THE POSSIBILITIES ARE INFINITE

FUJITSU

PRIMERGY®

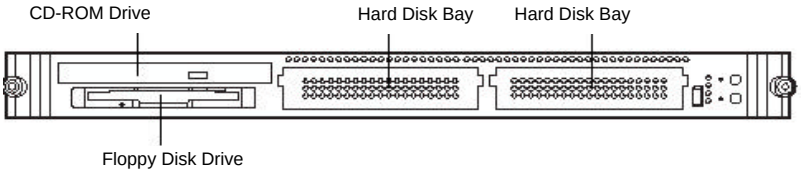
System Configuration and order-information Guide

RX100 S2

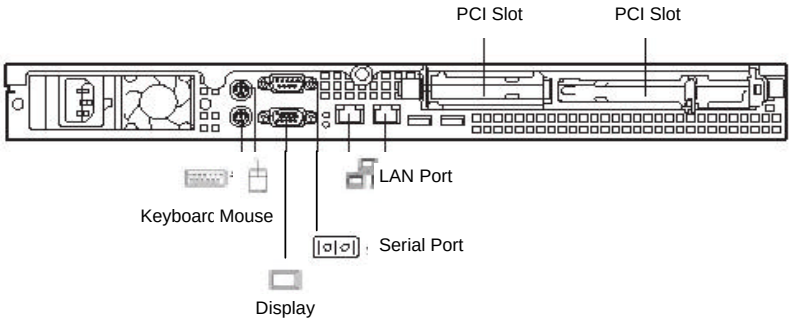
November 2005

PRIMERGY RX100 S2

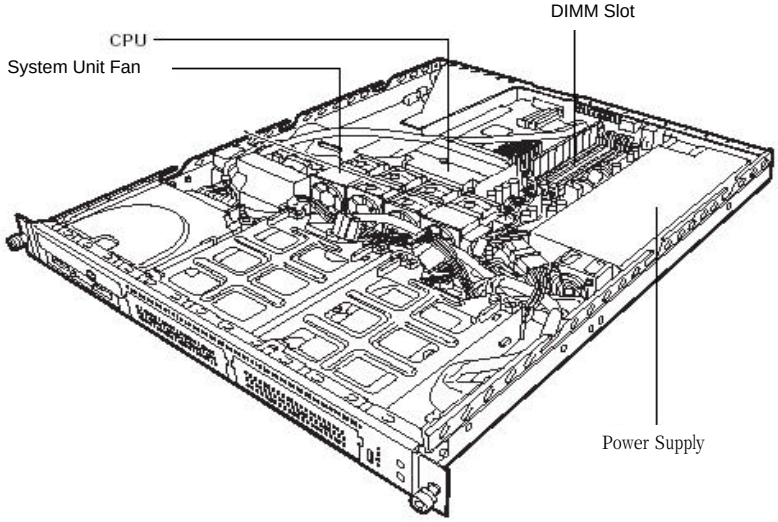
Front View



Back View



Inside View



PRIMERGY RX100 S2

Instruction

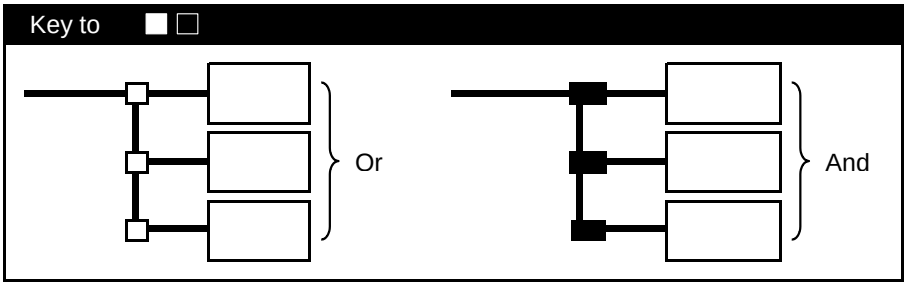
enable you to configure your system.

server or your completePRIMERGY Rack system.

You can configure your individual PRIMERGY server in order to adjust your specific requirements.

Please follow the lines. If there is a junction, you can choose which way or component you would like to take.
Go through the configurator by following the lines from the top to the bottom.

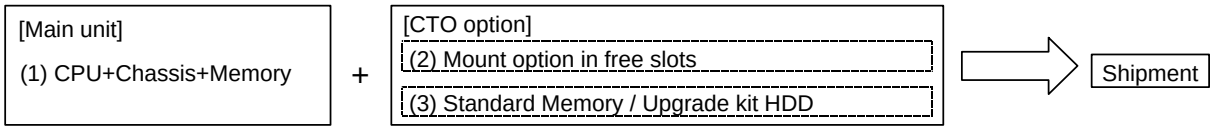
The color of the junction means as follows.



