T A B L E   O F   C O N T E N T S

INSTALLATION SECTION

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PART 1. PRE-INSTALLATION INFORMATION

1.1 SITE REQUIREMENTS

Select a location that satisfies the following conditions for safety, temperature, humidity, power and grounding.

1.1.1 Safety Conditions

- The OfficeServ 7400 system should not be installed near materials that can cause a fire, such as explosive gas and inflammables. The OfficeServ 7400 system should not be near equipment that generates electromagnetic waves, such as monitors or copying machines.
- The installation location should be convenient for distributing trunk lines and extension lines, for connecting power and grounding wires, and for maintenance and repair.
- The OfficeServ 7400 system should not be installed in aisles or passageways that are populated or used for moving equipment.
- Always maintain cleanliness to prevent dust from damaging the board connectors of the cabinet.
- Before installing the OfficeServ 7400 system, check items such as the electrical wiring status, grounding status, voltage and frequency.
- Do not expose equipment to direct sunlight, corrosive fumes, and constant vibrations.
- Do not install in close proximity to a fire sprinkler or other sources of water.
- A dedicated commercial AC power outlet is required. Do not use extension cords.
- Ensure that all wires and cables to and from the OfficeServ 7400 do not cross fluorescent lights or run in parallel with AC wires.
- This equipment is to be installed only in restricted access areas (dedicated, equipment closets, etc.) in accordance with articles 110-16, 110-17, 110-18 of the National Electric Code, ANSI/NFPA 70.

1.1.2 Temperature/Humidity Conditions

The conditions for temperature and humidity are as follows:

- Operation temperature: 32°F~113°F
- Storage temperature: 14°F~122°F
- Humidity: 10~90%

1.2 GROUNDING CONDITIONS

An equipment grounding conductor that is not smaller in size than the ungrounded branch-circuit supply conductors is to be installed as part of the circuit that supplies the product or system. Bare, covered, or insulated grounding conductors are acceptable. Individually covered or insulated equipment grounding conductors shall have a continuous outer finish that is either green or green with one or more yellow stripes. The equipment grounding conductor is to be connected to ground at the service equipment.

The attachment-plug receptacles in the vicinity of the product or system are all to be of a grounding type, and the equipment grounding conductors serving these receptacles are to be connected to earth ground at the service equipment.

> **WARNING: HIGH LEAKAGE CURRENT!** Earth connection is essential before connecting supply.

The OfficeServ 7400 system requires that a supplementary earth ground be connected to the system. This is the preferred method of grounding the OfficeServ 7400. It should be noted that when the third wire ground becomes inferior, it many prevent the digital data bus from canceling out noise. This may result in erratic operation of the OfficeServ 7400. Another problem that has occurred is that some UPS battery systems do not pass the ground through to the power cord resulting in no ground to the system. The ground lug in the back of the cabinet must be connected to one of the following: bonded building steel, cold water pipe, or a ground rod using at least #16 AWG copper wire. Additionally, the ground between cabinets in a multiple cabinet system must also be at least #16 AWG copper wire. The third wire AC ground or field ground is connected to the system frame via the ground strap from the ground connector on the AC socket.

A supplementary equipment grounding conductor shall be installed between the system and ground that is in addition to the equipment grounding conductor in the power supply cord.

The supplementary equipment grounding conductor shall not be smaller in size than the ungrounded branch-circuit supply conductors. The supplementary equipment grounding conductor shall be connected to the product at the terminal provided, and shall be connected to ground in a manner that will retain the ground connection when the product is unplugged from the receptacle. The connection to ground of the supplementary equipment grounding conductor shall be in compliance with the rules for terminating bonding jumpers in Part K of Article 250 of the National Electrical Code ANSI/NFPA 70. Termination of the supplementary equipment grounding conductor is permitted to be made to building steel, to a metal electrical raceway system, or to any grounded item that is permanently and reliably connected to the electrical service equipment ground.

Bare, covered, or insulated grounding conductors are acceptable. A covered or insulated grounding conductor shall have a continuous outer finish that is either green or green with one or more yellow stripes.

Failure to provide an adequate ground may cause a safety hazard, confusing trouble symptoms, or even circuit card failure.

> **WARNING**: Unplug the power cord from the AC outlet before attempting to connect the ground. Hazardous voltage may cause death or injury. Observe extreme caution when working with AC power. Remove lines from trunk cards.

What the above paragraphs mean is that when conventional analog telephone circuits are connected to the OfficeServ 7400 system, under fault conditions (i.e., the tip and/or ring conductor is crossed with a power line, or the circuit is affected by lightning during a storm), it is possible for hazardous potentials to appear across the tip and ring wiring coming into the OfficeServ 7400 cabinet(s) from the outside plant (i.e., overhead cables, buried cables, cable head pedestal). These circuits are provided with both primary and secondary protection circuitry which will attempt to drain off these high voltages and currents to earth ground. Obviously, it is important to have a good source of ground connected to the OfficeServ 7400 system to drain this energy off. Again, a good earth ground source is required by the OfficeServ 7400 system.

The OfficeServ 7400 system has two ground reference points. One point is via the green wire in the power cord connected to the AC power outlet. This ground connection is provided to meet local electrical codes when the AC ground is required to be common with the earth ground. However, this can be disconnected either intentionally or unintentionally. Consequently, a more permanent ground connection is required by connecting a high current/voltage capacity ground wire which is bonded to ground at the electric service power entrance or via some other method approved by the National Electrical Code to the OfficeServ 7400 system ground lug. This is a more secure ground connection, which can only be disconnected intentionally. These precautions are taken for safety reasons to protect personnel working on the OfficeServ 7400 system and also for operational reasons to accommodate ground return and/or ground-referenced analog telephone circuits, which require this solid earth ground connection for normal functioning.

1.3 POWER CONDITIONS

The OfficeServ 7400 power supply module receives AC input power or battery power, and supplies -54V, -5V, +5V, +3.3V, +12V, and -54V (battery) to the system cabinet.

The rating is as follows:

- RATING: AC 100-240V; 10A; 50/60Hz or DC 48V; 15A

Table 1.1 Power Specifications

Power Supply Unit (PSU)		Specification
PSU	Input power	AC 110V
		DC -54V
		(-54V DC for battery backup ONLY)
	Output power	- DC -54V, 6.6A
		- DC +5V, 16A
		- DC -5.3V, 2A
		- DC +3.3V, 30A
		- DC +12V, 1A
		- DC -54V, 0.4A (for battery backup)
	Max Power consumption/PSU	582.3W

1.4 UNPACKING AND INSPECTION

The OfficeServ 7400 can be configured as a single cabinet, dual cabinet or 3-cabinet system.

All OfficeServ 7400 cabinets are identical when shipped from Samsung. After unpacking the cabinet(s), inspect for signs of physical damage. If any damage is detected, do not attempt to install the system. Contact Samsung Telecommunications America Technical Support Department.

Check to see that each cabinet carton includes the following:

- OfficeServ 7400 cabinet
- AC Power Cable
- Rack Mount Side Flange Brackets (2)
- Rack Mount Cross Bar (1)
- Screw Pack
- Battery Cable Assembly
- Blanking Plates (5)

PART 2. INSTALLING CABINETS

This section describes how to install an OfficeServ 7400 cabinet on a table/desktop or in a data rack depending on the installation environment.

2.1 SYSTEM INSTALLATION PROCEDURE

Installation Overview:

1) Install the OfficeServ 7400 cabinet on a table or inside a data rack depending on the installation environment.
2) Connect the ground to the ground lug behind the main cabinet.
3) Put the MP40 board into slot 3 of the main cabinet. Install an LP40 in slot 0 of the main cabinet. If there are expansion cabinets, install an LP40 board into slot 0 of each expansion cabinet.
4) Connect the link cables from each LP40 to the MP40. (Do not connect cables to LP40 in the main cabinet).
5) Install interface boards into universal slots.
6) Connect an external battery with proper capacity if required.
7) Connect AC 110V input power.

2.2 SELECTING INSTALLATION METHOD

The OfficeServ 7400 cabinet can be installed on a table or inside a 19-inch rack.

2.3 INSTALLING IN A RACK

2.3.1 Cautions for Installation

Observe the following precautions when installing the OfficeServ 7400 cabinet inside a rack:

• The 19-inch rack should be a standard equipment rack.

• When using an enclosed-type rack, check if the rack is properly ventilated. Vents should be equipped on the side of the rack and fans should be attached to ventilate cool air into the rack.

• Take special caution when using an enclosed-type rack that has vents on top of the rack since hot air coming out of the vent may enter the intake vent of a system installed above the rack.

• When using an open rack, do not block the OfficeServ 7400 vents or fans.

2.3.2 Required Tools

- A mid-sized Phillips screwdriver
- A bracket and three screws for attaching cabinet to rack mount
- Two brackets and six screws for rack mount
- Two screws for fastening
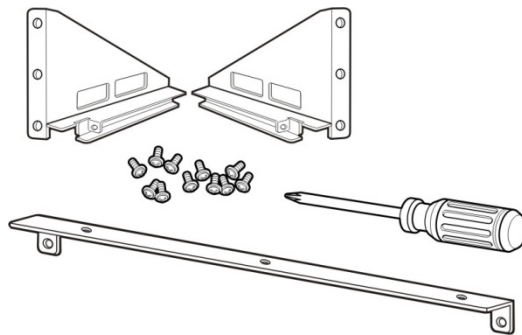
Figure 2.1 Tools Required for Rack Installation

2.3.3 Installing in a Rack

The procedure for installing the OfficeServ 7400 cabinet inside a 19-inch rack is as follows:

1) Attach the cabinet bracket to the bottom surface of the OfficeServ 7400 cabinet and fasten the bracket firmly with the three screws.
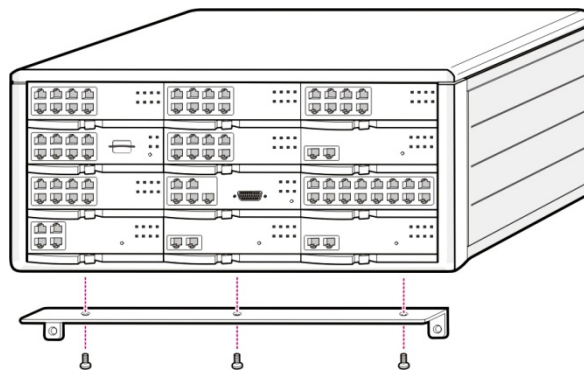
Figure 2.2 Rack Installation (1)

2) Attach the rack brackets to both sides of the rack and fasten the brackets firmly with the six screws.
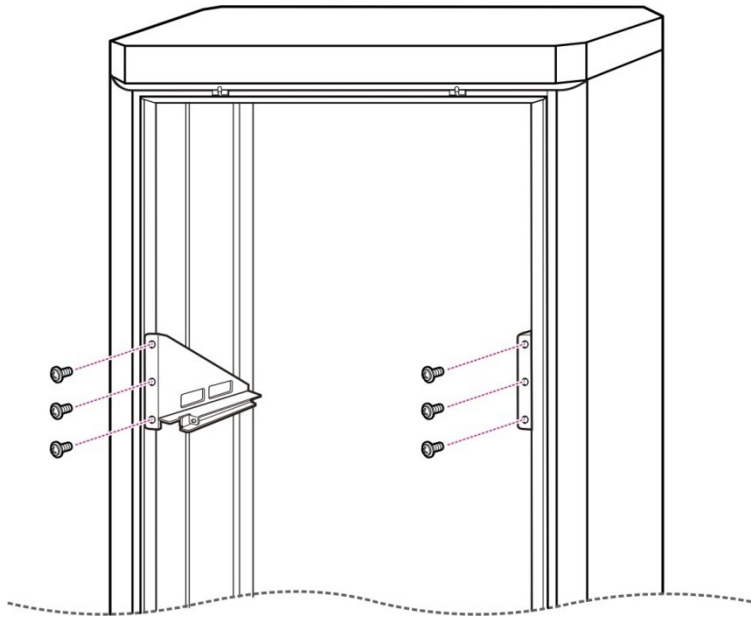
Figure 2.3　Rack Installation (2)

3) Align the cabinet to the guide rails of the rack and slide the cabinet into the rack.
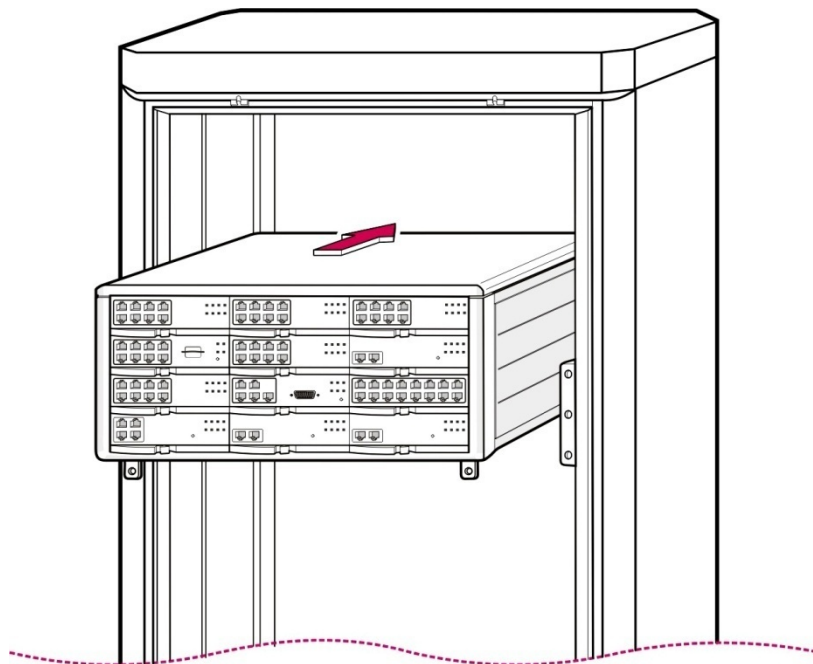
Figure 2.4　Rack Installation (3)

4) Align the two holes of the cabinet bracket and the holes of the rack brackets and fasten the cabinet to the rack with the two screws.
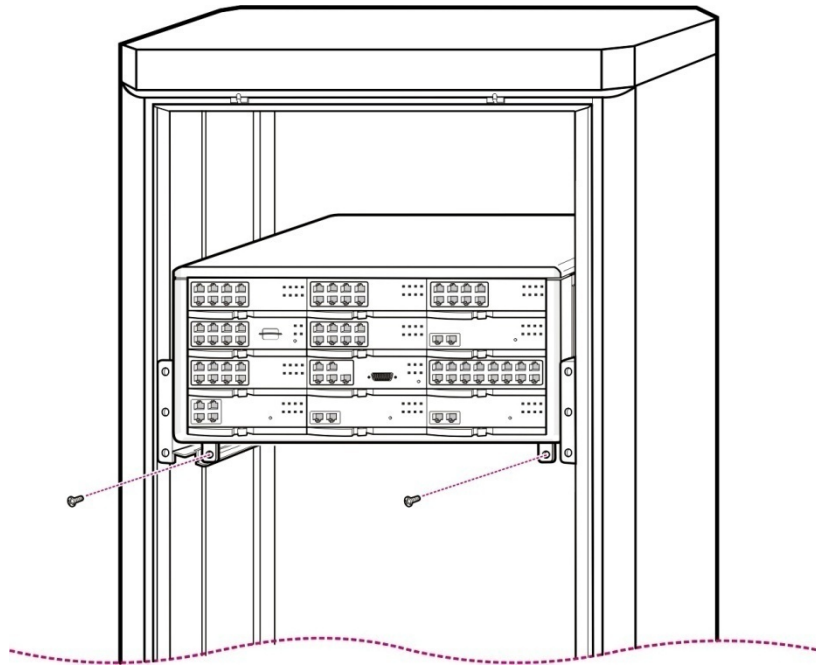
Figure 2.5 Rack Installation (4)

5) The above steps 1~4 also apply to expansion cabinets.

2.4 CONNECTING GROUND WIRES

This section describes how to connect an external grounding wire to the OfficeServ 7400 system.

	External Grounding
⚠️ WARNING	External grounding is required to prevent human injuries and system damage caused by lightning, static electricity, or voltage surge.

As shown in the figure below, connect an earth ground to the ground lug behind the OfficeServ 7400. For an expansion cabinet, connect and ground the external ground wire between the expansion cabinet and the main cabinet.
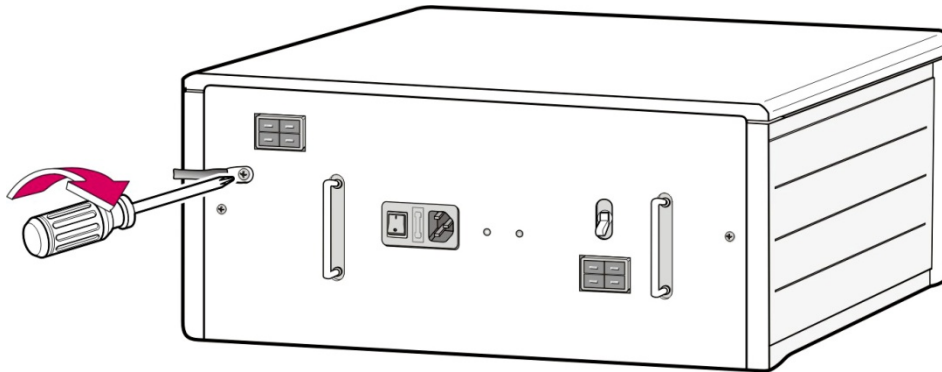
Figure 2.6 Grounding

IMPORTANT: Follow the grounding requirements described in section 1.2 (Grounding Conditions) when connecting a ground to the system.

PART 3. INSTALLING AND REPLACING BOARDS

This section describes how to install and replace various boards of the OfficeServ 7400 system.

3.1 CABINET CONFIGURATION

The main and expansion cabinets of the OfficeServ 7400 system have 12 slots each. The slots are numbered 0~11 as shown below.

- Slot 0 in <u>EVERY</u> cabinet is reserved ONLY for the LP40 card.
- Slot 3 in the <u>main</u> cabinet is reserved ONLY for the MP40 card.
- In the main cabinet, slots 1, 2, 4~11 are universal slots. The main cabinet has 10 universal slots.
- In OfficeServ 7400 expansion cabinets, slots 1~11 are universal slots. Each OfficeServ 7400 expansion cabinet has 11 universal slots.
- A three-cabinet OfficeServ 7400 system has a maximum of 32 universal slots.
- All universal slots in the main cabinet are 64 channel slots.
- All universal slots in the OfficeServ 7400 expansion cabinet are 32 channel slots.
- All universal slots in the OfficeServ 7200 expansion cabinet are 16 channel slots.
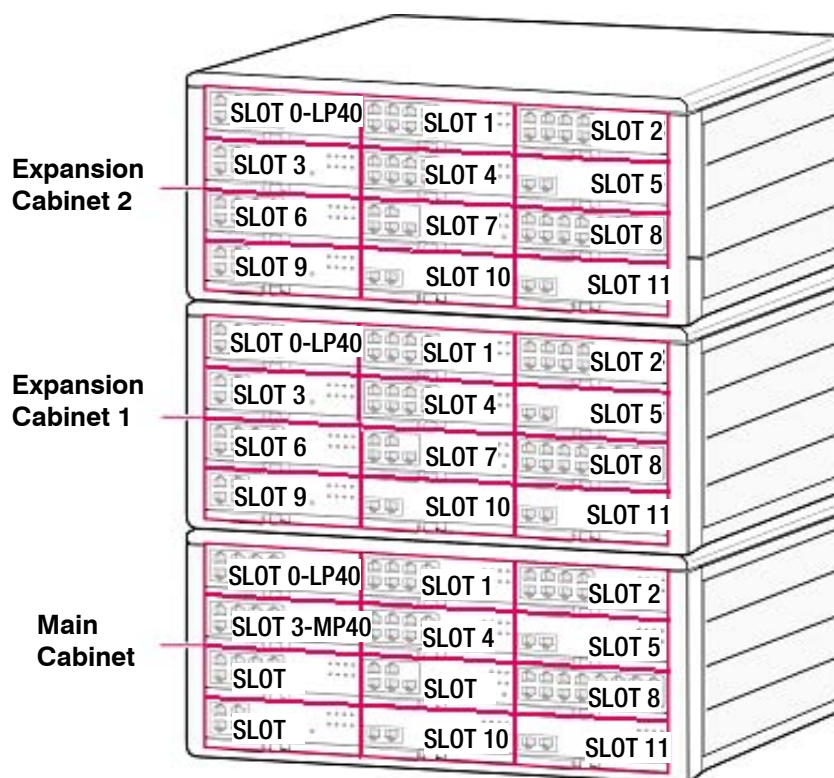
Figure 3.1 Front Panel Configuration

OS7200 HARDWARE MIGRATION TO THE OS7400

The OfficeServ 7200 cabinet can be used as expansion cabinet 1 and/or expansion cabinet 2 for the OfficeServ 7400 system. Simply install an OS7200 LCP card in slot 0 of the cabinet and connect it to the MP40 via LCP link cable. The OS7200 cabinet <u>cannot</u> be used as a main cabinet for an OS7400 system. **Most of the OfficeServ 7200 cards are common with the OfficeServ 7400 with a few exceptions. <u>Refer to Table 3.1 to see the card/slot compatibility rules.</u>** The possible cabinet combinations are shown below.
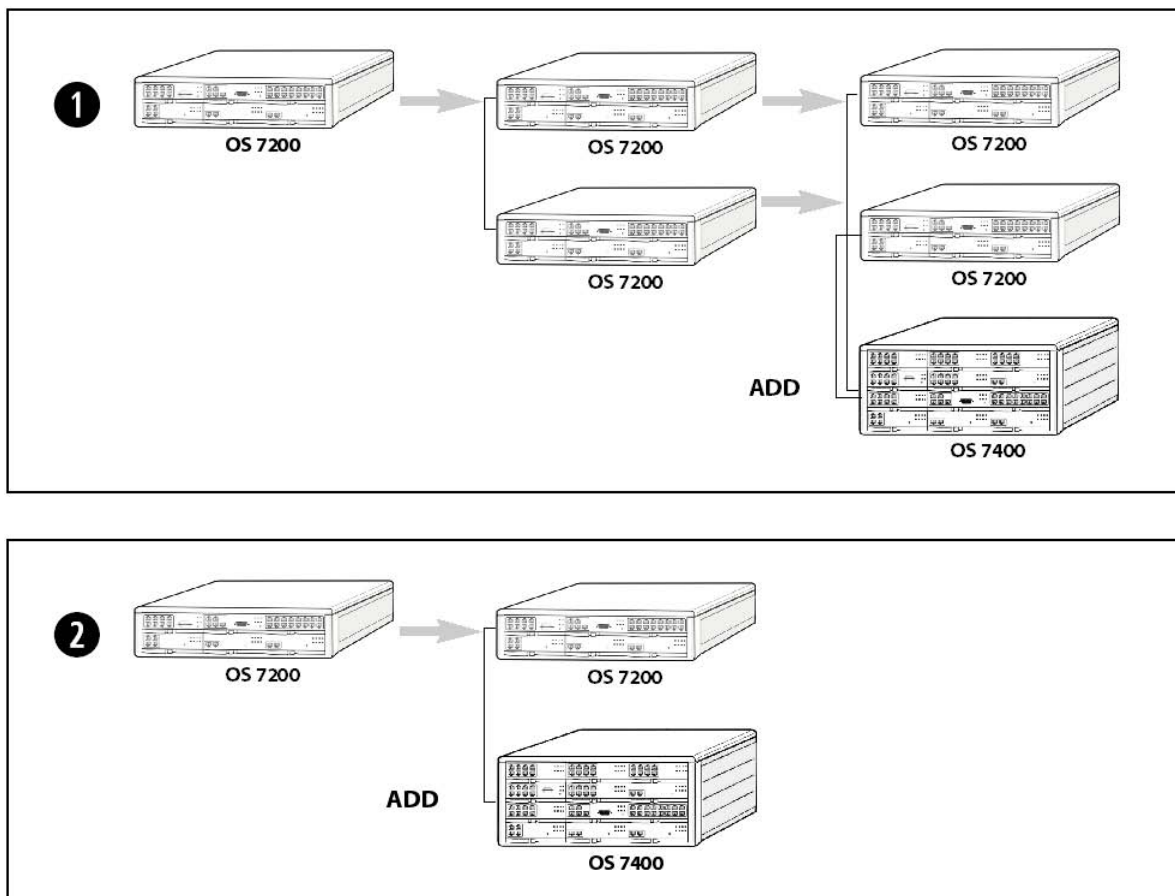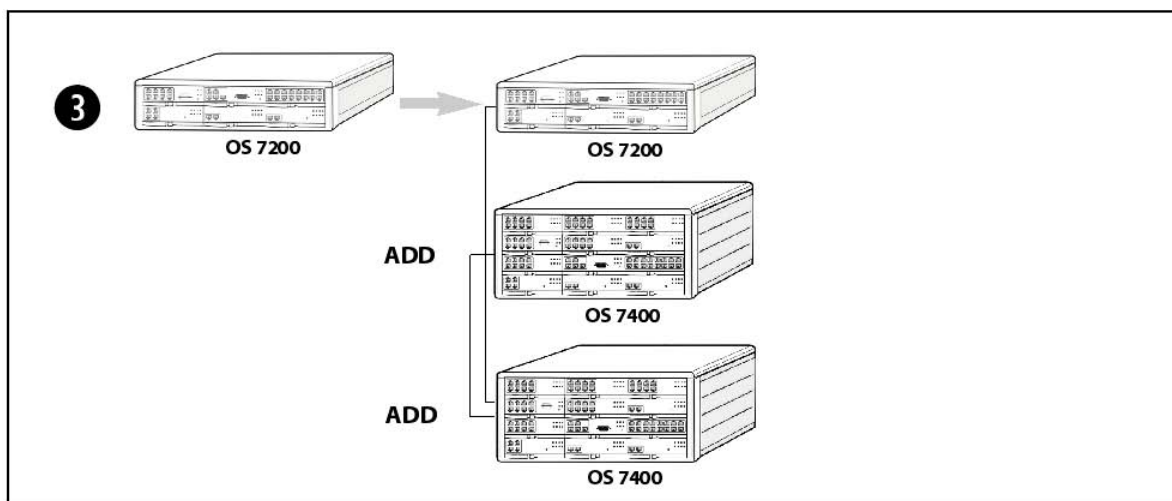
Figure 3.2 Possible Combination of OS7200 and OS7400

The following table outlines the rules for card/slot compatibility and configuration:

Table 3.1 Cards/Slot Compatibility Rules

Chassis	Slot	Mountable Module
MAIN CABINET	Slot 0	LP40 ONLY
	Slot 1, 2 (universal)	All cards are allowed **EXCEPT** LP40, MP40, OS7200 MCP/MP20/LCP, WIM
	Slot 3	MP40 ONLY
	Slot 4~11 (universal)	All cards are allowed **EXCEPT** LP40, MP40, OS7200 MCP/MP20/LCP, WIM
EXPANSION CABINET *(OS7400 cabinet)*	Slot 0	LP40 ONLY
	Slot 1~11 (universal)	All cards are allowed **EXCEPT** LP40, MP40, OS7200 MCP/MP20/LCP, WIM
EXPANSION CABINET *(OS7200 cabinet)*	Slot 0	OS7200 LCP ONLY
	Slot 1~5 (universal)	All cards are allowed **EXCEPT** OS7200 MCP/MP20, MP40, LP40, WIM, GWIM/GWIMT, GPLIM, GSIM, *TEPRI2, *MGI64

IMPORTANT:

- The OS7200 MCP/MP20, 4WLI and WIM module are NOT allowed in an OS7400 system.
- Although the MGI64 and TEPRI2 can be installed in any universal slot of the OS7400 expansion cabinet, it is recommended that they be installed in the main cabinet in order to utilize the full capacity of the cards. The main cabinet slots are 64 channel slots and the expansion cabinet slots are only 32 channels. Therefore, installing a TEPRI2 or MGI64 in the expansion cabinets will only give you half of the capacity for these cards. Installing them in the main cabinet will give you the full capacity of these cards.
- A maximum of 1 GWIM/GWIMT per cabinet and 2 GSIMs per cabinet can be installed.

CHECK

Every OS7400 cabinet must have an LP40 card installed in slot 0 including the main cabinet. Even a single cabinet system requires an LP40 card. If the expansion cabinet is an OS7200 cabinet, then it must have an OS7200 LCP card installed in slot 0.

⑧

① Battery Receptacle
② Battery Switch
③ DC LED
④ AC LED
⑤ AC Power Connector
⑥ Fuse Holder
⑦ AC Power Switch
⑧ Handles for Mounting or Unmounting Power Module
⑨ Connector for OS7150 PoE PSU
⑩ Ground Lug
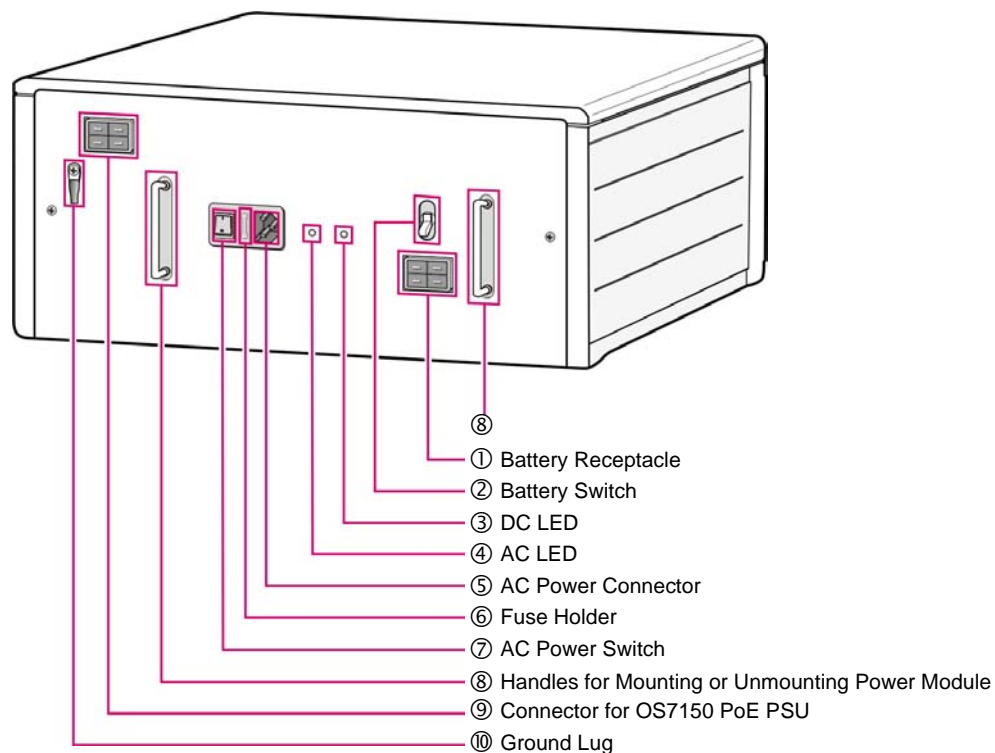
Figure 3.3 Back Panel Components

3.2 MP40 AND LP40 MODULES

This section describes the procedures for setting switches, installing optional daughterboards, installing the boards into slots, and how to connect between the MP40 and LP40 boards.

The OfficeServ 7400 MP40 (Main Control Processor) controls the system operation. The MP40 is required for all configurations and goes in slot 3 of the main cabinet. The LP40 goes in slot 0 of the main cabinet and each OS7400 expansion cabinet. If the expansion cabinet happens to be an OS7200 cabinet, then slot 0 must have an OS7200 LCP card, NOT the LP40 card.

The LP40 is a secondary processor that communicates with the MP40 and manages the boards in the expansion cabinets.

3.2.1 Setting Switches

The MP40 board includes switches used for optimizing the board to the user requirements and system configuration.

On the MP40, set the switches for the required configuration. The description for the settings is described below.
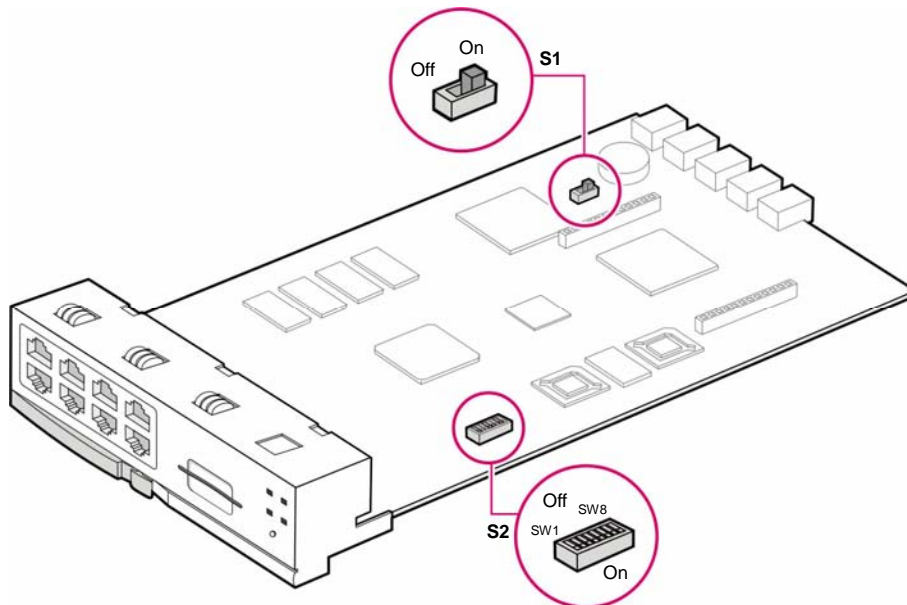
Figure 3.4 Switch Settings

- SRAM Memory Backup Switch (S1): When set to ON, it allows the SRAM to store information such as Call Logs, Alarms, UCD call stats, program logs and traffic reports. SRAM is backed by the Super Capacitor on the MP40. If the switch is ON,   data can last up to 12 hours without main system power. This switch is also used to default the system.

- The system database is **NOT** stored in SRAM. The system database is now stored in the on-board NAND FLASH. This data can remain in NAND-FLASH until the system is defaulted.
- **TO DEFAULT THE SYSTEM, simply power ON the OS7400 while this switch (S1) is in the OFF position. After defaulting the system, always power the OS7400 off and set this switch S1 to the ON position, then boot the system back up again. System can also be defaulted by selecting "MEMORY CLEAR" in MMC 811.**

DIP SWITCH USE (S2)

ON		OFF
4 DIGIT STATION NUMBERS	SW8	3 DIGIT STATION NUMBERS
4 DIGIT STATION GROUPS	SW7	3 DIGIT STATION GROUPS
4 DIGIT TRUNK NUMBERS	SW6	3 DIGIT TRUNK NUMBERS
RESERVED	SW5	RESERVED
COUNTRY SELECT	SW4	COUNTRY SELECT
COUNTRY SELECT	SW3	COUNTRY SELECT
COUNTRY SELECT	SW2	COUNTRY SELECT
COUNTRY SELECT	SW1	COUNTRY SELECT

- Switches 1 through 4 select the country the system is installed in.

4	3	2	1	Country
OFF	OFF	OFF	OFF	Korea
OFF	OFF	OFF	ON	USA
OFF	OFF	ON	OFF	UK
OFF	OFF	ON	ON	Italy
OFF	ON	OFF	OFF	Australia
OFF	ON	OFF	ON	New Zealand
OFF	ON	ON	OFF	Holland
OFF	ON	ON	ON	Denmark

- Switch 5 is reserved.

- These DIP switches will not take effect unless the switches are set in the wanted position and the system memory is cleared manually by using the Memory Backup switch. (This means defaulting the system by booting the system with the S1 switch in the OFF position.)

3.2.2 Installing MP40 and LP40

Install the LP40 into slot 0 of the main cabinet and each expansion cabinet (if the expansion cabinet is an OS7200 cabinet, then install an LCP card into slot 0). Install the MP40 in slot 3 of the MAIN cabinet.

Table 3.2 Types of Control Boards

Control Board	Applicable Slot
MP40	Slot 3 of the main Cabinet
LP40	Slot 0 of each OS7400 cabinet (main and OS7400 expansion cabinets)
OS7200 LCP	Slot 0 of OS7200 expansion cabinets

The procedure for installing the MP40 board and the LP40 board to each slot is as follows:

1) Check the exterior of the MP40 board and the LP40 board for any damage. If damage is found, do not proceed with installation. Contact Samsung Technical Support.

⚠ CAUTION	**Power the system OFF when installing or removing boards.** **POWER TO THE CABINET MUST BE TURNED OFF.** Failure to do so will damage the card, cabinet and/or corrupt the data moving along the data bus.

2) Align the MP40 board to the guardrails of the main cabinet slot 3, and slide the MP40 board into the slot.
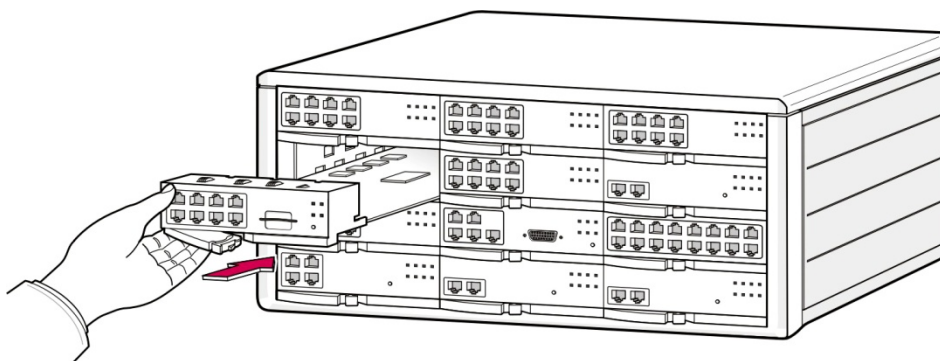
Figure 3.5 Installing the Processor Board (1)

3) Push the front panel lever until the board is completely inserted into the OfficeServ 7400 slot 3.
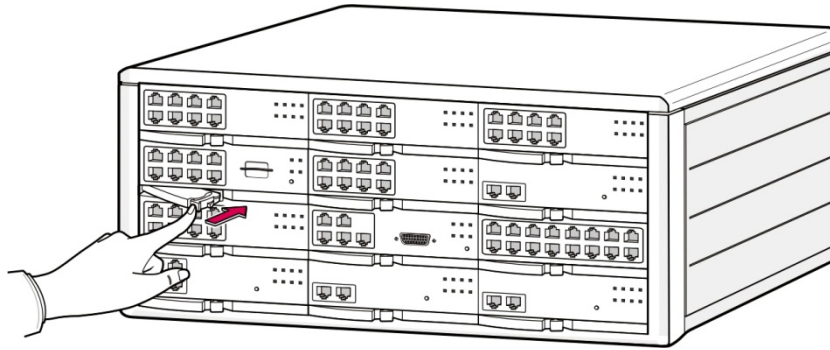
Figure 3.6 Installing the Processor Board (2)

4)   The above steps 2~3 also apply to installing the LP40 board to slot 0 each cabinet.

3.2.3 Connecting MP40 Board to LP40 Board

If the OfficeServ 7400 system consists of a main cabinet and up to two expansion cabinets, connect the MP40 board to each LP40 board located in the expansion cabinets using link cables. The LP40 in the main cabinet does NOT require a link cable connection. These cables are used to transmit and receive signals between the control boards.   If the expansion cabinets are OfficeServ 7200 cabinets, then connect the MP40 to the OS7200 LCP card using the link cables. The link cables are supplied with each LP40 or LCP card.

1) The LP40 three-link cable is needed to connect the MP40 board to the LP40 board. It is included in the LP40 carton.
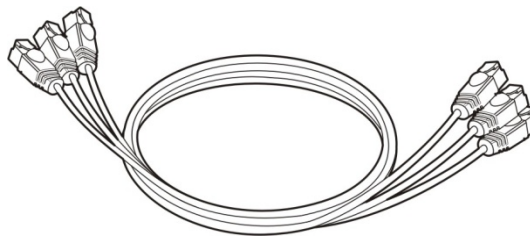
Figure 3.7 LP40 Link Cable

2)   Each LP40 link cable is composed of a 3-cable bundle. The cables are labeled "1", "2", and "3". Connect cable 1 between MP40 port labeled "LINK21" to port "LINK1" of the LP40 in cabinet 2. Connect cable 2 between MP40 port labeled "LINK22" to port "LINK2" of the LP40 in cabinet 2. Connect cable 3 between MP40 port labeled "LINK23" to port "LINK3" of the LP40 in cabinet 2. Repeat this procedure for connecting cabinet 3 by connecting another LP40 link cable from the MP40 ports LINK31, LINK32, and LINK33 to LP40 ports LINK1, LINK2, and LINK3 in the expansion cabinet 3.

