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SL1000

System Outline

12,26 February, 2011

NEC Corporation (Thailand)

SL1000



Product Positioning & Concept



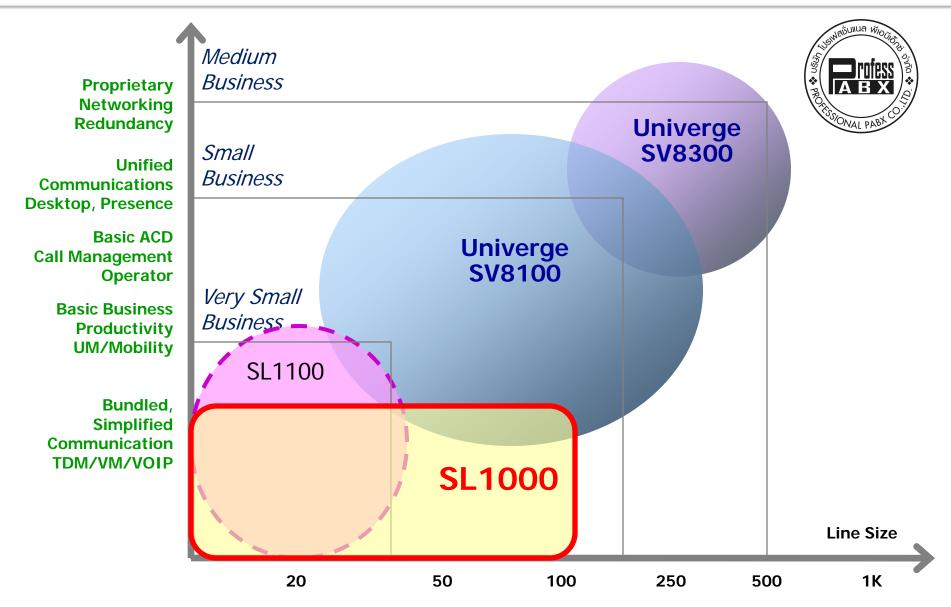
"SL Series" is the successor of current Topaz and DSX. (SL1000 : Hybrid Model, SL1100 : Digital Model)

Current Product	SL Series	Target Market	Product Positioning
Image: constrained blockFopaz	SL1000	Asia LASC Middle East Africa Russia Europe (Selected)	Next Topaz - Cost Effective - Full Hybrid Design - IP Enable
DSX	V V V V V V V V V V V V V V V V V V V	North America Europe Australia (TBD)	Next Topaz / DSX (US) - Cost Effective - Small TDM/IP Converge System - For Wholesaler (US)



SMB Platform Portfolio (General)





Product Concept



Global Design	 ✓ Common KSU/Terminal Design for all markets ✓ Common Architecture (utilize the SV8100)
Flexibility	✓ Wide Capacity Coverage (from 408 to around 230 ports)
Potentiality	 ✓ Rich System Features (almost same as SV8100) ✓ TDM / IP Converge
Simplicity	 ✓ Smart Configuration / Plug & Play ✓ New Designed, User Friendly PC/Web PRO ✓ Same Programming Method with Topaz/SV8100
Market Trend (Ecology & Security)	 ✓ Low Power Consumption ✓ Unique "Ecology" features (Power Saving mode, etc) ✓ Unique "Security" features (Room Monitoring from Outside, etc)
Cost Effective	✓ Competitive price
Page 5 © NEC Corporation 2	



New Designed KSU

SL1000





375(W) x 290(H) x 115(D) mm

- Straight lines create a static and peaceful atmosphere.
- The provision of a glossy part in the cover creates a sharp image.
- Common design for both main and expansion KSU brings a sense of oneness.
- The combination of black color body and blue illumination impresses premium accents.



New Designed Terminal

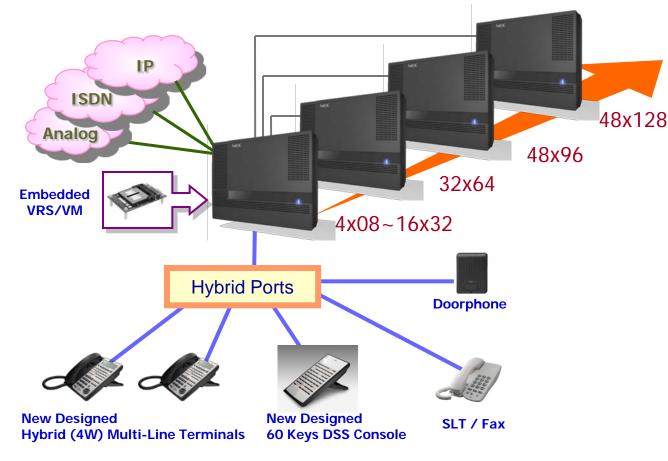


- Flatness and thinness are emphasized through a shape extruded based on the track shape (ellipse) of the side panels.
- The face is silver, creating a good contrast with the black keys for a clean look.
- The square buttons and the arrangement of the buttons so as to give the impression of horizontal lines results in a subdued design and a sharp image.