Configuration To Order

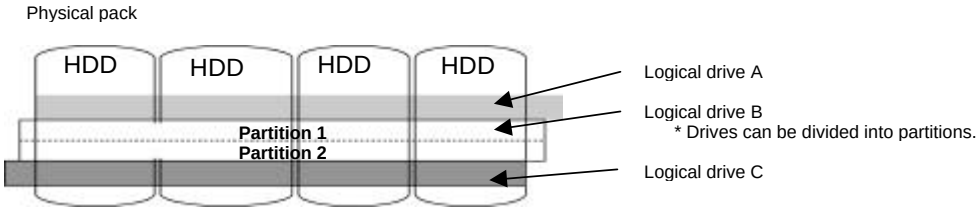
Configuration To Order (CTO) is available with PRIMERGY.
Products are delivered with options (HDD, Memory, Backup device, etc.) already mounted as per customer requirements.

1. How shipped



Disk array configuration

- Physical pack ・・・ A collection of physical HDDs comprising a RAID.
- Logical drive ・・・ The logical drive (e.g. D:) as seen by the Operating System.
- Partition ・・・ One of the logical access units into which a logical drive is divided.



<Restrictions>

(1) Each physical pack must contain the same Product IDs of HDDs.

(2) Maximum logical drive size is 2TB.
One physical pack is comprised by one logical drive (A physical pack is the same capacity as a logical drive).

(3) The number of HDDs comprising a physical pack is as shown below.

RAID Level	Description	HDDs	Capacity of logical drives
RAID 0	The data is broken down into blocks, each on a separate disk drive	2~16	The capacity of logical drive is same as the capacity of connected HDD.
RAID 1	Duplicates the disk and writes the same data onto two disks.	2	The capacity of the logical drive is half the capacity of connected HDD.
RAID 5	The data is broken down into blocks and each blocks is written together with parity bits on a separate disk drive.	3~16	The capacity of each logical drive is the number of connected HDDs - 1).
RAID 0+1	Duplicates the disk and broken down into blocks, each on a separate disk.	4~16	The capacity of each logical drive is the half the capacity of connected HDD.

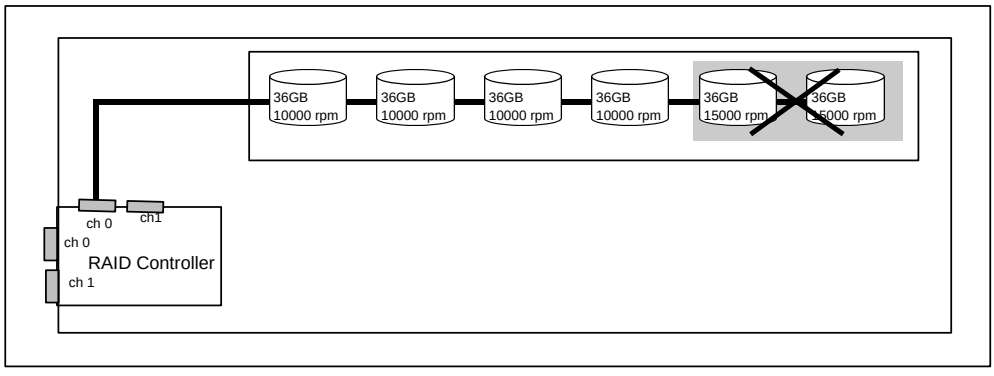
(4) The same RAID level must be used when dividing a physical pack into a number of logical drives.

(5) A physical pack must contain only HDDs which are connected by the same RAID Controller.

(6) A RAID Controller can support more than one physical pack. (even if different RAID levels)
- HDD configured physical pack shall be constent in the product ID.
- In the case when several physical pack configured with HDD of same capacity, the HDD shall be constent in the product ID.

(7) When the hot spare disk is installed by comprising more than 2 physical pack contains HDDs with different product ID, each physical pack must contain at least one hot spare disk with consistent product ID.

(8) In case that the same capacity HDDs are connected to the same RAID Controller, these HDDs must also have the same rpm speed.



PRIMERGY RX100 S2

RAID Controller / SCSI Controller

- **Restrictions and Notes of RAID Controller Card**
  Here are the restrictions and notes of RAID Controller Cards. Please be sure to use products along with these conditions as follows;

[PG-140D/PG-140D1]
1. One Controller Card can be mounted in a server
2. Used only for internal HDD connection. On board SCSI Controller is used for the connection with internal HDD.
3. For RAID0/1/5, When one logical drive is exsist in physiacl pack, physical pack expansion capability is available. (only Windows Server™ 2003/Windows® 2000 supported)

[PG-141C1L]
1. One Controller Card can be mounted in a server
2. Used only for internal HDD connection.

