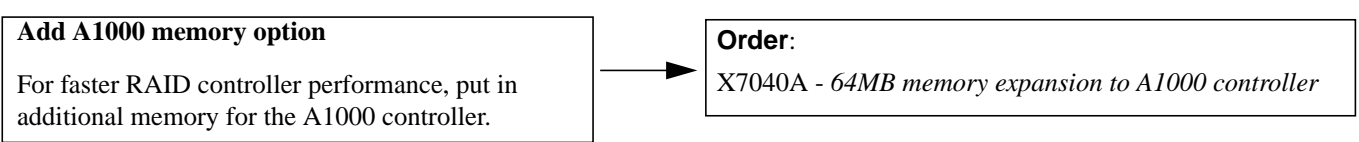
Sun Netra st A1000/D1000 Ordering Flow Chart

Each step represents a line item on a Sales Order. Other parts are X-options.
Only disk drives may be assembled-to-order into the base unit. Other parts are X-options.

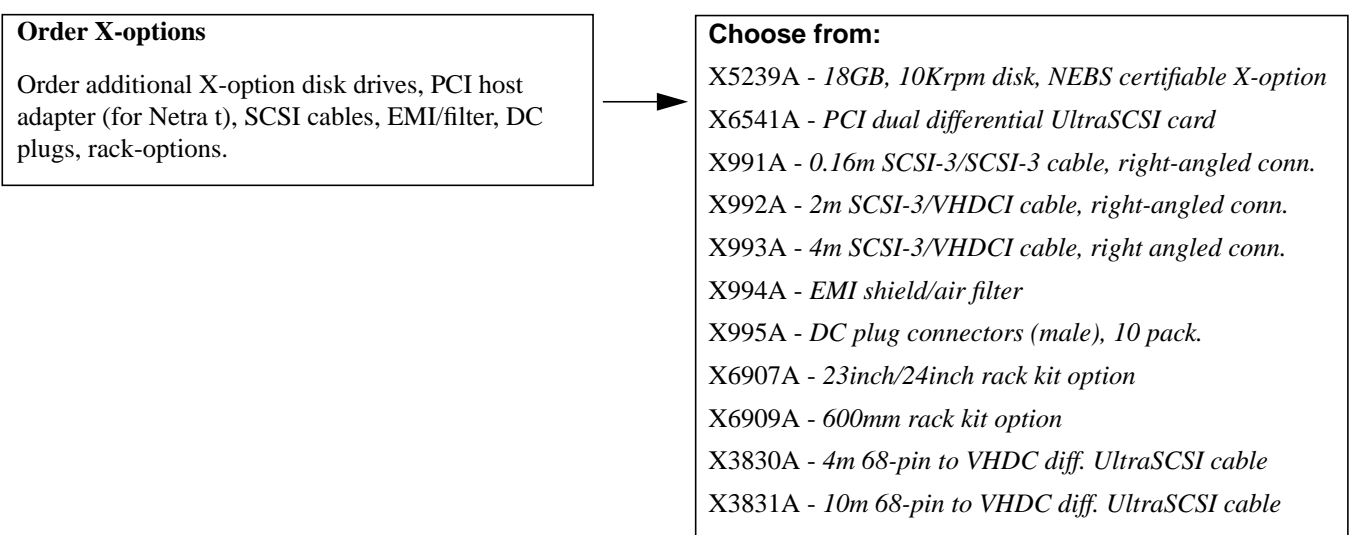
Step 1



Step 2 - optional (X-option, non-ATO)



Step 3 - optional (X-option, non-ATO)