Configuration

- Wide system capacity coverage by single platform (Max 230 ports)
- Enable to accommodate various Trunks (Analog, ISDN BRI/PRI, IP)
- Hybrid Extension Ports for flexible configuration
- Rich system features (almost same as SV8100)









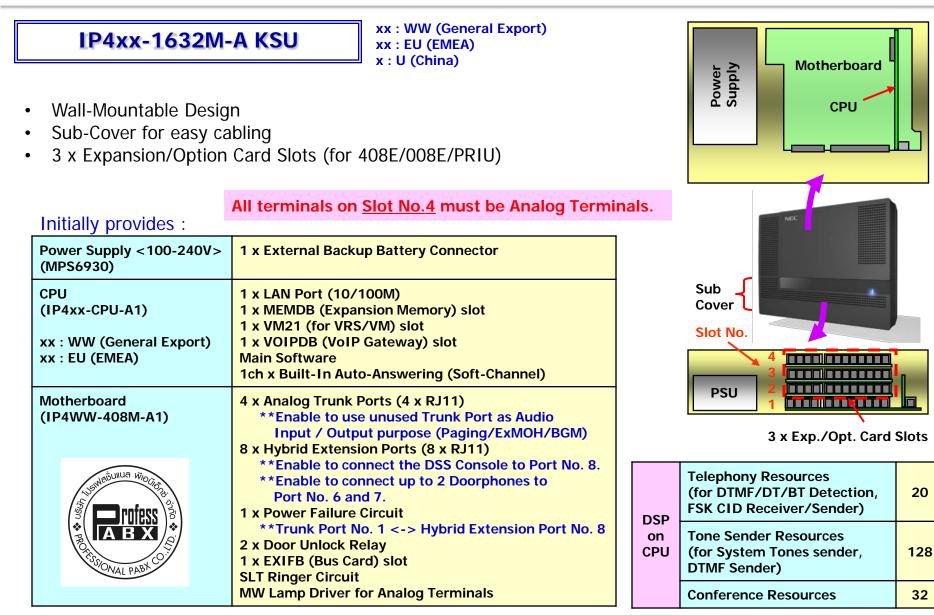
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Hardware Line-Up & Description



Main KSU





Expansion KSU

SL1000

IP4xx-1632ME-A EXP

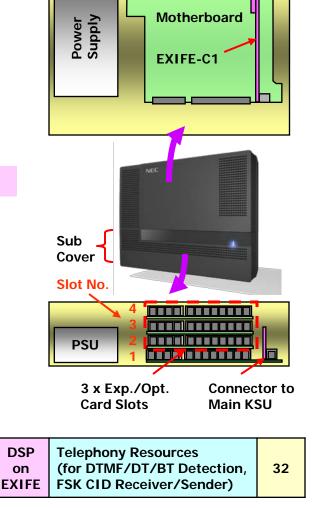
xx : WW (EMEA / General Export) x : U (China)

- Same design with Main KSU
- Wall-Mountable Design
- Sub-Cover for easy cabling
- 3 x Expansion/Option Card Slots (for 408E/008E/000E/PRIU)

All terminals on <u>Slot No.4</u> must be Analog Terminals.

Initially provides :

Power Supply <100-240V> (MPS6930)	1 x External Backup Battery Connector
Motherboard (IP4WW-408M-A1)	4 x Analog Trunk Ports (4 x RJ11) **Enable to use unused Trunk Port as Audio Input / Output purpose (Paging/ExMOH/BGM)
TUBLICULUR WIQUON SCHUMUR WIQUON SCH	 8 x Hybrid Extension Ports (8 x RJ11) **Enable to connect the DSS Console to Port No. 8. **Enable to connect up to 2 Doorphones to Port No. 6 and 7. 1 x Power Failure Circuit **Trunk Port No. 1 <-> Hybrid Extension Port No. 8 2 x Door Unlock Relay SLT Ringer Circuit MW Lamp Driver for Analog Terminals
Bus Card (IP4WW-EXIFE-C1)	1 x Bus Connector to Main KSU





Option Items for KSUs

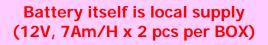
SL1000



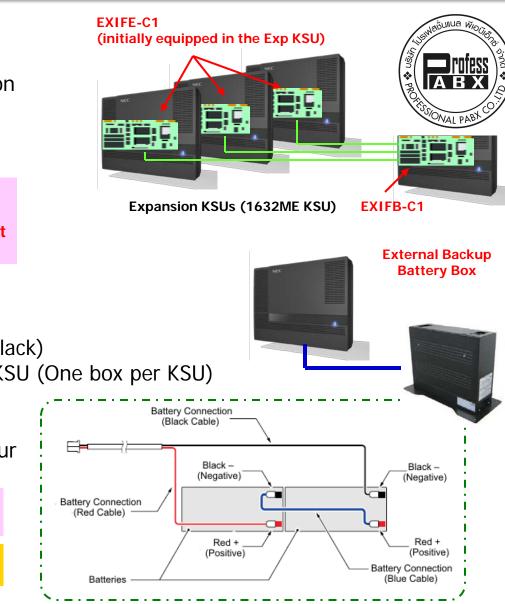
- Bus Card for System Capacity expansion
- Install to the Main KSU
- 3 connectors for Expansion KSUs
- DIM Monitor circuit for maintenance
 - Up to <u>4 KSUs (1 Main KSU & 3 Exp KSUs)</u>
 - Each KSU requires individual AC Power
 - No.4 KSU (No.3 Exp KSU) does <u>NOT</u> support any Trunks (Analog, ISDN BRI, PRI).

IP4WW-Battery Box

- External Backup Battery Box (Color : Black)
- Connect to the Power Supply at each KSU (One box per KSU)
- Attach necessary cables
- Wall / Floor mountable design
- Backup duration is approximately 1 hour



Recommended Battery: GS Yuasa NP7-12Size (H x W x D) per Battery: 100 x 151 x 65 (mm)





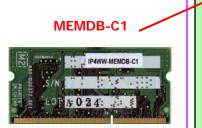
Option Items for CPU (1)

IP4xx-MEMDB-C1

- xx : WW (General Export) xx : EU (EMEA)
- Expansion Memory Card for capacity & feature expansion
- Install onto the CPU (MEMDB Slot) at Main KSU

MEMDB Feature List

Feature	Remarks
Expansion KSU	Technical Requirement (Additional hardware memory is required.)
VoIP	Technical Requirement (Additional hardware memory is required.)
E-Mail Notification (In-Mail)	Technical Requirement (Additional hardware memory is required.)
Remote Upgrade (Main Software)	Technical Requirement (Additional hardware memory is required.)
Total VRS/In-Mail Channels Control	Technical Requirement (w/o MEMDB Max 8ch, w/ MEMDBMax 16ch)
VRS Channel Control	w/o MEMDBVRS : 4ch, w/ MEMDBVRS : 16ch