[PG-142E3]
1. For RAID0/1/5, When one logical drive is exsist in physiacl pack, physical pack expansion capability is available. (only Windows Server™ 2003/Windows® 2000 supported)

Combination matrix of RAID Controller

	PG-140D (Ultra320 SCSI, 0ch)	PG-140D1 (Ultra320 SCSI, 0ch)	PG-141C1L (Ultra320 SCSI, 1ch)	PG-142E3 (Ultra320 SCSI, 2ch)	
	Internal HDD	Internal HDD	Internal HDD	Internal HDD	External HDD
TX150 S2	o	x	x	x	x
TX200 S2	x	o	x	o	o
RX100 S2	x	x	o	x	x
RX200 S2	x	x	x	x	o
RX300 S2	x	x	x	x	o
RX600 S2	x	x	x	x	o

* o: Supported
x: Not Supported

- **RAID Controller OS Compatibility List**

	RAID Controller			
	PG-140D	PG-140D1	PG-141C1L	PG-142E3
Windows Server™ 2003, Standard Edition	o	o	o	o
Windows Server™ 2003, Enterprise Edition	x	o	x	o
Windows® 2000 Server	o	o	o	o
Windows® 2000 Advanced Server	x	o	x	o
Windows® Small Business Server 2003	o	x	x	x
Red Hat Enterprise Linux ES (v.3 for x86)	o	o	o	o
Red Hat Enterprise Linux AS (v.3 for x86)	x	o	x	o
Red Hat Enterprise Linux AS (v.4 for x86)	x	x	x	o
Red Hat Enterprise Linux AS (v.4 for EM64T)	x	x	x	o

* o: Supported
x: Not Supported

- **Notes of SCSI Controller**

[PG-128/PG-130L]
1. When the external SCSI controller and the internal SCSI controller connected simultaneously, SCSI Controller must be separated.

Memory OS Compatibility List

	Memory Capacity
Windows Server™ 2003, Standard Edition	4GB
Windows Server™ 2003, Enterprise Edition	32GB
Windows® 2000 Server	4GB
Windows® 2000 Advanced Server	8GB
Windows® Small Business Server 2003	4GB
Red Hat Enterprise Linux ES (v.3 for x86)	8GB
Red Hat Enterprise Linux AS (v.3 for x86)	12GB
Red Hat Enterprise Linux AS (v.4 for x86)	12GB
Red Hat Enterprise Linux AS (v.4 for EM64T)	32GB

PRIMERGY RX100 S2

Data Sheet

Type		Mono-Processor Rack Server
Base Unit		PGUR1023A
CPU	Frequencies	Intel® Pentium® 4 Supporting Hyper-Threading Technology 3EGHz *4/Intel® Celeron® D 330 2.66GHz x 1
	Second-Level-Cache	1MB / 256KB
Front-Side-Bus		800MHz / 533MHz
Chipset		Intel® E7210
Memory	Standard	256MB (256MB ECC DDR SDRAM DIMM x 1)
	Maximum	4GB (1GB ECC DDR SDRAM DIMM x 4)
Graphics Controller		ATI RAGE XL, VRAM:8MB (PCI)
Resolution *1		640x480/800x600/1024x768/1280x1024 dot
Internal Bays	Number of bays	2
3.5 inch HDD	Available HDD *2 *3	73.4GB (PG-HD7G1T) 10krpm, U320 SCSI 146.8GB (PG-HD4G1T) 10krpm, U320 SCSI
	Maximum *2	293.6GB
CD-ROM		optional (Max 24 ATAPI)
PCI Slots	PCI-X 64bit/66MHz (3.3V)	1 (Low Profile PCI Card Only) and 1 (Low ProfilePCI Card/Full Height PCI Card)
RAID Controller		optional
SCSI Controller (onboard)		-
Internal FDD		3.5inch (1.44MB/720KB)
Network Controller (onboard)		2 ports (1000 BASE-T/100 BASE-TX/10BASE-T)
Interfaces		CRT (Analog RGB), Serial Port (D-SUB 9pins) Keyboard (PS/2type Mini DIN 6pins), Mouse (PS/2type Mini DIN 6pins), USB x3 (ver. 2.0)
Server Management Software		ServerView
Power supply	Voltage	AC100V (50/60Hz) / 200V (50/60Hz) x1
	Power consumption	260W / 936kJ/h (max.)
	Redundant power supply	-
Redundant Fan		-
Dimensions (mm)		429 (482 incl. protruding parts）(W) x 562 (596 incl. protruding parts）(D) x 42 (1U) (H)
Weight		13kg (max.)
Environmental Conditions		Temperature10-35°C / Humidity 20-80% (non condensing)
OS Support		Windows Server™2003, Standard Edition/Windows® 2000 Server/Red Hat Enterprise Linux ES (v.3 for x86)

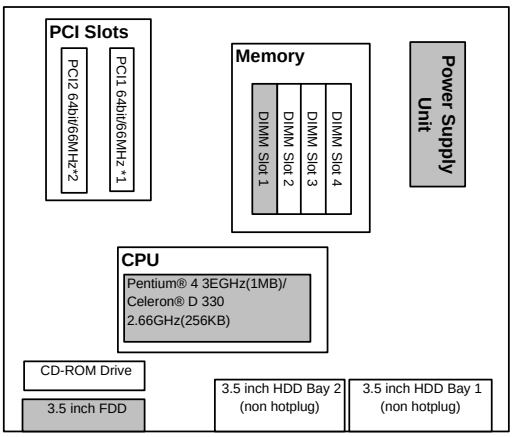
*1. Resolution is determined by functions of the display monitor and OS.

