

UNIVERGE® SV9500 V4

Configuration Guide

EMEA

NEC

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NEC Enterprise Solutions

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1.Introduction

This configuration guide provides information about the various configurations for the UNIVERGE SV9500 Appliance Server system, the charts and diagrams for determining the configured quantities, and the equipment capacities at the various modular increments.

A fully configured UNIVERGE SV9500 Appliance Server Model contains a UNIVERGE SV9500 CHASSIS, SCF-CP02-B (CPU) and SCG-PC00-C (EMA) and may include 7U-PIR(SN8174 PIREF-A) and TSW-BOX(SN8179 TSWBEA-A).

The SCF-CP02-B is a Main Processor which handles all activities associated with Peer-to-Peer (both SIP and NEC proprietary protocol) as well as traditional (TDM) telephones equipped. The CPU also has interface with SIP, NEC proprietary and traditional (TDM) devices such as Media Gateway Cards, Media Converter Cards and Line/Trunk circuit cards. 7U-PIR provides interface with traditional (TDM) interface cards. TSW-BOX enables UNIVERGE SV9500 system to expand traditional (TDM) interface capacity.

Main equipment for the UNIVERGE SV9500 system is:

- UNIVERGE SV9500 CHASSIS
The Chassis for UNIVERGE SV9500 system.
- SCF-CP02-B
The Main Processor for UNIVERGE SV9500 system. It is mounted into UNIVERGE SV9500 CHASSIS.
- 7U-PIR(SN8174 PIREF-A)
PIR (Port Interface Rack) which is available to mount traditional (TDM) circuit cards. In the basic configuration, 7U-PIRs are connected to UNIVERGE SV9500 system.
- TSW-BOX(SN8179 TSWBEA-A)
TSW-BOX which enable UNIVERGE SV9500 system to expand traditional (TDM) interface capacity. UNIVERGE SV9500 system with TSW-BOX permits up to 16 of PIRs in system configuration.

The UNIVERGE SV9500 system is available in various kinds of configurations. These configurations are shown below.

System Type	CPU Power Configuration	PIR	Input Power Source	Page
AC-Powered Model (Component Type)	Dual	Without PIR	AC100V (50/60 Hz)±10%×2	10
	Single		AC120V (50/60 Hz)±10%×2	11
	Dual	1 to 4-PIR	AC230V (50/60 Hz)±10%×2	12
	Single		AC240V (50/60 Hz)±10%×2	
DC-Powered Model (Built-up Type)	Dual	Without PIR	DC-48V ± 5V × 2	15
	Single			16
	Dual	1 to 4-PIR		17
	Single			
	Dual	5 to 16-PIR		20
	Single			

Several types of circuit card are used for the UNIVERGE SV9500 system.

There are card-types of CH, CJ, PA, PH, CA, CF, CG, GCD, GPZ and PZ. Those codes are depends on the board size of circuit cards.

<CH type>

CH-type is used for the circuit card which is installed into universal slot of 7U-PIR.

Most of line/trunk cards are CH-type.

i.e.CH-16ELCA, CH-PRTA

<CJ type>

CJ-type is used for the circuit card which is installed into center of 7U-PIR.

i.e.CJ-PC00(MUX)

<CA type>

CA-type is usually used for the circuit card which is installed into 1U-MPC Chassis.

MG-SIP16's are CA-type. Some of the CA-type card is installed into SV9500 Chassis.

i.e. CA-CC09(VS32), CA-CC10(MG-SIP16) ... Installed into 1U-MPC Chassis

CA-M01(Power supply card for TSW-BOX) ... Installed into SV9500 Chassis

<CF type and CG type>

CF and CG-type is used for the circuit card which is installed into SV9500 Chassis.

CF-type is for CPU and is installed into left-hand-side of Chassis.

CG-type is for System Control circuit card and is installed into right-hand-side of Chassis, also back-side of Chassis.

<GCD type >

GCD-type is used for the circuit card which is installed into UG50 Chassis.

i.e. GCD-CP00-GW(CPU card for UG50), GCD-8LCA

<GPZ type >

GPZ-type is used for the daughter board of the GCD card which is installed into UG50 Chassis.

i.e. GPZ-ME50-UG50 (Memory card of the CPU(GCD-CP00-GW))

GPZ-8DLCA (8 digital station interface daughter board for GCD-8DLCA/16DLCA)

<PZ type >

PZ-type is assigned other than those above. Mostly used for sub-board/daughter-board. Sometime used for the circuit card in TSW-BOX, Desk console and other peripheral components.

When those circuit cards need firmware or the product consists of several cards, we produce Stock Pattern which contains circuit card(s) and firmware. For Stock Pattern, we put "S" in front of circuit card type.

i.e. CH with firmware → SCH-xxx

PA with firmware/card → SPA-xxx

CA with firmware/card → SCA-xxx

PZ with firmware/card → SPZ-xxx

Abbreviation of feature/function is next to the circuit card type.

See below for some example.

CP: for CPU e.g. CF-CP02 for SV9500 CPU

PC: for System Control e.g. CG-PC00(EMA), CJ-PC00(MUX), PH-PC36(MUX)

M: for Miscellaneous e.g. CG-M03/02(EMA-subA/B), CH-M01(NCU),
CA-M01(Power Supply card for TSW-BOX)

GT: for Gate/EXB e.g. CG-GT01

IO: for I/O Interface e.g. CG-IO00

SW: for Time Division Switch e.g. PZ-SW25-A

LC: for Analog Line Circuit e.g. CH-16LCA

ELC: for Digital Line Circuit for PIR e.g. CH-16ELCA

DLC: for Digital Line Circuit for UG50 e.g. GCD-16DLCA

RST: for Register and Sender e.g. CH-8RSTA

CS: for Attendant Trunk Interface Circuit e.g. CH-CS00

CFT: for conference e.g. CH-CFTA

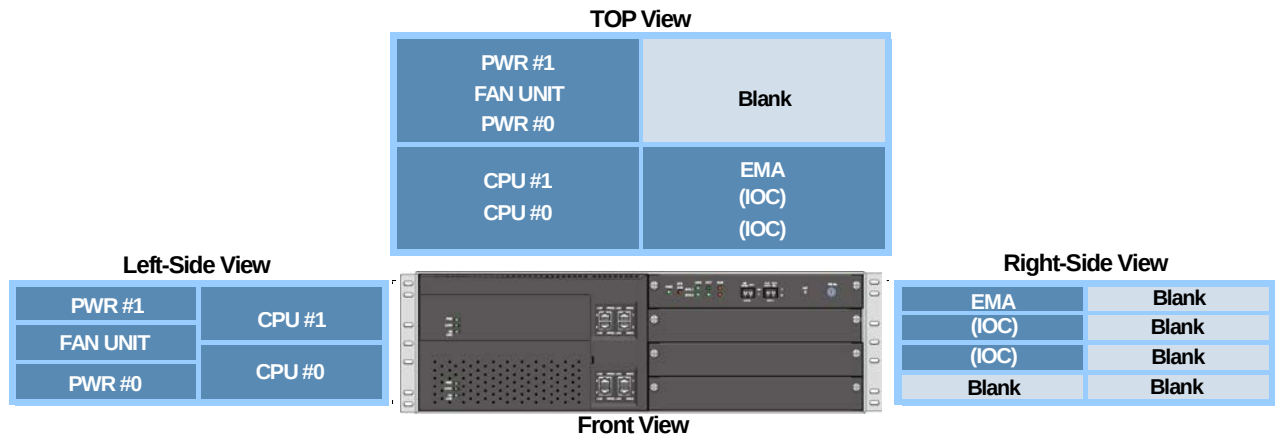
2. System Configuration

The UNIVERGE SV9500 system is available in various kinds of configurations. These various configurations are shown below.

2.1. AC-Powered Model (Component Type)

UNIVERGE SV9500 system is mounted in 19-inch rack.

2.1.1 CPU/Power Dual System without PIR



Abbreviation	Item	Description	Q'ty
Chassis	UNIVERGE SV9500 CHASSIS	Chassis to mount Control Circuit Card E.g. CPU, EMA, EMA SUB and EXB Card	1
CPU #0 / #1	SCF-CP02-B	Main Processor for UNIVERGE SV9500 System Intel Core i3 330E CPU, 2GByte Memory(2G x 1)	2
Compact Flash	CF 8GB	8G Byte CF Card	2
EMA	SCG-PC00-C	EMA Circuit Card for UNIVERGE SV9500 System	1
PWR #0 / #1	SN1751 PWRMAB	PWR Circuit Card for AC	2
IOC (*1)	SCG-IO00-B	IO Card for SV9500	0 – 2

(*1): IOC Card (SCG-IO00-B) is optional.

Redundancy of Main Processor is available regardless of the configuration of PWR Unit. In other words, the following combinations are possible.

- SV9500 dual system and single PWR system.
- SV9500 dual system and dual PWR system.

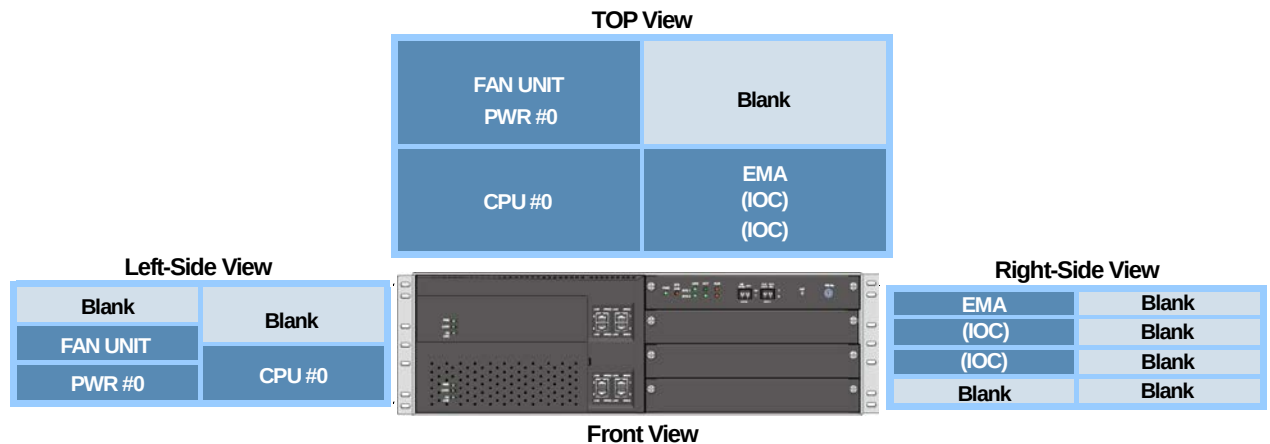
Redundancy of PWR Unit is available regardless of the configuration (single/dual) of SV9500 Main Processor. In other words, the following combinations are possible.

- Dual PWR Unit and SV9500 single CPU system.
- Single PWR Unit and SV9500 dual CPU system.

Note: EMA SUB-A is not required for the above system configuration “Full-IP system”.

Note: Front Cover for SV9500 Main Processor is included in UNIVERGE SV9500 CHASSIS. This cannot be ordered individually.

2.1.2 CPU/Power Single System without PIR



Abbreviation	Item	Description	Q'ty
Chassis	UNIVERGE SV9500 CHASSIS	Chassis to mount Control Circuit Card E.g. CPU, EMA, EMA SUB and EXB Card	1
CPU #0	SCF-CP02-B	Main Processor for UNIVERGE SV9500 System Intel Core i3 330E CPU, 2GByte Memory(2G x 1)	1
Compact Flash	CF 8GB	8G Byte CF Card	1
EMA	SCG-PC00-C	EMA Circuit Card for UNIVERGE SV9500 System.	1
PWR #0	SN1751 PWRMAB	PWR Circuit Card for AC.	1
IOC (*1)	SCG-IO00-B	IO Card for SV9500	0 – 2

(*1): IOC Card (SCG-IO00-B) is optional.

Redundancy of Main Processor is available regardless of the configuration of PWR Unit. In other words, the following combinations are possible.

- SV9500 dual system and single PWR system.
- SV9500 dual system and dual PWR system.

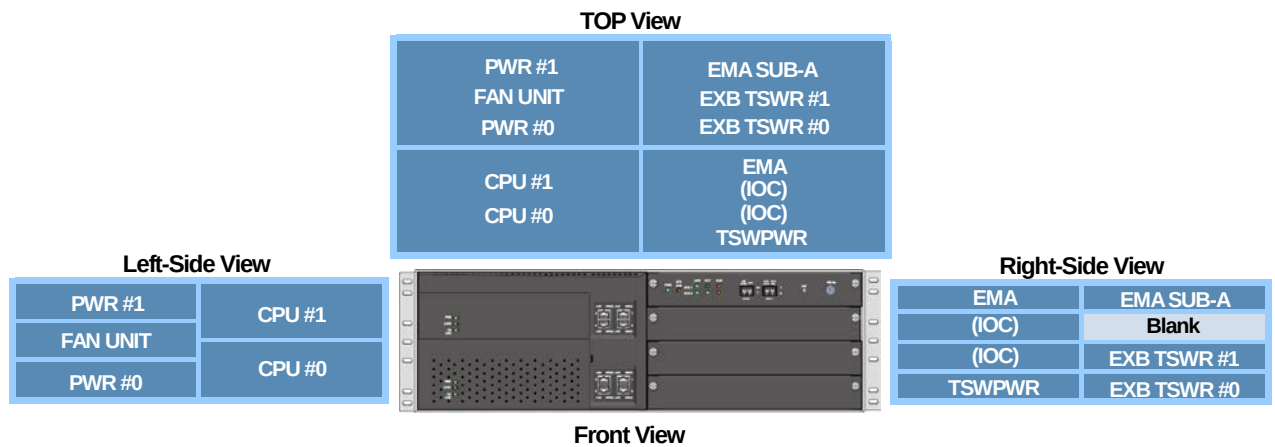
Redundancy of PWR Unit is available regardless of the configuration (single/dual) of SV9500 Main Processor. In other words, the following combinations are possible.

- Dual PWR Unit and SV9500 single CPU system.
- Single PWR Unit and SV9500 dual CPU system.

Note:	EMA SUB-A is not required for the above system configuration “Full-IP system”.
Note:	Front Cover for SV9500 Main Processor is included in UNIVERGE SV9500 CHASSIS. This cannot be ordered individually.

2.1.3 CPU/Power Single/Dual System with PIR

The figure below shows the CPU/Power dual system.



Abbreviation	Item	Description	Q'ty	
			Single	Dual
Chassis	UNIVERGE SV9500 CHASSIS	Chassis to mount Control Circuit Card E.g. CPU, EMA, EMA SUB and EXB Card	1	1
CPU #0 / #1	SCF-CP02-B	Main Processor for UNIVERGE SV9500 System Intel Core i3 330E CPU, 2GByte Memory(2G x 1)	1	2
Compact Flash	CF 8GB	8G Byte CF Card	1	2
EMA	SCG-PC00-C	EMA Circuit Card for UNIVERGE SV9500 System.	1	1
EMA SUB-A	SCG-M03-B	EMA SUB-A Circuit Card for UNIVERGE SV9500 System with PIR0 to PIR3.	1	1
EXB TSWR #0 / #1	SCG-GT01-B	Extend Bridge Circuit Card (bridge between PCI Express and TDM interface) for UNIVERGE SV9500 System with TSW-BOX	1	2
TSWPWR	SCA-M01-A	PWR Circuit Card for TSW-BOX	1	1
PWR #0 / #1	SN1751 PWRMAB	PWR Circuit Card for AC.	1	2
IOC (*1)	SCG-IO00-B	IO Card for SV9500	0 - 2	0 - 2

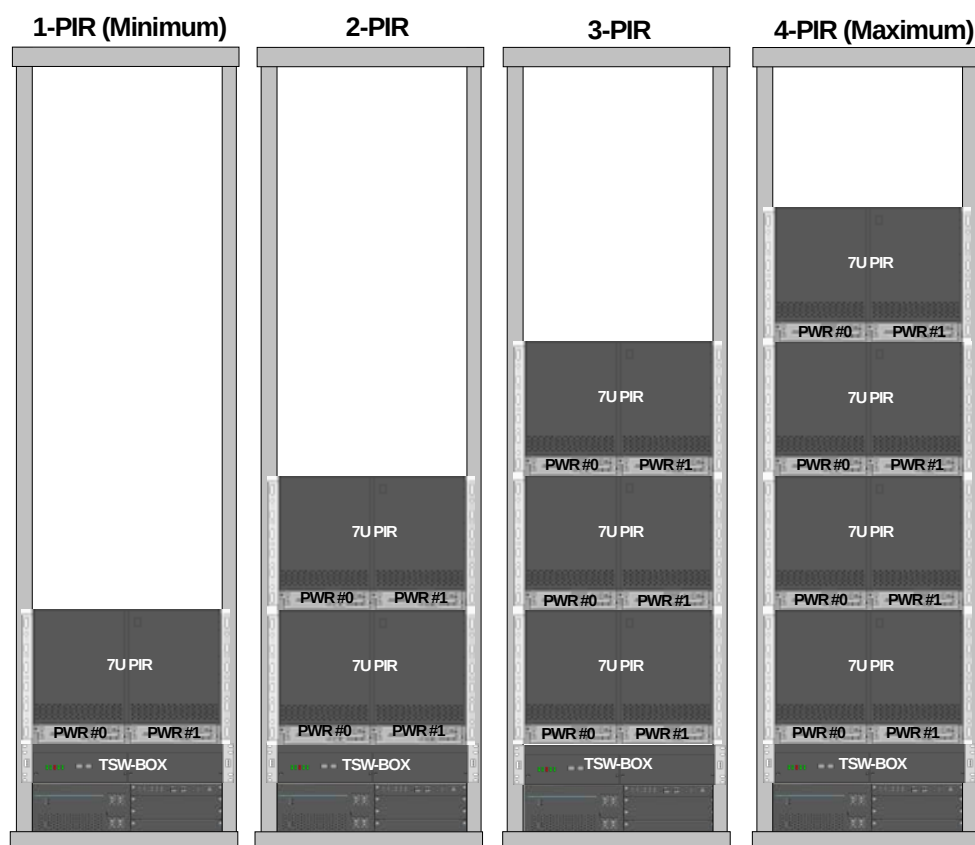
(*1): IOC Card (SCG-IO00-B) is optional.

Shown above is Dual Configuration. For Single Configuration, each item #1 is not required.

Note:

Front Cover for SV9500 Main Processor is included in UNIVERGE SV9500 CHASSIS. This cannot be ordered individually.

7U-PIR Configuration



Abbreviation	Item	Description	Q'ty
7U PIR	SN8174 PIREF-A	7U PIR(including FANU)	1 – 4
PWR #0 / #1	SN1769 PWRMAD	AC-DC power unit for 7U PIR *One ferrite core "E04SR301334" is included for installing it to AC power cable.	1 – 8
TSW-BOX	SN8179 TSWBEA-A	TSW Box	1
1U PWR (*1)	GPP1U RACK AA RACK	"Shin-Dengen" 1U-PWR(AC-DC Power Unit) for feeding -48V to the product such as BBU. When using BBU,	0 – 1
	GPR-48-1000N	place the BBU under the PIR#0.	0 – 2
	BLANK-U		0 – 1
Ferrite core (*1)	E04SR301334	Ferrite core for EMI suppression *This ferrite core is required for each GPR-48-1000N's AC cord when the power is used for feeding -48V to the product such as BBU in the system all PIRs are 7U-PIR	0 – 8

(*1): Optional.

Two SN1769 PWRMADs can be mounted in 7U PIR for Dual PWR system.

Note:

Front Cover for 7U-PIR is included in SN8174 PIREF-A. This cannot be ordered individually.

[Limitation]

TSW-BOX has to be mounted just above the CPU chassis because of the limited length of the cable making a connection between EXB TSWR and TSW-BOX (350mm).

Redundancy of 7U PIR (TSW/MUX and PWR) is available regardless of the configuration (single/dual) of SV9500 Main Processor. In other words, the following combinations are possible.

- SV9500 dual system and PIR single system (TSW/MUX and PWR)
- SV9500 single system and PIR dual system (TSW/MUX and PWR)

For SV9500 dual system and TSW/MUX single system:

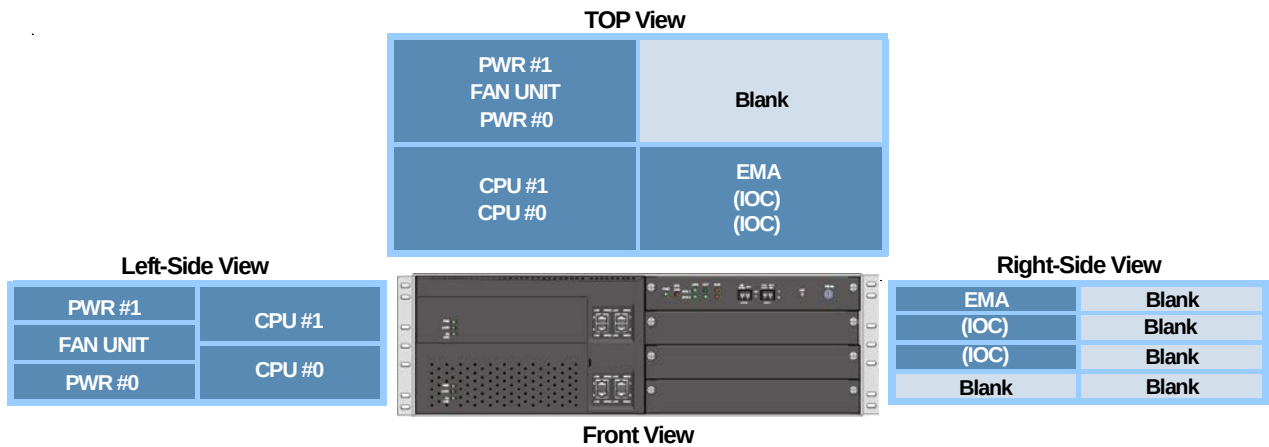
Single / Dual	Item	Q'ty	Remarks
SV9500 dual system	SCF-CP02-B	2	For #0 and #1
	SCG-GT01-B	2	For #0 and #1
	D37-SC50 CA-E	2	For #0 and #1
TSW/MUX single system	SPZ-SW25-A	1	For #0 (single)
	CJ-PC00	1	For #0 (single)

For SV9500 single system and TSW/MUX dual system:

Single / Dual	Item	Q'ty	Remarks
SV9500 single system	SCF-CP02-B	1	For #0 (single)
	SCG-GT01-B	1	For #0 (single)
	D37-SC50 CA-E	1	For #0 (single)
TSW/MUX dual system	SPZ-SW25-A	2	For #0 and #1
	CJ-PC00	2	For #0 and #1

2.2 DC-Powered Model (Built-up Type)

2.2.1 CPU/Power Dual System without PIR



Abbreviation	Item	Description	Q'ty
Chassis	UNIVERGE SV9500 CHASSIS	Chassis to mount Control Circuit Card E.g. CPU, EMA, EMA SUB and EXB Card	1
CPU #0 / #1	SCF-CP02-B	Main Processor for UNIVERGE SV9500 System Intel Core i3 330E CPU, 2GByte Memory(2G x 1)	2
Compact Flash	CF 8GB	8G Byte CF Card	2
EMA	SCG-PC00-C	EMA Circuit Card for UNIVERGE SV9500 System.	1
PWR #0 / #1	SN1753 PWRMAC	PWR Circuit Card for DC	2
IOC (*1)	SCG-IO00-B	IO Card for SV9500	0 – 2

(*1): IOC Card (SCG-IO00-B) is optional.

Redundancy of Main Processor is available regardless of the configuration of PWR Unit. In other words, the following combinations are possible.

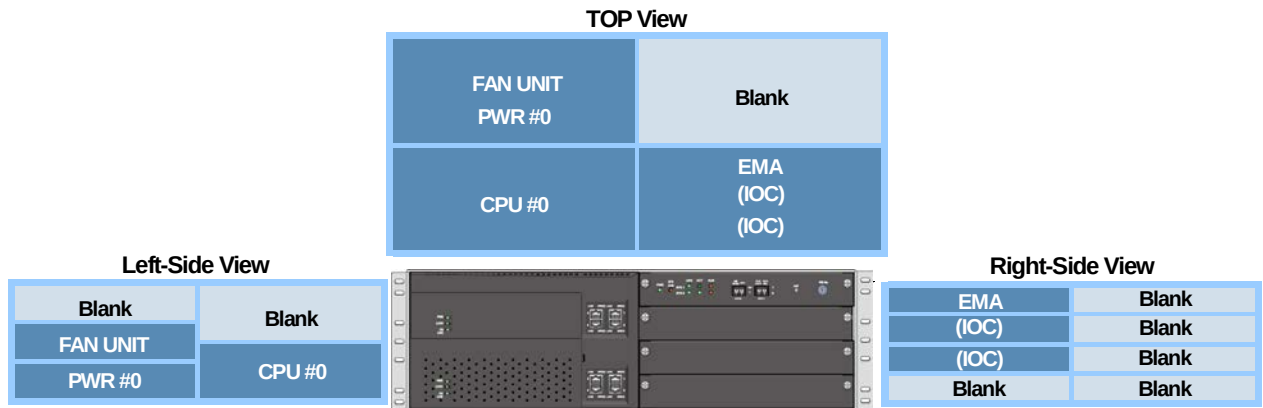
- SV9500 dual system and single PWR system.
- SV9500 dual system and dual PWR system.

Redundancy of PWR Unit is available regardless of the configuration (single/dual) of SV9500 Main Processor. In other words, the following combinations are possible.

- Dual PWR Unit and SV9500 single CPU system.
- Single PWR Unit and SV9500 dual CPU system.

Note:	EMA SUB-A is not required for the above system configuration “Full-IP system”.
Note:	Front Cover for SV9500 Main Processor is included in UNIVERGE SV9500 CHASSIS. This cannot be ordered individually.

2.2.2 CPU/Power Single System without PIR



Front View			
Abbreviation	Item	Description	Q'ty
Chassis	UNIVERGE SV9500 CHASSIS	Chassis to mount Control Circuit Card E.g. CPU, EMA, EMA SUB and EXB Card	1
CPU #0 / #1	SCF-CP02-B	Main Processor for UNIVERGE SV9500 System Intel Core i3 330E CPU, 2GByte Memory(2G x 1)	1
Compact Flash	CF 8GB	8G Byte CF Card	1
EMA	SCG-PC00-C	EMA Circuit Card for UNIVERGE SV9500 System.	1
PWR #0 / #1	SN1753 PWRMAC	PWR Circuit Card for DC	1
IOC (*1)	SCG-IO00-B	IO Card for SV9500	0 – 2

(*1): IOC Card (SCG-IO00-B) is optional.

Redundancy of Main Processor is available regardless of the configuration of PWR Unit. In other words, the following combinations are possible.

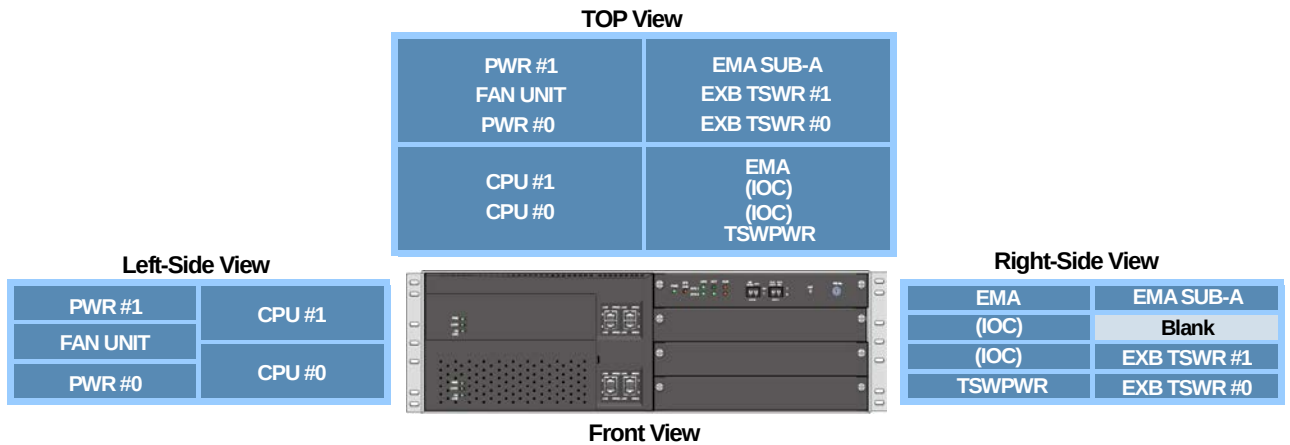
- SV9500 dual system and single PWR system.
- SV9500 dual system and dual PWR system.