CPU-A1



Option Items for CPU (2)

SL1000

IP4WW-VOIPDB-C1

- VoIP Gateway Card
- Install onto the CPU (VOIPDB Slot) at Main KSU
- 16ch DSP

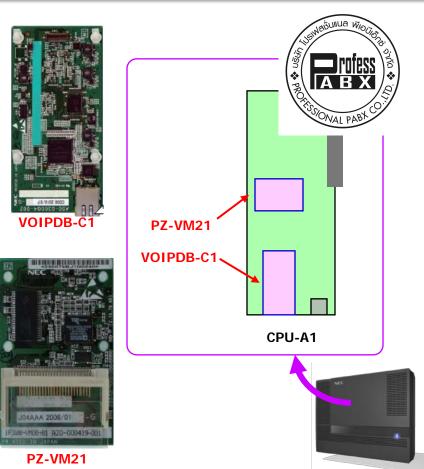
Refer to "VoIP Configuration" part for more details.

<Note> Available in May/2011

PZ-VM21

Common Item with SV8100

- Embedded VRS / Voice Mail Card
- Install onto the CPU (VM21 Slot) at Main KSU
- V34 (33.6kbps) analog modem is initially mounted (for remote maintenance)
- VRS / VM CF Card is separate preparation





Option Items for CPU (3)

Item Name

IP4WW-CFVRS-C1

IP4WW-CFVMS-C1

IP4WW-CFVML-C1

VRS / In-Mail CF

- VRS / Voice Mail CF Card
- Install onto the PZ-VM21 (CF Slot) at M
- VRS and In-Mail channels are separate
 - VRS channel : controlled by MEI
 - In-Mail Channel : controlled by CF

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IP4WW-CFVRS-C1

 Up to 24 prompt languages (see right) contained into the CF Cards.

Function

VRS & 2ch In-Mail

VRS & 4ch In-Mail

(Approx:40H)

(Approx:15H)

CF Capa

512MB

1GB

4

4

at Main KSU arate control <i>MEMDB</i> CF and license ight) are initially		Australian English French Canadian Dutch Mexican Spanish Latin American Spanish Italian German Madrid Spanish Norwegian Parisian French Brazilian Portuguese		Thai Mandarin Flemish Turkish Arabic (T	Chinese (Taiwan)		
			Cha	nnel			
F Capacity VRS				I	n-Mail	Mail Box	
Default Ma		x	Default	Мах			
512MB	4	16 N/A N/A (w/ MEMDB)		N/A	N/A		

2

4

16

(w/License)

16

(w/License)

US English

UK English

16

(w/ MEMDB)

16

(w/MEMDB)

Built-In Language (for all CF

Japanese

Mandarin C

Note : CF Cards are NOT compatible to SV8100.

VRS Only



SL1000

128 (EXT)

128 (EXT)

16 (Group)

16 (Routing)

16 (Group)

16 (Routing)



Expansion Cards

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IP4WW-408E-A1

- 4 Analog Trunks & 8 Hybrid Extensions Card
- Enable to connect the DSS Console to Hybrid Ext. Port No.8
- Install to the Expansion Card Slot at Main/Expansion KSU
- Max 3 cards per KSU
- Provide 4 pcs of RJ11 connectors for Trunks, 8 pcs of RJ11 connectors for Extensions
- Provide 1 power failure circuit (Trunk Port No. 1 <-> Hybrid Extension Port No. 8)



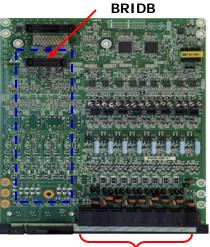
4 Analog Trunks

8 Hybrid Extensions

Connector for BRIDB

IP4WW-008E-A1

- 8 Hybrid Extensions Card
- Enable to connect the DSS Console to Hybrid Ext. Port No.8
- Install to the Expansion Card Slot at Main/Expansion KSU
- Max 3 cards per KSU
- Provide 8 pcs of RJ11 connectors for Extensions
- Provide 1 connector for ISDN BRI Daughter Board



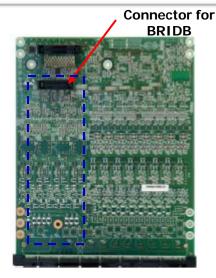
8 Hybrid Extensions

ISDN BRI Cards

SL1000

IP4WW-000E-A1

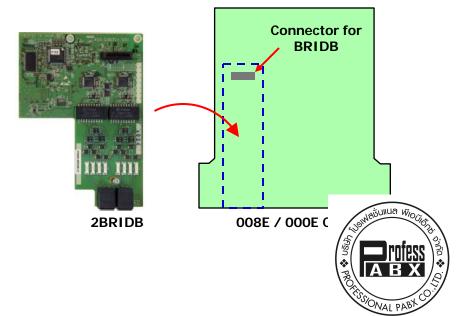
- O Trunk/Extension Card for ISDN BRI
- Install to the Expansion Card Slot at Main/Expansion KSU
- Max 3 cards per KSU
- Provide 1 connector for ISDN BRI Daughter Board



IP4WW-2BRIDB-C1

- 2 Euro-ISDN BRI Daughter Board
- Install onto the 008E or 000E card
- Max 3 cards per KSU
- Provide 2 pcs of RJ45 connectors
- Support T/S point connection (Hard-switch)

There is no power feeding for S-point from system.