Sun Netra st A1000/D1000 Storage Arrays

| Description | Order Number |
|---|----------------------------------|
| Netra st A1000 | |
| Telecom storage array for telco/ISP with hardware RAID controller, UltraSCSI differential to host, 4x18GB, 10Krpm drives, redundant DC power, redundant fans hot-swap drives, power, fans rack-mount ready, 4ux19"x21" Same software as StorEdge A1000 (Standard Configuration) | NS-XARY151A-72GDC ^{1,2} |
| Telecom storage array for telco/ISP with hardware RAID controller, UltraSCSI differential to host, 4x18GB, 10Krpm drives, redundant AC power, redundant fans hot-swap drives, power, fans rack-mount ready, 4ux19"x21" Same software as StorEdge A1000 (Standard Configuration) | NS-XARY151A-72GAC ^{1,2} |
| Netra st D1000 | |
| Telecom storage array for telco/ISP JBOD (Just a Bunch Of Disks) UltraSCSI differential to host, 4x18GB, 10Krpm drives, redundant DC power, redundant fans hot-swap drives, power, fans rack-mount ready, 4ux19"x21" Same software as StorEdge D1000 | NS-XARY153A-72GDC ^{1,2} |
| Telecom storage array for telco/ISP JBOD (Just a Bunch Of Disks) UltraSCSI differential to host, 4x18GB, 10Krpm drives, redundant AC power, redundant fans hot-swap drives, power, fans rack-mount ready, 4ux19"x21" Same software as StorEdge D1000 | NS-XARY153A-72GAC ^{1,2} |
| Cables | |
| 2 meter external SCSI cable Netra st A1000/D1000 with right angle connector, connects to right hand side of back of array | X959A ¹ |
| 4 meter external R/A SCSI cable Netra st A1000/D1000 with right angle connector, connects to right hand side of back of array | X947A ¹ |
| 0.16 meter R/A external SCSI cable Netra st A1000/D1000 with right angle connectors OEM ready - 12/98 | X991A ¹ |
| 2 meter external SCSI cable Netra st A1000/D1000 with right angle connector, connects to left hand side of back of array | X992A ¹ |
| 4 meter external R/A SCSI cable Netra st A1000/D1000 with right angle connector, connects to left hand side of back of array | X993A ¹ |
| Filter | |
| EMI shield and air filter for Netra st A1000/D1000 OEM ready - 12/98 | X994A ¹ |
| Rackmount Kits | |
| 23"/24" rack mount kit for Netra st A1000/D1000 OEM ready - 12/98 | X6907A ¹ |
| 600mm rack mount kit for Netra st A1000/D1000 OEM ready - 12/98 | X6909A ¹ |
| 19" rack bracket for Netra st A1000/D1000 | X948A ¹ |
| DC Plug Connectors | |
| DC plug connectors, 10-pack, for Netra st A1000/D1000 OEM ready - 12/98 | X995A ¹ |

Footnotes

1. This product is OEM-Ready, please refer to the "Ordering Policies and Guidelines" section page 1-1.
2. Standard Configurations are Sun's recommended configurations.

Sun Netra ft 1800 Telco Server

Sun Netra ft 1800 Ordering Flow Chart

Each step represents a line item on a Sales Order.

Step 1 - required

Order a base configuration

The base configuration for Netra ft 1800 gives the Server Chassis, 2 Disk Drive Chassis Trays, 2 CAFs, A and B motherboards, Filters and Solaris License.



N05-AB - Netra ft 1800 base configuration



Step 2 - required

Order CPUsets

Netra ft 1800 has two CPUset slots, one on either side. Both slots must be filled. Both CPUsets must have the same part number.



Either:

2: 6960A - CPUSET-1P-256MB-300MHz

2: 6962A - CPUSET-1P-1GB-300MHz

2: 6961A - CPUSET-2P-512MB-300MHz

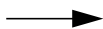
2: 6965A - CPUSET-4P-4GB-300MHz



Step 3 - required

Order Disk Drives

The Netra ft 1800 has six slots in each disk chassis, twelve in total. All slots must be filled with either disk drives or disk drive blanking modules. Disks must be ordered in pairs of the same capacity to allow mirroring. 9GB and 18GB disks can be used in the same system but only disks of the same capacity can be mirrored together.



Choose a combination of the following options in pairs to fill 12 slots:

6957A - 18GB Drive + ESD Shield

OR:

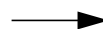
6958A- Disk Drive blanking module



Step 4 - required

Order Removable Media Tray Module (RMM)

Netra ft 1800 has two removable media module slots, one on either side. Both slots must be filled with either a RMM Tray with a CD-ROM or a RMM Tray with CD-ROM and DAT tape.



Choose any combination of either of the following to fill 2 slots:

6929A - RMM Tray + CD-ROM

OR:

6930A- RMM Tray + CD-ROM + DAT tape

Sun Netra ft 1800 Ordering Flow Chart *(continued)*

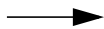
Each step represents a line item on a Sales Order.



Step 5 - required

Order PCI options

Netra ft 1800 has sixteen PCI carrier slots, eight on either side. Each slot must be filled with either a PCI carrier + card or a PCI blanking panel.



Choose a combination of the following options to fill 16 slots:

6932A - PCI-ATM155 MMF (Max 8)

6935A - PCI-Dual Channel Differential (Max 8 per system)

6934A - PCI-10/100BaseT FastEthernet (Max 8 per system)

6931A - PCI-HSI (Max 16 per system)

6933A - PCI-SAI Async (Max 16 per system)

6943A - PCI Quad Fast Ethernet (Max 8 per system)

OR:

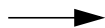
6936A - PCI blanking module



Step 6 - optional

Order Software and Software documents

This package contains software for the Netra ft 1800. A copy of this is necessary for system operation.