Redundancy of PWR Unit is available regardless of the configuration (single/dual) of SV9500 Main Processor. In other words, the following combinations are possible.

- Dual PWR Unit and SV9500 single CPU system.
- Single PWR Unit and SV9500 dual CPU system.

Note:	EMA SUB-A is not required for the above system configuration “Full-IP system”.
Note:	Front Cover for SV9500 Main Processor is included in UNIVERGE SV9500 CHASSIS. This cannot be ordered individually.

2.2.3 CPU/Power Single/Dual System with 1-PIR to 4-PIR



Abbreviation	Item	Description	Q'ty	
			Single	Dual
Chassis	UNIVERGE SV9500 CHASSIS	Chassis to mount Control Circuit Card E.g. CPU, EMA, EMA SUB and EXB Card	1	1
CPU #0 / #1	SCF-CP02-B	Main Processor for UNIVERGE SV9500 System Intel Core i3 330E CPU, 2GByte Memory(2G x 1)	1	2
Compact Flash	CF 8GB	8G Byte CF Card	1	2
EMA	SCG-PC00-C	EMA Circuit Card for UNIVERGE SV9500 System.	1	1
EMA SUB-A	SCG-M03-B	EMA SUB-A Circuit Card for UNIVERGE SV9500 System with PIR0 to PIR3.	1	1
EXB TSWR #0 / #1	SCG-GT01-B	Extend Bridge Circuit Card (bridge between PCI Express and TDM interface) for UNIVERGE SV9500 System with TSW-BOX	1	2
TSWPWR	SCA-M01-A	PWR Circuit Card for TSW-BOX	1	1
PWR #0 / #1	SN1753 PWRMAC	PWR Circuit Card for DC	1	2
IOC (*1)	SCG-IO00-B	IO Card for SV9500	0 - 2	0 - 2

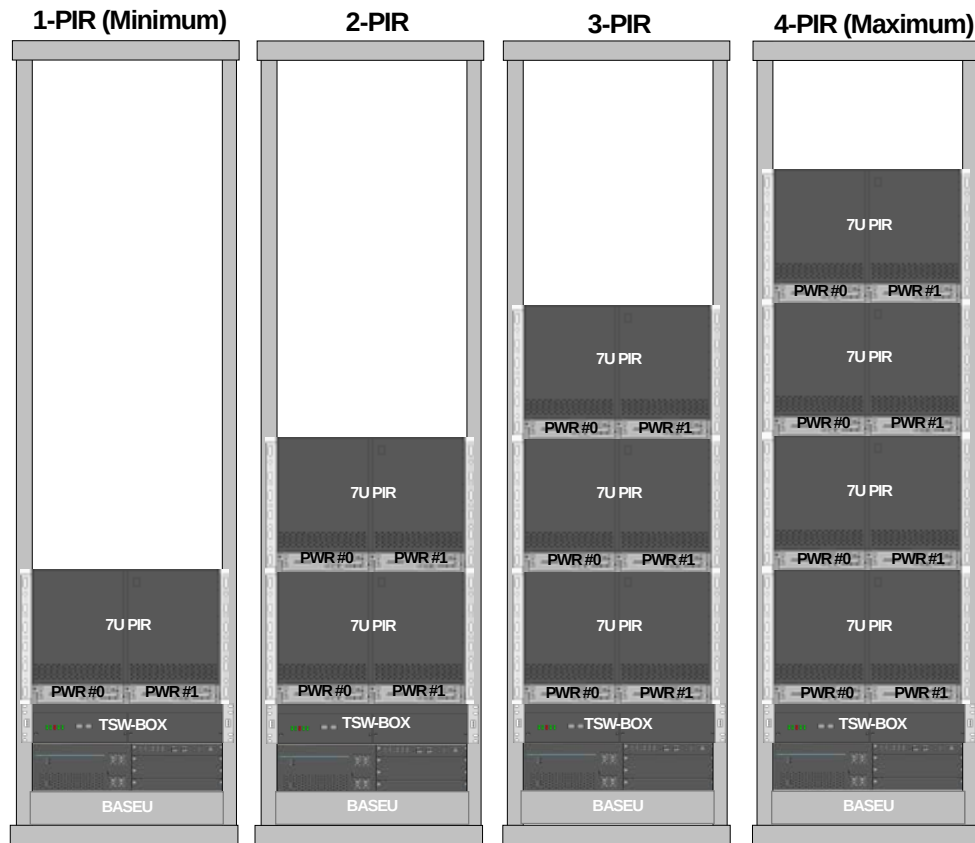
(*1): IOC Card (SCG-IO00-B) is optional.

Shown above is Dual Configuration. For Single Configuration, each item #1 is not required.

Note:

Front Cover for SV9500 Main Processor is included in UNIVERGE SV9500 CHASSIS. This cannot be ordered individually.

7U-PIR Configuration



Abbreviation	Item	Description	Q'ty
7U PIR	SN8174 PIREF-A	7U PIR(including FANU)	1 – 4
PWR #0 / #1	SN1770 PWRMAE	DC-DC power unit for 7U PIR	1 – 8
TSW-BOX	SN8179 TSWBEA-A	TSW-BOX	1
BASEU	SN1749 BASEUD-A	Base Unit	1
SV95 CHASSIS	Chassis, CPU, EMA and PWR, Refer to previous pages for detail information		1

Note: Front Cover for 7U-PIR is included in SN8174 PIREF-A. This cannot be ordered individually.

[Limitation]

If the total height of the system exceeds the heights of 19 inch rack, it is necessary to use another 19 inch rack.

TSW-BOX has to be mounted just above the CPU chassis because of the limited length of the cable making a connection between EXB TSWR and TSW-BOX (350mm).

Redundancy of 7U PIR (TSW/MUX and PWR) is available regardless of the configuration (single/dual) of SV9500 Main Processor. In other words, the following combinations are possible.

- SV9500 dual system and PIR single system (TSW/MUX and PWR)
- SV9500 single system and PIR dual system (TSW/MUX and PWR)

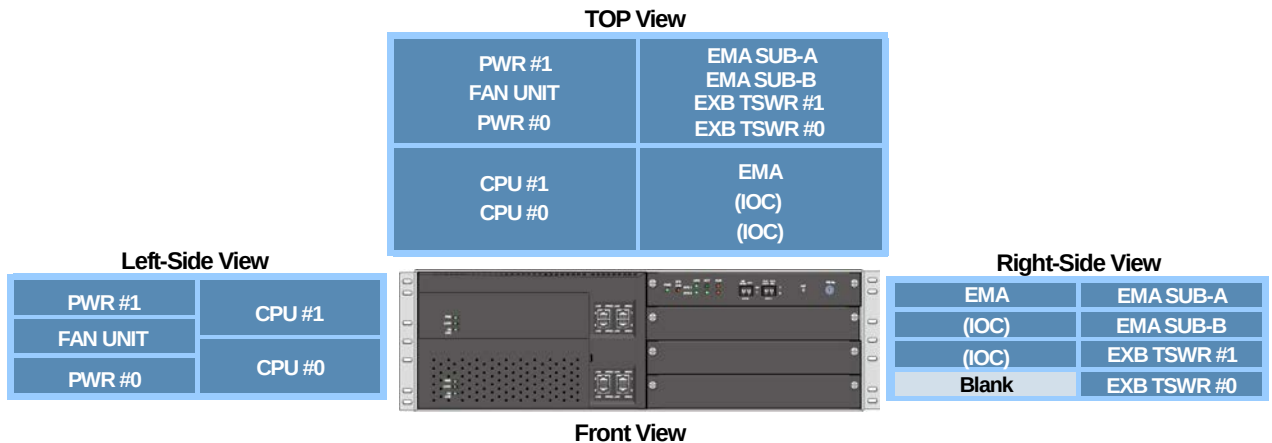
For SV9500 dual system and TSW/MUX single system:

Single / Dual	Item	Q'ty	Remarks
SV9500 dual system	SCF-CP02-B	2	For #0 and #1
	SCG-GT01-B	2	For #0 and #1
	D37-SC50 CA-E	2	For #0 and #1
TSW/MUX single system	SPZ-SW25-A	1	For #0 (single)
	CJ-PC00	1	For #0 (single)

For SV9500 single system and TSW/MUX dual system:

Single / Dual	Item	Q'ty	Remarks
SV9500 single system	SCF-CP02-B	1	For #0 (single)
	SCG-GT01-B	1	For #0 (single)
	D37-SC50 CA-E	1	For #0 (single)
TSW/MUX dual system	SPZ-SW25-A	2	For #0 and #1
	CJ-PC00	2	For #0 and #1

2.2.4 CPU/Power Single/Dual System with 5-PIR to 16-PIR



Abbreviation	Item	Description	Q'ty	
			Single	Dual
Chassis	UNIVERGE SV9500 CHASSIS	Chassis to mount Control Circuit Card E.g. CPU, EMA, EMA SUB and EXB Card	1	1
CPU #0 / #1	SCF-CP02-B	Main Processor for UNIVERGE SV9500 System Intel Core i3 330E CPU, 2GByte Memory(2G x 1)	1	2
Compact Flash	CF 8GB	8G Byte CF Card	1	2
EMA	SCG-PC00-C	EMA Circuit Card for UNIVERGE SV9500 System.	1	1
EMA SUB-A	SCG-M03-B	EMA SUB-A Circuit Card for UNIVERGE SV9500 System with PIR0 to PIR3.	1	1
EMA SUB-B	SCG-M02-B	EMA SUB-B Circuit Card for UNIVERGE SV9500 System with PIR4 to PIR15.	1	1
EXB TSWR #0 / #1	SCG-GT01-B	Extend Bridge Circuit Card (bridge between PCI Express and TDM interface) for UNIVERGE SV9500 System with TSW-BOX.	1	2
PWR #0 / #1	SN1753 PWRMAC	PWR Circuit Card for DC	1	2
IOC (*1)	SCG-IO00-B	IO Card for SV9500	0 - 2	0 - 2

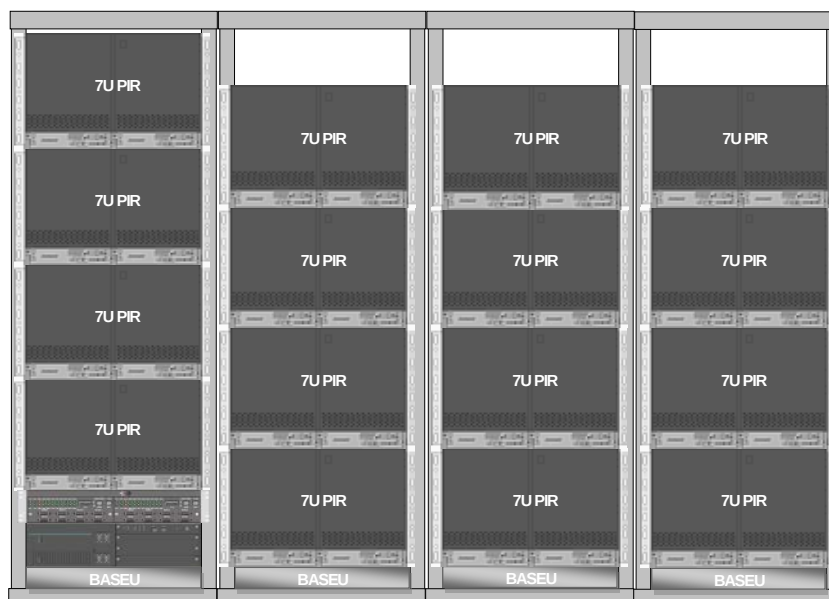
(*1): IOC Card (SCG-IO00-B) is optional.

Shown above is Dual Configuration. For Single Configuration, each item #1 is not required.

Note:

Front Cover for SV9500 Main Processor is included in UNIVERGE SV9500 CHASSIS. This cannot be ordered individually.

16-PIR (Maximum)



Abbreviation	Item	Description	Q'ty
PIR	SN8174 PIREF-A	7U PIR(including FANU)	5-16
PWR #0 / #1	SN1770 PWRMAE	DC-DC power unit for 7U PIR	5-32
TSW-BOX	SN8179 TSWBEA-A	TSW -BOX	1
BASEU	SN1749 BASEUD-A	Base Unit	2-5
SV95 CHASSIS	Chassis, CPU, EMA and PWR. Refer to previous pages for detail information.		1

Note: Front Cover for 7U-PIR is included in SN8174 PIREF-A. This cannot be ordered individually.

[Limitation]

Mount 4 PIRs in each rack as possible.

TSW-BOX has to be mounted just above the CPU chassis because of the limited length of the cable making a connection between EXB TSWR and TSW-BOX (350mm).

Redundancy of 7U (TSW/MUX and PWR) is available regardless of the configuration (single/dual) of SV9500 Main Processor. In other words, the following combinations are possible.

- SV9500 dual system and PIR single system (TSW/MUX and PWR)
- SV9500 single system and PIR dual system (TSW/MUX and PWR)

For SV9500 dual system and TSW/MUX single system:

Single / Dual	Item	Q'ty	Remarks
SV9500 dual system	SCF-CP02-B	2	For #0 and #1
	SCG-GT01-B	2	For #0 and #1
	D37-SC50 CA-E	2	For #0 and #1
TSW/MUX single system	SPZ-SW26-A	1	For #0 (single)
	CJ-PC00(for 7U PIR)	1	For #0 (single)

For SV9500 single system and TSW/MUX dual system:

Single / Dual	Item	Q'ty	Remarks
SV9500 single system	SCF-CP02-B	1	For #0 (single)
	SCG-GT01-B	1	For #0 (single)
	D37-SC50 CA-E	1	For #0 (single)
TSW/MUX dual system	SPZ-SW26-A	2	For #0 and #1
	CJ-PC00(for 7U PIR)	2	For #0 and #1

3.Cables

3.1 List of Cables Required for SV9500

No.	Product Name	System		Remarks
		IMG	MMG	
1	D15 ST-F CA-A	X	-	External ALM Cable from CPU CHASSIS to PIR0 (900mm) (within same Rack)
2	D37-SC50 CA-E	X	X	External BUS Cable from CPU CHASSIS to TSW-BOX (350mm)
3	D25 EXALM CA-A	X	X	External ALM Cable from CPU CHASSIS to MDF (2000mm)
4	D15 ST CA-A	X	X	External ALM Cable between PIRs (within same Rack) (500mm)
5	D15 ST CA-B			External ALM Cable between PIRs (in separate Rack) (3000mm)
6	D26-D25 TSW-PIR CA-A	X	-	External MUX Cable from TSW-BOX to PIR0,1, 2, or 3 (within same Rack) (1500mm)
7	D26-D25 TSW-PIR CA-B			External MUX Cable from TSW-BOX to PIR0,1, 2, or 3 (in separate Rack) (3000mm)
8	D26-D25 TSW-PIR CA-C	-	X	External MUX Cable from TSW-BOX to PIR0-15 (6000mm)
9	MT24-D25 CA-C	X	X	Internal TSW/MUX Cable (950mm)
10	D37 EXCLK CA-A	X	X	External MOH/CLK Cable from TSW-BOX to MDF (2000mm)
11	D15 ST-F CA-C	-	X	External ALM Cable from CPU CHASSIS to PIR0, 4, 8, 12 (5000mm)
12	D15 ST-FF CA-C	X	X	Cable for Alarm display panel between EMA SUB-A (SCG-M03-B) and DSPP (Optional) (6000mm) (Note1)
15	D09 POW CA-A	X	X	Internal PWR Cable from SCA-M01-A in CPU Chassis to TSW-BOX(500mm)
17	D09 ST CA-A	X	X	DC fuse Alarm to PIR (PIR0) cabling (6000mm) (Required for DC input system) (Note2)
18	SV 4PORT CA-A	X	X	4 Ports connecting cable for SCG-IO00-B (Optional) *This cable is required only when using SCG-IO00-B

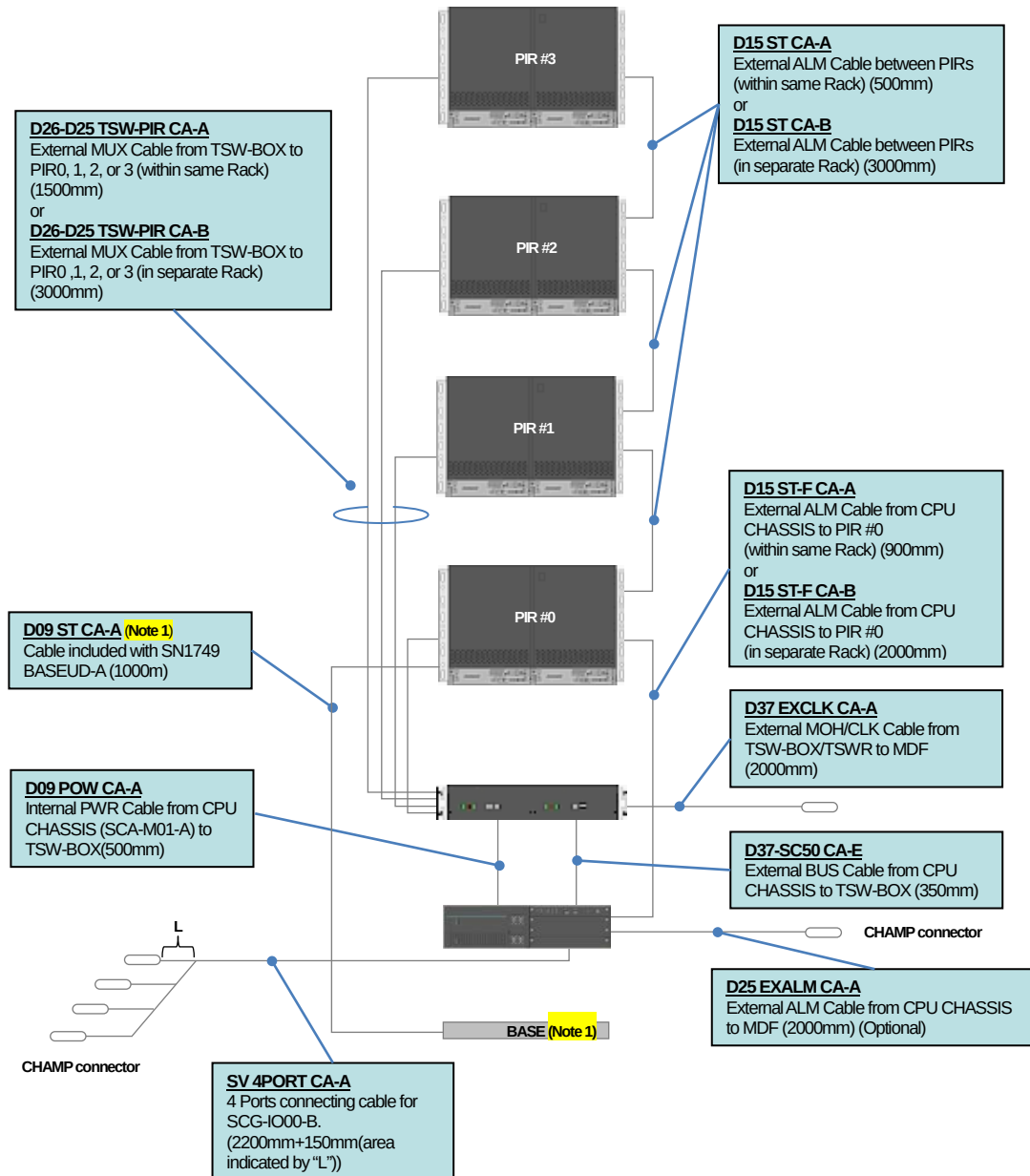
Note 1: This cable is provided with "SV9500 DSPP".

Note 2: This cable is provided with "SN1749 BASEUD-A".

3.2 Cable Connection Diagram for IMG (4-PIR)

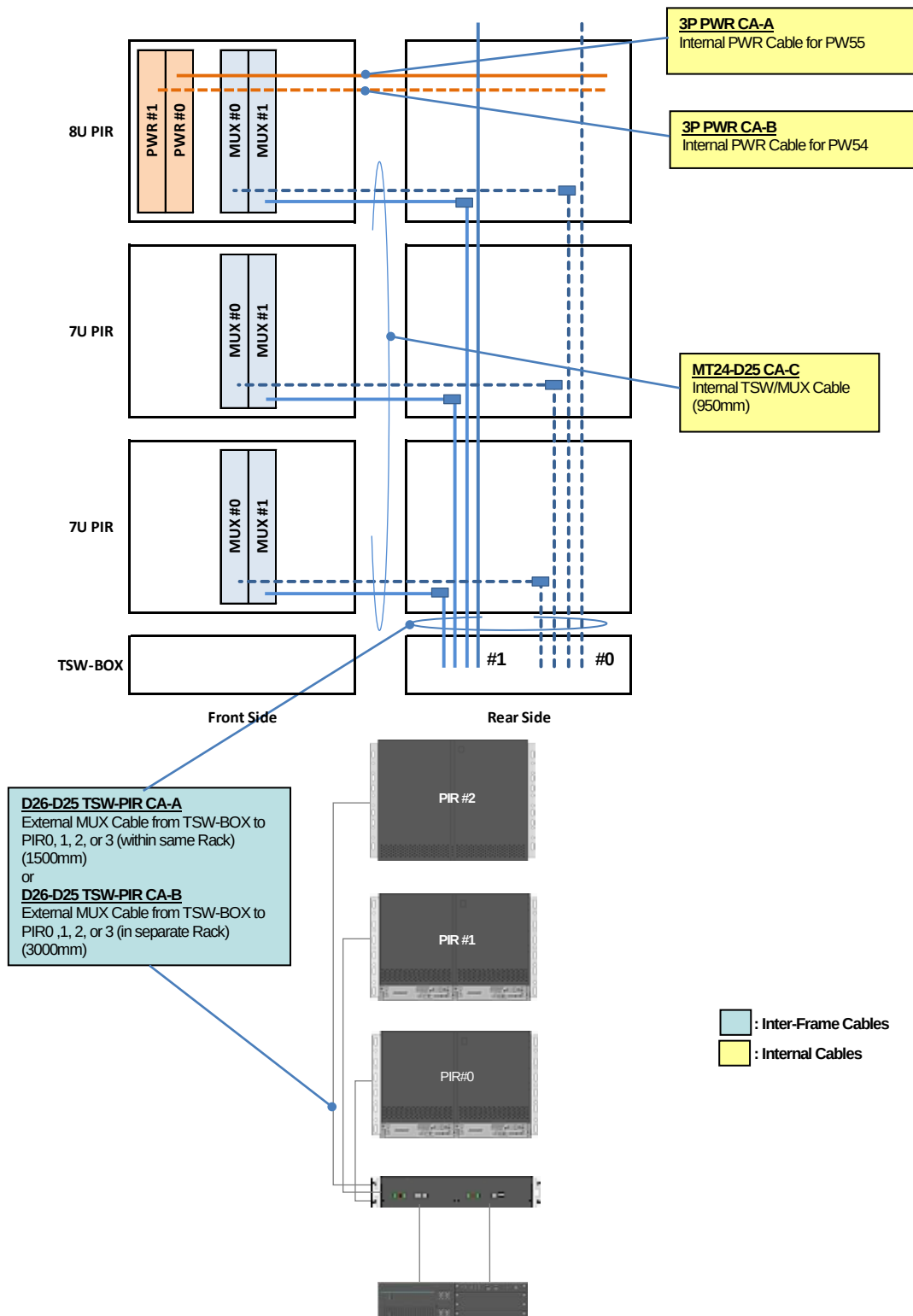
The following shows the cable connection diagram for IMG (4-PIR) system. The diagram can be shared between AC-Model (Component Type) and DC-Model (Built-up Type).

3.2.1 Inter-Frame Cables for IMG (except AC/DC Power Cable)



Note 1: Required only for DC input system.

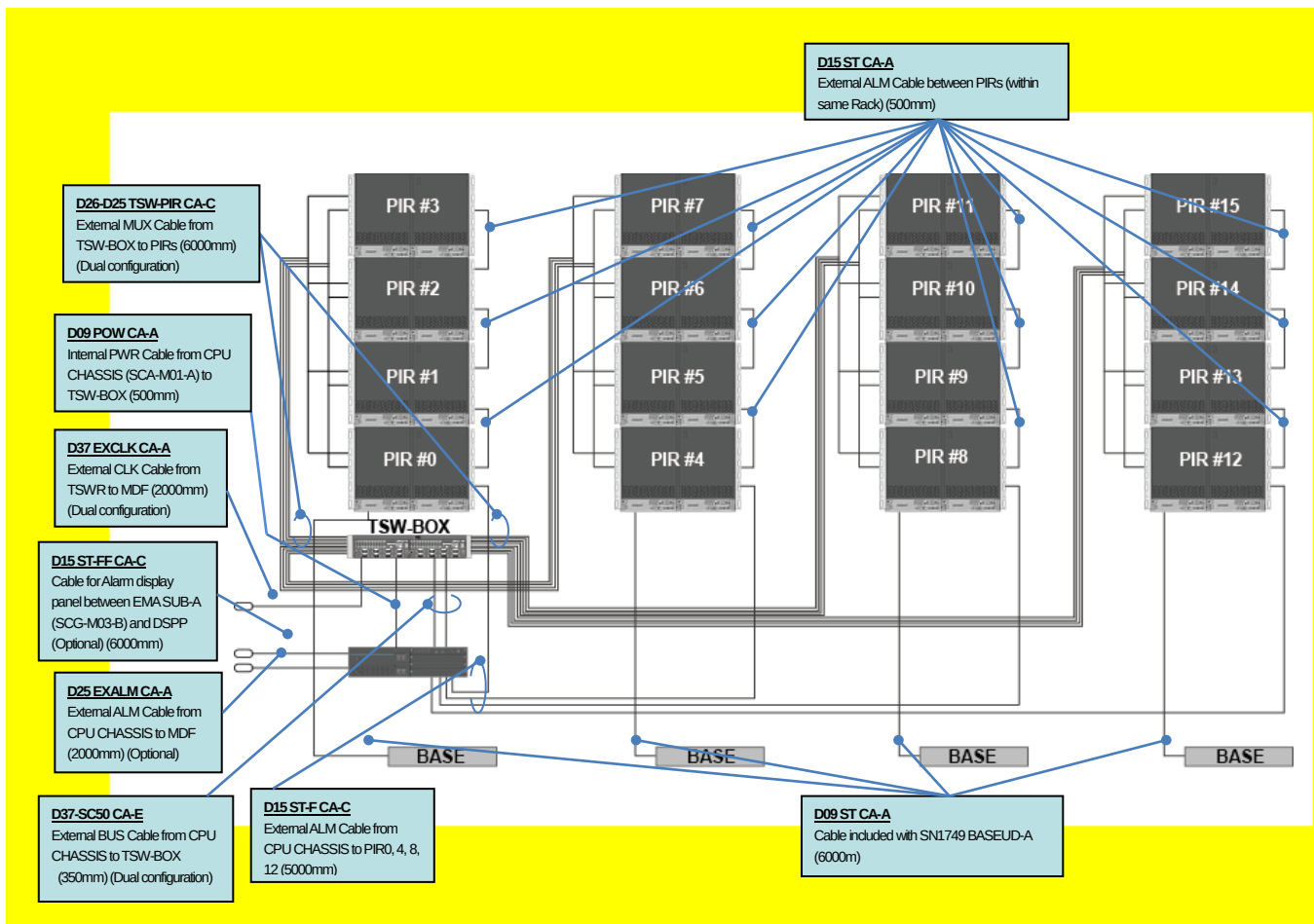
3.2.2 Internal Cables for IMG



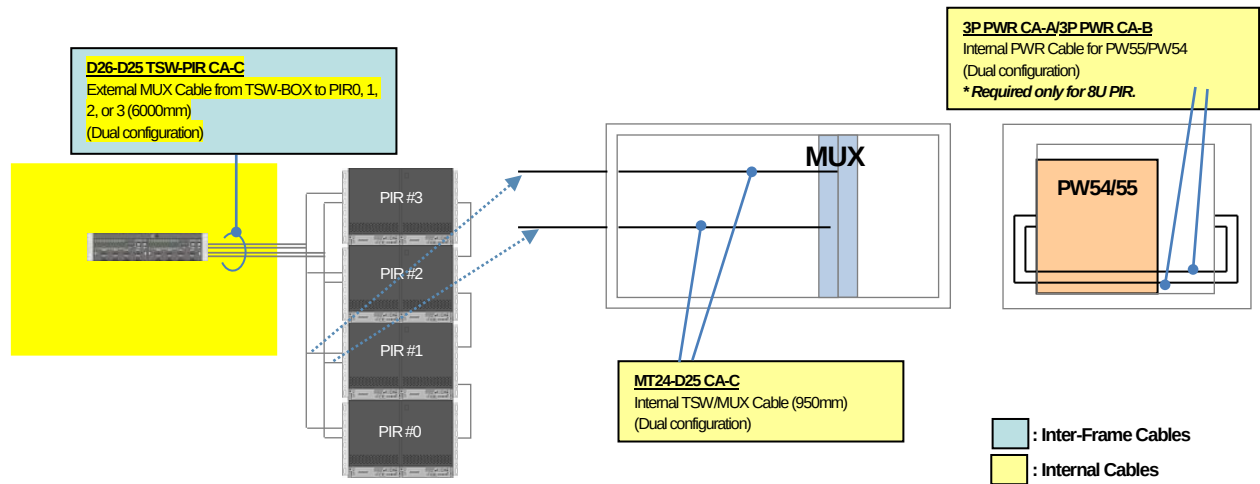
3.3 Cable Connection Diagram for MMG (16-PIR)

The following shows the cable connection diagram for MMG (16-PIR) system.