ISDN PRI Cards

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IP4WW-PRIU-C1

- 1 ISDN PRI/E1(LASC)
- Install to the Expansion Card Slot at Main/Expansion KSU ÷
- 1 card per KSU, Max 3 cards per system
- Provide 1 pc of RJ45 connector
- Support T/S point connection (Hard-switch) 4

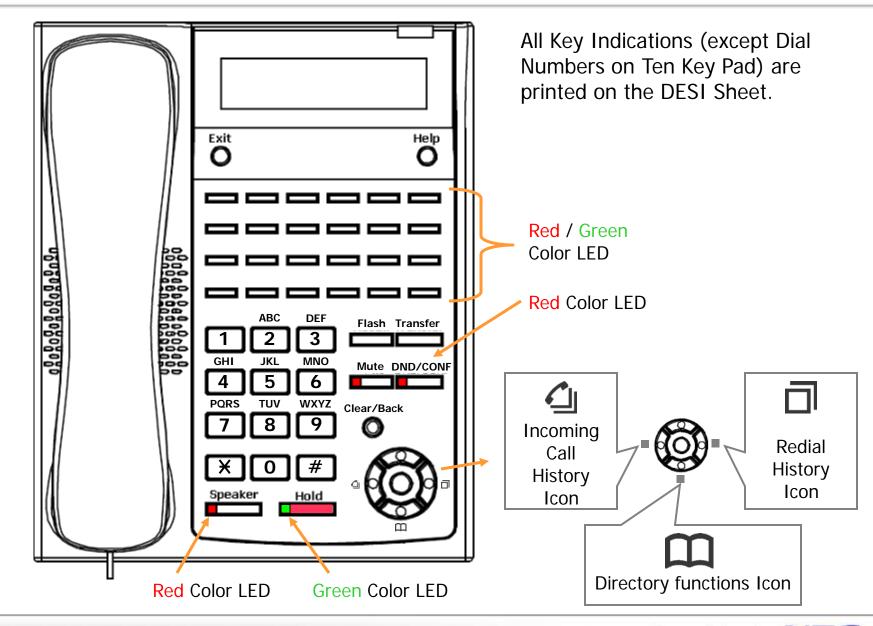








Key Indication & LED



Terminals

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<u></u>	1			1
	IP4WW-12TXH-A-TEL	IP4WW-24TXH-A-TEL		IP4WW-60D DSS-A console
	de	dille		
Terminal Type	Hybrid (4W) Multi-Line Terminal	Hybrid (4W) Multi-Line Terminal	Terminal Type	Hybrid (4W) DSS Console
Connected to	Hybrid Extension Port	Hybrid Extension Port	Connected to	Ext. Port No.8 at each card
Color Line-Up	Black/White	Black/White	Color Line-Up	Black/White
LCD	16 digits x 2 lines w/o Backlit	16 digits x 2 lines w/o Backlit	Programmable Keys	60 (BLF : Red/Green)
Programmable Keys	12 (BLF : Red/Green)	24 (BLF : Red/Green)	Angle Adjustment	2-steps (Base)
Soft Keys	No	No	Wall Mounting Kit	Built-In
Menu Cursor Key	Yes	Yes		DP-D-1A / DP-D-1D
Incoming LED	1 color (Red)	1 color (Red)		DX4NA Doorphone HS.D503DOR-A
Handsfree	Half-duplex	Half-duplex		
Backlit Dial Pad	No	No		
Headset Port	No (use Handset Port)	No (use Handset Port)	Terminal Type	Doorphone
Angle Adjustment	2-steps (Base)	2-steps (Base)	Connected to	Hybrid Port No.6 and 7 at 408M of each
Wall Mounting Kit	Built-In	Built-In	<note> There is no plan</note>	KSU



IP Terminal

		IP4WW-24TIXH-C-TEL	TISMAČUNUR VIOUSTA
Terminal Type	Multi-Line IP Terminal	Handsfree	Full-duplex
Connected to	Ethernet Port on the Network	Backlit Dial Pad	Yes (Intensity : 8 steps)
Interface	2 x RJ45 Ethernet Ports (10Base-T/100Base-TX) for LAN and PC	Headset Port	Yes
Color Line-Up	Black/White	Angle Adjustment	2-steps (Base)
LCD	24 digits x 3 lines w/ Backlit (Backlit : Support Fade Control)	Wall Mounting Kit	Option
Programmable Keys	24 (BLF : Red/Green)	Power Feeding	AC Adapter (In : AC100V-240V, Out : DC27V,1A) or PoE (IEEE802.3af)
Soft Keys	Yes	Support CODEC	G.711 / G.729a / G.722
Menu Cursor Key	Yes	Open XML Interface	Not Support
Incoming LED	3 colors (Red/Green/Orange)		

<Note> Available in May/2011



Item List & Maximum QTY

Category	Hardware Name	Description	1 KSU	2 KSU	3 KSU	4 KSU
KSU	IP4xx-1632M-A KSU	Main KSU (inc. P/S, CPU, 408M M/B)	1	1	1	1
	IP4xx-1632ME-A EXP	Expansion KSU (inc. P/S, Bus Card, 408M M/B)		1	2	3
Option Items	IP4WW-EXIFB-C1	Bus Card for Main KSU		1	1	1
for KSU	IP4WW-Battery Box	External Backup Battery Box	1	2	3	4
Option Items	IP4xx-MEMDB-C1	Expansion Memory Card for capacity & feature expansion	1	1	1	1
on CPU	IP4WW-VOPIDB-C1	VoIP Gateway Card (Available in May/2011)	1	1	1	1
	PZ-VM21	Embedded VRS/Voice Mail Card (Common for SV8100)	1	1	1	1
	IP4WW-CFVRS-C1	VRS CF Card	_ ۲	_ ٦	_ ٦	7
	IP4WW-CFVMS-C1	VRS/In-Mail (2ch, 15H) CF Card	1 (Total)	1 (Total)	1 (Total)	1 (Total)
	IP4WW-CFVML-C1	VRS/In-Mail (4ch, 40H) CF Card				
Expansion	IP4WW-408E-A1	4 Analog Trunks + 8 Hybrid Extensions Card	3 7	6 7	9 7	9 7
Cards	IP4WW-008E-A1	8 Hybrid Extensions Card	3	6	9	12
	IP4WW-000E-A1	0 Trunk/Extension Card for ISDN BRI	3 3 (Total)	6 6 (Total)	9 9 (Total)	12 12 (Total)
	IP4WW-2BRIDB-C1	2 ISDN BRI Daughter Board	3	6	9	9
	IP4WW-1PRU-C1	1 ISDN PRI (E1 for Latin America) Card	1	2	3	3
Terminals	IP4WW-12TXH-A-TEL (BK/WH)	12 Keys, Hybrid (4W) Multi-Line Terminal (Black / White)	24 7	48 7	ך 72	96 7
	IP4WW-24TXH-A-TEL (BK/WH)	24 Keys, Hybrid (4W) Multi-Line Terminal (Black / White)	24	48	72	96
Terminal Options	IP4WW-60D DSS-A console (BK/WH)	60 Keys, Hybrid (4W) DSS Console (Black / White)	3 24 (Total)	6 48 (Total)	9 72 (Total)	12
	DP-D-1A / DP-D-1D / DX4NA Doorphone / HS.D503DOR-A	Doorphone Box	2	4	6	8
IP Terminal	IP4WW-24TIXH-C-TEL (BK/WH)	24 Keys, IP Multi-Line Terminal (Black / White) (Available in May/2011)	16	16	16	16