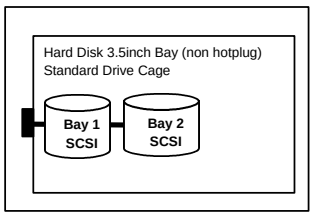
*2.HDD capacity is calculated according to the fomula $1GB=1000^3$ byte

*3.Internal HDD and SCSI Ctrl U160 lp (PGB130L) or RAID Ctrl 1-Channel 64MB(PGB141C1L) are required with base units.

*4.CPU Conversion kit:Celeron(2.66GHz/256KB) ->Pentium4(3.0GHz/1MB)(PGBFU22W) is available for upgrading to Intel® Pentium® 4 Supporting Hyper-Threading Technology 3EGHz.

Configuration Diagram





*Components installed as standard configuration marked in grey.

*1:PCI 1 for Low Profile PCI card only

*2:PCI 2 for Full Height PCI card, Low Profile PCI card

PRIMERGY RX100 S2

Mountable I/O Options

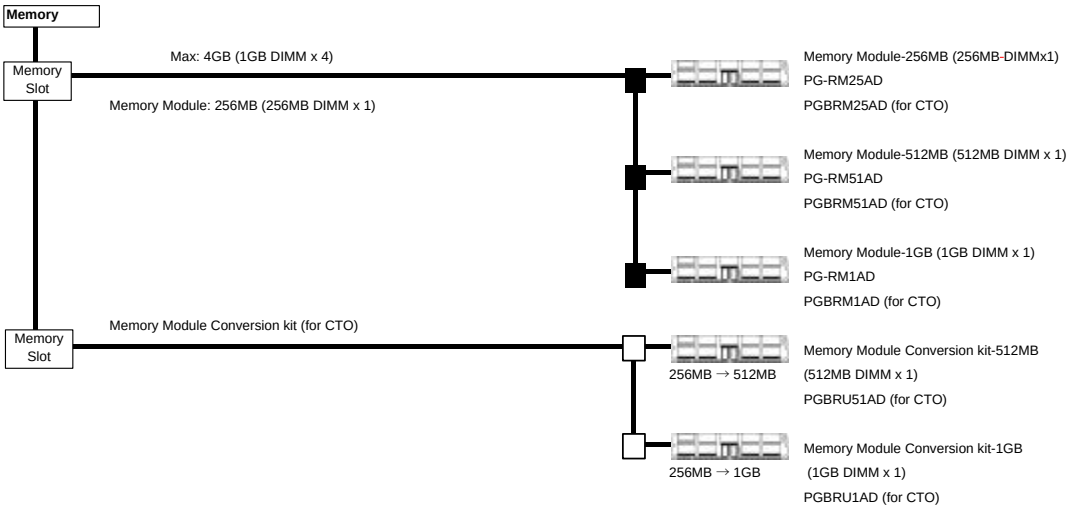
Mount Priority	Mountable Cards		Bus	PCI Slot Priority 1 2 / PCI / 64bit/66MHz / 3.3V: Low Profile	Full Height/ Low Profile	Max No. of Mount			Remarks
High ↕ Low	Eth. Ctrl 1000-BASE-T Cu	PG-1852	PCI/32bit	-	1	1	1	2	No AFT Support
	Eth. 2x 1000-BASE-T Cu	PG-1862	PCI-X/64bit	-	1	1			
	RAID Ctrl 1-Channel 64MB (1ch/Ultra320)	PG-141C1L	PCI/64bit	1	-	1	2		LowProfile PCI Card, Internal array
	SCSI Ctrl U160 lp	PG-130L	PCI/64bit	1	2	2			LowProfile PCI Card, Internal HDD /External SCSI connector
	Eth. Ctrl 1000-BASE-SX Fibre LC lp	PG-1882L	PCI-X/64bit	-	1	1	1		LowProfile PCI Card
	Eth. Ctrl 1000-BASE-T Cu lp	PG-1892L	PCI-X/64bit	-	1	1			LowProfile PCI Card

*- : cannot be applied

Connection Table

*CPU Conversion Kit (available only as a Configure To Order (CTO) option; no separate shipment as a loose part is possible)

Type	Product ID	
CPU Conversion Kit: Cerelon®D 330 (2.66GHz/256KB) →Pentium®4 (3.0GHz/1MB) (for CTO)	PGBFU22W	Intel® Cerelon® D 330 2.66GHz → Intel® Pentium® 4 Supporting Hyper-ThreadingTechnology 3EGHz Convert the CPU installed as standard in the base unit to the other. (Note: This option can be ordered only as coupled with the base unit. A separate shipment as a loose part is not possible.)