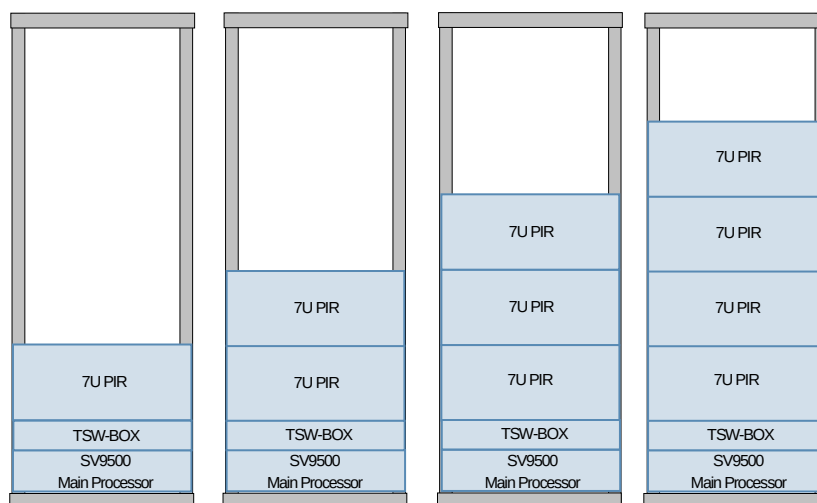
3.3.1 Cable Connection Diagram for MMG (16-PIR)



3.3.2 Internal Cables for MMG



3.4 Cables for IMG (1-PIR to 4-PIR) - AC-Powered Model (Component Type)

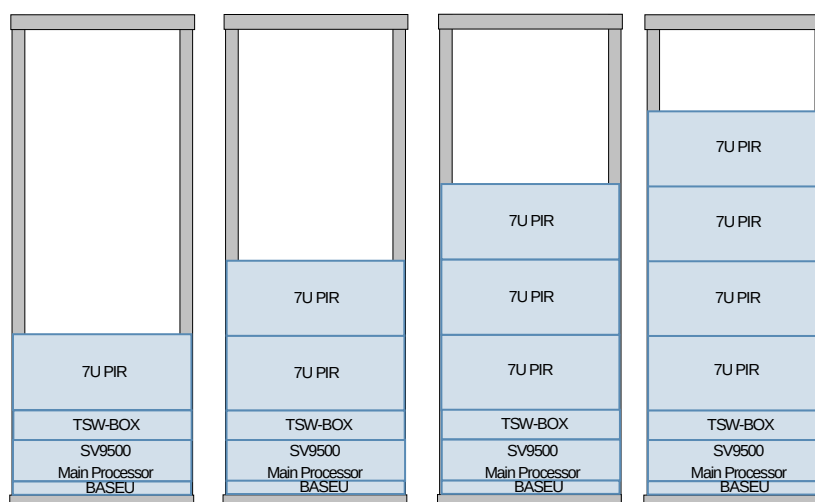


		1-PIR		2-PIR		3-PIR		4-PIR	
		Single	Dual	Single	Dual	Single	Dual	Single	Dual
1	D15 ST-F CA-A	1	1	1	1	1	1	1	1
2	D37-SC50 CA-E	1	2	1	2	1	2	1	2
3	D25 EXALM CA-A	1	1	1	1	1	1	1	1
4	D37 EXCLK CA-A	1	1	1	1	1	1	1	1
5	D15 ST CA-A (Note1)	0	0	1	1	2	2	3	3
6	D15 ST CA-B (Note1)								
7	D26-D25 TSW-PIR CA-A	1	2	2	4	3	6	4	8
8	D26-D25 TSW-PIR CA-B								
9	MT24-D25 CA-C	1	2	2	4	3	6	4	8
10	D09 POW CA-A	1	1	1	1	1	1	1	1

Note 1:

For the connection between PIRs mounted on the different racks, D15 ST CA-B (3000mm) is used. For the connection between PIRs mounted on the same rack, D15 ST CA-A (500mm) is used.

3.5 Cables for IMG (1-PIR to 4-PIR) - DC-Powered Model (Built-up Type)

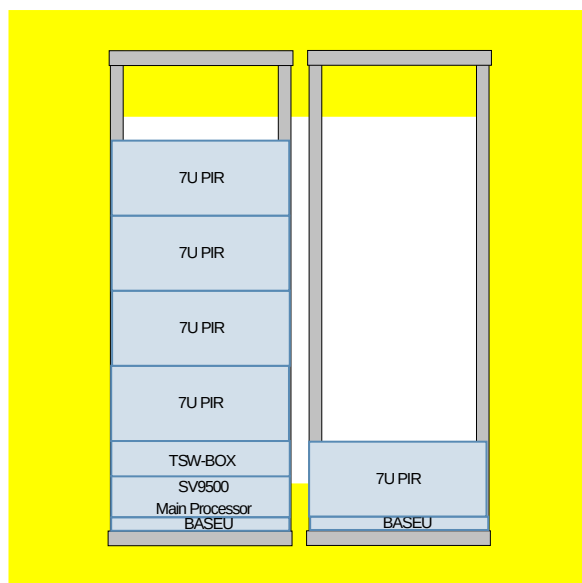


		1-PIR		2-PIR		3-PIR		4-PIR	
		Single	Dual	Single	Dual	Single	Dual	Single	Dual
1	D15 ST-F CA-A	1	1	1	1	1	1	1	1
2	D37-SC50 CA-E	1	2	1	2	1	2	1	2
3	D25 EXALM CA-A	1	1	1	1	1	1	1	1
4	D37 EXCLK CA-A	1	1	1	1	1	1	1	1
5	D15 ST CA-A (Note1)	0	0	1	1	2	2	3	3
6	D15 ST CA-B (Note1)								
7	D26-D25 TSW-PIR CA-A	1	2	2	4	3	6	4	8
8	D26-D25 TSW-PIR CA-B								
9	MT24-D25 CA-C	1	2	2	4	3	6	4	8
10	D09 POW CA-A	1	1	1	1	1	1	1	1

Note 1:

For the connection between PIRs mounted on the different racks, D15 ST CA-B (3000mm) is used. For the connection between PIRs mounted on the same rack, D15 ST CA-A (500mm) is used.

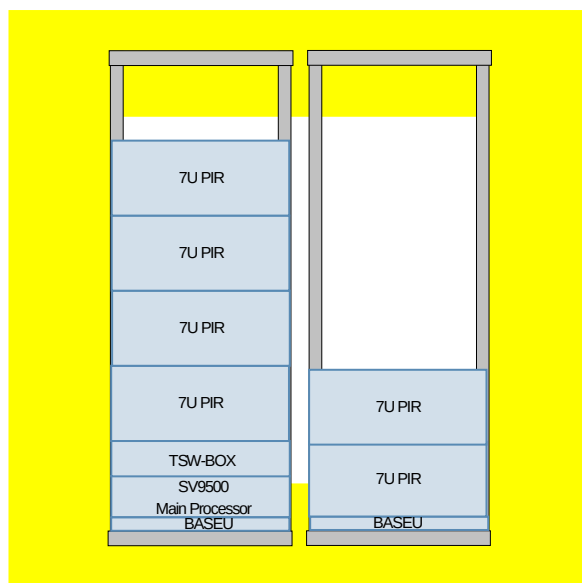
3.6 Cables for MMG (5-PIR) - DC-Powered Model (Built-up Type)



		TSW		PIR0-3 (IMG0)		PIR4 (IMG1)		TOTAL	
		Single	Dual	Single	Dual	Single	Dual	Single	Dual
1	D37-SC50 CA-E	1	2	0	0	0	0	1	2
2	D25 EXALM CA-A	1	1	0	0	0	0	1	1
3	D15 ST CA-A/D15 ST CA-B (Note1)	0	0	3	3	0	0	3	3
4	D26-D25 TSW-PIR CA-C	0	0	4	8	1	2	5	10
5	MT24-D25 CA-C	0	0	4	8	1	2	5	10
6	D37 EXCLK CA-A	1	1	0	0	0	0	1	1
7	D15 ST-F CA-C	0	0	1	1	1	1	2	2
8	D09 POW CA-A	1	1	0	0	0	0	1	1
9	D09 ST CA-A	0	0	1	1	1	1	2	2

Note 1: For MMG System, D15 ST CA-A (500mm) is used.

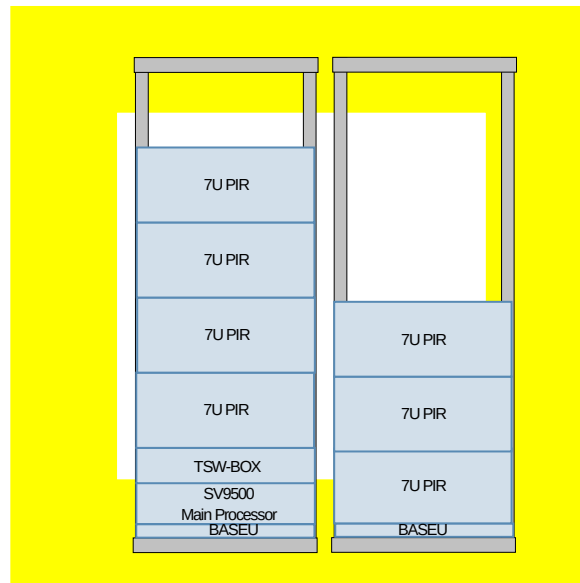
3.7 Cables for MMG (6-PIR) - DC-Powered Model (Built-up Type)



		TSW		PIR0-3 (IMG0)		PIR4-5 (IMG1)		TOTAL	
		Single	Dual	Single	Dual	Single	Dual	Single	Dual
1	D37-SC50 CA-E	1	2	0	0	0	0	1	2
2	D25 EXALM CA-A	1	1	0	0	0	0	1	1
3	D15 ST CA-A/D15 ST CA-B (Note1)	0	0	3	3	1	1	4	4
4	D26-D25 TSW-PIR CA-C	0	0	4	8	2	4	6	12
5	MT24-D25 CA-C	0	0	4	8	2	4	6	12
6	D37 EXCLK CA-A	1	1	0	0	0	0	1	1
7	D15 ST-F CA-C	0	0	1	1	1	1	2	2
8	D09 POW CA-A	1	1	0	0	0	0	1	1
9	D09 ST CA-A	0	0	1	1	1	1	2	2

Note 1: For MMG System, D15 ST CA-A (500mm) is used.

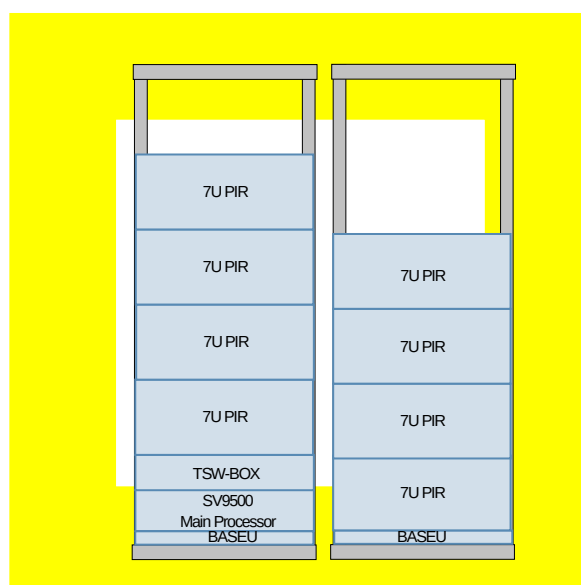
3.8 Cables for MMG (7-PIR) - DC-Powered Model (Built-up Type)



		TSW		PIR0-3 (IMG0)		PIR4-6 (IMG1)		TOTAL	
		Single	Dual	Single	Dual	Single	Dual	Single	Dual
1	D37-SC50 CA-E	1	2	0	0	0	0	1	2
2	D25 EXALM CA-A	1	1	0	0	0	0	1	1
3	D15 ST CA-A/D15 ST CA-B (Note1)	0	0	3	3	2	2	5	5
4	D26-D25 TSW-PIR CA-C	0	0	4	8	3	6	7	14
5	MT24-D25 CA-C	0	0	4	8	3	6	7	14
6	D37 EXCLK CA-A	1	1	0	0	0	0	1	1
7	D15 ST-F CA-C	0	0	1	1	1	1	2	2
8	D09 POW CA-A	1	1	0	0	0	0	1	1
9	D09 ST CA-A	0	0	1	1	1	1	2	2

Note 1: For MMG System, D15 ST CA-A (500mm) is used.

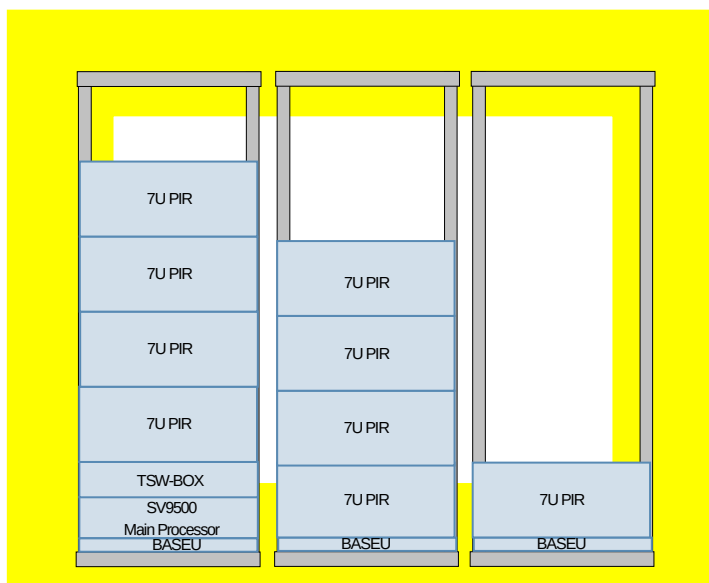
3.9 Cables for MMG (8-PIR) - DC-Powered Model (Built-up Type)



		TSW		PIR0-3 (IMG0)		PIR4-7 (IMG1)		TOTAL	
		Single	Dual	Single	Dual	Single	Dual	Single	Dual
1	D37-SC50 CA-E	1	2	0	0	0	0	1	2
2	D25 EXALM CA-A	1	1	0	0	0	0	1	1
3	D15 ST CA-A/D15 ST CA-B (Note1)	0	0	3	3	3	3	6	6
4	D26-D25 TSW-PIR CA-C	0	0	4	8	4	8	8	16
5	MT24-D25 CA-C	0	0	4	8	4	8	8	16
6	D37 EXCLK CA-A	1	1	0	0	0	0	1	1
7	D15 ST-F CA-C	0	0	1	1	1	1	2	2
8	D09 POW CA-A	1	1	0	0	0	0	1	1
9	D09 ST CA-A	0	0	1	1	1	1	2	2

Note 1: For MMG System, D15 ST CA-A (500mm) is used.

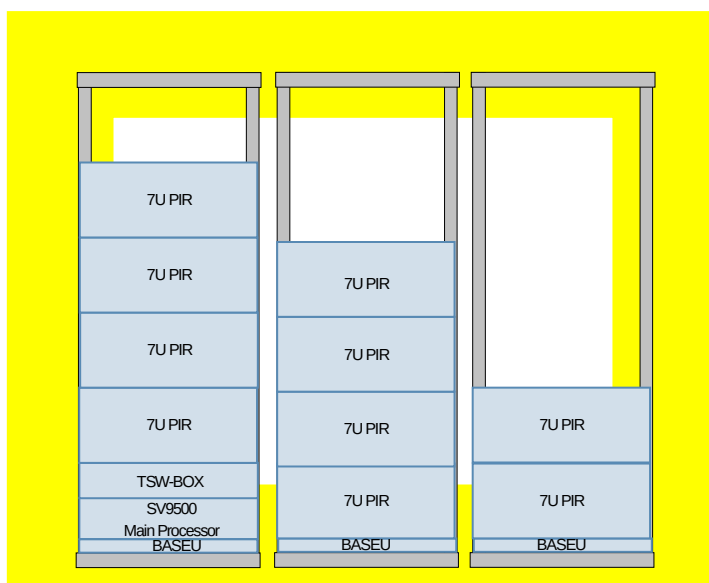
3.10 Cables for MMG (9-PIR) - DC-Powered Model (Built-up Type)



		TSW		PIR0-3 (IMG0)		PIR4-7 (IMG1)		PIR8 (IMG2)		TOTAL	
		Single	Dual	Single	Dual	Single	Dual	Single	Dual	Single	Dual
1	D37-SC50 CA-E	1	2	0	0	0	0	0	0	1	2
2	D25 EXALM CA-A	1	1	0	0	0	0	0	0	1	1
3	D15 ST CA-A/D15 ST CA-B (Note1)	0	0	3	3	3	3	0	0	6	6
4	D26-D25 TSW-PIR CA-C	0	0	4	8	4	8	1	2	9	18
5	MT24-D25 CA-C	0	0	4	8	4	8	1	2	9	18
6	D37 EXCLK CA-A	1	1	0	0	0	0	0	0	1	1
7	D15 ST-F CA-C	0	0	1	1	1	1	1	1	3	3
8	D09 POW CA-A	1	1	0	0	0	0	0	0	1	1
9	D09 ST CA-A	0	0	1	1	1	1	1	1	3	3

Note 1: For MMG System, D15 ST CA-A (500mm) is used.

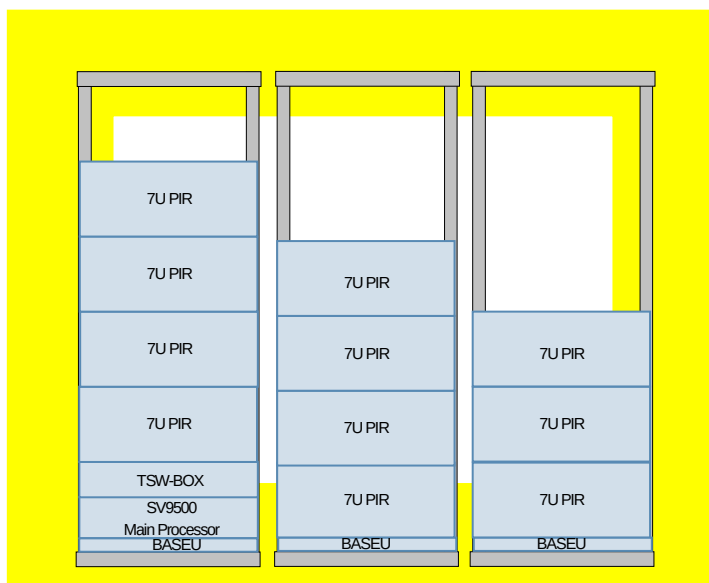
3.11 Cables for MMG (10-PIR) - DC-Powered Model (Built-up Type)



		TSW		PIR0-3 (IMG0)		PIR4-7 (IMG1)		PIR8-9 (IMG2)		TOTAL	
		Single	Dual	Single	Dual	Single	Dual	Single	Dual	Single	Dual
1	D37-SC50 CA-E	1	2	0	0	0	0	0	0	1	2
2	D25 EXALM CA-A	1	1	0	0	0	0	0	0	1	1
3	D15 ST CA-A/D15 ST CA-B (Note1)	0	0	3	3	3	3	1	1	7	7
4	D26-D25 TSW-PIR CA-C	0	0	4	8	4	8	2	4	10	20
5	MT24-D25 CA-C	0	0	4	8	4	8	2	4	10	20
6	D37 EXCLK CA-A	1	1	0	0	0	0	0	0	1	1
7	D15 ST-F CA-C	0	0	1	1	1	1	1	1	3	3
8	D09 POW CA-A	1	1	0	0	0	0	0	0	1	1
9	D09 ST CA-A	0	0	1	1	1	1	1	1	3	3

Note 1: For MMG System, D15 ST CA-A (500mm) is used.

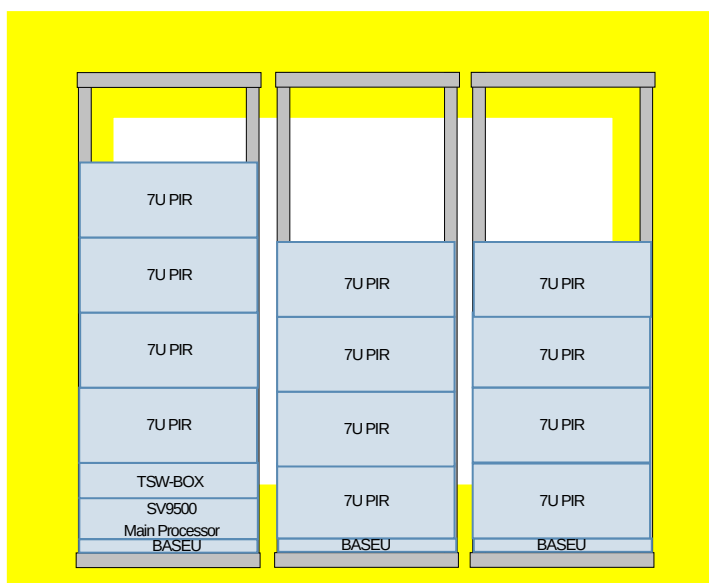
3.12 Cables for MMG (11-PIR) - DC-Powered Model (Built-up Type)



		TSW		PIR0-3 (IMG0)		PIR4-7 (IMG1)		PIR8-10 (IMG2)		TOTAL	
		Single	Dual	Single	Dual	Single	Dual	Single	Dual	Single	Dual
1	D37-SC50 CA-E	1	2	0	0	0	0	0	0	1	2
2	D25 EXALM CA-A	1	1	0	0	0	0	0	0	1	1
3	D15 ST CA-A/D15 ST CA-B (Note1)	0	0	3	3	3	3	2	2	8	8
4	D26-D25 TSW-PIR CA-C	0	0	4	8	4	8	3	6	11	22
5	MT24-D25 CA-C	0	0	4	8	4	8	3	6	11	22
6	D37 EXCLK CA-A	1	1	0	0	0	0	0	0	1	1
7	D15 ST-F CA-C	0	0	1	1	1	1	1	1	3	3
8	D09 POW CA-A	1	1	0	0	0	0	0	0	1	1
9	D09 ST CA-A	0	0	1	1	1	1	1	1	3	3

Note 1: For MMG System, D15 ST CA-A (500mm) is used.

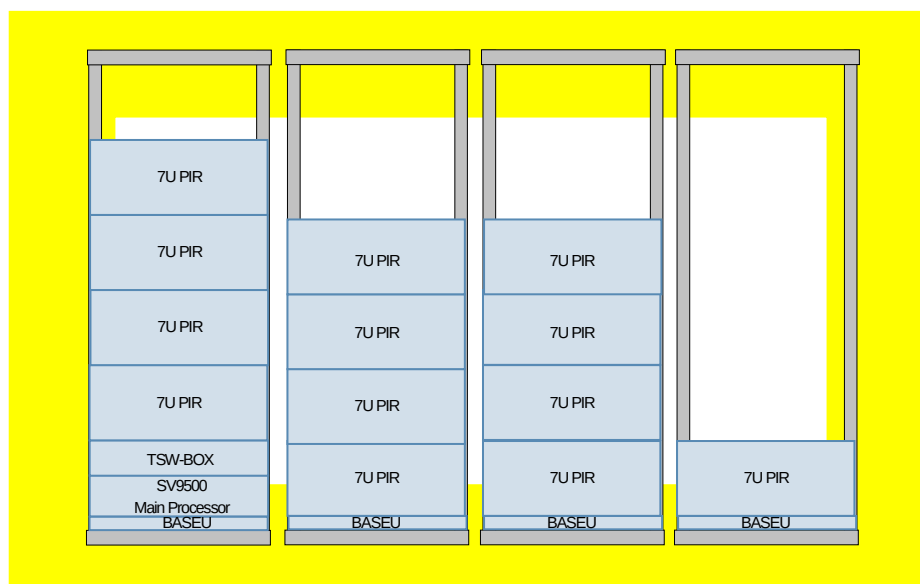
3.13 Cables for MMG (12-PIR) - DC-Powered Model (Built-up Type)



		TSW		PIR0-3 (IMG0)		PIR4-7 (IMG1)		PIR8-11 (IMG2)		TOTAL	
		Single	Dual	Single	Dual	Single	Dual	Single	Dual	Single	Dual
1	D37-SC50 CA-E	1	2	0	0	0	0	0	0	1	2
2	D25 EXALM CA-A	1	1	0	0	0	0	0	0	1	1
3	D15 ST CA-A/D15 ST CA-B (Note1)	0	0	3	3	3	3	3	3	9	9
4	D26-D25 TSW-PIR CA-C	0	0	4	8	4	8	4	8	12	24
5	MT24-D25 CA-C	0	0	4	8	4	8	4	8	12	24
6	D37 EXCLK CA-A	1	1	0	0	0	0	0	0	1	1
7	D15 ST-F CA-C	0	0	1	1	1	1	1	1	3	3
8	D09 POW CA-A	1	1	0	0	0	0	0	0	1	1
9	D09 ST CA-A	0	0	1	1	1	1	1	1	3	3

Note 1: For MMG System, D15 ST CA-A (500mm) is used.