System Capacity

Number of KSU		1 KSU	2 KSU	3 KSU	4 KSU	Remarks	
Total Ports		66	132	198	230		
		Мах	42	84	126	126	
		Analog	16	32	48	48	
		ISDN BRI	12	24	36	36	
		ISDN PRI/E1 (2M)	30	60	90	90	1 card per KSU, Max 3 cards per system
	Trunk Port	IP Trunk (SIP/H.323)	16	16	16	16	IPLA & MEMDB is required Need license to be Max
		External Paging	1	2	3	3	Use Analog Trunk ports
		External MOH	1	1	1	1	Use Analog Trunk port
		BGM	1	1	1	1	Use Analog Trunk port
		Мах	32	64	96	128	
		Multi-Line Terminal	24	48	72	96	
	F. d. a. S. a.	Analog Terminal	32	64	96	128	
	Extension Ports	IP Terminal (SIP-MLT/Std.)	16	16	16	16	IPLA & MEMDB is required Need license to be Max (SIP-Std)
		DSS Console	3	6	9	12	Connect to Hybrid Extension ports
		Door phone	2	4	6	8	Connect to Hybrid Extension ports
Virt	ual Extension	Port	50	50	50	50	
Pow	ver Failure Circ	cuit	4	8	12	12	1 circuit per 408M/408E
Doo	r Relay		2	4	6	8	Located on 408M of each KSU
Ethe	Ethernet Port		1	1	1	1	Located on CPU
Buil	Built-In Answering Machine Channel		1	1	1	1	Mounted on CPU
VRS	VRS Channel		4	16	16	16	
In-N	Mail Channel		8	16	16	16	Need license to be Max
Ana	log Modem		1	1	1	1	Mounted on PZ-VM21

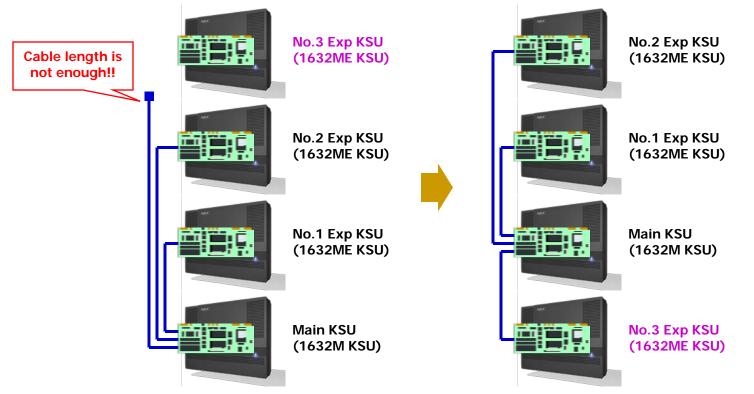


Appendix : Notice for No.4 KSU

No.4 KSU (No.3 Expansion KSU) has following limitations.

- Any trunk (Analog, ISDN BRI/PRI) does NOT work.
- Power Failure circuits are not available because of no trunks support.
- Multi-Line Terminals, SLTs and DSS Consoles work but Doorphone and Relay do L
- Due to the cable length limitation, installation position of No.4 KSU must be careful.







SL1000



VoIP Configuration





VoIP Configuration (1)

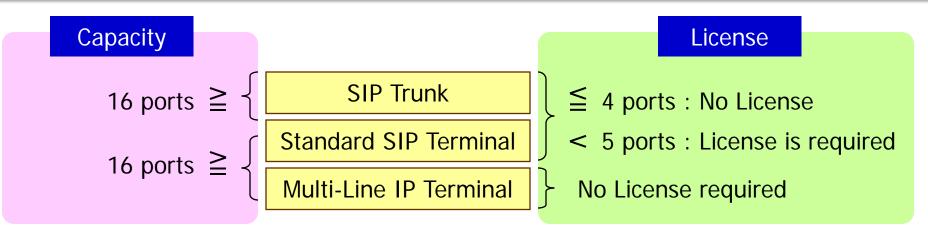
- Install VOIPDB (DSP : 16) and MEMDB cards for VoIP solution.
 (MEMDB must be installed because additional memory is required for VoIP)
- Up to 16 DSPs are automatically activated just installing the above hardware.
- Maximum IP Trunk/Extension capacity is :
 - Max 16 IP Trunks + 16 IP Extensions
- Up to 4 ports license are initially bundled for SIP Trunks / Standard SIP Extensions.
- Enable to increase the number of available ports by adding the software license.
- Multi-Line IP Terminal does NOT need any license. (SIP-MLT license is initially included into the terminal), however it must be counted as IP Extensions. Total number of IP Extensions (both Multi-Line IP Terminal & Standard SIP Terminals) must not exceed 16.