LP40

LINK1 LINK3 MISC1

LINK2 PSC MISC2

LINK31 LINK32

LINK23
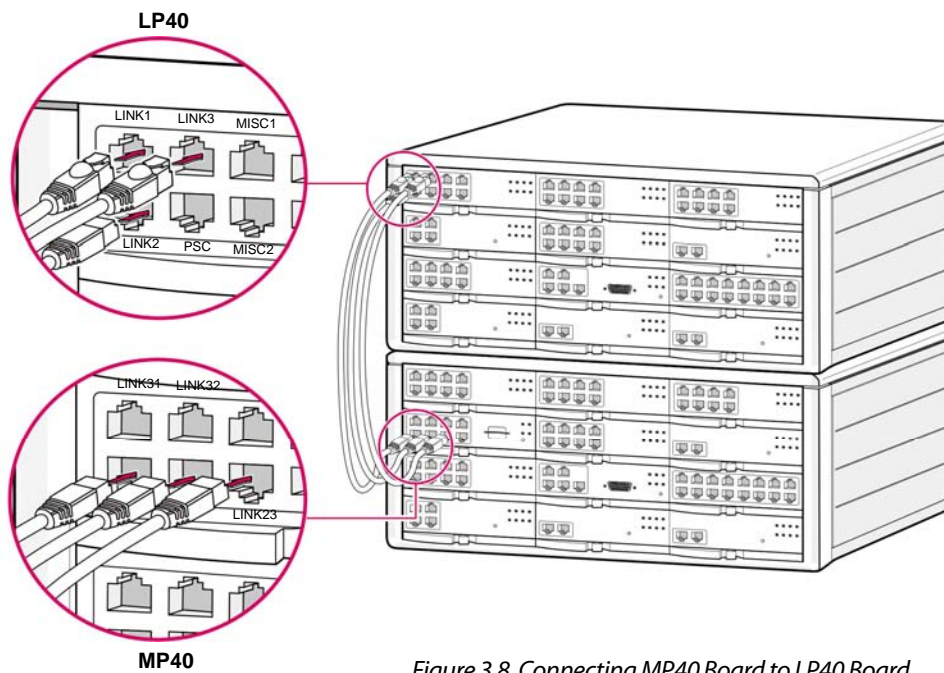
MP40

Figure 3.8 Connecting MP40 Board to LP40 Board

LCP

LINK1 LINK3

LINK2 SI

LINK31 LINK32

LINK23
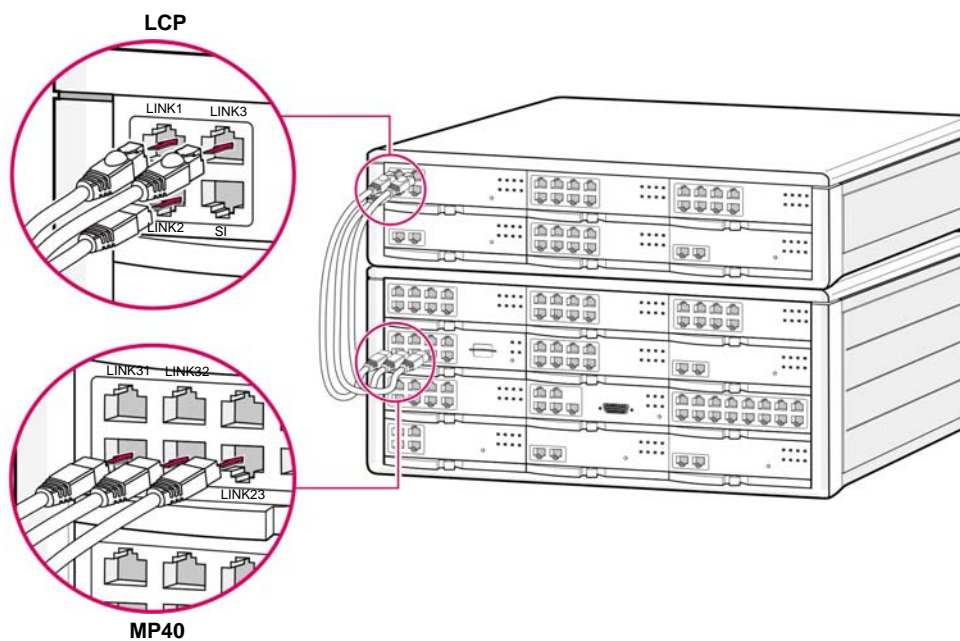
MP40

Figure 3.9 Connecting MP40 to OS7200 LCP

3.2.4 MP40 LEDs

The front view of the MP40 board is shown in the picture below.

Figure 3.10 Front View of the MP40

The MP40 front panel components have the functions below:

Table 3.3 Ports and LEDs of the MP40

Ports & LEDs	Function Description
LINK21~LINK23, LINK31~LINK33	Connection ports between MP40 and LP40s in the first and second expansion cabinets.
MISC1~MISC2	Ports that connect external music sources, paging device, loud bell, common bell, and door bell when the optional MIS daughterboard is installed.
SD / Smart Media / MMC+	Port for installing the 32MB Smart Media card. This card contains the main system software. The MMC+ contains 64MB of storage and the SD contains 1 GB.
LAN	Port for establishing the 10 Base-T/100 Base-Tx Ethernet connection
SIO	Serial port (Samsung Engineering Use ONLY)
RST	Button for resetting the MP40 board
RUN LED	This LED indicates the status of the MP40 - Off: No power - On (Green): On booting - Blink (Green): Normal Operation of program The blink cycle is 500ms while running S/W

Ports & LEDs	Function Description
LAN LED	Status of LAN operation - Off: No-power and no-connection of LAN port - On: The color of the LED shows the LAN transmission speed and connection speed • On (Green): Good connection + Operation at 100Mbps - Blink (Green): Good connection + Operation at 10Mbps

SM LED	SD/Smart Media/MMC+Access Status
	- Off: No SD/Smart Media/MMC+
	- On: The color of the LED shows the mounting status and the normal operation status after access
	  • On(Green): Mounted + Normal Operation
	  • On(Red): Non-mounted or Mounted + Abnormal Operation
	- Blink (Green): SD/Smart Media/MMC+ is mounted and in access mode

MDM LED	MODEM Daughtercard status - Off: No-MODEM - On(Green): MODEM mounted - Blink (Green): On transmitting data

3.2.5 LP40 LEDs

The front view of the LP40 board is shown in the picture below.

Figure 3.11 Front View of the LP40

The components on the front panel of the LP40 have the functions below:

Table 3.4 Ports and LEDs of the LP40

Ports & LEDs	Function Description
LINK1~LINK3	Ports for connecting MP40 with LP40

Ports & LEDs	Function Description
MISC1~MISC2	Ports for connecting external music, paging, loud bell, common bell and door bell when MIS daughterboard is installed
PSC	Connection for OfficeServ 7150 PoE power supply Alarm port
LAN	Port for connecting 10/100 Base-T LAN (reserved for future use)
SIO	For internal Samsung engineering use only
RST	Button for resetting LP40 module
RUN LED	Indicates the status of the LP40 - Off: No power supplied or abnormal status - Blink (Orange): Card is booting - Blink (Green): Normal status
Rx LED	Indicates data is being received from the MP40 - Off: No signal - Blink (Green): Data reception in progress
TX LED	Indicates data is being sent to the MP40 - Off: No signal - Blink (Green): Data transmission in progress
DBD LED	Indicates the presence of a daughter board installed - Off: Daughterboard not installed on the LP40 - On (Green): One or more daughterboard is installed on the LP40
FAN LED	Indicates fan operation status - On (Green): All FAN are operating normally - Blink (Red): One or more fans in the cabinet is malfunctioning
PoE1	Indicates the status of PoE1 power supply in the OfficeServ 7150 if connected to the alarm port - Off: PoE1 power supply dismounted - On (Green): Normal - On (Red): Abnormal
PoE2	Indicates the status of PoE2 power supply in the OfficeServ 7150 if connected to the alarm port - Off: PoE2 power supply dismounted - On (Green): Normal - On (Red): Abnormal
LAN	Indicating the status of LAN - Off: LAN disconnected - On (Green): Operated in 100Mbps - Blink(Green): Operated in 10Mbps

3.2.6 Optional Daughterboards

There are 5 types of optional daughtercards that can be installed **ONLY** on the **LP40**. Each optional daughtercard must be installed in specific positions of the LP40 . Each optional daughterboard is described below:

- **Multi-Frequency Module (MFM):** The MFM is installed in LOC1 or LOC2 of the LP40 card. This board provides an additional 12 DSP circuits for DTMF tone detection. *This board has been discontinued as of 05/2009. The CRM daughter board is a replacement for this part.*

- **Miscellaneous (MIS):** The MIS is installed ONLY in LOC3 of the LP40 (towards front of the board). The MIS provides 2 external Music On Hold ports, an external paging port, a loud bell port, a common bell port, and also provides 2 dry contact relay ports that connect or disconnects the signal transmission or power supply with external equipment. The output ports are located in the front panel of the LP40.

- **RCM2:** The RCM2 is installed in LOC1 or LOC2 of the LP40 card. This card performs the same function as the RCM, analog Caller ID (CID) decoding on incoming calls. In addition, the RCM2 provides CID or FSK signaling on analog ports. Any CID compatible device connected to analog station ports can display CID name and number information as received from the telephone company. This board regenerates CID exactly as the central office sends it. This RCM2 board can be used in place of the RCM. Use MMC 300 to set CID to SLT "ON" for each analog port that will have CID. This board has a slide switch to switch between R2 and CID. This switch should always be in the CID position. R2 signaling is not used in the USA. The RCM2 board is used to provide 14 Caller ID DSP circuits for Caller ID detection on loop start trunks.

- **Common Resource Module (CRM):** The CRM module is an optional module to detect and generate DTMF signals and CID signals. The CRM performs the functions of the RCM2, SCM, and the MFM daughtercards. The CRM card is mounted on LOC1 or LOC2 in the LP40. The location is indicated on the LP40 card. Two DSPs are available on the CRM card. Each DSP has 8 channels. Each DSP can be assigned for DTMFR (DTMF Receiver) or CID using MMC 827. Each CRM also provides 6 additional conference circuits. *This board has been discontinued as of 05/2009. The CRM daughter board is a replacement for this part.*

- **Switch Conference Module (SCM):** *This board has been discontinued as of 05/2009. The CRM daughter board is a replacement for this part.* Each SCM provides an additional 12 conference circuits (5 parties each). Each SCM also provides 12 DTMFRs. The SCM can be installed in LOC1 or LOC2 on the LP40.

    o The same SCM from the OS500 can be used on the 7400.
    o Each SCM provides an additional 12 DTMFRs.
    o Each LP40 card (NOT MP40) provides 6 conference circuits. (5 parties ea.) BY DEFAULT with NO daughtercards installed.

- o Each SCM provides 12 additional conference circuits. (5 parties ea.)
- o You can install 2 SCMs per LP40; however, you can only 12 conference circuits from **ONE** of them. This means (6+12) 18 maximum conference circuits per LP40.
- o When you have 2 SCMs on an LP40 card, you CAN get 12 DTMFRs per SCM for a total of 12+12=24 DTMFRs from the 2 of them together.
- o MAX 54 conference circuits per system (3-cabinet system with 3 SCM cards, one SCM per LP40). (6+12)x3 LP40s= 54.
- o Each LP40 provides 8 DTMFRs by DEFAULT with NO daughtercards installed.

Table 3.5 Position for Optional Daughtercards

	Positions for Optional Daughtercards	
	There are three positions to mount optional daughtercards in the LP40.	
Position of Optional Modules	LOC1	SCM, MFM, RCM2, CRM
	LOC2	SCM, MFM, RCM2, CRM
	LOC3	MIS
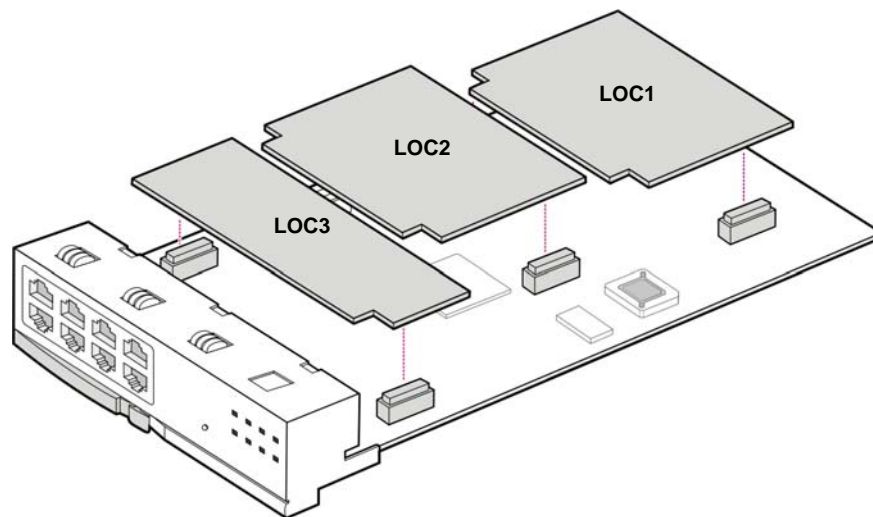
Figure 3.12 Installing Optional Daughtercards on the LP40

An optional MODEM daughtercard can be installed **only on the MP40**. This modem daughtercard is the same card used in the OfficeServ 500 system. This modem is used for WebMMC/Installation Tool connections to the system (if you choose not to connect using the LAN connection).

Mount the MODEM as shown below:
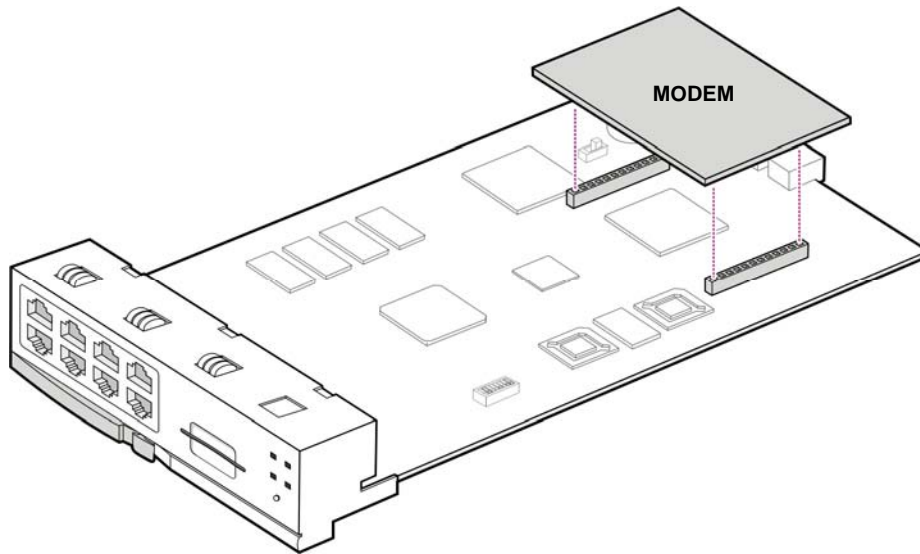
Figure 3.13 Installing Optional Modem Daughtercards on the MP40

3.3 INTERFACE BOARDS

This section describes how to set jumpers and switches of an interface board, how to install optional daughterboards to an interface board, and how to install interface boards into slots.

3.3.1 Installing Interface Boards

Interface boards can be installed in any universal slot according to the rules outlined in Table 3.1.   Universal slots are slots 1, 2, and 4~11 in the main cabinet and slots 1~11 in the OfficeServ 7400 expansion cabinets. For OS7200 expansion cabinets, universal slots are slots 1~5.

The procedure for installing the interface board to each slot is as follows:

1)   Check the exterior of the interface board for any damage.

> ⚠ **CAUTION**   **TURN OFF ALL POWER TO THE SYSTEM BEFORE INSTALLING A CARD.**

Align each interface board to the guardrails of the universal slot and slide the interface board into the slot.
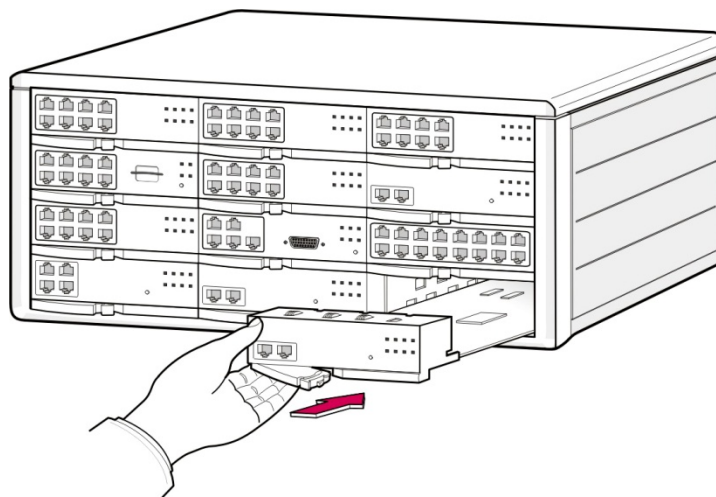
Figure 3.14 Installing Interface Board into Slot

2) Push the front panel lever of the interface board until the board is completely inserted into the slot.
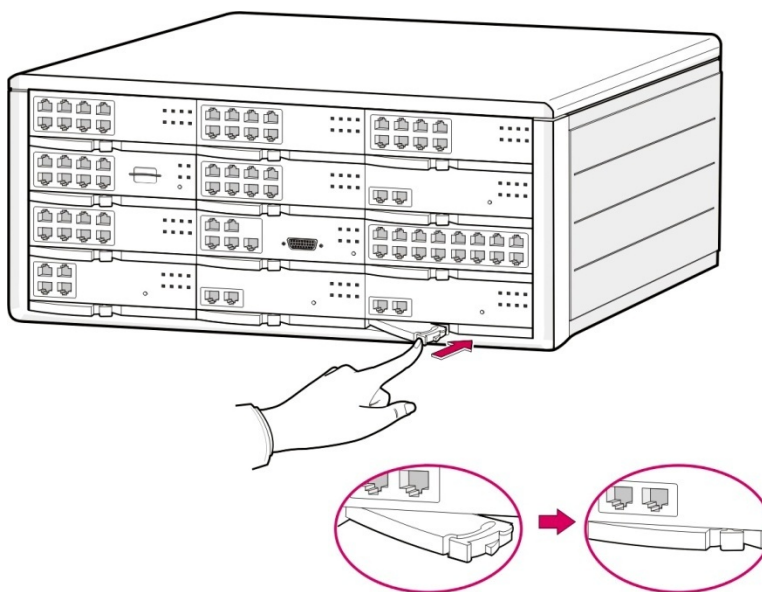
Figure 3.15 Front Panel Lever

3.3.2 Replacing Boards

If the OfficeServ 7400 system fails to operate normally due to an error on the power supply board, control board, or interface board, replace the board with a new one.

> ⚠ **CAUTION**
>
> **Removing Cables**
>
> Replace a board after removing all cables connected to the board.

The procedure for replacing a board installed in a slot of a cabinet is as follows:

> ⚠ **CAUTION**
>
> **POWER TO THE CABINET MUST BE TURNED OFF.** Failure to do so will damage the card, cabinet and/or corrupt the data moving along the data bus.

1) Turn off the power of the cabinet.

2) When replacing an MP40 or LP40 board, first, remove link cables connecting the MP40 board to the LP40 board. Also, remove all other cables connected to the board to be replaced.

3) Pull the lever of the board and pull the board out slowly.

4) Align the new board to the guardrails of the slot and slide into slot. Push the front panel lever of the board until it is completely inserted into slot.

3.3.3 TEPRI/TEPRIa/TEPRI2

The T1E1PRI(TEPRI/TEPRIa) board is a digital trunk interface that supports either T1 or ISDN PRI service. It also supports Q-Sig/PRI signaling required for networking multiple systems.

The TEPRI/TEPRIa board installs into any universal slot. The first TEPRI/TEPRIa card installed in the OfficeServ 7400 is the primary source of external clocking. The second TEPRI/TEPRIa installed is the secondary source of external clocking. Default clock selection is first cabinet, left to right then second cabinet. The clock priority can be changed by using MMC 826. The primary and secondary clock sources should be mounted in the main cabinet to ensure stable reception of clocking from the primary and secondary sources. Regardless of position, a CO PRI circuit should always be given clocking priority over T1 circuits. There are two RJ45 modular jacks on the face of the card. The settings for T1 or PRI service are selected by a bank of dip switches as defined below. The PRI supports NI1, NI2, AT&T No. 5 ESS, and DMS 100 offices. Install as many TEPRI/TEPRIa cards as needed into any available universal slot. There is no limit to how many TEPRI/TEPRIa cards you can add to the system.   **NOTE: Do not insert this card with system power ON.**

TEPRI Card Dip Switch

Switch No.	ON	OFF
1	T1	E1
2	PRI	T1
3	NFAS (24B)	NFAS (23B + D)
4	NETWORK*	USER
5	AFT	NORMAL
6	**	**
7	**	**
8	**	**

*If this TEPRI/TEPRIa card is to be the master of a pair of TEPRI/TEPRIa cards that are used to connect two systems together via PRI networking, DIP switch 4 must be set to ON.

**Do not change the settings of DIP switches 3, 5, 6, 7, and 8. Switches 3, 5, 6, and 7 must remain OFF and 8 must be ON.

**The new TEPRIa and TEPRI2 cards have only a four-position switch. Set the switches the same as the eight-position using the same first four switches.
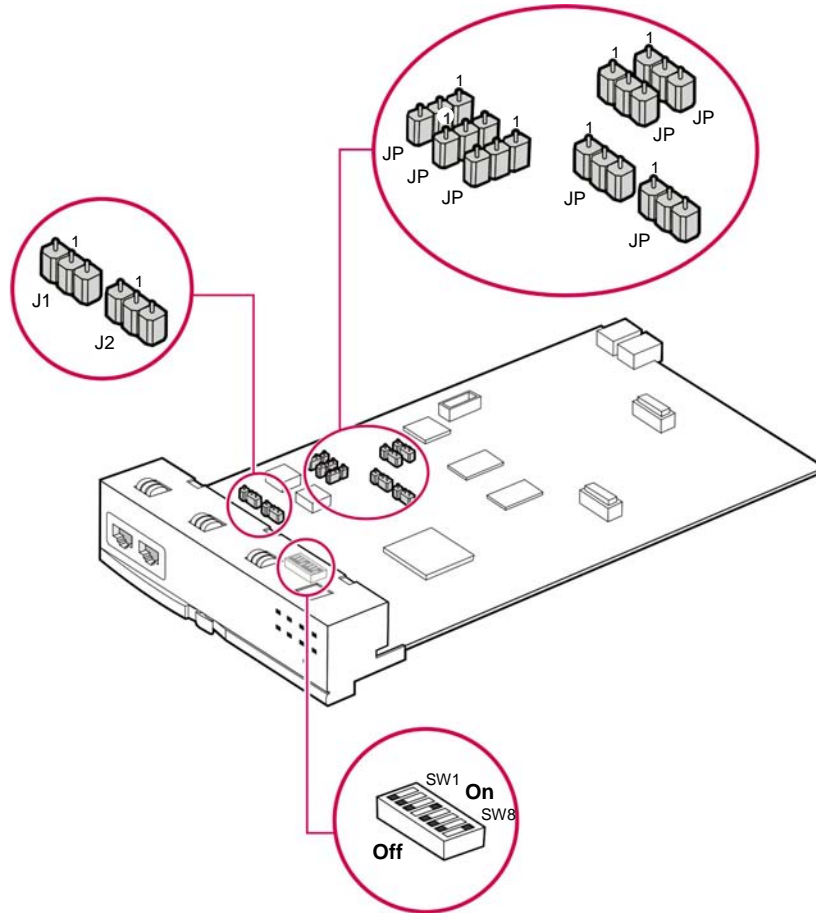
Figure 3.16 Setting Switches and Jumpers on the TEPRI

JUMPER SETTING FOR TEPRI

The TEPRI board comes from the factory with the following jumper settings. **These settings should NOT be changed.**

- J1 & J2: Pins 2 & 3 connected
- J3: Pins 2 & 3 connected
- J4~J9: Pins 1 & 2 connected
- Pin 1 is labeled on the board for each jumper.

JUMPER SETTING FOR TEPRIa

The TEPRIa board comes from the factory with the following jumper settings. **These settings should NOT be changed.**

- J1 & J2: Connect #1 and #2 for E1 cable #2 and #3 for T1 cable.
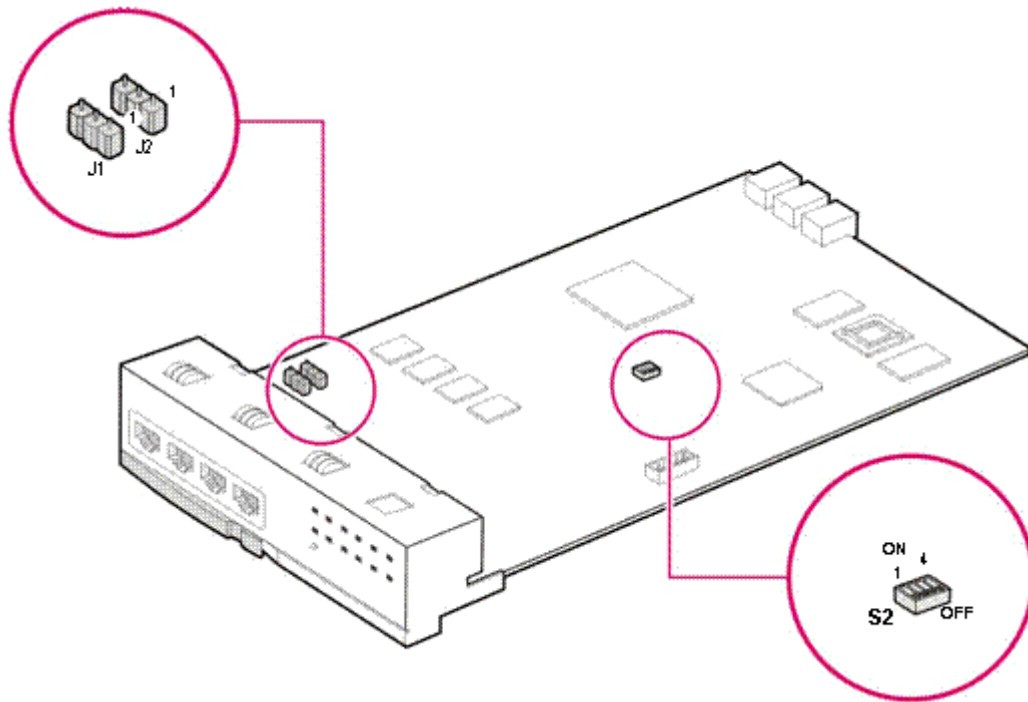
S2	OFF	ON
1	E1	T1
2	T1/E1	PRI
3	24B + D	24B
4	User (Slave)	Network (Master)

Figure 3.17   Setting Switches and Jumpers on the TEPRIa

FRONT VIEW OF TEPRI BOARD

The front view of the TEPRI board is shown in the picture below.

Figure 3.18 Front View of the TEPRI

Front panel components of the TEPRI:

Table 3.6 Ports and LEDs of the TEPRI

Ports & LEDs	Function Description
T1/E1/PRI	Ports that connect the T1/E1/PRI cable.
SIO	Serial port (for Samsung Use ONLY)
RST	Button for resetting the TEPRI/TEPRIa board.
SYNC LED	Clock synchronization. - On: Indicates loss of framing (Error Condition). - Off: Clocks are synchronized when they inter-work with the counterpart station (Normal).
LOS LED	This LED indicates loss of signal. - On: Signals have been lost, no PCM clocking is being received. - Off: Signals being received (Normal).
AIS LED	This LED indicates whether the T1/E1 remote alarm has been generated. - On: The remote alarm has been generated. All one's are being received (Error) - Off: The remote alarm has not been generated (Normal).
L2 LED	This LED indicates the operation status of Layer 2. - On: The PRI Layer 2 is operating properly. PRI message is being received. - Off: The PRI Layer 2 is operating abnormally.
IPC LED	This LED indicates that this board is inter-working with the higher-level module. - On: The board is inter-working with the MCP/LCP. - Off: The board is not inter-working with the MCP/LCP.
CLK LED	This LED indicates whether this board is a master or slave. - On: The board has received the synchronization clock from the counterpart station. - Off: Using synchronous clock for internal clock.
TP1 LED	This LED indicates whether the T1 is established. - This LED turns on once the T1 is established.
TP2 LED	This LED indicates whether the PRI is connected. - This LED turns on once the PRI is connected.

FRONT VIEW OF TEPRIa BOARD

The front view of the TEPRIa board is shown in the picture below.

Figure 3.19 Front View of the TEPRIa

Table 3.7 Front Panel Components of the TEPRIa

Ports & LEDs	Function Description
P1	Port for connecting T1/E1/PRI cables
LAN	Port for connecting to Ethernet (reserved for future use)
SIO	Serial port for internal Samsung engineering use only.
TP1 LED	Indicates the type of the circuit connected to port P1. - On: PRI in operation - Off: T1/E1 in operation
L21 LED	This LED indicates the operation status of Layer 2. - On: The PRI Layer 2 is operating properly. PRI message is being received. - Off: The PRI Layer 2 is operating abnormally.
AIS1 LED	This LED indicates whether the T1/E1 remote alarm has been generated. - On: The remote alarm has been generated. All ones are being received (Error). - Off: The remote alarm has not been generated (Normal).
LOS1 LED	This LED indicates loss of signal. - On: Signals have been lost, no PCM clocking is being received. - Off: Signals being received (Normal).
SYN1 LED	Clock synchronization. - On: Indicates loss of framing (Error Condition). - Off: Clocks are synchronized when they inter-work with the counterpart station (Normal).
RUN LED	- On (Green): When T1 operates in normal (Blink in the cycle of 200ms) - On (Orange): When E1 operates in normal (Blink in the cycle of 200ms)
CLK LED	This LED indicates whether this board is a master or slave. - On: The board has received the synchronization clock from the counterpart station. - Off: Using synchronous clock for internal clock.
RST button	Card Reset button

TEPRI2 CARD

The TEPRI2 card is a DUAL circuit digital trunk interface that supports either T1 or ISDN PRI service. It also supports Q-Sig/PRI signaling required for networking multiple systems.   This card is functionally identical to the TEPRIa card, however, it offers two independent circuit interfaces labeled P1 and P2 on the front panel. The TEPRIa offers only a single circuit.

SPECIFICATIONS

- In order to use both circuits of the TEPRI2, it must be installed in the main cabinet. If the TEPRI2 is installed in an OS7400 expansion cabinet, only the first circuit can be used. The second circuit will be disabled.
- The TEPRI2 CANNOT be used in an OS7200 expansion cabinet.
- BOTH circuits P1 and P2 must be used for the same function: either both are TELCO interfaces OR both are used for QSIG PRI networking. One cannot be used for Telco, while the second interface is used for Q-Sig/PRI networking.
- Add as many TEPRI2 cards as needed.

Set S2 and S3 switches and jumpers of the TEPRI2 module as follows:
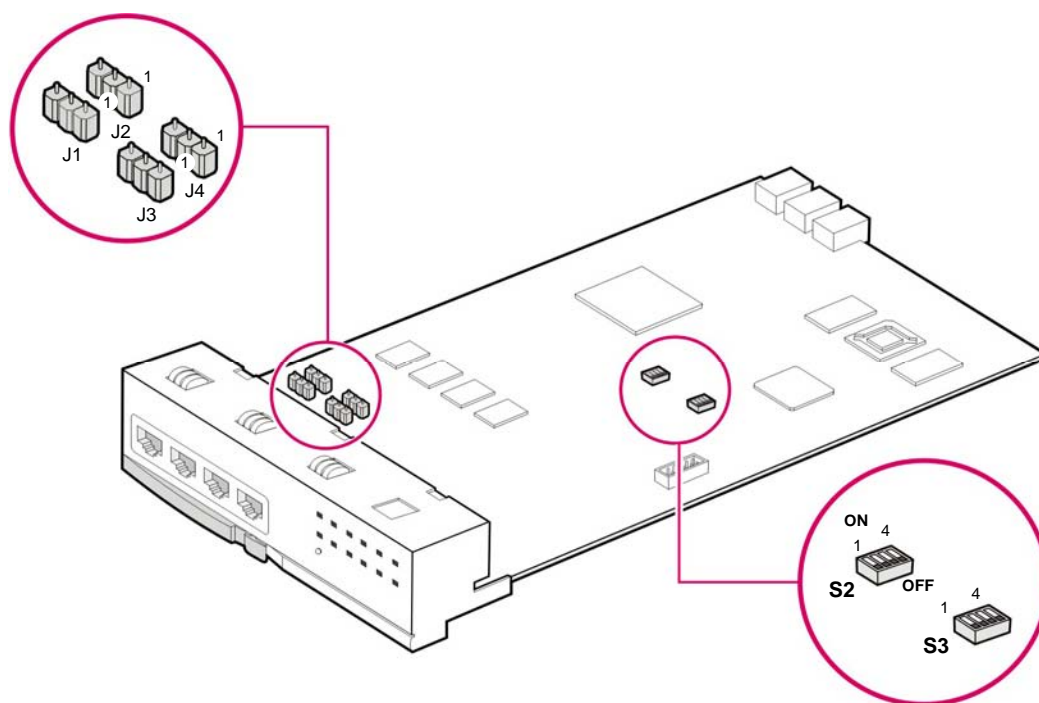
Figure 3.20 Setting Switches and Jumpers of the TEPRI2

JUMPER SETTING

- S2, dip switch #1 should be set to ON. This setting sets the entire TEPRI2 card into T1 mode.
- S2, dip switches 2~4 are used for configuring the first circuit P1
- S3, dip switch #1 is not used. Leave it at its factory default position.
- S3, dip switches # 2~4 are used for configuring the second circuit P2.

SETTING JUMPERS

For each jumper J1, J2, J3 and J4: Connect pins #1 and #2 for E1 cable, connect pins #2 and #3 for T1 cable. Factory default should be set to T1 setting for U.S.A. Do not change this setting.

Table 3.8 Setting Jumpers of the TEPRIa

S2	OFF	ON
1	E1	T1
2	T1/E1	PRI
3	24B + D	24B
4	User (Slave)	Network (Master)
S3	OFF	ON
1	Non-used	Non-used
2	T1/E1	PRI
3	24B + D	24B
4	User (Slave)	Network (Master)

FRONT VIEW OF TEPRI2

The front panel components of the TEPRI2 are the same as that of the TEPRIa card listed in Table 3.7. However P2, SYN2, AIS2, TP2, L22, and LOS2 all refer to the second interface P2 while the remaing components all refer to the first interface P1.

Figure 3.21   Front Panel View of the TEPRI2

Refer to Section 6.2.2 for Port Pinout and Wiring.

3.24

3.3.4 8TRK

The 8TRK board provides 8 ports for analog trunk lines with Caller ID capabilities. This board can go into any universal slot in any cabinet. Add as many as needed.

FRONT VIEW OF 8TRK

The front view of the 8TRK board is shown in the picture below.
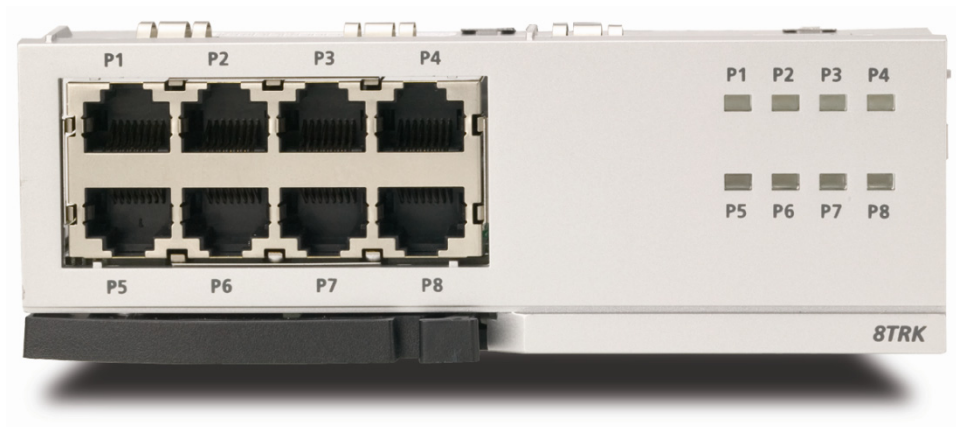
Figure 3.22 Front View of the 8TRK

The components on the front panel of the 8TRK have the functions below:

Table 3.9 Ports and LEDs of the 8TRK

Ports & LEDs	Function Description
P1~P8	Trunk ports.
P1~P8 LED	These LEDs indicate the status of the ports. - Off: The trunk line is not being used. - On: The trunk line is being used. - Blink: Incoming call ringing on trunk.

Refer to Section 6.2.1 for Port Pinout and Wiring.

3.3.5 8TRK2

There are no LEDs on this board compared to the 8TRK card.

FRONT VIEW OF 8TRK2 BOARD

The front view of the 8TRK2 board is shown in the picture below.
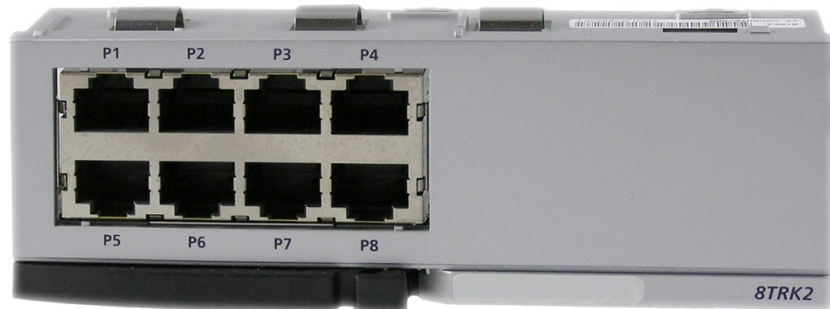
Figure 3.23 Front View of the 8TRK2

3.3.6 16TRK

This card contains sixteen loop start C.O. line interface circuits with C.O. disconnect detection. It also contains the circuitry needed for Caller ID. It can be inserted in any universal slot in either cabinet.

FRONT VIEW OF 16TRK

The front view of the 16TRK board is shown in the picture below.
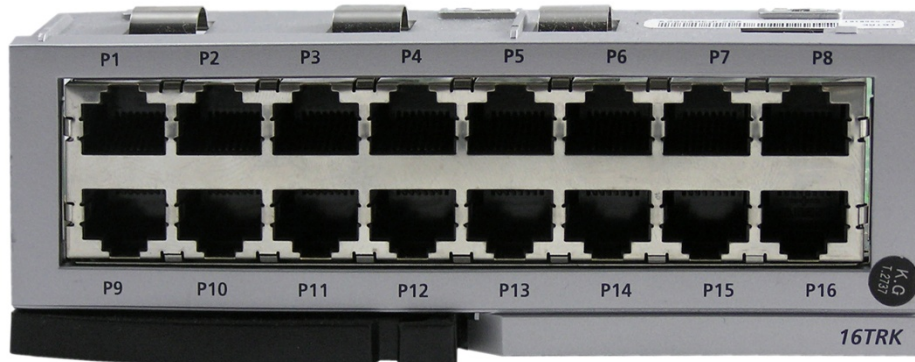
Figure 3.24 Front View of the 16TRK

The components on the front panel of the 16TRK have the functions below:

Table 3.10 Ports and LEDs of the 16TRK

Ports & LEDs	Function Description
P1~P16	Trunk ports.
LED	There are no LEDs on this card.

3.3.7 16DLI2

This board provides 16 ports for connecting Samsung Digital Keysets. Each port provides 1B+D. This means only one station/one voice channel per port. This board can go into any universal slot of any cabinet. Add as many as needed.

FRONT VIEW OF 16DLI2

The front view of the 16DLI2 board is shown in the picture below.
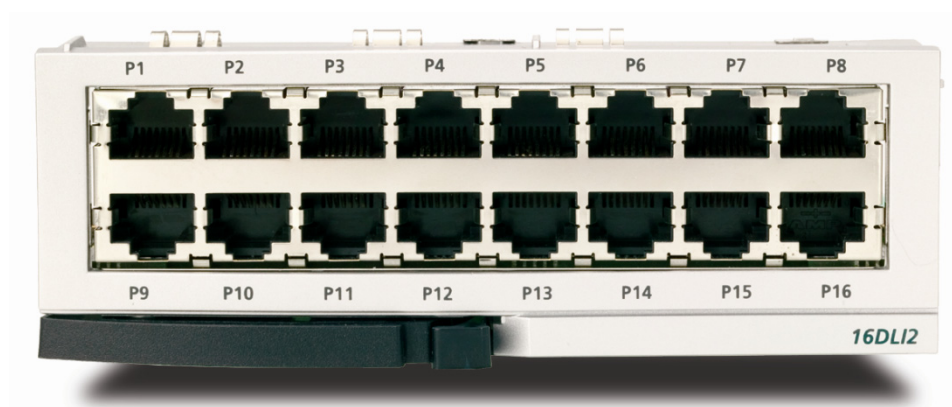
Figure 3.25 Front View of the 16DLI2

16DLI2 front panel components:

Table 3.11 Ports of the 16DLI2

Ports	Function Description
P1~P16	Samsung Digital Telephone Extension Port

NOTE: A station using KDB-D or KDB-S cannot connect to a port on this board.

Refer to Section 7.1.3 (Connecting a Digital Phone) for Port Pinout and Wiring.

3.3.8 8DLI

This board provides 8 ports for connecting Samsung Digital Keysets. This board can go into any universal slot of any cabinet. Add as many as needed.

SPECIFICATIONS

The specifications of the 8DLI board are as follows:

- 8 station ports 2B+D (two voice channels and one signal channel) per port.
- Stations using KDB-D or KDBS adapters can connect to this board.

FRONT VIEW OF 8DLI

The front view of the 8DLI board is shown in the picture below.
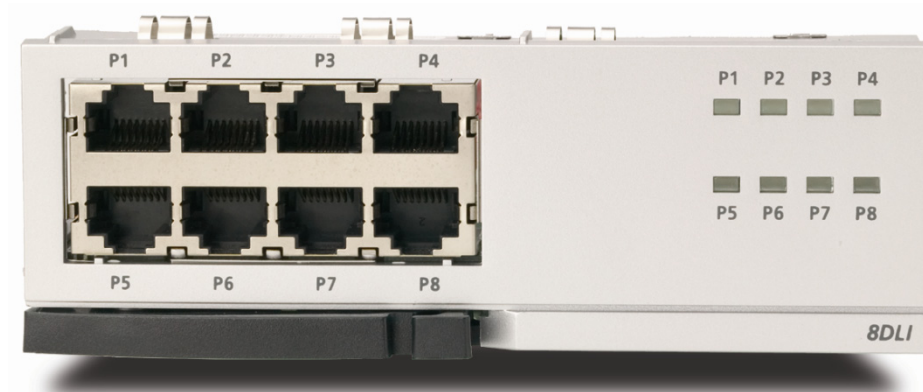
Figure 3.26 Front View of the 8DLI

Front panel components of the 8DLI board have the functions below:

Table 3.12 Ports and LEDs of the 8DLI

Ports & LEDs	Function Description
P1~P8	Station ports of Samsung Digital Phones.
P1~P8 LED	These LEDs indicate the status of the ports. - Off: The station is not being used. - On: The station is being used.

Refer to Section 7.1.3 for Port Pinout and Wiring.

3.3.9 8COMBO/8COMBO2

This board provides 8 ports for connecting analog stations and 8 ports for connecting Samsung Digital Keysets. This board can go into any universal slot of any cabinet. Add as many as needed.

FRONT VIEW OF 8COMBO/8COMBO2

The front view of the 8COMBO/8COMBO2 board is shown below.
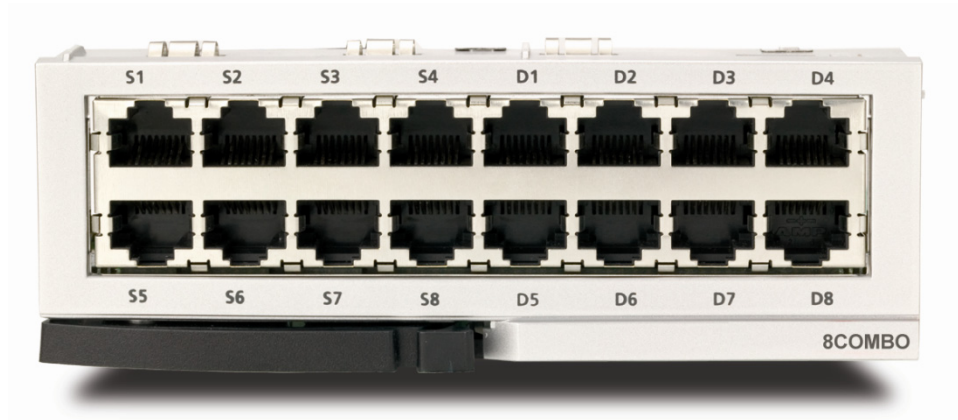
Figure 3.27 Front View of the 8COMBO
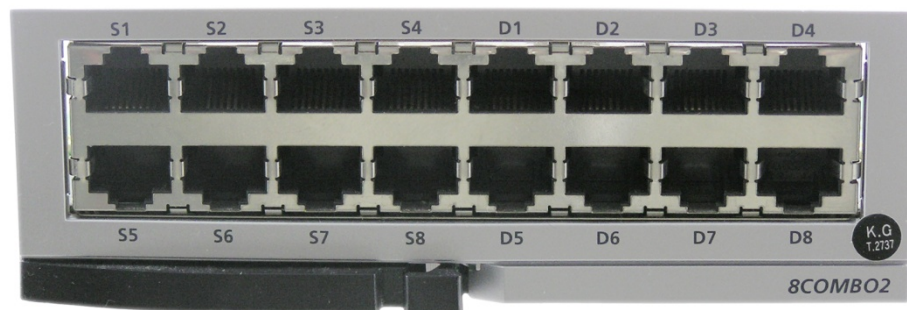
Figure 3.28 Front View of the 8COMBO2

- Ports S1~S8 are for analog stations only.
- Ports D1~D8 are for Samsung Digital Stations only.