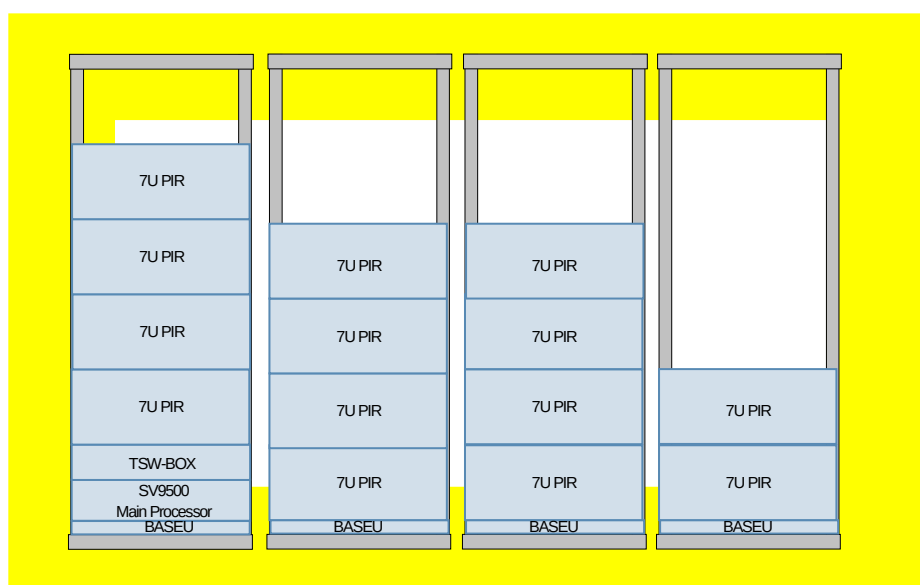
3.14 Cables for MMG (13-PIR) - DC-Powered Model (Built-up Type)



		TSW		PIR0-3 (IMG0)		PIR4-7 (IMG1)		PIR8-11 (IMG2)		PIR12 (IMG3)		TOTAL	
		Single	Dual	Single	Dual	Single	Dual	Single	Dual	Single	Dual	Single	Dual
1	D37-SC50 CA-E	1	2	0	0	0	0	0	0	0	0	1	2
2	D25 EXALM CA-A	1	1	0	0	0	0	0	0	0	0	1	1
3	D15 ST CA-A/D15 ST CA-B (Note1)	0	0	3	3	3	3	3	3	0	0	9	9
4	D26-D25 TSW-PIR CA-C	0	0	4	8	4	8	4	8	1	2	13	26
5	MT24-D25 CA-C	0	0	4	8	4	8	4	8	1	2	13	26
6	D37 EXCLK CA-A	1	1	0	0	0	0	0	0	0	0	1	1
7	D15 ST-F CA-C	0	0	1	1	1	1	1	1	1	1	3	3
8	D09 POW CA-A	1	1	0	0	0	0	0	0	0	0	1	1
9	D09 ST CA-A	0	0	1	1	1	1	1	1	1	1	4	4

Note 1: For MMG System, D15 ST CA-A (500mm) is used.

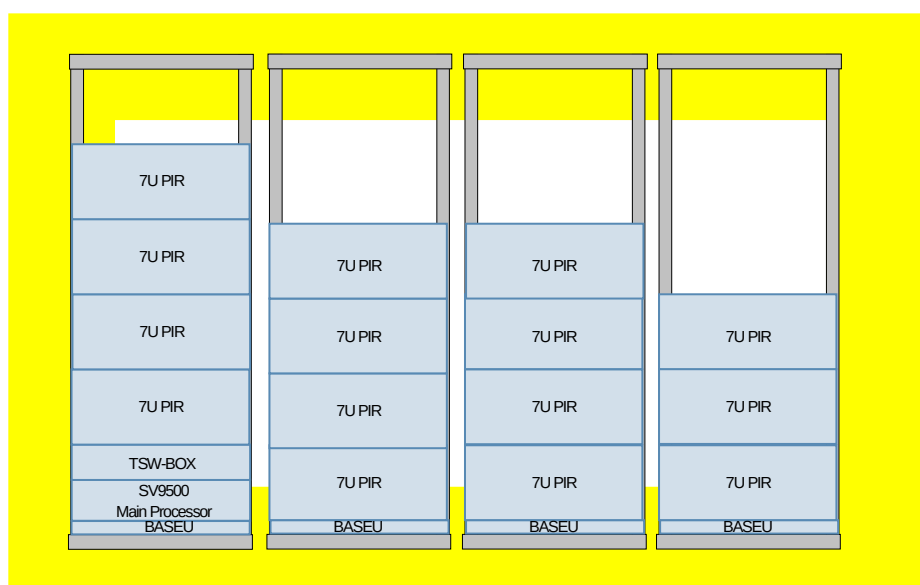
3.15 Cables for MMG (14-PIR) - DC-Powered Model (Built-up Type)



		TSW		PIR0-3 (IMG0)		PIR4-7 (IMG1)		PIR8-11 (IMG2)		PIR12-13 (IMG3)		TOTAL	
		Single	Dual	Single	Dual	Single	Dual	Single	Dual	Single	Dual	Single	Dual
1	D37-SC50 CA-E	1	2	0	0	0	0	0	0	0	0	1	2
2	D25 EXALM CA-A	1	1	0	0	0	0	0	0	0	0	1	1
3	D15 ST CA-A/D15 ST CA-B (Note1)	0	0	3	3	3	3	3	3	1	1	10	10
4	D26-D25 TSW-PIR CA-C	0	0	4	8	4	8	4	8	2	4	14	28
5	MT24-D25 CA-C	0	0	4	8	4	8	4	8	2	4	14	28
6	D37 EXCLK CA-A	1	1	0	0	0	0	0	0	0	0	1	1
7	D15 ST-F CA-C	0	0	1	1	1	1	1	1	1	1	4	4
8	D09 POW CA-A	1	1	0	0	0	0	0	0	0	0	1	1
9	D09 ST CA-A	0	0	1	1	1	1	1	1	1	1	4	4

Note 1: For MMG System, D15 ST CA-A (500mm) is used.

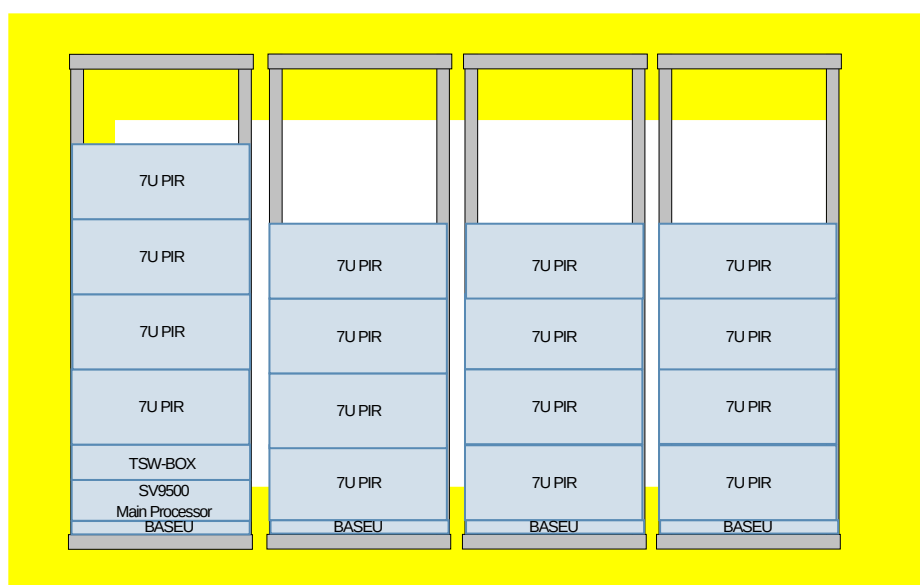
3.16 Cables for MMG (15-PIR) - DC-Powered Model (Built-up Type)



		TSW		PIR0-3 (IMG0)		PIR4-7 (IMG1)		PIR8-11 (IMG2)		PIR12-14 (IMG3)		TOTAL	
		Single	Dual	Single	Dual	Single	Dual	Single	Dual	Single	Dual	Single	Dual
1	D37-SC50 CA-E	1	2	0	0	0	0	0	0	0	0	1	2
2	D25 EXALM CA-A	1	1	0	0	0	0	0	0	0	0	1	1
3	D15 ST CA-A/D15 ST CA-B (Note1)	0	0	3	3	3	3	3	3	2	2	11	11
4	D26-D25 TSW-PIR CA-C	0	0	4	8	4	8	4	8	3	6	15	30
5	MT24-D25 CA-C	0	0	4	8	4	8	4	8	3	6	15	30
6	D37 EXCLK CA-A	1	1	0	0	0	0	0	0	0	0	1	1
7	D15 ST-F CA-C	0	0	1	1	1	1	1	1	1	1	4	4
8	D09 POW CA-A	1	1	0	0	0	0	0	0	0	0	1	1
9	D09 ST CA-A	0	0	1	1	1	1	1	1	1	1	4	4

Note 1: For MMG System, D15 ST CA-A (500mm) is used.

3.17 Cables for MMG (16-PIR) - DC-Powered Model (Built-up Type)



		TSW		PIR0-3 (IMG0)		PIR4-7 (IMG1)		PIR8-11 (IMG2)		PIR12-15 (IMG3)		TOTAL	
		Single	Dual	Single	Dual	Single	Dual	Single	Dual	Single	Dual	Single	Dual
1	D37-SC50 CA-E	1	2	0	0	0	0	0	0	0	0	1	2
2	D25 EXALM CA-A	1	1	0	0	0	0	0	0	0	0	1	1
3	D15 ST CA-A/D15 ST CA-B (Note1)	0	0	3	3	3	3	3	3	3	3	12	12
4	D26-D25 TSW-PIR CA-C	0	0	4	8	4	8	4	8	4	8	16	32
5	MT24-D25 CA-C	0	0	4	8	4	8	4	8	4	8	16	32
6	D37 EXCLK CA-A	1	1	0	0	0	0	0	0	0	0	1	1
7	D15 ST-F CA-C	0	0	1	1	1	1	1	1	1	1	4	4
8	D09 POW CA-A	1	1	0	0	0	0	0	0	0	0	1	1
9	D09 ST CA-A	0	0	1	1	1	1	1	1	1	1	4	4

Note 1: For MMG System, D15 ST CA-A (500mm) is used.

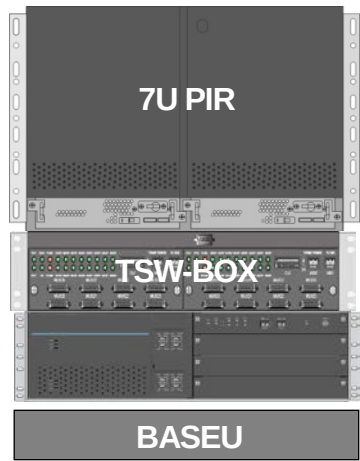
4.PIR Configurations

4.1 AC-Powered Model (Component Type)



Abbreviation	Item	Description	Q'ty
TSW-BOX	SN8179 TSWBEA-A	TSW-BOX	1
7U PIR	SN8174 PIREF-A	7U PIR	1 - 4

4.2 DC-Powered Model (Built-up Type)



Abbreviation	Item	Description	Q'ty
7U PIR	SN8174 PIREF-A	7U PIR	1 - 16
TSW-BOX	SN8179 TSWBEA-A	TSW -BOX	1
BASEU	SN1749 BASEUD-A	2U Base Unit	1 - 4

4.3 UNIVERGE SV9500 PIR Slot Configuration

4.3.1 Slot Configuration (7U PIR)

The following shows the 7U PIR Slot configuration for AC-Powered Model (Component Type) and DC/Powered Model (Built-up Type).

[Limitation]

NCU card must be mounted in Slots 04 and 15.

ATI card must be mounted in Slot 12 and 23.

(FAN Unit)																								
04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Slot Number				
Line/Trunk	Line/Trunk	Line/Trunk	Line/Trunk	Line/Trunk	Line/Trunk	Line/Trunk	Line/Trunk	Line/Trunk	MUX #0	MUX #1	Line/Trunk	Line/Trunk	Line/Trunk	Line/Trunk	Line/Trunk	Line/Trunk	Line/Trunk	Line/Trunk	Line/Trunk	Line/Trunk	Mountable Circuit Card			
16	16	16	16	16	16	32	32	32			16	16	16	16	16	16	32	32	32	Number of Ports				
PWR #0										PWR #1														

Abbreviation	Item	Description	Quantity per PIR	
			Single	Dual
PWR #0/#1	SN1769 PWRMAD	AC/DC Power for 7U PIR	1	2
	SN1770 PWRMAE	DC/DC Power for 7U PIR		
MUX	CJ-PC00	Multiplexer Interface for L/T cards with 3CFT x 8 groups	1	2

4.3.2 Slot Configuration (TSW-BOX)

TSW-BOX

TSW #0	TSW #1

Abbreviation	Item	Description	Quantity	
			Single	Dual
TSW	SPZ-SW25-A/ SPZ-SW26-A	Time Division Switch mounted in TSW-BOX.	1	2

4.4 PIR Mounting Circuit Card Lineup

For details on PIR-mountable circuit cards, refer to SV9500 Equipmnet List.

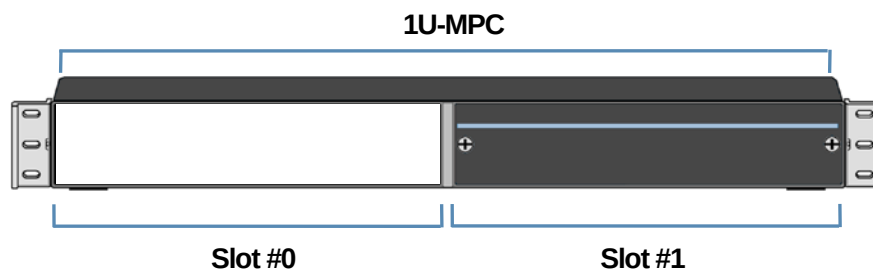
5.1U-MPC Configurations

5.1 1U-MPC

1U-MPC (Multi Purposes Chassis) is used to mount the Gateway cards in SV9500.

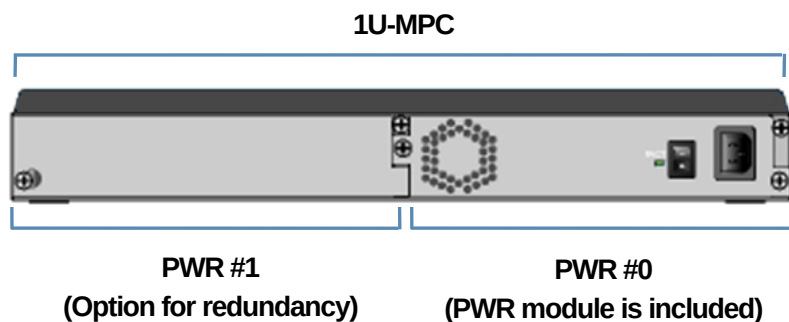
Front Overview

1



The dedicated GW cards can be mounted in both Slot #0 and Slot #1 of 1U-MPC.

Rear Overview



Abbreviation	Item	Description	Quantity
1U-MPC	UNIVERGE 1U-MPC(B)	1U-MPC (*MPC: Multi Purposes Chassis) This product includes the following. - Chassis with a front cover for Slot #1 - 1 set of power module (SN1716 PWRMY-A)	1
PWR	SN1716 PWRMY-A	Power module for the redundant system (Option). Including a FAN.	0-1

5.2 1U-MPC-Mountable Circuit Card Lineup

The table below shows the details on the accommodation limitations for circuit cards mounted in Universal Slots of 1U-MPC.

Abbr.	Circuit Card	
VS32V	SCA-VS32VA-B	Voice server w/ voice compression (SIP/NEC Proprietary interfaces: Dual stack)
MG-DTI	SCA-24DTIA-B	1.5M, 24ch (DTI) Media Gate (MG) (SIP interface only) <i>* For North America Only</i>
MG-BRI	SCA -2BRIA-B	2L MG-BRI (SIP interface only) <i>*For Australia and EMEA Only</i>
MG-SIP 16 Note 1	SCA-16SIPMG(US)-B	Media Gateway for SIP interface (16ch) (LPPM interface only)

Note 1:	MG-SIP 16 is needed to have interconnectivity test with certain SIP-carrier before releasing to customer.
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6.UG50 Configurations

6.1. UG50 Overview

The UG50 is a gateway device to perform media exchange between IP packets (LAN side) and Voice data (terminal/line side). It functions as a remote unit for the SV9500, enabling the terminals/lines connected to the unit

to be controlled by the SV9500.

It consists of CPU card for UG50 (GCD-CP00-GW), MEMDB (GPZ-ME50-UG50), VOIPDB (GPZ-32/64/128IPLD), 3/6 slot Chassis and GCD Type Line/Trunk card

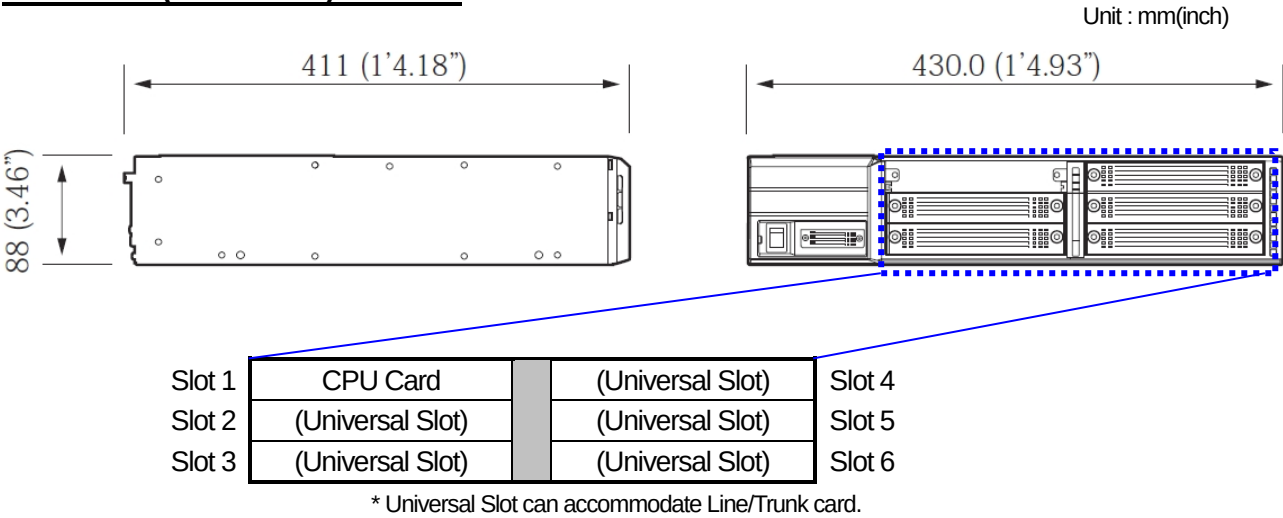
6.1.1.UG50 Chassis

There are two types of Chassis.

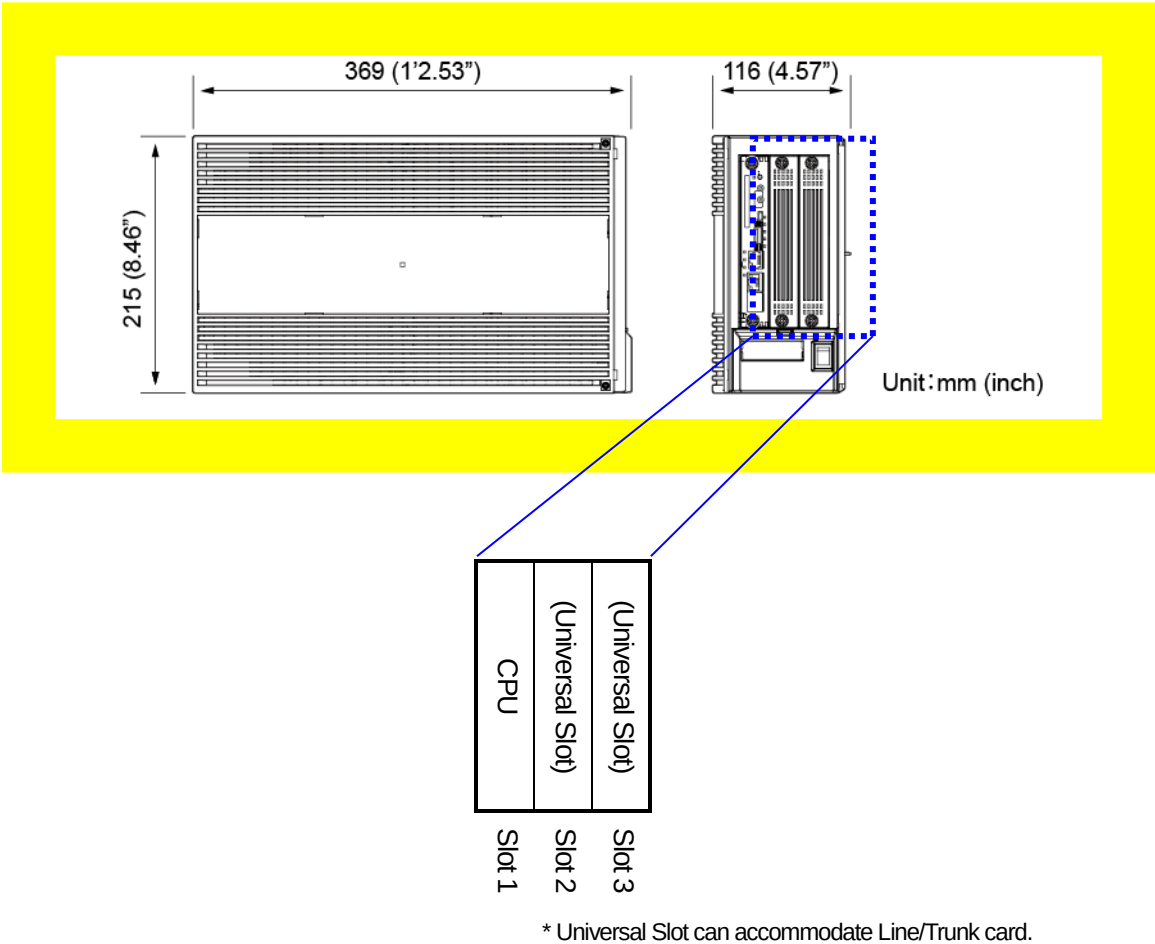
- ◆ 9.5" Chassis (CHS2UG B-xx)
- ◆ 19" Chassis (CHS2UG-xx)

Abbreviation	Item	Description	Quantity
19 inch Chassis	CHS2UG-US (for North America) CHS2UG-AU (for Australia) CHS2UG-EU (for EMEA and Asia) CHS2UG-CH (for China)	6 slot Chassis This product includes the followings: - 19 inch 2U Chassis - AC Cord - Blank Slot Cover Set for BUS - Blank Slot Cover Set for Universal Slot - Bumper	1
9.5 inch Chassis	CHS2UG B-US (for North America) CHS2UG B-AU (for Australia) CHS2UG B-EU (for EMEA and Asia) CHS2UG B-CH (for China)	3 slot Chassis This product includes the followings: - 9.5 inch Chassis - AC Cord - Optional Wall Mounting Bracket - Metal Support Bracket for Wall Mounting - Screw - Wall Mount Spacing Guide	

19" Chassis (CHS2UG-xx) Overview



9.5" Chassis (CHS2UG B-xx) Overview



6.1.2.UG50 Mountable Circuit Card Line up

The table below shows the cards which can be accommodated on UG50's universal slot.

Abbr.	Circuit Card	Description
CPU Card	GCD-CP00-GW	Main Processor Board for UG50
Daughter Card (MEMDB)	GPZ-ME50-UG50	Memory expansion board on GCD-CP00-GW <i>* EULA and UG50 Logo Label are attached.</i>
Daughter Card (VOIPDB) Note	GPZ-32IPLD	32 VOIP on Main Processor Board
	GPZ-64IPLD	64 VOIP on Main Processor Board
	GPZ-128IPLD	128 VOIP on Main Processor Board
DLC Card	GCD-8DLCA	8L Digital Line Circuit Board (Cable Length: Max. 600m)
	GCD-16DLCA	16L Digital Line Circuit Board (Cable Length: Max. 600m)
	Daughter Card PZ-8DLCB	8L Digital Line Expansion Circuit Board for GCD-8DLCA for GCD-8DLCA/GCD-16DLCA
LC Card	GCD-8LCA	8L Analog Line (SLT) Circuit Board with MW and CID(-27V)
Daughter Card	GPZ-8LCE	8L Analog Line (SLT) Expansion Circuit Board for GCD-8LCA with MW and CID
COT Card	GCD-4COTA	4L Central Office Trunk Board (Loop start) <i>* For Asia(other than Malaysia) *</i>
	GCD-4COTB	4L Central Office Trunk Board (Loop/Ground-start) <i>* For North America*</i>
	GCD-4COTC	4L Central Office Trunk Board (Loop) <i>* For Australia, EU, Middle East and Malaysia *</i>
	Daughter Card GPZ-4COTE	4L Central Office Trunk Expansion Board for GCD-4COTA (Loop start) <i>* For Asia(other than Malaysia) *</i>
	GPZ-4COTF	4L Central Office Trunk Expansion Board for GCD-4COTB (Loop/Ground-start) <i>* For North America*</i>
	GPZ-4COTG	4L Central Office Trunk Expansion Board for GCD-4COTC (Loop start) <i>* For Australia, EU, Middle East and Malaysia *</i>
PRI Card	GCD-PRTA	ISDN Primary Interface Board (23B+D/30B+D)

Note :

When using "Silent Monitor (Multi-path monitor) connection", the number of ports on the UG50 needs to be no more than half the number of IPLD channels.

Allowable Number of Channels appropriate for each IPLD card

IPLD card	Allowable Number of Channels	
	Multi-path monitor connection is Not used	Multi-path monitor connection is Used
GPZ-32IPLD	32	16
GPZ-64IPLD	64	32
GPZ-128IPLD	96 (maximum)	48

6.2. UG50 Operation Mode

There are three operation modes as listed below.

Operation Mode	Description
Multi-slot mode	Various types of cards (terminal/lines) can be accommodated - Maximum number of ports which UG50 can mount is <u>96 ports</u> - SV9500 requires UG50 station license and trunk license. For details, refer to "UNIVERGE SV9500 License List".
IPG mode	Digital Multiple Line telephones/Single Line telephones (analog terminal) can be accommodated - IPG mode is available in North America and Australia only. - Up to 32 DLC/LC lines can be accommodated on UG50 - SV9500 requires IPG license. <i>For details, refer to UNIVERGE SV8500 Configuration Guide Issue 9.0(S7) or later.</i>
Retrofit mode	The UG50 works as a gateway unit without changing the software of the SV9500. The function usage of the existing MG (Media Gateway) /MC (Media Converter) remains the same for the UG50. Generally, only Slot 2 is permitted for mounting. Slot 3 is used only for LC card of UG50-4LC2COTA. <i>For details, refer to UNIVERGE SV8500 Configuration Guide Issue 9.0(S7) or later.</i>

Available Line/Trunk card for each operation mode

Operation Mode	Device Type	Category	DLC			LC		COT		PRI
		Main Card	GCD-8DLCA		GCD-16DLCA	GCD-8LCA		GCD-4COTA GCD-4COTB GCD-4COTC	GCD-4COTE/F/G	GCD-PRTA
		Daughter card Protocol		GPZ-8LDCB			GPZ-8LCE			
Multi-slot Mode	UG50-DLC	Proprietary	X	X	X					
	UG50-LC	Proprietary				X	X			
		SIP				X	X			
	UG50-COT(Type1) Note8	Proprietary						X	X	
	UG50-COT(Type2) Note8	Proprietary						X	X	
		SIP						X	X	
	UG50-PRT(1.5M)	Proprietary								X Note1
		SIP								X
IPG Mode	UG50-IPG(Digital)	Proprietary	X	X	X					
	UG50-IPG(Analog)	Proprietary				X	X			
Retrofit Mode Note9	UG50-2MC	Proprietary				X Note2	X Note2			
	UG50-8LC	SIP				X	X Note3			
	UG50-4LC2COTA	Proprietary				X Note4	X Note4	X Note5	X Note5	
	UG50-6COT	Proprietary						Note6	X Note7	
		SIP						Note6	X Note7	
	UG50-24PRIA	Proprietary								X
		SIP								X
	UG50-30PRIA	Proprietary								X
		SIP								X

Note1 : Only one PRI card can be mounted in UG50 even though UG50 is in Multi-slot Mode.