PRIMERGY RX100 S2

<Memory for CTO>

Memory	DIMM Slot 1	DIMM Slot 3	DIMM Slot 2, 4
256MB (standard)	Standard mounted (256MB)	-	-
512MB	256MB	+ 256MB	
	Standard mounted (256MB)	Memory Module-256MB PGBRM25AD	-
	256MB → 512MB		
	Memory Module Conversion kit-512MB PGBRU51AD	-	-
768MB	256MB	+ 512MB	
	Standard mounted (256MB)	Memory Module-512MB PGBRM51AD	-
1GB	256MB → 1GB		
	Memory Module Conversion kit-1GB PGBRU1AD	-	-
1.5GB	256MB → 512MB	+ 1GB	
	Memory Module Conversion kit-512MB PGBRU51AD	Memory Module-1GB PGBRM1AD	-
2GB	256MB → 1GB	+ 1GB	
	Memory Module Conversion kit-1GB PGBRU1AD	Memory Module-1GB PGBRM1AD	-

Mounting Memory Modules
(1) There are four DIMM Slots each of which can install one DIMM.
(2) A memory module with smaller size needs to be installed in the following order: DIMM Slot 1 -> 3 -> 2 -> 4

(Note: Available Memory Area)

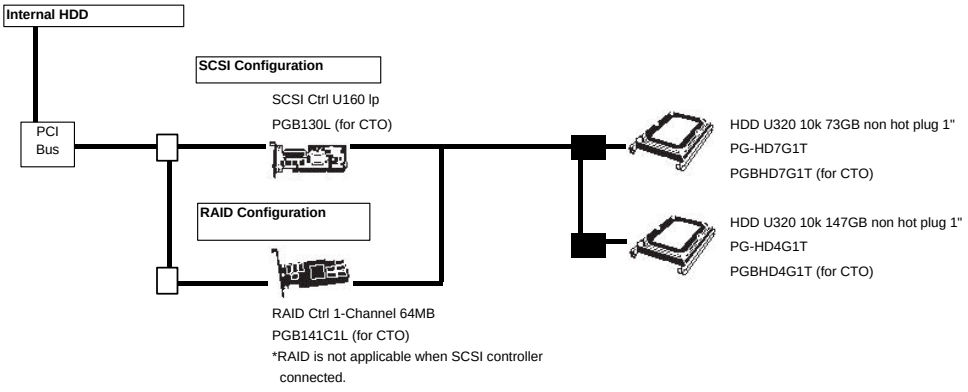
Mounted Memory	Available Memory Area
～3.0GB	Same as the size of mounted memory
3.5～4.0GB	Size of Mounted Memory minus "0.1-0.3GB"

(Note: "0.1-0.3GB" which is being used for PCI resource management depends on the type and the number of installed memory modules.

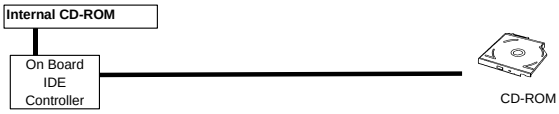
Connecting Internal HDD and Internal Backup Devices

Type of HDD connection		PRIMERGY SX10 Internal Backup Devices
Connection	Interface	Wide ("1) / Backup Devices Connection
SCSI	SCSI Ctrl U160 lp PG-130L	SCSI Ctrl U160 lp (PG-130L) SCSI Cable HDCI 1.8m (PG-CBLS007) SCSI Cable HDCI 5m (PG-CBLS008)
RAID	RAID Ctrl 1-Channel 64MB PG-141C1L (Ch0)	

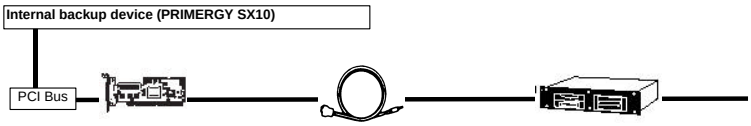
("1) Wide Backup Device: PG-DT501 / PG-LT101 / PG-VX201



PRIMERGY RX100 S2



CD-ROM ATAPI
PG-CD320
PGBCD320 (for CTO)

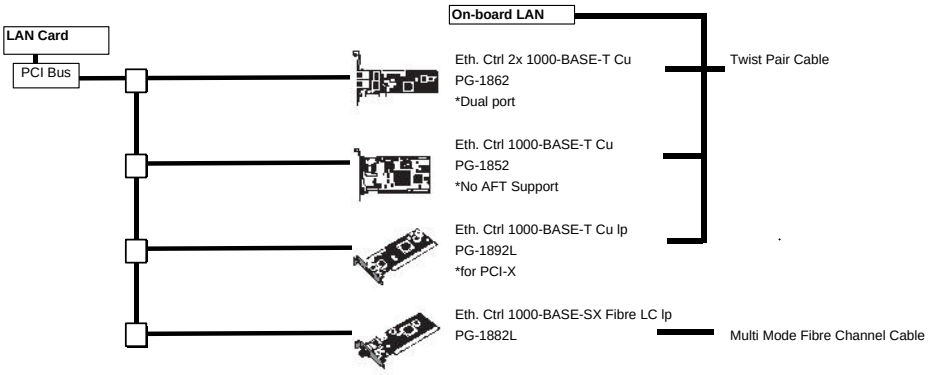


SCSI Ctrl U160 lp
PG-130L
PGB130L (for CTO)

SCSI Cable HDCI 1.8m
PG-CBLS007
SCSI Cable HDCI 5m
PG-CBLS008

PRIMERGY SX10
PG-R1BC4

*Please find more information on the internal backup devices for PRIMERGY SX10 in Rackmount [Internal Backup Devices with PRIMERGY SX10]