See Sections 7.1.2 and 7.1.3 for Port Pinout and Wiring.

3.3.10 16SLI2/16MWSLI

This board provides 16 ports for connecting analog stations. It can go into any universal slot of any cabinet. Add as many as needed. This card automatically detects DTMF or dial pulse signals from the SLT. This card has no DTMF receiver. It will share the system resources. If there is a high concentration of SLI cards, and MFM or CRM daughterboard must be added to relieve congestion. MFM and CRM's can be added to the LP40.

FRONT VIEW OF 16SLI2/16MWSLI

The front view of the 16SLI2/16MWSLI board is shown below.
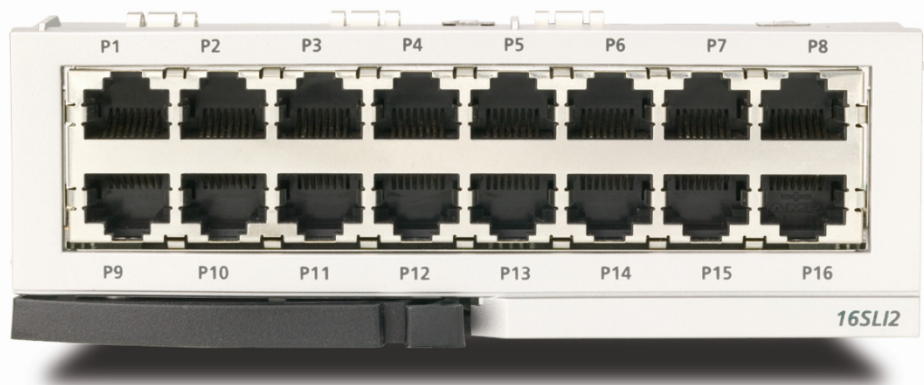
Figure 3.29 Front View of the 16SLI2
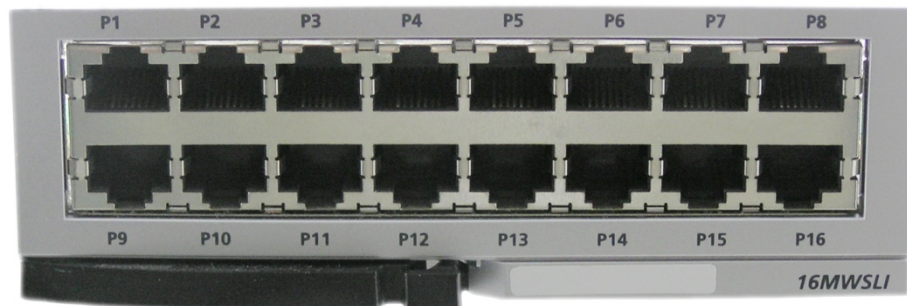
Figure 3.30 Front View of the 16MWSLI

Front panel components of the 16SLI2/16MWSLI:

Table 3.13 Ports and LEDs of the 16SLI2/16MWSLI

Ports & LEDs	Function Description
P1~P16	Analog Extension Ports

- The 16MWSLI supports Message Waiting Lamp functionality for analog stations that have this capability.

- Port 1 supports Power Failure Transfer function (Refer to Section 3.4).

- <u>See Section 7.1.2 for port Pinout/Wiring.</u>

- Do not connect devices with a total REN greater than 5.0 to this card.

3.3.11 8SLI/8SLI2

This board provides 8 ports for connecting analog stations. It can go into universal slot of any cabinet. Add as many as needed. This card automatically detects DTMF or dial pulse signals from SLT. This card does not have any DTMF receivers; it uses system resources. If there is a high concentration of SLI boards, an MFM or CRM daughter board must be added to the LP40 to relieve congestion.

FRONT VIEW OF 8SLI/8SLI2

The front view of the 8SLI/8SLI2 board is shown below:
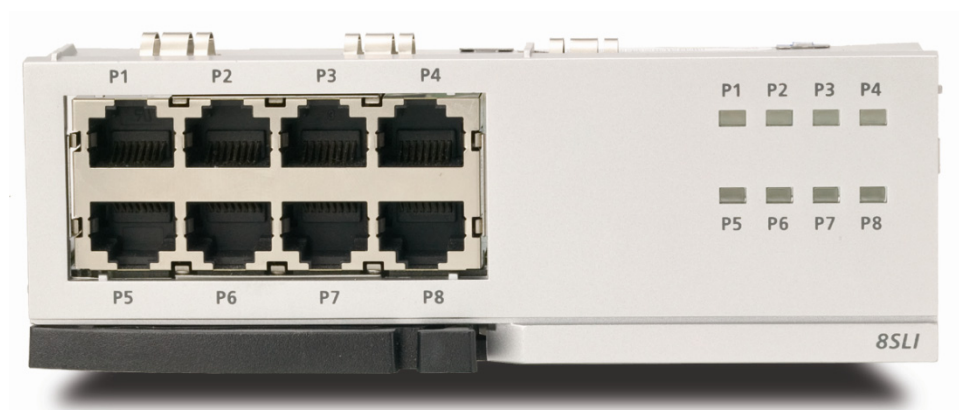
Figure 3.31 Front View of the 8SLI
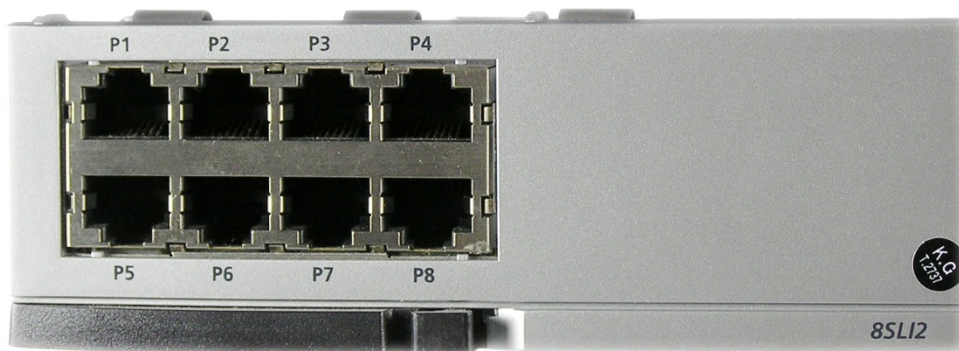
Figure 3.32 Front View of the 8SLI2

Front panel components of the 8SLI/8SLI2:

Table 3.14 Ports and LEDs of the 8SLI/8SLI2

Ports & LEDs	Function Description
P1~P8	Station ports for analog phones.
P1~P8 LED	These LEDs indicate the operational status of the ports. - Off: The station is not active on a call. - On: The station is active on a call.

- Port 1 (P1) supports Power Failure Transfer function (Refer to Section 3.4).

- See Section 7.1.2 for Port Pinout and Wiring.

- Do not connect devices with a total REN greater than 5.0 to this card.

3.3.12 GWIM/GWIMT

Gigabit WAN Interface Module (GWIM/GWIMT) is a data router module allowing
communication between the WAN and LAN.

The GWIM/GWIMT can go into any universal slot in any OS7400 cabinet.

**NOTE: Do NOT install the GWIM/GWIMT into an OS7200 expansion cabinet.   ONE
GWIM/GWIMT can be installed per cabinet. Maximum 3 per system.**

Refer to the GWIM/GWIMT User's Manual for further details on GWIM/GWIMT installation and
configuration.

Determine whether or not the GWIM/GWIMT will use the internal OS7400 power supply or
the optional external OfficeServ 7150 PoE PSU. Refer to the OfficeServ 7150 section in this
manual to determine this. Set jumpers J1 and J2 of the GWIM/GWIMT module accordingly.

1) To force the GWIM/GWIMT to get power from the external OfficeServ 7150 PoE unit, you
   must connect shunt pins 2 and 3 for each jumper J1 and J2.   Shunt pins 1 and 2 are
   connected at factory default (this setting causes the PLIM to get power from the internal
   OS7400 power supply).
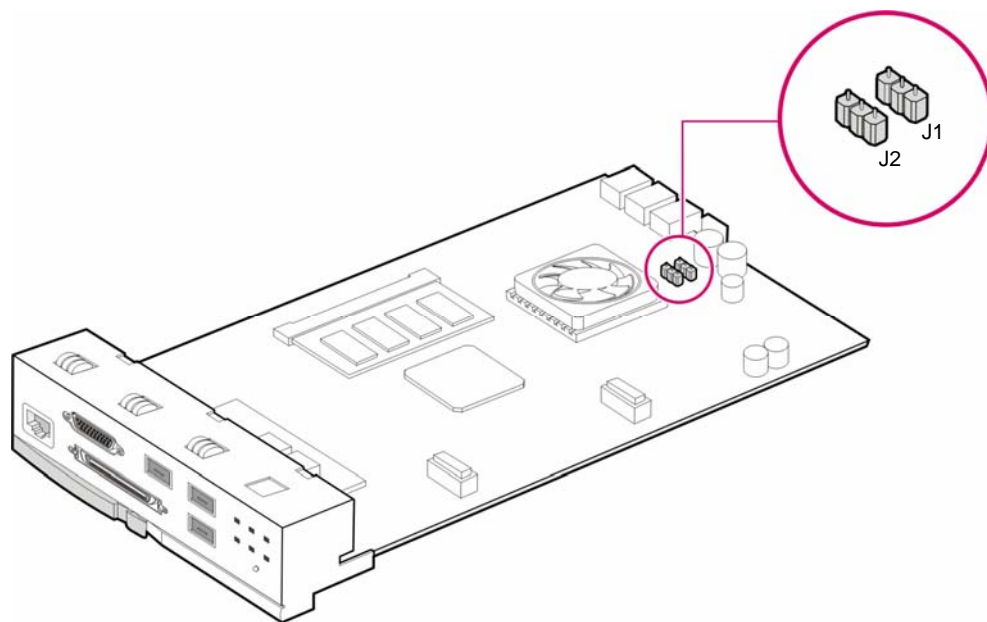
Figure 3.33 Setting GWIM/GWIMT Jumpers

2) Align the connector of the optional security daughtercard (GWIMS) to that of the GWIM/GWIMT connector and firmly press the optional module downward.
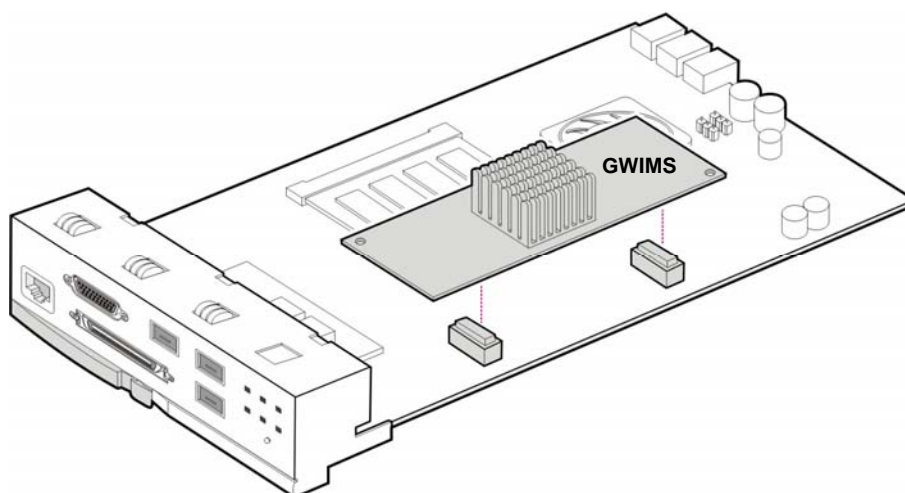
Figure 3.34 Mounting an Optional Securing Daughtercard on the GWIM/GWIMT

FRONT VIEW OF GWIM
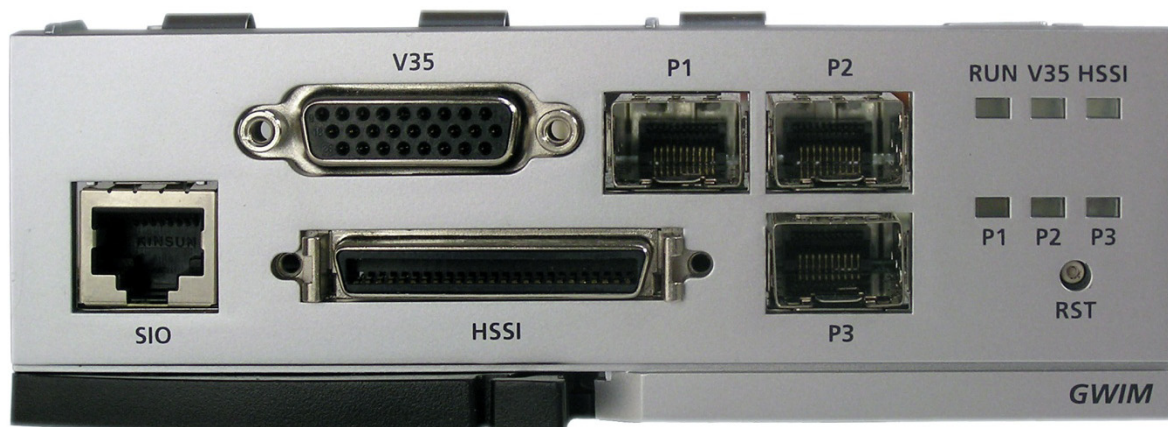
Figure 3.35a Front Panel View of the GWIM

FRONT VIEW OF GWIMT

Figure 3.35b Front Panel View of the GWIMT

Table 3.15 Ports and LEDs of the GWIM/GWIMT

Ports & LEDs	Function Description
P1~P3 GWIM	Ports for connecting to 1000 Base-SX/LX/TX GbE (Gigabit Ethernet) Requires SFP connector
P1~P3 GWIMT	Ports for connecting to 10/100/1000 Base-TX GbE (Gigabit Ethernet) Requires SFP connector
V35	Ports for connecting to T1/E1 links
HSSI	Ports for connecting to T3/E3 links
SIO	Ports for connecting RS-232

Ports & LEDs	Function Description
RUN LED	The status of the GWIM/GWIMT - Off: No power supplied or the operation in abnormal status - LED turns Green: Normal status
V.35 LED	LED turns on when T1/E1 link is connected normally
HSSI LED	LED turns on when T3/E3 link is connected normally
P1 ~ P3 LED	LED turns on when the relevant links are connected normally
RST	Button for resetting the GWIM/GWIMT

CSU/PSU   Serial (V.35 on GWIM)

P2		P1
P	_____	2
Y	_____	15
S	_____	14
AA	_____	12
R	_____	3
V	_____	17
T	_____	16
X	_____	9
C	_____	4
H	_____	20
D	_____	5
U	_____	24
E	_____	6
W	_____	11
B	_____	7
J	_____	18
F	_____	8
K	_____	25
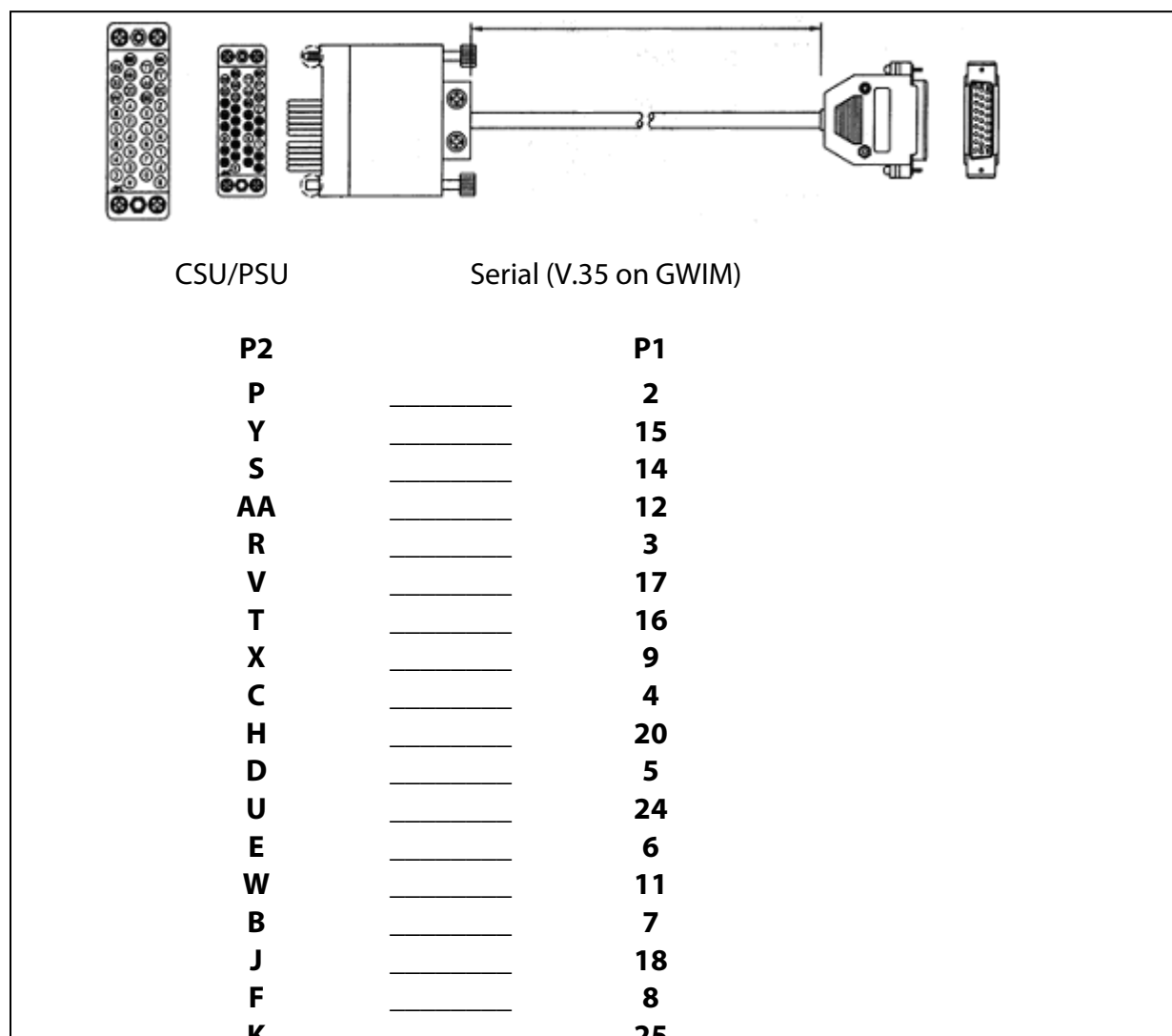
Figure 3.36 V.35 Cable Pin Outs.

This cable connects from the V.35 connector of the GWIM/GWIMT to the customer provided CSU/DSU. This cable can be ordered separately.
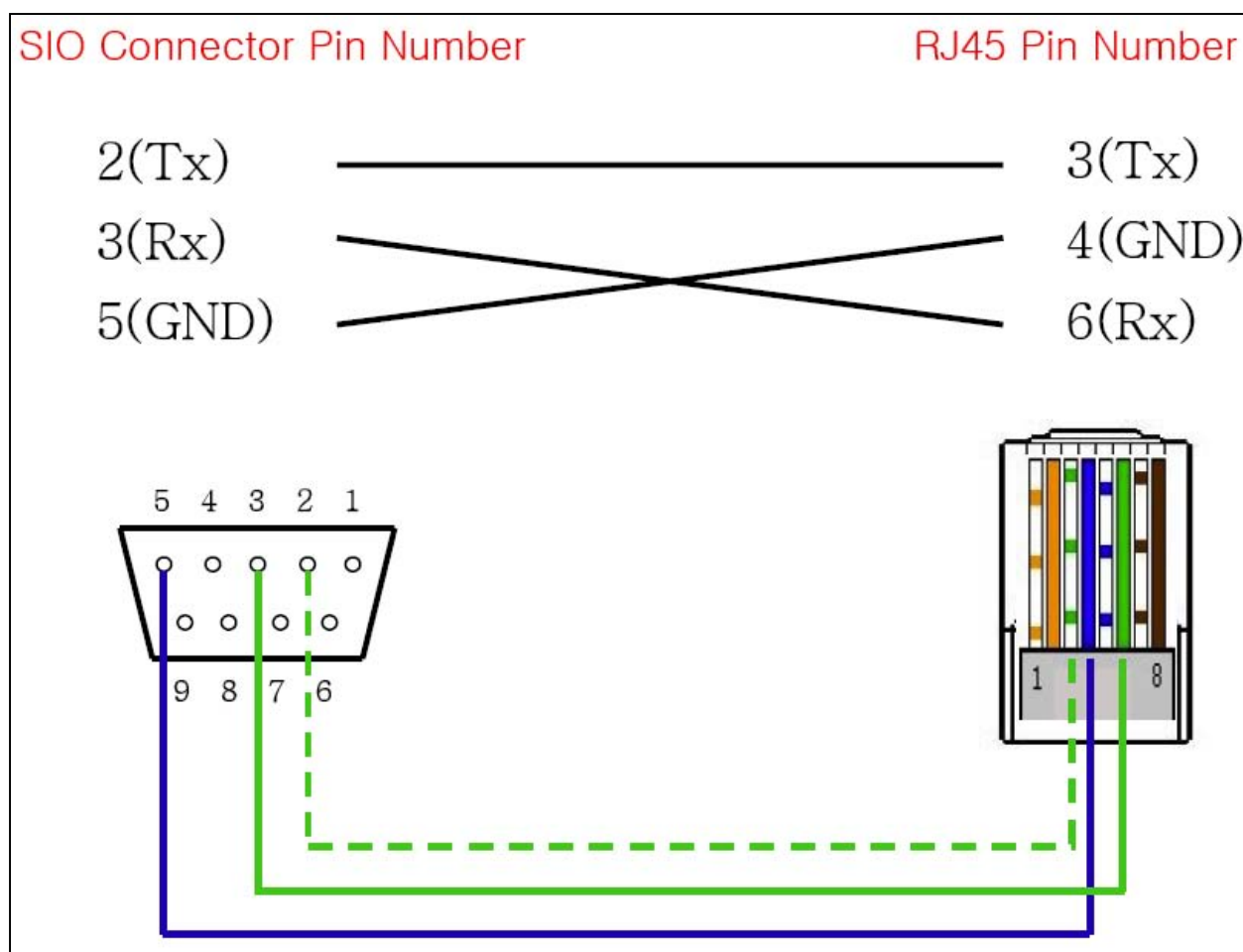
Figure 3.37 GWIM/GWIMT SIO Connector, RJ45 Pin Assignment

3.3.13 PLIM/PLIM2 (PoE LAN INTERFACE MODULE)

The PLIM sends/receives data from the internal LAN, and provides an interface of 10/100 Base-T. It functions as a Layer 2 LAN switch. The PLIM supports Power over Ethernet (IEEE 802.3af). This means that it can provide power to any IEEE 802.3af compliant device that is connected to any of its Ethernet ports. All Samsung ITP/SMT-i phones and SMT-R2000 Dual-Band APs can receive power when connected to the PLIM. When connected to the PLIM Ethernet port, these devices no longer need the AC power adapter.

The PLIM2 board has the same functions has the PLIM but must have software version 4.X software to recognize the board.

The PLIM can be installed in any universal slot of any cabinet. Add as many PLIMs as needed.

The PLIM is an unmanaged switch, so it simply functions as a simple data switch (10/100 Base-T).

PLEASE NOTE: The PLIM module uses the -48V rail from the OS7400 power supply to provide power to connected devices over Ethernet. The OS7400 power supply provides up to 6600mA of output current. **PER EACH OS7400 CABINET (not per system), the SUM of all current drawn from 1) devices powered by PLIM cards, 2) digital key sets connected to DLI ports 3) analog devices connected to SLI ports 4) devices powered by the GPLIMs 5) the GWIM, GSIM and GPLIM cards themselves cannot exceed 6600mA.** *Refer to the OfficeServ 7150 section in this manual for a listing of individual component current draw ratings.*

IF ADDING PLIM CONNECTED DEVICES CAUSES THE TOTAL CURRENT DRAWN TO EXCEED 6600mA <u>PER CABINET (not per system)</u>, THEN YOU MUST CONNECT THE OS7150 EXTERNAL PoE POWER SUPPLY MODULE to the cabinet. This unit can provide additional power to PoE devices connected to PLIMs and GPLIMs when the OS7400 power supply limits have been exceeded.   Please refer to <u>Section 5.3, CONNECTING THE OS7150 EXTERNAL PoE PSU SUPPLEMENTAL POWER SUPPLY</u> for further information.

It is important to note that the OS7150 can only provide additional power to the PLIM, GPLIM, GWIM/GWIMT and GSIM. The OS7150 is used when the GSIM, GWIM or PoE devices connected to GPLIM/PLIM causes the total current draw per cabinet to exceed 6600mA. It does **not** provide power to DLI ports, MWSLI ports and other system interface cards.

To force the PLIM to get power from the external OS7150 PoE unit, you must connect shunt pins 2 and 3 for each jumper J1, J2, and J3. Shunt pins 1 and 2 are connected at factory default (this setting causes the PLIM to get power from the internal OS7400 power supply).
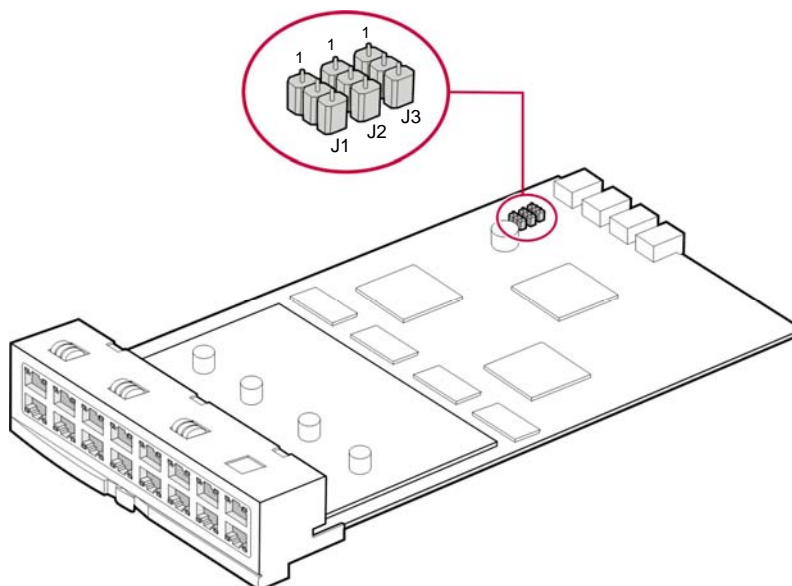
Figure 3.38 PLIM Jumper Settings

SPECIFICATIONS

The PLIM/PLIM2 provides 16 ports of 10/100 Base-T.

FRONT VIEW OF PLIM/PLIM2

The front view of the PLIM/PLIM2 is shown below.
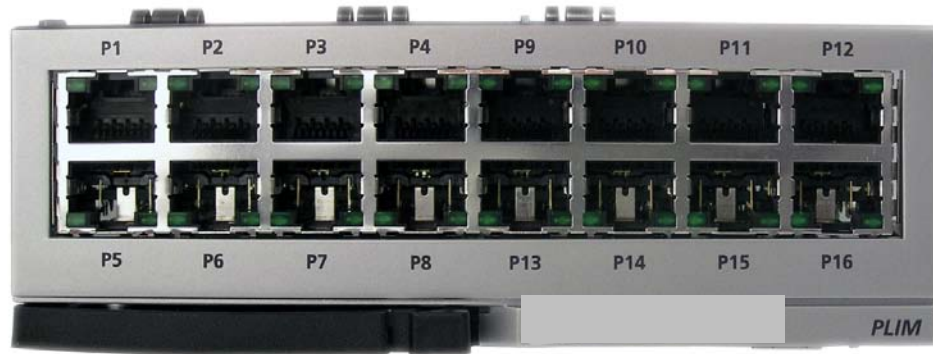
Figure 3.39 Front View of the PLIM
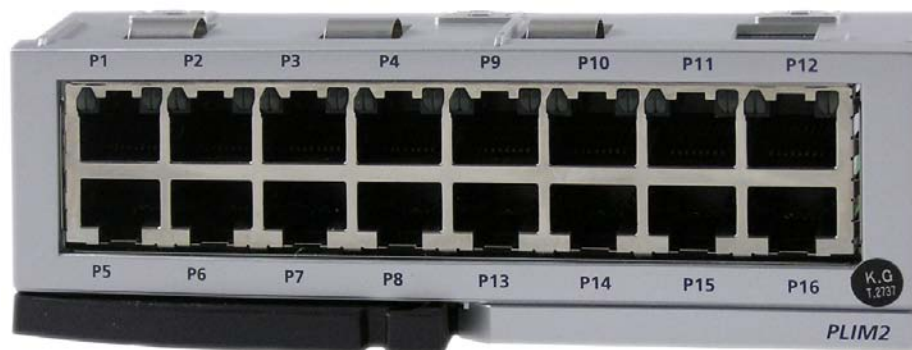
Figure 3.40 Front View of the PLIM2

The front panel components of the PLIM and PLIM2 have the functions below:

Table 3.16 Ports and LEDs of the PLIM

Ports & LEDs	Function Description
P1~P16	RJ-45 (10/100 Base-T) LAN ports (Full Duplex).
Left LED of each port	The LED ON indicates if the link is operating. - Blink: The link is transmitting/receiving data packets.
Right LED of each port	The LED indicates if the port of 10 Base-T/100 Base-Tx is operating. - Off: The port is operating as 10 Base-T port. - On: The port is operating as 100 Base-T port.

Table 3.17 Ports and LEDs of the PLIM2

Ports & LEDs	Function Description
P1~P16	RJ-45 (10/100 Base-T) LAN ports (Full Duplex).
Left LED of each port	The LED ON indicates if the link is operating. - Blink: The link is transmitting/receiving data packets.
Right LED of each port	The LED indicates if the port of 10 Base-T/100 Base-Tx is operating. - Off: The port is operating as 10 Base-T port. - On: The port is operating as 100 Base-T port.

3.3.14 GPLIM (Gigabit PoE LAN Interface Module)

The GPLIM is a Layer 2 Gigabit LAN switch module providing power over Ethernet to any connected device. This module provides 12-10/100 Base-T interface port and 2-1000 Base-TX/SX/LX ports. The GPLIM can provide power to any IEEE 802.3af compliant device that is connected its Ethernet ports. All Samsung ITP/SMT-i phones and SMT-R2000 Dual-Band APs can receive power when connected to the GPLIM. When connected to the GPLIM Ethernet port, these devices no longer need the AC power adapter.

SPECIFICATIONS

* The GPLIM can be installed in any universal slot of any OS7400 cabinet.
* The GPLIM CANNOT be installed in the OS7200 expansion cabinet.
* Add as many GPLIMs as needed.
* *Refer to the GPLIM Users Manual for further installation and configuration details.*

PLEASE NOTE: The GPLIM module uses the -48V rail from the OS7400 power supply to provide power to connected devices over Ethernet. The OS7400 power supply provides up to 6600mA of output current. **PER EACH OS7400 CABINET (not per system), the SUM of all current drawn from 1) devices powered by PLIM cards, 2) digital key sets connected to DLI ports 3) analog devices connected to SLI ports 4) devices powered by the GPLIMs 5) the GWIM/GWIMT, GSIM and GPLIM cards themselves cannot exceed 6600mA.** *Refer to the OfficeServ 7150 section in this manual for a listing of individual component current draw ratings.*

IF ADDING GPLIM/GPLIMT CONNECTED DEVICES CAUSES THE TOTAL CURRENT DRAWN TO EXCEED 6600mA PER CABINET (not per system), THEN YOU MUST CONNECT THE OS7150 EXTERNAL PoE POWER SUPPLY MODULE to the cabinet. This unit can provide additional power to PoE devices connected to PLIMs and GPLIM/GPLIMTs when the OS7400 power supply limits have been exceeded. Please refer to Section 5.3, CONNECTING THE OS7150 EXTERNAL PoE PSU SUPPLEMENTAL POWER SUPPLY for further information.

It is important to note that the OS7150 can only provide additional power to the PLIM, GPLIM, GWIM/GWIMT and GSIM. The OS7150 is used when the GSIM, GWIM/GWIMT or PoE devices

connected to GPLIM/GPLIMT/PLIM causes the total current draw per cabinet to exceed 6600mA. It does **not** provide power to DLI ports, MWSLI ports and other system interface cards.

To force the GPLIM/GPLIMT to get power from the external OfficeServ 7150 PoE unit, you must connect shunt pins 2 and 3 for each jumper J1, J2, J3 and J4 (EXT setting). Shunt pins 1 and 2 are connected at factory default (this setting causes the GPLIM/GPLIMT to get power from the internal OS7400 power supply).

Set jumpers J1~J4 in the GPLIM/GPLIMT module.

Figure 3.41 Setting the Jumpers of the GPLIM/GPLIMT module

FRONT VIEW OF GPLIM MODULE
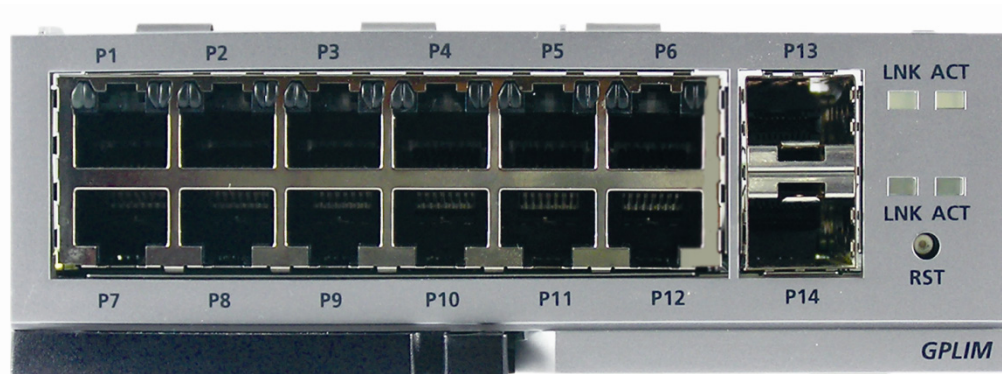
Figure 3.42 Front View of the GPLIM

Table 3.18 Ports and LEDs of GPLIM

Ports & LEDs	Function Description
P1~P12	Ports for connecting to 10/100 Base-T Ethernet.
P13, P14	Ports for connecting to 1000 Base-SX/LX/TX Gigabit Ethernet (GbE). Requires SFP connector.
Left LEDs of P1~P6	First LED: Link operation of P1~P6 - On: LED turns green when a link is in operation - Blink: Each port blinks on active status Second LED: 10/100 Base-T operation of P1~P6 - Off: Operated in 10 Base-T - On: Operated in 100 Base-TX
Right LEDs of P1~P6	First LED: Link operation of P7~P12 - On: LED turns green when a link is in operation - Blink: Each port blinks on active status Second LED: 10/100 Base-T operation of P7~P12 - Off: Operated in 10 Base-T - On: Operated in 100 Base-TX
LINK	LED turns on when P13~P14, which are Giga ports, is connected
ACT	LED blinks when P13~P14, which are Giga ports, is on active status
RST	Button for resetting GPLIM

3.3.15 GPLIMT

The Gigabit PoE LAN Interface Module TX (GPLIMT) board provides data transmission through the intranet. Compared to the PLIM, the GPLIMT board comes with an additional GbE interface and can provide 12 10/100 Base-T interface ports and 2 1000 Base-TX ports. The GPLIMT board provides a simple switching hub function. Only one GPLIMT may be installed per cabinet.

Major Functions

The major functions of the GPLIMT data board are as follows:

- L2 Ethernet Switching
- 10/100 Base Full/Half duplex auto-sensing
- VLAN Networking (802.1q)
- Packet Priority Control (802.1p)
- Flow Control (802.3x)
- Multi-casting (IGMP Snooping)
- IEEE 802.3af PoE (Power over Ethernet)

Specification

The specification of the GPLIMT data board is as follows:

- 12 10/100 Base-T interface port
- 2 10/100/1000 Base-TX interface port
- 1 Serial console port (also used as P12)

FRONT VIEW OF THE GPLIMT

The front view of the GPLIMT data board is shown in the picture below.
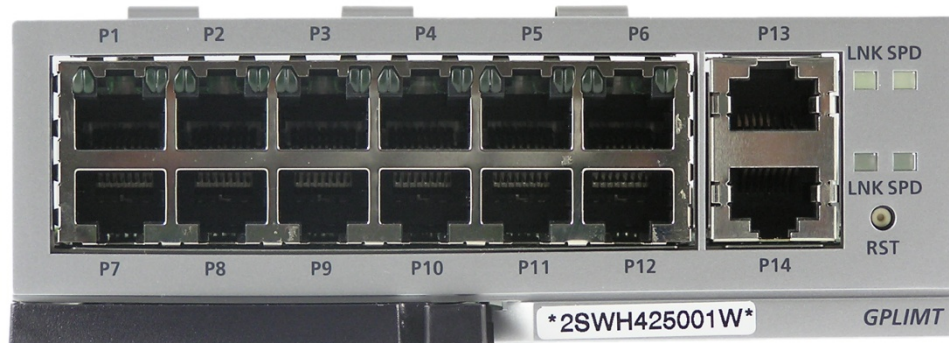
Figure 3.43 Front View of the GPLIMT

The components on the front panel of the GPLIMT board have the functions below:

Table 3.19 Ports and LEDs of the GPLIMT

Ports & LEDs	Function Description
P1~P12	Ports that connect to the 10/100 Base-T Ethernet
P13, P14	Ports that connect to the 10/100/1000 Base-TX GbE (Gigabit Ethernet)
Left LED of P1~P6	First LED: Indicates if the P1~P6's link is operating - On: When the link is operating, LED is turned on into green color - Blink: When each port is active, the LED is blinking Second LED: Indicates whether the P1~P6 are operating in 10/100 Base-T mode - Off: In operation as 10 Base-T - On: In operation as 100 Base-TX
Right LED of P1~P6	First LED: Indicates if the P7~P12's link is operating - On: When the link is operating, LED is turned on into green color - Blink: When each port is active, the LED is blinking Second LED: Indicates whether the P7~P12 are operating in 10/100 Base-T mode - Off: In operation as 10 Base-T - On: In operation as 100 Base-TX
LNK LED	- Turns on if the Giga port P13~P14's link is connected - Blinks if the corresponding ports are active
SPD LED	Indicates whether the Giga ports P13~P14 are operating in 10/100/1000 Base-T mode - Off: In operation as 10 Base-T - On: In operation as 100 Base-TX - Blink: The ports are operating in 1000 Base-TX mode
RST	Button for resetting the GPLIMT board

3.3.16 GSIM (Gigabit Switch Interface Module)

The GSIM is a managed Layer 3 LAN switch. It offers ten (10) 1000 Base-SX/LX/TX interface ports and one SIO port.

SPECIFICATIONS

*   The GSIM can be installed in any universal slot in any OS7400 cabinet.
*   Do NOT install the GSIM in an OS7200 expansion cabinet.
*   A maximum of 2 GSIMs can be installed per cabinet. Maximum 6 GSIMs per system can be installed.
*   Refer to the GSIM Users Manual for further configuration and installation details.

Determine whether or not the GSIM will use the internal OS7400 power supply or the optional external OfficeServ 7150 PoE PSU. *Refer to the OfficeServ 7150 section in this manual to determine this.* Set J3 and J4 of the GSIM module accordingly.