Order:

X6954A - FT1800 Software and SW docs



Step 7 - optional

Order Manual Set

This package contains a full manual set for the system.



Order:

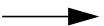
X6942A - FT1800 Manual set



Step 8- required

Order Rack Mounting Kit

Each Netra ft 1800 rack mount kit contains two pairs of chassis mount adaptors.



Either:

X6938A - RA-19 - 19" Mounting Kit

OR:

X6939A - RA-23 - 23" Mounting Kit

OR:

X6941A - RA-600 - 600mm Mounting Kit

Sun Netra ft 1800 Ordering Flow Chart *(continued)*

Each step represents a line item on a Sales Order.



Step 9 - required

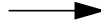
Order Power Supplies

Netra ft 1800 has 6 PSU slots, 3 on either side.
All slots must be filled with PSUs or PSU blanking modules.

A minimum of one PSU is required per side.

On either side of the system, if the number of processors in the CPUset is greater than 2 **OR** the combined number of Disk Drives and operational PCI carriers is greater than 5 a minimum of 2 PSUs are required on that side.

An additional PSU should be added for n+1 redundancy on each side to allow continued operation in the event a PSU stops working or needs to be swapped out.



Choose a combination of the following options to fill 6 slots:

6923A - Power supply (-48VDC)+ cablekit

OR:

6924A - Power Supply blanking module

Sun Netra ft 1800 Configuration Guidelines

Base Configuration

- The Base config now contains the Server Chassis, 2 Disk Drive Chassis Trays, 2 Console, Alarms and Fan modules (CAFs), A and B motherboards, Filters, Installation guide, Safety and Compliance manual, Release notes and the Solaris and Veritas Right-to-use Licenses. The Disk Drive Chassis Trays and CAFs do not have to be ordered as separate items.

Blanking Modules

- If the Netra ft 1800 chassis is not filled to maximum capacity with operational modules the remaining unused slots must be filled with blanking modules where available. If there are no blanking module equivalents the slots must be fully populated with operational modules. The blanking modules are necessary for cooling, ESD and safety.

Rack Mount Kits

- The System base configuration is not fitted with rack mount adapters or flanges. Rack mount kits containing two pairs of chassis mount adaptors are needed to secure in front and rear mounting points provided for industry standard rails. (One pair can be used to mount the system centrally on 19inch, 23inch and 600mm racks.)

Disk

- A minimum of two disk drives should be ordered. Disk drive blanking modules should be ordered to fill any unused slots in the Disk Drive Chassis Tray(s). Disk Drives should be ordered in pairs. Each disk will be positioned one on either side of the system. Each pair of disks should comprise of two disks of the same capacity - 18GB and 9GB disk drives should not be mirrored with each other.

Removable Media Devices

- Both RMM slots must contain a Removable Media Module Tray with media device(s). Two options are available: one with both a CD-ROM drive and a DAT tape drive or one with a single CD-ROM drive. Media drives should not be separated from the RMM Tray module.
- No floppy disk support.