Note2 : Lines beyond 2nd line are not available.

Note3 : Lines beyond 8th line are not available.

Note4 : Lines beyond 4th line are not available.

Note5 : Lines beyond 2nd line are not available.

Note6 : UG50-6COT doesn't work when the number of COT lines mounted in UG50 is less than 6 lines.

Note7 : Lines beyond 6th line are not available.

Note8 : When using UG50 in UG50-COT(Type1) mode, set "KIND (Kind of MG Trunk)" assigned with the AMGIL command to "MC-MG(COT)". With using UG50 in UG50-COT(Type2), set "KIND (Kind of MG Trunk)" assigned with the AMGIL command as "MG(6COT)" or "MG(6COT) [SIP]"

Note9 :

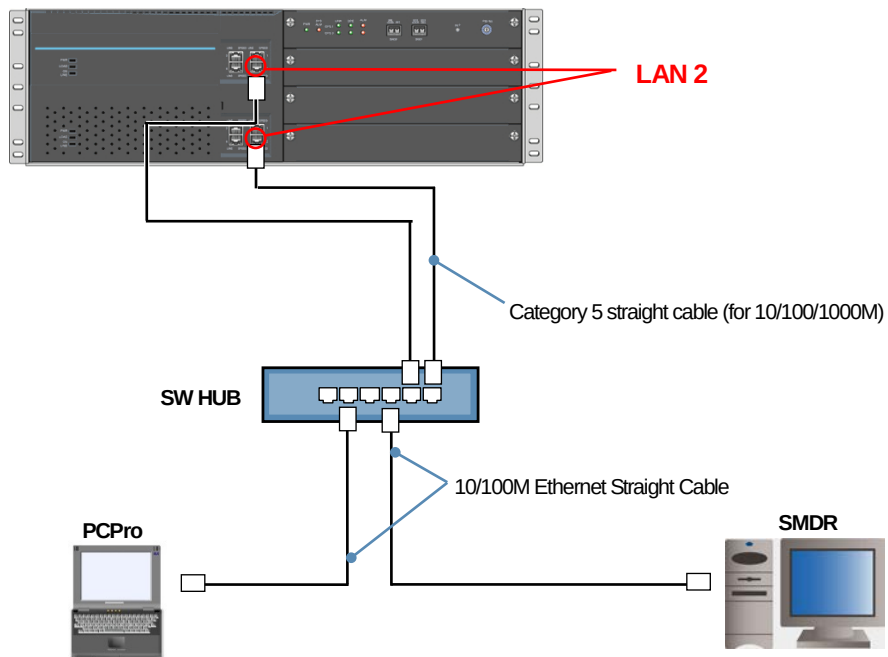
UG50 in Retrofit mode works as same as following existing gateway unit

Retrofit mode Device Type	Protocol	Equivalent Current MC/MG	
		Box Type	Card Type
UG50-2MC	Proprietary	SN8029 MC2A-B SN8029 MC2A-C	
UG50-8LC	SIP		SCA-8LCA SCA-8LCA-EMEA SCA-8LCC SCA-8LCC-EMEA
UG50-4LC2COTA	Proprietary	MC4MG2A PFT	
		MG-4LC2COTA	SCA-4LC2COTA
UG50-6COT	Proprietary		SCA-6COTA SCA-6COTB SCA-6COTC
	SIP		
UG50-24PRIA	Proprietary	SN8032 MG15M-xx	
		MG-24PRIA	SCA-24PRIA
	SIP		
UG50-30PRIA	Proprietary	SN8023 MG2M-xx	
		MG-30PRIA	SCA-30PRIA
	SIP		

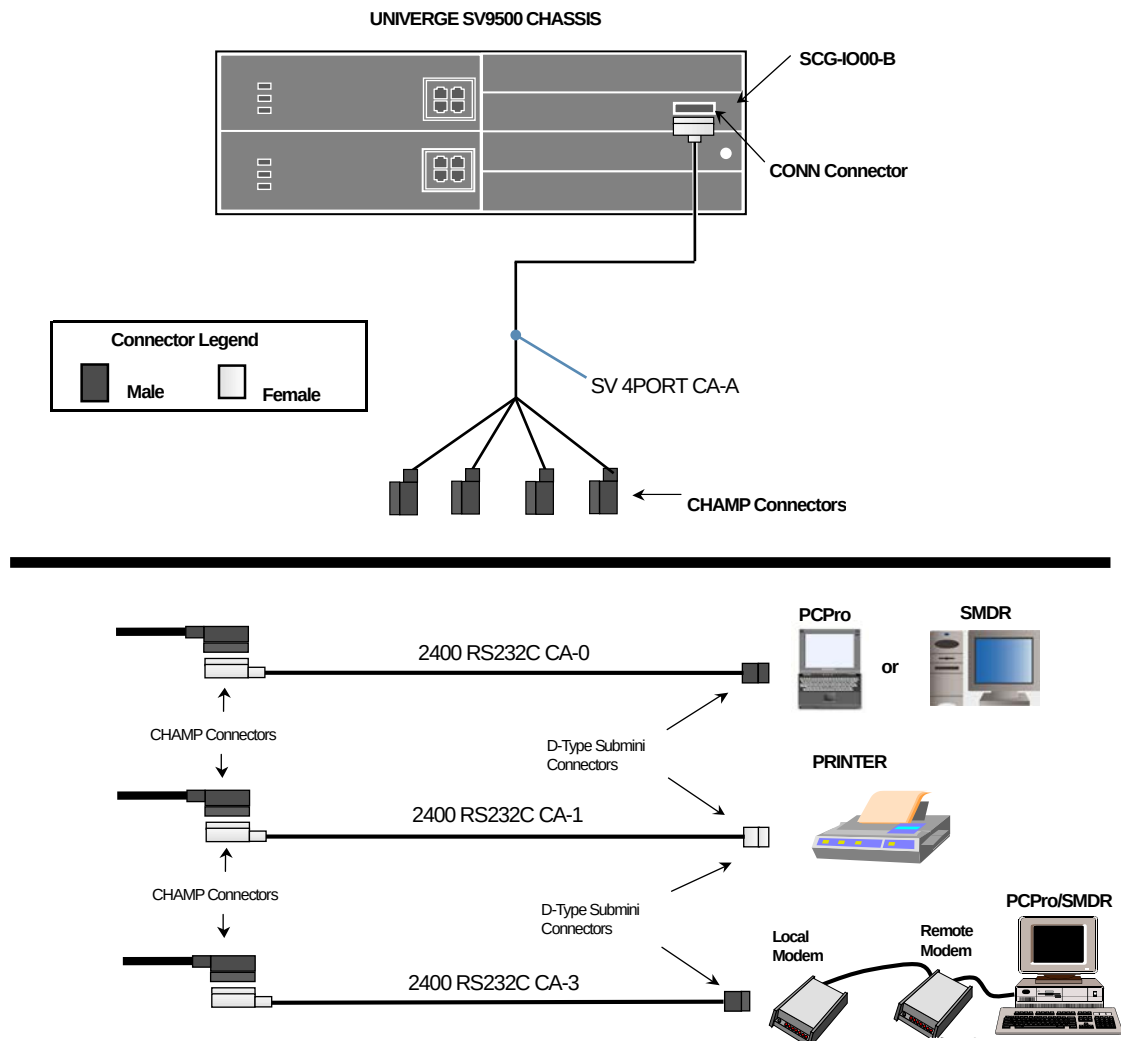
7. Cables for Peripheral Equipment

7.1. PCPro and SMDR

7.1.1. LAN Interface



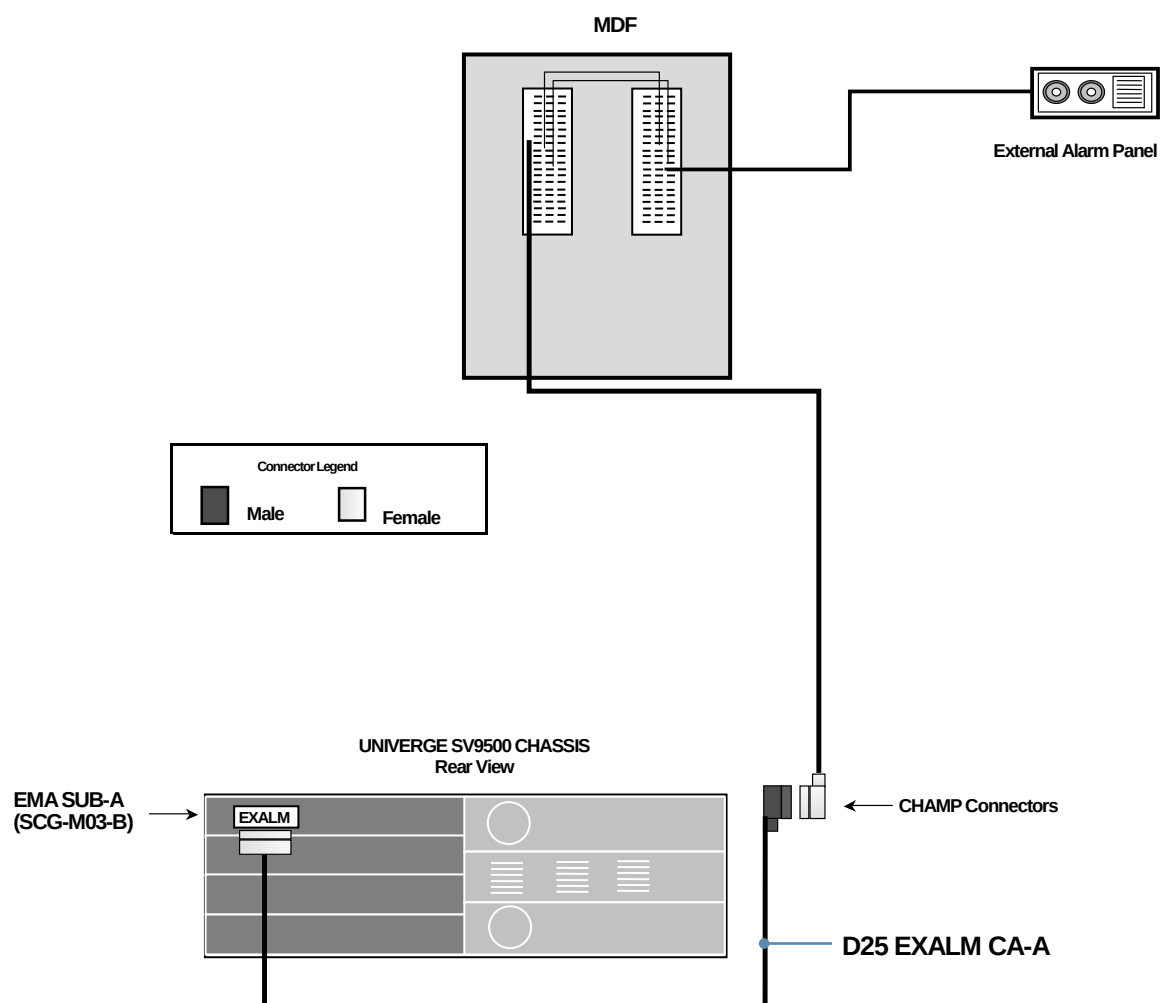
7.1.2.RS232C



Item	Description
SV 4PORT CA-A	4 Port Connecting Cable for SV9500
2400 RS-232C CA-0	RS-232C Cable (DTE SIDE, 1.5 METERS) for MAT, SMDR, MCI, PMS or H/M Printer. CHAMP [FEMALE] TO DSUB [25-PIN, MALE]
2400 RS-232C CA-1	RS-232C Cable (DTE SIDE, 1.5 METERS) for MAT, SMDR, MCI OR PMS. CHAMP [FEMALE] TO DSUB [25-PIN, FEMALE]
2400 RS-232C CA-2	RS-232C Cable for Connection via MODEM(3 METERS) DSUB [25-PIN, MALE] TO DSUB [25-PIN, MALE]
2400 RS-232C CA-3	RS-232C Cable for Connection via MODEM(1.5 METERS) for MAT, SMDR, MCI OR PMS. CHAMP [FEMALE] TO DSUB [25-PIN, MALE]

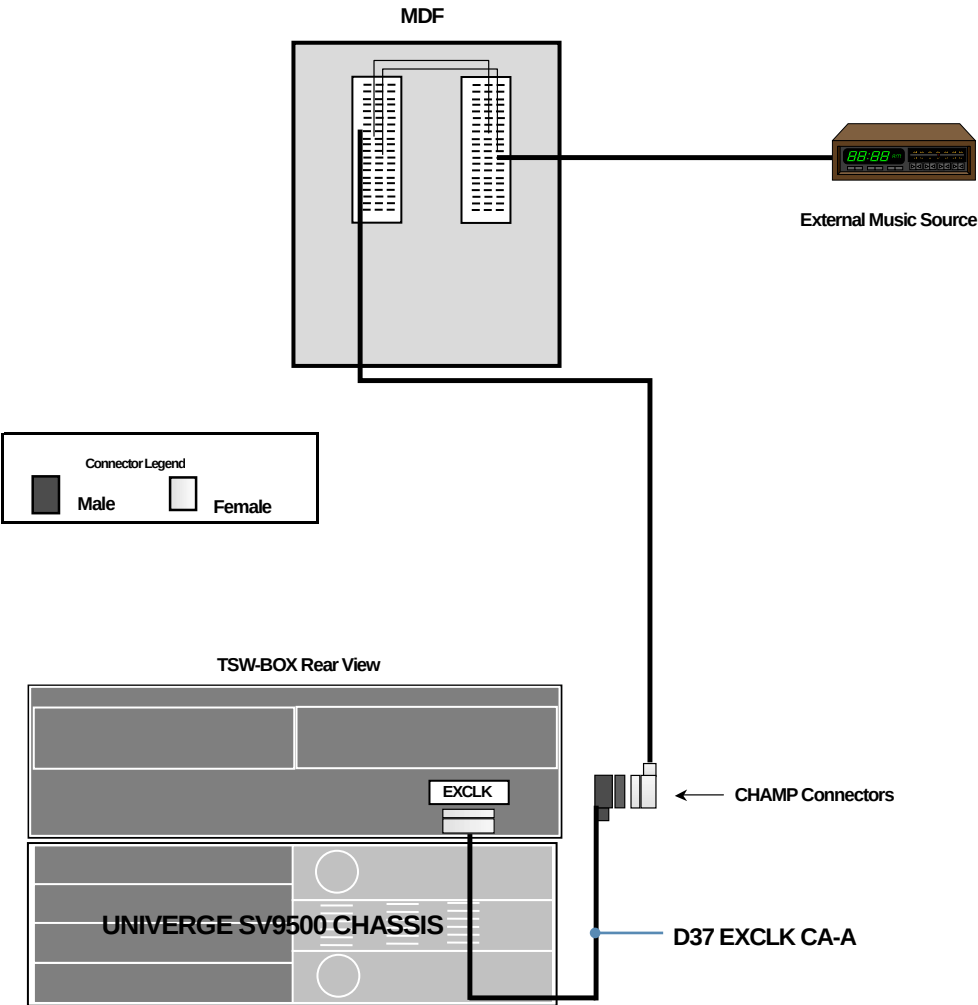
7.2. External Alarm Equipment / Alarm Display Panel and External Music Source

7.2.1.IMG/MMG System– External Alarm Panel



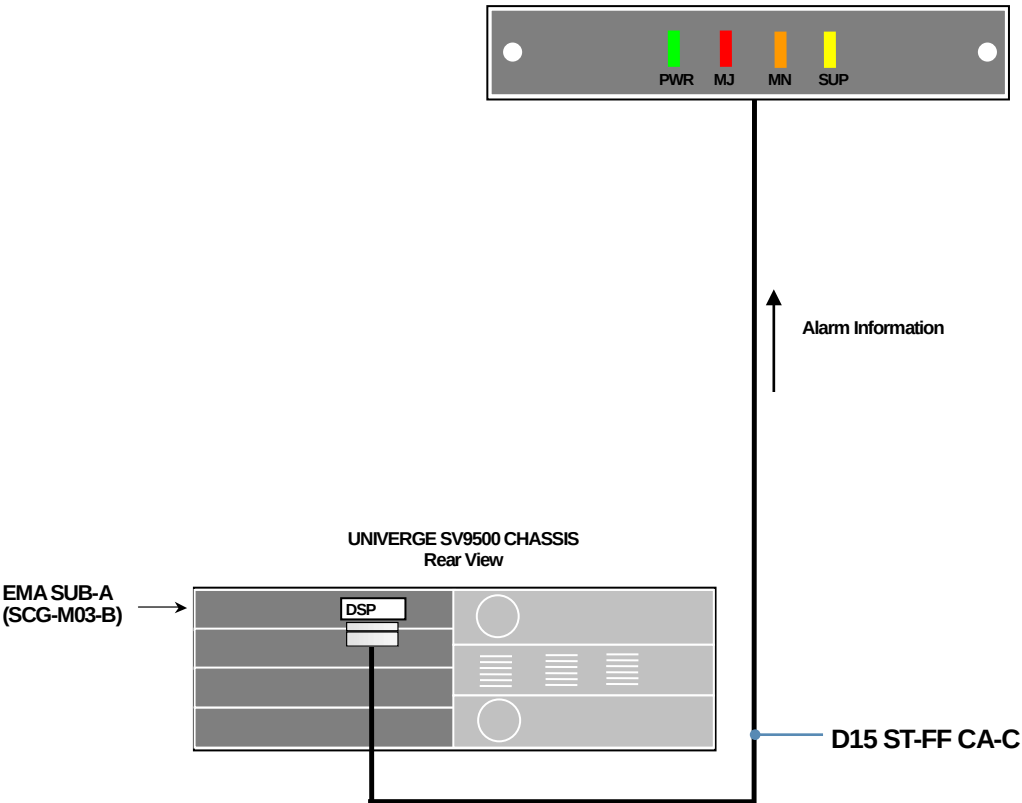
Item	Description
D25 EXALAM CA-A	External ALM Cable from CPU CHASSIS to MDF (2000mm)

7.2.2.IMG/MMG System – External Music Source



Item	Description
D37 EXCLK CA-A	External CLK/MOH Cable from TSW-BOX to MDF (2000mm)

7.2.3.Alarm Display Panel

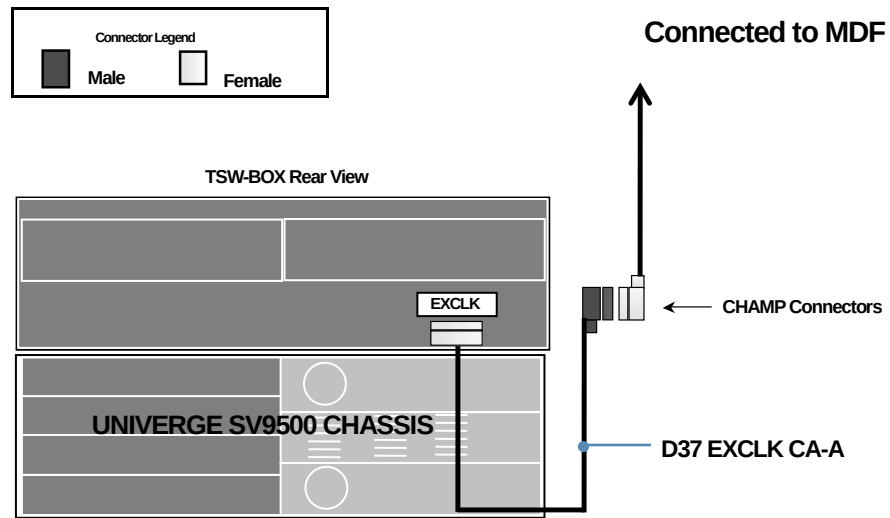


Item	Description
D15 ST-FF CA-C Note	Connecting Cable from CPU CHASSIS to SV9500 DSPP (6000mm)

Note :

This cable is provided with “SV9500 DSPP”.

7.3. Interface for PLO of TSW Card



8. Software and License

UNIVERGE SV9500 requires the following Software and Licenses.

- System Version License
- System Option License
- Client License
- UMGi License *new
- Geographic Redundancy Licenses *new

8.1. System Version License

One of below system version licenses is required for SV9500 IMG/MMG system.

For SV9500 UMGi system, refer to 8.4. UMGi Licenses.

Product Code	Description	Platform Hardware
BE117048	SV9500 Lic Sys Appliance V4-384	Appliance Server Model 384 ports
BE117049	SV9500 Lic Sys Appliance V4-768	Appliance Server Model 768 ports
BE117050	SV9500 Lic Sys Appliance V4-1536	Appliance Server Model 1536 ports
BE117051	SV9500 Lic Sys Appliance V4-3072	Appliance Server Model 3072 ports
BE117052	SV9500 Lic Sys Appliance V4-6144	Appliance Server Model 6144 ports
BE117053	SV9500 Lic Sys Appliance V4-UMGi	Appliance Server Model UMGi
BE117054	SV9500 Lic Sys Software V4-384	Standard Server Model 384 ports
BE117055	SV9500 Lic Sys Software V4-768	Standard Server Model 768 ports
BE117056	SV9500 Lic Sys Software V4-1536	Standard Server Model 1536 ports
BE117057	SV9500 Lic Sys Software V4-3072	Standard Server Model 3072 ports
BE117058	SV9500 Lic Sys Software V4-6144	Standard Server Model 6144 ports
BE117059	SV9500 Lic Sys Software V4-UMGi	Standard Server Model UMGi

8.2. System Option License

This license is required to add a specific feature to System License.

Product Code	Description
BE114250	SV9500 Lic Sys Option FCCS (NCN)
BE114374	SV9500 Lic Sys Option FCCS (LN)
BE114375	SV9500 Lic Sys Option CCIS (E1)
BE114254	SV9500 Lic Sys Option Loc Div
BE114255	SV9500 Lic Sys Option Hotel
BE114253	SV9500 Lic Sys Option Encryption
BE114376	SV9500 Lic Sys Opt. OAI/ACD FCCS
BE114234	SV9500 Lic Virtualization Option
BE114382	SV9500 Lic Sys Option CCIS (IP)

Note:

In the FCCS network, the same kinds of the Telephony Application Option Licenses (except FCCS Network Licenses) are required to be installed into all the node.

Note:

In UNIVERGE SV9500 system, ISDN and OAI License is included in Generic Software.

8.3. Client License

These licenses are required to use IP device such as DT Series, Standard SIP Terminal.

Product Code	Description
BE114263	SV9500 Lic Client BASIC Voice
BE114266	SV9500 Lic Client NECsoftphone
BE114383	SV9500 Lic Client Mob. Access
BE114384	SV9500 Lic Client ACD agent
BE114524	SV9500 Lic Client UG50-Station
BE114272	SV9500 Lic Client UG50-Trunk

8.4. UMGi License

UMGi system requires one of UMGi system licenses (BE117053 or BE117059) and necessary number of UMGi remote node licenses (BE115935 and/or BE115936). System capacity licenses, system option licenses and client licenses are required to complete the UMGi system license structure.

Product Code	Description	Explanation
BE117053	SV9500 Lic Sys Appliance V4-UMGi	This license is required one per UMGi system if the Central Control Node (CCN) is Appliance Server Model.
BE117059	SV9500 Lic Sys Software V4-UMGi	This license is required one per UMGi system if the Central Control Node (CCN) is Standard Server Model. Note that BE114234 "SV9500 Lic Virtualization Option" license is also required along with this license.
BE115935	SV9500 Lic UMGi AP Remote Node	This license is required one per Appliance Remote Node of UMGi system. A maximum of 6 as a total of this license and below SV9500 Lic UMGi SW Remote Node license can be ordered per UMGi system.
BE115936	SV9500 Lic UMGi SW Remote Node	This license is required one per Software (virtual machine) Remote Node of UMGi system. A maximum of 6 as a total of this license and above SV9500 Lic UMGi AP Remote Node license can be ordered per UMGi system.
BE112939	SV9500 Lic Sys Capacity 384 Ports	For UMGi system, necessary number of port capacity licenses is required.
BE117179	SV9500 Lic Sys Capacity Bundle-16	16x384 Port Capacity bundle license is also available.

8.5. Geographic Redundancy License

The Geographic Redundancy Licenses are structured by three license kinds.

Product Code	Description	Explanation
BE115916	SV9500 Lic GR Redundant Server	This license is required per Geographic Redundant Node (GR-Node). A maximum of 7 GR-Nodes can be configured. This license is commonly used by GR-Nodes which hardware is SV9500 Appliance Server or Virtual Machine.
BE115917	SV9500 Lic GR Remote Server	This license is required per Survivable Remote Node (SR-Node) which platform is based on either SR-MGC(E), SV9500 Appliance Server or Virtual Machine. A maximum of 254 SR-Node can be configured.
BE115919	SV9500 Lic GR Resource 1-Port	This license is required per port saved by SR-Node which platform is based on either SR-MGC(E), SV9500 Appliance Server or Virtual Machine.
BE115918	SV9500 Lic GR Remote UG50 Server	This license is required per SR-Node which function is provided by GCD-SVR2 card.
BE115920	SV9500 Lic GR Resource 1-Port (UG50)	This license is required per port saved by SR-Node based on GCD-SVR2 card.

8.6. Virtual MG-SIP Channel License

The license is required one per channel of the MG-SIP virtual machine. The maximum is 254 channels per virtual machine MG-SIP.

Product Code	Description
BE114274	SV9500 Lic SIP Trunk 1-Channel

9. Peripheral Equipment

9.1. Survivable Remote MGC - SR-MGC(E)

SR-MGC(E) is placed on remote office to manage the call of IP terminals and trunk call to/from PSTN via MG in case of IP network failure or SV9500 breakdown on the main office.

Hardware Lineup:

Product Code	Description
BE112833	SR-MGC(E)-B

Software Lineup

Product Code	Description
BE117072	SR-MGC(E) Lic Sys Software V4
BE113486	SR-MGC Lic Client 1 Port

Availability and Port Consumption:

Type of Equipment	Protocol	Availability		Ports/Stations	Description
		No Encryption	Encryption		
DT800 Series	SIP	X	X	1 Port	ITZ-xxx
DT700 Series	SIP	X	X		ITL-xxx
Soft Phone	SIP	X	-		SOFT CLIENT SP350
Standard SIP	SIP	N	-	-	3rd-party SIP telephone
MG(BRI)	SIP	X	X	4 Ports	SCA-2BRIA-B
MG-T1	SIP	X	X	24 Ports	SCA-24DTIA-B
MG(SIP)	Proprietary	X	-	32 ports	SCA-16SIPMG(US)-B
		X	-	128 ports	MG-SIP128
Analog MC	Proprietary	X	-	4 Ports	SN8029 MC2A-B SN8029 MC2A-C
VS-32	Proprietary	X	-	32 Ports	SCA-VS32VA-B
	SIP	X	X	32 Ports	
UG50-DLC	Proprietary	X	-	8 stations	GCD-8DLCA
				16 stations	GCD-8DLCA+GPZ-8DLCB
				16 stations	GCD-16DLCA
UG50-LC	Proprietary/SIP	X	-	8 Ports	GCD-8LCA
				16 Ports	GCD-8LCA+GPZ-8LCE
UG50-PRT(1.5M)	Proprietary	X	-	32 Ports	GCD-PRTA
UG50-PRT(2M)	SIP	X	-	32Ports	
UG50-COT(Type 1)	Proprietary	X	-	4 Ports	GCD-4COTA/B/C
				8 Ports	GCD-4COTA/B/C+GPZ-4COTE/F/G
UG50-COT(Type 2)	Proprietary/SIP	X	-	4 Ports	GCD-4COTA/B/C
				8 Ports	GCD-4COTA/B/C+GPZ-4COTE/F/G

9.2. UG50

9.2.1. UG50-LC

The UG50-LC provides the interface function between IP network (LAN) and conventional terminals, such as analog telephones and G3 FAX machines. UG50-LC can be used as gateway device for mutual converting between voice IP packet and TDM-based voice signals.