To force the GSIM/GSIMT to get power from the external OfficeServ 7150 PoE unit, you must connect shunt pins 2 and 3 for each jumper J3 and J4. Shunt pins 1 and 2 are connected at factory default. (This setting causes the PLIM to get power from the internal OS7400 power supply.)
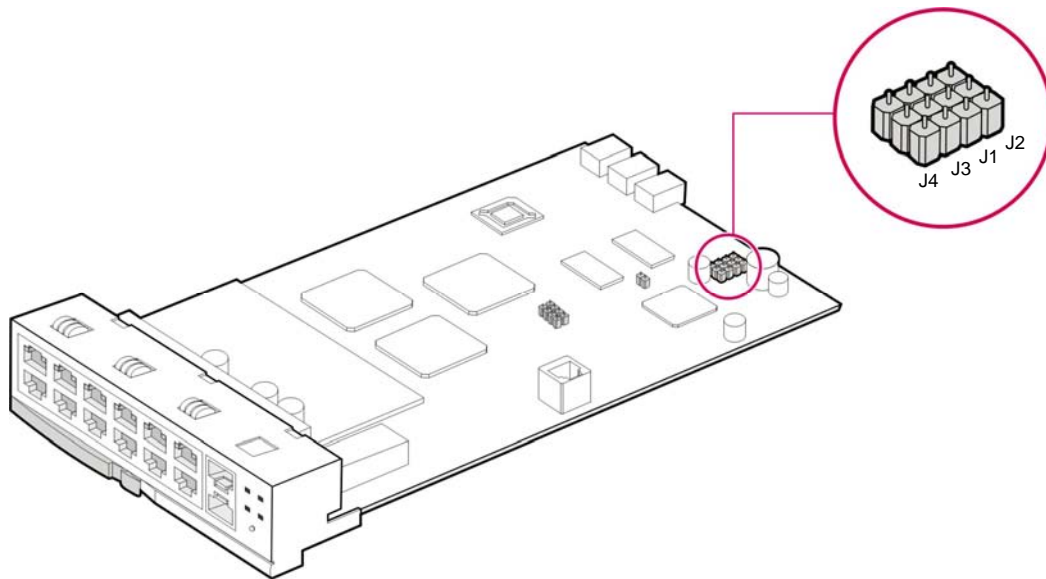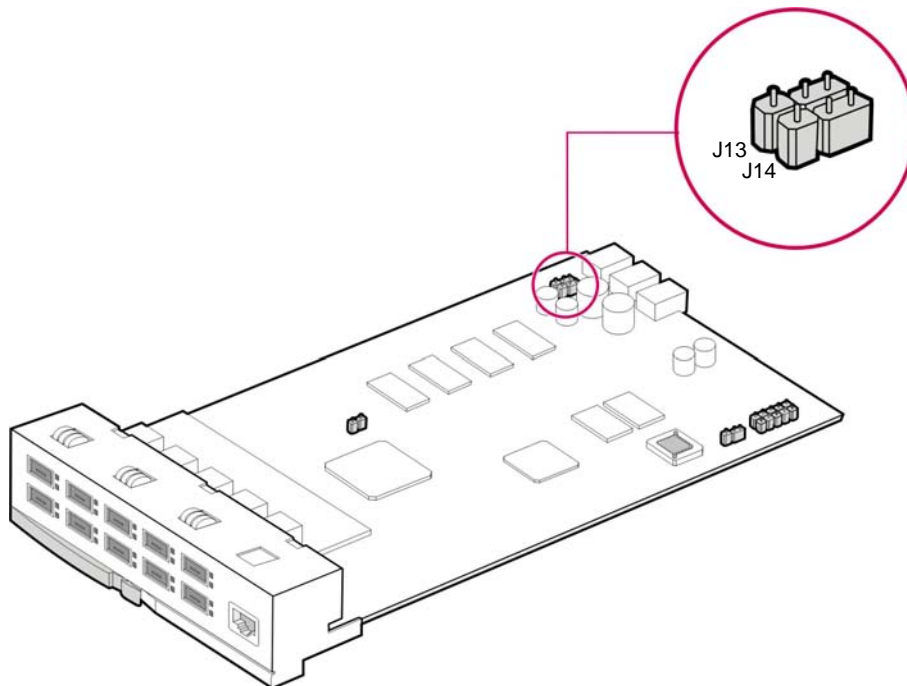

Figure 3.44 Setting the Jumpers of the GSIM/GSIMT

FRONT VIEW OF GSIM MODULE

Figure 3.45 Front View of the GSIM

Table 3.20 Ports and LEDs of the GSIM

Ports, LED	Function Description
P1~P10	Port for connecting to 1000 Base-SX/LX/TX GbE (Gigabit Ethernet) SFP Connector required
SIO	Port for connecting RS-232
LINK	LED turns on when P1~P10 links are connected
ACT	LED blinks when P1~P10 are on active status

3.3.17 MGI (MEDIA GATEWAY INTERFACE)

The MGI board provides a variety of Voice over IP (VoIP) services for the OfficeServ 7400. This card is required for ITP/SMT-i phones, IP networking, IP trunking, SIP trunking and stations or any application that require VoIP.

- **MGI has 0 voice channels.** The MGI-D daughterboard must be added to the MGI for voice communications.
- Up to 4 MGI-D daughterboards can be added to an MGI board.
- Each daughterboard provides 4 voice channels. One MGI with 4 MGI-Ds installed can provide a maximum of 16 voice channels.
- The MGI can go into the universal slots of any cabinet. Add as many MGIs as needed.

Align the connector of the MGI board to the connector of the optional board (MGI-D) and press the optional board downward. Up to four optional boards can be mounted per MGI.

NOTE: Always install daughterboards starting from the back of the MGI (position 1). DO NOT SKIP a position when adding daughtercards. (For example: The first MGI-D goes in position 1, second MGI-D goes in position 2 and so on, working towards the front of the card.)
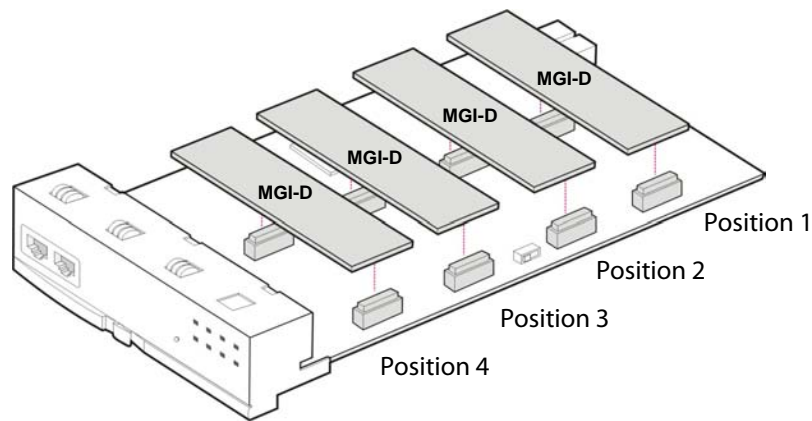
Figure 3.46 Mounting Optional Board on MGI Board

FRONT VIEW OF MGI BOARD

The front view of the MGI board is shown in the picture below.

Figure 3.47 Front View of the MGI Board

MGI-16 (MEDIA GATEWAY INTERFACE)

The MGI-16 board provides a variety of Voice over IP (VoIP) services for the OfficeServ 7200. This card is required for ITP/SMT-i phones, IP networking, IP trunking or any application that require VoIP.

The MGI-16 provides 16 VoIP channels and NO daughterboards are required.

The MGI-16 can be installed into slots 1~5 of either cabinet. Add as many as you require.

FRONT VIEW OF MGI-16 BOARD

The front view of the MGI-16 board is shown in the picture below.

Figure 3.47a Front View of the MGI-16 Board

The components on the front panel of the MGI and MGI-16 have the functions below:

Table 3.21 Ports and LEDs of the MGI and MGI-16

Ports & LEDs	Function Description
LAN	Port that connects the Ethernet.
SIO	Serial Port (for Samsung Use ONLY)
RST	Button for resetting the MGI/MGI-16.
PWR LED	This LED indicates the power supply status. - Off: Power is not being supplied. - On: Power is being supplied properly.
RUN LED	This LED indicates MCP status. - Off: Power is not being supplied. - On: Booting. - Blink: The RAM program is operating.
LAN Tx LED	This LED indicates the transmit status of the LAN port. - Off: Data is not being transmitted. - On or blink: Data is being transmitted.
LAN Rx LED	This LED indicates the receive status of the LAN port. - Off: Data is not being received. - On or blink: Data is being received.
SVC LED	This LED indicates if the service is being offered. - This LED blinks when program is being modified or configuration is being loaded.
DSP LED	This LED indicates if the VoIP DSP is operating. - This LED blinks when the VoIP channels are engaged.

Ports & LEDs	Function Description
RTPT LED	This LED indicates if the voice packets are being forwarded. - This LED turns on when the voice packets are forwarded.
RTPR LED	This LED indicates if the voice packets are being received. - This LED turns on when the voice packets are received.

3.3.18 MGI64

The MGI64 is a 64 channel Media Gateway Interface card. Just like the MGI, The MGI64 board provides a variety of Voice over IP (VoIP) services for the OfficeServ 7400. This card is required for ITP/SMT-i phones, IP networking, IP trunking or any application that require VoIP.

SPECIFICATIONS

- The MGI64 does not require any daughtercards. It offers 64 VoIP channels on board.
- The MGI64 can be installed in any OS7400 universal slot.
- However, the MGI64 CANNOT be installed in an OS7200 expansion cabinet.
- Add as many MGI64 cards as needed.
- When the MGI64 is installed in the main cabinet, all 64 channels will be available. If it is installed in an OS7400 expansion cabinet, only 32 channels will be available.

Figure 3.48 Front View of the MGI64

Table 3.22 MGI64 Front Panel Components

Ports & LEDs	Function Description
LAN	Port that connects the Ethernet.
SIO	Serial Port (for Samsung Use ONLY)
RST	Button for resetting the MGI.
PWR LED	This LED indicates the power supply status. - Off: Power is not being supplied. - On: Power is being supplied properly.

Ports & LEDs	Function Description
RUN LED	This LED indicates MP40 status. - Off: Power is not being supplied. - On: Booting. - Blink: The RAM program is operating.
LAN Tx LED	This LED indicates the transmit status of the LAN port. - Off: Data is not being transmitted. - On or blink: Data is being transmitted.
LAN Rx LED	This LED indicates the receive status of the LAN port. - Off: Data is not being received. - On or blink: Data is being received.
SVC LED	This LED indicates if the service is being offered. - This LED blinks when program is being modified or configuration is being loaded.
DSP LED	This LED indicates if the VoIP DSP is operating. - This LED blinks when the VoIP channels are engaged.
RTPT LED	This LED indicates if the voice packets are being forwarded. - This LED turns on when the voice packets are forwarded.
RTPR LED	This LED indicates if the voice packets are being received. - This LED turns on when the voice packets are received.

3.3.19 OAS (OPTIONAL APPLICATION SERVICES)

The OAS card is a 64 DSP Optional Application Services card. It contains 64 configurable DSP's that can be used as MGI channels, MOBEX DTMF receivers (listed as MOBEX DSP in MMC 850) used by the Executive MOBEX feature, or a mix of both (determined by MMC 858). MGI channels are enabled in 4 port increments, and each increment will decrease the number of MOBEX DSP's as shown in the chart below.

OPTION	16 TIMESLOTS	32 TIMESLOTS	64 TIMESLOTS
0	MOBEX:16 ONLY	MOBEX:32 ONLY	MOBEX:64 ONLY
1	MGI:04+MOBEX:12	MGI:04+MOBEX:28	MGI:04+MOBEX:48
2	MGI:08+MOBEX:08	MGI:08+MOBEX:24	MGI:08+MOBEX:32
3	MGI:12+MOBEX:04	MGI:12+MOBEX:16	MGI:12+MOBEX:16
4	MGI:16 ONLY	MGI:16 ONLY	MGI:16 ONLY

In addition to these configurable DSP's the OAS card has dedicated DSP's used to provide 64 Media Proxy Service (MPS) channels. MPS channels allow IP phones to talk to IP trunks without the use of an MGI. The settings for these MPS channels are found in MMC 843 after setting MPS SERVICE to ON in MMC 861.

SPECIFICATIONS

- The OAS can be installed in any OS7400 universal slot.
- Up to 16 OAS cards can be installed in the OS7400.

Figure 3.49 Front View of the OAS

Table 3.23 OAS Front Panel Components

Ports & LEDs	Function Description
LAN	Port that connects the Ethernet.
SIO	Serial Port (for Samsung Use ONLY)
RST	Button for resetting the OAS.
PWR LED	This LED indicates the power supply status. - Off: Power is not being supplied. - On: Power is being supplied properly.
RUN LED	This LED indicates MP40 status. - Off: Power is not being supplied. - On: Booting. - Blink: The RAM program is operating.
LAN Tx LED	This LED indicates the transmit status of the LAN port. - Off: Data is not being transmitted. - On or blink: Data is being transmitted.
LAN Rx LED	This LED indicates the receive status of the LAN port. - Off: Data is not being received. - On or blink: Data is being received.
SVC1 LED	This LED indicates if the service is being offered. - This LED blinks when program is being modified or configuration is being loaded.
SVC2 LED	This LED indicates if the service is being offered. - This LED blinks when program is being modified or configuration is being loaded.
SVC3 LED	This LED indicates if the service is being offered. - This LED blinks when program is being modified or configuration is being loaded.
SVC4 LED	This LED indicates if the service is being offered. - This LED blinks when program is being modified or configuration is being loaded.

3.3.20 WLAN (WIRELESS LAN)

Refer to the SMT-R2000 AP documentation for wireless LAN installation and configuration information.

3.3.21 SVMi-20E

The SVMi-20E card can be installed in the OfficeServ 7200 and OfficeServ 7400 Systems.

This section provides the additional steps required to set up the SVMi-20E for operation in the OfficeServ 7400. Included is other basic information regarding components making up the SVMi-20E. *Refer to the SVMi-20E Documentation for General Description, Installation, Programming and other Guides for all details including optional modules and their installation.*

SVMi-20E FRONT PANEL

The front view of the SVMi-20E board is shown in the picture below.

Figure 3.50 SVMi-20E LED Indications

The SIO Interface: This is a serial interface used to connect a modem or PC to provide local or remote PC based administration of the SVMi-20E.

The LAN Interface: An Ethernet port used for local or remote PC administration of the SVMi-20E. The main purpose for this connector is for system file transfer (Back-up and Restore) as well as for use with E-Mail Gateway functionality. The SVMi-20E is designed to back up and restore data to the customer provided LAN, or directly to a PC or Laptop connected to this LAN connector. The E-Mail Gateway functionality is used to send voice messages to E-Mail.

RST Button: The recessed button marked RST is the SVMi-20E reset button. Pressing this will immediately restart the SVMi-20E system and disconnect any calls in progress. Since pressing the RESET button during operation will disconnect all callers and immediately restart the SVMi-20E, it should only be used with caution. Pressing this button when the system is performing Disk I/O could result in data loss or file corruption. This button should not be pressed if the SVMi-20E is actively processing calls.

LED INDICATIONS

There are eight (8) LEDs on the SVMi-20E, the one marked HD will flash whenever the hard disk drive is being accessed, others will give indications of various board functionality.

- **VM1 Status LED:** This indicates that one or more of the embedded ports (port 1 thru 4) are off hook.

- **VM2 Status LED:** This indicates that one or more of the ports on the 1st installed VPM are off hook.

- **VM3 Status LED:** This indicates that one or more of the ports on the 2nd VPM are off hook.

- **HDD Access LED:** The HDD access LED will flash whenever the Hard Drive or CF is being accessed.

- **LAT Status LED:** This indicates that the LAN port is active.

- **LRT Status LED:** This indicates that the LAN port is receiving and/or transmitting data.

- **SDN Status LED:** This is the System Status LED showing the operating status of the card. A status of green indicates the SVMi-20E is down and it is safe to power off the switch. A status of red indicated the SVMi-20E is up and running and it is NOT safe to power down the switch without possible corruption to the SVM databases.

- **PGD Status LED:** Green indicates that good power is being provided to the SVMi-20E through the Back Plane

INSTALLING THE SVMi-20E

When installing a SVMi-20E card, it is important to remember that it is a single board computer (SBC), much the same as any desktop PC and it is therefore very important not to exceed these environmental limits. Note: Before installing this card it should be correctly configured with the appropriate drive, number of Voice Processing Modules (VPMs), and all other optional add on modules (Modem and/or 64MB DRAM).

When configuring the SVMi-20E for more than 16 ports it should be installed in slots 3, 4 or 5 of the main 7400 cabinet as these are 32 channel slots. When 16 or less ports are used the SVMi-20E can be installed in any universal slot in the system.

IMPORTANT NOTE: If one 8 port VPM module and one 4 port VPM module are used, the 8 Port VPM must be used in connector S2 which is the third position. If reversed, no VPM ports will come into service. (See table below).

Table 3.24 VPM Modules Configuration

Configuration	Included on SBC	VPM in SL2	VPM in SL3	Total Ports
1	4	None	None	4 Voice
2	4	VPM-E	None	8 Voice
3	4	VPMF-E	None	8 Voice Supporting 1 Fax
4	4	VPM-E	VPM-E	12 Voice
5	4	VPM-E	VPMF-E	12 Voice Supporting 1 Fax
6	4	8VPMF-E	None	12 Voice Supporting 1 Fax
7	4	VPMF-E	VPMF-E	12 Voice Supporting 2 Fax
8	4	8VPMF-E	VPM-E	16 Voice Supporting 1 Fax
9	4	8VPMF-E	VPMF-E	16 Voice Supporting 2 Fax
10	4	8VPMF-E	8VPMF-E	20 Voice Supporting 2 Fax

Note: The Fax DSP does not increase the available ports. It adds the fax functionality to any voice port in the SVMi-20E.
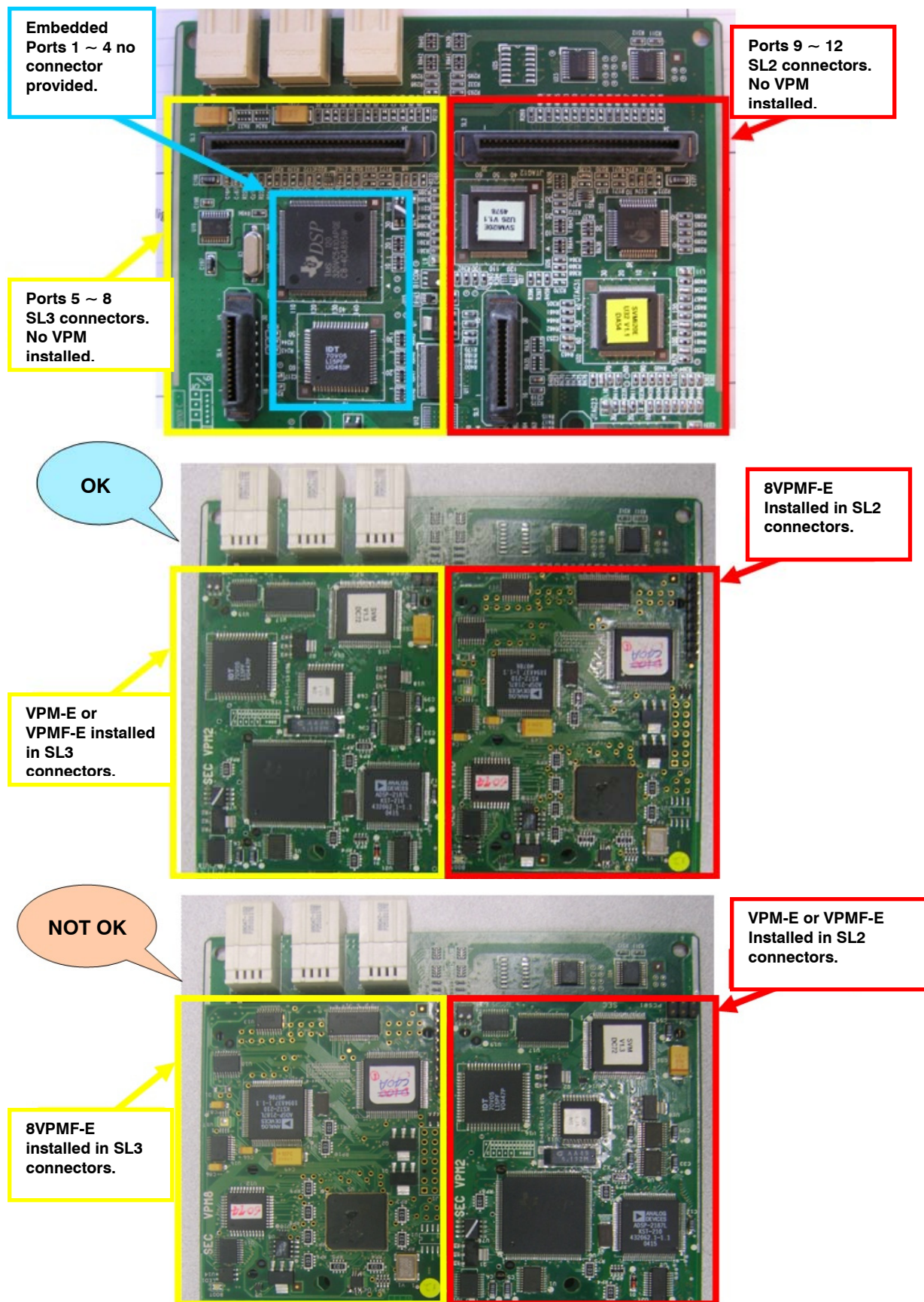
Figure 3.51 VPM-E, VPMF-E and 8VPMF-E Combinations

GENERAL

- **POWER REQUIREMENTS:** Because the SVMi-20E does NOT draw from the -48DC supply, it has a zero (0) SEPU rating in all possible configurations

- **OfficeServ 7400 HARDWARE COMPATIBILITY:** All versions of the OfficeServ 7400 are compatible with the SVMi-20E. With the introduction of the 8VPMF-E module the SVMi-20E can now be configured for up to 20 ports. When configured for 20 ports it must be installed in slots 3, 4, or 5 of the main cabinet.

- **OfficeServ 7400 SOFTWARE COMPATIBILITY:** SVMi software version 5.3.3.5 or higher and OfficeServ 7400 MP software version 4.30 or higher are required to support more than 12 ports on the SVMi-20E card.

INSPECTION

Unpack and inspect the unit for any obvious damage. This card should be labeled SVMi-20E. If it is not, you have the wrong card.
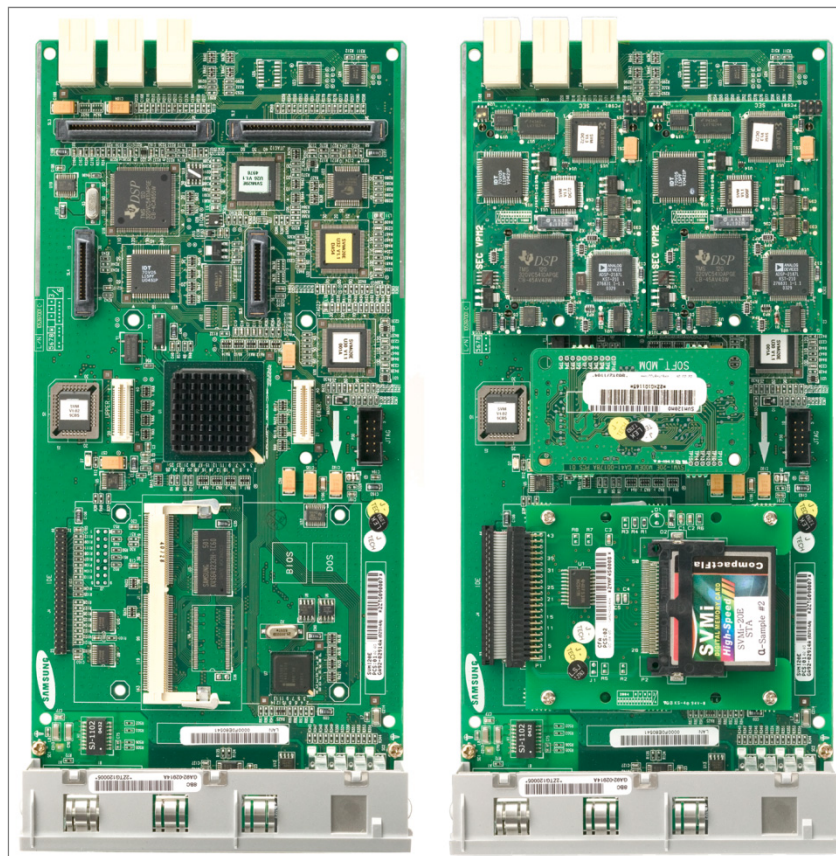
*Figure 3.52 SVMi-20E/HD with no optional boards installed (LEFT)
and SVMi-20E/CF with all components installed (RIGHT)*

INSERTING THE CARD

NOTE: Before powering off the KSU, it is recommended that you use MMC 740 and set MBX Download to 'No'.

The SVMi-20E card can be installed in any slot (1~5) of any cabinet. When configured for 20 ports, slots (3~5) of the main cabinet must be used. Check that the OfficeServ 7400 system's power switch is in the OFF position. Next, position the SVMi-20E card in the grooves of the card guide and gently slide the card in until it makes contact with the connector. Press gently but firmly on the left and right of the front edge of the card until the card seats in its connector. Press firmly on the Black Front Panel Lever until it snaps securely in place. The cabinet can now be turned on.

If the SVMi-20E card is being installed in an existing system, you will have to use MMC 806 to pre-install the card and MMC 724 to assign extension numbers to each SVMi-20E port. Use any available numbers.

After the SVMi-20E card is installed, either in a new or existing system, you will have to use MMC 601 and assign all the SVMi port numbers to the last available station group (Group Number 5049 by default).

POWER UP PROCEDURE FOR SVMi-20E

Follow the steps below to ensure that the SVMi-20E is properly setup.

POWER UP

1. Complete insertion of the SVMi-20E and all other required interface cards and turn the system power switch ON.
2. There are 8 LEDs on the front of SVMi-20E. We will watch three during power up: the PGD, HDD, and the SDN LEDs.

POWER UP LED CONFIRMATION

- The PGD LED will show steady green when the SVMi-20E is receiving power from the OfficeServ 7400 Back Plane connectors.
- The HDD LED will show hard drive access and will flicker whenever the HDD (hard drive) is being accessed.
- The SDN LED will start off Green as the SVMi-20E is booting up (it will also turn Green when the SVMi-20E is shut down properly). It will turn Orange after the Voice Drivers are loaded into memory and then turn RED when the application software is fully loaded. RED is warning letting you know the application is running and it is NOT safe to power down the OfficeServ 7400 system.

SETTING UP THE SVMI-20E WITH THE OFFICESERV 7400 PHONE SYSTEM

This section provides the additional steps required to set up the SVMi-20E card for operation in the OfficeServ 7400 system. Included here is information regarding the software set up for the phone system.

After inserting the SVMi-20E card and turning the power on there are some important system options that should be set in order for the SVMi-20E to function correctly. These steps are performed in the phone system program. It is necessary to perform these at this time so that the SVMi-20E will initialize properly and synchronize its mailbox database with that of the key system.

SYSTEM PROGRAMMING

Review and perform the following programming steps 1 through 7. It is necessary to perform these at this time so that the SVMi-20E will read these MMCs and initialize accordingly.

NOTE: Before moving forward if you want to change any of the SVMi-20E default Extension and Mailbox settings it is best to edit your Extension and Mailbox Templates now before initializing the SVMi-20E.

1. MMC 601: All SVMi-20E ports installed must be assigned to the last station group (by default the last group number is 5049). This should be identified as Bi-VMS group type by OSM or Installation Tool.

2. MMC 601: Select either SEQUENTIAL or DISTRIBUTED ring mode (Sequential is recommended).

3. MMC 207: Confirm that all SVMi-20E ports are set for VMAA use. This will be done automatically. You are just confirming at this point.

4. MMC 406: If you are using the SVMi-20E for Auto Attendant use MMC 406 to set the desired trunk(s) to ring station group 5049.

5. MMC 102: If you are using the SVMi-20E for Voice Mail make sure that all desired stations are forwarded to station group 5049 for the appropriate call forward conditions: No-Answer, Busy, and/or ALL.

6. MMC 740: Set "MBX Download" is to YES.

7. MMC 741: Select "NO" for each station that you DO NOT want to create a mailbox for.

INITIALIZING THE SVMi-20E

Perform a proper SVMi-20E system shut down. (Steps for performing a proper shut down are described in the section Correct System Shutdown.)

Once the SVMi-20E is down and at a C:> DOS prompt, press the RESET button this will reboot the SVMi-20E. During the reboot process the SVMi-20E will communicate through a series of IPC messages to the MCP/MP20 to read the MMC data and initialize the SVMi-20E accordingly.

NOTE: After the SVMi-20E restarts you should change the value of MMC 740 so that it indicates "MBX Download = No." This will prevent the system from creating new mail boxes and overwriting any future changes you make to the SVMi-20E database in regards to EXT and MBX Blocks.

TESTING THE HARDWARE

1. Call each SVMi-20E port individually and confirm that SVMi-20E answers.
2. Call the BI-VMS station group (generally 5049) and confirm that SVMi-20E answers.

If steps 1 and 2 above proved to be successful you have completed the installation and setup of the SVMi-20E hardware.

You are now ready to begin programming the SVMi-20E Voice Mail/Auto Attendant system parameters. See the SAMSUNG SVMi-20E Programming Manual.

NOTE: See MMC references in the SVMi-20E Programming Overview documentation for other MMCs that interact with the SVMi-20E.

CORRECT SYSTEM SHUTDOWN

Whenever possible one of the following procedures should be followed when shutting down the SVMi-20E system and/or prior to shutting down the telephone equipment.

PROCEDURE ONE

1. From any phone on the system log into KMMC Programming.
2. Using MMC 746 change the status of the SVMi-20E from "processing" to "Halt".
3. The SDN LED on the front of the SVMi-20E will change from RED to Green. Green means it is safe to power down the switch.[†]

PROCEDURE TWO

From the Main Status Screen (showing activity and port status):

1. Press 'Escape' and enter System Administration password (Default = 0000).
2. Select 'Operating Utilities' .
3. Select 'Exit the SVMi-20E''.
4. Enter System Administrator's password (Default = 0000).
5. The SDN LED on the front of the SVMi-20E will change from RED to Green. Green means it is safe to power down the switch. [†]

PROCEDURE THREE

1. From any phone on the system call one of the SVMi-20E ports or call the Bi-VMS station group (generally 5049).
2. If the SVMi-20E answers with "please enter your password" press [*] to escape to the main menu.
3. From the main menu press [#][0000].
4. You will be again prompted to enter a password, enter the System Administrator's password (Default = 0000).
5. You will be prompted with "System Administration Menu" and a list of functions that you can perform. It will not be spoken, but you can enter a hidden option [4] to shut down the system.
6. Again you will be asked to enter a password, enter the System Administrator's password (Default = 0000).
7. The system will now shutdown to a C:> DOS Prompt. The SDN LED will turn from RED to GREEN. Green means it is safe to power down the switch. [†]

[†] Also if you are logged in via an SIO Terminal, when the SVMi-20E terminal emulation screen shows a DOS command line this also means the SVMi-20E is no longer processing and it is safe to power off the system and unplug the SVMi-20E card.

3.3.22 CONFERENCE CARD (CNF24)

The CNF24 provides 24 ports of voice conference services per card and supports transceiver function of packet data converted from voice data through the data network. The users can be internal and external participants using SIP trunks, PRI trunks, and SPNet trunks.

A CNF24 card provides conference sizes from 2 to 24 users per card. The maximum recording capacity per card is 50 hours, and concurrent recording channel is restricted to 6 channels. The main function of this card is the Meet-Me-Services function where users will dial into a conference bridge number. Additional services support Ad hoc services.

CNF24 MAJOR FUNCTIONS

- Supports Meet-Me conferences in which participants make a phone call to the phone system to attend the conference.
- Supports Ad hoc conferences in which the host calls each member to invite him/her to participate in the conference.
- Permits a participant to enter the conference after notifying members in the conference.
- Provides the conference host additional functions during the conference by using a Conference webpage.
- Simple and easy conference set up.

CNF24 FRONT PANEL

The front view of the CNF24 card is shown in the picture below.

Figure 3.53 CNF24 LED Indications

Table 3.25 CNF24 Front Panel Components

Ports & LEDs	Function Description
LAN	Port that connects the Ethernet. Connector: RJ45 Cable: CAT 5 cable, UTP.
SIO	UART Port (For Testing Only). Serial Port.
RST	Button for resetting the CNF24.
RUN LED	This LED indicates CNF24 status. - Off: Power is not being supplied. - On: Booting. - Blink: The RAM program is operating.
SVC LED	This LED indicates if the CNF24 service is being offered. This LED turns on when the CNF24 software task can be serviced. - Blink Red: CNF24 service is not available. - Blink Green: CNF24 service is available.
LAN LED	This LED indicates the status of the Ethernet link. - Red: Linked as 10 BASE-T Ethernet mode. - Blink Red: Transmitting/receiving data as 10 BASE-T. - Green: Linked as 100 BASE-TX Ethernet mode. - Blink Green: Transmitting/receiving data as 100 BASE-T. - Orange: Linked as 1000 BASE-TX Ethernet mode. - Blink Orange: Transmitting/receiving data as 1000 BASE-TX. -Off: Link off.
MC LED	- Blink Green: Auxiliary memory (NAND) is accessed. - Off: No access.

Ports & LEDs	Function Description
CONF LED	This LED indicates the number of conference channels being used. - Green: 1~8 channels - Orange: 9 ~16 channels -Red: 17~24 channels -Off: No Conference
REC LED	This LED indicates the number of recording channels being used. - Green: 1~2 channels - Orange: 3 ~4 channels -Red: 5~6 channels -Off: No Recording
MEM LED	This LED indicates the capacity status of the recording storage. - Green: 0~49% of recording storage is used - Orange: 50~69% of recording storage is used -Red: 70~79% of recording storage is used -Blink Red: 80% of recording storage is used
BACKUP LED	This LED indicates the status of the backup operation. - Green Blink: Makes backup of the recorded data to the web page - Off: No operation -Red: 70~79% of recording storage is used -Blink Red: 80% of recording storage is used

SYSTEM CAPACITY

The CNF24 has 24 conference channels and a maximum of 4 cards can be installed on the OfficeServ 7400 system.

The number of conference groups will increase when additional CNF24 cards are installed. When recording and/or paging features are used the number of conference members allowed to attend the conference is decreased since the recording and paging features occupy one conference channel each. See table below for details.

Table 3.26 Maximum Conference Capacity

System	Max # of CNF24	Max # of Conference Members
OfficeServ 7400 (MP40)	4	24 members, 4 groups (Without recording or paging)

PORT ASSOCIATION

Table 3.27 CNF24 Port Association

Classified Port of CNF24	Default Port	The associated DB of DM for remote ports after setting NAT rule
RTP port	Start port :30000 (Available to change) (Even # up to 24 port : 30000-30046)	Start port : DM 2.2.16 Public RTP port 1 (Even # up to 24 port)
FTP port	21 (Fixed)	DM 2.2.16 FTP port
Upgrade port	60024 (Fixed)	DM 2.2.16 Upgrade port

SLOT INFORMATION

If the CNF24 card is installed on a slot that supports more than 24 channels, all 24 conference channels are used. If installed on a 16 channel slot, only 16 conference channels are supported.

Basic Cabinet		
LP40	24	24
MP40	24	24
24	24	24
24	24	24

Expansion Cabinet 1, 2		
LP40	24	24
24	24	24
24	24	24
24	24	24

Figure 3.54 CNF24 Slot Information

CNF24 SETUP

To setup the CNF24 card follow the steps below:

1. Install the CNF24 card on the system.
2. Connect network cable with CNF24. The CNF24 card can be installed normally without being connected with a networking cable but conference services will not be operational.
3. The RUN LED will blink when the CNF24 card is ready to provide conference service. User can check the CNF24 software version and CPLD/PCB version in Device Manager 2.2.0.
4. Enter the CNF24 IP address in Device Manager 2.2.16 or in MMC 871. The CNF24 card will restart automatically to apply the new network settings.

2.2.16.CNF24 Card	
Cabinet/Slot	C1-S4
IP Version	IPv4
IP Address	10.254.168.132
Gateway	10.254.168.1
Subnet Mask	255.255.255.0
IP Type	Private Only
Local RTP Port(start)	30000
Public IP Address 1	0.0.0.0
Public RTP Port 1	30000
Public IP Address 2	0.0.0.0
Public RTP Port 2	30000
Public IP Address 3	0.0.0.0
Public RTP Port 3	30000
FTP port	21

Figure 3.55 CNF24 Parameter Settings

5. Enter the Service License key in DM 2.1.4 or MMC 860 for the CNF24 channels to become available.

	License Key		NLWUHHCL-KHPIW3OO-OGYSLSM8-MJ6J70X5-86UAZ7RG-NN6YAYMY
	License Status		OK
	H.323	Allowed	24
	Soft Phone	Max Count	64
		Connected	0
	MOBEX Executive	Max Count	64
Service	IP Phone	Max Count	64
		Connected	0
	WiFi Phone	Max Count	64
		Connected	0
	SPNET Feature	Allowed	Enable
	Call Manager	Allowed	64
	Conference	Max Count	24

Figure 3.56 Input Service License Key

CNF24 LICENSE

A license per channel is required to use the conference service. The maximum number of channels allowed per OfficeServ 7400 system is 96 (4 CNF24 cards x 24 channels).

SW3 - SVC

LICENSE KEY	
NQUMWELH-PLJWZMLP-LUHCLIU9-H1A8FRMM-74DVPS3Y-7ZTCHYEQ	
BASIC INFORMATION	
Country	
Purpose	
Description	
User Name	
Tel	
MAC Address	
MAC Address Type	
Switch Type	
License Type	
CAPACITY	
H.323 Trunk Count	10
SoftPhone Count	10
IP Phone Count	10
Mobex Executive Count	10
WIFI Phone Count	10
Call Manager(OS COMM)	10
Conf Bridge Port Count	24
SPNet	Nonuse
Duplexing	Nonuse

Figure 3.57 CNF24 License

UPDATING CNF24 SETUP INFORMATION

Each CNF24 card has a unique MAC address, and the OfficeServ system uses the MAC address to manage the card information. If the card location is changed, the user is required to update the setup information as follows:

1. When the CNF24 card is installed in slot A no update is required.
2. When the CNF24 card is originally installed in slot A and then moved to slot B, the CNF24 information is automatically updated but user is required to delete slot A information in Device Manager 6.3.1.
3. When installed CNF24 card is pulled out and replaced with a new CNF24 card installed in the same slot, MAC address of the new card is updated automatically.
4. When existing CNF24 card installed in slot A is pulled out and it is replaced by a new CNF24 card installed in slot B, user is required to clear Slot A setup information in Device Manager 6.3.1 and assign new CNF24 IP address in Device Manager 2.2.16.

CNF24 CARD STATUS

The OfficeServ system provides conference services when the CNF24 card status is active.

In the following cases the card status will change to idle:

1. LAN connection between system and CNF24 card
   System checks the card status every 5 seconds and if the network cable of the CNF24 card is disconnected, system will restrict all conference services until LAN connection is recovered.
2. Card Parameter Setting
   When IP address is not assigned to CNF24 card, the system can't check card status. Every time a new CNF24 card is installed user must assign an IP address.
3. Service License Key
   License key is required to use conference service. Without a license key, a "NO CONFERENCE CHANNELS ARE AVAILABLE" message displays on the phone. Check service license key in case of system initialization or change country selection.

UPGRADING CNF24 CARD SOFTWARE

To upgrade CNF24 software follow the steps below:

1. Select the **[Util]** menu option.
2. Select **Package Update**. Conference Card Package Update window displays.
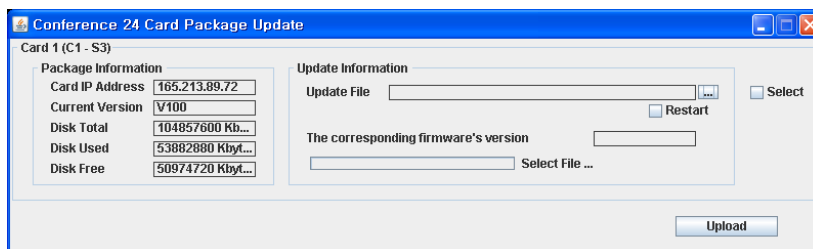

Figure 3.58 CNF24 Package Update

3. Click on [**...**] to select file to update. When file is selected the "Corresponding Firmware Version" will display.
4. Click on **Select** checkbox.
5. Click on the **Upload** button to start the upload process. The progress bar displays the current state.
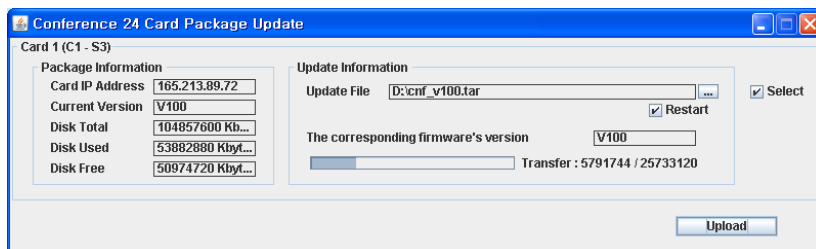
Figure 3.59 CNF24 Progress Bar

3.4 CONNECTING POWER FAIL TRANSFER

The OfficeServ 7400 offers a Power Fail Transfer feature for analog single line telephones that are connected to port 1 on the 8SLI/8SLI2, 16SLI2, or 16MWSLI cards.

In case the OfficeServ 7400 loses power from its AC source, and no battery backup is available, this feature is automatically activated. The analog telephone connected to port 1 of the SLI will get C.O. dial tone (direct C.O. line access) activated by an internal relay. For this feature to work, the SLI ports must be wired as shown in Figure 3.51 Pin 4 (TIP) and Pin 5 (RING) from a port on the 8TRK/8TRK2 card must be connected to Pin 1 (TIP) and Pin 2 (RING) on port 1 of an SLI card.
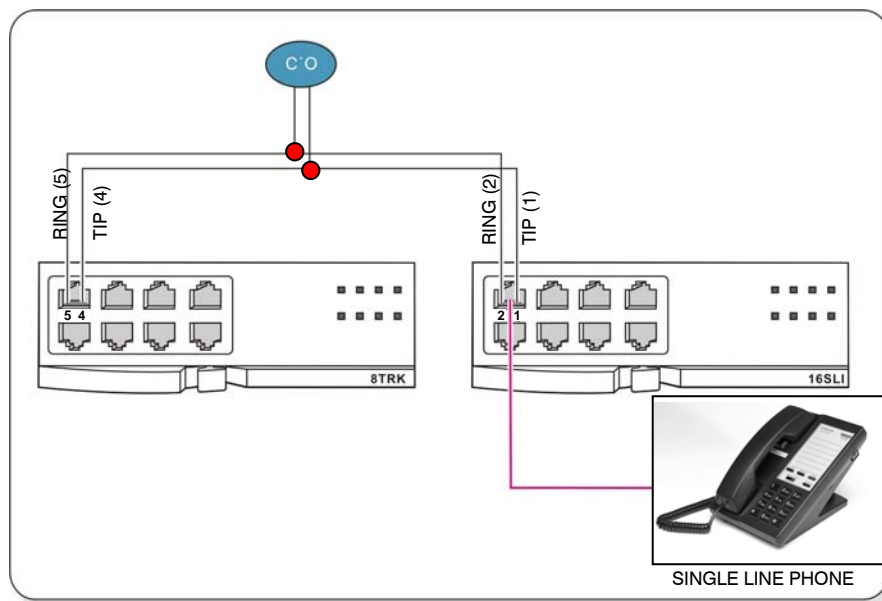

Figure 3.60 Power Fail Transfer Connection to 16MWSLI/16SLI2/8SLI/8SLI2

PART 4. CONNECTING EXTERNAL BATTERIES

This section describes how to connect external batteries to the OfficeServ 7400 system.

4.1 CONNECTING EXTERNAL BATTERIES

CAUTIONS FOR CONNECTING EXTERNAL BATTERIES

External batteries are required to maintain stable operation of the OfficeServ 7400 system in case a power failure occurs. Rated capacity of an external battery is DC 48V and 45AH (amp hours) per cabinet. Batteries should be connected to each cabinet to guarantee back-up power. A fuse (125VAC, 5A) should be positioned between the output terminal of the battery and the cabinet.

⚠ CAUTION	**Cautions for connecting external batteries** Do not connect external AC power to the system before completing the connection between batteries and the system. If so, it may cause electric shock Check the specified polarity (+ or -) to connect external batteries.

⚠ CAUTION	To reduce risk of fire and injury to persons, use only a sealed nickel cadmium or lead-acid battery supply capable of handling a charge current of 0.45A, a charge voltage of -56VDC and a discharge rate of 45AH.

The power supply provides -56VDC at 0.4A charging current (i.e. when AC power is present) which allows for float charging from OfficeServ 7400 to emergency backup batteries. The OfficeServ 7400 can also run without AC power on a -48VDC battery system or rectifier. There should be no more than a 0.5VDC drop in voltage from the OfficeServ 7400 and the batteries. Ensure polarity prior to connecting the external -48VDC power source to the system.