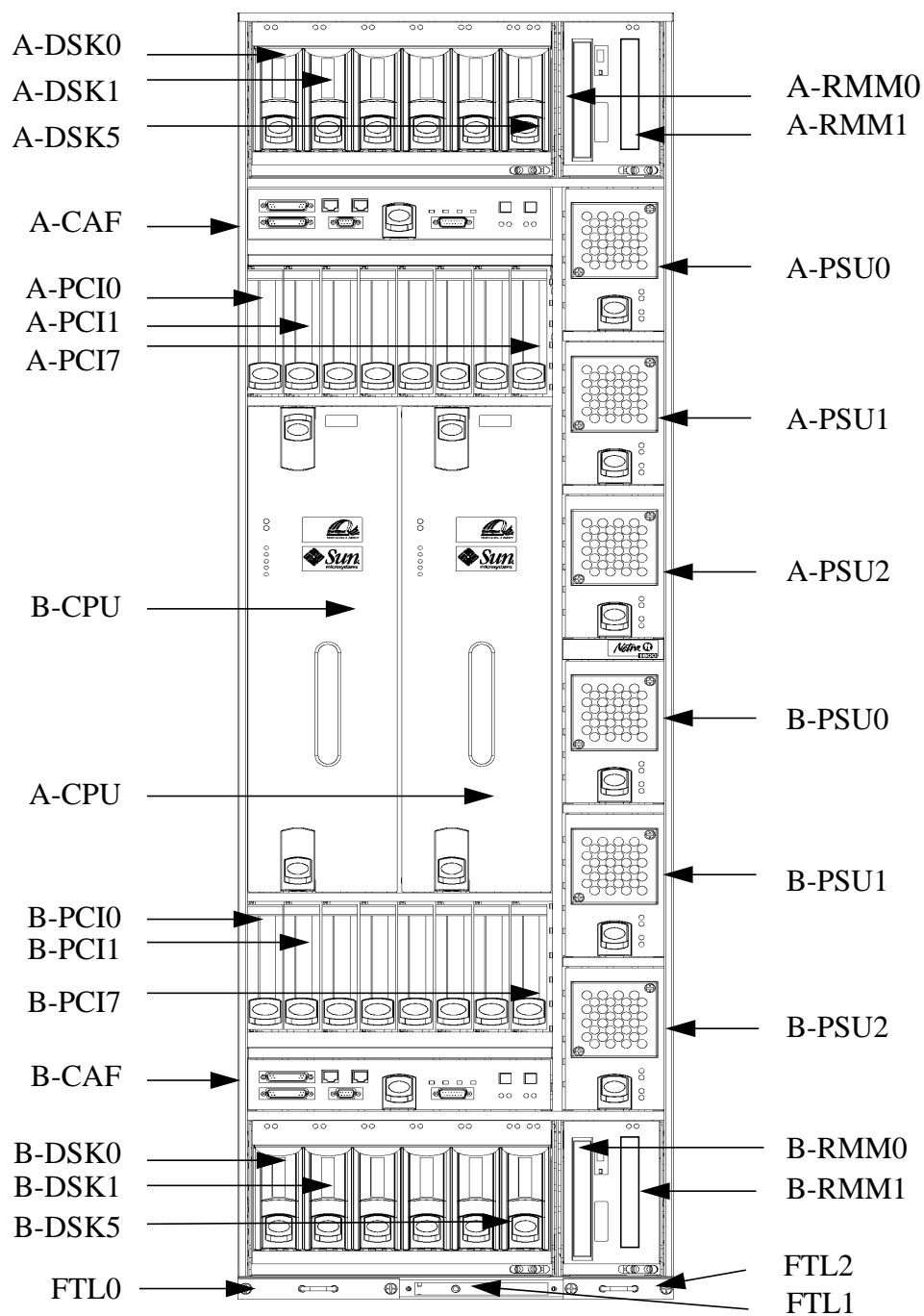
PCI cards

- Maximum limits have been set for individual types of PCI card to avoid exceeding the available bandwidth on the CPU bridge. Limits are shown in the order flow section. The bandwidth limit may still be exceeded within these limits if used at maximum performance or if different types of cards are used together. The bridge bandwidth will also be affected by ethernet use, disk and media operation or the tuning of the system. Testing may be required to ensure the I/O requirement can be met.
- An empty IHV ready PCI card carrier is available as a stand-alone X-Option. The IHV ready PCI card carrier will be made available to partners who have qualified their PCI cards in the Netra ft(TM) 1800. Customer's need to go through Network System's FTSAFE(TM) program to be eligible to receive empty carrier for integration. Contact Wahid Umerami (wahid.umerani@Eng x87782) or Charles Martin (charles.b.martin@Eng x84604) for further information.

Other notes

- Power cords are not supplied because this equipment uses DC power inputs for -48/60 volt. Power inlet connectors to attach customer-provided power cords are included with the system. Additional connectors are available as FRUs - part number detail can be found on the spares pricelist.