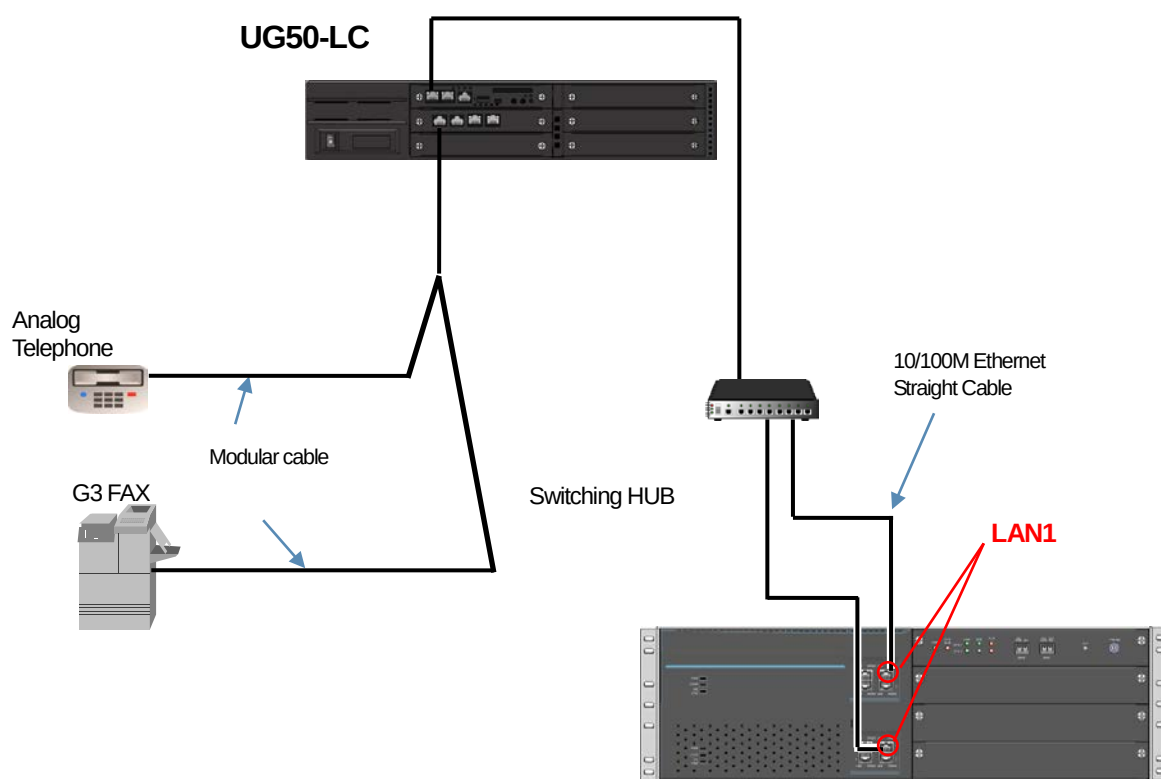
UG50-LC supports both protocols; NEC proprietary mode and SIP mode.

UG50-LC (SIP mode):

Control signal between SV9500 and UG50-LC(SIP mode) is handled by SP-PHI (built-in PH function).

UG50-LC (NEC proprietary mode):

Control signal between SV9500 and UG50-LC(NEC proprietary mode) is handled by Internal PHE.



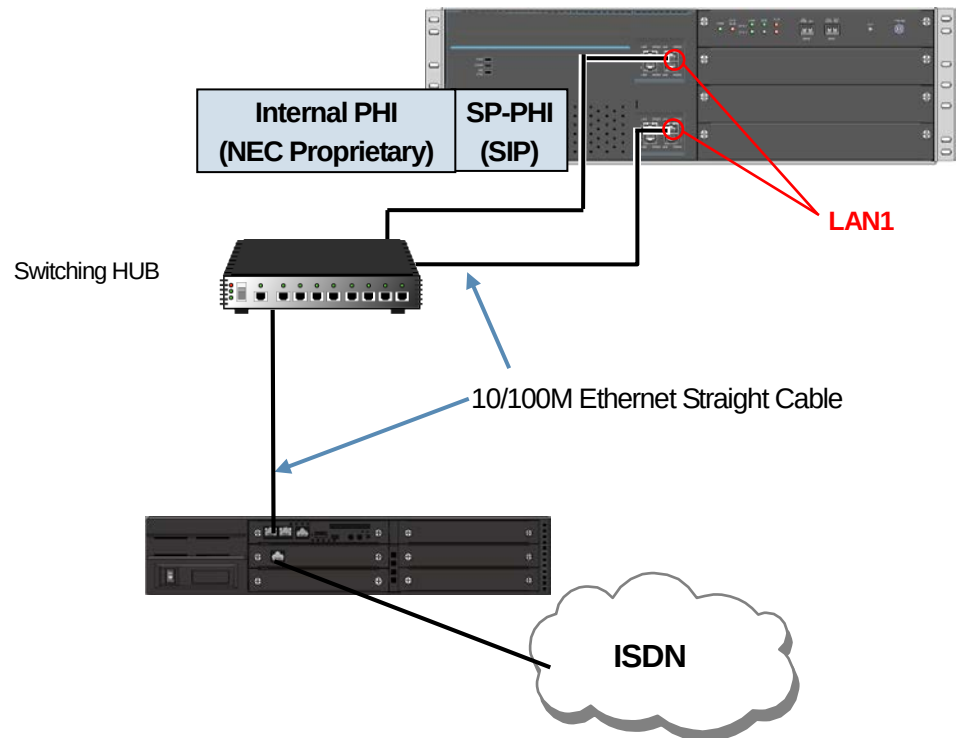
Maximum number of channels that can be used: (GCD-8LCA+GPZ-8LCE x 5 slot = 80 lines)

Without encryption

	10ms	20ms	30ms	40ms	60ms
G.711	-	80ch	80ch	80ch	-
G.729	-	80ch	80ch	80ch	-
G.723.1	-	-	80ch	-	80ch

9.2.2.UG50-PRT(1.5M/2M) (NEC Proprietary: Internal PHI/SIP:SP-PHI)

UG50-PRT provides the ISDN Gateway function between IP network (LAN) and the ISDN network (PRI).



Maximum number of channels that can be used in NEC proprietary mode: (GCD-PRTA x 1 slot (T1/E1))

Without encryption(T1)

	10ms	20ms	30ms	40ms	60ms
G.711	-	23ch	23ch	23ch	-
G.729	-	23ch	23ch	23ch	-
G.723.1	-	-	23ch	-	23ch

Without encryption(E1)

	10ms	20ms	30ms	40ms	60ms
G.711	-	30ch	30ch	30ch	-
G.729	-	30ch	30ch	30ch	-
G.723.1	-	-	30ch	-	30ch

Maximum number of channels that can be used in SIP mode: (GCD-PRTA x 2 slot (T1/ E1))

Without encryption(T1)

	10ms	20ms	30ms	40ms	60ms
G.711	-	46ch	46ch	46ch	-
G.729	-	46ch	46ch	46ch	-
G.723.1	-	-	46ch	-	46ch

Without encryption(E1)

	10ms	20ms	30ms	40ms	60ms
G.711	-	60ch	60ch	60ch	-
G.729	-	60ch	60ch	60ch	-
G.723.1	-	-	60ch	-	60ch

9.2.3.UG50-COT (NEC Proprietary: Internal PHI/SIP:SP-PHI)

UG50-COT has a function of Media Gateway (MG) which is an interface between IP network and Analog PSTN line. Also two analog terminals for exclusive use of Power Failure Transfer (PFT) can be connected through a PFT connector on GCD-4COTx card. In the case of power failure of UG50-COT, PFT #1/#2 connects to C.O. line #1/#2 and analog terminal directly and provides emergency line. **Note**

UG50-COT (Type1):

UG50-COT(Type1) supports NEC proprietary mode only.

Control signal between SV9500 and UG50-LC(Type1) is handled by Internal SP-PHI

UG50-COT (Type2):

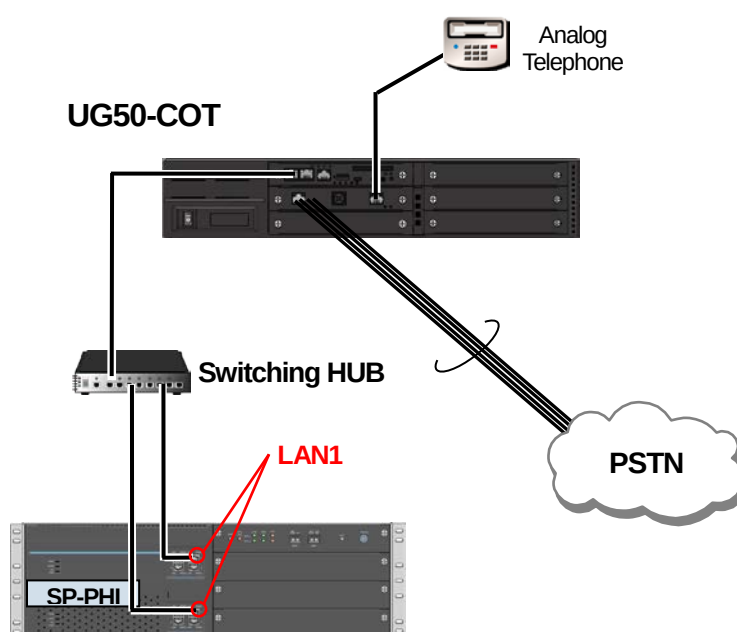
UG50-COT(Type2) supports SIP and NEC proprietary mode.

Supports CLI.

Control signal between SV9500 and UG50-LC(Type2) is handled by Internal SP-PHI.

Note :

Analog terminals connected to PFT connector of GCD-4COTx cannot be used as a system station during normal operation and PFT function is available only in the event of a power failure, not when a network failure occurs.



Maximum number of channels that can be used: (GCD-4COTx+GPZ-4COTx x 5 slot= 40 lines)

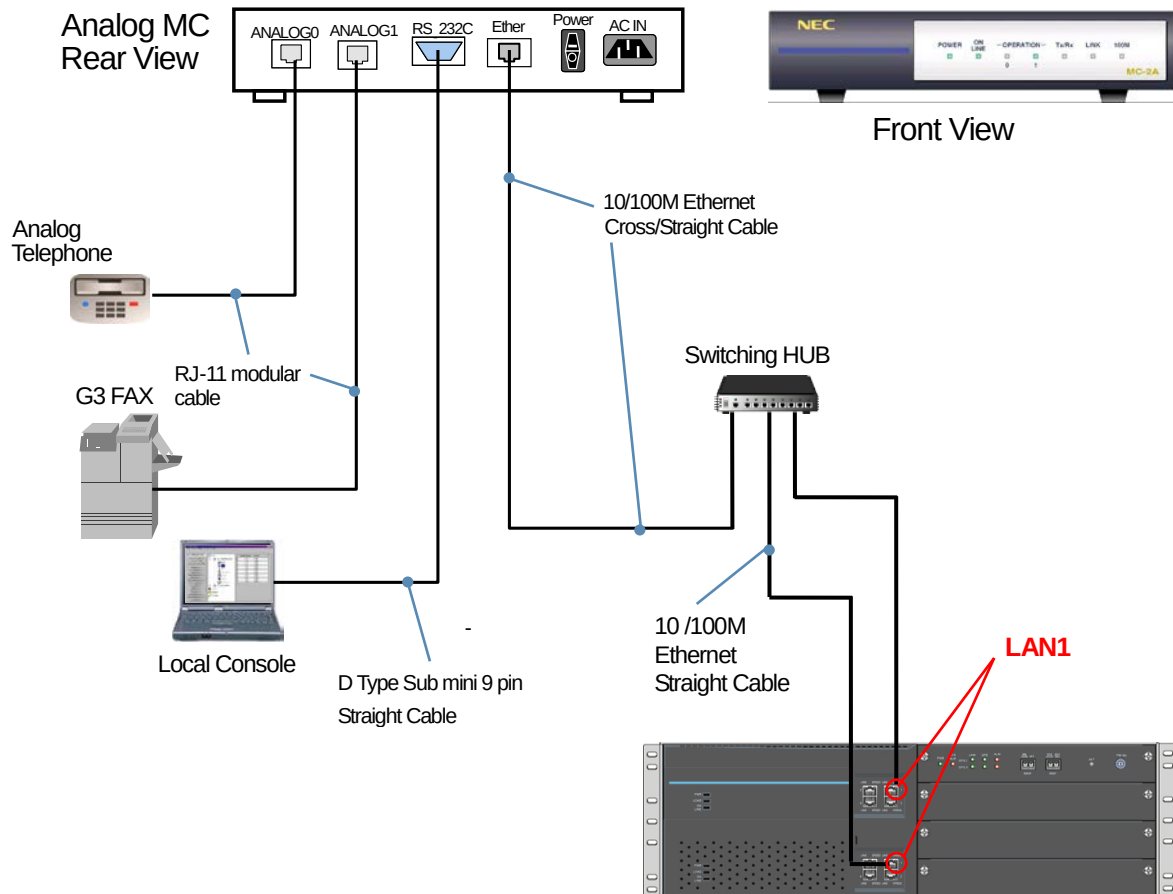
Without encryption

	10ms	20ms	30ms	40ms	60ms
G.711	-	40ch	40ch	40ch	-
G.729	-	40ch	40ch	40ch	-
G.723.1	-	-	40ch	-	40ch

9.3. 2-Port Analog MC (Internal PHE)

2-port Analog MC (Media Converter) provides the interface function between IP network (LAN) and conventional terminals, such as analog telephones and G3 FAX machines.

The MC can be used as gateway device for mutual converting between voice IP packet and TDM-based voice signals and terminal controlling with Internal PHE.



Number of channels that can be used:

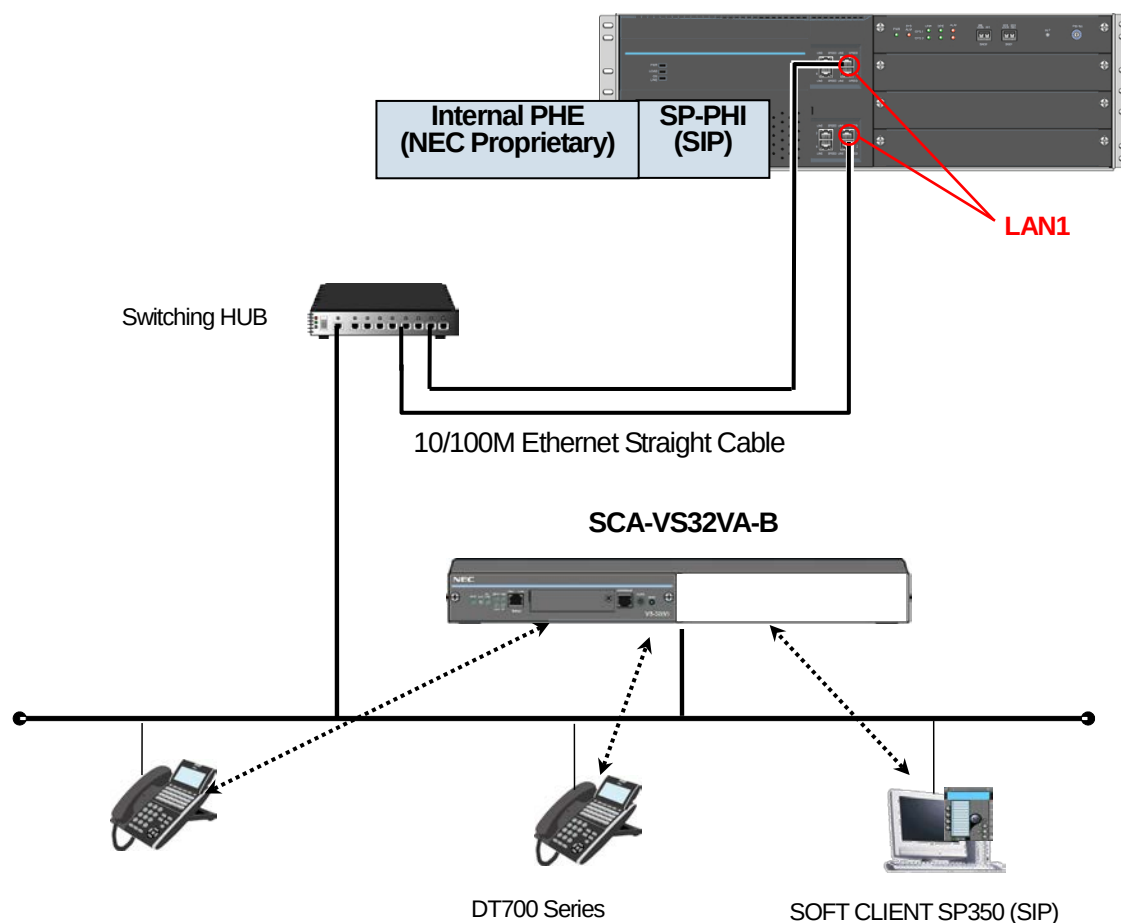
Without encryption

	10ms	20ms	30ms	40ms	60ms
G.711	2ch	2ch	2ch	2ch	-
G.729	2ch	2ch	2ch	2ch	-
G.723.1	-	-	2ch	-	2ch

9.4. VS32 Conference Server (NEC Proprietary: Internal PHE/SIP: SP-PHI)

Features listed below are available over the IP network without PIR.

1. Announcement feature: The wave file within the internal memory or the external equipment input can be used as an announcement source.
2. IP external hold tone feature: The wave file within the internal memory or the external equipment input can be used as an external hold tone source.
3. 3/8/16/32 party conference feature (Preset, Meet-me and Progressive)
4. Voice compression is supported.



Number of channels that can be used:

Without encryption

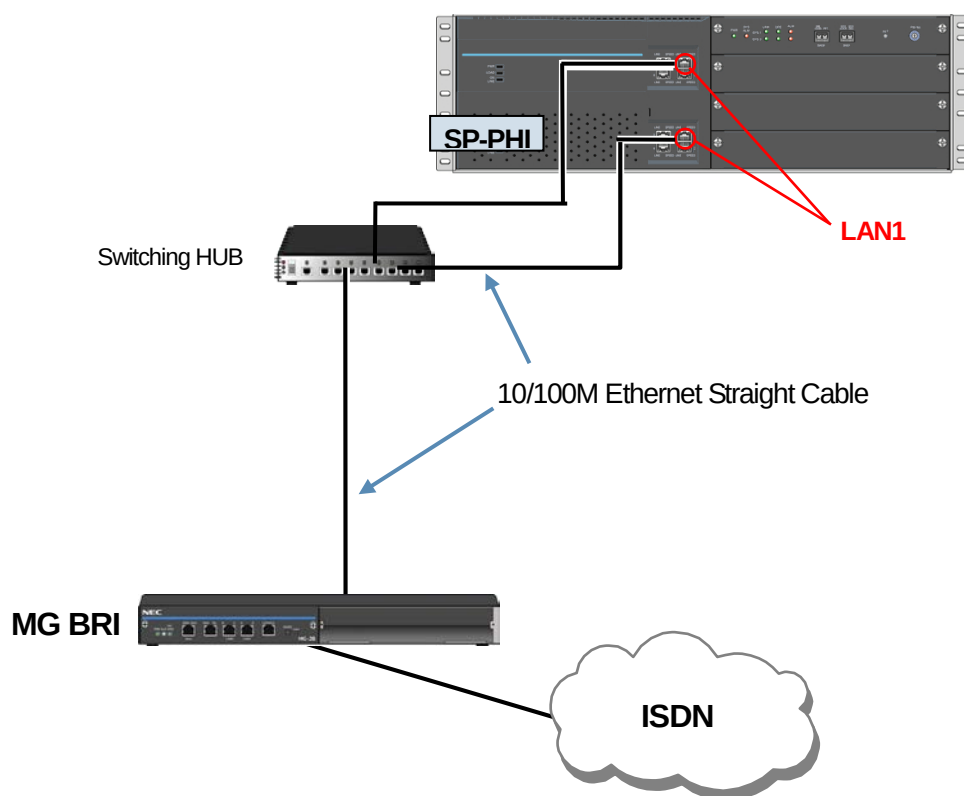
	10ms	20ms	30ms	40ms	60ms
G.711	16ch	32ch	32ch	32ch	-
G.729	16ch	32ch	32ch	32ch	-
G.723.1	-	-	32ch	-	32ch

With encryption

	10ms	20ms	30ms	40ms	60ms
G.711	16ch	32ch	32ch	32ch	-
G.729	16ch	32ch	32ch	32ch	-
G.723.1	-	-	32ch	-	32ch

9.5. MG-BRI (SP-PHI)

The Digital MG-BRI provides the ISDN Gateway function between IP network (LAN) and the ISDN network (BRI).



Number of channels that can be used:

Without encryption

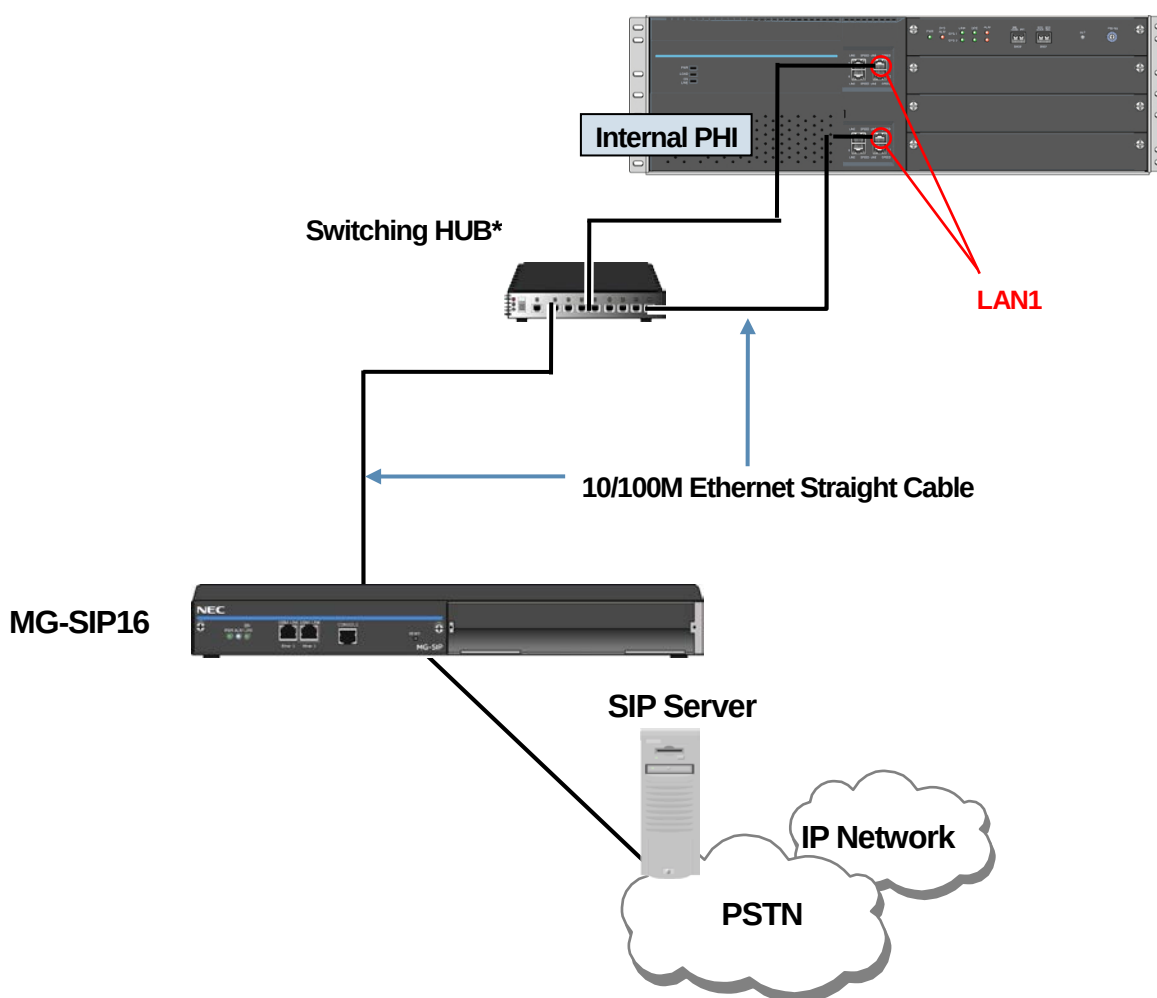
	10ms	20ms	30ms	40ms	60ms
G.711	4ch	4ch	4ch	4ch	-
G.729	4ch	4ch	4ch	4ch	-
G.723.1	-	-	4ch	-	4ch

With encryption

	10ms	20ms	30ms	40ms	60ms
G.711	4ch	4ch	4ch	4ch	-
G.729	4ch	4ch	4ch	4ch	-
G.723.1	-	-	4ch	-	4ch

9.6. MG-SIP16

MG-SIP16 is Media Gateway (MG) to provide SV9500 system with Session Initiation Protocol (SIP) interface. It enables the system to build a multi-server and reliable Voice over IP (VoIP) networks using SIP defined by IETF. SIP is an application-layer control protocol that can initiate call setup, routing, authentication and transferring other feature message to endpoints.