The OfficeServ 7400 power supplies contain a monitoring circuit to switch the system to customer provided 48VDC batteries when AC power in interrupted. Calls in progress are not disconnected. The power supply circuitry monitors and recharges batteries as needed.

Connect four 12V batteries or eight 6V batteries in series. Any NICAD or lead acid (car or motorcycle type) battery can be used if its rating is not less than 6AH but no more than 40AH per power supply. The batteries must be located within three feet of the KSU. Use the factory-supplied wire harness with 36" white and black leads to connect batteries (see Figures 4.1 and 4.2).

Observe the following precautions when installing batteries:

- Make sure the batteries you install conform to local building, fire and safety codes. Some battery types emit hydrogen gas during the charging state and may require venting to fresh air.
- Do not place batteries directly on a concrete floor. This causes them to discharge very quickly.
- Follow the battery manufacturer's recommended installation and maintenance procedures.

PROCEDURE FOR CONNECTING EXTERNAL BATTERY

The procedure for using a battery cable to connect an external battery to the OfficeServ 7400 system is as follows:

1) Prepare the battery cable that was provided with the OfficeServ 7400 system. The battery cable consists of a red line and a blue line, and at the end of each line, GND (red line), -48VDC (blue line) are labeled. The other part of battery cable has a connector for the battery socket of OfficeServ 7400 system.

2) Connect the red line (GND) of the battery cable to the (+) terminal, and the blue line (-48 VDC) to the (-) terminal of the battery. Then, connect the other end of the battery cable to the external battery socket on the rear panel of the OfficeServ 7400 cabinet.
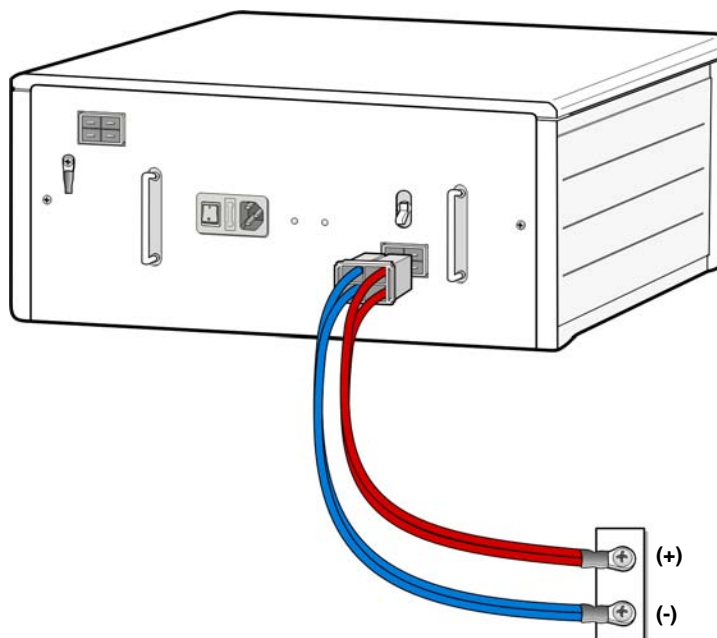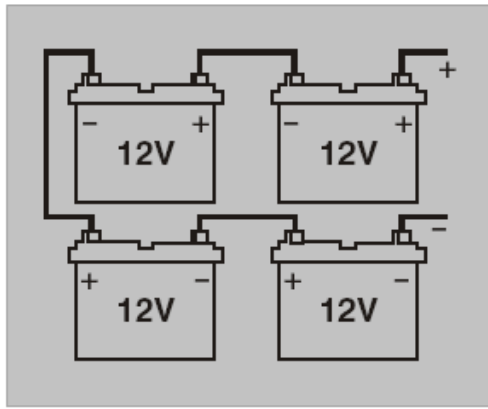

Figure 4.1 Connecting an External Battery (1)
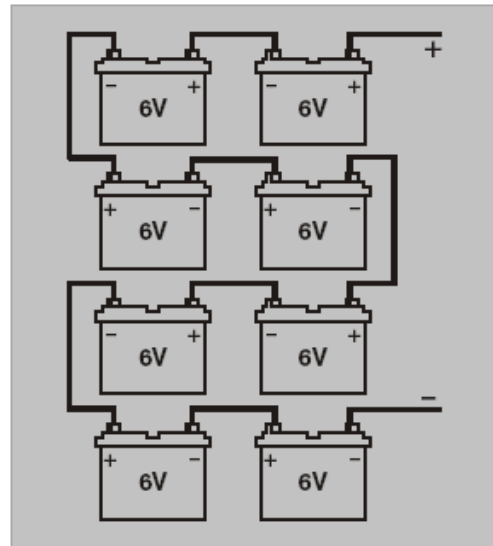
⚠ CAUTION	**Connect Battery only to the BATTERY Connector socket on the back panel of the OS7400.** DO **NOT** CONNECT BATTERY TO THE PoE INPUT CONNECTOR.

Figure 4.2 Connecting an External Battery (2)

PART 5. CONNECTING POWER

This section describes how to connect power to the OfficeServ 7400 system.
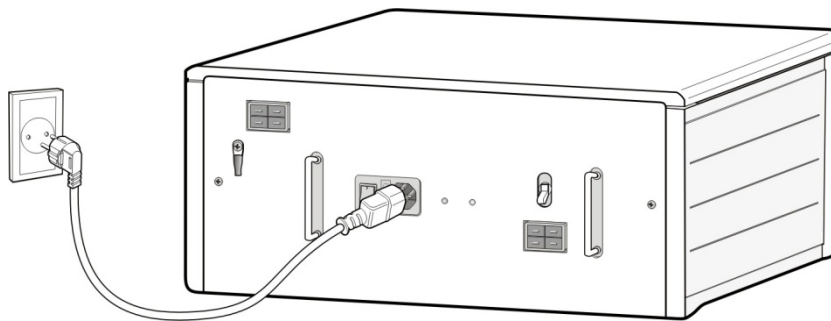
5.1 BEFORE CONNECTING POWER

When input power is normally supplied, the AC power is supplied to the Power Supply Unit (PSU), which charges the external battery. If the input power is interrupted, the system can be operated using the charged power of the external battery.

- Verify that the AC voltage at the dedicated electrical outlet is in the range of 88-132 VAC (USA ONLY).
- A single AC outlet should be used solely for the system's AC power. Sharing the AC power with other devices can cause noise or a voltage drop, resulting in a system malfunction or fire.
- Use a stable power source that can always supply AC power since instantaneous power failures can cause malfunctions or battery failures.
- System should be grounded as described in Part 1.2 and Part 2.5.

5.2 PROCEDURE FOR CONNECTING POWER

SINGLE CABINET CONFIGURATION

Use the AC power cable provided with the OfficeServ 7400 system to connect the input power terminal on the rear panel of the cabinet to a grounded outlet.

Figure 5.1 Connecting Power (for Single Cabinet)

MAIN AND EXPANSION CABINET CONFIGURATION

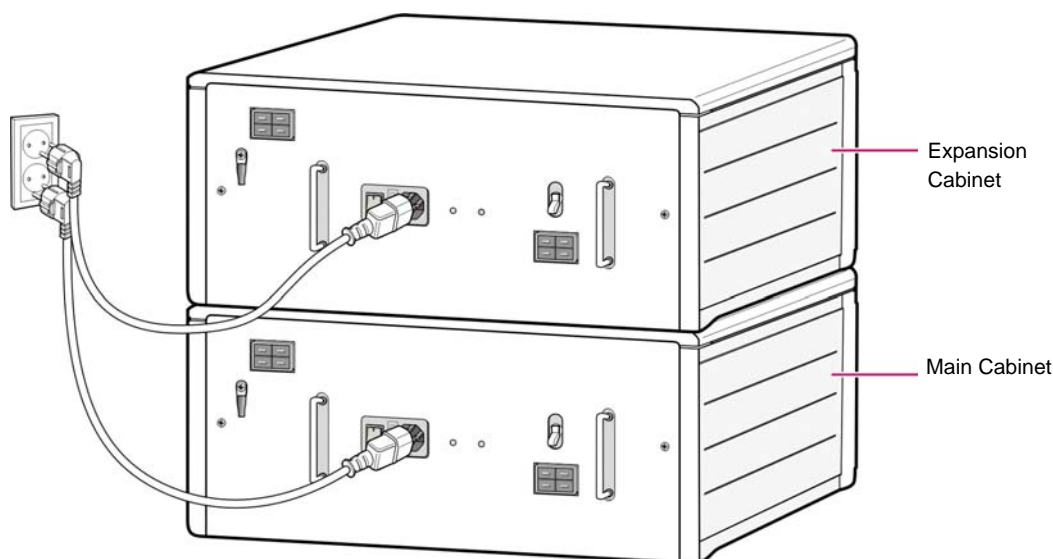1) Connect each input power cable of the cabinets to a grounded outlet.

Figure 5.2 Connecting Power (Multiple Cabinets)

5.3 CONNECTING THE OFFICESERV 7150 EXTERNAL PoE PSU SUPPLEMENTAL POWER SUPPLY

The OfficeServ 7150 PoE PSU provides additional power to your OfficeServ 7400 cabinets when the internal OfficeServ 7400 PSU limits have been exceeded by PoE devices connected to the PLIM or GPLIM modules. When installing a PLIM, GPLIM, GSIM or GWIM, you can select whether these modules use the internal OS7400 power supply or the OS7150 external PoE PSU by setting the internal jumpers accordingly.

The OS7150 is composed of a cabinet which can accomodate up to two POE-M Power supply modules. Each module provides -54V, 7.5A. Depending on your power requirements, you can add either one or two modules. A two-module system (7150 with 2 PoE-M PSU module) provides -54V, 15A.

The GPLIM and PLIM/PLIM2 module uses the -48V rail from the OfficeServ 7400 power supply to provide power to the connected devices over ethernet. The OfficeServ 7400 power supply provides up to 6600mA of output current.

PER EACH OS7400 CABINET (not per system), the SUM of all current drawn from 1) devices powered by PLIM cards, 2) digital key sets connected to DLI ports 3) analog devices connected to SLI ports 4) devices powered by the GPLIMs 5) the GWIM/GWIMT, GSIM/GSIMT and GPLIM/GPLIMT cards themselves cannot exceed 6600mA. The chart below provides current ratings for various devices connected to the system:

Table 5.1 Consumption Per Device

CARD Name	Device Type	Current Consumption for Each Device (mA)
16DLI2	2-Line LCD Keyset	25
16SLI2 16MWSLI	Analog Phone	25
	MW Phone	30
PLIM/PLIM2 or GPLIM *(current drawn from connected devices)*	ITP-5021D, ITP-5107S, ITP-5121D	100
	ITP-5112L	130
	SMT-R2000 Dual AP	200
	SMT-i3105	83
	SMT-i5210	127
	SMT-i5220, SMT-i5230	107
	SMT-i5243	156
	SMT-i5264	100
DATA *(current drawn from modules)*	GWIM/GWIMT	450
	GSIM/GSIMT	320
	GPLIM/GPLIMT	35

IF ADDING GPLIM/GPLIMT/PLIM/PLIM2 CONNECTED DEVICES, GWIM/GWIMT OR GSIM/GSIMT MODULES CAUSE CURRENT DRAWN TO EXCEED 6600mA <u>PER CABINET (not per system)</u>, THEN YOU MUST CONNECT THE OS7150 EXTERNAL PoE POWER SUPPLY MODULE TO THE CABINET.

It is important to note that the OS7150 can only provide additional power to the PLIM, PLIM2, GPLIM/GPLIMT, GWIM/GWIMT and GSIM/GSIMT. The OS7150 is used when the GSIM/GSIMT, GWIM/GWIMT or PoE devices connected to GPLIM/PLIM causes the total current draw per cabinet to exceed 6600mA. It does **<u>not</u>** provide power to DLI ports, MWSLI ports and other system interface cards.

The internal jumpers must be set correctly for the four modules mentioned above to use the external OS7150 PoE power supply.

PRODUCT SAFETY

⚠️ CAUTION	**Electric Shock** Make sure to turn this product OFF when handling this product. Handling this product with AC power ON may cause electric shock.

Grounding Requirements
- Follow all grounding conditions listed in Section 1.2.
- The grounding wire of OfficeServ 7150 PoE PSU should not be connected to the conduit of the power cables in the building.
- Power and grounding cables should meet the national standard. Installation of them shall be based on the national standard.
- Grounding should be made to an outside port to protect human body as well as OfficeServ 7150 PoE PSU from lightning, static electricity and instantaneous over voltage.
- The system should be connected to a properly grounded electric outlet.
- The GND ground on the rear panel of OfficeServ 7150 PoE PSU should be properly connected.

Use caution when connecting External Battery DC Output Connection
Do not drive another device with the DC output of the external battery of the OfficeServ 7150.

When inserting and removing the PSU modules from the cabinet, all power should be turned OFF.

Connecting Grounding Wire
Unplug AC power cable before grounding wire is connected.

Use of Double-Pole Neutral Fusing
It is dangerous to carry out repair work with single fuse removed from the double pole neutral wire.

Do Not Wear Metallic Accessories
To prevent electrical shock, do not wear metallic accessories while handling the product.

FOLLOW ALL SAFETY AND GROUNDING GUIDELINES SPECIFIED IN SECTIONS 1.1.1 and 1.2.

OFFICESERV 7150 FRONT VIEW

Front view of the OfficeServ 7150 cabinet is as shown in the following illustration. The cabinet consists of two slots and one distributor. A PoE-M PSU module is inserted to each slot.

Each PoE-M module contains an AC power switch and a module LED. The distributor consists of an external battery power switch and a modular alarm jack.
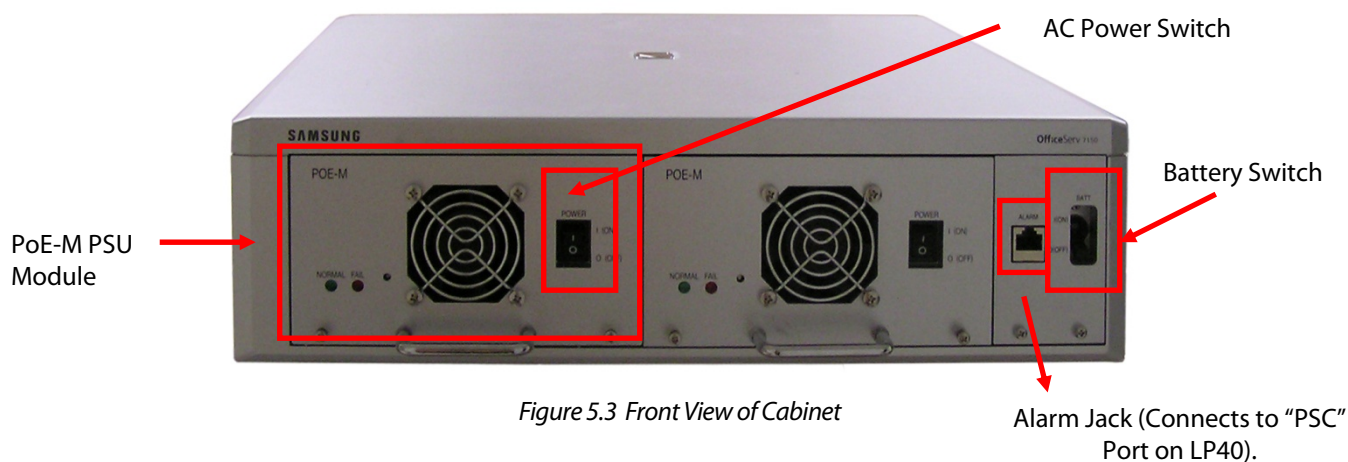

AC Power Switch

Battery Switch

PoE-M PSU Module

Figure 5.3 Front View of Cabinet

Alarm Jack (Connects to "PSC" Port on LP40).

OFFICESERV 7150 REAR VIEW

Rear view of the cabinet contains an external battery connection port, a power connector, a DC output connection port and a grounding port.
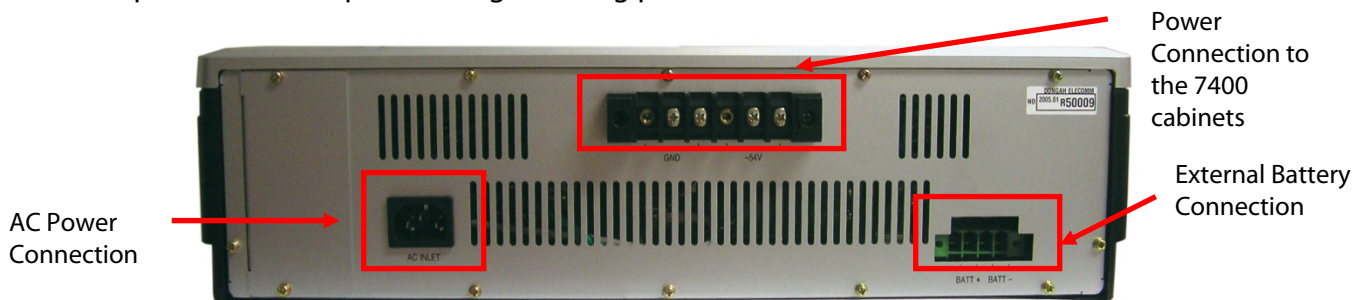

Power Connection to the 7400 cabinets

External Battery Connection

AC Power Connection

Figure 5.4 Rear View of Cabinet

PARTS

The OfficeServ 7150 cabinet comes with the following parts:

- PoE cable 1 ea
- Battery cable 1 ea
- AC power cable (110V Type) 1 ea
- Alarm cable 1 ea
- 19" rack mount kit 1 set

The PoE-M PSU modules are sold separately. Extra PoE cables can be purchased if needed.

OFFICESERV 7150 INSTALLATION

	Electric Shock
⚠️ CAUTION	Make sure to turn this product OFF when servicing. Handling this product with AC power ON may cause electric shock.

	Safety Conditions
⚠️ WARNING	• Follow all site requirements listed in Section 1.1.1. • Before installing OfficeServ 7150 PoE, check electric cable connection, grounding, voltage and frequency status. • The building where OfficeServ 7150 PoE is installed should be protected properly against lightning and electric leakage using arresters or grounding. • OfficeServ 7150 PoE must be mounted on a leveled surface or rack. • Keep the OS7150 away from static electricity. • Input power of OfficeServ 7150 PoE should be AC 88~264V. Do not use the system with motors or compressors.

	Temperature/Humidity Conditions
⚠️ CAUTION	Following environmental conditions should be maintained: • Operating Temperature : 32º~113ºF • Storage Temperature : 14º~ 122ºF • Humidity : 10~90% The system should be installed at a cool, dust-free place without direct sunlight and proper air ventilation.

GROUNDING CONDITIONS

Observe the following requirements when OfficeServ 7150 PoE is grounded.

- The grounding wire of OfficeServ 7150 PoE shall be connected to the ground through a qualified grounding media.
- Conductivity between the leaked metallic surface of OfficeServ 7150 PoE and the grounding wire of the power plug shall be normal.
- When all the grounding wires from all external auxiliary devices are connected to the system ground point, the connection shall be made through a single contact.

POWER CONDITIONS

OfficeServ 7150 PoE Power Supplies operate with AC input voltage or battery power. The power supply system feeds DC 54V to 7400 system.

Power supply conditions:

- AC88-264V~;15A;50/60Hz or DC48V ⎓ 30A
- AC88-264V~;12A;50/60Hz or DC48V ⎓ 30A

When connecting a power source to OfficeServ 7150 PoE, observe the following requirements:

The system should be connected to an AC outlet exclusively. If the AC source is shared with other devices, noise or voltage drop may cause system malfunction or fire.

Instantaneous power failure may cause system malfunction or battery failure. Therefore, stable AC power should be supplied.

INSTALLATION PROCEDURE

This section describes how to install OfficeServ 7150 PoE on the floor or inside a rack.

> **Select an Installation Method**
> OfficeServ 7150 may be installed either on the floor or inside a 19 inch rack.

1) Ground the system to the grounding lug at the rear side of 7150. (See Figure 5.10)

2) Remove the blanking plate from the slot where the PoE-M PSU module is to be inserted.

> Do not remove a blanking plate from unused slots.

3) Insert the PoE-M module into the slot.

4) Connect an external battery with proper capacity if required.

5) Connect AC input voltage.

INSTALLATION IN A RACK

- Install in a standard 19"data rack.
- If an enclosed rack is used, check if proper ventilation system has been installed in the rack.
- If an open rack is used, do not to block the front of the OfficeServ 7150 fan.

Tools Required

- One medium size Phillips screw driver
- One cross bar bracket and three screws
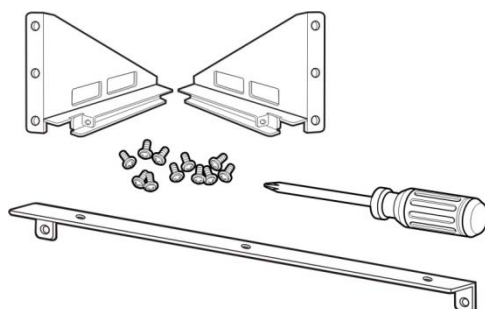- Two rack mount brackets and six screws
- Two fixing screws

Figure 5.5 Tools Needed for Installation in a Rack

1) Attach the cross bar bracket to the bottom of OfficeServ 7150 PoE, and tighten with three screws.
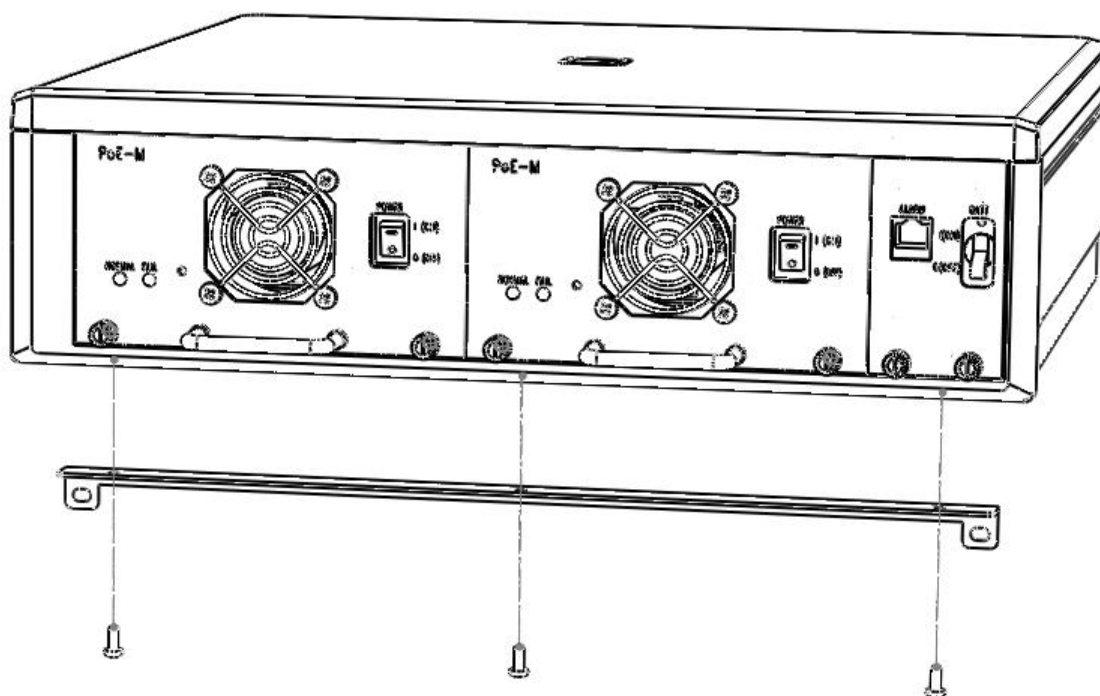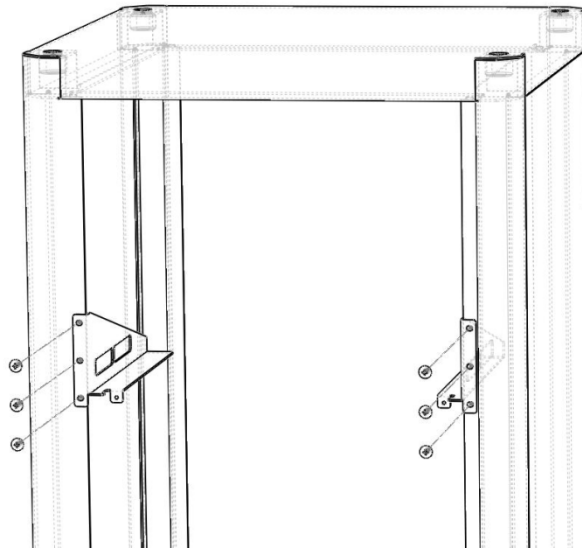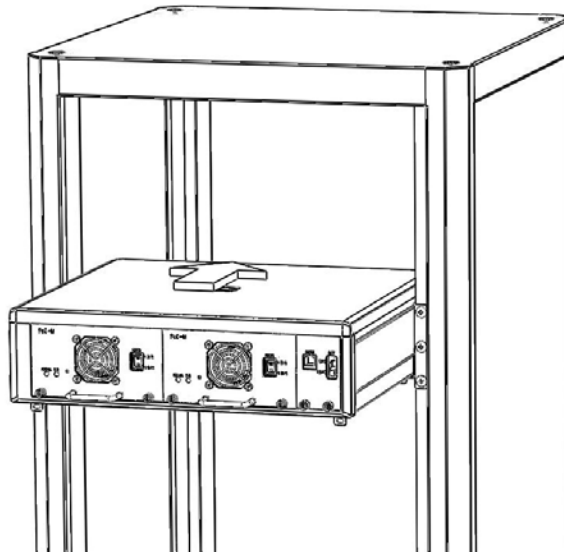

Figure 5.6 Installation in a Rack (1)

2) Attach the rack mount brackets to both sides of the rack, and tighten with six screws.

Figure 5.7 Installation in a Rack (2)

3) Guide the OS7150 unit through the guide rails formed by the rack mount brackets.

Figure 5.8 Installation in a Rack (3)

4) Match the cross bar bracket attached to the 7150 to the two holes in the bracket inside the rack properly and then tighten with screws.
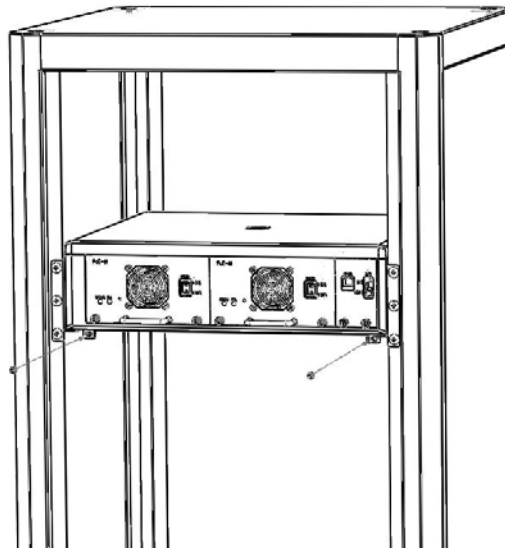

Figure 5.9 Installation in a Rack (4)

INSTALLATION ON THE FLOOR

> ⚠ **CAUTION**
>
> Observe the following requirements to install OfficeServ 7150 on the floor.
>
> - Install the system at a place with good air ventilation and no humidity.
> - Do not block the front fan of the OfficeServ 7150.
> - Do not block the rear air ventilation of the OfficeServ 7150.

GROUND WIRE CONNECTION

This section describes how to connect external grounding wire to the OfficeServ 7150.

> ⚠ **WARNING**
>
> **Follow the grounding conditions and guidelines in Section 1.2 for grounding the OfficeServ 7150.**

As shown in the following illustration, connect the grounding wire to the grounding lug at the rear of the OfficeServ 7150 cabinet.
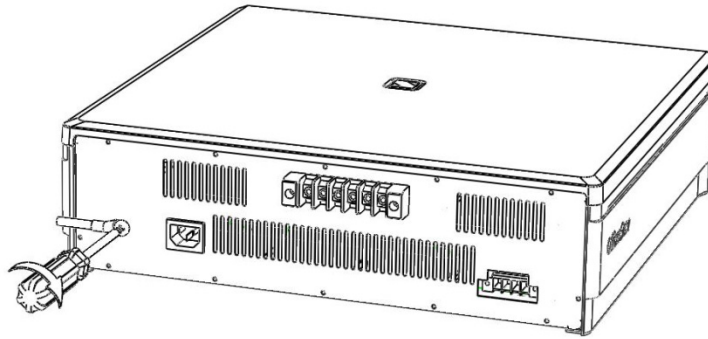
Figure 5.10 Grounding

CONNECTING POWER

Connecting an External Battery

⚠️ CAUTION	A battery can be connected to the 7150 so in case of a power failure, the unit will continue normal operation attaining power from the battery. Battery capacity should be DC48V, 45AH or lower. Before connecting the battery to the 7150, turn OFF power to the system.

Observe the following safety requirements when connecting an external battery to the system:

⚠️ CAUTION	• Disconnect and turn off all power to the 7150 before connecting the battery. • Disconnect any connections to an OfficeServ 7400 system. • Pay attention to polarity (+,-) orientation of the battery when connecting to the system.

1) A battery cable comes with the OfficeServ 7150 cabinet. One end of the battery cable is a green keyed plastic connector. The other end is made up of a red wire and a blue wire.
2) Connect the green keyed connector into the battery connection port of the OfficeServ 7150. The connector is keyed so you can only insert it in one way. Press it in until it is pushed in all the way (See Figure 5.11). At the other end of the battery cable, connect the red wire to the (+) Positive terminal lug of your battery, and connect the blue wire to the (-) negative terminal lug of your battery.
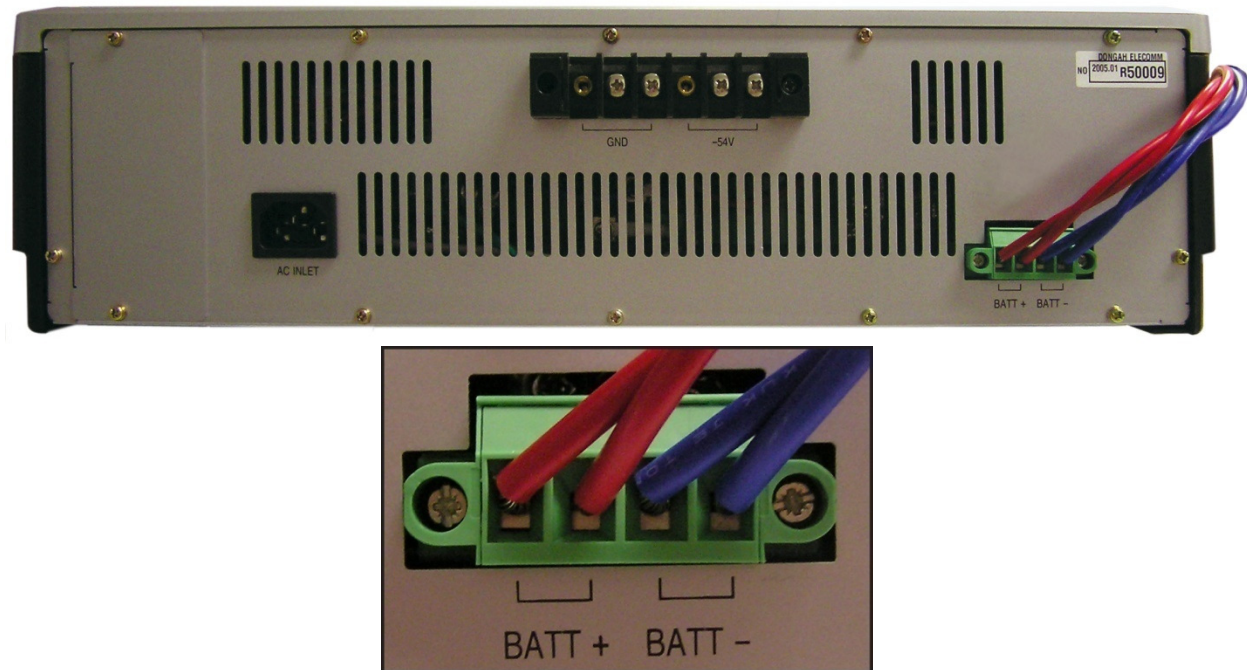
Figure 5.11 Connecting an External Battery

⚠ CAUTION	**Safety Tips in Connecting External Battery Cable** As OfficeServ 7150 is a high output power supply system, maximum of DC48V 30A may be flown from the battery. Do not use cables than the one that comes with this product.

Connecting AC Power Source

⚠ CAUTION	While input power is normal, AC voltage is fed to the power supply system while charging an external battery. If input power failure occurs, the power from the battery will maintain normal operation of the 7150 PSU.

⚠ CAUTION	Observe the following safety tips when a power source is connected to the OfficeServ 7150. • As the system supports both AC 110 and 220V, do not change the factory settings set for your country. • This system shall use an AC outlet exclusively. Do NOT share the AC outlet with other electric devices. Doing so may cause system malfunction or fire caused by electrical noise or voltage drop.

• Instantaneous power failure may cause system malfunction or battery failure. Therefore use a stable supply of AC power.

- Using the power cable that comes with the OfficeServ 7150 system, connect the power input port at the rear of the cabinet to a grounded electric outlet.
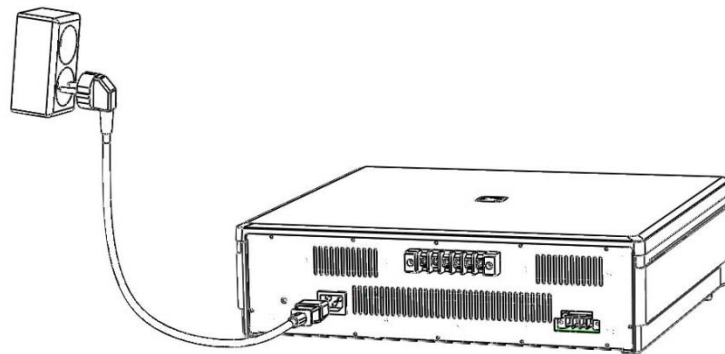

Figure 5.12 Power Connection

CONNECTING THE OFFICESERV 7150 TO THE OFFICESERV 7400 (See Figure 5.14)

1) Make sure all AC power and battery connections to the OfficeServ 7150 and OfficeServ 7400 are disconnected before proceeding.
2) Connect the plastic connector end of the PoE cable into the back of the OfficeServ 7400 connector labeled "PoE Input".
3) The other ends of the PoE cable will have a red wire and a blue wire. Connect the red wire to the first GND lug from the left on the back of the OfficeServ 7150. Connect the blue wire to the first -54V lug from the left on the back of the OfficeServ 7150.
4) If connection to a second OfficeServ 7400 cabinet is required, then repeat the steps above and connect the red wire to the 2nd GND lug from the left and the blue wire to the second +54V lug from the left.
5) Connect the alarm cable from the OfficeServ 7150 Alarm port (located in the front of the OfficeServ 7150) to the OS7400 LP40 "PSC" port.
6) Power on the 7400 cabinets.
7) Power the OfficeServ 7150 ON by turning on the power switches on each PoE-M PSU modules and if a battery is connected, turn on the BATT switch to the ON position on the front of the OfficeServ 7150.
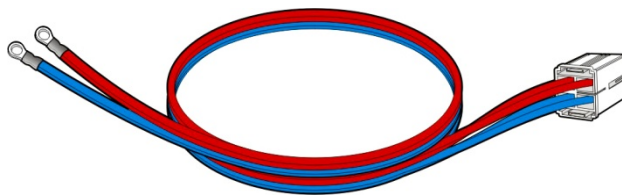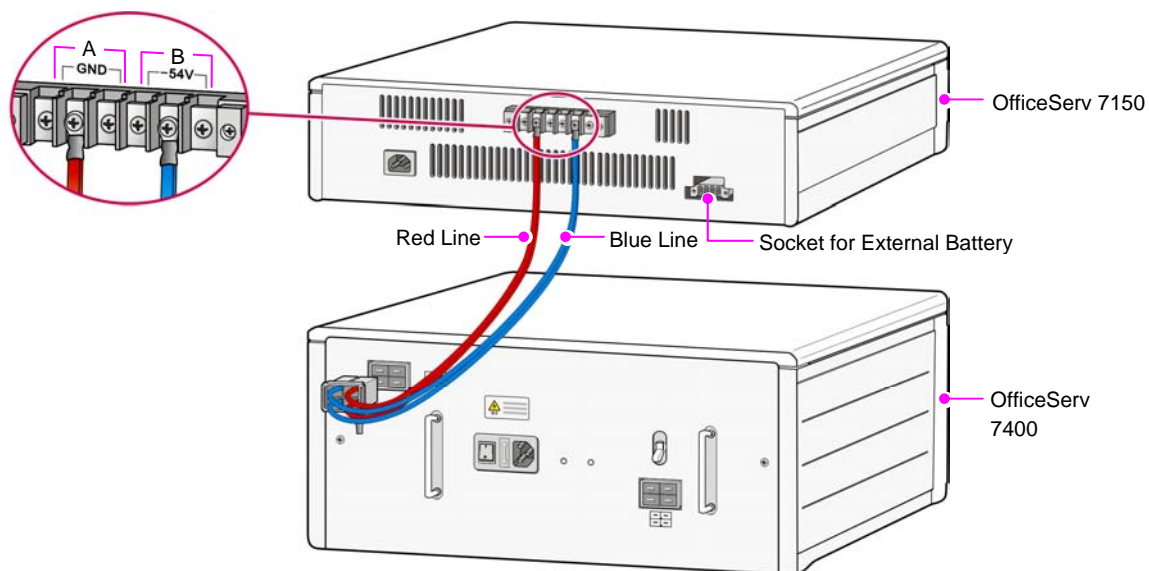
Figure 5.13 PoE Cable

Figure 5.14 Connecting OS7150 to OS7400

SPECIFICATIONS OF OFFICESERV 7150

Specifications of Cabinet

Table 5.2 Input Voltage and Frequency

Input Voltage & Frequency	
Rated AC Input Voltage	Single phase AC 110/220VAC
Range of Allowable AC Input Voltage	88VAC~264VAC
Rated AC Input Frequency	50/60Hz
Range of Allowable AC Input Frequency	47Hz~63Hz

Rated Output

Table 5.3 Rated Output in the Case of Operation with AC

Rated Output in the Case of Operation with AC	
1 Module	DC -54V, 7.5A
2 Module	DC -54V, 15.0A
Battery	DC 54V, 0.45A

Table 5.4 Rated Output in the Case of Operation with DC

Rated Output in the Case of Operation with DC	
1 Module	Battery By-pass (DC 48V,48AH or lower), 7.5A
2 Module	Battery By-pass (DC 48V,48AH or lower), 15.0A

Integration of Modules

Modules may share load among them. Module swapping is also possible.

PART 6. CONNECTING C.O. LINES

This section describes how to connect C.O. lines to the OfficeServ 7400 system after installation.

6.1 SAFETY PRECAUTIONS

To reduce the risk of personal injury, follow these precautions before connecting TELCO circuits:

- Wires with AWG #24 or AWG #26 width should be used as subscriber lines.
- Never touch non-insulated telephone wires or terminals unless the telephone line has been disconnected at the Network Interface.
- When wiring cables in high-humidity areas, remove moisture before wiring.
- Never install telephone jackets in a wet location unless the jack is specifically designed for wet locations.
- Wires should be handled carefully to prevent any changes or damages.
- Subscriber lines should be kept indoors if possible.
- High voltage power lines should not be wired near a subscriber line.
- Never install telephone wiring during a lightning storm.

Leak resistance for C.O. lines connected to the OfficeServ 7400 system is as follows:

Table 6.1 OfficeServ 7400 Line Conditions

Line Condition	Leak Resistance
Leak Resistance Between Lines	20 kΩ or higher
Leak Resistance Between Grounds	20 kΩ or higher

6.2 CONNECTING C.O. LINES

6.2.1 Connecting Analog Loop Start Lines

Use a twisted pair (AWG #24 (or AWG #26) wire or cord to connect an analog loop start C.O. line to pins 4 & 5 of the RJ45 jack on the 8TRK/8TRK2/16TRK or 4TRM installed in the OfficeServ 7400 system.
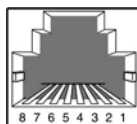
P1~P8 Port
(RJ-45)

Pin No.	1	2	3	4	5	6	7	8
Function	-	-	-	C.O. TIP	C.O. RING	-	-	-

Figure 6.1 Tip and Ring Connections to Analog Trunk Cards

6.2.2 Connecting T1/E1/PRI

TEPRI/TEPRIa/TEPRI2 boards can be connected to a T1/E1 C.O. circuit through a RJ-45 port. As show below, connect a T1/PRI circuit to the T1/E1/PRI port of the OfficeServ 7400 system. Though the TEPRI board supports E1, it is not used in the USA.

Using a standard, straight through eight conductor data cable or straight through eight conductor line cord to connect the customer provided Channel Service Unit (CSU) to the TEPRI/TEPRIa/TEPRI2 card as shown in

NOTES:
1. It may be necessary to cut off the CSU end of the cable and attach a different connector to match that of the CSU. If possible, this connection should be soldered because good connections are critical.
2. It is recommended that the CSU be connected to the network interface with a cable supplied by the CSU manufacturer. If this is not possible or practical, a custom cable has to be made up. This cable should be made from 22 gauge two pair cable with each pair individually shielded. It is recommended that the connections on this cable be soldered wherever possible to ensure good connections. The shielding of the cable should be connected to ground at the CSU end only to prevent a ground loop.

ORDERING A T1

The following information may be useful when ordering T1 service from the telephone company.

PARAMETERS supported on OfficeServ all TEPRI cards

FRAMING	T1 Circuit	PRI Circuit
Super Frame (D4 56K Frame)	Yes	Not Supported
Extended Super Frame (ESF 64K Frame)	Yes	Yes
CODING	**T1 Circuit**	**PRI Circuit**
AMI - 56K Coding	Yes	Not Supported
B8ZS - ESF 64k Coding	Yes	Yes
NFAS (Non Facility Associated Signaling)	Not Supported	Not Supported

Use MMC 808 to set the parameters to match the Telco T1 span.
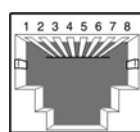
T1/PRI Port
(RJ-45)

T1/E1/PRI Port

Pin No.	1	2	3	4	5	6	7	8
T1/PRI Function	Rx+	Rx-	-	Tx+	Tx-	-	-	-
E1 Function	NOT SUPPORTED IN USA							

Figure 6.2 RJ-45 Port of TEPRI/TEPRIA/TEPRI2

6.2.3 Connecting a SIP Trunk

There is no physical SIP trunk card required to use the SIP trunking service. However, in order to use the SIP trunking service, the OfficeServ system must be IP-enabled. That means that the OfficeServ system must have an MGI card with the latest MP software and have high speed Internet connection.