Sun Netra ft 1800 Configuration Overview



Sun Netra ft 1800 Telco Server

| Description | Order Number |
|--|-----------------------|
| Base Package Netra ft 1800 | |
| Base configuration for Netra ft 1800. Includes System Chassis, A & B Motherboards, 2 Disk Drive Chassis Trays, 2 Console Alarms & Fan modules. Solaris RTU license, Veritas RTU License. Installation Guide, Release notes and Safety & Compliance manual. Unpacking tools Solaris RTU license, Veritas RTU License. | N05-AB ^{1,3} |
| CPUset Options | |
| CPUset with 1 300MHz UltraSparc-II processor and 256 MB of memory. Netra ft 1800 OEM ready- 04/99 | 6960A ³ |
| CPUset with 1 300MHz UltraSparc-II processor and 1GB memory. Netra ft 1800. | 6962A |
| CPUset with 2 300MHz UltraSparc-II processors and 512 MB of memory. Netra ft 1800 OEM ready- 04/99 | 6961A ³ |
| CPUset with 4 300MHz UltraSparc-II Processors and 4GB of memory. OEM ready- 04/99 | 6965A ³ |
| Internal Storage | |
| 18GB Hard drive assembly with 'Chip' Bracket for ESD shielding. For use with Netra ft 1800. | 6957A ² |
| Disk Drive blanking module to fill one slot in the disk chassis. Netra ft 1800 OEM ready- 04/99 | 6958A ³ |
| Removable Media Options | |
| Removable Media Module (RMM) enclosure with power converter and fan to house up to 2 RMM devices. RMM devices are not hotplug but the module enclosure is. Approximate size 7x4x15.5inches OEM ready- 04/99 | 6929A ³ |
| Removable Media Module (RMM) Tray with CD-ROM and DAT tape included. Netra ft 1800 OEM ready- 04/99 | 6930A ^{2,3} |
| Power Supply | |
| -48vdc/60vdc 737 WATT power supply unit w/o batteries. Includes filter and fan. Approximate size 7x4x16 inches. OEM ready- 04/99 | 6923A ^{2,3} |
| Power supply unit blanking panel OEM ready- 04/99 | 6924A ³ |

Footnotes

1. Sales of the product will be restricted to qualified customers. All sales orders must be approved through the Mission-Critical Sales Process before they will be accepted and scheduled. This is the same approval process that applies to the Sun Enterprise 10000, clusters, and high-end storage. For further information, please contact your local Sun sales representative.
2. Add "X" before the order number (e.g., XnnnA) to order as a standalone option for existing systems.
3. This product is OEM-Ready, please refer to the "Ordering Policies and Guidelines" section page 1-1.

Sun Netra ft 1800 Telco Server *(continued)*

| Description | Order Number |
|--|----------------------|
| Internal PCI Adaptors and Network Interface Cards | |
| PCI card carrier with X.25 card. Includes V.35 HSI X.25 card & PCI carrier for hotplug (no software) OEM ready- 04/99 | 6931A ^{1,2} |
| PCI carrier with ATM 155 card. Includes ATM155 card & PCI carrier for hotplug (no software) OEM ready- 04/99 | 6932A ^{1,2} |
| PCI carrier with ASYNC card. Includes 8 port async card & PCI carrier for hotplug (no software) OEM ready- 04/99 | 6933A ^{1,2} |
| PCI carrier with 10/100 Base-T Fast Ethernet PCI card. Includes card and PCI carrier for hot-plug. OEM ready- 04/99 | 6934A ^{1,2} |
| PCI carrier with Dual-Channel Differential with ultra-SCSI Host adapter. Includes card and PCI carrier for hot-plug. OEM ready- 04/99 | 6935A ^{1,2} |
| PCI slot blanking panel OEM ready-04/99 | 6936A ² |
| Independent Hardware Vendor ready PCI card carrier (IHV ready PCC) Empty PCI carrier with power conversion and connector for 5V PCI card (no software). | X6937A |
| PCI/Quad Fast Ethernet PCI card with hot-plug PCI carrier. Netra ft 1800 OEM ready- 04/99 | 6943A ^{1,2} |
| Software and Manuals | |
| Solaris Software for Netra ft 1800 Update 01 software version. Hardened Driver software, Software and Manuals for Veritas Volume Manager included. | X6954A ² |
| (1) Complete Set - Compliance Manual, Release Notes, Users Guide, Developers Guide, Hardware Ref. Manual, Reference Manual, Installation Guide. Documentation for supported PCI cards is also included. Netra ft 1800 OEM ready - 04/99 | X6942A ² |
| Rack Mount Options | |
| L-shaped chassis brace for 19" rack mount (2 used for center mount or 4 used for front and rear mount). OEM ready- 04/99 | X6938A ² |
| L-shaped chassis brace for 23" rack mount (2 used for center mount or 4 used for front and rear mount). OEM ready- 04/99 | X6939A ² |
| L-shaped chassis brace for 600mm rack mount (2 used for center mount or 4 used for front and rear mount). OEM ready- 04/99 | X6941A ² |
| Miscellaneous | |
| Filter Kit for Netra ft 1800. Includes 3 chassis filters and 6 PSU filters. OEM ready- 04/99 | X6952A ² |
| General Note | |
| <ul style="list-style-type: none"> Refer to the <i>Options</i> section for additional system options. | |
| Footnotes | |
| <ol style="list-style-type: none"> Add "X" before the order number (e.g., XnnnA) to order as a standalone option for existing systems. This product is OEM-Ready, please refer to the "Ordering Policies and Guidelines" section page 1-1. | |