Eth. Ctrl 2x 1000-BASE-T Cu
PG-1862
*Dual port

Eth. Ctrl 1000-BASE-T Cu
PG-1852
*No AFT Support

Eth. Ctrl 1000-BASE-T Cu lp
PG-1892L
*for PCI-X

Twist Pair Cable

Eth. Ctrl 1000-BASE-SX Fibre LC lp
PG-1882L

Multi Mode Fibre Channel Cable

PRIMERGY Rackmount

19 inch Rack

Standard Rack 40U
PG-R6RC1

Standard Rack 40U and Rack Coupling kit
PG-R6RC2

Standard Rack 24U
PG-R4RC3

Standard Rack 24U and Rack Coupling kit
PG-R4RC4

Stabilizer
PG-R3ST1

Product Name	Product ID	No. of units required	W x D x H	Cooling	Weight	Installable Weight	Rack Connection
Standard Rack 40U	PG-R6RC1	40U + 2U x 2	700 x 1050 x 2000	○	190kg	800kg	○
Standard Rack 40U and Rack Coupling kit	PG-R6RC2	40U + 2U x 2	700 x 1050 x 2000	○	155kg	800kg	
Standard Rack 24U	PG-R4RC3	24U + 2U	700 x 1050 x 1267	○	140kg	480kg	○
Standard Rack 24U and Rack Coupling kit	PG-R4RC4	24U + 2U	700 x 1050 x 1267	○	125kg	480kg	