Please refer to the "OfficeServ Series SIP Trunking Quick Reference Document" for configuration.

PART 7. CONNECTING STATIONS AND ADDITIONAL EQUIPMENT

This section describes how to connect various stations and additional equipment, such as analog/digital phones, door phones and door locks, to the OfficeServ 7400 system.

7.1 CONNECTING STATIONS

7.1.1 Safety Precautions

To reduce the risk of personal injury, follow these precautions before connecting telephone circuits:

- Never install telephone wiring during a lightning storm.
- Never install telephone jacks in a wet location unless the jack is specifically designed for wet locations.
- Do not connect stations in a humid area.
- Never touch non-insulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- Connect stations using #24 AWG or #26 AWG cables.

The maximum distance between stations and the OfficeServ 7400 are as follows:

Table 7.1 Distance Between Stations and the System

| Station	Distance
Digital phone	Maximum 400m/1312ft (for AWG #24)
Analog phone	Maximum 1km/3280ft (for AWG #24)
Door phone	Maximum 400m/1312ft (for AWG #24)
AOM (Add-On Module)	Maximum 400m/1312ft (for AWG #24)

NOTE: If you are connecting Samsung DCS keysets, the keyset version must be 1.2 or higher.

7.1.2 Connecting an Analog Phone

Connect an analog phone to the 8SLI/8SLI2, 16SLI2, 16MWSLI, 8COMBO/8COMBO2 board installed in the OfficeServ 7400 system.

CONNECTING TO THE 8SLI/8SLI2

Connect an analog phone to the 8SLI/8SLI2 board by using a twisted pair of AWG #24 or AWG #26 wire.
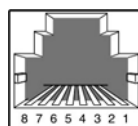
P1~P8 Port
(RJ-45)

P1 Port

Pin No.	1	2	3	4	5	6	7	8
Function	PFT TIP	PFT RING	-	SLI TIP	SLI RING	-	-	-

P2-P8 Port

Pin No.	1	2	3	4	5	6	7	8
Function	-	-	-	SLI TIP	SLI RING	-	-	-

Figure 7.1 RJ-45 Port of the 8SLI

CONNECTING TO THE 16SLI2/16MWSLI

Connect an analog phone to the 16SLI2/16MWSLI by using a twisted pair of AWG #24 or AWG #26 wires.
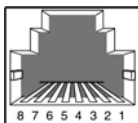
P1~P16
Port
(RJ-45)

P1 Port

Pin No.	1	2	3	4	5	6	7	8
Function	PFT TIP	PFT RING	-	SLI 1 TIP	SLI 1 RING	-	-	-

P2-P16 Port

Pin No.	1	2	3	4	5	6	7	8
Function	-	-	-	SLI 2 TIP	SLI 2 RING	-	-	-

Figure 7.2 RJ-45 Port of the 16SLI2

CONNECTING TO THE 8COMBO/8OMBO2

Connect an analog phone to the 8COMBO/8COMBO2 board by using a twisted pair of AWG #24
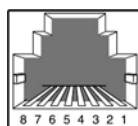
S1~S8
Port
(RJ-45)

or AWG #26 wires.

S1-S8 Port

Pin No.	1	2	3	4	5	6	7	8
Function	-	-	-	SLI TIP	SLI RING	-	-	-

Figure 7.3 RJ-45 Port of the 8COMBO/8COMBO2 (For Analog Phone)

7.1.3 Connecting a Digital Phone

Connect a digital phone to 8DLI, 16DLI2 or 8COMBO/8COMBO2 boards.

CONNECTING TO 8DLI

Connect a digital phone to the 8DLI board by using a twisted pair AWG #24 or AWG #26 wires.
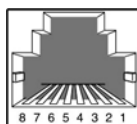
P1-P8 Port
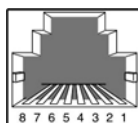
P1~P8 Port
(RJ-45)

Pin No.	1	2	3	4	5	6	7	8
Function	-	-	-	DLI TIP	DLI RING	-	-	-

Figure 7.4 RJ-45 Port of the 8DLI (For Digital Phone)

CONNECTING TO 16DLI2

Connect a digital phone to the 16DLI2 board by using a twisted pair of AWG #24 or AWG #26 wires.
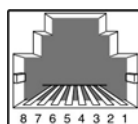
P1~P16
Port
(RJ-45)

P1-P16 Port

Pin No.	1	2	3	4	5	6	7	8
Function	-	-	-	DLI TIP	DLI RING	-	-	-

Figure 7.5 RJ-45 Port of the 16DLI2 (For Digital Phone)

CONNECTING TO 8COMBO/8COMBO2

Connect a digital phone to the 8COMBO/8COMBO2 board by using a twisted pair of AWG #24 or AWG #26 wires.

D1~D8
Port
(RJ-45)

D1-D8 Port

Pin No.	1	2	3	4	5	6	7	8
Function	-	-	-	DLI TIP	DLI RING	-	-	-

Figure 7.6 RJ-45 Port of the 8COMBO/8COMBO2 (For Digital Phone)

7.1.4 Connecting an IP Phone

Refer to the ITP-5121D Keyset User Guide, ITP-5112L Keyset User Guide, ITP-5107S Keyset User Guide, SMT-i3105 User Guide, SMT-i5210 User Guide, SMT-i5220 User Guide, SMT-i5230 User Guide, and SMT-i5243 User Guide for information on connecting IP keysets.

CAUTION: The input power of the SMT-i Series phones needs 5.0vDC and 3000mA. The SMT-i5210, SMT-i5220, SMT-i5230, and SMT-i5243 need to be powered by using Samsung's SMT-A53PW power adapter. The SMT-i3105 requires the SMT-A53PA power adapter. Failure to use the appropriate power supply will cause permanent damage to the phone and will void Samsung's warranty.

7.1.5 Connecting SIP Stations

There is no physical SIP station card required to use the SIP station service. In order to use a generic (non-Samsung) SIP device (phone, softphone, terminal adapter), the OfficeServ system must be IP-enabled. This means the OfficeServ system must have a SIP Stack License key, MGI channels virtual ports, MGI channels, with the latest software MP software, and have a high speed internet connection. Please refer to the "OfficeServ Series SIP Station Quick Reference Document" for more information about configuring the OfficeServ SIP Server.

7.1.6 Connecting Cards to LAN

GWIM/GWIMT/PLIM/PLIM2/GPLIM/GSIM/MGI/MGI-16/MGI-64/MP40/LP40/SVMi20E/TEPRI2/OAS boards can be connected to Ethernet by using an Ethernet cable.
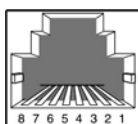
RJ-45 Port

Pin No.	1	2	3	4	5	6	7	8
Modules with standard 10/100 Base-T LAN connector	Tx+	Tx-	Rx+	-	-	Rx-	-	-
Function	Tx+	Tx-	Rx+	RTN	RTN	Rx-	-48V	-48V

Figure 7.7 LAN Connections

Refer to the GWIM/GWIMT, GSIM/GSIMT and GPLIM/GPLIMT/PLIM2 user manuals for details on connecting to the Gigabit interfaces on these modules.

7.1.7 Connecting a Wireless LAN Access Point

Refer to the SMT-R200 AP documentation for wireless LAN installation information.

7.1.8 Connecting a Door Phone and a Door Lock

Connect a door phone and a door lock to the OfficeServ 7400 system using a Door Phone Interface Module (DPIM).

1) Connect the Door Phone Interface Module (DPIM) line jack to any DLI port in the OfficeServ 7400 system using twisted pair (24AWG/26AWG). Use MMC 221 to assign a directory number to the doorphone. See Figure 7.8.
2) Connect the Door Phone to the DPIM-door box jack using 4 conductor twisted pair cable. See Figure 7.8 for power and voice pair pin assignments.
3) If required connect a custom provided door lock to the lock contact pair on the DPIM using twisted pair wire (24/26 AWG) as indicated in Figure 7.8.

The door lock contact pair is designed to control a low-voltage relay rated at 24VDC and 100mA. Do not attempt to connect commercial AC power to these contacts.

> **MMC**
>
> MMC 211 is used to assign call numbers to door phones. Use MMC 501 to program duration of contact closure. For detailed instruction on the MMC program, refer to OfficeServ 7400 Programming Section.
>
> NOTE

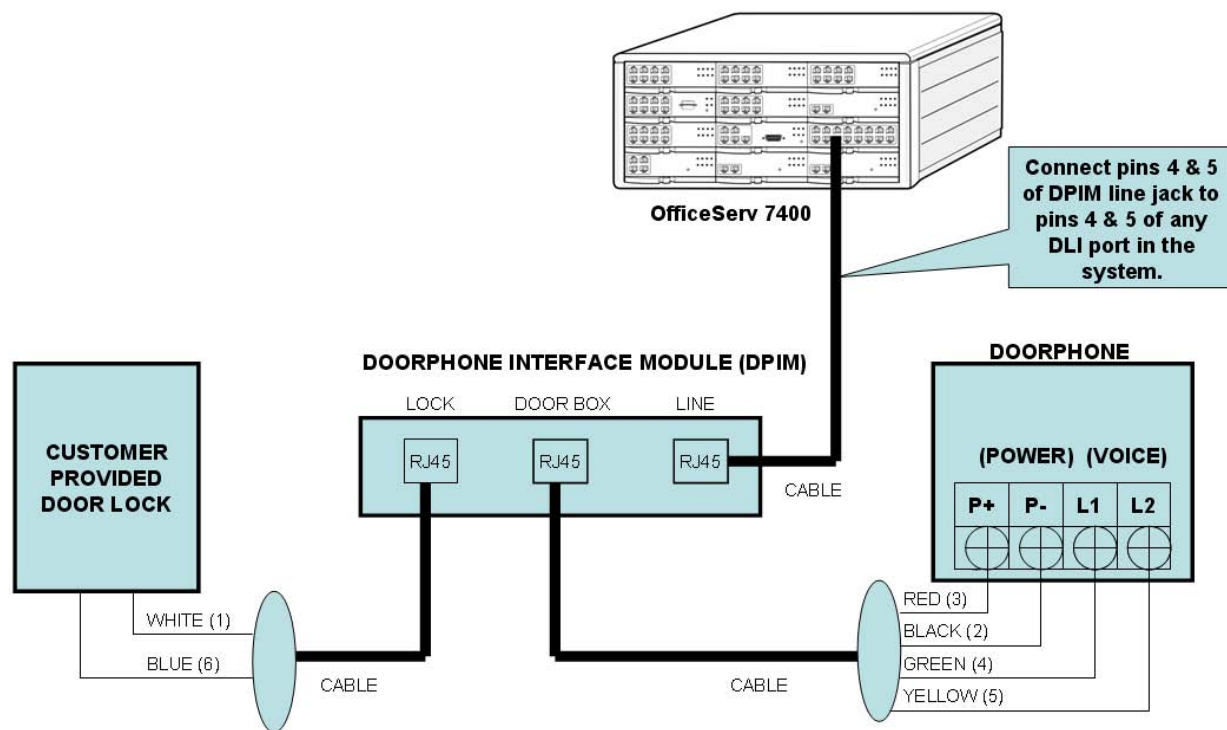**OfficeServ 7400**

Connect pins 4 & 5 of DPIM line jack to pins 4 & 5 of any DLI port in the system.

DOORPHONE INTERFACE MODULE (DPIM)

LOCK   DOOR BOX   LINE

RJ45   RJ45   RJ45

CABLE

CUSTOMER PROVIDED DOOR LOCK

DOORPHONE

(POWER) (VOICE)

P+	P-	L1	L2

WHITE (1)

BLUE (6)

CABLE

RED (3)
BLACK (2)
GREEN (4)
YELLOW (5)

CABLE

Figure 7.8 Connecting a Door Phone and a Door Lock

7.1.9 Connecting KDB-D/KDB-S

KDB-D and KDB-S are modules installed on a digital phone connected to the OfficeServ 7400 system. The KDB module enhances the functions of the phone and increases the number of local ports according to module types.

> **⚠ CAUTION**
>
> **Caution for connecting KDB module**
>
> KDB-D and KDB-S is only for a digital phone connected to the 8DLI board, not for a digital phone connected to a 16DLI2 board.

- Place the keyset face down on a flat surface.
- Remove the base pedestal by placing your thumbs over the attachment clips and press outward while simultaneously pressing down on the keyset body with your fingertips.
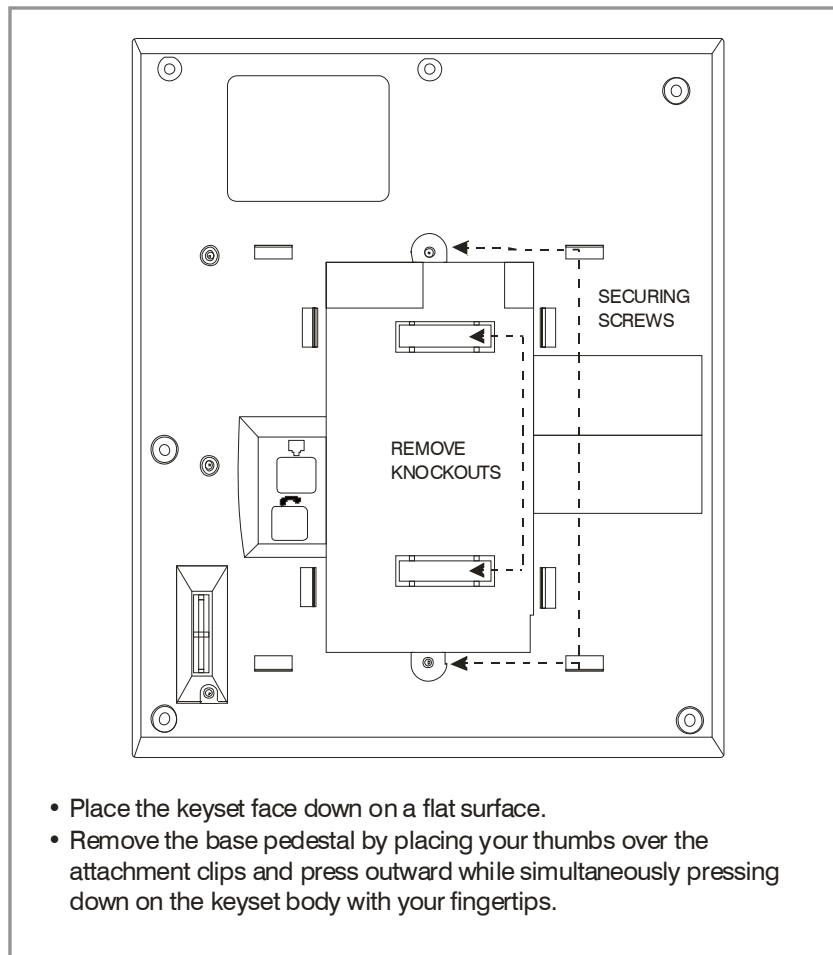
Figure 7.9 Adding an iDCS Keyset Daughterboard Module

iDCS KDB-DIGITAL LINE INTERFACE (FKDBD)

This is a daughterboard that can be installed only in the 18 or 28 button keyset. The FKDBD will provide one additional DLI circuit for the connection of any digital station device such as a keyset, add-on module or DPIM. This FKDBD will only operate when the keyset is connected to an 8 port DLI card so it can use the second B channel. Each port on this card is intended for

connection to one telephone. Connecting multiple telephones to a port may result in incorrect operation or damage to the card. See Figure 7.10.

iDCS KDB-SINGLE LINE INTERFACE (FKDBS)

This is a daughterboard that can be installed only in the 18 or 28 button keyset. The FKDBS will provide one additional SLI circuit for the connection of any standard telephone device. This FKDBS will only operate when the keyset is connected to an 8 port DLI card it can use the second B channel. Each port on this card is intended for connection to one telephone. Connecting multiple telephones to a port may result in incorrect operation or damage to the card. See Figure 7.9.

NOTE: The circuitry on a FKDBS does not provide a loop open disconnect signal nor have the over-voltage protection necessary for OPX operation.

iDCS KDB-FULL DUPLEX (FKDBF)

The standard speakerphone mode of operation for an iDCS keyset is "half duplex". This means that you cannot transmit and receive speech at the same time. Adding a FKDBF to your keyset will convert the speakerphone into full duplex mode enhancing its operation. In addition, the FKDBF may have up to 3 external microphones attached to it for conference room type applications. These microphones require an "EXTMIC" key programmed on the keyset to activate or deactivate them. See Figure 7.9.

DS KDB-FULL DUPLEX (KDBF)

This is a daughterboard that can only be installed in the 21D or 14D button keysets. The standard speakerphone mode of operation for a DS keyset is "half duplex". This means that you cannot transmit and receive speech at the same time. Adding a KDBF to your keyset will convert the speakerphone into full duplex mode enhancing its operation. In addition, the KDBF may have up to 3 external microphones attached to it for conference room type applications. These microphones require an "EXTMIC" key programmed on the keyset to activate or deactivate them. See Figure 7.10.

KDB-DLI

This daughterboard can be installed only in the DCS 12 or DCS 24 button keyset. Before performing this procedure, unplug the line cord from the keyset and remove the base wedge. Place the keyset face down on a soft surface and remove the four base retaining screws (see Figure 7.10). Separate the base from the keyset and place the keyset aside. Attach the KDB-DLI to the keyset base with the four screws that are supplied (see Figure 7.11). Take care to ensure that the modular socket shows through the access hole in the base (see Figure 7.12). Invert the base assembly over the keyset and plug the ribbon cable into the socket on the keyset PCB (see Figure 7.13) while making sure that no damage occurs to the keyset PCB. Reattach the base to the keyset and test to ensure normal keyset operation.
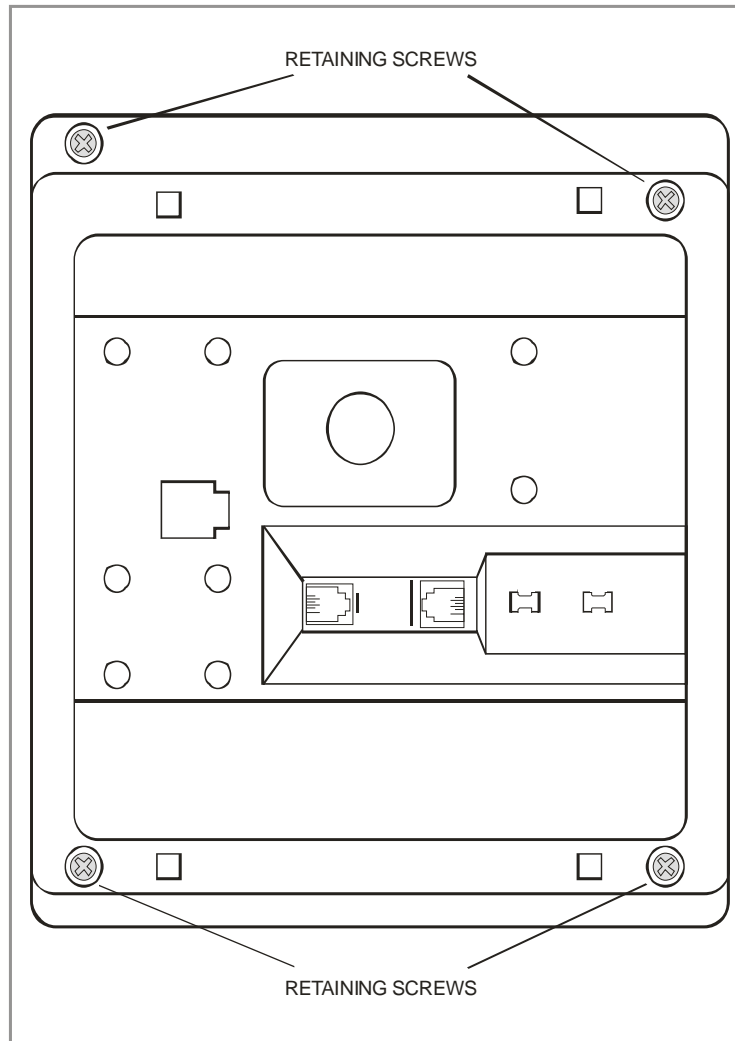
Figure 7.10 Keyset Base

KDB-SLI

This daughterboard can be installed only in the DCS 12 or DCS 24 button keyset. Before performing this procedure, unplug the line cord from the keyset and remove the base wedge. Place the keyset face down on a soft surface and remove the four base retaining screws (see Figure 7.10). Separate the base from the keyset and place the keyset aside. Attach the KDB-SLI to the keyset base with the six screws that are supplied (see Figure 7.14). Take care to ensure that the modular socket shows through the access hole in the base (see Figure 7.12). Invert the base assembly over the keyset and plug the ribbon cable into the socket on the keyset PCB (see Figure 7.13) while making sure no damage occurs to the keyset PCB. Reattach the base to the keyset and test to ensure normal keyset operation.
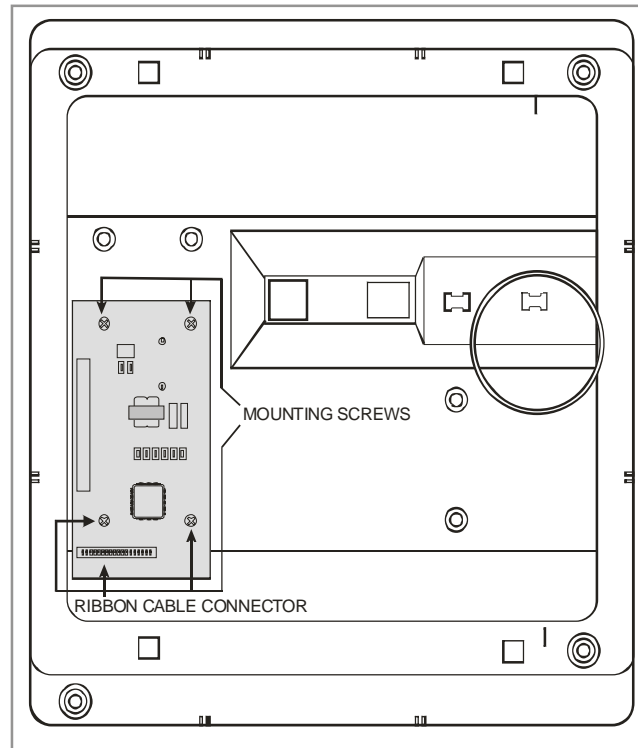
Figure 7.11 Installing KDB-DLI Daughterboard
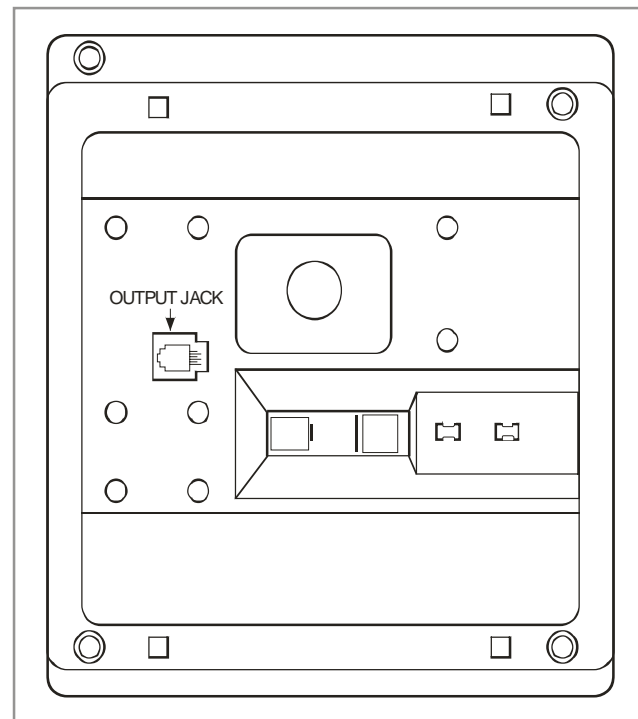
Figure 7.12 Keyset Daughterboard Output Jack

PLUG RIBBON CABLE FROM DAUGHTERBOARD
INTO RIBBON CABLE CONNECTOR P7
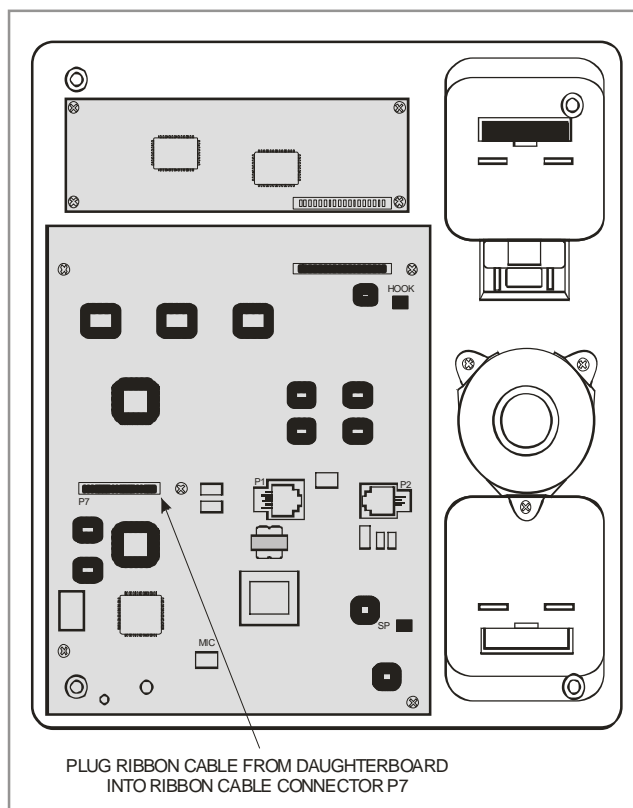
Figure 7.13 Connecting Keyset Daughterboard to Keyset PCB

RIBBON
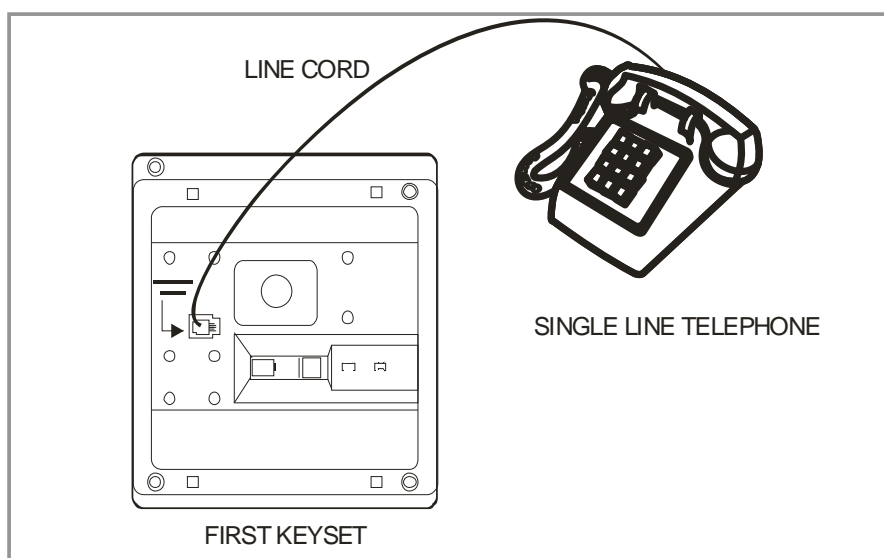CABLE
CONNECTOR

MOUNTING
SCREWS
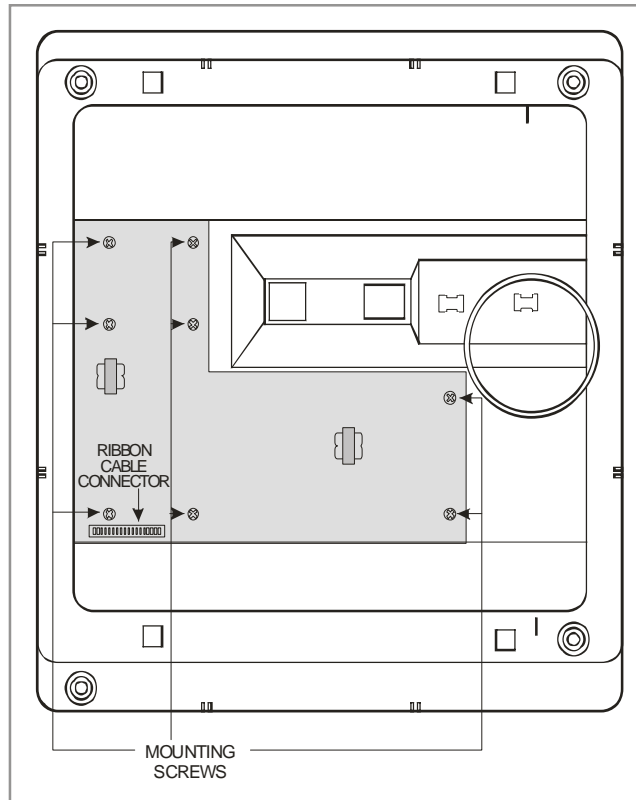
Figure 7.14 Installing KDB-SLI Daughterboard
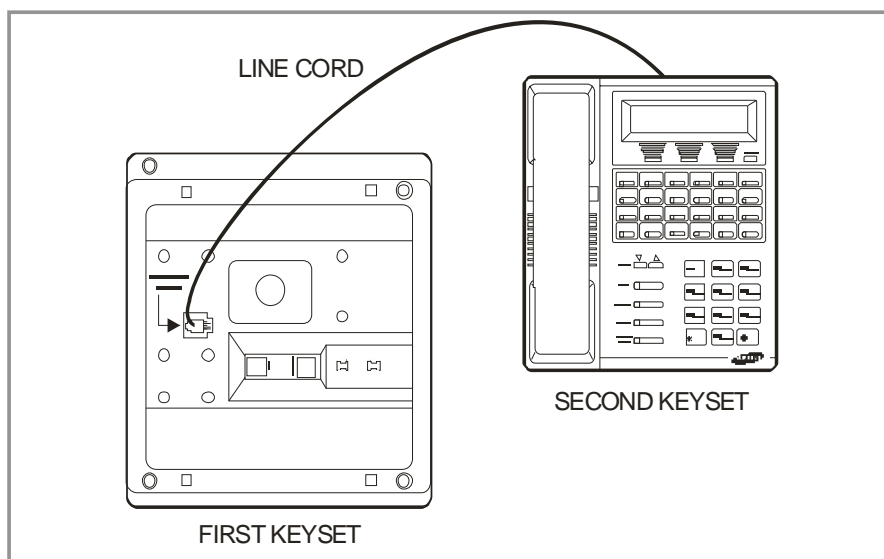
Figure 7.15 Connecting a Keyset to a KDB-DLI

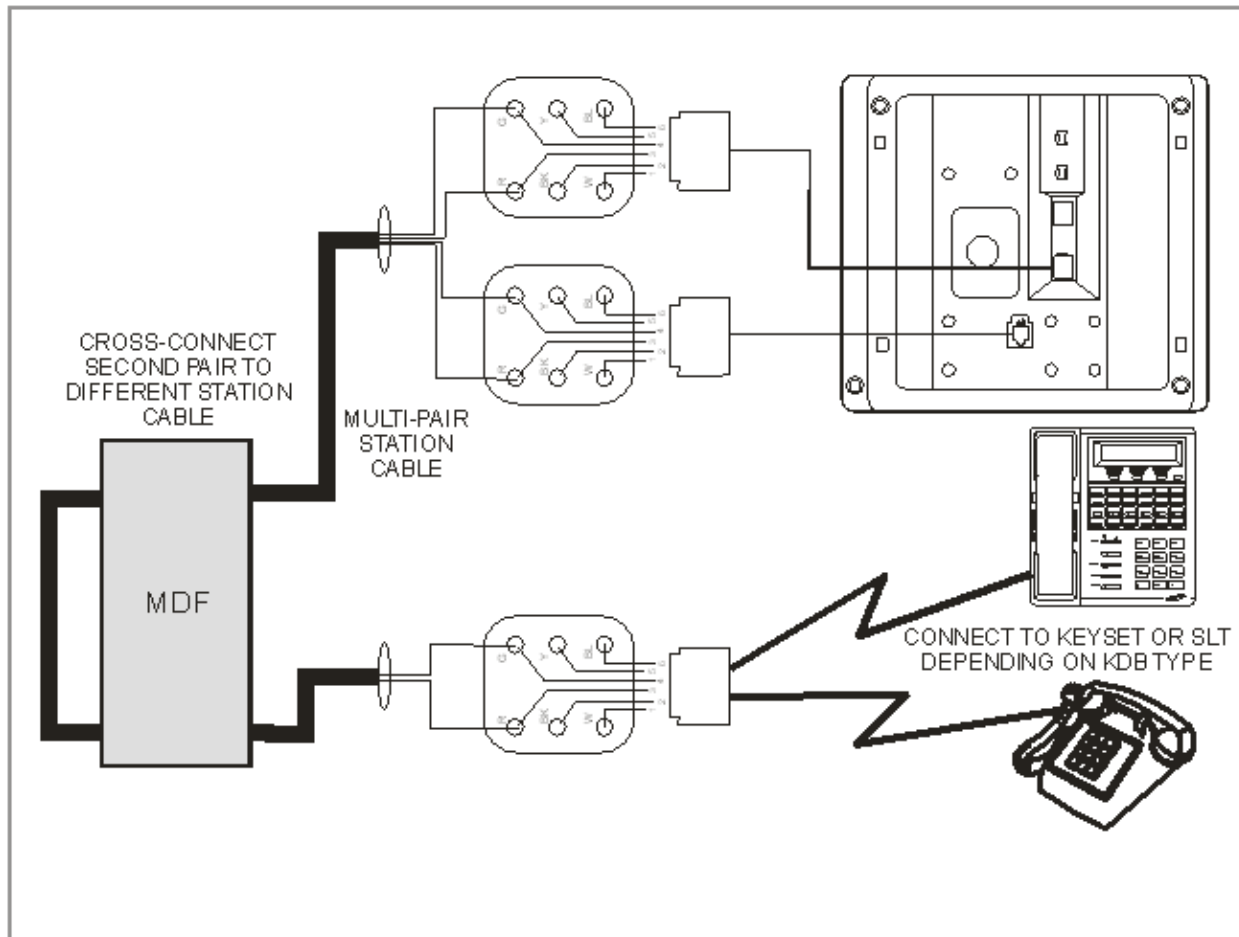*Figure 7.16 Connecting a Single Line Telephone to a KDB-SLI*

Figure 7.17 Connecting a Station Device to a KDB via MDF

CONNECTING TO THE KDBS

There are two methods for connecting devices to keyset daughterboards. The simplest method is to connect the second device directly by means of a line cord. See Figures 7.15 and 7.16.

The second method is to use a multi-pair station cable, connecting separate station jacks to the first two pairs. A line cord can now be connected between the daughterboard and the second jack. This returns the daughterboard port to the MDF for cross-connection to another cable run (see Figure 7.17).
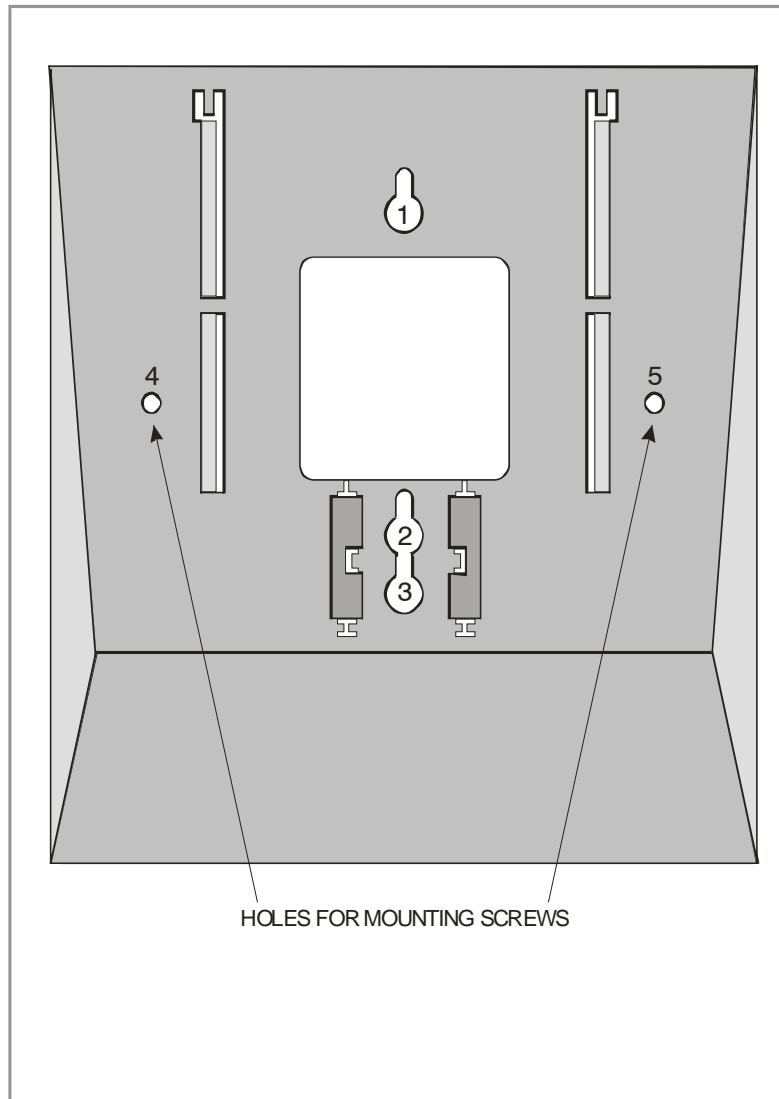
Figure 7.18 Wall-Mounting a Keyset

Note: The directory card slide tray is not used when the keyset is wall-mounted.

WALL-MOUNTING KEYSETS

iDCS keysets come equipped with a reversible base wedge. To wall-mount a keyset, remove the wedge from the keyset and remove the directory tray from the wedge. Mount the wedge to the wall using one of the methods below (see Figure 7.18).

Use screw holes 1 and 2 to attach the base wedge to a standard electrical outlet box.

OR

Use screw holes 1 and 3 to attach to a standard telephone wall-mount plate with locking pins. This method can cause the keyset to wobble as the keyset feet do not fit securely to the mounting surface.

OR

Use screw holes 4 and 5 if you are mounting on dry wall with a hole in the middle for cable access.

USED FOR ATTACHING
AOM OR 64B MODULE
WITH CONNECTOR CLIP

HOLES FOR MOUNTING SCREWS
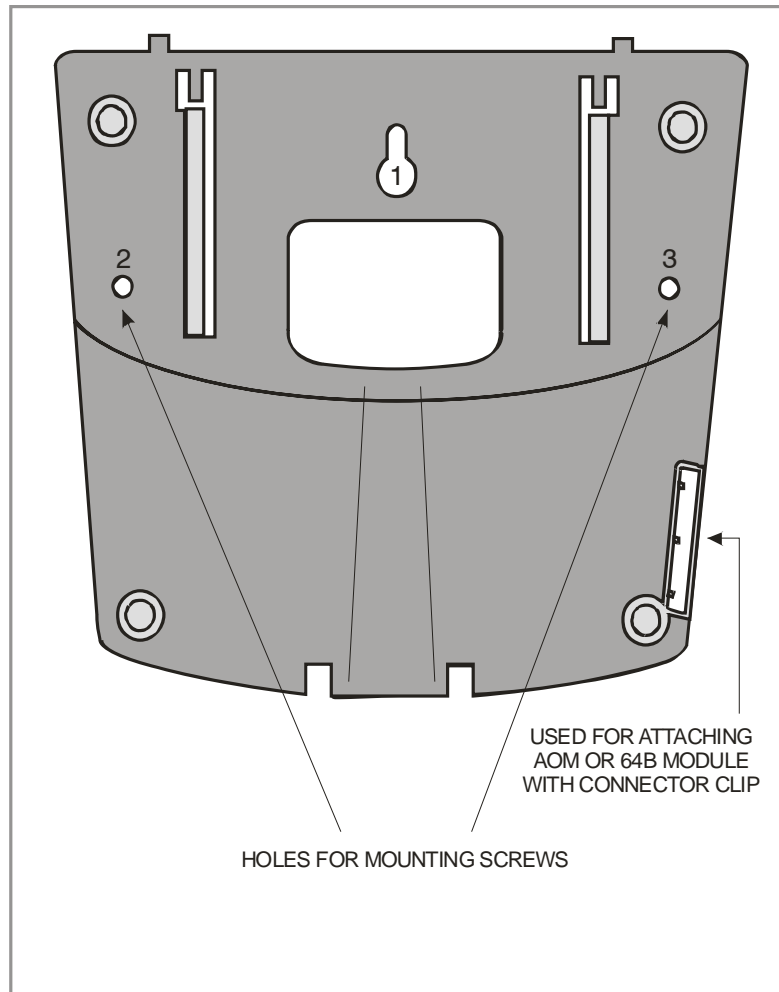
Figure 7.19 Ultra Base Wedge

Note: The directory card slide tray is not used when the keyset is wall-mounted.

WALL-MOUNTING KEYSETS WITH ULTRA BASE WEDGE

The keysets now come equipped with a new Ultra Base wedge. These base wedges are reversible and can be used for wall-mounting however not every wall mounting scenario is appropriate. First and foremost there is only one keyhole in the center of the base attaching to the wall, and these base wedges cannot be used with the standard wall mount bracket with the two buttons/pins. To wall-mount the keyset using Ultra Base wedges use screw holes 1, 2 and 3 to mount the base wedge on dry wall with the hole in the middle for cable access (see Figure 7.19).
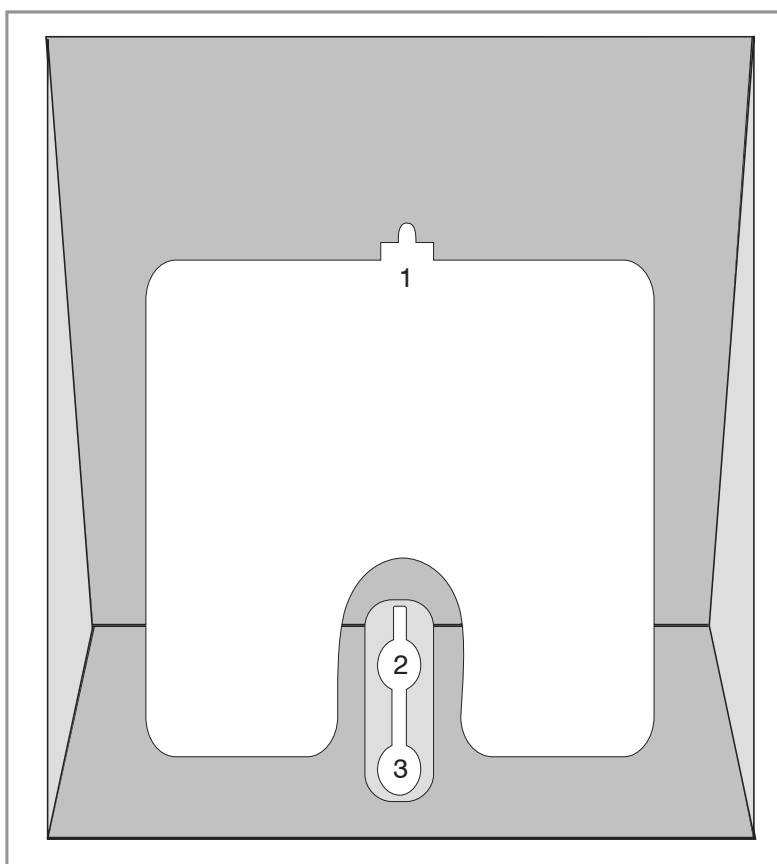
WALL-MOUNTING iDCS KEYSETS

iDCS keysets come equipped with a reversible base wedge. To wall-mount a keyset, remove the wedge from the keyset and mount the wedge to the wall using one of the methods below (see Figure 7.20).