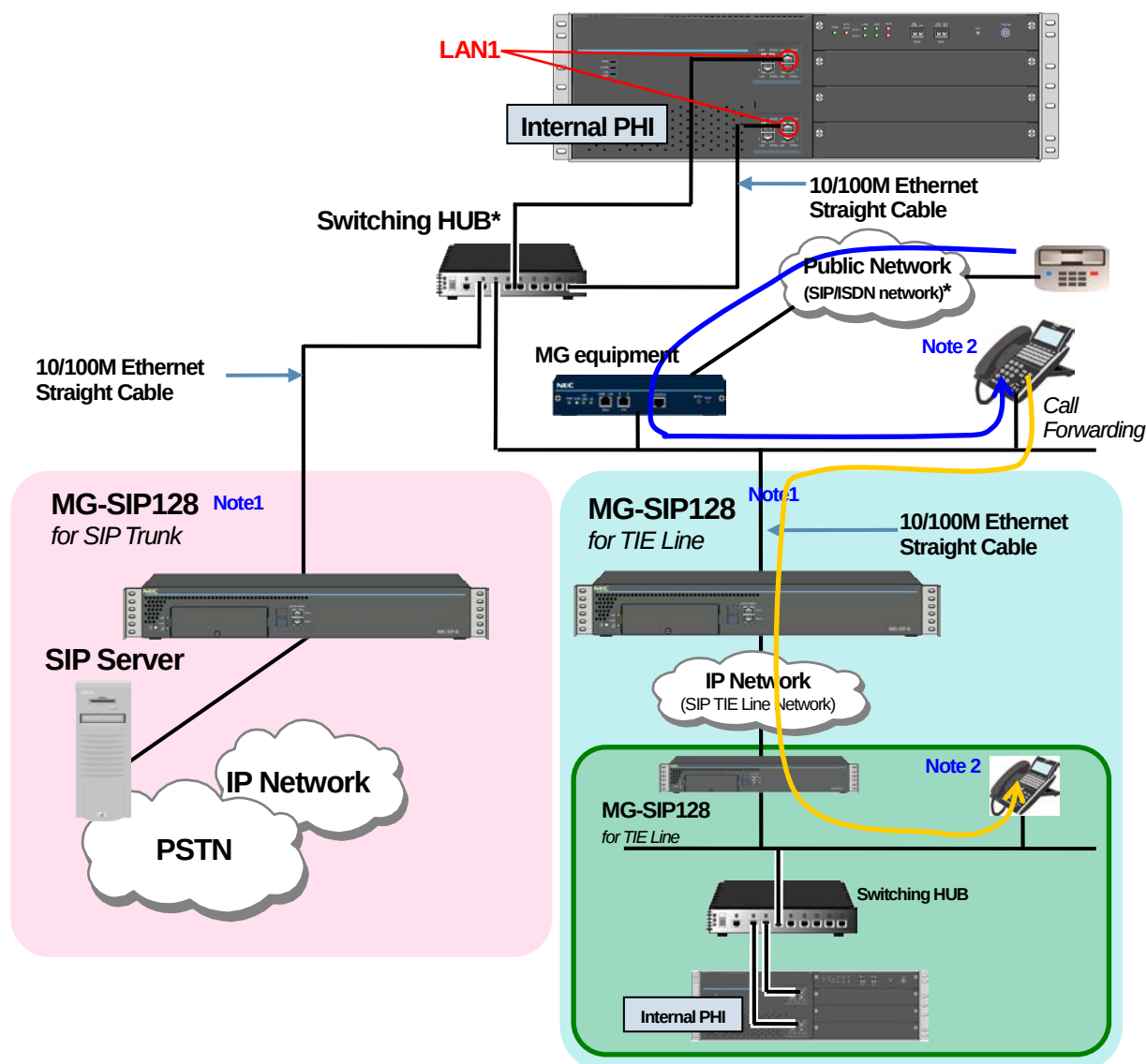
Number of channels that can be used:

Without encryption

	10ms	20ms	30ms	40ms	60ms
G.711	-	16ch	16ch	16ch	-
G.729	-	16ch	16ch	16ch	-
G.723.1	-	-	-	-	-

9.7. MG-SIP128

MG-SIP128 is Media Gateway (MG) to provide SV9500 system with Session Initiation Protocol (SIP) interface. It enables the system to build a multi-server and reliable Voice over IP (VoIP) networks using SIP defined by IETF. SIP is an application-layer control protocol that can initiate call setup, routing, authentication and transferring other feature message to endpoints.



Note 1:	“MG-SIP128 for SIP trunk /TIE line” represents following products;		
		For the countries other than Asia	For Asia
	MG-SIP128 for SIP Trunk	SR-MGC(E)-B + SP-4058 MGSIP PROG-J	MG-128SIPMGG-B
Note 2:	MG-SIP 128 for TIE Line	SR-MGC(E)-B + SP-4060 MGSIP PROG-L	MG-128SIPMGJ-B
	User information of the incoming C.O. calls can be shared with all offices that are connected with MG-SIP Simplified TIE Line.		

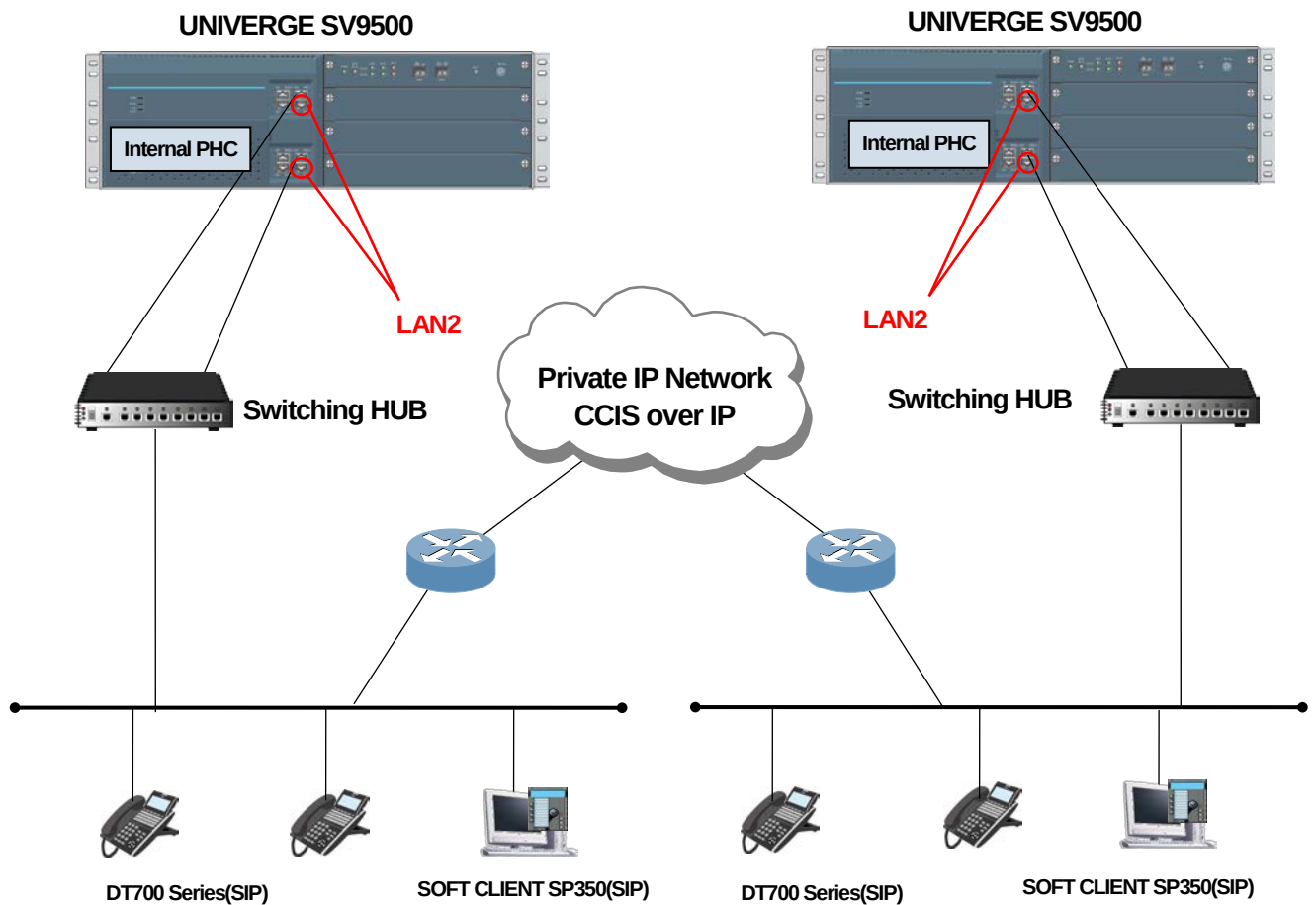
Number of channels that can be used:

Without encryption

	10ms	20ms	30ms	40ms	60ms
G.711	-	128ch	128ch	128ch	-
G.729	-	128ch	128ch	128ch	-
G.723.1	-	-	-	-	-

9.8. CCIS over IP (Internal PHC)

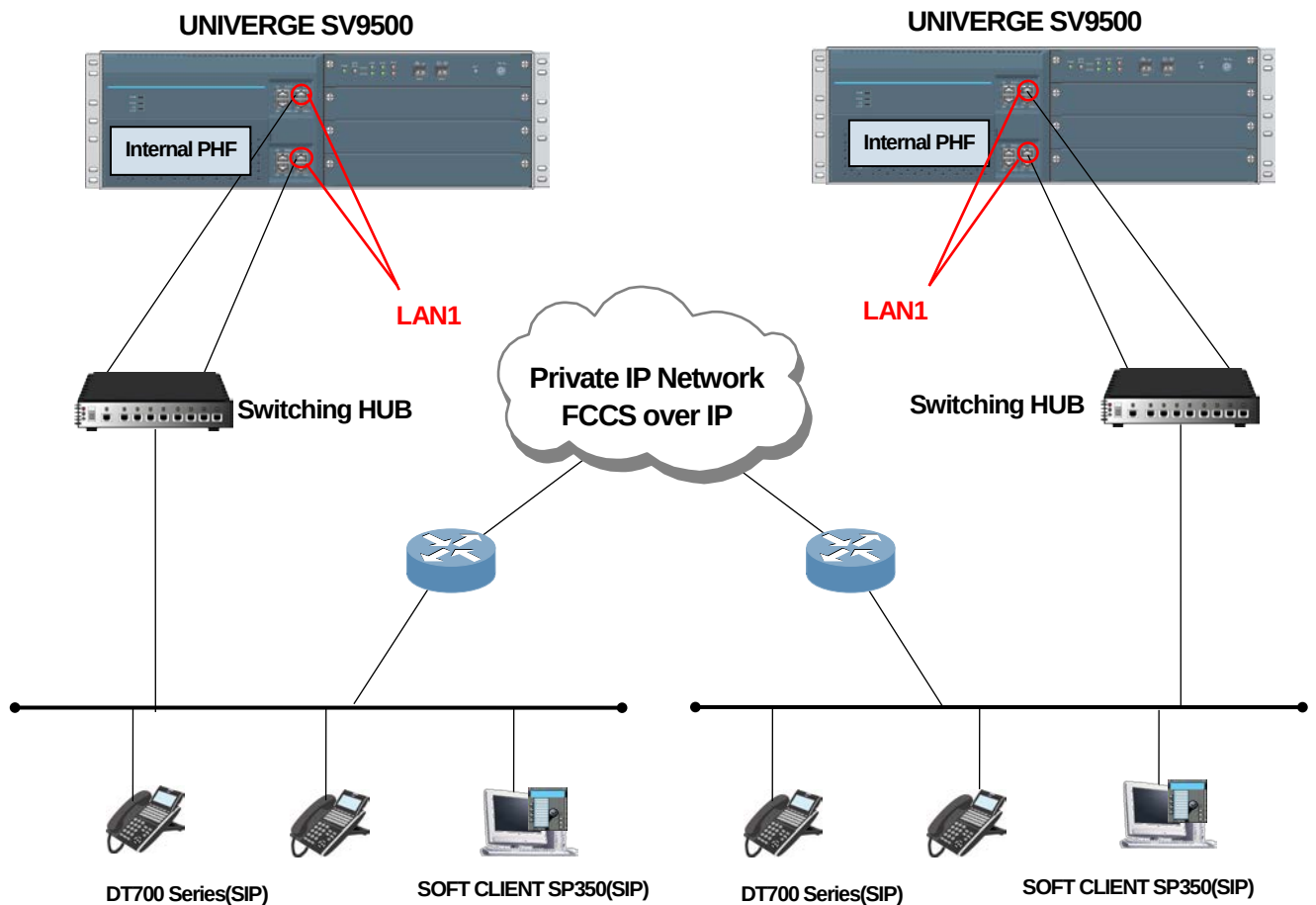
Internal PHC sends/receives the control signal of No.7 CCIS (Common Channel Interoffice- Signaling) to/from Private IP network. The control signals are converted to IP packets on this Internal PHC. The voice data is exchanged between the terminals via IP switch.



Internal PHC can handle up to maximum 64 routes (999ch) in a system.

9.9. FCCS over IP (Internal PHF)

The internal PHF sends/receives the control signal of FCCS (Fusion Call Control Signaling) to/from IP network (Intranet/IP-VPN). The control signals are converted to IP packets on this internal PHF. The voice data is exchanged between the terminals via IP switch.



The internal PHF can handle up to 63 routes (8,192 ports per node) in a FCCS system.
FCCS over IP can handle up to Max. 192,000 ports in a FCCS network.

9.10. Protocol Handler(PH) Structure

UNIVERGE SV9500 system contains the following protocol handler (PH) in main CPU. PH handles the call control of the terminals and various kinds of IP components, etc.

Internal PH's

- **Internal PHE**

This controls UG50-LC (NEC Proprietary), VS32V(NEC Proprietary) and MC2A.

- **Internal PHI**

This controls UG50-PRT (NEC Proprietary: TCP) and MG-SIP(16)(UDP).

- **Internal PHC**

This is used for Peer-to-peer CCIS network.

- **Internal PHF**

This is used for Peer-to-peer FCCS network.

- **SIP Handler**

This handles the Standard SIP terminals. By using IP-DTG in combination with this feature, the SIP Handler controlled SIP terminal can use various PBX services which have been enriched by enabling PBX tones to be received through IP-DTG.

SP-PH's

- **SP-PHD**

This controls DT800 Series, DT700 Series, SOFT CLIENT SP350 and UG50-DLC.

- **SP-PHI**

This handles UG50-COT(Type 1), VS32V(SIP), UG50-PRT (SIP), MG-BRI, UG50-COT(Type 2) and UG50-LC(SIP).

- **Virtual IP-BS**

This handles the various kinds of SIP terminals except DT800/DT700 Series and SIP Handler controlled SIP terminals.

- **MPH (Multi Protocol Handler)**

This controls the SP-PHD and SP-PHI.

10.1. Calculation of System Capacity Required.

The total amount of System Capacity consumed must be less than 6144. (In other words, up to 6143 ports can be used because LENS:000000 cannot be used.)

[illegible]

Description	Consumption of System Capacity											Consumption of System Capacity for Internal PHx	Consumption of System Capacity for Internal MPH
	a	b	C	d	e	f	g	h	i	j	k	l	m
Minimum Unit	32	8	8	8	8	8	32	8	32	32	32		
												for PHE single: 8 dual: 8	for MPH single: 8 dual: 16
SCA-2BRIA-B	-	-	-	-	4	-	-	-	-	-	-	For SP-PHI single: 8 dual: 16	
SCA-VS32VA-B (SIP)	32		-	-	-	-	-	-	-	-	-		
SCA-24DTIA-B	-	-	-	-	-	-	-	-	32	-	-		
UG50-COT(Type1)	/	/	/	/	/	/	/	/	/	/	/		
GCD-4COTA/B/C	-	-	-	-	-	-	-	4	-	-	-		
GCD-4COTA/B/C + GPZ-4COTE/F/G	-	-	-	-	-	-	-	8	-	-	-		
UG50-COT(Type2) (SIP/NEC Proprietary)	/	/	/	/	/	/	/	/	/	/	/		
GCD-4COTA/B/C	-	-	-	-	-	4			-	-	-		
GCD-4COTA/B/C + GPZ-4COTE/F/G	-	-	-	-	-	8	-	-	-	-	-		
UG50-LC(SIP)	/	/	/	/	/	/	/	/	/	/	/		
GCD-8LCA	-	8	-	-	-	-	-	-	-	-	-		
GCD-8LCA+GPZ-8LCE	-	16	-	-	-	-	-	-	-	-	-		
UG50-PRT(1.5M)(SIP)	-	-	-	-	-	-	32	-	-	-	-	0 for PHI (TCP)	0
UG50-PRT(2M)(SIP)	-	-	-	-	-	-	32	-	-	-	-		
UG50-PRT(1.5M) (NEC Propraetary) Note1	-	-	-	-	-	-	32	-	-	-	-		
UG50-PRT(2M) (NEC Propraetary) Note1	-	-	-	-	-	-	32	-	-	-	-		
SCA-16SIPMG(US)-B	-	-	-	-	-	-	-	-	-	32	-		
MG-SIP128	-	-	-	-	-	-	-	-	-	128	-		
FCCS (30ch)	-	-	-	-	-	-	-	-	-	-	-	0 for PHF	
CCIS (30ch)	-	-	-	-	-	-	-	-	-	-	32	8 for PHC	

Total amount of System Capacity = a + b + c + d + e + f + g + i + j + k + l + m

e.g. SCA-4LC2COT/1, DT700/340

Total amount of System Capacity = b(4) + d(340) + h(2) + l + m

⇒ 8(minimum unit: 8) + 344(minimum unit: 8) + 8(minimum unit: 8) + l + m

⇒ 360 (ports) + l + m ("l + m" is depends on single/dual)

Note 1:	Maximum accommodating number of MG-PRI in the system is 32.
Note 2:	Although two ports of system capacity are consumed when 60 DSS console is used with DT800/DT700, only one HD client license is needed.
Note 3:	Each component belongs to group of "a" to "k". Each group ("a" to "k") has "Minimum Unit" of consumption.

10.2. Accommodation Limitation of Stations

The condition of accommodating the terminals is as follows:

	Maximum Number of Accommodation	Condition of Combination with PHS
DtermIP, DtermSP30, Desktop terminal accommodated in UG50-DLC (NEC Proprietary) (X sets)	4000 In total	-
DtermIP,DT800/ DT700 Series, DtermSP30, Soft Client SP350 (SIP) (Y sets)		
WLAN terminal (MH Series) 3rd Party SIP Phone (Z sets)		4000

The condition of the terminal encryption is as follows:

Description	Business	OAI	ACD
DT800/DT700(SIP) (w/o encryption)	X	X	X
DT800/DT700(SIP) (w/ encryption for voice)	-	-	-
DT800/DT700(SIP) (w/ encryption for voice and control signal)	X	N	N

X: available, N: not available, -: not applicable

10.3. Accommodation Limitation of IP Components

The table below shows the details on the accommodation limitations for circuit cards mounted in Universal Slots of 1U-MPC, Media Converter and Media Gateway.

Circuit Card	Registration Destination PH	Capacity of IP Components	Maximum Number of Simultaneous Connections	Maximum Number of Speech Channels	Maximum Number of port to be able to used
SCA-VS32VA -B(NEC Proprietary)	PHE	191 sets	-	6112ch	6136ch
SN8029 MC2A-B/SN8029 MC2A-C		3067 sets	-	6134ch	6136ch
SCA-VS32VA-A (SIP)	SP-PHI	125 sets	-	4000ch	4000ch*2
SCA-24DTIA-B		125 sets	-	3000ch	4000ch*2
SCA-2BRIA -B(SIP)		1000 sets	1840ch	4000ch	4000ch*2
SCA-16SIPMG(US)-B	PHI (UDP)	188 sets	(460ch/LP)	3008ch	6132ch
MG-SIP128		44 sets	*1	5632ch	6132ch

*1: LP - Local Partition (refers to a logical processor number that theoretically assigned for each IMG.

*2: For dual CPU System, up to 6144 channels (system capacity) are supported.

*3: Up to 32 sets can be accommodated because the maximum number of TCP session which SV9500 can be established is 32.

Note 1:	"460 channels per LP" is shared among ISDN trunk card which is mounted in PIR(i.e. PRT, DTI, BRI), MGs (i.e. PRT,DTI, BRI) and PHS/PCS (Including virtual IP-BS) channels.
Note 2:	A maximum number of components which can be accommodated in a system depend on the number of channels to be assigned per component.
Note 3:	The LENS of even-numbered MG, Unit=0, Group=0 cannot be used for MG-BRI and MG-SIP.
Note 4:	MG-SIP16/MG-SIP128 (for SIP trunk) is needed to have interconnectivity test with certain SIP-carrier before releasing to customer.

10.4. Accommodation Limitation of cards on UG50

The table below shows the details on the accommodation limitations for the cards mounted on Universal Slots of UG50 chassis.

Multi-slot Mode

Device Type	Registration Destination PH	Maximum Number of lines on the card of UG50	Maximum Number of Simultaneous Connections	Maximum Number of Speech Channels	Maximum Number of port to be able to used
UG50-DLC(NEC Proprietary)	SP-PHD	4000 lines	-	4000 ch	4000 ch
UG50-LC (NEC Proprietary)	PHE	6135 lines	-	6135 ch	6135 ch
UG50-LC (SIP)	SP-PHI	4000 lines	-	4000 ch	4000 ch *2
UG50-COT(Type 1) (NEC Proprietary)		4000 lines	1840ch (460ch/LP) *1	4000 ch	4000 ch *2
UG50-COT(Type 2) (NEC Proprietary)		1500 lines		1500 ch	1500 ch
UG50-COT(Type 2) (SIP)		1500 lines		1500 ch	1500 ch
UG50-PRT(1.5M) (SIP)		125 lines		3000 ch	4000 ch *2
UG50-PRT(2M) (SIP)		125 lines		3750 ch	4000 ch *2
UG50-PRT(1.5M) (NEC Proprietary)	PHI(TCP)	32 lines *3		768 ch	-
UG50-PRT(2M) (NEC Proprietary)		32 lines *3		960 ch	-

*1: LP - Local Partition (refers to a logical processor number that theoretically assigned for each IMG.

*2: For dual CPU System, up to 6144 channels (system capacity) are supported.

*3: Up to 32 sets can be accommodated because the maximum number of TCP session which SV9500 can be established is 32.

Note 1:	"460 channels per LP" is shared among ISDN trunk card which is mounted in PIR(i.e. PRT, DTI, BRI), MGs (i.e. PRT, DTI, BRI) and PHS/PCS (Including virtual IP-BS) channels.
Note 2:	A maximum number of components which can be accommodated in a system depends on the number of channels to be assigned per component.
Note 3:	The LENS of even-numbered MG, Unit=0, Group=0 cannot be used for MG-PRI and MG-COT.

10.5. Details of Limitations per IP Component

Details of the limitations per equipment are below:

MG-PRI 24B (UG50-PRT(1.5M))

Configuration Limitation

[NEC Proprietary]

The internal configuration limitation is 32 MG-PRI's. Total number of B-channels is 768 (32x24) channels.

[SIP]

The internal configuration limitation is 125 MG-PRI's. Total number of B-channels is 3000 (125x24) channels.

If you assign MG-PRI to certain highway, you can assign only MG-PRI to same highway.

Performance Limitation

460 ports/LP is the limitation for simultaneous connections. (note: 1,840 ports is the limitation for one system)

This limitation is shared among ISDN and PHS/PCS (Including virtual IP-BS) channels.

MG-PRI 30B (UG50-PRT(2M))

Configuration Limitation

[NEC Proprietary]

The internal configuration limitation is 32 MG-PRI's. Total number of B-channel is 960 (32x30) channels.

[SIP]

The internal configuration limitation is 125 MG-PRI's. Total number of B-channels is 3750 (125x30) channels.

If you assign MG-PRI to certain highway, you can assign only MG-PRI to same highway.

Performance Limitation

460 ports/LP is the limitation for simultaneous connections. (note: 1,840 ports is the limitation for one system)

This limitation is shared among ISDN and PHS/PCS (Including virtual IP-BS) channels.

MG-BRI 4B (SCA-2BRIA-B)

Configuration Limitation

The internal configuration limitation is 1000 MG-BRI's. Total number of B-channels is 4000 (1000x4) channels.

If you assign MG-BRI to certain group, you can assign only MG-BRI to same group.

Performance Limitation

460 ports/LP is the limitation for simultaneous connections. (note: 1,840 ports is the limitation for one system)

This limitation is shared among ISDN and PHS/PCS (Including virtual IP-BS) channels.

UG50-COT(Type 1)

Configuration Limitation

The internal configuration limitation is 4,000 COT lines of UG50 in total (using SP-PHI).

If you assign UG50-COT(Type 1) to certain group, you can assign only MG part of MC4A/MG-COT 2 and UG50-COT(Type 1) to same group.

Performance Limitation

460 ports/LP is the limitation for simultaneous connections. (note: 1,840 ports is the limitation for one system)

This limitation is shared among ISDN and PHS/PCS (Including virtual IP-BS) channels.

UG50-COT(Type 2)

Configuration Limitation

The internal configuration limitation is 1,500 COT lines of UG50 in total.

If you assign UG50-COT(Type 2) to certain group, you cannot assign other component to same group.
(You cannot assign MG part of MC4A / MG-COT2, UG50-COT(Type 1) and MG-COT 6.)

Performance Limitation

460 ports/LP is the limitation for simultaneous connections. (note: 1,840 ports is the limitation for one system)

This limitation is shared among ISDN and PHS/PCS (Including virtual IP-BS) channels.

VS-32(V) (SCA-VS32VA-B)

Configuration Limitation

[NEC Proprietary]

The internal configuration limitation is 191 VS-32's.

[SIP]

The internal configuration limitation is 125 VS-32's.

If you assign 8-Conference to certain group, you can assign only 8-Conference to same group.

If you assign 3-Conference to certain group, you can assign only 3-Conference to same group.

If you assign Announcement feature or IP-MOH feature to certain group, you can assign only Announcement feature or IP-MOH feature to same group.

SR-MGC (SR-MGC(E))

Configuration Limitation

The internal configuration limitation is 256 SR-MGC's.

MC2A (SN8029 MC2A-B/SN8029 MC2A-C)

Configuration limitation

The internal configuration limitation is 3,067 MC2A's.

If you assign MC2A to certain group, you can assign only Analog-terminal (MC2A, MC-8A, MC part of MC4A /MG-COT 2 and UG50-LC(NEC Proprietary/SIP)) to same group.

UG50-LC

Configuration limitation

[NEC Proprietary]

The internal configuration limitation is 6,135 LC lines of UG50 in total,

[SIP]

The internal configuration limitation is 4,000 LC lines of UG50 in total,

If you assign UG50-LC to certain group, you can assign only Analog-terminal (MC2A, MC-8A, MC part of MC4A /MG-COT 2 and UG50-LC(NEC Proprietary/SIP)) to same group.

SP Controlled 3rd party SIP Station

Configuration Limitation

The internal configuration limitation is 4,000 terminals.

Performance Limitation

The condition of combining the terminals is as follows:

UG50-DLC-DtermIP-SP30(protims)/4000+DtermIP-DT800/DT700-SP30-SP350(SIP)/4000+3rd
Party SIP/4000 $\leq$ 1

460 ports/LP is the limitation for simultaneous connections. (note: 1,840 ports is the limitation for one system)
The limitation for simultaneous connections is 1,200 ports.

SIP Handler Controlled 3rd party SIP Station

Configuration Limitation

The internal configuration limitation is 4,000 terminals.

Performance Limitation

The condition of combining the terminals is as follows:

$$\text{UG50-DLC-DtermIP-SP30(protims)/4000+DtermIP- DT800/DT700-SP30-SP350(SIP)/4000+3rd Party SIP/4000} \leq 1$$

MG-SIP 16 (SCA-16SIPMG(US)-B)

Configuration Limitation

The internal configuration limitation is 188 MG-SIP 16's.

Total number of SIP channels is 3008(188x16) lines.

Performance Limitation

460 ports/LP is the limitation for simultaneous connections. (note: 1,840 ports is the limitation for one system)

This limitation is shared among ISDN and PHS/PCS (Including virtual IP-BS) channels. (note: Virtual IP-BS is used for VoWLAN terminal and SP controlled SIP Standard Terminal.)

MG-SIP 128

Configuration Limitation

The internal configuration limitation is 44 MG-SIP 128's.

Total number of SIP channels is 5632 (44x128) lines.

Performance Limitation

460 ports/LP is the limitation for simultaneous connections. (note: 1,840 ports is the limitation for one system)

This limitation is shared among ISDN and PHS/PCS (Including virtual IP-BS) channels. (note: Virtual IP-BS is used for VoWLAN terminal and SP controlled SIP Standard Terminal.)

DtermIP/ DtermSP30 / UG50-DLC(NEC Proprietary)

Configuration Limitation

The internal configuration limitation is 4,000 terminals.

If you assign DtermIP/DtermSP30/UG50-DLC to certain group, you can assign only DtermIP/DtermSP30/UG50-DLC or DtermIP(SIP)/DtermSP30(SIP)/SOFT CLIENT SP350(SIP) to same group.

Performance Limitation

The condition of combining the terminals is as follows:

$$\text{DtermIP-SP30 - UG50-DLC(protims)/4000} \\ + \text{DtermIP-DT700-SP30-SP350(SIP)/4000} + \text{3rd Party SIP/4000} \leq 1$$

DtermIP/Dterm800 Series/DT700 Series/DtermSP30/SOFT CLIENT SP350 (SIP)

Configuration Limitation

The internal configuration limitation is 4,000 terminals.

If you assign DtermIP/DT800 Series/DT700 Series/DtermSP30/SOFT CLIENT SP350 to certain group, you can assign only DtermIP/DT800 Series/DT700 Series/DtermSP30/SOFT CLIENT SP350, DtermIP/DtermSP30- UG50-DLC or DT800 Series/DT700 Series/DtermSP30/SOFT CLIENT SP350 to same group.