*○: supported

Keyboard & Monitor mounting kit
GP5-R1TB6

Display

Keyboard

Mouse

Add-on BASE plate
GP5-R1TB7

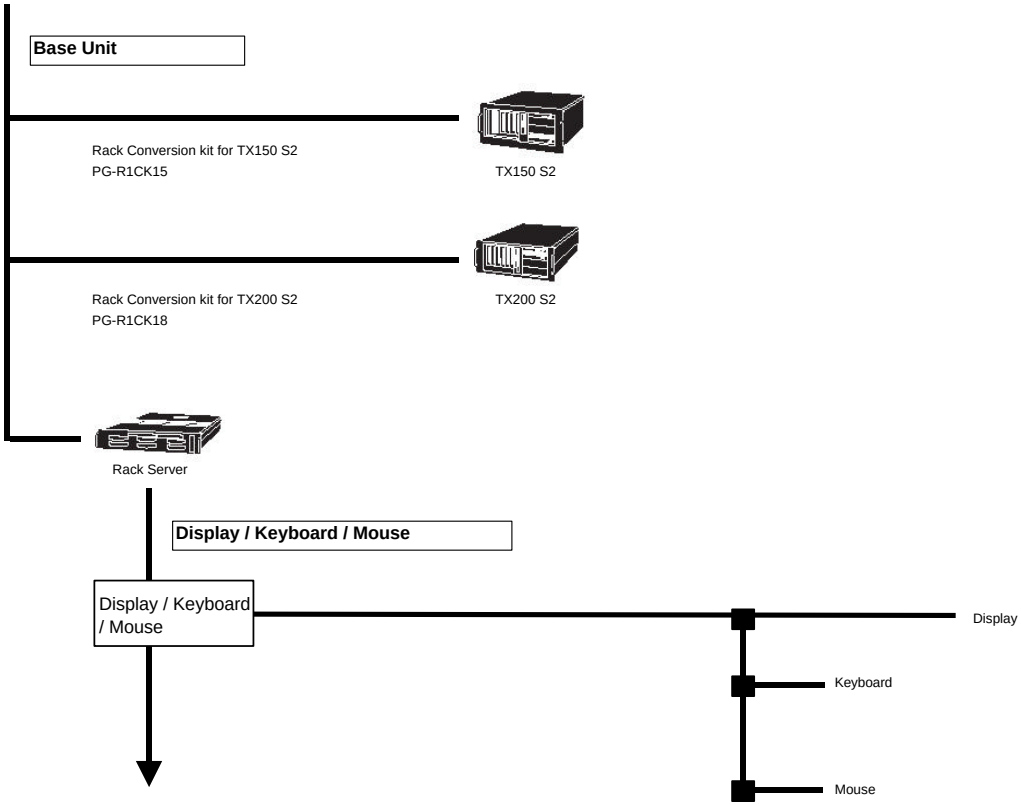
External Backup Devices

TX150 S2 / TX200 S2/ RX100 S2 /RX200 S2 / RX300 S2/RX600 S2

PRIMERGY Rackmount

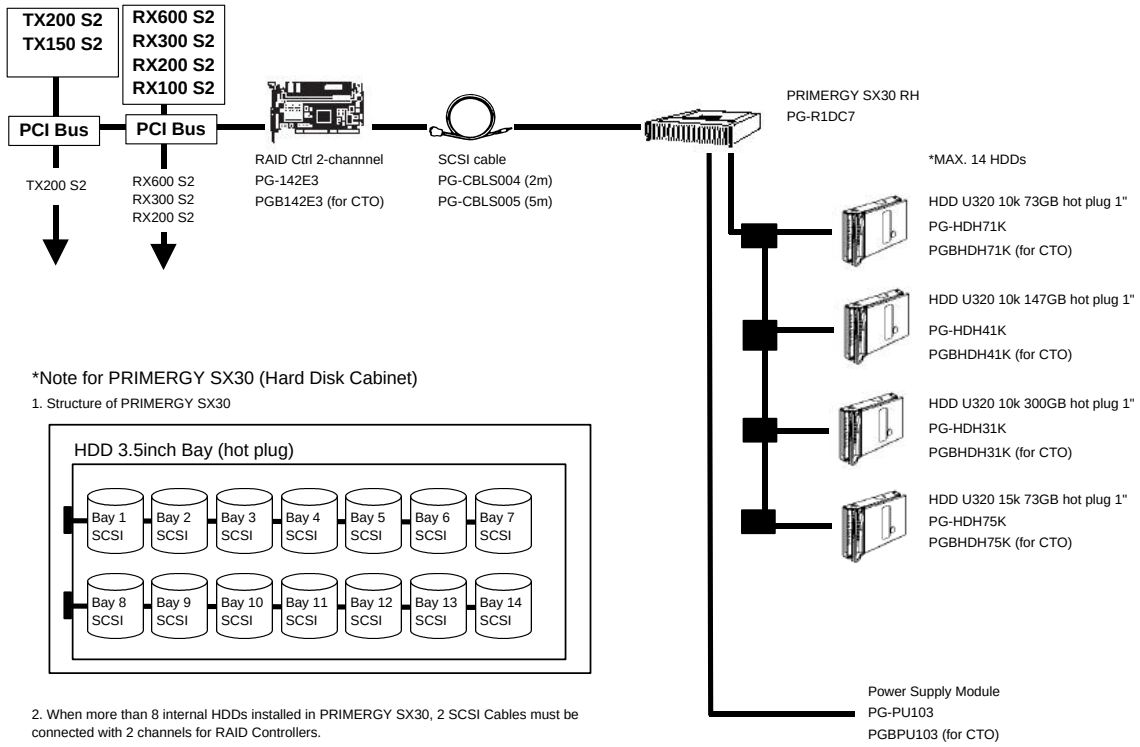
	Product Name	Product ID	No. of units occupied	19inch Standard Rack	
				No. of units required	Product ID
				40U + 2U x 2	PG-R6RC1
					PG-R6RC2
				24U + 2U	PG-R4RC3
					PG-R4RC4
Base Unit	PRIMERGY TX150 S2		5U	Rack Conversion kit for TX150 S2 (PG-R1CK15)	
	PRIMERGY TX200 S2		4U	Rack Conversion kit for TX200 S2 (PG-R1CK18)	
	PRIMERGY RX100 S2		1U	○	
	PRIMERGY RX200 S2		1U	○	
	PRIMERGY RX300 S2		2U	○	
	PRIMERGY RX600 S2		4U	○	
Hard Disk Devices	PRIMERGY SX30 RH	PG-R1DC7	3U	○	
	ETERNUS3000 Model 80 (Disk Array)		4-5U	○	
	ETERNUS3000 Model 100 (Disk Array)		4-9U	○	
	ETERNUS3000 Model 300 (Disk Array)		14-32U	○	
	ETERNUS3000 Model 500 (Disk Array)		14-56U	○	
	ETERNUS3000 Model 700 (Disk Array)		14-56U	○	
Backup Devices	PRIMERGY SX10	PG-R1BC4	3U	○	
Others	Keyboard & monitor mounting kit	GP5-R1TB6		○	
	Add-on BASE plate	GP5-R1TB7		○	
	Stabilizer	PG-R3ST1	-	○	