VoIP Configuration (2)

SL1000



Example Configuration	Required License
SIP Trunk : 4 Standard SIP Terminal : 0 Multi-Line IP Terminal : 16	None
SIP Trunk : 2 Standard SIP Terminal : 2 Multi-Line IP Terminal : 14	None
SIP Trunk : 16 Standard SIP Terminal : 0 Multi-Line IP Terminal : 16	Additional IP Port License is required. (12 ports)
SIP Trunk : 4 Standard SIP Terminal : 4 Multi-Line IP Terminal : 4	Additional IP Port License is required. (4 ports)



NEC

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License Scheme





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License Concept & List

- Use current SV8100 Facility (License Server and Scheme) without any modification.
- Prepare unique licenses for SL Series on the SV8100 License Server.
- For the easy installation & operation, majority of SL Series users must not need to add the license.

Feature	License Name	Description	Type of License	Activation Method	Bundled License	System Max	Note
VoIP	SL-IP- SIPTRK/SIPEXT- 1 LIC	SIP Trunk / Standard SIP Terminal License	Port Base	Requires from 5 th port	4	16TRK+16EXT	MEMDB and VOIPDB is required
VoIP Encryption	SL-IP- ENCRYPTION LIC	Encryption License for Multi-Line IP Terminal	System Base	Requires if this feature needs to be activated	None	On	On/Off license
VoIP NAPT	SL-IP-NAPT LIC	NAPT License for Multi-Line IP Terminal	System Base	Requires if this feature needs to be activated	None	On	On/Off license
In-Mail	SL-VM- CHANNEL-2 LIC	Additional In-Mail Channel License (2ch)	Channel Base	Requires from 3 rd or 5 th Channel	2 (15H CF) 4 (40H CF)	16ch	
In-Mail Advance	SL-VM-ADVANCE LIC	In-Mail Advanced Features License - E-Mail Notification - Cascading message notification - Find-Me/Follow-Me - Password Option - Hotel/Motel	System Base	Requires if this feature needs to be activated	None	On	On/Off license MEMDB is required for E-Mail Notification
Mobile Extension	SL-SYS-MOBILE- 1 LIC	Additional Mobile Extension Port License	Port Base	Requires from 5 th port	4	32	
Hotel/ Motel	SL-SYS-HOTEL LIC	Hotel/Motel Feature License	System Base	Requires if this feature needs to be activated	None	On	On/Off license



SL1000



Highlight Features



Ecology

SL1000

Low Power Consumption

Less than 25% from previous model



Power Saving Mode

Automatically off the power (Stand-by mode) during Night Mode





Office Guard

SL1000



Room Monitoring from Outside (via DISA)

Access from outside to monitor the room sound from terminal built-in microphone.

Warning Message



Automatically and periodically send the VRS Message from built-In Speaker on Multi-Line Terminal during night mode.

Remote Inspection

Automatically ring the terminal with pre-programmed schedule in order to check whether users answer or not. Auto-Emergency Call is placed if no answer.

Be aware of offering those functions in the sense of Contact/Court cases



Security with

3 r d Party Equipment

- Emergency Button

Work with 3rd Party PIR / Emergency Button to provide Security feature such as Auto-Emergency Call and Warning Message Sending. (*) PIR : Passive Infrared Sensor



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Office Guard : Room Monitoring from Outside

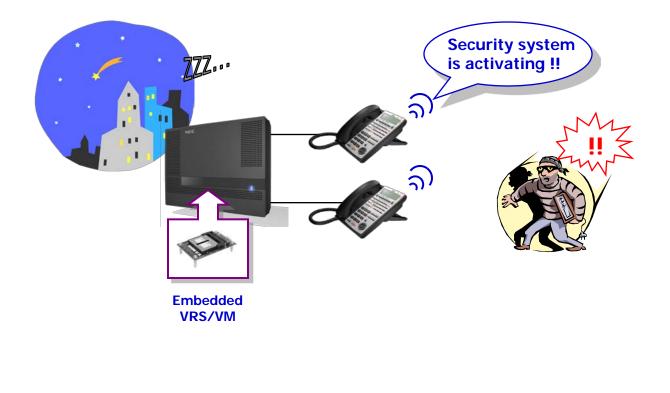
- Enable to monitor the room sound from outside via DISA.
- Activate the built-in microphone of Multi-Line Terminal.
- This feature is under DISA password control for secure operation.





Office Guard : Warning Message

- Enable to send the VRS Message automatically and periodically from built-in Speaker on Multi-Line Terminal as "Warning Message" during Night Mode.
- ✤ It is expected to act as a deterrent even if there is no tight security facility.





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Office Guard : with 3rd Party Equipment (1)

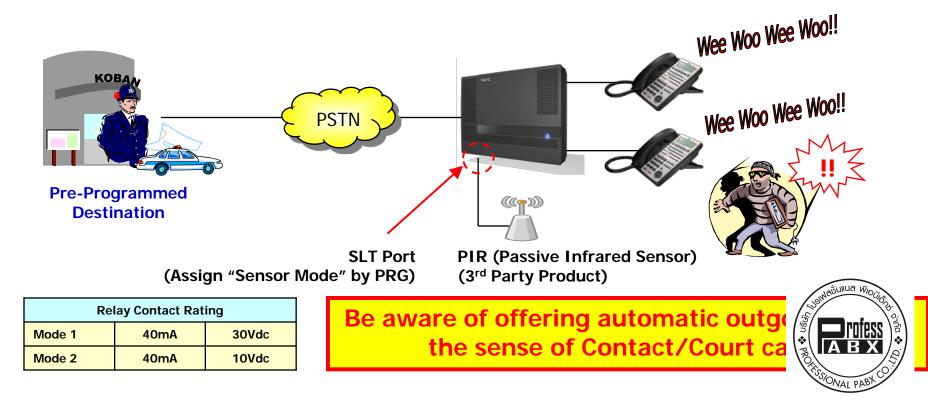
Idea 1 : Room Monitoring with PIR(*)

(*) PIR : Passive Infrared Sensor

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Enable to accommodate the 3rd Party PIR equipment for Guard feature.