Performance Limitation

The condition of combining the terminals is as follows:

DtermIP-SP30 - UG50-DLC (protims)/4000

+DtermIP-DT800/DT700-SP30-SP350(SIP)/4000+ 3rd Party SIP/4000 $\leq$ 1

FCCS

Configuration limitation

FCCS over IP can handle up to Max. 63 node (8,192 ports per node) in a FCCS system.

FCCS over IP can handle up to Max. 192,000 ports in a FCCS network.

CCIS

Configuration limitation

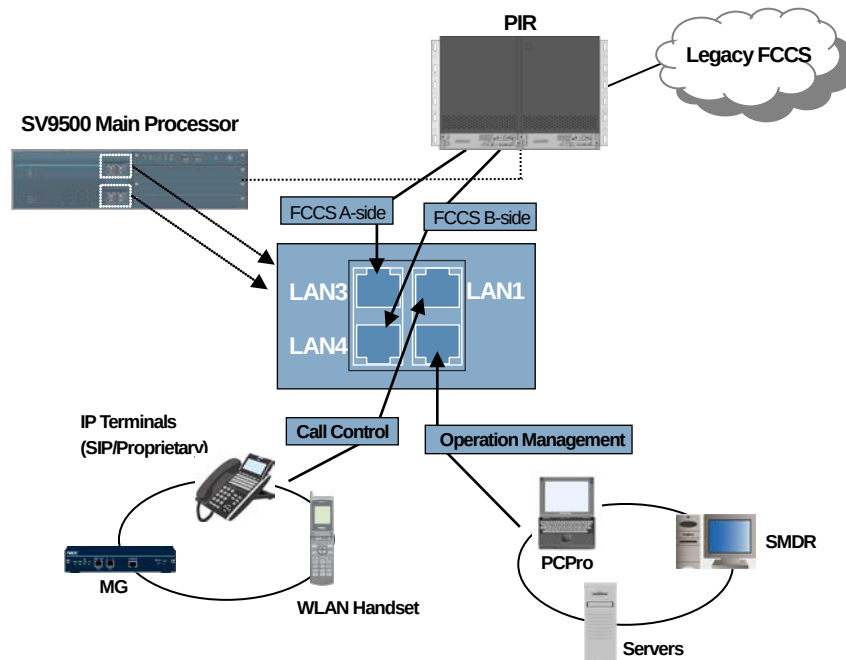
In one node the maximum is 64 routes (999ch) in a node.

This means max 33 sets of SV95 P2P CCIS-32 LIC.

11. Appendix

11.1. The USES OF LAN PORTS

SV9500 Main Processor (CPU) has four LAN ports. Each LAN port is used as follows:



LAN Port	Transmission Speed	Purpose
LAN1	1 Gbps	Used for communication with Call Control devices such as IP terminal, Media Gateway (MG), P2P CCIS, P2P FCCS, etc.
LAN2	1 Gbps	Used for communication with Operation Management devices such as PC Pro, OAI, SMDR, etc.
LAN3	1 Gbps	Used as Legacy FCCS A-side port.
LAN4	1 Gbps	Used as Legacy FCCS B-side port.

The following settings are available for LAN port operation mode.

LAN Port	Transmission Speed	Duplex
LAN1	Auto-negotiation/10 Mbps/ 100 Mbps/1 Gbps	Half-duplex/Full-duplex
LAN2	Auto-negotiation/10 Mbps/ 100 Mbps/1 Gbps	Half-duplex/Full-duplex
LAN3	Auto-negotiation (depends on the setting of switching HUB)	
LAN4	Auto-negotiation (depends on the setting of switching HUB)	

11.2. Power Consumption

11.2.1. Power Consumption of AC-Powered Model (Component Type)

SV9500 CHASSIS & TSW-BOX

The following shows the total amount of power consumption for each configuration.

CPU: Single PWR: Single	Current Consumption (DC12V)	Full-IP w/o IOC	Full-IP w IOC	Hybrid (IMG) w/o IOC	Hybrid (IMG) w IOC
UNIVERGE SV9500 CHASSIS	0.600(A)	1	1	1	1
SCF-CP02-B(CPU)	6.600(A)	1	1	1	1
SCG-PC00-C(EMA)	0.300(A)	1	1	1	1
SCG-M03-B(EMA SUB-A)	0.099(A) Note1	-	-	1	1
	0.230(A) Note2				
SCG-M02-B (EMA SUB-B)	0.002(A)	-	-	-	-
SCG-GT01-B (EXB-TSWR)	0.200(A)	-	-	1	1
SCG-IO00-B(IOC)	0.400(A)	-	1	-	1
SCA-M01-A (TSW-BOX Power Supply)	0(A)	-	-	1	1
SN8179 TSWBEA-A (TSW-BOX)	0(A)	-	-	1	1
SPZ-SW25-A	0.200(A)	-	-	1	1
SPZ-SW26-A	0.420(A)	-	-	-	-
Total Current Consumption (DC 12V)	w/o DSPP	7.5(A)	7.9(A)	7.999(A)	8.399(A)
	w/ DSPP	7.5(A)	7.9(A)	8.13(A)	8.53(A)
Total Power Consumption (AC 100V)	w/o DSPP	127.5(W)	133.5(W)	134.99(W)	140.99(W)
	w/ DSPP	127.5(W)	133.5(W)	136.95(W)	142.69(W)
Total Power Consumption (AC 240V)	w/o DSPP	124.05(W)	129.45(W)	130.79(W)	136.19(W)
	w/ DSPP	124.05(W)	129.45(W)	132.56(W)	137.94(W)

CPU: Dual PWR: Single	Current Consumption (DC12V)	Full-IP w/o ExMoH w/o IOC	Full-IP w ExMoH w/ IOC	Hybrid (IMG) w/o IOC	Hybrid (IMG) w/ IOC
UNIVERGE SV9500 CHASSIS	0.600(A)	1	1	1	1
SCF-CP02-B(CPU)	6.600(A)	2	2	2	2
SCG-PC00-C(EMA)	0.300(A)	1	1	1	1
SCG-M03-B(EMA SUB-A)	0.099(A) Note1	-	-	1	1
	0.230(A) Note2				
SCG-M02-B (EMA SUB-B)	0.002(A)	-	-	-	-
SCG-GT01-B (EXB-TSWR)	0.200(A)	-	2	2	2
SCG-IO00-C(IOC)	0.400(A)	-	1	-	1
SCA-M01-A (TSW-BOX Power Supply)	0(A)	-	1	1	1
SN8179 TSWBEA-A (TSW-BOX)	0(A)	-	1	1	1
SPZ-SW25-A	0.200(A)	-	2	2	2
SPZ-SW26-A	0.420(A)	-	-	-	-
Total Current Consumption (DC 12V)	w/o DSPP	14.1(A)	15.3 (A)	15.0(A)	15.40(A)
	w/ DSPP	14.1(A)	15.3(A)	15.13(A)	15.53(A)
Total Power Consumption (AC 100V)	w/o DSPP	223.8(W)	242.4(W)	237.6(W)	244(W)
	w/ DSPP	223.8(W)	242.4(W)	239.68(W)	246.08(W)
Total Power Consumption (AC 240V)	w/o DSPP	215.03(W)	232.07(W)	227.78(W)	233.5(W)
	w/ DSPP	215.03(W)	232.07(W)	229.64(W)	235.29(W)

CPU: Dual PWR: Dual	Current Consumption (DC12V)	Full-IP w/o ExMoH w/o IOC	Full-IP w ExMoH w/ IOC	Hybrid (IMG) w/o IOC	Hybrid (IMG) w/ IOC
UNIVERGE SV9500 CHASSIS	0.600(A)	1	1	1	1
SCF-CP02-B(CPU)	6.600(A)	2	2	2	2
SCG-PC00-C(EMA)	0.300(A)	1	1	1	1
SCG-M03-B(EMA SUB-A)	0.099(A) Note1	-	-	1	1
	0.230(A) Note2				
SCG-M02-B (EMA SUB-B)	0.002(A)	-	-	-	-
SCG-GT01-B (EXB-TSWR)	0.200(A)	-	2	2	2
SCG-IO00-C(IOC)	0.400(A)	-	1	-	1
SCA-M01-A (TSW-BOX Power Supply)	0(A)	-	1	1	1
SN8179 TSWBEA-A (TSW-BOX)	0(A)	-	1	1	1
SPZ-SW25-A	0.200(A)	-	2	2	2
SPZ-SW26-A	0.420(A)	-	-	-	-
Total Current Consumption (DC 12V)	w/o DSPP	14.1(A)	15.3 (A)	15.0(A)	15.40(A)
	w/ DSPP	14.1(A)	15.3(A)	15.13(A)	15.53(A)
Total Power Consumption (AC 100V)	w/o DSPP	233.8(W)	250.6(W)	246.4(W)	252(W)
	w/ DSPP	233.8(W)	250.6(W)	248.22(W)	253.95(W)
Total Power Consumption (AC 240V)	w/o DSPP	227.59(W)	244.03(W)	239.92(W)	245.4(W)
	w/ DSPP	227.59(W)	244.03(W)	241.7(W)	247.16(W)

***PWR: SN1751 PWRMAB(AC)**

Note1: When SV9500 DSPP is not connected to SCG-M03-B.

Note2: When SV9500 DSPP is connected to SCG-M03-B.

SV9500 7U PIR

PIR	A (DC 48V)	Q'ty	W (AC 240V)	
SN8174 PIREF-A	0.25	1	109.5	zzz
SN1769 PWRMAD	-	2		
CH-xxxxxxx CJ- xxxxxxx	0.xxx	n	yyy	

The total amount of power consumption of 7U PIR (including mounted circuit cards) is given by the following equation.

$zzz = 109.5 + yyy$

For “yyy”, add individual value as needed.

**yyy = current consumption of
mounted circuit cards x 48(V) /
Efficiency (70%)**

For yyy, see the section “Power Consumption for CH Circuit Cards”.

11.2.2. Power Consumption of DC-Powered Model (Built-up Type)

SV9500 CHASSIS & TSW-BOX

The following shows the total amount of power consumption for each configuration.

CPU: Single PWR: Single	Current Consumption (DC12V)	Full-IP w/o IOC	Full-IP w IOC	Hybrid (IMG) w/o IOC	Hybrid (IMG) w IOC	Hybrid (MMG) w/o IOC	Hybrid (MMG) w IOC
UNIVERGE SV9500 CHASSIS	0.600(A)	1	1	1	1	1	1
SCF-CP02-B (CPU)	6.600(A)	1	1	1	1	1	1
SCG-PC00-C (EMA)	0.300(A)	1	1	1	1	1	1
SCG-M03-B(EMA SUB-A)	0.099(A) Note1	-	-	1	1	1	1
	0.230(A) Note2						
SCG-M02-B (EMA SUB-B)	0.002(A)	-	-	-	-	1	1
SCG-GT01-B (EXB-TSWR)	0.200(A)	-	-	1	1	1	1
SCG-IO00-B(IOC)	0.400(A)	-	1	-	1	-	1
SCA-M01-A (TSW-BOX Power Supply)	0(A)	-	-	1	1	1	1
SN8179 TSWBEA-A (TSW-BOX)	0(A)	-	-	1	1	1	1
SPZ-SW25-A	0.200(A)	-	-	1	1	-	-
SPZ-SW26-A	0.420(A)	-	-	-	-	1	1
Total Current Consumption (DC 12V)	w/o DSPP	7.5(A)	7.9(A)	7.999(A)	8.399(A)	8.221(A)	8.621(A)
	w/ DSPP	7.5(A)	7.9(A)	8.13(A)	8.53(A)	8.352(A)	8.752(A)
Total Power Consumption (DC 48V)	w/o DSPP	116.64(W)	122.41(W)	123.84(W)	129.61(W)	127.04(W)	132.80(W)
	w/ DSPP	116.64(W)	122.41(W)	125.73(W)	131.50(W)	128.93(W)	134.69(W)

CPU: Dual PWR: Single	Current Consumption (DC12V)	Full-IP w/o IOC	Full-IP w IOC	Hybrid (IMG) w/o IOC	Hybrid (IMG) w IOC	Hybrid (MMG) w/o IOC	Hybrid (MMG) w IOC
UNIVERGE SV9500 CHASSIS	0.600(A)	1	1	1	1	1	1
SCF-CP02-B (CPU)	6.600(A)	2	2	2	2	2	2
SCG-PC00-C(EMA)	0.300(A)	1	1	1	1	1	1
SCG-M03-B(EMA SUB-A)	0.099(A) Note1	-	-	1	1	1	1
	0.230(A) Note2						
SCG-M02-B (EMA SUB-B)	0.002(A)	-	-	-	-	1	1
SCG-GT01-A (EXB-TSWR)	0.200(A)	-	-	2	2	2	2
SCG-IO00-B(IOC)	0.400(A)	-	1	-	1	-	1
SCA-M01-A (TSW-BOX Power Supply)	0(A)	-	-	1	1	1	1
SN8179 TSWBEA-A (TSW-BOX)	0(A)	-	-	1	1	1	1
SPZ-SW25-A	0.200(A)	-	-	2	2	-	-
SPZ-SW26-A	0.420(A)	-	-	-	-	2	2
Total Current Consumption (DC 12V)	w/o DSPP	14.1(A)	14.5(A)	15.0(A)	15.40(A)	15.441(A)	15.841(A)
	w/ DSPP	14.1(A)	14.5(A)	15.13(A)	15.53(A)	15.572(A)	15.972(A)
Total Power Consumption (DC 48V)	w/o DSPP	211.76(W)	217.76(W)	226.10(W)	232.78(W)	233.39(W)	239.17(W)
	w/ DSPP	211.76(W)	217.76(W)	228.29(W)	234.68(W)	235.29(W)	241.07(W)

CPU: Dual PWR: Dual	Current Consumption (DC12V)	Full-IP w/o IOC	Full-IP w IOC	Hybrid (IMG) w/o IOC	Hybrid (IMG) w IOC	Hybrid (MMG) w/o IOC	Hybrid (MMG) w IOC
UNIVERGE SV9500 CHASSIS	0.600(A)	1	1	1	1	1	1
SCF- CP02-B (CPU)	6.600(A)	2	2	2	2	2	2
SCG-PC00-C (EMA)	0.300(A)	1	1	1	1	1	1
SCG-M03-B(EMA SUB-A)	0.099(A) Note1	-	-	1	1	1	1
	0.230(A) Note2						
SCG-M02-B (EMA SUB-B)	0.002(A)	-	-	-	-	1	1
SCG-GT01-B (EXB-TSWR)	0.200(A)	-	-	2	2	2	2
SCG-IO00-B(IOC)	0.400(A)	-	1	-	1	-	1
SCA-M01-A (TSW-BOX Power Supply)	0(A)	-	-	1	1	1	1
SN8179 TSWBEA-A (TSW-BOX)	0(A)	-	-	1	1	1	1
	SPZ-SW25-A	-	-	2	2	-	-
	SPZ-SW26-A	-	-	-	-	2	2
Total Current Consumption (DC 12V)	w/o DSPP	14.1(A)	14.5(A)	15.0(A)	15.40(A)	15.441(A)	15.841(A)
	w/ DSPP	14.1(A)	14.5(A)	15.13(A)	15.53(A)	15.572(A)	15.972(A)
Total Power Consumption (DC 48V)	w/o DSPP	211.68(W)	217.44(W)	224.63(W)	230.39(W)	230.99(W)	236.76(W)
	w/ DSPP	211.68(W)	217.44(W)	226.51(W)	232.28(W)	232.88(W)	238.65(W)

***PWR: SN1753 PWRMAC(DC)**

Note1:	When SV9500 DSPP is not connected to SCG-M03-B.
Note2:	When SV9500 DSPP is connected to SCG-M03-B.

SV9500 7U PIR

PIR	A (DC 48V)	Q'ty	W (DC 48V)
SN8174 PIREF-A	0.25	1	12 (0.25 x 48)
SN1770 PWRMAE	0.313	2	30.05 (0.313 x 2x 48)
CJ-PC00	0.09	2	8.64 (0.09 x 2x 48)
CH-xxxxxxx	0.xxx	n	(Note 1)

The total of power consumption of PIR (including mounted circuit cards) is the sum of the values in the column surrounded by the dotted blue line.

Note 1: For CH-xxxxxxx, add individual value as needed.

For CH-xxxxxxx, see the section "Power Consumption for CH Circuit Cards".

11.2.3. Power Consumption of CA-Cards

UNIVERGE 1U- MPC

The following shows the load current for the cards mounted in UNIVERGE 1U-MPC.

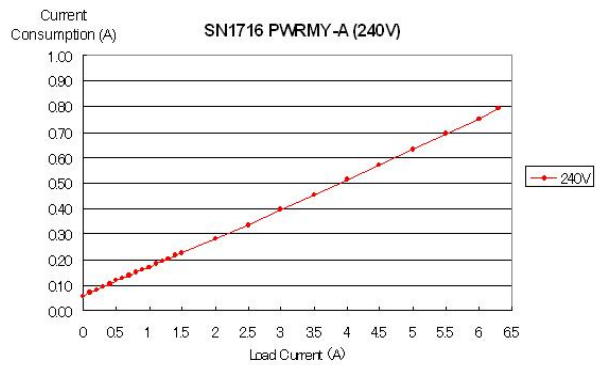
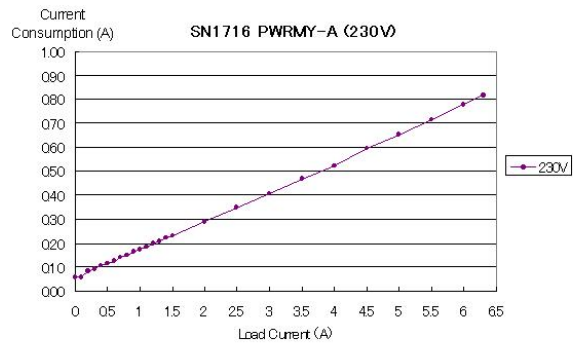
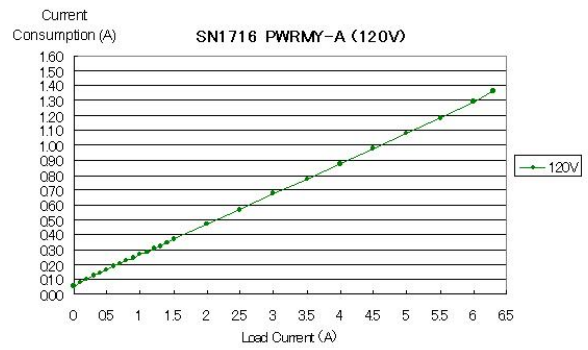
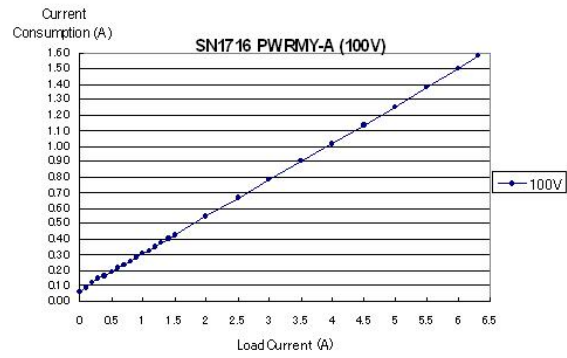
	A (DC 12V)
UNIVERGE 1U-MPC(B) (SN1716 PWRMY-A)	-
SCA-2BRIA-B	0.544
SCA-16SIPMG(US)-B	0.295
SCA-VS32VA –B	0.293

Note1: When 2 cards are mounted in UNIVERGE 1U-MPC(B), amount of the load current will be the sum of current consumption of 2 cards.

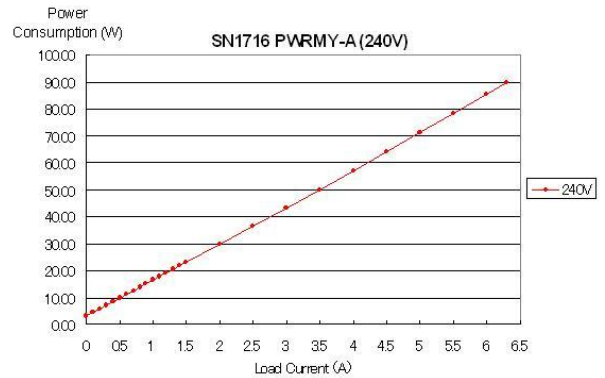
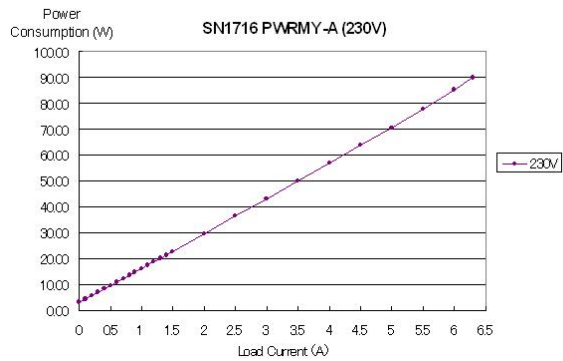
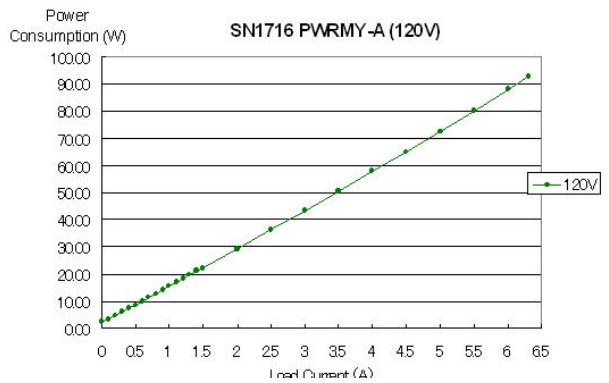
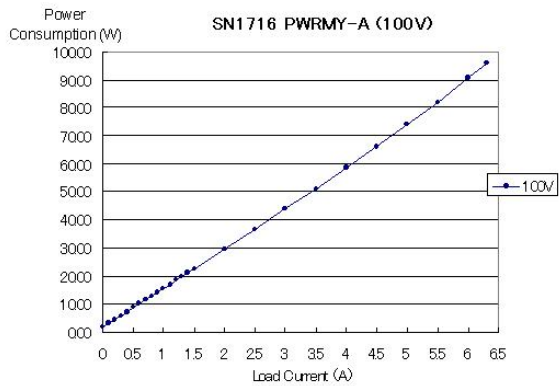
Note2: When UNIVERGE 1U-MPC(B) is used as the redundant system, amount of the load current per power module must be by half.

To calculate amount of power consumption/current consumption for each load current of SN1716 PWRMY-A, see the diagrams as below.

Current Consumption for SN1716 PWRMY-A



Power Consumption for SN1716 PWRMY-A



11.2.4. Power Consumption of Modules accommodated in SV9500

The following shows the max power consumption of modules accommodated in SV9500.

Power Consumption of AC-Powered Module

	Max Power Consumption (W)
SR-MGC	
SR-MGC(E)-B	75W
Analog MC	
SN8029 MC2A-B, SN8029 MC2A-C	30W
MG-SIP	
MG-SIP128	75W
UG50	
UG50	130W

Power Consumption of DC-Powered Module

	A (DC 48V)	W (DC 48V)
Battery Booster Unit		
SN1757 BBUB	0.088	4.224

11.2.5. Power Consumption for CH Circuit Cards

The following shows the power consumption for CH Circuit Cards.

Circuit Card	Current Consumption (48V) [mA]	Circuit Card	Current Consumption (48V) [mA]
LC		CLDC. NCU	
SCH-16LCA-A	150	SCH-M01-A 12NCU	150
ELC		RST	
SCH-16ELCA-A	380	SCH-8RSTA-A	40
COT		CCT	
SCH-12COTA-A	90	SCH-CCTA-A	40
SCH-12COTB-A	100		
SCH-M03-A GS	60		
PRT.DTI		IPPAD	
SCH-PRTA-A	40	SCH-IPDA-A	130
Attendant Console		MUX	
SCH-CS00-A ATI-A	30	CJ-PC00	90
CFT		DAT	
SCH-CFTA-A	70	SCH-DATA-A	90

11.3. Fit Value

11.3.1. Fit value of SV9500 CHASSIS and Circuit Cards

	Fit value		Fit value
CHASSIS		EMA SUB-B	
UNIVERGE SV9500 CHASSIS	990	SCG-M02-B	5561
POWER UNIT		EXB-TSWR	
SN1751 PWRMAB(AC)	7549	SCG-GT01-B	2010
SN1753 PWRMAC(DC)	8086	IOC	
CPU		SCG-IO00-B	5951
SCF-CP02-B	4324	TSWPWR	
CF 8GB	200	SCA-M01-A	≈0
SC-4272 95PRG SA V01(CF)	200		
EMA			
SCG-PC00-C	5061		
EMA SUB-A			
SCG-M03-B	7409		

11.3.2. Fit value of SR-MGC, MG Box and BBU

	Fit value		Fit value
SR-MGC		Battery Booster Unit	
SR-MGC(E)-B	8791	SN1757 BBUB	3790
Analog MC		Display Panel	
SN8029 MC2A-B, SN8029 MC2A-C	14372	SV9500 DSPP	79
MG-SIP			
MG-SIP128	8791		

11.3.3. Fit value of 1U-MPC and Circuit Cards

	Fit value		Fit value
CHASSIS		MG-SIP	
UNIVERGE 1U-MPC(B)	4456	SCA-16SIPMG(US)-B	5892
SN1716 PWRMY-A	4456	VS32	
MG-BRI		SCA-VS32VA-B	11232
SCA-2BRIA-B	10487		

11.3.4. Fit value of UG50 and Circuit Cards

	Fit value		Fit value
CHASSIS		DLC & Daughter board	
CHS2UG-xx	17598	GCD-8DLCA	4985
CHS2UG B-xx	10038	GCD-16DLCA	6876
CPU & Daughter board		GPZ-8DLCB	4963
GCD-CP00-GW	14693	COT & Daughter board	
GPZ-ME50-UG50	1420	GCD-4COTA	3658
GPZ-32IPLD	4201.8	GCD-4COTB	3866
GPZ-64IPLD	3910	GCD-4COTC	3658
GPZ-128IPLD	3973	GPZ-4COTE	2942
LC & Daughter board		GPZ-4COTF	3281
GCD-8LCA	4717	GPZ-4COTG	2942
GPZ-8LCE	2861		
PRI			
GCD-PRTA	8988		

11.3.5. Fit value of PIR/TSW-BOX

	Fit value		Fit value
7U PIR		1U-POWER UNIT	
SN8174 PIREF-A	433.92	GPP1U RACK AA	685.44
POWER UNIT for 7U PIR		GPR-48-1000N	4016.2
SN1769 PWRMAD	5761.56	TSW-BOX	
SN1770 PWRMAE	981.42	SN8179 TSWBEA-A	0.00156
		SPZ-SW25-A	3237.26
		SPZ-SW26-A	4743

11.3.6. Fit value for Circuit Cards mounted in 7U PIR

Circuit Card	Fit Value	Circuit Card	Fit Value
LC		CLDC. NCU	
SCH-16LCA-A	13829	SCH-M01-A 12NCU	4031.915
ELC		RST	
SCH-16ELCA-A	9825.4	SCH-8RSTA-A	2229.1
COT		CCT	
SCH-12COTA-A	8861.85	SCH-CCTA-A	2529.8
SCH-12COTB-A	10630		
SCH-M03-A GS	3292.9		
PRT.DTI		IPPAD	
SCH-PRTA-A	2529.8	SCH-IPDA-A	3082.3
Attendant Console		MUX	
SCH-CS00-A ATI-A	4247.03	CJ-PC00	3401.68
CFT		DAT	
SCH-CFTA-A	3278	SCH-DATA-A	3402