*○: supported



PRIMERGY Rackmount

Hard Disk Cabinet

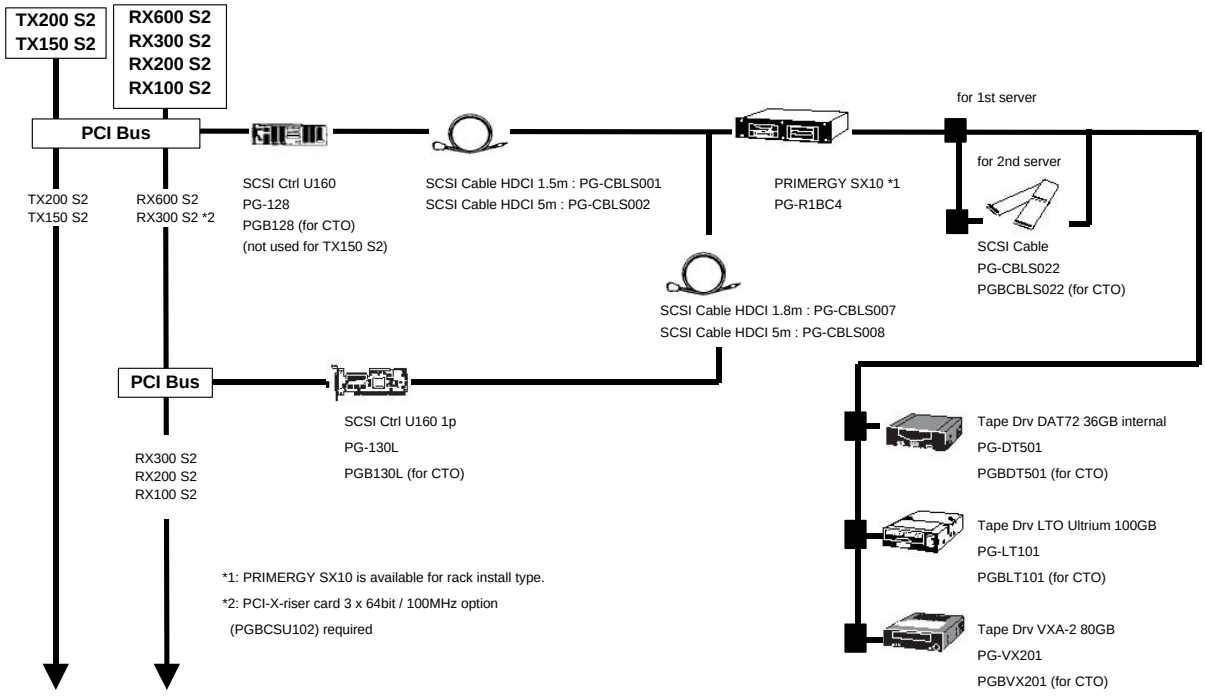


*Note for PRIMERGY SX30 (Hard Disk Cabinet)

1. Structure of PRIMERGY SX30

2. When more than 8 internal HDDs installed in PRIMERGY SX30, 2 SCSI Cables must be connected with 2 channels for RAID Controllers.

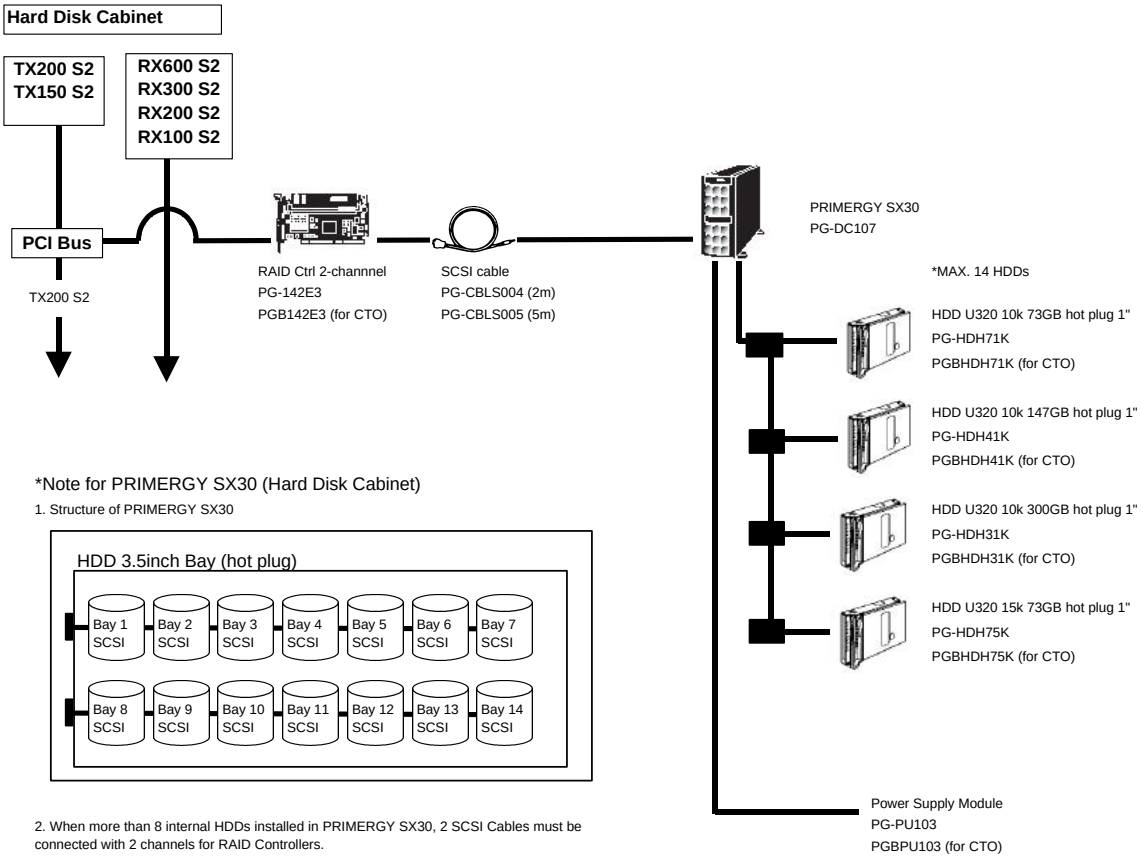
Internal Backup Devices with PRIMERGY SX10



*1: PRIMERGY SX10 is available for rack install type.

*2: PCI-X-riser card 3 x 64bit / 100MHz option (PGBCSU102) required

External Devices



*Note for PRIMERGY SX30 (Hard Disk Cabinet)

1. Structure of PRIMERGY SX30

2. When more than 8 internal HDDs installed in PRIMERGY SX30, 2 SCSI Cables must be connected with 2 channels for RAID Controllers.

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