Use screw holes 1 and 2 to attach the base wedge to a standard electrical outlet box.

OR

Use screw holes 1 and 3 to attach to a standard telephone wall-mount plate with locking pins. This method can cause the keyset to wobble as the keyset feet do not fit securely to the mounting surface.

Figure 7.20 Wall-Mounting an iDCS Keyset

WALL-MOUNTING DS, ITP-5121D and ITP-5107S KEYSETS

DS, ITP 5121D and ITP 5107S keysets come equipped with a reversible base stand. To wall-mount a keyset, remove the base stand, reverse it, and attach stand in the bottom slots of the keyset. Use screw holes 1 and 2 to attach the keysets to the wall (see Figure 7.21).

To secure the handset once you have wall-mounted your keyset, you must remove the handset retaining clip and reverse it such that the extended clip is facing the top of the phone (see Figure 7.21).
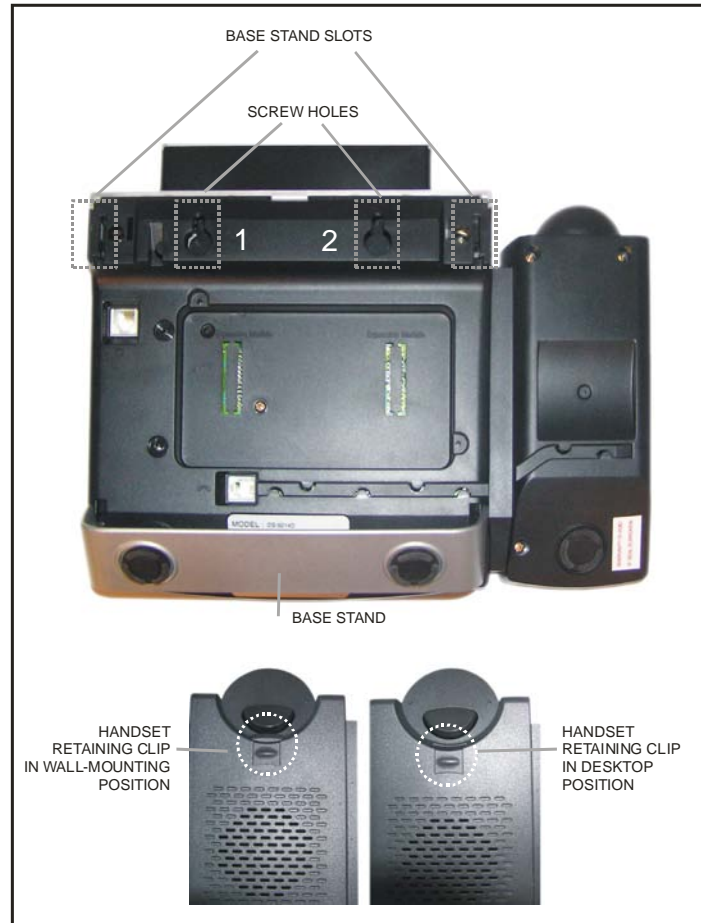
Figure 7.21 Wall-Mounting DS 5000, ITP-5121D and ITP-5107S Keysets

WALL-MOUNTING SMT-i5200 KEYSETS

Assemble the wall-mount bracket where you want to use the phone. The wall-mount bracket is an optional item.

To <u>install</u> the wall-mounting bracket follow the steps below:

1. First, choose the location where you want to install the phone, and then determine the positions of the screws by placing the phone at the target location on the wall.

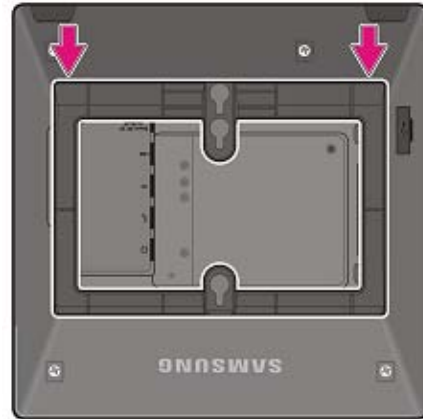|	

2. Remove the desk cradle of the phone.
    a. Fix one latch of the cradle to the top or bottom groove of the phone.
    b. Push the remaining latch into the remaining groove on the opposite side.	
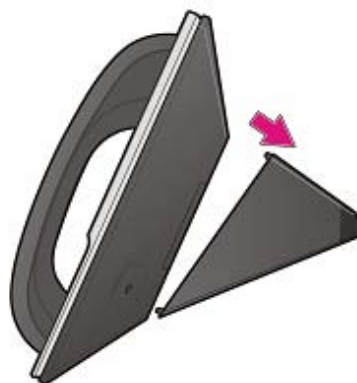
3. Insert the wall-mount bracket as shown in the figure.	
4. Pull out the handset rack, and then insert it in the opposite direction, as shown in the figure. Only the up-down direction changes. The front-back remains unchanged. 5. Install the phone on the wall.	
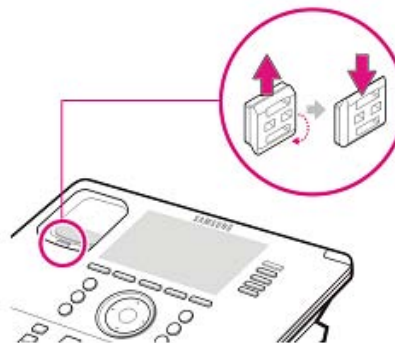
To detach the wall-mounting bracket follow the steps below:

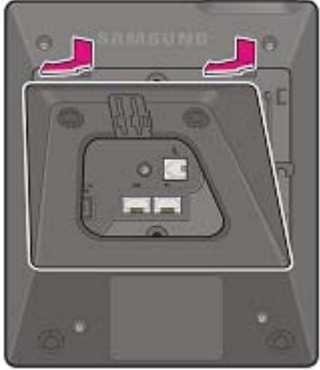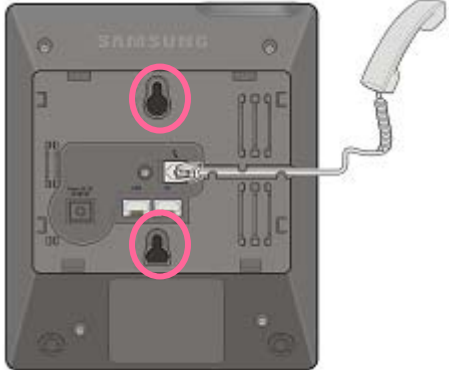|	
1. You can detach the phone from the bracket by pressing the **[Push]** section at the bottom of the bracket. Detach the phone more easily by pulling the entire bottom of the bracket instead of only the **[Push]** section.	
2. Pull out the handset rack, change the direction and then insert it again.	
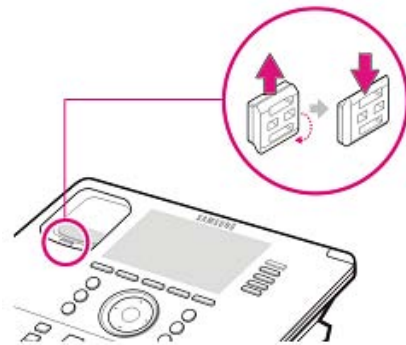
WALL-MOUNTING SMT-i3105 KEYSETS

The SMT-i3105 keysets do not require an optional wall-mounting bracket.

To wall-mount the SMT-i3105 follow the steps below:

1. First, choose the location where you want to install the phone, and then determine the positions of the screws by placing the phone at the target location on the wall.

2. Remove the cradle of the phone by pressing the **[Push]** mark on the top of the cradle to push it out	
3. Use screw holes 1 and 2 to attach the base wedge to a standard electrical outlet box.	

64 BUTTON MODULES

Using one pair twisted #24 AWG or #26 AWG jumper wire, cross-connect each 64 Button Module (64 BM) to the DLI port or plug into the KDB-DLI of your choice (see part 7.1.8 of this installation section). The 64 BM can be assigned to any keyset telephone. It must be assigned to that station in MMC 209.

MAXIMUM AOM CAPACITIES

	Maximum per Station	Maximum per System
TDM 64 Button AOM	4	Limited by available DLI ports
IP 64 Button AOM	4	Limited by available IP/Virtual Ports

CAUTION: To reduce the risk of fire, use only #26 AWG or larger telecommunication line cord.
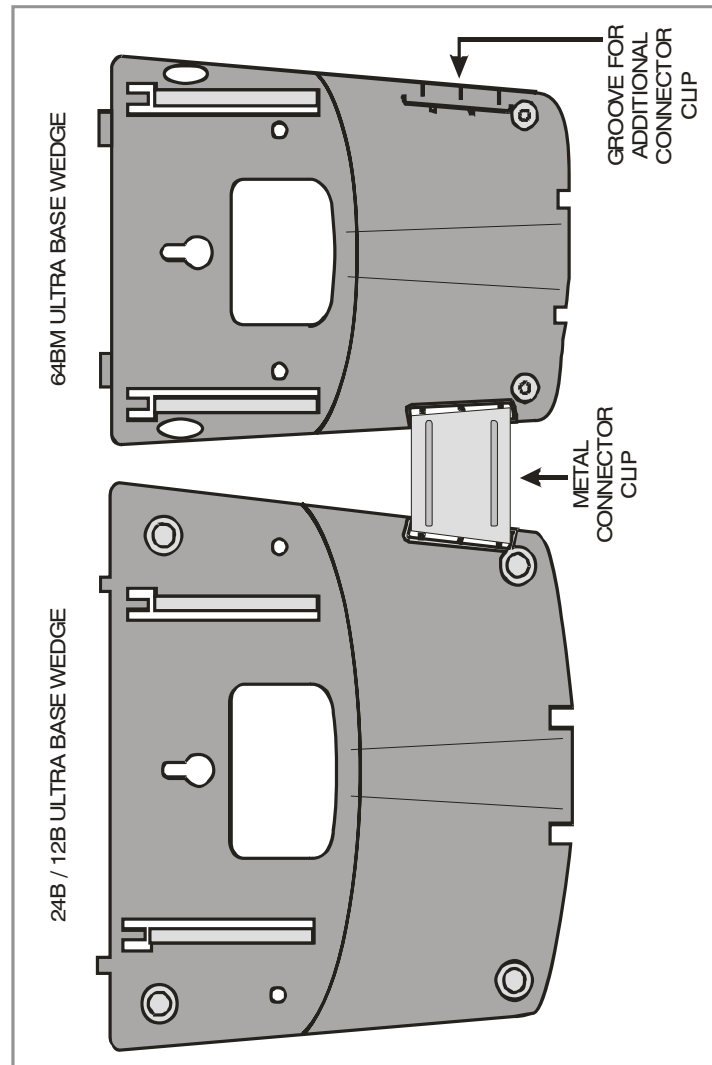
Figure 7.22 Attaching 24B/12B to 64BM

ATTACHING DCS 32 BUTTON AOM AND DCS 64BM WITH MASTER STATION

These new Ultra Base Wedges allow a connector clip (packaged with 64BM and AOMs) to be connected to the underside of the new style wedge and attach AOM(s) or 64BM(s) together with the main or "master" station. This "clip" allows multiple 64BMs and/or AOMs to be secured or "chained" together to the main or "master" station they are associated with. This will make instruments associated with each other seem as one unit (see Figure 7.22, Figure 7.23, and Figure 7.24).
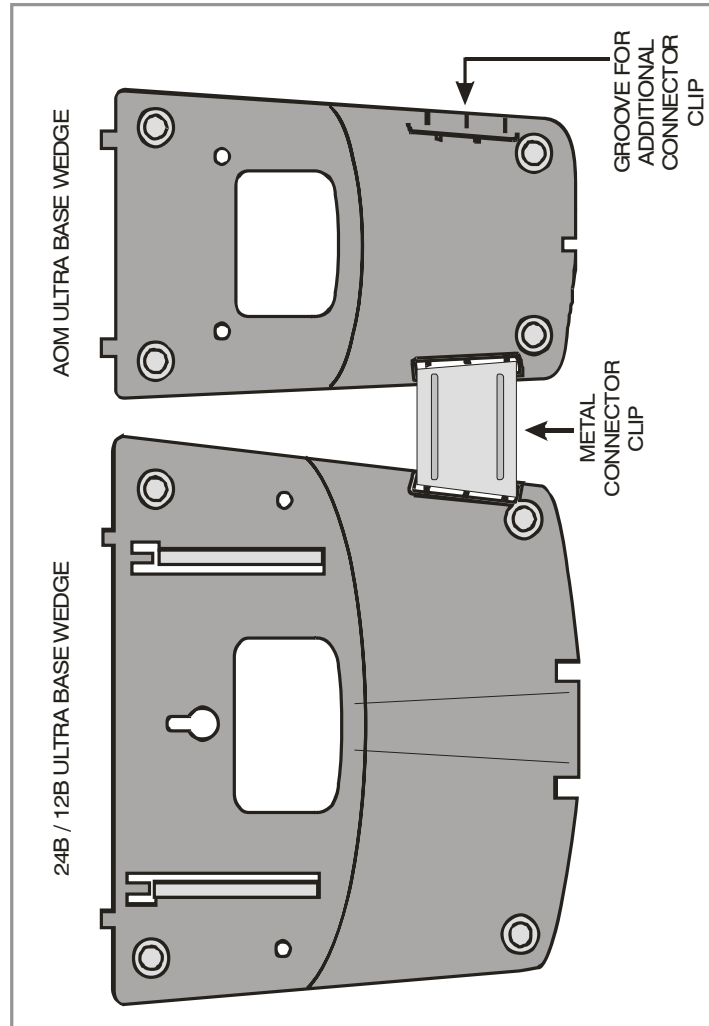
Figure 7.23 Attaching 24B/12B to AOM

ATTACHING iDCS 64 BUTTON MODULES TO AN iDCS KEYSET

First, remove the base wedge from the iDCS 64BM and attach the bracket to it with two of the screws provided (see Figure 7.24).

Remove the base wedge of the keyset and place it to the right of the 64BM and attach the bracket/64BM to the keyset with the remaining two screws.

The base wedge can now be replaced.

NOTE: If you wish to attach two 64BMs to a keyset, connect the 64BMs together first and then attach them to the keyset.
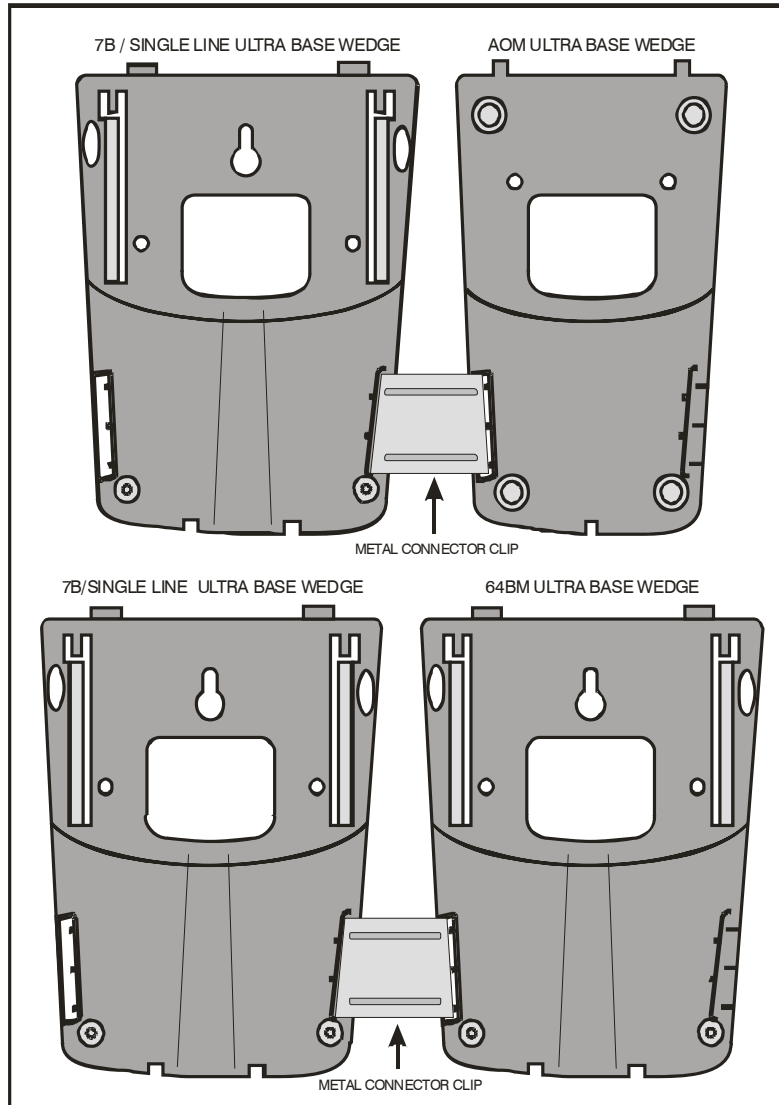
Figure 7.24 Attaching 7B/Single Line to AOM or to 64BM

ATTACHING iDCS 14 BUTTON MODULES TO AN iDCS KEYSET

To add an iDCS 14 Button Key Strip to your iDCS keyset, follow these steps (see Figure 7.25):

1) Place the keyset face down on a flat surface.
2) Remove the base pedestal by placing your thumbs over the attachment clips and press outward while simultaneously pressing down on the keyset body with your fingertips.
3) Remove the ribbon cable knockout from the bottom of the keyset.
4) Clip the 14 button strip to the side of the keyset.
5) Plug one end of the ribbon cable into the keyset and the other end into the 14 button strip.
6) Place the support bracket over the ribbon cable and secure with the six screws provided.
7) Reattach the base pedestal.
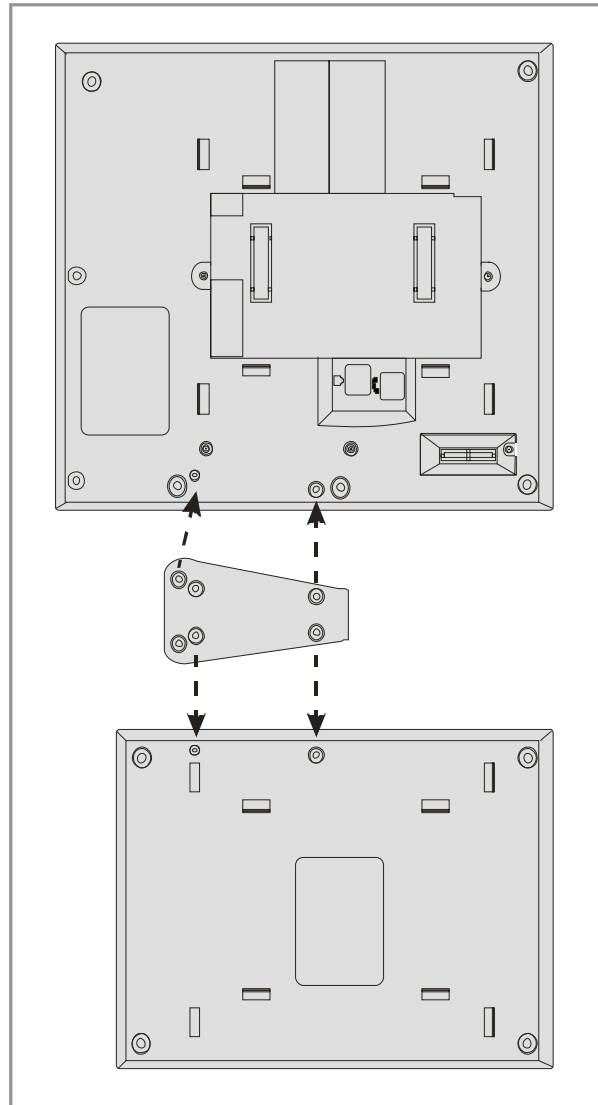
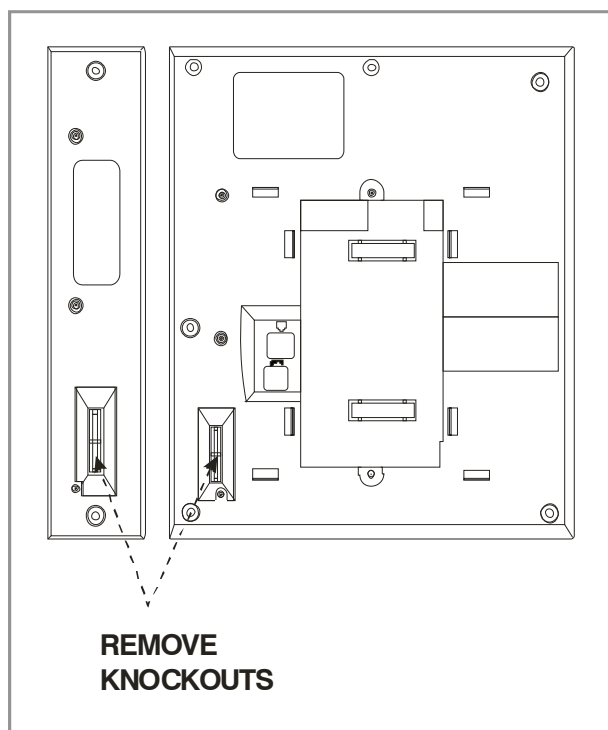*Figure 7.25 Attaching iDCS 64 Button Module to an iDCS Keyset*

Figure 7.26 Attaching iDCS 14 Button Module to an iDCS Keyset

ATTACHING DS 64 BM TO a DS 5021D or a DS 5014D KEYSET

First, attach the bracket to the keyset with two of the screws provided. Then attach the 64BM to the bracket with the remaining two screws. (See Figure 7.27).
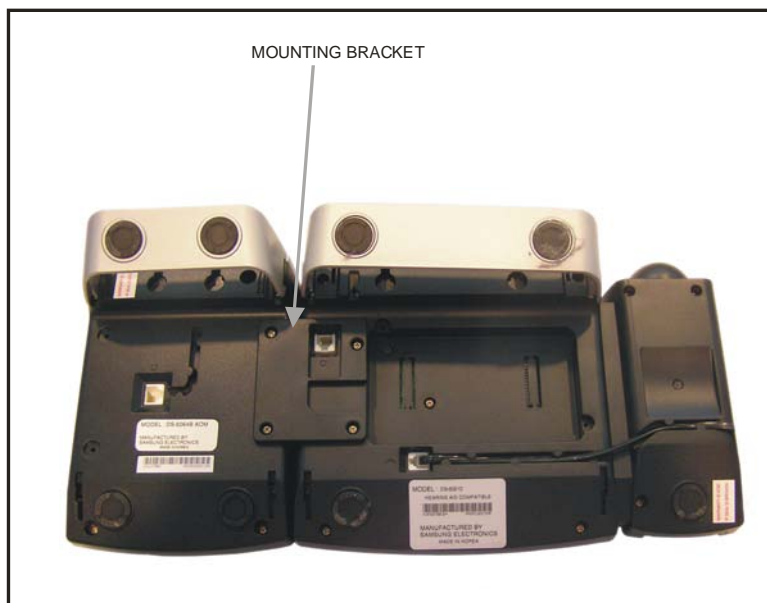

Figure 7.27 Attaching DS 64 Button Modules to a DS 5021D or a DS 5014D Keyset

SMT-i5264 ADD ON MODULE

The SMT-i5264 module can be used beside any ITP 5100 keysets, SMT-i Series, and TDM phones . The cosmetic design matches the SMT-I 5000 Series phones. The SMT-i5264 Add On Module only attaches to SMT-i5200 Series.

To attach the SMT-i5264 AOM to any SMT-I 5000 Series phones follow the steps below:

1) Remove the SMT-i5264 AOM stand and the cradle of the phone by pressing the [Push] mark on the top of the cradle to push it out.
2) Attach the bracket to the keyset with two of the screws provided.
3) Attach the SMT-i5264 AOM module to the bracket with the remaining two screws.
4) To connect to the phone, connect the UTP cable between the port and the LAN port of the IP phone. (See Figure 7.28).
5) To connect to the switch, connect the UTP cable between the LAN port and a port of the switch.
6) Add the stands back to the phone and AOM unit.

NOTE: SMT-i5264 AOM requires either PoE or a Power Adaptor (sold separately).
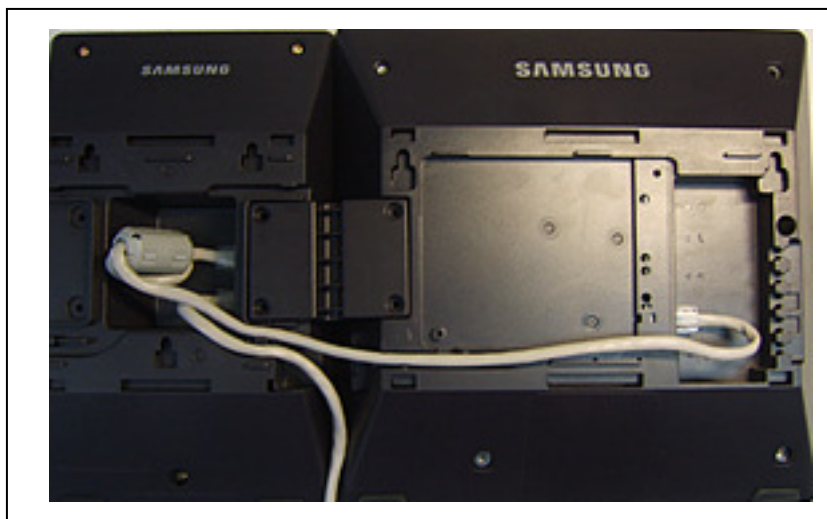
Figure 7. 28 Attaching SMT-i5264 AOM to phone

If PoE is used, PoE connection should be connected to the LAN port of the SMT-i5264 (AOM) first then transfer over to the phone. As shown in Figure 7.28 the SMT-i5264 (AOM) can transfer the power from the LAN port to the phone port, but the phone can't transfer power to the AOM.

SETTING-UP SMT-i5264 AOM

SMT-i5264 AOM will register to the OfficeServ system as an IP phone device. It need the IP phone ID and password during the registration. The SMT-i5264 will receive an IP phone extension. It can be paired to any IP phone or digital phone as the add-on module. MMC 209 is used to pair the AOM extension to a master phone.

Figure 7.29 Setting-Up SMT-i5264 AOM

- Prepare AOM to the set up mode
    - Press and hold 2nd key from the 1st column (left most columns) to enter the set up mode.
    - Press the 3rd key from the 4th column (right most columns) after this key is flashing.
    - (Press the 2rd key from the 4th column (right most columns) after this key is flashing will default the AOM to the factory settings.)
- Two methods to set up the AOM
    - Use SMT-i5243 phone to set up the AOM.
        - Enter SMT-i5243 phone to the engineering mode
            - Menu -> phone -> phone information -> *153#
            - Select Network -> AOM to enter into the set up mode
            - Enter the following data
                - If IP setting is DHCP skip this step
                    - IP address: (assign an AOM IP address)
                    - Gateway: (from MMC 830)
                    - Subnet Mask: (from MMC 830)

- o Server IP Address: (OfficeServ IP address from MMC 830)
- o (use navigation key to move to the following fields)
- o Server ID: (ITP ID from MMC 840)
- o Server Password: (ITP password from MMC 840)
- o Server Port: **6000 (press * key twice to switch input mode to numeric mode)**
- o Use Web UI
  - ▪ Type IP address with port 8080 in the address bar of IE browser. Default AOM IP address is 10.0.0.3.
  - ▪ Ex.
    - • http://10.0.0.3:**8080**
    - • ID: admin
    - • Password: samsung
  - ▪ Fill in the required data. Must enter the following information.
    - • Server IP address is the OfficeServ MP IP address
      - o Ex. 192.168.1.10
    - • Enter an ITP ID and password
            Ex:
      - o id: 3210
      - o pw: 1234
    - • default port is **6000**
  - ▪ Press [Save] then [ReStart]
- • Use **MMC 209** to pair AOM to any IP/TDM phone.
- • Use MMC 722 to assign buttons.

Figure 7.30 IP AOM Network Configuration

7.1.10 Connecting the SMT-A52GE Gigabit Adaptor

The Gigabit Adaptor processes the Gigabit data for a Gigabit LAN connection on the PC connected to the SMT-i5200 series IP phone.
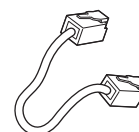
COMPONENTS

The SMT-A52GE comes with the following components:
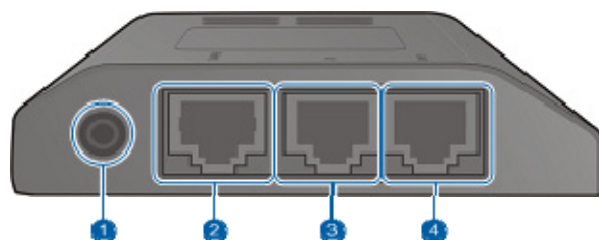

Gigabit Adaptor   2 Fixing Screws   LAN Cable

CONFIGURATION AND FUNCTIONS

Port	Function
❶ **Power (DC 5 V)**	DC power adaptor connection port
❷ **IP Phone PSE**	• A port connected to the IP phone's LAN port via the LAN cable. This is shipped together with the Gigabit Adaptor (10/100BASE-TX) • If PoE (Power over Ethernet) is provided via the G-LAN PD port, it supplies PoE to the IP phone.
❸ **G-PC**	• LAN cable port connected to the PC (10/100/1000BASE-T)
❹ **G-LAN PD**	• LAN cable port connected to the network (10/100/1000BASE-T) • If PoE is supplied via the LAN, a power supply is not required for the IP phone or adaptor.

NOTE: DC power adaptor is not included.

HOW TO CONNECT TO A PHONE

1. Separate the cradle at the back of the phone.	
2. Mount the Gigabit Adaptor onto the back of the body. NOTE: The back of the Gigabit Adaptor is sharp, so take care to avoid injury. When you connect the Gigabit Adaptor to the IP phone which is currently in use, disconnect the PC cable connected to the IP phone, and connect it to the G-PC port of the Gigabit Adaptor. This will leave the PC connection port, usually used for the IP phone, vacant.	
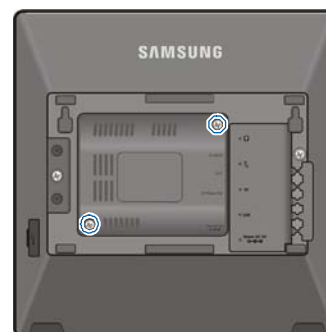
3.   Connect the cable.

When PoE is supplied via the LAN:
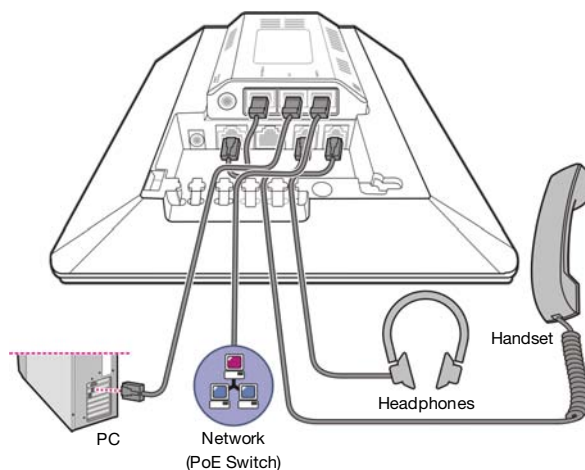
When PoE is not supplied via the LAN:

4.   Attach the cradle to the back of the phone.

7.2 CONNECTING ADDITIONAL EQUIPMENT

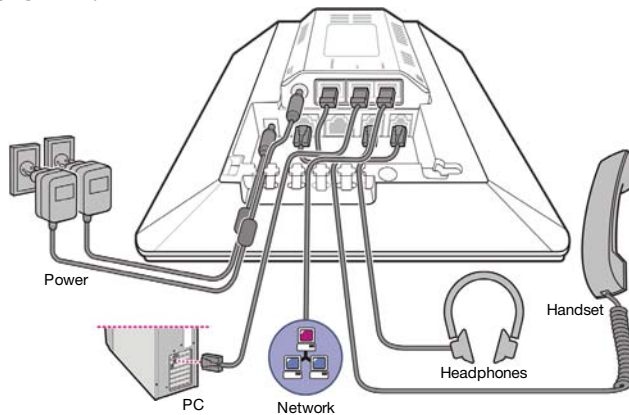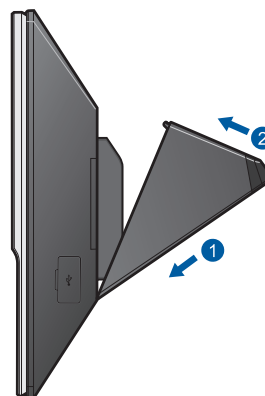This section describes how to connect optional equipment, such as Music on Hold (MOH)/Background Music (BGM) sources, external page devices, common bells, and PCs for WebMMC/Installation Tool/SMDR/CTI to the OfficeServ 7400 system.

The following table lists the default MISC Numbering Plan defined in MMC 724.

External BGM/ MOH Ports	MISC01	MISC02
Cabinet #1:	372	373
Cabinet #2:	374	375
Cabinet #3:	376	377
Page Audio Output	MISC03	
Cabinet #1:	361	
Cabinet #2:	364	
Cabinet #3:	367	
Loud Bell Audio Port	MISC04	
Cabinet #1:	3995	
Cabinet #2:	3996	
Cabinet #3:	3997	
Common Bell Relay Ports	MISC05	
Cabinet #1:	3991	
Cabinet #2:	3992	
Cabinet #3:	3993	
Page Zone Relay Ports	MISC06	MISC07
Cabinet #1:	362	363
Cabinet #2:	365	366
Cabinet #3:	368	369
Internal Melody MOH	MISC32	
Cabinet #1:	371 (one per system)	
Modem Daughterboard	MISC10	
Cabinet #1:	3999 (one per system, placed on MP40)	

7.2.1 Connecting MOH/BGM Equipment

The OfficeServ 7400 system offers Music on Hold. The system provides internal tone/music and external music sources per C.O. or extension lines as the music source.

Two external music sources are offered. Connect the music sources to the MISC port of the LP40 board. ***The MIS optional daughterboard should be installed on the LP40 board.***

NOTE	**IMPORTANT NOTICE:** In accordance with US copyright law, a license may be required from the American Society of Composers, Authors and Publishers (ASCAP) or another similar organization if copyrighted music is transmitted through the Music on Hold feature. Samsung Telecommunications America hereby disclaims any liability arising out of failure to obtain such a license.
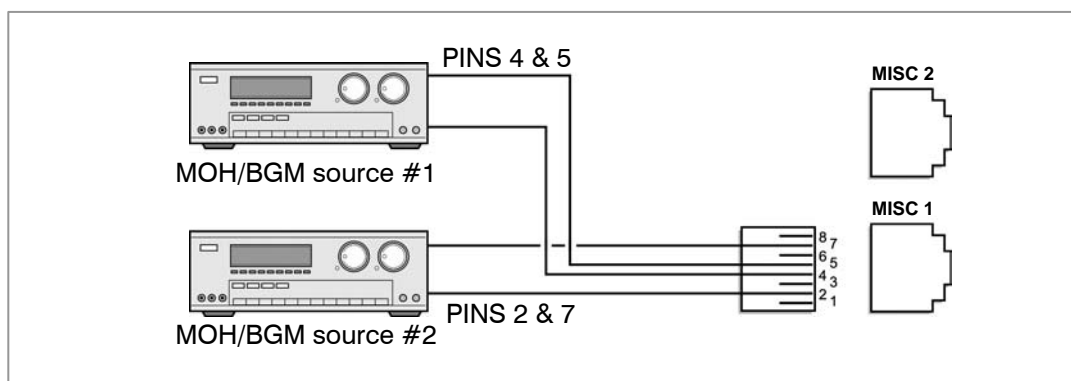
Figure 7.31 Connecting MOH/BGM Sources

- MISC 1 and MISC 2 ports are located on the front panel of the LP40.

NOTE	**MMC** Select music sources for C.O. lines in MMC 408 and music sources for extensions in MMC 308. For detailed instructions on the MMC programs, refer to OfficeServ 7400 Programming Manual.

The following ports are assigned to the external MOH inputs on the MIS daughtercard:

HARDWARE ITEM	MISC FUNCTION # in MMC 724	DEFAULT DN (Ports)		
		CAB1	CAB2	CAB3
MOH/BGM Ext. Source #1	01	372	374	376
MOH/BGM Ext. Source #2	02	373	375	377

7.2.2 Connecting External/Additional Page Equipment

Instead of an internal speaker, external broadcasting equipment, such as amps or speakers, and additional equipment that can broadcast page (ring) signals outside a building can be connected to the OfficeServ 7400 system.

Connect external/additional paging equipment to the MISC 1 and MISC 2 ports of the LP40 board. ***The MIS optional daughterboard should be installed on the LP40 board***. The power of the external/additional paging equipment should be connected separately.

The MIS daughterboard provides a voice pair and a two dry contact pairs to be used with customer-provided paging equipment. Connect the customer-provided paging equipment to the page output pins of a MIS daughterboard (see Figure 7.32).

The Page Zone Relay ports assigned to each dry contact pair are listed in the following table. Assign the DN number to the selected page zone using Default DN (Ports).

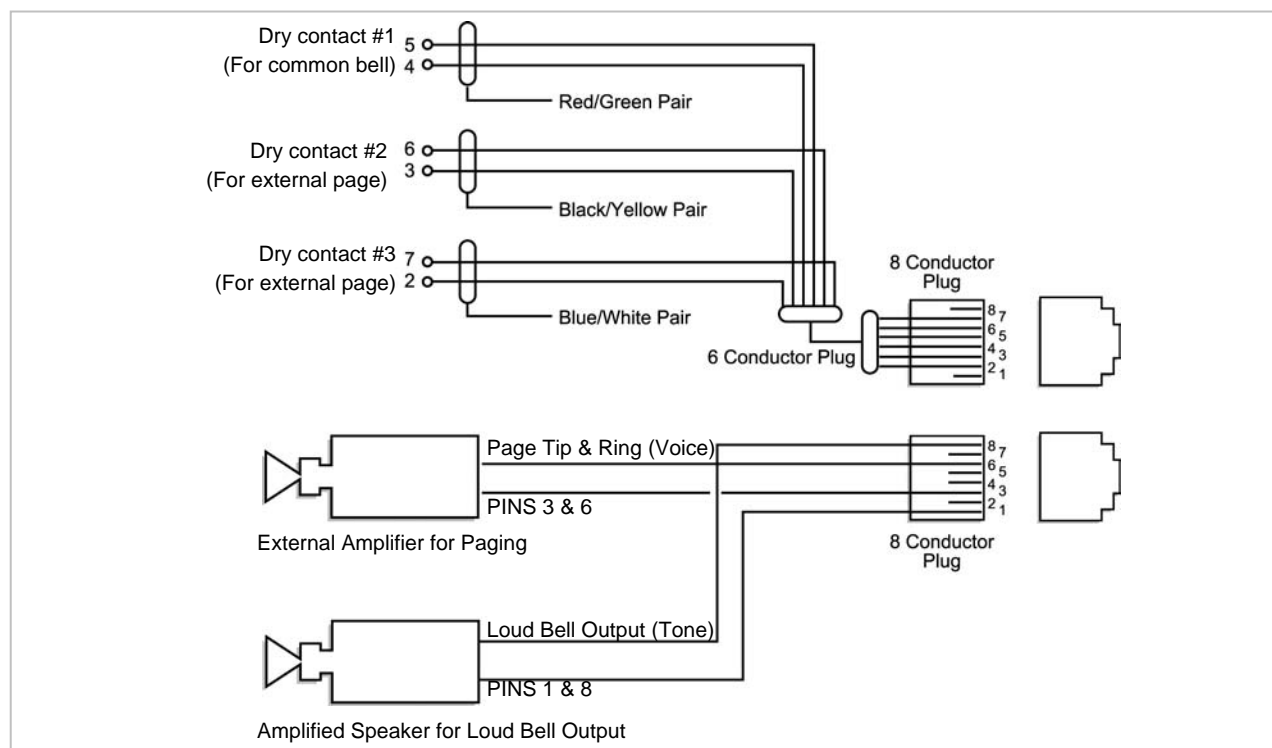| HARDWARE ITEM	MISC FUNCTION # in MMC 724	DEFAULT DN (Ports)		
		CAB1	Cab2	Cab3
Page Tip & Ring (Voice)	03	361	364	367
Contact Pair #2	06	362	365	368
Contact Pair #3	07	363	366	369

Figure 7.32 Connecting External/Additional Page Equipment

- MISC 1 and MISC 2 ports are located on the front panel of the LP40.

> **Dry Contact**
>
> Dry Contact is a switch that can connect or cut the power or line to external equipment.
>
> **NOTE**

7.2.3 Loud Bell Interface

When a station requires loud ringing, assign or pair that station to an audible ring tone output on the MIS daughterboard using MMC 205.

MISC FUNCTION # in MMC 724	DEFAULT DN		
	CAB1	CAB2	CAB3
04	3995	3996	3997

Next connect the output from the MIS daughtercard to a customer provided paging system or other suitable customer provided speaker (see Figure 7.33).

7.2.4 Connecting Common Bell

A customer-provided loud ringing device can be controlled using a dry contact pair on the MIS daughter board.

Common bell connections should be wired to the MISC 1 and MISC 2 ports of the LP40 board. *An MIS optional daughterboard should be installed on the LP40 board*.

By using MMC 204 programming allows for interrupted or continuous operation of the contacts. The interrupted selection follows the CO ring cadence, 1 sec ON/3 sec OFF.