When the system detects the signal from connected PIR (3rd Party Product), pre-recorded Warning Message is paged to the built-in SPK on Multi-Line Terminals (and/or Paging Speaker), and the system automatically places an outgoing call to the pre-programmed destination as emergency call. (pre-recorded message shall be sent after answering)



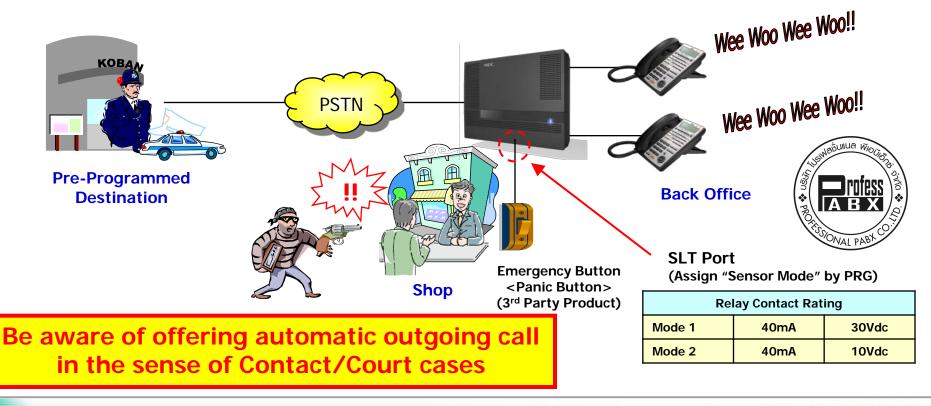
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Office Guard : with 3rd Party Equipment (2)

Idea 2 : Emergency Button

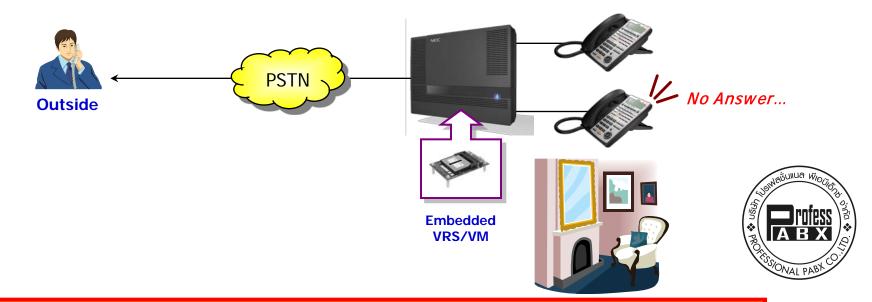
Enable to accommodate the 3rd Party Emergency Button for Security feature.

In the event of emergency, the user presses an emergency button to request further help. When the system detects the signal from emergency button (3rd Party Product), pre-recorded Warning Message is paged to the built-in SPK on Multi-Line Terminals (and/or Paging Speaker), and the system automatically places an outgoing call to the pre-programmed destination as emergency call. (prerecorded message shall be sent after answering)



Office Guard : Remote Inspection

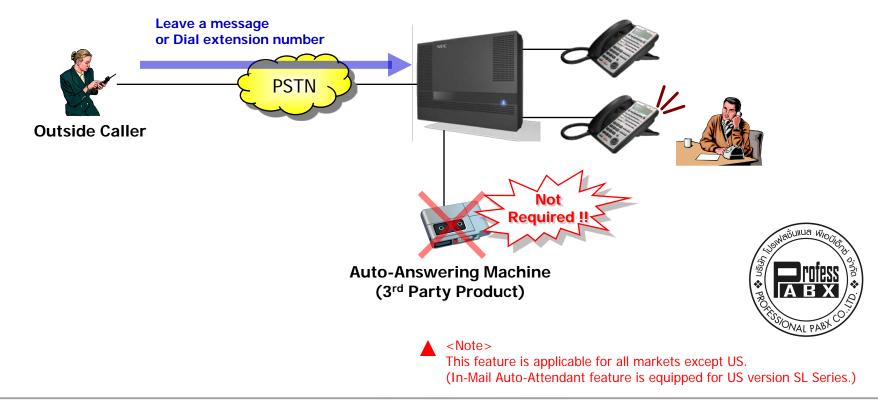
- Automatically ring the terminal with pre-programmed schedule in order to check whether users answer or not.
- Place an auto-emergency call with pre-recorded VRS Message to the preprogrammed destination if no answer.



Be aware of offering automatic outgoing call in the sense of Contact/Court cases



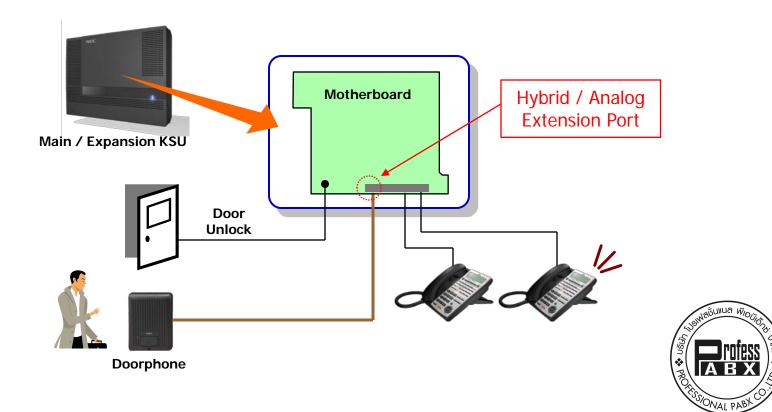
- Initially equipped the Auto-Answering feature (1ch : Soft-channel) in the CPU without any additional hardware.
- ✤ Enable to record up to 4 greeting messages by users.
- Enable to leave a message from outside. (10 Messages)
- Total 8 minutes of recording time (in conjunction with greeting and left messages)
- Enable to use as simple VRS (Operator Assistance) as well.