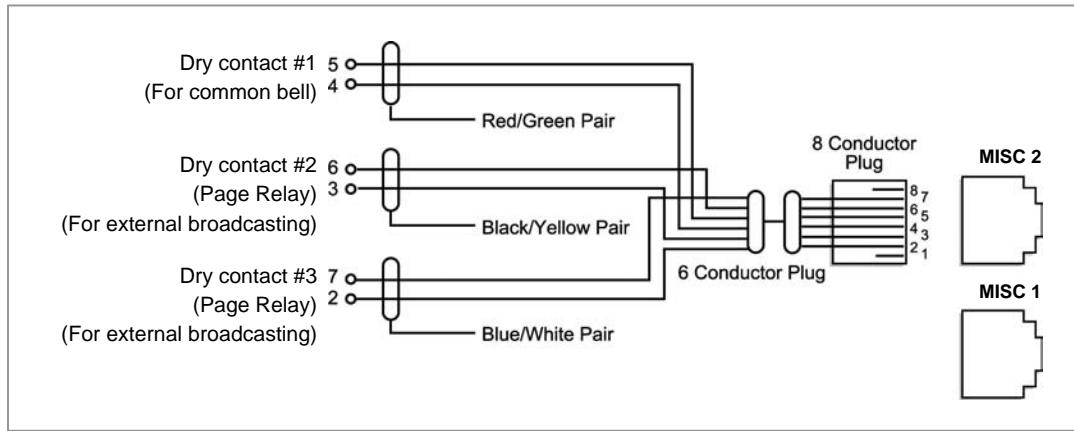| MISC FUNCTION # in MMC 724	DEFAULT DN		
	CAB1	CAB2	CAB3
05	3991	3992	3993

Figure 7.33 Connecting Common Bell

- MISC 1 and MISC 2 ports are located on the front panel of the MP40.

WARNING: Do not attempt to connect commercial AC power to these contacts.

1) After connecting a common bell, you must assign it in MMC 601 to a group as a ring destination by using the code for common bell.
2) After wiring to the contact pair, set contacts for continuous or steady operation.
3) Next, program hunt group to include the common bell.
4) Assign the trunk to ring the hunt group containing the common bell. Common bell control can be used with station hunt groups, individual stations and universal answer.

7.2.5 Ring Over Page

When a customer-provided paging system is installed, incoming calls can be assigned to ring over page. Program the C.O. line or C.O. lines to ring a hunt group. Using MMC 601, assign the DN number of the Page Output (voice) for the MIS board being used as a member of the group or as the NEXT PORT for the overflow destination. Other stations may be assigned to the same group to provide ringing to phones and the paging system at the same time.

MIS FUNCTION # in MMC 724	DEFAULT DN		
	CAB1	CAB2	CAB3
03	361	364	367

7.2.6 Connecting WEBMMC/OIT to the OfficeServ 7400

The WebMMC/OIT (OfficeServ Installation Tool) program is a web-based administrative tool that allows you to locally or remotely program and configure the OfficeServ 7400 system. Please refer to the WebMMC or OIT User manual for installation and user instructions.

7.2.7 Device Manager (DM) Tool

The OfficeServ Device Manager is a Windows™ application that allows programming of the OfficeServ™ 7000 Series phone systems from a PC over a data network or modem. The Device Manager allows access to OfficeServ™ Man Machine Code (MMC) programming through an intuitive programming interface without the need to memorize MMC numbers or keypad programming procedures.

In addition to system programming the Device Manager also provides the ability to manage files on the system media card allowing administrators to upgrade main system software without the need for a media card reader. The Device Manager also allows downloading, uploading, and comparison of system databases as well as offline editing of stored databases.

Device Manager is available in two styles:

1. <u>Embedded</u>: On some systems the Device Manager application is embedded on the phone system processor card. The system is then accessed using a web browser to connect to the embedded application. This can be done over either a private network or a public network. The benefit to this method is that you are always using the correct Device Manager version to correlate to the system you are configuring.

2. <u>Client</u>: Systems that do not support the embedded Device Manager application can be accessed using a client version of Device Manager that resides on the technician's PC.

The Device Manager application is used for the following:

- **Organize Site Connections**
  Save connection properties for multiple phone systems for quick access with the Link Control.

- **Local and Remote Administration**
  Connect via LAN, Internet, or modem to any OfficeServ™ 7000 Series system from anywhere.

- **Manage System Databases**
  Download system databases to your PC for archiving or offline editing. Upload databases to the system to push large changes with minimal service downtime.

- **Manage Media Card Files**
  View, add, or delete operating system files on the Media Card for your OfficeServ™ 7000 Series system to ease version upgrades for the processor and interface cards.

- **Compare Databases**

  The Database Compare function helps you track changes between archives by detecting and displaying any differences between two saved databases.

- **Store Programming Favorites**

  Bookmarks increase efficiency by allowing you to save a list of commonly used programming screens.

- **Search Menus**

  The search feature greatly reduces headaches by allowing you to search for a programming option by MMC number, field name, or menu item name.

MINIMUM REQUIREMENTS

1. Embedded Application Web Browser Requirements

Table 7.2 DM Embedded Application Web Browser Requirements

Web Browser	Version
Internet Explorer	6.0, 7.0 or 8.0

2. Client Application Minimum PC Requirements

Table 7.3 Client Application PC Requirements

H/W	Requirement	
PC	CPU	Pentium Iv or faster
	Main Memory	512 MBytes or more
	HDD Drive	At least 1 GBytes of free space
	OS	Microsoft Windows XP or newer
Modem	1,200~115,200 baud rate	

SOFTWARE COMPATIBILITY

1. Embedded Application

Table 7.4 Embedded Application Software Compatibility

System	Software Version
OfficeServ 7400	4.52 and higher
OfficeServ 7200 (MP20)	4.52 and higher
OfficeServ 7200 (MCP)	Not Supported
OfficeServ 7200-S	4.52 and higher
OfficeServ 7030	4.53 and higher
OfficeServ 7100	4.53 and higher

2. Client Application: The client application can be used on OfficeServ 7000 series systems using software version 4.51 and lower.

LAUNCHING DEVICE MANAGER

Before you can successfully access an OfficeServ System using the embedded Device Manager via a web browser, there are a few things that need to be set or verified.

1. **Enable the Downloads/File Download option in Internet Security Settings**

    This setting can be found under the **Tools/Internet** Options menu in Internet Explorer. Select the **Security** tab and then the **Custom Level** button.
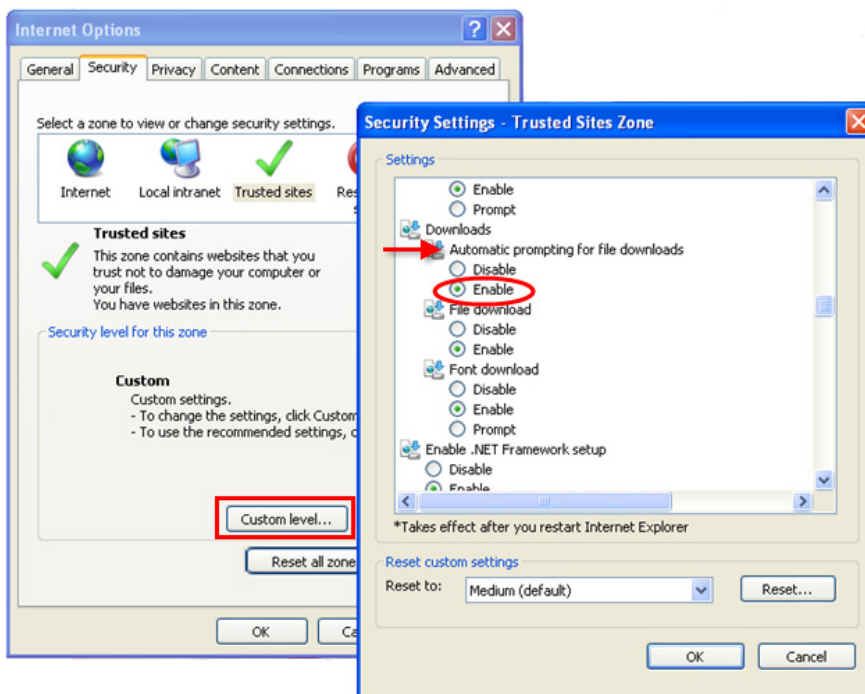

Figure 7.34 Security Settings to Enable Downloads

2. **Enable Popups**

    Device Manager will be launched in a pop-up window, therefore the pop-up blocker must be turned off in the web browser.
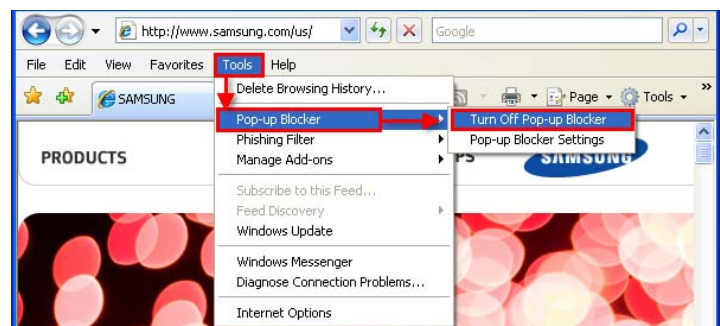

Figure 7.35 Enable Pop-Ups

3. Java Plug-In

Java Web Start Plugin should be installed to use OfficeServ DM. If it's not, you will be prompted to download it when you attempt to launch Device Manager.
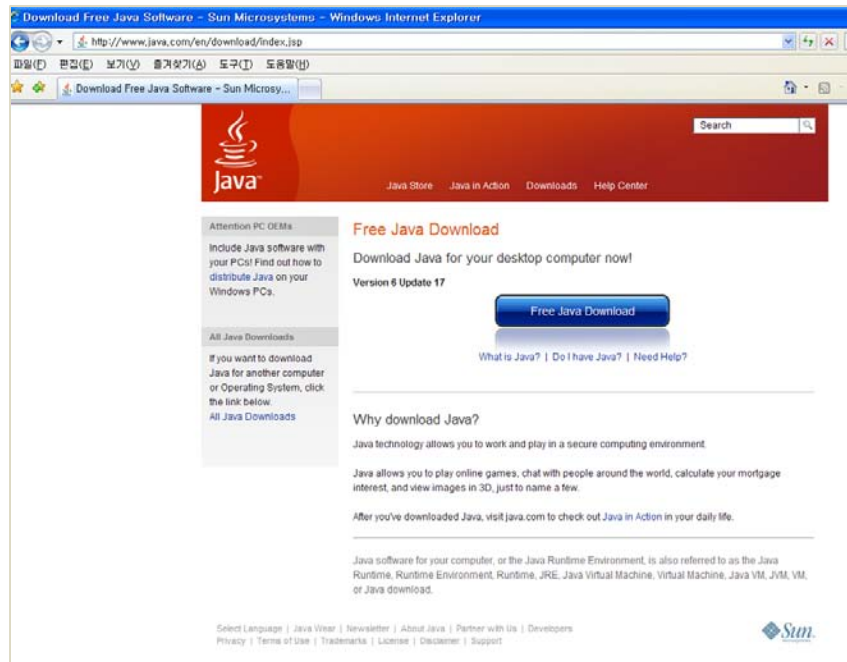

Figure 7.36 Java

> **NOTE** JRE 1.6 or higher should be installed to use OfficeServ DM. If an old version of JRE (i.e., lower than the version 1.6) is installed, please remove it and replace with a new version.

4. **Trusted Sites:** If you have difficulty connecting to a site, you may need to add it to your browser's trusted sites.
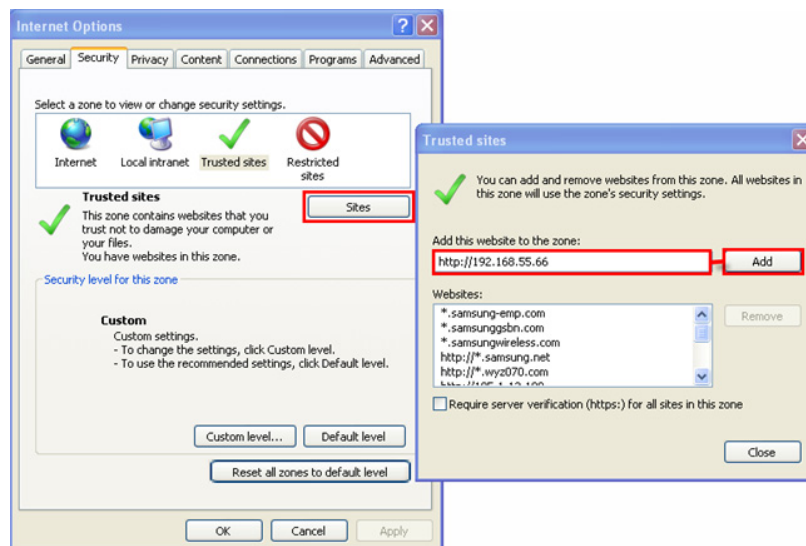

Figure 7.37 Trusted Sites

5. Ports

When using a public network to access an OfficeServ system with Device Manager, firewall ports 80 and 21 must be opened on the router.
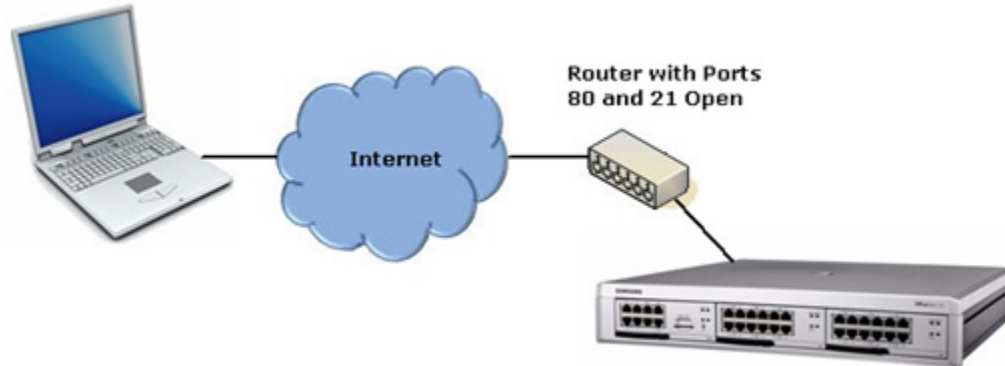

Figure 7.38 Firewall Ports

CONNECTING TO THE EMBEDDED DEVICE MANAGER

Device Manager is launched with a web browser. Depending on the environment, one of the following addresses should be used to access the embedded Device Manager.

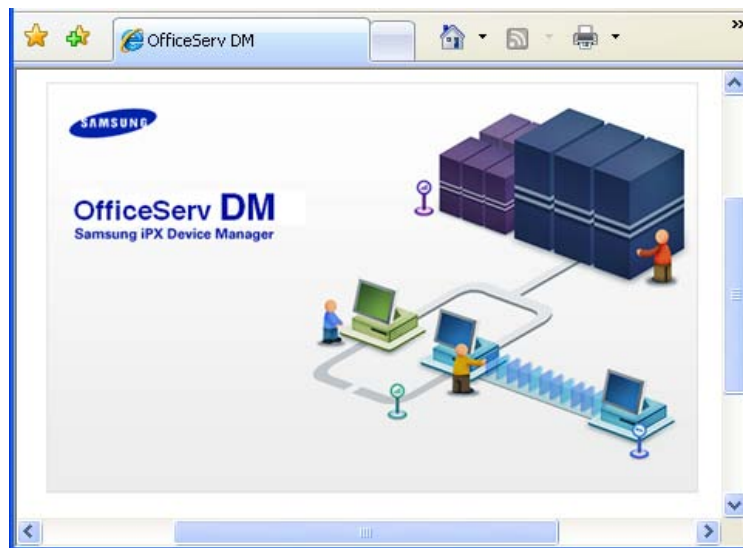| Environment	Command	Example
Private Network	http://OfficeServ System IP Address/dm/	http://192.168.45.56/dm/
Public Network	http://OfficeServ System IP Address/dmp/	http://192.168.45.56/dmp/
MP20S Processor Card	https://OfficeServ System IP Address	https://192.168.45.56

Figure 7.39 DM Splash Screen

You may see the following warning screen. Simply click on the Run option if you do.

Figure 7.40 Security Warning

Device Manager will open in a separate window. This may take up to 15 seconds to open. The default Login ID is **admin** and the default password is **samsung**.
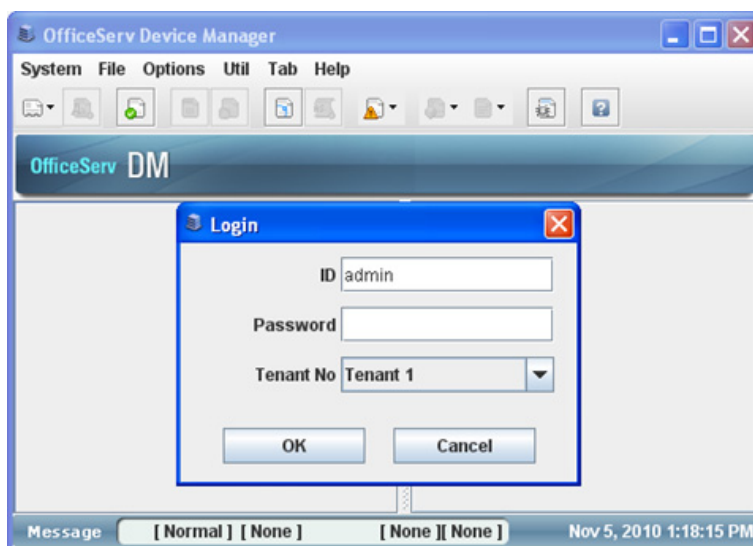

Figure 7.41 DM Login Page

LAUNCHING THE OFFICESERV DEVICE MANAGER CLIENT APPLICATION

Unzip the file obtained from the Samsung GSBN website. The zip file will contain one file - OSDM.JAR file. This is the file used to launch Device Manager. For ease of use, we recommend placing this file on your desktop.
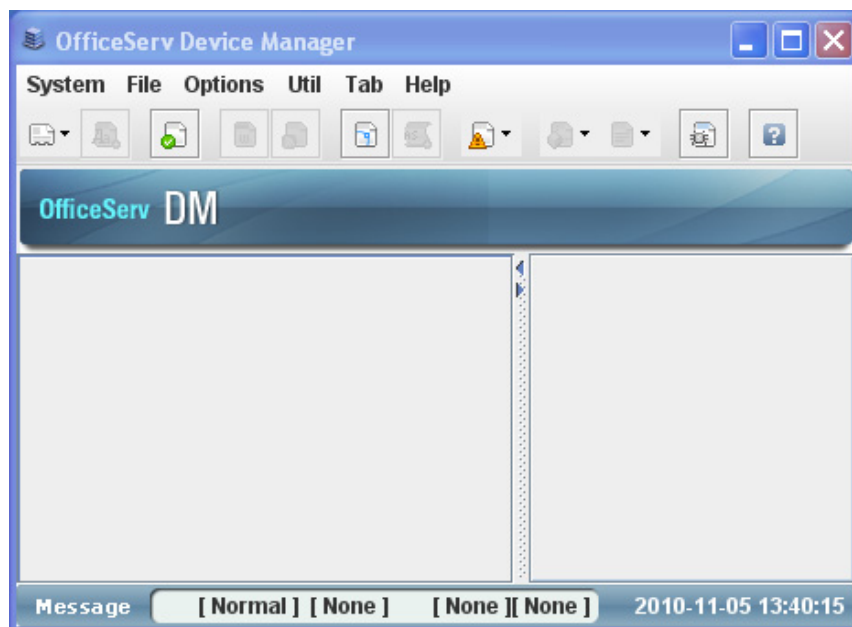

Figure 7.42 OS Device Manager Client Application Open Screen

LINK SETUP

The Link Setup window is a connection manager for your OfficeServ system connections. You must enter a site into the Site list before connecting to an OfficeServ System.

- Click on **[System]** =>**[Link Control]**. The following screen is displayed.
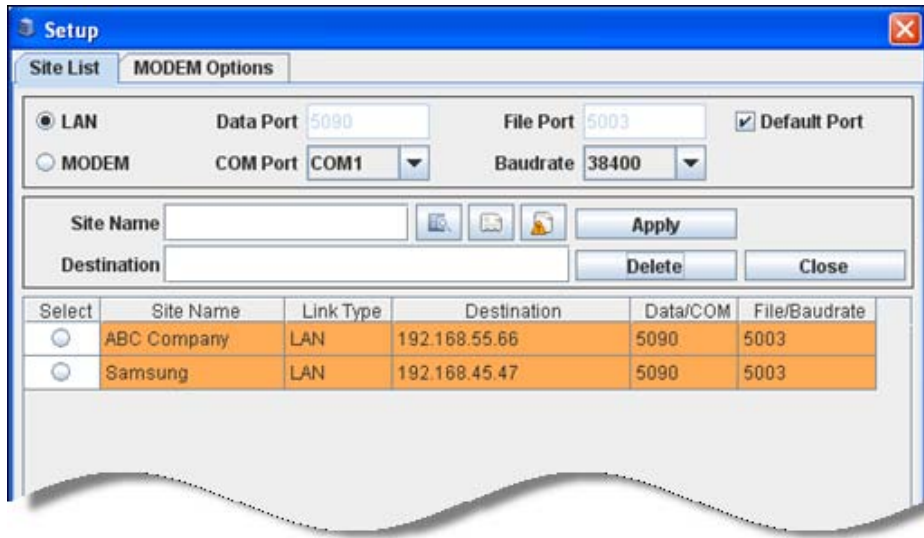
Figure 7.43 Link Setup

1. **Site List**

   The Site List allows you to add, edit, or delete site information as well as view data for all your stored connections.

   Clicking the radio button for a site will cause the connection detail for that site to populate in the upper portion of the window. To edit the data, make your changes and then click **[Apply].**

   To create a new LAN site connection you must enter a few pieces of information:

   - **Site Name** sets the name for the connection, which is used mainly for your reference.

   - **Link Type** (top of screen) should be set to LAN, which is the default.

   - **IP Address** sets the IP address to connect to the system on.

Default Port sets the IP connection ports to use for this site. The default is 5090 for programming and 5003 for Media Card access. To set new values you must uncheck the Default Port checkbox.
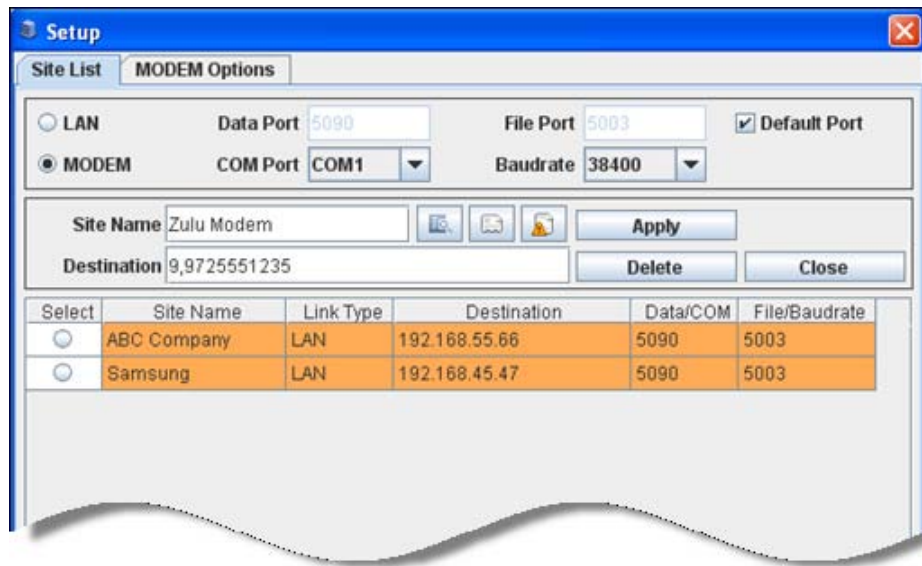

Figure 7.44 Site List

To create a new Modem site connection you must enter several pieces of information:

- **Site Name** sets the name for the connection, which is used mainly for your reference.

- **Link Type** (top of screen) should be set to MODEM.

- **COM Port** determines the port on your PC that the MODEM is connected to. This can be obtained in Windows XP by clicking [Start] → **[Settings]** → **[Control Panel]** → **[Printers and Other Hardware]** and double-clicking "**Phone and Modem Options**". Once loaded click the **Modems** tab and the COM port is listed under the column **Attached To.**

- **Baudrate** determines the connection speed. This setting defaults to 38400.

- **Destination** is the phone number to dial after accessing the MODEM to connect to the system.

2. Modem Options

The Modem Options tab allows you to set configuration parameters for MODEM connections. Once changes have been made you must click **[Apply]** to save them.
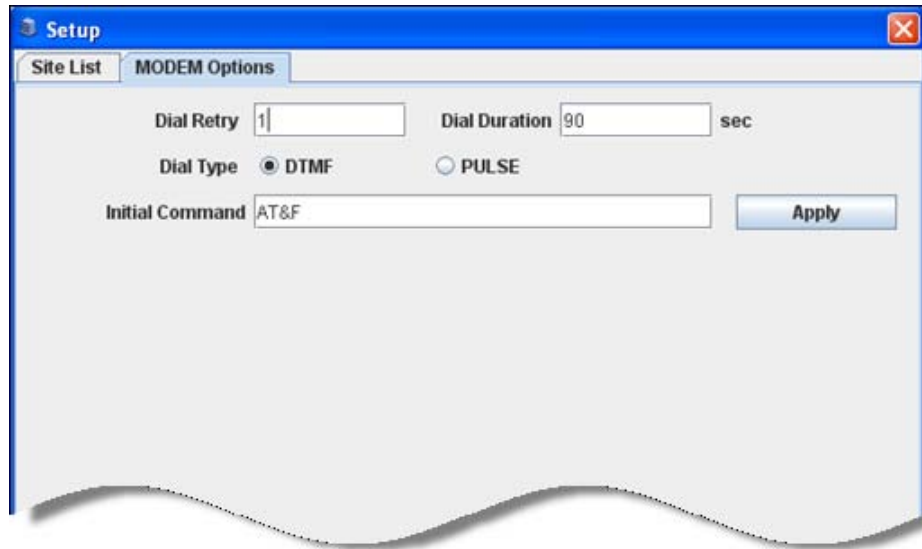

Figure 7.45 MODEM Options

- **Dial Retry** sets the number of outcall attempts to make. The default is 1, which means that if the call fails or isn't answered there will be no more attempts made.

- **Dial Duration** sets the length of time to wait for a connection to be made. The default setting is 90 seconds, which means that if a connection isn't established within 90 seconds of seizing the trunk the call will be considered a failed attempt.

- **Dial Type** sets whether the MODEM should dial using DTMF or Pulse dialing.

- **Initial Command** sets the initialization string to use to setup the MODEM call. The default is AT&F, which is compatible with 99% of MODEMs manufactured since 1990. It is recommended that you leave this setting as is unless instructed to change it by the MODEM manufacturer.

CONNECT TO AN OFFICESERV SYSTEM USING THE CLIENT APPLICATION

There are a couple of different methods you can use to connect to a system:

1. Click on **[System]** → **[Connect]**.
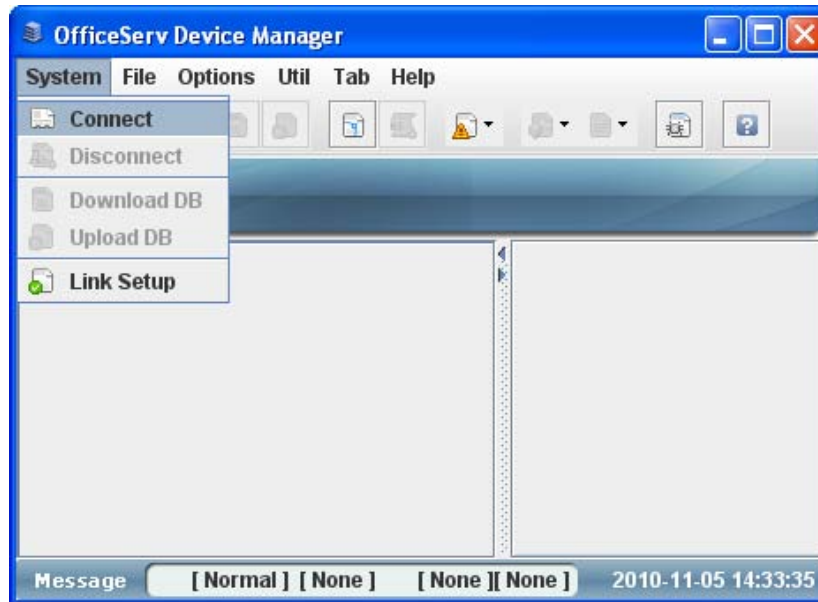
Figure 7.46 Connect to an OS System Using Client App Method 1

2. Use the Connect icon to connect to the last system you connected to. To connect to a different system, use the arrow on the right side of the connect icon to display a list of available systems.

Figure 7.47 Connect to an OS System Using Client App Method 2

You'll be prompted to enter the ID and password. Default values are:

- ID = Admin
- Password = samsung
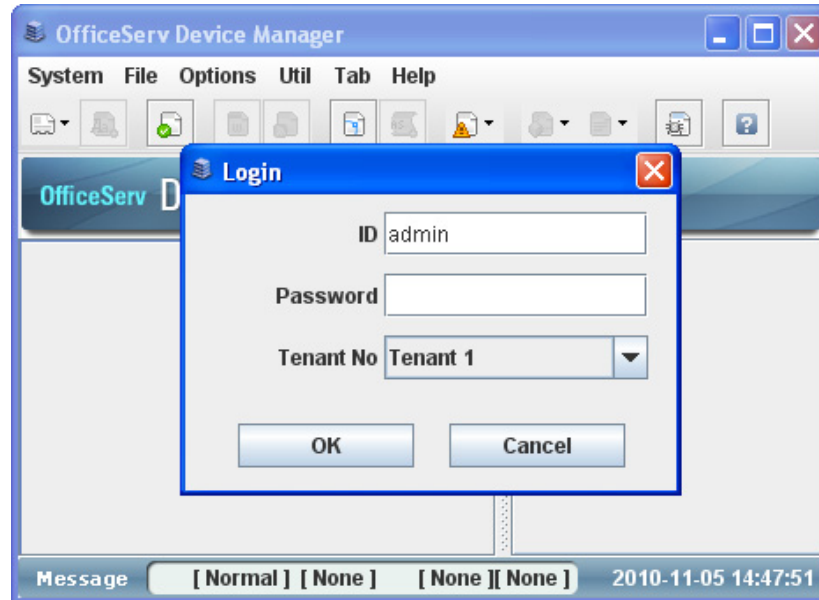
Figure 7.48 DM Login Page

Please refer to the OfficeServ Device Manager User Manual for detailed instructions on how to use Device Manager.

7.2.8 System Data/Activity Reports

The following type of reports can be output to a PC or LAN printer that is connected to the same network as the MP40: SMDR (Station Message Detail Reco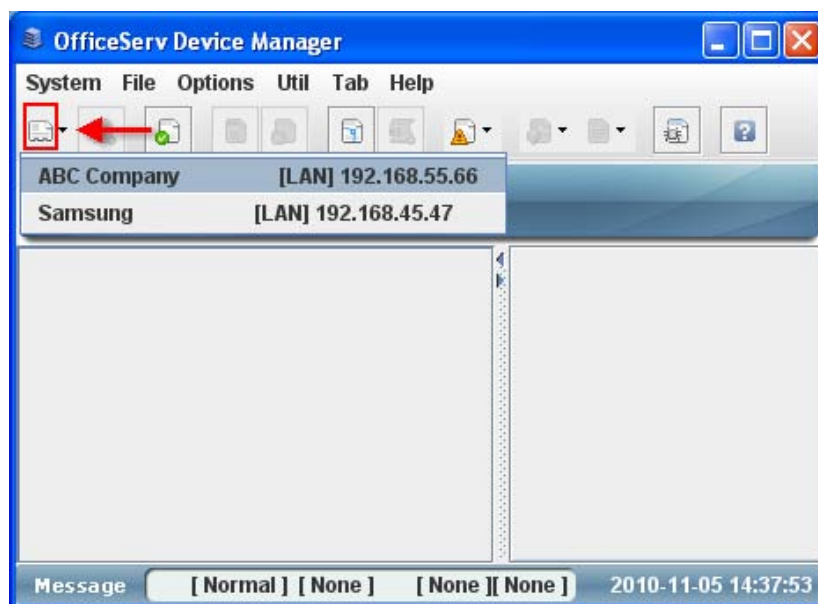rds), UCD Reports, Traffic Reports, Alarm Reports, Hotel Report and much more. Refer to MMC 829 to configure the report type and data output network configuration (See OfficeServ 7400 Programming Manual). This MMC can also configure the reports to be sent to PCs running 3rd party applications (i.e. SMDR Reporting Packages, etc.). The OfficeServ 7400 can also print various reports to a LAN printer. Connect a LAN printer to a network segment that is routable to the MP40 LAN connection.
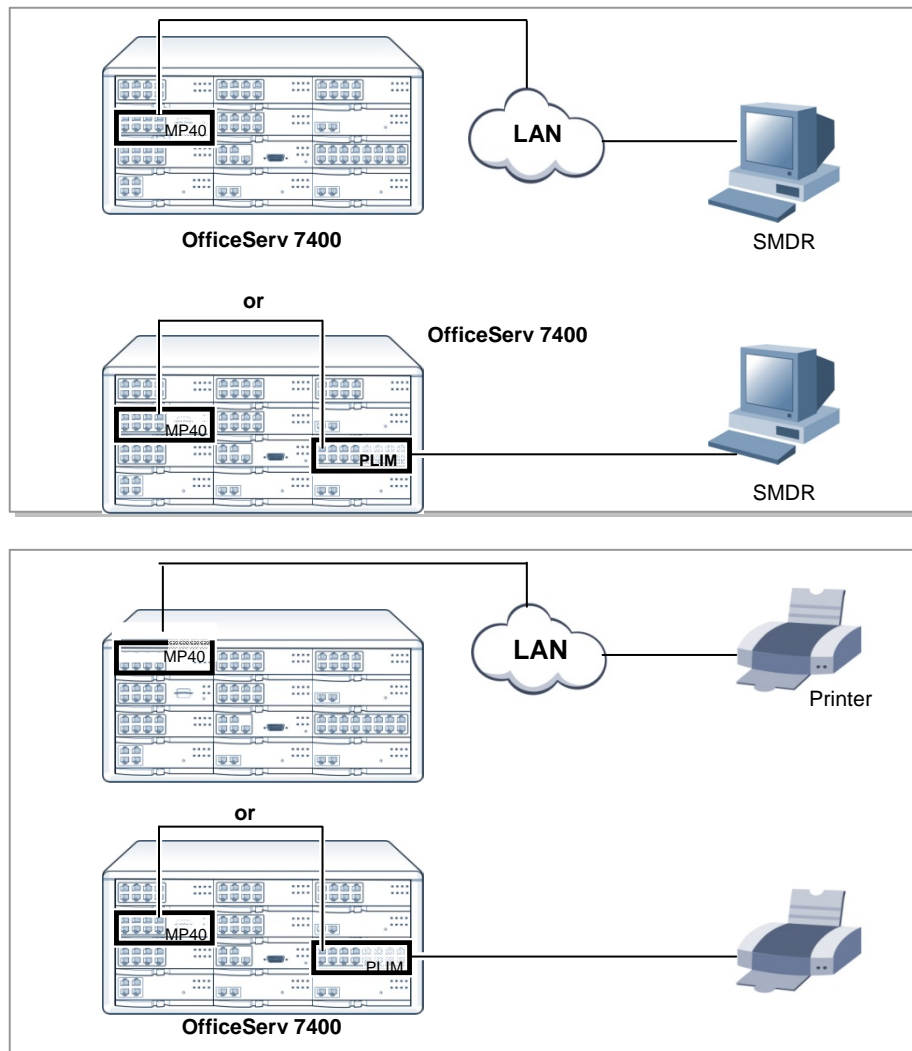
Figure 7.49 Activity Reports

7.2.9 OS 7400 and ANALOG TERMINAL ADAPTERS (ATAs)

The OfficeServ 7400 can be SIP enabled (SIP licenses required) to interface with other 3rd party analog terminal adapters (ATA) devices, to provide voice connectivity to a VoIP network. The SIP enabled adapters can be used to support specialized voice applications such as:

- VoIP connectivity to remote analog stations.
- VoIP connectivity to remote Fax Machines.
- 911 routing to remote SIP-PSTN Gateway.

These 3rd party analog terminal adapters (ATA) are not available through Samsung, and must be purchase separately. For more details, please refer to the special application section 2.15 of the manual.

PART 8. POWER UP PROCEDURES

This section describes items to check before starting the OfficeServ 7400 system and the procedure for starting the system.

8.1 PRE-CHECK

This section describes items to check before starting the OfficeServ 7400 system.

8.1.1 Safety Precautions

- **Temperature:** Check if the temperature of the room where the system is installed is between 32°F and 113°F. If the room temperature is higher or lower than the normal operation temperature, install a heating/cooling device to maintain normal temperature.
- **Humidity:** Check if the room humidity where the system is installed is between 10% and 90%. Take special caution since humidity affects the electrical components and connectors of the system.
- **Direct sunlight and dust:** The room where the OfficeServ 7400 system is installed should be protected from direct sunlight and should have ventilation systems to prevent the system from malfunctioning due to dust.

8.1.2 Safety Conditions

The building where the OfficeServ 7400 system is installed should have lightning rods and grounding to protect the system against lightning and electric leakage.

- Check if the OfficeServ 7400 system is not inclined and is maintained horizontally.
- Do not place devices that may cause electromagnetic interference near the system.
- Place a fire extinguisher near the system.
- Check if the AC voltage switch of the PSU is properly set to 110VAC power.
- Check if the grounding terminal on the rear panel of the system is properly connected to the external grounding.

8.2 STARTING THE SYSTEM

The procedure for starting the OfficeServ 7400 system is as follows:

1) Check if the boards and cables are properly mounted and connected to the OfficeServ 7400 cabinet.
2) Make sure the SD, Smart Media, or MMC+ Card with system software is in the SD/Smart Media/MMC+ slot.
3) Make sure the memory backup switch on MP40 is in the ON position.
4) Turn on the power of the OfficeServ 7400 expansion cabinets first, then turn on the power of the main cabinet.

5)   Check the LEDs of the MP40 and LP40 boards.
6)   The RUN LED of the MP40 board lights green and the SM LED flashes when the system normally starts the booting process.
7)   Once the booting is complete, the RUN LED of the MP40 board flashes green, and the SM LED stops flashing and remains lit.
8)   The RUN LED of the LP40 board flashes when the power supply and processor status of the expansion rack is normal.

NOTE	**If the SD/Smart Media/MMC+ is not detected** If the system cannot detect the media card, the SM LED of the MP40 board might not light or flash. In such cases, turn off the power of the main cabinet, replace the Smart Media and turn the power on again. If the media card is still not detected, turn off the power of the main cabinet and eject the MP40 board.

9)   Check if the LED status of other interface boards is normal.
10)   If the LED status of the MP40, LP40s, or interface board is abnormal, turn off the power of the cabinet and turn the power on again.

8.3 CHECKING THE FAN

When the system fan is not operating, the 48V DC power and the system operation will be turned off to prevent system overheating.

This function is set in programming to send notification within 24 hours.

The function can be set using the following methods:

1)   Designate SYSALM key in MMC 732 and the designated key will be set on the manager's digital phone.
2)   When the alarm is generated in the phone, the cause of alarm can be checked in MMC 851.
        The MJA08 message means abnormal fan operation, therefore the system will be turned off after 24 hours.

When the alarm occurs, the fan must be replaced within 24 hours.

NOTE	**REMINDER** Install blocking plates in all empty card slots of the main and expansion cabinets.

8.4 NUMBERING EXTENSIONS AND C.O. LINES

Once the OfficeServ 7400 system is booted, the MP40/LP40 board verifies the boards mounted on each slot and saves this information as the default configuration of the system.

According to the setting of the S2 switch (SW6, SW7, SW8) of the MP40 board, the OfficeServ 7400 system assigns 3 or 4 digits to C.O. lines, extensions, and extension groups. Refer to Section 4. Mounting and Replacing Boards of this manual for details on setting the S2 switch.

C.O. line numbers from 701 or 7001 are sequentially assigned to the C.O. line board installed on slot 1 of the main cabinet, and following numbers are continuously assigned to the next C.O. line board of the next slot. However, only the numbers from 701 to 799 are assigned when using 3 digits. For example, if an 8TRK/8TRK2 board is mounted on slot 1 and an 8TRK/8TRK2 board is mounted on slot 2, 701 is assigned to the C1/S1/P1 port and 712 is assigned to the C1/S2/P4 port. (Twelfth C.O. line is assigned to the fourth port of the second slot of the first cabinet.)

Extension numbers from 201 or 2001 are sequentially assigned to the extension board mounted on slot 1 of the basic cabinet, and following numbers are continuously assigned to the next extension board of the next slot. This numbering process continues until the extension numbers are assigned to all extensions. However, only the numbers from 201 to 349 are assigned when using 3 digits.

The first port of the first 8DLI or 16DLI2 board is assigned to the attendant group as default. All C.O. lines ring this attendant extension unless the default value is changed. Thus, a phone with an LCD panel should be connected to the last port of the first 8DLI board.

500-579 or 5000-5079 is assigned to an extension group.

The numbers of C.O. lines, extensions, or extension groups can be changed using the MMC 724 program.

PART 9. SOFTWARE AND DATABASE MANAGEMENT

9.1 SOFTWARE MANAGEMENT

The OfficeServ 7400 operating software is stored on the media card, which is inserted into the front of the MP40 card. The SD/Smart Media/MMC+ card has 1GB/32MB/64MB of NAND flash memory and is formatted, with a custom format to allow faster loading, in a similar manner to a hard disk. In addition to the operating system the media card can carry operating software for the LP40 card and the TEPRI/TEPRIa/TEPRI2 card. The media card also has the capability to store a backup copy of the system database in addition the operating software files.

Software can be downloaded from the media card to the cards listed above using MMC 818 and will be stored in those cards on-board flash memory. The cards will automatically reboot, load and run the new software when the download process is complete. Files can be deleted using MMC 819, File Control. This is necessary to clean up the media card.

9.2 DATABASE MANAGEMENT

The customer database can be saved to the media card using MMC 815 where it is stored as a single file. This save can be performed manually or the system can be programmed to save the database automatically at a designated time every day. Using WebMMC/OIT the database can be downloaded from the system and stored on the PC or it can be uploaded from the PC to the system. The database uploaded from WebMMC/OIT is not stored in the media card but is loaded directly into active memory.

PART 10. ADDING BOARDS TO THE SYSTEM

10.1 ADDING STATIONS AND TRUNKS

1) Power the OfficeServ 7400 OFF before adding a new board. Locate a suitable empty card slot. Having located a suitable slot, insert the new card into the slot and push firmly in the middle of both card ejectors on the card to ensure that it is fully inserted into the back plane connector.

2) After the new cards are inserted, the system must be told to recognize the new cards. This is done through the use of MMC 806 card pre-install. Use this MMC for each new card that is installed.

3) The new cards must be assigned directory numbers according to the system numbering plan in MMC 724. The technician must know the software port assignments of the new cards so the ports can be assigned correct numbers.