Doorphone

- Enable to accommodate Doorphone Box to the specified Hybrid / Analog Extension Ports on the Motherboard of each KSU directly <u>without any special hardware</u>.
- Initially equipped Door Unlock Relay (2 circuit) on the Motherboard of each KSU.
- Provides easy installation and cost-effectiveness, and suitable for SOHO users.





Maintenance

- New designed PCPRO / Web PRO / User Pro for easy installation and setup.
- Enable Remote Upgrading of Main Software.



Packing Box Design



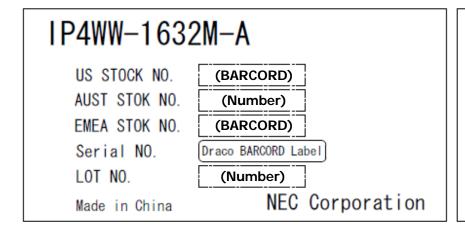


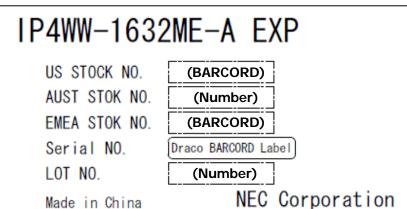
Packing Box Design (KSU)



Label Design (KSU) & Accessories Box

Label Design



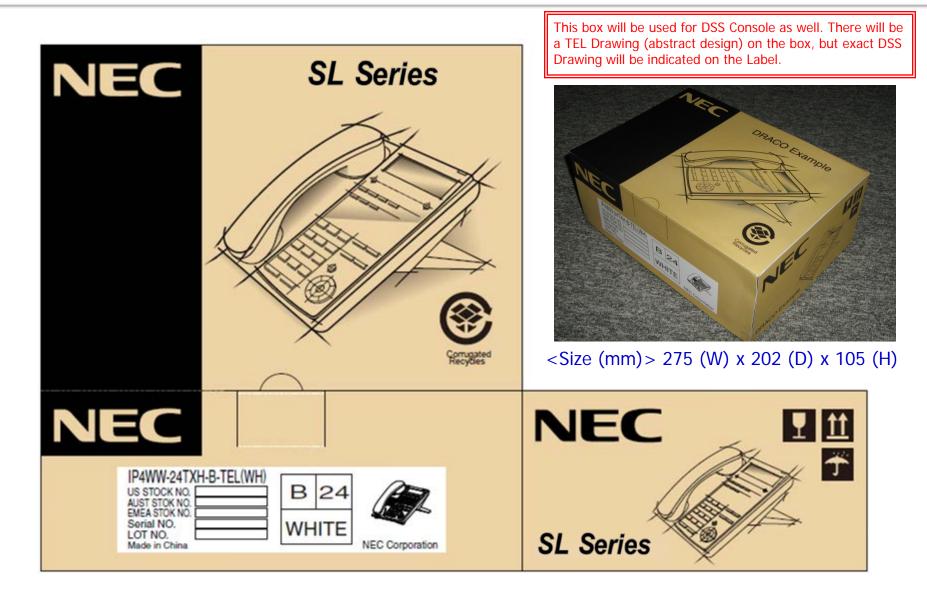


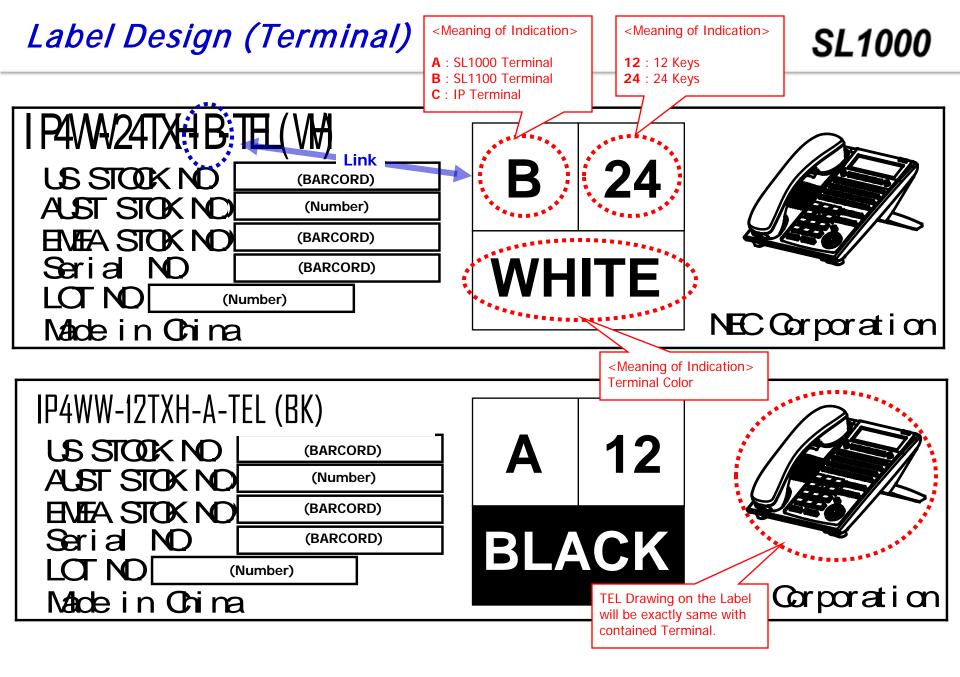
Accessories Box



<Size (mm)> 300 (W) x 300 (D) x 54 (H)

Packing Box Design (Terminal)







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